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WINSTAR

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Winstar Cutting Tools

萬事達切削刀具

Vol.25

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Indexable Milling 捨棄式銑削刀具

CXAN Shoulder Milling

→ Page A031

- Use ANMX double-sided inserts with 4 cutting edges.
- Positive rake angle design for lower side cutting forces.
- Max. 15mm depth of cut, cutter diameter 25~100mm.

- 使用 ANMX 雙面銑刀片，4 個可用切削角
- 正前角設計可降低切削力
- 每次最大切深可達 15mm, 刀桿直徑 25~100mm

CXXN Shoulder Milling

→ Page A033

- Use XNMX double-sided inserts with 6 cutting edges.
- Economic and high performance shoulder milling.
- 17~125mm cutter diameter, max. 7mm depth of cut.

- 使用 XNMX 雙面銑刀片 , 6 個可用切削角
- 經濟與高性能方肩銑應用的最佳解決方案
- 17~125mm 刀桿直徑 , 最大切削深度可達 7mm

CAPK Shoulder Milling

→ Page A036

- Use APKT inserts with 2 cutting edges.
- Optimized chip breaker for various applications.
- 16~125mm cutter diameter, max. 11mm depth of cut.

- 使用 APKT 銑刀片 , 2 個可用切削角
- 優化的刀口設計適用於各種加工應用
- 16~125mm 刀桿直徑 , 最大切削深度可達 11mm

CART Shoulder Milling

→ Page A039

- Use WRT inserts with 2 cutting edges.
- Strong chip breaker provides well ramping and slotting capabilities.
- 10~26mm cutter diameter, max. 7mm depth of cut.

- 使用 WRT 銑刀片 , 2 個可用切削角
- 強化的刀口設計提供了極佳的斜坡銑削及開槽能力
- 10~26mm 刀桿直徑 , 最大切削深度可達 7mm

CASP Shoulder Milling

→ Page A041

- Use SPMG inserts with 4 cutting edges.
- Cost effective shoulder milling tools.
- 12~80mm cutter diameter, max. 6mm depth of cut.

- 使用 SPMG 單面銑刀片 , 4 個可用切削角
- 經濟實惠的方肩銑刀
- 12~80mm 刀桿直徑 , 最大切削深度可達 6mm

Indexable Milling 捨棄式銑削刀具

CATP Shoulder Milling

→ Page A045

- Use TPMX inserts with 3 cutting edges.
- Sharp cutting edges for various low milling force applications.
- 20~80mm cutter diameter, max. 11mm depth of cut.

- 使用 TPMX 銑刀片 , 3 個可用切削角
- 出色的銳利刀口設計適用於各種低銑削阻力的應用
- 20~80mm 刀桿直徑 , 最大切削深度可達 11mm

CAXD Shoulder Milling

→ Page A048

- Use XDMT inserts with 2 cutting edges.
- Cutter dia. : 16~32mm, max. depth of cut : 10mm.
- Cutting edge design provides stable machining and reduces vibration during machining.

- 使用 XDMT 銑刀片 , 2 個可用切削刀口
- 刀桿尺寸 : 16~32mm, 最大切削深度 : 10mm
- 刃口設計提供切削穩定性，減少加工時的震動

CAXO Shoulder Milling

→ Page A050

- Use XOMT inserts with 2 cutting edges.
- Optimized chip breaker reduces heat generation and cutting forces.
- 6~32mm cutter diameter, max. 7mm depth of cut.

- 使用 XOMT 銑刀片 , 2 個可用切削角
- 泛優化的刀口設計降低熱能產生及切削力 , 能維持長時間高效率加工
- 6~32mm 刀桿直徑 , 最大切削深度可達 7mm

CBAP Shoulder Milling

→ Page A053

- Use APMT inserts with 2 cutting edges.
- Low cost and various geometric designs for versatile applications.
- 16~80mm cutter diameter, max. 11mm depth of cut.

- 使用 APMT 銑刀片 , 2 個可用切削角
- 低成本和多樣化的幾何設計適用於多種加工應用
- 16~80mm 刀桿直徑 , 最大切削深度可達 11mm

CR39 Shoulder Milling

→ Page A057

- Use W390 inserts with 2 cutting edges.
- Optimized chip breaker for high efficient shoulder and side milling.
- 16~125mm cutter diameter, max. 11mm depth of cut.

- 使用 W390 銑刀片 , 2 個可用切削角
- 優化的刀口設計適用於各種加工材料的高移除率的方肩銑和側銑
- 16~125mm 刀桿直徑 , 最大切削深度可達 11mm

CR49 Shoulder Milling

→ Page A061

- Use W490 inserts with 4 cutting edges.
- Great repeat side milling capability to reduce burs and get good surface finishing.
- 20~80mm cutter diameter, max. 9mm depth of cut.

- 使用 W490 單面銑刀片 , 4 個可用切削角
- 出色的重複側銑能力可減少毛刺產生並獲得良好的表面光潔度
- 20~80mm 刀盤直徑 , 最大切削深度可達 9mm

CWEX Shoulder Milling

→ Page A064

- Use AXMT inserts with 2 cutting edges.
- Strong cutting edges for high removal rate shoulder milling.
- 16~100mm cutter diameter, max. 11mm depth of cut.

- 使用 AXMT 銑刀片 , 2 個可用切削角
- 堅固的切削刃提供高移除率的方肩銑刀
- 16~100mm 刀桿直徑 , 最大切削深度可達 11mm

CWMM Shoulder Milling

→ Page A066

- Use APMT inserts with 2 cutting edges.
- Cutter with over-center design for drilling and milling.
- 10~80mm cutter diameter, max. 11mm depth of cut.

- 使用 APMT 銑刀片 , 2 個可用切削角
- 刀桿過中心設計 , 適用於鑽孔、方肩、開槽、斜坡、挖槽、及螺旋銑削
- 10~80mm 刀桿直徑 , 最大端銑切削深度可達 11mm

CXBN High Feed Milling

→ Page A071

- Use BNMU double-sided inserts with 4 cutting edges.
- High feed and low cutting force offers better productivity.
- 15~63mm cutter diameter, max. 1.5mm depth of cut.

- 使用 BNMU 雙面銑刀片 , 4 個可用切削角
- 高進給及低切削阻力設計確保較大的生產率 , 適用於各種應用及材料
- 15~63mm 刀桿直徑 , 最大切削深度可達 1.5mm

CXLN High Feed Milling

→ Page A075

- Use LNMX double-sided inserts with 4 cutting edges.
- High feed and sharp cutting edges for low cutting force applications.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 LNMX 雙面銑刀片 , 4 個可用切削角
- 高進給及大前角設計的切削刃可實現極低切削阻力 , 並達成高金屬移除率
- 16~50mm 刀桿直徑 , 最大切削深度可達 0.9mm

Indexable Milling 捨棄式銑削刀具

CXLO High Feed Milling

→ Page A078

- Use LOGX double-sided inserts with 4 cutting edges.
- High feed and high precision cutting edges for good surface finishing.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 LOGX 雙面銑刀片 , 4 個可用切削角
- 高進給及高精度切削刃適用於高溫合金加工 , 並可達到優良的表面光潔度
- 16~50mm 刀桿直徑 , 最大切削深度可達 0.9mm

CXWN High Feed Milling

→ Page A081

- Use WNMX double-sided inserts with 6 cutting edges.
- High feed and low cost for multi-functional applications.
- 25~160mm cutter diameter, max. 1.35mm depth of cut.

- 使用 WNMX 雙面銑刀片 , 6 個可用切削角
- 高進給及低成本適用於面銑、斜坡銑和插銑等多功能加工
- 25~160mm 刀桿直徑 , 最大切削深度可達 1.35mm

CALP High Feed Milling

→ Page A084

- Use LPGX inserts with 2 cutting edges.
- High feed and small size cutter for replacing solid carbide tools.
- 8~16mm cutter diameter, max. 0.5mm depth of cut.

- 使用 LPGX 銑刀片 , 2 個可用切削角
- 高進給及小尺寸刀具可取代全鎢鋼刀具 , 適用於廣泛的加工及材質應用
- 8~16mm 刀桿直徑 , 最大切削深度可達 0.5mm

CAJX High Feed Milling

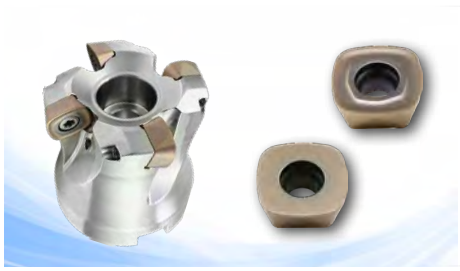
→ Page A087

- Use JDMT or JDMW inserts with 3 cutting edges.
- High feed and high rigidity cutting edge for wide range applications.
- 32~100mm cutter diameter, max. 2mm depth of cut.

- 使用 JDMT 或 JDMW 銑刀片 , 3 個可用切削角
- 高進給及高剛性切削刀口適用於各種材料和應用
- 32~100mm 刀桿直徑 , 最大切削深度可達 2mm

CASR High Feed Milling

→ Page A089

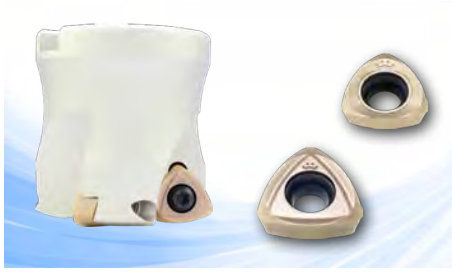


- Use SDMT or SDNW inserts with 4 cutting edges.
- High feed and more economical for wide range applications.
- 50~80mm cutter diameter, max. 1.5mm depth of cut.

- 使用 SDMT 或 SDNW 銑刀片 , 4 個可用切削角
- 高進給、高經濟及高剛性切削刀口適用於各種材料和應用
- 50~80mm 刀盤直徑 , 最大切削深度可達 1.5mm

CF23 High Feed Milling

→ Page A091



- Use WP26 inserts with 3 cutting edges.
- High feed and high rigidity negative designed for hardened steel.
- 32~160mm cutter diameter, max. 2mm depth of cut.

- 使用 WP26 銑刀片 , 3 個可用切削角
- 高進給及高剛性負角設計 , 適用於較硬材料加工
- 32~160mm 刀桿直徑 , 最大切削深度可達 2mm

CXHN Face Milling

→ Page A093

- Use HNMX double-sided inserts with 12 cutting edges.
- Sharp cutting edge design for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 3.5mm depth of cut.

- 使用 HNMX 雙面銑刀片 , 12 個可用切削角
- 鋒利切削刃設計適用於淺切面銑加工
- 50~100mm 刀盤直徑 , 最大切削深度可達 3.5mm

CXSN Face Milling

→ Page A095

- Use SNMX or ONMX double-sided inserts with 8 or 16 cutting edges.
- 2 type inserts can fit in same cutter for multiple applications.
- 50~202.9mm cutter diameter, max. 6mm depth of cut.

- 使用 SNMX 或 ONMX 雙面銑刀片 , 8 或 16 個可用切削角
- 兩種刀片可鎖附在相同刀盤上，可應用於不同的深淺加工
- 50~202.9mm 刀盤直徑 , 最大切削深度可達 6mm

CAOF Face Milling

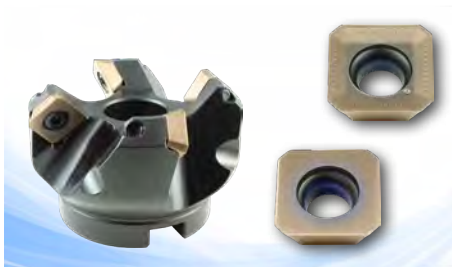
→ Page A098

- Use OFMT inserts with 8 cutting edges.
- Cost effective for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 2.8mm depth of cut.

- 使用 OFMT 銑刀片 , 8 個可用切削角
- 經濟實惠的較淺面銑加工
- 50~100mm 刀盤直徑 , 最大切削深度可達 2.8mm

CASE Face Milling

→ Page A100



- Use SEKT or SEKW inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~100mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEKT 或 SEKW 銑刀片 , 4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~100mm 刀盤直徑 , 最大切削深度可達 5.5mm

Indexable Milling 捨棄式銑削刀具

CASX Face Milling

→ Page A102

- Use SEMT inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEMT 銑刀片 , 4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~315mm 刀盤直徑 , 最大切削深度可達 5.5mm

CR24 Face Milling

→ Page A104

- Use W245-12T3 inserts with 4 cutting edges.
- High performance face milling tools for general purpose.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 W245-12T3 銑刀片 , 4 個可用切削角
- 高效率的泛用型面銑刀具
- 50~315mm 刀盤直徑 , 最大切削深度可達 5.5mm

CARD Copy Milling

→ Page A106

- Use RDMT or RDMW 2.5R, 3R, 3.5R, 5R, 6R and 8R round inserts.
- Suitable for mould & die machining and steel profiling.
- 10~100mm cutter diameter.

- 使用 RDMT 或 RDMW 2.5R, 3R, 3.5R, 5R, 6R 或 8R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 10~100mm 刀桿直徑

CARP Copy Milling

→ Page A112

- Use RPMT or RPMW 4R, 5R and 6R round inserts.
- Suitable for mould & die machining and steel profiling.
- 16~80mm cutter diameter.

- 使用 RPMT 或 RPMW 4R, 5R 或 6R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 16~80mm 刀桿直徑

CF21 Copy Milling

→ Page A116

- Use WP32 insert include 5R, 6R, 8R, 10R, 12.5R, 15R and 16R.
- Suitable for mould & die finish or medium copy milling.
- 10~32mm cutter diameter.

- 使用 WP32 銑刀片 , 尺寸包含 5R, 6R, 8R, 10R, 12.5R, 15R 及 16R
- 適用於模具中加工或精加工應用的仿形銑削
- 10~32mm 刀桿直徑

Indexable Milling 捨棄式銑削刀具

CF22 Copy Milling

→ Page A119

- Use WP26 inserts.
- Ball nose cutters are suitable for mould & die copy roughing.
- 25~50mm cutter diameter.

- 使用 WP26 銑刀片
- 適用於粗加工應用的仿形銑削
- 25~50mm 刀桿直徑

CGWV Copy Milling

→ Page A121

- Use WPBC insert include Ø12, Ø16 and Ø20.
- Various corner radii available for copy or shoulder milling.
- 12~20mm cutter diameter.

- 使用 WPBC 銑刀片 , 尺寸包含 Ø12, Ø16 及 Ø20
- 提供各種圓角，用於仿形或方肩銑削
- 12~20mm 刀桿直徑

CMBX Copy Milling

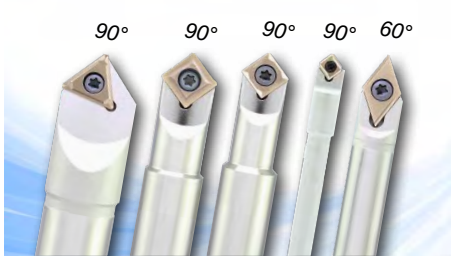
→ Page A124

- Use WBNM insert include 6R, 8R, 10R and 12.5R.
- 200° R-shaped to avoid interference.
- High rigidity thick insert for finish or medium high efficiency copy milling.

- 使用 WBNM 銑刀片 , 尺寸包含 6R, 8R, 10R 及 12.5R
- 200° R 形避免加工干涉
- 適用於精加工或中加工高效能仿形銑削的高剛性厚刀片

DTS Engraving / Chamfering

→ Page A126

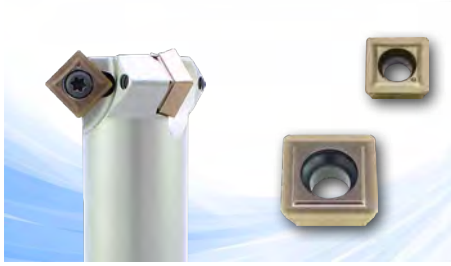


- Use DCEX, SCGX, SCMX, SDMX, TCMX inserts.
- Engraving, chamfering, countersinking, grooving and spotting functions in one tool.

- 使用 DCEX, SCMX 或 TCMX 銑刀片
- 一種刀具搞定雕刻、倒角、開槽和定位等功能

CSPC Chamfering

→ Page A132



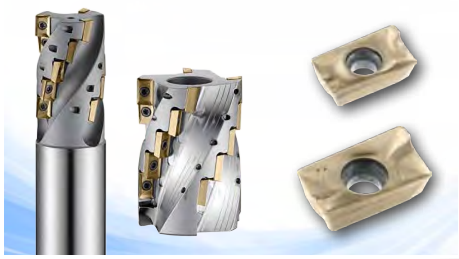
- Use SPMG inserts with 4 cutting edges.
- T-slot cutter with up and down chamfering applications.
- 11~50mm cutter diameter.

- 使用 SPMG 銑刀片 , 4 個可用切削角
- T 型刀桿適用於上下倒角加工應用
- 11~50mm 刀桿直徑

Indexable Milling 捨棄式銑削刀具

CAPH Helical Milling

→ Page A134



- Use APKT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APKT 銑刀片，2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

CBAH Helical Milling

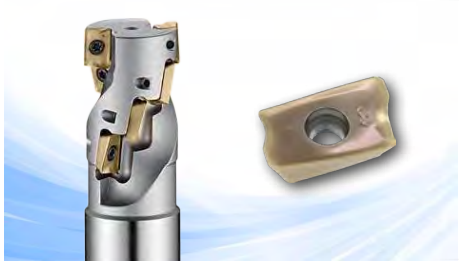
→ Page A136

- Use APMT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APMT 銑刀片，2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

C39H Helical Milling

→ Page A139



- Use W390 inserts with 2 cutting edges.
- High efficient and large depth of cut in rough contouring applications.
- 25~32mm cutter diameter.

- 使用 W390 銑刀片，2 個可用切削角
- 適用於高效率及較大切削深度的輪廓粗加工應用
- 25~32mm 刀桿直徑

CSPT Disc Milling

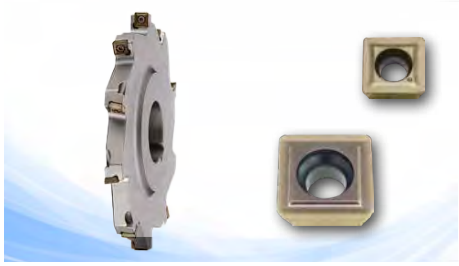
→ Page A141

- Use SPMG inserts with 4 cutting edges.
- For side slotting and T-slotting applications.
- 19~40mm cutter diameter.

- 使用 SPMG 銑刀片，4 個可用切削角
- 適用於側溝和 T 型槽加工應用
- 19~40mm 刀桿直徑

CSPD Disc Milling

→ Page A145



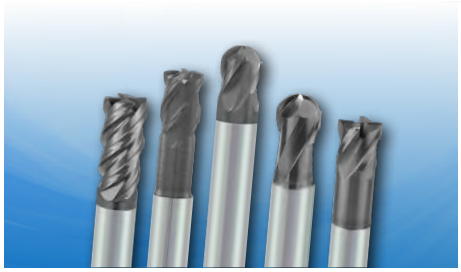
- Use SPMG inserts with 4 cutting edges.
- Economical and versatile disc cutting solution.
- 80~200mm cutter diameter.

- 使用 SPMG 銑刀片，4 個可用切削角
- 經濟且多功能三面刃適用於側邊較深加工
- 80~200mm 刀桿直徑

Solid End Milling 整體式銑刀

H65X Carbide Endmills for High Hardened Steel

→ Page B017

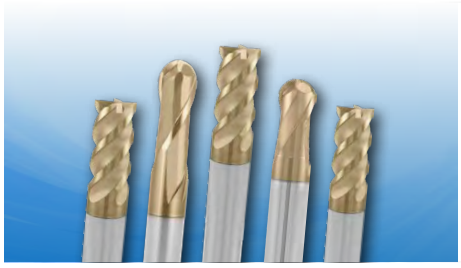


- For high hardened steel, HRC 40~65.
- High speed general cutting.
- High rigidity design.
- ANAX smooth coating.

- 適用於高硬度鋼 (HRC 40~65)
- 高速泛用加工
- 高剛性設計
- 含鉻平滑塗層

H68X Carbide Endmills for High Hardened Steel

→ Page B056



- For high hardened steel, HRC 50~68.
- High precision cutting.
- Ball nose tolerance ±5μm(d<= 6) , ±7μm(d > 6).
- SNAX smooth coating.

- 適用於高硬度鋼 (HRC 50~68)
- 高速高精加工
- 球型 R 公差 ±5μm(d<= 6) , ±7μm(d > 6)
- 含矽平滑塗層

H70X Carbide Endmills for High Hardened Steel

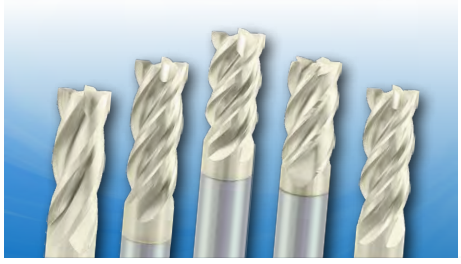
→ Page B066

- For high hardened steel, HRC 50~70.
- High feed finishing.
- Low helix, multiple flutes design.
- NACO coating, SNAX smooth coating.

- 適用於高硬度鋼 (HRC 50~70)
- 高進給側銑及端銑加工
- 低螺旋、多刃設計
- NACO 為含矽藍色塗層 , SNAX 為含矽古銅色平滑塗層

V53 Carbide Endmills for Super Alloy

→ Page B072

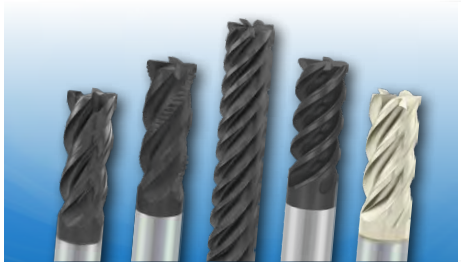


- For high temperature alloy, stainless steel & alloy steel.
- High efficiency milling.
- Variable pitch and variable helix for anti-vibration.
- PNAX smooth coating.

- 適用於鈦 , 鎳基合金 , 不鏽鋼及合金鋼
- 高效益、高去除率加工
- 抗震不等分割刃與不等螺旋設計
- 含矽平滑塗層

V47 Carbide Endmills for Stainless Steel

→ Page B092



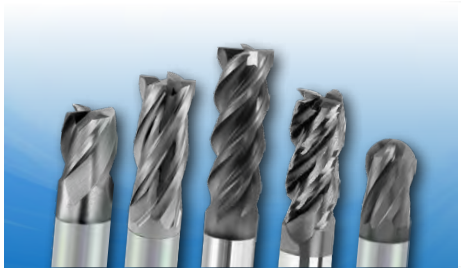
- For stainless steel, high temperature alloy & alloy steel.
- High efficiency milling.
- Variable pitch for anti-vibration.
- TACO coating, ANAX and PNAX smooth coating.

- 適用於不鏽鋼 , 鈦 , 鎳基合金及合金鋼
- 高效益、高去除率加工
- 抗震不等分割刃設計
- 高鋁鈦塗層 , 含鉻平滑塗層

Solid End Milling 整體式銑刀

M50X Carbide Endmills for Stainless Steel

→ Page B118

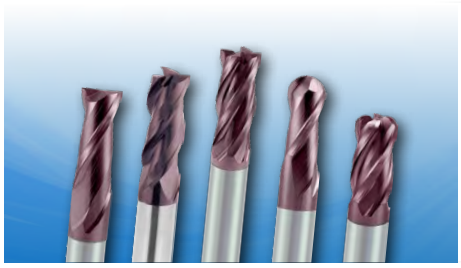


- For stainless steel & alloy steel.
- General milling.
- High rigidity design.
- ANAX smooth coating.

- 適用於不鏽鋼及合金鋼
- 泛用加工
- 高剛性設計
- 含鉻平滑塗層

G55A Carbide Endmills for Alloy Steel

→ Page B127

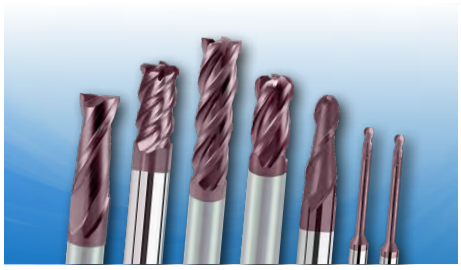


- Suitable for semi-finishing to medium.
- Sharp geometry design.
- UNICO coating for general milling.
- UNAX smooth coating for high efficiency milling.

- 適用於半精加工至中加工
- 鋒利幾何設計
- 高鋁鈦塗層適合泛用加工
- 高鋁鈦平滑塗層適合高效率加工

G55C Carbide Endmills for Alloy Steel

→ Page B127



- Suitable for medium to roughing.
- Strong geometry design.
- UNICO coating for general milling.
- UNAX smooth coating for high efficiency milling.

- 適用於中加工至粗加工
- 強壯幾何設計
- 高鋁鈦塗層適合泛用加工
- 高鋁鈦平滑塗層適合高效率加工

A100 Carbide Endmills for Non-Ferrous Materials

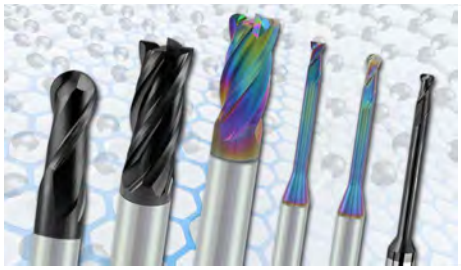
→ Page B201

- For aluminum, copper, plastic.
- High speed cutting.
- Excellent chip evacuation design.
- NDLC coating is available.

- 適用鋁 , 銅及塑料
- 高速加工
- 深溝槽易排屑設計
- 彩鑽塗層可供選擇

A200 Carbide Endmills for Non-Ferrous Materials

→ Page B225



- For graphite.
- General cutting.
- Provide thick Diamond coating.
- Provide NDLC coating.

- 適用於石墨
- 一般泛用加工
- 提供高耐磨的鑽石塗層
- 提供較經濟的彩鑽塗層

Solid End Milling 整體式銑刀

A300 Carbide Endmills for Non-Ferrous Materials

→ Page B231

- For CFRP / GFRP / Kevlar composite material.
- Provide thick Diamond coating.
- Provide NDLC coating.

- 適用於 CFRP / GFRP / 克維拉複合材料
- 提供高耐磨的鑽石塗層
- 提供較經濟的彩鑽塗層

S910 Modular Carbide Endmills for Deep Milling

→ Page B235

- ISO M thread, diameter 10~32mm.
- Carbide adapters max. lengths 300mm.
- More economical & flexible deep cutting solution.
- SNAX smooth coating, UNICO coating.

- ISO M 牙設計，提供 10~32mm 外徑
- 鎢鋼抗震刀桿長度最大為 300mm
- 更經濟與彈性的深加工解決方案
- SNAX 為含矽平滑塗層 , UNICO 為高鋁鈦塗層

S930 Barrel Carbide Endmills for Profiling

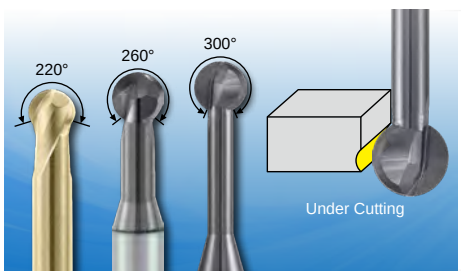
→ Page B248

- High performance profile cutting for 5-axis machine.
- Provide larger axial depth of cut, improve machining efficiency.
- Optimal surface finish and tool life.
- ANAX smooth coating.

- 高效能 5 軸輪廓加工銑刀
- 提供更大的軸向切削深度，提高加工效率
- 更佳的表面光潔度和刀具壽命
- 含鉻平滑塗層

S950 Spherical Ball Carbide Endmills for Under Cutting

→ Page B254



- 220˚, 260˚, 300˚ spherical ball design.
- Suitable for undercutting and deburring.
- Excellent surface finishing of vertical machining.
- ANAX smooth coating, SNAX smooth coating.

- 220° , 260° , 300°全球頭球設計
- 適用於底切及去毛刺加工
- 在垂直加工上有更佳的表面光潔度
- ANAX 為含鉻平滑塗層 , SNAX 為含矽平滑塗層

S960 Engraving & Chamfer Carbide Endmills

→ Page B257

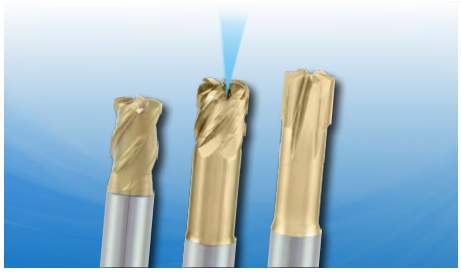
- For alloy steel, stainless steel, cast iron, hardened steel & aluminum.
- Flat tipped engraving end mill with 30°, 60° or 90° angle.
- Provide side, dovetail, front/back, round corner chamfering tools.

- 適用於合金鋼 , 不鏽鋼 , 鑄鐵 , 硬度鋼及鋁合金
- 平底雕刻銑刀 , 頂夾角有 30° ,60°或 90°可選
- 提供側邊 , 鳩尾槽 , 上 / 下 , 內 R 倒角加工刀具

Solid End Milling 整體式銑刀

S970 High Feed Carbide Endmills for Face Milling

→ Page B265



- Duotec design for surface high feed milling.
- Provide center internal coolant hole endmill.
- SNAX smooth coating.

- Duotec 設計用於高進給面銑
- 提供含中心內出水孔銑刀
- SNAX 為含矽平滑塗層

H800 CBN Endmills for Hardened Steel

→ Page B268

- Finishing for hardened steel (HRC ≤ 65).
- Low helix design.
- Tool material : CBN.

- 適用於 HRC ≤ 65 硬度鋼的精加工
- 低螺旋角設計
- 刀具材質：CBN

A830 PCD Endmills for Hard Brittle Material

→ Page B270

- For ceramics, carbide and glass machining.
- Tool material : PCD.

- 適用於陶瓷、硬質合金和玻璃
- 刀具材質：PCD

DP Solid Carbide Drills

→ Page C010

- High performance for universal drilling.
- DPC 3D~30D drills with internal coolant.
- DPN 3D~50D drills with external coolant
- High rigidity geometry & UNIX smooth coating.

- 高效能泛用鑽孔用
- 3~30 倍徑內冷鑽
- 3~50 倍徑外冷鑽
- 高剛性及高鋁鈦平滑塗層

DM Solid Carbide Drills

→ Page C026

- High performance for exotic material drilling.
- 3D~5D drills with internal or external coolant.
- Sharp geometry & SINIX smooth coating.

- 高效能鑽頭，適用於難切削材
- 內冷 / 外冷鑽及 3、5 倍徑鑽孔深度
- 鋒利刀口及含矽平滑塗層

DH Solid Carbide Drills

→ Page C029

- High performance for hardened steel drilling.
- 3D drill with external coolant.
- Low helix & SINIX smooth coating.

- 高效能鑽頭，適用於高硬鋼
- 外冷鑽及 3 倍徑鑽孔深度
- 低螺旋角及含矽平滑塗層

DG Solid Carbide Drills

→ Page C030

- General purpose drilling.
- External coolant and 3D drills.
- UNICO coating.

- 泛用鑽孔
- 外冷鑽及 3 倍徑鑽孔深度
- 高鋁鈦塗層

DA Solid Carbide Straight Flute Drills

→ Page C031

- High performance for drilling and reaming with straight flute.
- External coolant and 3D~5D drills.
- UNIX smooth coating.

- 高效能直刃鑽鉸刀
- 外冷鑽及 3、5 倍徑鑽孔深度
- 高鋁鈦平滑塗層

DF Solid Carbide Flat Point Drills

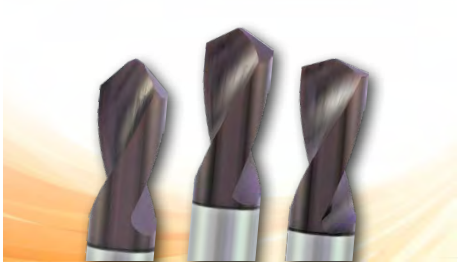
→ Page C033

- High performance for non-flat drilling.
- 3D drills with external coolant.
- UNIX smooth coating.

- 高效能平底鑽 適用於斜面或曲面鑽孔
- 外冷鑽及 3 倍徑鑽孔深度
- 高鋁鈦平滑塗層

DT Solid Carbide Spotting Drills

→ Page C035



- For spotting.
- Provide 90°,120° and 142° tip angle.
- UNICO coating.

- 定位鑽孔用
- 提供 90° , 120°及 142°鑽尖
- 高鋁鈦塗層

DC Solid Carbide Center Drills

→ Page C037

- For center drilling.
- Provide countersink angle 60°and 90°.
- UNICO coating.

- 中心鑽孔用
- 提供 60°及 90°埋頭孔
- 高鋁鈦塗層

DZ Solid Carbide Step Drills

→ Page C038

- Drilling and chamfering in one shot.
- Suitable for steel, alloy steel and cast iron.
- Customized available.

- 鑽孔和倒角一次完成
- 適用於鋼、合金鋼和鑄鐵
- 可客製化

DMU Modular Drills

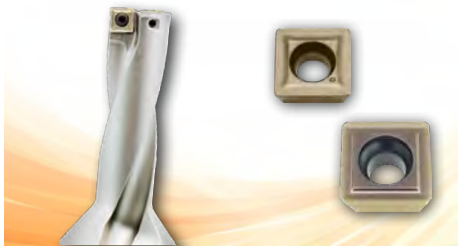
→ Page C043

- Use DMUA inserts.
- Various diameter size inserts can fit in one tool.
- Hole diameter 12~25.4mm, drilling depth 3D~12D.

- 使用 DMUA 刀片
- 各種尺寸的刀片可以安裝在一個刀桿
- 適用 12 ~ 25.4mm 孔徑加工 , 3~12 倍徑鑽孔深度

DSP Indexable Drills

→ Page C049



- Use SPMG inserts with 4 sides cutting edge.
- 2D, 3D, 4D, 5D drills.
- Hole diameter 12.5 ~ 41mm.

- 使用含有 4 個切削角的 SPMG 刀片
- 2、3、4、5 倍徑鑽孔深度
- 適用 12.5 ~ 41mm 孔徑加工

DWC Indexable Drills

→ Page C058

- Use WCMT inserts with 3 sides cutting edge.
- 2D, 3D, 4D, 5D drills.
- Hole diameter 14 ~ 60mm.

- 使用含有 4 個切削角的 WCMT 刀片
- 2、3、4、5 倍徑鑽孔深度
- 適用 14 ~ 60mm 孔徑加工

DWD Indexable Drills

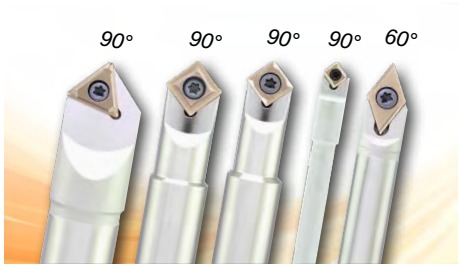
→ Page C067

- Use WDXT inserts with 4 sides cutting edge.
- 3D, 4D, 5D drills.
- Hole diameter 8 ~ 25mm.

- 使用含有 4 個切削角的 WDXT 刀片
- 3、4、5 倍徑鑽孔深度
- 適用 8 ~ 25mm 孔徑加工

DTS Indexable Spotting Drills

→ Page C072



- Use DCEX, SCGX, SCMX, SDMX, TCMX inserts.
- Suitable for spotting, chamfering, countersinking, grooving and engraving.

- 使用 DCEX, SCGX, SCMX, SDMX, TCMX 刀片
- 適用於定位 , 倒角 , 埋頭孔 , 開槽及雕刻加工

DRM Solid Carbide Machine Reamer

→ Page C077

- DRM machine reamer suitable for through hole.
- Specially for high accurate hole machining.
- UNIX smooth coating.

- 左螺旋，右切設計螺旋機械鉸刀適用於通孔加工
- 高精度孔加工專用
- 高鋁鈦平滑塗層

DRS Solid Carbide Straight Flute Reamer

→ Page C078

- Provide internal coolant or external coolant.
- Suitable for blind / through hole.
- Specially for high accurate hole machining.
- UNIX smooth coating.

- 提供內冷或外冷鉸刀
- 適用於盲孔 / 通孔加工
- 高精度孔加工專用
- 高鋁鈦平滑塗層

DRMM Modular Machine Reamer

→ Page C081

- Modular machine reamer suitable for through hole.
- Specially for high accurate hole machining.
- UNIX smooth coating.

- 左螺旋，右切設計模組化螺旋機械鉸刀適用於通孔加工
- 高精度孔加工專用
- 高鋁鈦平滑塗層

DRSM Modular Straight Flute Reamer

→ Page C087

- Modular straight flute reamer suitable for blind / through hole.
- Specially for high accurate hole machining.
- UNIX smooth coating.

- 模組化直刃鉸刀適用於盲孔 / 通孔加工
- 高精度孔加工專用
- 高鋁鈦平滑塗層

DBP Finish Boring Heads

→ Page C093

- Single bit finsih boring head.
- Easy to adjust boring diameter.
- Boring Range 20 ~ 202mm.

- 單刃精搪頭使用 1 片刀片
- 易於調整加工孔徑
- 精搪孔範圍 20~202mm

DBR Rough Boring Heads

→ Page C094

- Twin bit rough boring head.
- Easy to adjust boring diameter.
- Boring Range 25 ~ 204mm.

- 雙刃粗搪頭使用 2 片刀片
- 易於調整加工孔徑
- 粗搪孔範圍 25~204mm

Negative Carbide Turning Inserts

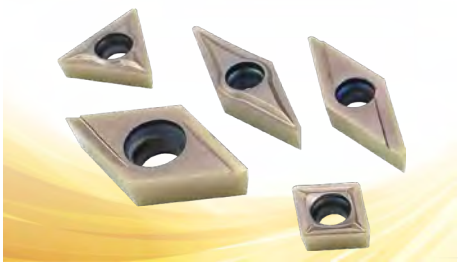
→ Page D027

- 50+ types to choose from.
- Thick coating layer structure for various applications.
- Usable range cover from finishing to roughing.

- 超過 50 種刀片種類可供選擇
- 針對多樣化加工提供厚塗層對應
- 加工範圍包含蓋精加工至粗加工

Positive Carbide Turning Inserts

→ Page D033



- 25+ types to choose from.
- E, G or M tolerance inserts available.
- Usable range cover from finishing to medium.

- 超過 25 種刀片種類可供選擇
- 可提供 E 級、G 級或 M 級公差車刀片
- 加工範圍包含精加工至中加工

CBN Turning Inserts

→ Page D047

- For hardened steel (HRC 45 ~ 65).
- Wear resistance and heat resistance improves tool life.
- Special edge design improves stability and efficiency.

- 適用於 HRC 45 ~ 65 高硬度鋼加工
- 高耐磨與高耐熱性增強刀具壽命
- 特殊刀口設計 , 提高加工穩定性與效能

PCD Turning Inserts

→ Page D049

- For non-ferrous materials (aluminum alloy, brass, graphite and ceramic).
- Outstanding brazing strength improves tool life.
- The positive rake angle design provides good cutting surface.

- 適用於非鐵金屬加工 (鋁合金 , 銅 , 石墨及陶磁)
- 優秀的焊接強度增強刀具壽命
- 正切削角的刀口設計 , 提供較佳的表面加工品質

External Turning Holders

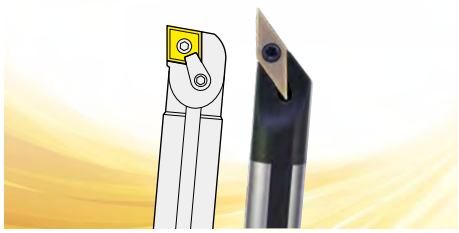
→ Page D052

- Wide range of ISO external turning holders available.
- 9.5~32mm shank height.

- 提供各種 ISO 外徑車刀桿
- 9.5~32mm 刀桿高度

Internal Turning Holders

→ Page D067

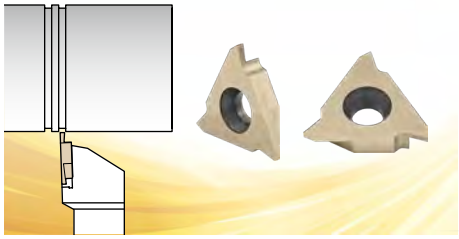


- Wide range of ISO internal turning holders available.
- 8~60mm shank diameter.

- 提供各種 ISO 內徑車刀桿
- 8~60mm 刀桿外徑

TGF Vertical Shallow Grooving Tools

→ Page D083

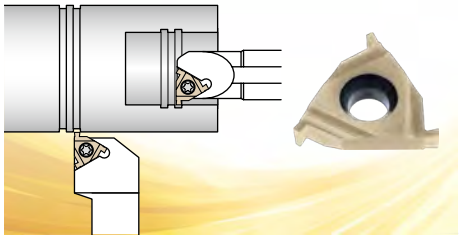


- Use TGF32 inserts for vertical grooving.
- For shallow grooving (Depth < 2.5mm) of small workpieces in automatic lathe or small machine.

- 使用 TGF32 刀片適用於立式切槽加工
- 適用於自動車床或小型機台，小型工件的淺切槽加工 (切深 < 2.5mm)

TGL Laydown Shallow Grooving Tools

→ Page D087



- Use TGL11 or TGL16 inserts for laydown grooving.
- For shallow grooving (Depth < 2.5mm) of small workpieces in automatic lathe or small machine.

- 使用 TGL11 或 TGL16 刀片適用於臥式切槽加工
- 適用於自動車床或小型機台，小型工件的淺切槽加工 (切深 < 2.5mm)

MGEH Grooving Tools

→ Page D092

- Use MGMN200/300/400, MRMN200/300/400 inserts.
- For grooving (Depth < 20mm) of small workpieces in automatic lathe or small machine.

- 使用 MGMN200/300/400, MRMN200/300/400 刀片
- 適用於自動車床或小型機台，小型工件的切槽加工 (切深 < 20mm)

KGM Grooving Tools

→ Page D095

- Use GMM2020, GMM2520, GMM3020 inserts.
- For grooving (Depth < 20mm) of small workpieces in automatic lathe or small machine.

- 使用 GMM2020, GMM2520, GMM3020 刀片
- 適用於自動車床或小型機台，小型工件的切槽加工 (切深 < 20mm)

SGIH Parting Tools

→ Page D098

- Use TGTN0220, TGTN0310, TGTN0410 inserts.
- For parting (Depth < 40mm) of large workpieces.

- 使用 TGTN0220, TGTN0310, TGTN0410 刀片
- 適用於大型工件的切斷加工 (切深 < 40mm)

DL Solid Carbide Boring Bars

→ Page D100

- Suitable for small holes boring, internal grooving, face grooving and threading machining.
- Mini boring diameter 1.0mm.

- 適用於小孔徑之內部搪孔、開槽、端面開槽及螺紋加工
- 最小搪孔徑 1.0mm

DE Solid Carbide Modular Boring Bars

→ Page D109

- Easy tool changeover and position repeatability (±0.05mm).
- Double ended design for two different shank sizes.
- Mini boring diameter 1.0mm.

- 刀具更換更迅速，擁有優異的重複定位精度 (±0.05mm)
- 雙端設計，可用於兩種不同柄徑尺寸刀具
- 最小搪孔徑 1.0mm

BTAH Backing Turning Tools

→ Page D118

- For back turning.
- Suitable for small parts machining.

- 用於後掃加工
- 適用於小型零組件加工

CTAH Grooving or Parting Tools

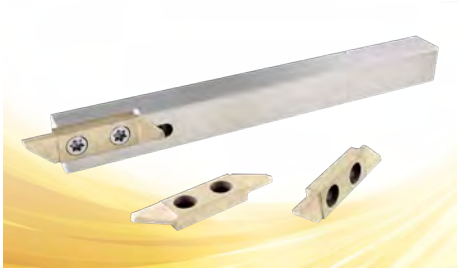
→ Page D119

- For grooving or parting.
- Suitable for small parts machining.

- 用於切槽或切斷加工
- 適用於小型零組件加工

SAKG Multifunction Turning Tools

→ Page D122



- Back turning / Parting off / Profiling / Grooving / Threading for small to mid-sized parts.
- Insert is more stable on holder by two screw clamping.

- 適用於小型至中型零組件多功能車削 (後掃 , 切斷 , 切槽 , 輪廓 , 螺紋加工)
- 使用兩顆螺絲將刀片更穩定的固定至刀桿上

ETU Solid Carbide Endmills (Short Total Length)

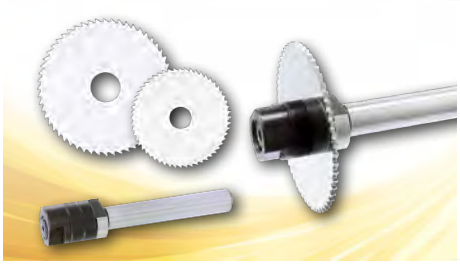
→ Page D126

- Short total length design.
- Cutting dia. 1~12mm wih 6mm shank dia. is suitable for automatic lathe.
- Sharp cutting edge produces an excellent surface finish.

- 短全長設計
- 刀具外徑 1~12mm, 刀柄尺寸 6mm 適用於自動車床
- 鋒利的切削刃可產生出色的表面光潔度

ETW Solid Carbide Slitting Saws

→ Page D127



- Suitable for small parts cutting off or slot machining.
- Saw arbor shank from Ø6 ~ Ø10mm.
- Carbide saw diameters from 15 ~ 30mm.

- 適用於小型零組件切斷或槽加工
- 提供鋸片軸心柄徑從 Ø6~Ø10mm
- 鋸片尺寸由 15~30mm

Threading 螺紋刀具

ET Solid Carbide Thread Mills

→ Page E006

- ETS, ETT, ETM for thread milling.
- ETC for thread milling + chamfering.
- ETL for helical drilling + thread milling + chamfering.
- ETD for drilling + chamfering + thread milling.

- ETS, ETT, ETM 銑牙加工
- ETC 銑牙加工 + 倒角加工
- ETL 螺旋鑽孔 + 銑牙加工 + 倒角加工
- ETD 鑽孔 + 倒角加工 + 銑牙加工

ETMMM Modular Carbide Thread Mills

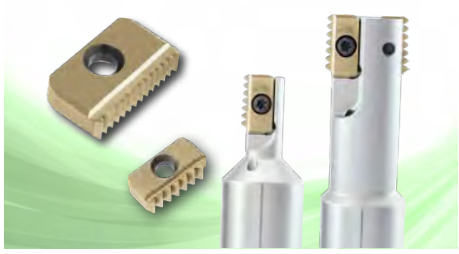
→ Page E022

- Modular thread mill heads with carbide adapters for long reach thread milling.
- Multiple flutes design for high performance thread milling.
- Available in thread sizes from M12 to M24

- 模組化螺紋銑刀頭與鎢鋼抗震刀桿的組合 , 用於較深距離的螺紋加工
- 多刃設計 , 適用於高效能銑牙加工
- 提供 M12 到 M24 的螺紋尺寸

CXMT Indexable Thread Milling Tools

→ Page E023

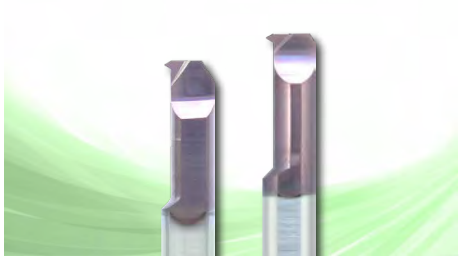


- Thread is produced in one tool pass.
- The thread milling insert is double sided, two cutting edges.
- Same holder and insert can produce both right-hand and left-hand threads.

- 螺紋可在一次刀具加工中產生
- 此螺紋銑刀片為雙面設計，有 2 個切削刀口
- 相同的刀桿和刀片可以加工右旋和左旋螺紋

Solid Carbide Thread Boring Bars

→ Page E028



- Provide ISO M thread carbide turning bars.
- Provide partial profile 60° thread carbide turning bars.
- Left hand or right hand tools.

- 提供 ISO M 牙全鎢鋼內徑螺紋車刀
- 提供 60°泛用牙全鎢鋼內徑螺紋車刀
- 提供左手或右手刀具

Thread Turning Inserts & Holders

→ Page E031

- 11, 16 or 22 size inserts, 60° or 55°.
- Provides partial profile, iso and un thread.
- Left hand or right hand inserts.

- 11 ,16 或 22 尺寸的車牙刀片 , 60°或 55°
- 提供泛用牙 ,ISO 牙及 UN 牙
- 提供左手或右手刀片

Threading 螺紋刀具

TKS Solid Carbide Spiral Fluted Taps

→ Page E055

P	M	K	N	S	H
○		●	●		

- Spiral Fluted Taps.
- High rigidity prevents tool breakage.
- For cast iron, aluminum alloy, copper and steel.

- 全鎢鋼螺旋絲攻
- 高剛性避免刀具損壞
- 適合鑄鐵 , 鋁合金 , 銅及鋼料加工

TKT Solid Carbide Straight Fluted Taps

→ Page E057

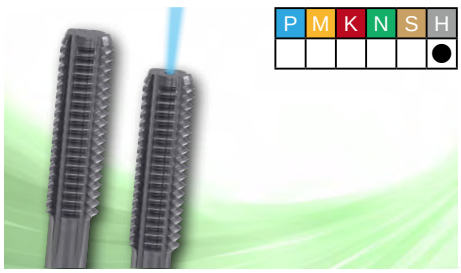
P	M	K	N	S	H
		●	●		

- Straight Fluted Taps.
- Positive rake angle cutting edges.
- For cast iron, aluminum alloy and copper.

- 全鎢鋼直刃絲攻
- 較鋒利的切削刃
- 適合鑄鐵 , 鋁合金及銅加工

THT Solid Carbide Straight Fluted Taps

→ Page E059



P	M	K	N	S	H
					●

- Straight Fluted Taps.
- Strong cutting edges.
- For hardened steel (HRC 40 ~ 55).

- 全鎢鋼直刃絲攻
- 強壯的切削刃
- 適合高硬度鋼加工

TNF Solid Carbide Forming Taps

→ Page E061

P	M	K	N	S	H
			●		

- Forming Taps.
- No chips.
- For aluminum and copper.

- 全鎢鋼無屑絲攻
- 攻牙時不會產生切屑
- 適合鋁及銅加工

WINSTAR

Indexable Milling

捨棄式銑削刀具

Contents 內容

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  - Single Sided : CAPK, CART, CASP, CATP, CAXD, CAXO, CBAP, CR39, CR49, CWEX, CWMM
- High Feed Milling ・高進給銑刀 A071
  - Double Sided : CXBN, CXLN, CXLO, CXWN
  - Single Sided : CALP, CAJX, CASR, CF23
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  DTS, CSPC
- Helical Milling ・玉米粗銑刀 A134
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  CSPT, CRDT, CRPT, CSPD
- Tooling System ・刀具系統
  - Carbide Adapter 鎢鋼抗震刀桿 A150
  - Alloy Steel Adapter 合金鋼刀桿 A154
  - BT / HSK Arbor (screw-on) BT / HSK 鎖牙式刀柄 A156
  - BT / HSK Face Milling Holder BT / HSK 面銑刀桿 A158
- Technical Data ・技術資料
  - Milling Inserts Grade Comparison 銑刀片材質比較表 A161
  - Troubleshooting in Insert 刀片加工異常原因及對策 A165

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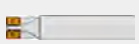
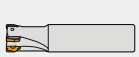
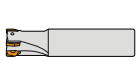
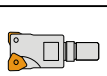
Shoulder Milling 方肩銑刀

Product Series	Cutter Type	Cutter Range	Inserts	Page
CXAN	Shank Type	Ø25	ANMX15T6	A031
	Arbor Type	Ø40 ~ Ø100		
CXSN	Arbor Type	Ø50 ~ Ø80	SNMX1205	A096
CXXN	Shank Type	Ø20 ~ Ø32	XNMX0403	A033
	Modular Type	Ø17 ~ Ø32	XNMX0403	
	Arbor Type	Ø50 ~ Ø125	XNMX0403 / XNMX0806	
CAPK	Shank Type 	Ø16 ~ Ø32	APKT1003 / APET1604 / APKT1604	A036
	Modular Type	Ø16 ~ Ø32		
	Arbor Type	Ø50 ~ Ø125		
CART	Shank Typev	Ø10 ~ Ø26	WRT0702 / WRT1003	A039
	Modular Type	Ø10 ~ Ø21		
CASP	Shank Type 	Ø12 ~ Ø40	SPMG..	A041
	Arbor Type	Ø50 ~ Ø80		
CATP	Shank Type 	Ø20 ~ Ø40	TPMX1004 / TPMX1505	A045
	Modular Type 	Ø20 ~ Ø33	TPMX1004	
	Arbor Type	Ø50 ~ Ø80		
CAXD	Shank Type	Ø16 ~ Ø32	XDMT11T3	A048

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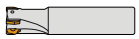
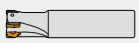
Product Series	Cutter Type		Cutter Range	Inserts	Page
CAXO	Shank Type		Ø6 ~ Ø32	XOMT0602 / XOMT10T3	A050
	Modular Type		Ø10 ~ Ø25	XOMT0602 / XOMT10T3	
CBAP	Shank Type		Ø16 ~ Ø32	APGT1135 / APMT1135 APGT1604 / APMT1604	A053
	Modular Type		Ø16 ~ Ø33		
	Arbor Type		Ø50 ~ Ø80		
CR39	Shank Type		Ø16 ~ Ø32	W39011T3	A057
	Modular Type		Ø16 ~ Ø33		
	Arbor Type		Ø40 ~ Ø125		
CR49	Shank Type		Ø20 ~ Ø32	W49008T3	A061
	Modular Type		Ø20 ~ Ø32	W49008T3	
	Arbor Type		Ø40 ~ Ø80	W49008T3 / W4901404	
CWEX	Shank Type		Ø16 ~ Ø32	AXMT1235 / AXMT1705	A064
	Arbor Type		Ø50 ~ Ø100		
CWMM	Shank Type		Ø20 ~ Ø40	APMT1035 / APMT1605	A066
	Shank Type		Ø10 ~ Ø50	APMT1035 / APMT1605	
	Arbor Type		Ø50 ~ Ø80	APMT1035 / APMT1605	

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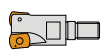
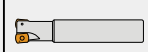
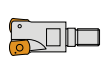
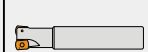
High Feed Milling 高進給銑刀

Product Series	Cutter Type		Cutter Range	Inserts	Page
CXBN	Shank Type		Ø15 ~ Ø32	BNMU0303 / BNMU0904	A071
	Modular Type		Ø16 ~ Ø42		
	Arbor Type		Ø40 ~ Ø100		
CXLN	Shank Type		Ø16 ~ Ø32	LNMX0303	A075
	Modular Type		Ø17 ~ Ø32		
	Arbor Type		Ø50		
CXLO	Shank Type		Ø16 ~ Ø35	LOGX0303	A078
	Modular Type		Ø17 ~ Ø35		
	Arbor Type		Ø50		
CXWN	Shank Type		Ø25 ~ Ø32	WNMX09T3	A081
	Modular Type		Ø25		
	Arbor Type		Ø50 ~ Ø160	WNMX09T3 / WNMX1307	
CALP	Shank Type		Ø8 ~ Ø16	LPGX0102	A084
CAJX	Shank Type		Ø32	JDMW1204	A087
	Arbor Type		Ø50 ~ Ø100	JDMW1204 / JDMW1405	
CASR	Arbor Type		Ø50 ~ Ø80	SDNW1205 / SDMT1205	A089
CF23	Shank Type		Ø32 ~ Ø50	WP26339 / WP26379	A091
	Arbor Type		Ø50 ~ Ø160	WP26379	

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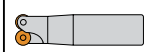
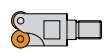
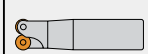
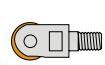
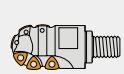
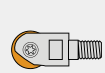
Face Milling 面銑刀

Product Series	Cutter Type		Cutter Range	Inserts	Page
CXHN	Arbor Type		Ø50 ~ Ø100	HNMX0704	A093
CXSN	Arbor Type		Ø50 ~ Ø202.9	SNMX1205 / ONMX0505	A095
CAOF	Arbor Type		Ø50 ~ Ø100	OFMT05T3	A098
CASE	Arbor Type		Ø50 ~ Ø100	SEKT1204 / SEKW1204	A100
CASX	Arbor Type		Ø50 ~ Ø315	SEET13T3 / SEMT13T3	A102
CR24	Arbor Type		Ø50 ~ Ø315	W245-12T3	A104

Copy Milling 仿形銑刀

Product Series	Cutter Type		Cutter Range	Inserts	Page
CARD	Shank Type		Ø10 ~ Ø35	RDKW0501 / RDKW0702 RDMT1003 / RDMX1003 RDMT10T3 / RDMW10T3 RDMT1204 / RDMW1204	A106
	Modular Type		Ø12 ~ Ø35	RDKW0501 / RDKW0702 RDMT1003 / RDMX1003 RDMT10T3 / RDMW10T3	
	Arbor Type		Ø50 ~ Ø100	RDMT1003 / RDMX1003 RDMT10T3 / RDMW10T3 RDMT1204 / RDMW1204 RDMT1604 / RDMW1604	
CARP	Shank Type		Ø16 ~ Ø35	RPMT08T2 / RPMW1003 RPHT10T3 / RPMT10T3 RPHT1204 / RPMT1204 / RPMW1204	A112
	Arbor Type		Ø50 ~ Ø80	RPHT10T3 / RPMT10T3 RPHT1204 / RPMT1204 / RPMW1204	
CF21	Shank Type		Ø10 ~ Ø32	WP32..	A116
	Modular Type		Ø10 ~ Ø32		
CF22	Modular Type		Ø25 ~ Ø50	WP26339 / WP26379	A119
CGWV	Shank Type		Ø12 ~ Ø20	WPBC..	A121
CMBX	Shank Type		Ø12 ~ Ø25	WBNM..	A124
	Modular Type		Ø12 ~ Ø25	WBNM..	

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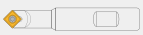
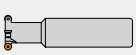
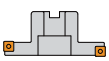
Engraving / Chamfering 雕刻倒角銑刀

Product Series	Cutter Type		Cutter Range	Inserts	Page
DTS	Shank Type		Ø0.2 ~ Ø3	DCEX11T3	A126
DTS	Shank Type		Ø0.8 ~ Ø20	SCGX09T3 / SCMX09T3 SDMX0501 / SDMX11T3 TCGX16T3 / TCMX16T3	A128
	Modular Type		Ø0.8 ~ Ø11		
CSPC	Shank Type		Ø11 ~ Ø50	SPMG...	A132

Helical Milling 玉米粗銑刀

Product Series	Cutter Type		Cutter Range	Inserts	Page
CAPH	Shank Type		Ø20 ~ Ø32	APKT1003	A134
	Arbor Type		Ø50 ~ Ø63	APET1604 / APKT1604	
CBAH	Shank Type		Ø20 ~ Ø50	APGT1135 / APMT1135 APGT1604 / APMT1604	A136
	Arbor Type		Ø50 ~ Ø63	APGT1604 / APMT1604	
C39H	Shank Type		Ø25 ~ Ø32	W39011T3	A139

Disc Milling 三面刃銑刀

Product Series	Cutter Type		Cutter Range	Inserts	Page
CSPT	Shank Type		Ø19 ~ Ø40	SPMG...	A141
CRDT	Shank Type		Ø26 ~ Ø50	RDKW0501 / RDKW0620 / RDKW0702 / RPMT10T3	A143
CSPD	Arbor Type		Ø80 ~ Ø200	SPMG...	A145
	Arbor Type		Ø80 ~ Ø125		

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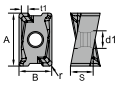
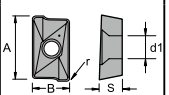
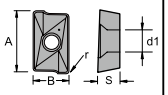
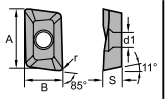
Inserts	Designation	Double Sided	PVD				CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
A Style Inserts																	
	ANMX15T608-MG	●		✓	✓	✓		✓	✓		16.1	10	6.88	0.8	4.65	1.9		A031
	ANMX15T616-MG	●			✓	✓				16.1	10	6.88	0.8	4.65	1.9		
	APKT100304PDER-MG		✓	✓	✓	✓				10.5	6.7	3.5	0.4	2.8	-		
	APKT100308PDER-MG		✓	✓	✓	✓				10.5	6.7	3.5	0.8	2.8	-		
	APKT100304PDER-RG			✓	✓					10.5	6.7	3.5	0.4	2.8	-		
	APET160402PDFR-AL								✓	16.3	9.525	4.76	0.2	4.5	-		
	APET160404PDFR-AL								✓	16.3	9.525	4.76	0.4	4.5	-		A036 A134
	APET160402PDFR-FG		✓							16.3	9.525	4.76	0.2	4.5	-		
	APET160404PDFR-FG		✓							16.3	9.525	4.76	0.4	4.5	-		
	APKT160408PDER-MG		✓	✓	✓	✓				16.3	9.525	5.25	0.8	4.5	-		
	APKT160408PDER-RG		✓	✓	✓	✓				16.3	9.525	5.25	0.8	4.5	-		
	APKT170516PEER-RG			✓	✓	✓				18.5	10.7	5.56	1.6	4.5	-		–
	APMT103508PDER-RG			✓	✓	✓				10	6.6	3.5	0.8	3	-		
	APET160508PDFR-AL								✓	16	9.525	5.56	0.8	4.4	-		A066
	APMT160508PDER-RG			✓	✓					16	9.525	5.56	0.8	4.4	-		

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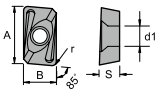
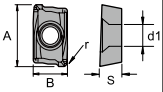
Inserts	Designation	Double Sided	PVD					CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	APGT113508PDER-AL									✓	11.0	6.35	3.5	0.8	2.8	-		A053 A136
	APGT113508PDER-FG		✓								11.0	6.35	3.5	0.8	2.8	-		
	APMT113508PDER-MG		✓	✓	✓	✓					11.0	6.35	3.5	0.8	2.8	-		
	APMT113516PDER-MG		✓	✓	✓	✓					11.0	6.35	3.5	1.6	2.8	-		
	APMT113508PDER-RG		✓	✓	✓						11.0	6.35	3.5	0.8	2.8	-		
	APMT113508PDER-HG			✓	✓	✓					11.0	6.35	3.5	0.8	2.8	-		
	APGT160408PDER-AL									✓	16.5	9.525	4.76	0.8	4.4	-		
	APGT160408PDER-FG		✓								16.5	9.525	4.76	0.8	4.4	-		
	APMT160408PDER-MG		✓	✓	✓	✓			✓		16.5	9.525	4.76	0.8	4.4	-		
	APMT160416PDER-MG			✓	✓	✓					16.5	9.525	4.76	1.6	4.4	-		
	APMT160408PDER-RG		✓	✓	✓	✓					16.5	9.525	4.76	0.8	4.4	-		
	APMT160408PDER-HG		✓	✓	✓	✓					16.5	9.525	4.76	0.8	4.4	-		
	AXMT123508PEER-RG		✓	✓	✓	✓		✓			12.18	6.93	3.58	0.8	3.4	-		A064
	AXMT170508PEER-RG			✓	✓	✓					17.50	10.2	5.56	0.8	4.6	-		
	AXMT170516PEER-RG			✓	✓	✓					17.50	10.2	5.56	1.6	4.6	-		

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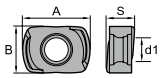
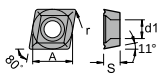
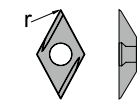
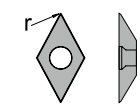
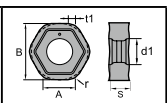
Inserts	Designation	Double Sided	PVD				CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
B Style Inserts																	
NEW	**BNMU0303-SG**	●		✓	✓	✓				9.0	6.24	3.75	-	3.2	-		A071
NEW	**BNMU0303-MG**	●		✓	✓	✓				9.0	6.24	3.75	-	3.2	-		
NEW	**BNMU0303-RG**	●		✓	✓	✓				9.0	6.24	3.75	-	3.2	-		
NEW	**BNMU0404-MG**	●		✓	✓	✓				11.9	9.18	4.8	-	4.2	-		
C Style Inserts																	
	CPMT090308-MG			✓						9.525	-	3.18	0.8	4.4	-		–
	CPMT120408-MG			✓						12.7	-	4.76	0.8	5.5	-		
D Style Inserts																	
	DCEX11T301-SG			✓						-	-	-	0.1	-	-		A126
	DCEX11T302-SG			✓						-	-	-	0.2	-	-		
	DCEX11T304-SG			✓						-	-	-	0.4	-	-		
	DCEX11T301			✓						-	-	-	0.1	-	-		
	DCEX11T302			✓						-	-	-	0.2	-	-		
	DCEX11T304			✓						-	-	-	0.4	-	-		
	DCEX11T308			✓						-	-	-	0.8	-	-		
H Style Inserts																	
	HNMX0704-SG	●		✓	✓	✓			✓	6.8	12.7	4.45	1.2	4.9	1.4		A093

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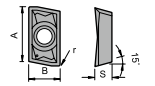
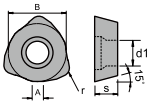
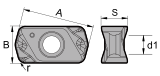
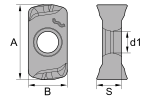
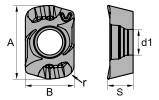
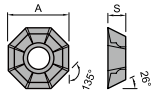
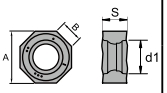
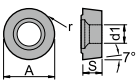
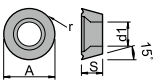
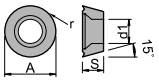
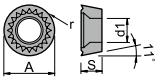
Inserts	Designation	Double Sided	PVD				CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
J Style Inserts																	
	JDMT150508R-MG			✓	✓	✓				15.1	9.12	5.0	0.8	4.5	-		–
	JDMW120420ZDSR-MG			✓	✓	✓				2.5	12.0	4.76	2.0	4.75	-		
	JDMW120420ZDSR-RG			✓	✓	✓	✓			2.5	12.0	4.76	2.0	4.75	-		
	JDMW140520ZDSR-MG			✓	✓					2.8	14.0	5.56	2.0	5.75	-		A087
	JDMW140520ZDSR-RG			✓	✓					2.8	14.0	5.56	2.0	5.75	-		
	JDMT140520ZDSR-MG			✓	✓	✓				2.8	14.0	5.56	2.0	5.75	-		
L Style Inserts																	
	LNMX0303-SG	●	✓	✓	✓	✓				11.59	6.0	4.29	-	2.85	-		A075
	LNMX0303-MG	●	✓	✓	✓	✓				11.59	6.0	4.29	-	2.85	-		
	LOGX030310-SG	●		✓	✓	✓				11.9	6.2	3.96	-	3.45	-		A078
	LOGX030310-MG	●		✓	✓	✓				11.9	6.2	3.96	-	3.45	-		
	LPGX0102-SG				✓	✓				6.26	4.19	2.19	1.0	2.2	-		A084
	LPGX0102-MG				✓	✓				6.26	4.19	2.19	1.0	2.2	-		
O Style Inserts																	
	OFMT05T3TN-SG			✓	✓					12.7	-	3.8	0.6	4.6	-		
	OFMT05T3TN-MG			✓	✓					12.7	-	3.8	0.6	4.6	-		A098
	OFMT05T3TN-RG			✓	✓	✓				12.7	-	3.8	0.6	4.6	-		

Inserts	Designation	Double Sided	PVD					CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	ONMX0505-MG	●		✓	✓	✓					12.7	5.0	6.4	-	6	-		A095
	ONMX0505-RG	●	✓	✓	✓	✓		✓			12.7	5.0	6.4	-	6	-		

R Style Inserts

	RCMT1204MOE-FG		✓	✓							12	-	4.76	6	4.2	-		–
	RCMT1204MOT-FG		✓	✓							12	-	4.76	6	4.2	-		
	RCMT1204MOE-RG							✓			12	-	4.76	6	4.2	-		
	RDKW0501MOE		✓	✓	✓						5	-	1.59	2.5	2.2	-		A106
	RDKW0620MOE			✓	✓						6	-	1.99	3	2.6	-		
	RDKW0702MOE		✓	✓	✓	✓					7	-	2.38	3.5	2.8	-		
	RDMT1003MOE		✓	✓	✓	✓					10	-	3.18	5	3.9	-		
	RDMT1003MOT		✓	✓	✓	✓					10	-	3.18	5	3.9	-		
	RDMX1003MOE		✓	✓	✓	✓					10	-	3.18	5	4.15	-		
	RDMX1003MOT		✓	✓	✓	✓					10	-	3.18	5	4.15	-		
	RDMT10T3MOE		✓	✓	✓	✓					10	-	3.97	5	4.5	-		
	RDMT10T3MOT		✓	✓	✓	✓					10	-	3.97	5	4.5	-		
	RDMW10T3MOE			✓	✓						10	-	3.97	5	4.5	-		
	RDMW10T3MOT			✓	✓						10	-	3.97	5	4.5	-		
	RDMT12T3MOE		✓	✓	✓			✓			12	-	3.97	6	4.1	-		
	RDMT12T3MOT		✓	✓	✓						12	-	3.97	6	4.1	-		

Inserts	Designation	Double Sided	PVD					CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	RDMX12T3MOE		✓	✓	✓	✓					12	-	3.97	6	4.1	-		A106
	RDMX12T3MOT		✓	✓	✓	✓					12	-	3.97	6	4.1	-		
	RDHT1204MOE				✓						12	-	4.76	6	4.4	-		
	RDHT1204MOT				✓						12	-	4.76	6	4.4	-		
	RDMT1204MOE		✓	✓	✓	✓					12	-	4.76	6	4.4	-		
	RDMT1204MOT		✓	✓	✓	✓					12	-	4.76	6	4.4	-		
	RDMW1204MOE			✓	✓	✓					12	-	4.76	6	4.4	-		
	RDMW1204MOT		✓	✓	✓	✓		✓			12	-	4.76	6	4.4	-		
	RDMT1604MOT		✓	✓	✓	✓					16	-	4.76	8	5.5	-		
	RDMW1604MOT		✓	✓	✓	✓		✓			16	-	4.76	8	5.5	-		
	RPMT08T2MOE			✓	✓	✓					8	-	2.78	4	3.2	-		A112
	RPMT08T2MOT			✓	✓	✓					8	-	2.78	4	3.2	-		
	RPMW1003MOE			✓	✓	✓					10	-	3.18	5	4.6	-		
	RPMW1003MOT		✓	✓	✓	✓					10	-	3.18	5	4.6	-		
	RPHT10T3MOE					✓					10	-	3.97	5	4.5	-		

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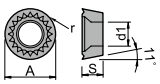
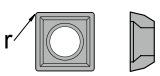
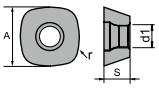
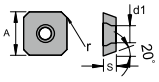
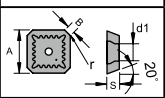
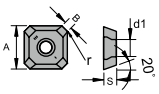
			CX13TX	CX23TX	CX32HS	CX33TX	CX43TX	CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	RPMT10T3MOE				✓	✓	✓				10	-	3.97	5	4.5	-		A112
	RPMT10T3MOT				✓	✓	✓				10	-	3.97	5	4.5	-		
	RPHT1204MOE					✓					12	-	4.76	6	4.3	-		
	RPHT1204MOT					✓					12	-	4.76	6	4.3	-		
	RPMT1204MOE			✓	✓	✓	✓				12	-	4.76	6	4.3	-		
	RPMT1204MOT			✓	✓	✓	✓				12	-	4.76	6	4.3	-		
	RPMW1204MOE				✓	✓	✓				12	-	4.76	6	4.3	-		
	RPMW1204MOT				✓	✓	✓				12	-	4.76	6	4.3	-		

S Style Inserts

	SCGX09T304-AG									✓	-	-	-	0.4	-	-		A128
	SCGX09T304-FG		✓								-	-	-	0.4	-	-		
	SCMX09T304-SM				✓						-	-	-	0.4	-	-		
	SDMX05T104-FG		✓			✓					-	-	-	0.4	-	-		
	SDMX11T308-SG					✓					-	-	-	0.8	-	-		

Inserts	Designation	Double Sided	PVD					CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	SDMT1205ZDEN-SG		✓	✓	✓	✓					12.7	-	5.56	15	4.6	-		A089
	SDMT1205ZDTN-MG		✓	✓	✓	✓					12.7	-	5.56	15	4.6	-		
	SDMT1205ZDTN-RG		✓	✓	✓	✓					12.7	-	5.56	15	4.6	-		
	SDNW1205ZDTN-MG			✓	✓						12.7	-	5.56	15	4.6	-		
	SDNW1205ZDTN-RG		✓	✓	✓	✓		✓			12.7	-	5.56	15	4.6	-		
	SEET1204AFFN-AL									✓	12.7	-	4.76	0.8	5.5	-		A100
	SEET1204AFFN-FG		✓								12.7	-	4.76	0.8	5.5	-		
	SEKT1204AFEN-MG			✓	✓						12.7	-	4.76	0.8	5.5	-		
	SEKT1204AFTN-RG			✓	✓	✓					12.7	-	4.76	0.8	5.5	-		
	SEKW1204AFEN			✓	✓	✓					12.7	-	4.76	0.8	5.5	-		
	SEKW1204AFTN			✓	✓			✓			12.7	-	4.76	0.8	5.5	-		
	SEMR1203AFSN-RG			✓	✓						12.7	1.6	3.18	1	2	-		–
	SEET13T3AGFN-AL									✓	13.4	1.9	3.97	1.5	4.2	-		A102
	SEET13T3AGFN-FG		✓								13.4	1.9	3.97	1.5	4.2	-		
	SEMT13T3AGEN-SG		✓	✓	✓	✓					13.4	1.9	3.97	1.5	4.2	-		
	SEMT13T3AGTN-MG		✓	✓	✓	✓					13.4	1.9	3.97	1.5	4.2	-		
	SEMT13T3AGTN-RG			✓	✓	✓					13.4	1.9	3.97	1.5	4.2	-		

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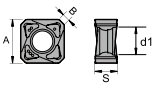
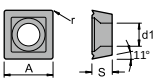
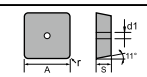
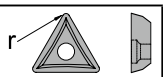
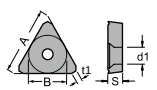
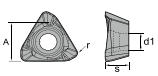
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	SNMX1205-MG	●	✓	✓	✓	✓		✓	✓		12.7	1.5	6.4	-	6	-		A095
	SNMX1205-RG	●	✓	✓	✓	✓		✓			12.7	1.5	6.4	-	6	-		
	SPGG050204-SG				✓						5.00	-	2.38	0.4	2.30	-		A041
	SPGG060204-SG				✓						6.00	-	2.38	0.4	2.65	-		
	SPGG07T308-SG				✓						7.94	-	3.97	0.8	2.85	-		
	SPGG090408-SG				✓						9.80	-	4.3	0.8	4.05	-		
	SPGG110408-SG				✓						11.50	-	4.8	0.8	4.45	-		A132
	SPMG050204-MG			✓	✓	✓					5.00	-	2.38	0.4	2.30	-		A141
	SPMG060204-MG			✓	✓	✓					6.00	-	2.38	0.4	2.65	-		A145
	SPMG07T308-MG			✓	✓	✓					7.94	-	3.97	0.8	2.85	-		
	SPMG090408-MG			✓	✓	✓					9.80	-	4.3	0.8	4.05	-		
	SPMG110408-MG			✓	✓	✓					11.50	-	4.8	0.8	4.45	-		
	SPMN120308			✓							12.7	-	3.18	0.8	2	-		–

T Style Inserts

	TCMX16T308-SM			✓							-	-	-	0.8	-	-		A129
	TPKR1603PPR-MG			✓	✓						16.5	9.525	3.1	-	2.2	1.423		–
	TPKR1603PPR-RG			✓	✓	✓					16.5	9.525	3.1	-	2.2	1.423		
	TPMX100404-SG			✓	✓						6.9	-	4	0.4	3	-		A045
	TPMX100408-SG			✓	✓						6.9	-	4	0.8	3	-		
	TPMX100408-MG		✓	✓	✓	✓					6.9	-	4	0.8	3	-		
	TPMX150508-MG		✓	✓	✓	✓					10.7	-	5	0.8	4.85	-		

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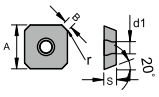
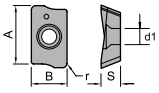
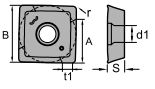
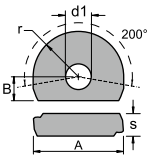
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
W Style Inserts																		
	W245-12T3-AL									✓	13.4	1.9	3.97	1.5	4.2	-		A104
	W245-12T3-FG		✓								13.4	1.9	3.97	1.5	4.2	-		
	W245-12T3-MG		✓	✓	✓	✓		✓	✓		13.4	1.9	3.97	1.5	4.2	-		
	W245-12T3-HG			✓	✓	✓		✓	✓		13.4	1.9	3.97	1.5	4.2	-		
	W39011T308-SG		✓	✓	✓	✓					11	6.9	3.59	0.8	2.8	-		A057 A139
	W39011T308-MG		✓	✓	✓	✓		✓	✓		11	6.9	3.59	0.8	2.8	-		
	W39011T320-MG		✓	✓	✓	✓		✓	✓		11	6.9	3.59	2.0	2.8	-		
	W390170408-MG			✓	✓	✓		✓	✓		15.7	9.6	4.76	0.8	4.1	-		
	W390180612-SG			✓	✓	✓		✓	✓		15.4	11	6.33	1.2	4.2	-		
	W49008T308-SG			✓	✓	✓					5.6	8.5	3.3	0.8	2.8	1.2		A061
	W49008T308-MG			✓	✓	✓					5.6	8.5	3.3	0.8	2.8	1.2		
	W490140408-SG				✓	✓		✓			10.3	13.8	3.9	0.8	4.1	2.0		
	W490140408-MG			✓	✓	✓		✓	✓		10.3	13.8	3.9	0.8	4.1	2.0		
NEW	**WBNM12-SM**		✓								12	4	3	6	3.5	-		A124
NEW	**WBNM12-MM**		✓								12	4	3	6	3.5	-		
NEW	**WBNM16-SM**		✓								16	4	4	8	4	-		
NEW	**WBNM16-MM**		✓								16	4	4	8	4	-		
NEW	**WBNM20-SM**		✓								20	5	5	10	5	-		
NEW	**WBNM20-MM**		✓								20	5	5	10	5	-		
NEW	**WBNM25-SM**		✓								25	6	6	12.5	6	-		
NEW	**WBNM25-MM**		✓								25	6	6	12.5	6	-		

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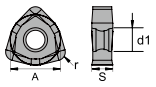
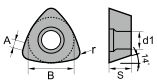
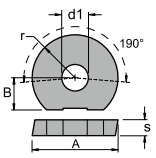
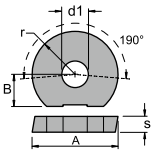
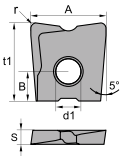
			CX13TX	CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	WNMX09T316-MG	●			✓	✓	✓		✓	✓		9.525	-	3.97	1.6	3.6	-		A081
	WNMX09T316-RG	●			✓	✓	✓		✓	✓		9.525	-	3.97	1.6	3.6	-		
	WNMX130716-MG	●			✓	✓	✓		✓	✓		12.7	-	7.0	1.6	4.7	-		
	WP26339R14-MG				✓	✓	✓					-	9.52	3.97	1.2	4.4	-		A091
	WP26339R14-RG			✓	✓	✓	✓					-	9.52	3.97	1.2	4.4	-		
	WP26379R25-MG				✓	✓	✓					1.1	13	5.56	2.0	5.5	-		A119
	WP26379R25-MG			✓	✓	✓	✓					1.1	13	5.56	2.0	5.5	-		
	WP3210-SM		✓	✓								10	5	2.5	5	4	-		A116
	WP3210-MM		✓	✓								10	5	2.5	5	4	-		
	WP3212-SM		✓	✓								12	6	2.5	6	5	-		
	WP3212-MM		✓	✓								12	6	2.5	6	5	-		
	WP3216-SM		✓	✓								16	6	3	8	5	-		
	WP3216-MM		✓	✓								16	6	3	8	5	-		
	WP3220-SM		✓	✓								20	6	3	10	5	-		
	WP3220-MM		✓	✓								20	6	3	10	5	-		

Inserts	Designation	Double Sided	PVD						CVD		–	Dimensions (mm)						Drawing	Cutter Pa
			CX13TX	CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	WP3225-SM		✓	✓								25	9	4	12.5	6	-		A116
	WP3225-MM		✓	✓								25	9	4	12.5	6	-		
	WP3230-SM		✓	✓								30	10	5	15	8	-		
	WP3230-MM		✓	✓								30	10	5	15	8	-		
	WP3232-SM		✓	✓								32	10	5	16	8	-		
	WP3232-MM		✓	✓								32	10	5	16	8	-		
	WPBC1205-MM					✓	✓					12	6	2.5	0.5	5	14		A121
	WPBC1210-MM					✓	✓					12	6	2.5	1	5	14		
	WPBC1220-MM					✓	✓					12	6	2.5	2	5	14		
	WPBC1605-MM					✓	✓					16	6	3	0.5	5	16		
	WPBC1610-MM					✓	✓					16	6	3	1.0	5	16		
	WPBC1613-MM					✓	✓					16	6	3	1.3	5	16		
	WPBC1620-MM					✓	✓					16	6	3	2.0	5	16		
	WPBC1630-MM					✓	✓					16	6	3	3.0	5	16		
	WPBC2010-MM					✓	✓					20	6	3	1	5	18		
	WPBC2020-MM					✓	✓					20	6	3	2	5	18		
	WPBC2040-MM					✓	✓					20	6	3	4	5	18		

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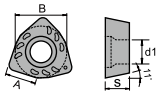
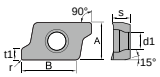
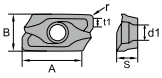
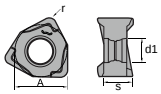
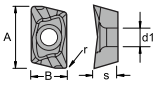
Inserts	Designation	Double Sided	PVD					CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	WPMW080615ZPSR-MG				✓	✓					8	12.87	6.35	1.5	5.5	-		–
	WPMW080615ZPSR-RG				✓	✓		✓			8	12.87	6.35	1.5	5.5	-		
NEW	**WRT070204-MG**				✓	✓					4.30	6.4	2.38	0.4	2.2	1.3		A039
	WRT070204-RG			✓	✓	✓	✓				4.30	6.4	2.38	0.4	2.2	1.3		
	WRT100308-MG			✓	✓	✓	✓				6.35	9.3	3.4	0.8	2.9	1.8		
	WRT100308-RG			✓	✓	✓	✓				6.35	9.3	3.4	0.8	2.9	1.8		

X Style Inserts

	XDMT11T308-MG					✓	✓				10.6	6.8	3.8	0.8	2.8	1.4		–
	XNMX040304-SG	●	✓	✓	✓						6.7	-	3.285	0.4	3.15	-		
	XNMX040304-MG	●	✓	✓	✓						6.7	-	3.285	0.4	3.15	-		
	XNMX040308-MG	●	✓	✓	✓	✓					6.7	-	3.285	0.8	3.15	-		A033
	XNMX080608-MG	●	✓	✓	✓	✓		✓	✓		12.53	-	6.5	0.8	4.5	-		
	XNMX080608-RG	●		✓	✓	✓		✓	✓		12.53	-	6.5	0.8	4.5	-		

Index 索引

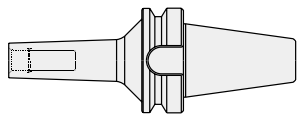
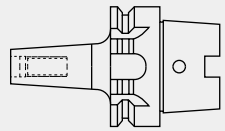
Inserts	Designation	Double Sided	PVD					CVD		–	Dimensions (mm)						Drawing	Cutter Pag
			CX23TX	CX32HS	CX33TX	CX43TX		CX37TA	CX47TA	CX10	A	B	S	r	d1	t1		
	XOMT060208-SG			✓	✓						7	4.09	2.45	0.8	2	-		A050
	XOMT060204-MG		✓	✓	✓						7	4.09	2.45	0.4	2	-		
	XOMT060208-MG		✓	✓	✓	✓					7	4.09	2.45	0.8	2	-		
	XOMT060216-MG		✓	✓	✓	✓					7	4.09	2.45	1.6	2	-		
	XOMT10T308-SG			✓	✓						11.08	6.86	3.8	0.8	3	-		
	XOMT120408-MG			✓	✓	✓		✓	✓		11.6	8.2	5.07	0.8	3.9	-		
	XOMT120412-SG				✓	✓					11.6	8.2	5.07	1.2	3.9	-		

Index 索引

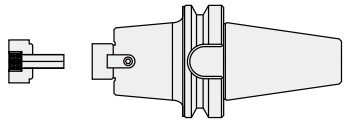
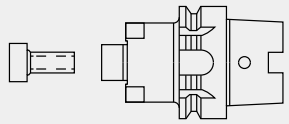
Adapter - ISO M Threads 刀桿 (ISO M 型牙)

Product Series	Appearance	Name	Overall Length	Shank Dia.	Page
SWMEA		Carbide Adapter (Straight)	75 ~ 400	10 ~ 32	A150
SWMEB		Carbide Adapter (Straight Neck)	100 ~ 350	10 ~ 32	A152
SWMET		Carbide Adapter (Taper Neck)	150 ~ 300	12 ~ 32	A153
SWMSB		Alloy Steel Adapter (Straight Neck)	100 ~ 250	16 ~ 32	A154

Arbor (screw-on) - ISO M Threads 鎖牙式刀柄 - ISO M 型牙

Product Series	Appearance	Type	Page
BT		BT40 / BT50	A156
HSK		HSK63	A157

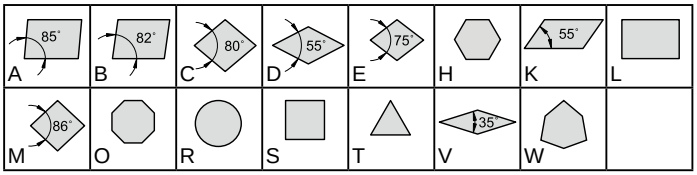
Face Milling Holder 面銑刀柄

Product Series	Appearance	Type		Page
BT		FMA FMB	BT30 / BT40 / BT50	A158
HSK		FMA FMB	HSK63	A160

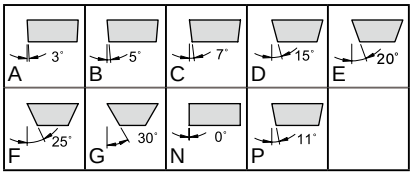
Designations for Milling Insert 銑刀片型號編碼

A	P	M	T	16	04	08	PD	ER	-	MG
①	②	③	④	⑤	⑥	⑦	⑧	⑨		⑩

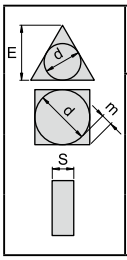
① Insert Shape



② Relief Angle



③ Tolerance Class

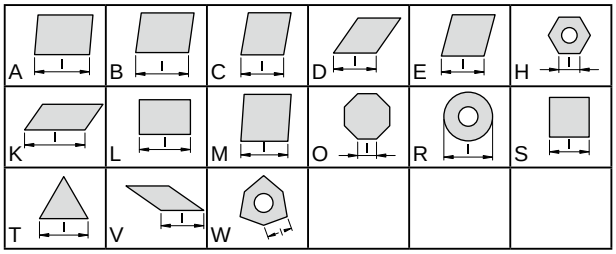


Tolerance		A	C	E	F	G	H	J	K	L	M	N	U
Range of tolerance	d±	0.025	0.025	0.025	0.013	0.025	0.013	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.08~0.25
	m±	0.005	0.013	0.025	0.005	0.025	0.013	0.005	0.013	0.025	0.08~0.2	0.08~0.2	0.13~0.38
	s±	0.025	0.025	0.025	0.025	0.05~0.13	0.025	0.025	0.025	0.025	0.05~0.13	0.025	0.13

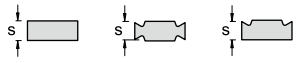
④ Insert Features

A	C	F	G	H	J	M	N	Q	R	T	U	W	X
													Special shape

⑤ Edge Length



⑥ Thickness

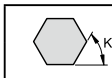


Index	01	T1	02	03	T3	04	05	06	07	09
S(mm)	1.59	1.98	2.38	3.18	3.97	4.76	5.56	6.35	7.94	9.52

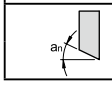
⑦ Corner Radius

02	04	08	16	20	…
0.2R	0.4R	0.8R	1.6R	2.0R	…

⑧ Edge Clearance



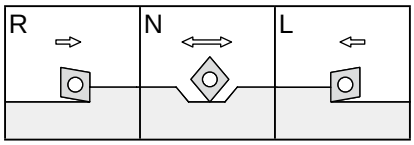
A	D	E	F	P	Z				
45°	60°	75°	85°	90°	other				



A	B	C	D	E	F	G	N	P	Z
3°	5°	7°	15°	20°	25°	30°	0°	11°	other

⑨ Cutting Edge & Direction

E	F	T	S
Rounded	Sharp	Chamferd	Chamferd and rounded



⑩ Chip Breaker Geometry

AL, FG, SG, MF,
MG, RG, HG

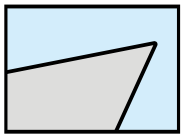
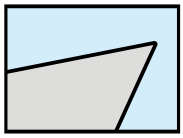
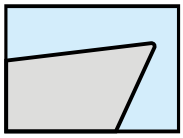
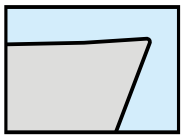
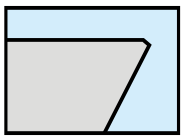
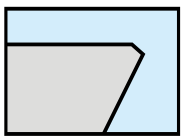
Milling Insert Grades 銑刀片材質介紹

Grade Type 刀片材質	Color 刀片顏色	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍	Previous Grade 以前的材質
CX13TX		• PVD (AlTiSiN) • High wear resistance • 高耐磨性	• Fine finishing machining • 適用於超精加工	○	○	○		○	●	• Hardened parts • 硬質零件	*CX12HS* *CX12HX*
CX23TX		• PVD (AlTiSiN) • Wear resistance • 耐磨性	• Continuous finishing machining • For hardened steel is 1st recommended • 適用於連續穩定精加工 • 加工高硬度鋼為第一建議	○	○	○		○	●	• Mold & Die • Hardened parts • 模具產業 • 硬質零件	*CX21NS* *CX22HS* *CX22HX* *CX23TS* *CX23AX* *CX23UX*
CX32HS		• PVD (AlTiSiN) • Wear resistance • Anti-corrosion • 耐磨性 • 抗腐蝕	• Medium to roughing • General machining • For carbon steel & alloy steel is 1st recommended • 適合中至粗加工 • 適合泛用加工 • 加工碳鋼 & 合金鋼為第一建議	●	○	●				• Mold & Die • Automotive • Machinery • Aerospace • 模具產業 • 汽車零件 • 機械零件 • 航太零件	*CX31NS* *CX31NA* *CX33TS* *CX33UX*
CX33TX				●	●	●		●	●		
CX37TA		• CVD (TiCN-Al_2O_3-TiN) • Wear resistance • Impact resistance • 耐磨性 • 抗衝擊性	• Medium to rough dry machining • For cast iron is 1st recommended • 適合乾式中至粗加工 • 加工鑄鐵為第一建議	●		●			○	• Automotive • Machinery • 汽車零件 • 機械零件	–
CX43TX		• PVD (AlTiSiN) • High impact resistance • Anti-corrosion • 高抗衝擊性 • 抗腐蝕	• Medium to roughing • Interrupted machining • For exotic materials is 1st recommended • 適合中至粗加工 • 適合斷續加工 • 加工高溫合金為第一建議	●	●			●		• Electronics • Medical • Aerospace • 電子零件 • 醫療產業 • 航太零件	*CX41NS* *CX41NA* *CX43TS*
CX47TA		• CVD (TiCN-Al_2O_3-TiN) • High impact resistance • High toughness • 高抗衝擊性 • 高韌性	• Rough dry machining • Interrupted machining • For alloy steel & cast iron are recommended • 適合乾式粗加工 • 適合斷續加工 • 加工合金鋼 & 鑄鐵均可建議	●	○	●		○		• Machinery • Aerospace • Energy • 機械零件 • 航太零件 • 能源產業	–
CX10	–	• Uncoated • Wear resistance • 耐磨性	• Finishing and medium cutting • For non-ferrous materials is 1st recommended • 適合精加工和中加工 • 加工鋁合金為第一建議				●			• Bike parts • Automotive • Electronics • 自行車零件 • 汽車零件 • 電子零件	–

Milling Insert Grades Material Application 銑刀片材質應用表

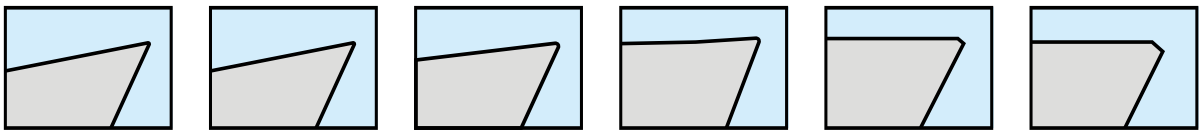
ISO		PVD	CVD	Uncoated
P	10	CX13TX		
	20	CX23TX	CX37TA	
	30	CX33TX	CX47TA	
	40	CX43TX		
M	10			
	20	CX23TX	CX37TA	
	30	CX33TX	CX47TA	
	40	CX43TX		
K	10	CX23TX		
	20	CX33TX	CX37TA	
	30	CX43TX		
N	10			CX10
	20			
	30			
S	10			
	20	CX33TX		
	30	CX43TX		
	40			
H	10	CX13TX		
	20	CX23TX		
	30			

Milling Insert Chipbreakers 銑刀片斷屑槽介紹

Chipbreaker 斷屑槽		Application 應　用
 for Aluminum 適用於鋁	**AL**	Large positive rake angle with sharp cutting edge for Non-ferrous materials. 鋒利的大正前角刀口設計，適用於非鐵金屬加工應用
 Finishing 精加工	**FG**	Large positive rake angle with sharp cutting edge for finishing cutting in steel. 鋒利的大正前角刀口設計，適用於一般鋼料精加工
 Semi-Finishing 半精加工	**SG** **(SM)**	Sharp geometry design for semi-finishing cutting in steel, stainless steel and difficult-to-cut material. 鋒利的刀口設計，適用於鋼件、不鏽鋼，及難切削材的半精加工應用
 Medium 中加工	**MG** **(MM)**	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用
 Roughing 粗加工	**RG**	Strong geometry design for rough cutting in steel, alloy steel and hardened steel. 強壯的刀口設計，適用於鋼件、合金鋼、預硬鋼的粗加工應用
 Heavy-Roughing 重粗加工	**HG**	Strong, negative and big chamfering cutting edge for roughing, forging and cast skin. 粗加工的強力刀口設計，適用於鑄件及鍛件

Milling Insert Chipbreaker for Varied Cutting Conditions 銑刀片斷屑槽應用表

Sharp Cutting Edge — Stronger Cutting Edge



AL FG SG(SM) MG(MM) RG HG

Workpiece Material	Cutting Condition		
	Light Cutting	General Cutting	Heavy Cutting
P Steel	*FG*	*MG*	*HG*
	SG	*RG*	
M Stainless Steel	*FG*	*MG*	
	SG		
K Cast Iron	*MG*	*RG*	*HG*
N Non-Ferrous Metal		*AL*	
S Super Alloys	*FG*	*SG*	*MG*
H Hardened Steel	*RG*	*HG*	

Selection Guide 選擇指南

P *Steel* 鋼

Application 應用	1st Recommendation 第一推薦 (Series・Insert・Grade)		2nd Recommendation 第二推薦 (Series・Insert・Grade)	
Shoulder Milling 方肩銑削	CAPK・APKT-MG・CX33TX		CXXN・XNMX-MG・CX33TX	
High Feed Milling 高進給銑削	CXBN・BNMU-MG・CX33TX		CXWN・WNMX-MG・CX33TX	
Face Milling 面銑削	CXSN・SNMX-MG・CX33TX		CASX・SEMT-MG・CX33TX	
Copy Milling 仿形銑削	CF21・WP32-MM・CX23TX		CF21・WP32-MM・CX22HX	

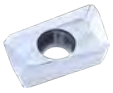
M *Stainless Steel* 不鏽鋼

Application 應用	1st Recommendation 第一推薦 (Series・Insert・Grade)		2nd Recommendation 第二推薦 (Series・Insert・Grade)	
Shoulder Milling 方肩銑削	CR49・W490-SG・CX43TX		CAPK・APKT-SG・CX43TX	
High Feed Milling 高進給銑削	CXBN・BNMU-SG・CX33TX		CXLO・LOGX-SG・CX33TX	
Face Milling 面銑削	CXHN・HNMX-SG・CX43TX		CASX・SEMT-MG・CX43TX	
Copy Milling 仿形銑削	CF21・WP32-SM・CX23TX		CF21・WP32-MM・CX22HX	

K *Cast Iron* 鑄鐵

Application 應用	**1st Recommendation** 第一推薦 (Series・Insert・Grade)	**2nd Recommendation** 第二推薦 (Series・Insert・Grade)
Shoulder Milling 方肩銑削	CAPK・APKT-RG・CX37TA	CXXN・XNMX-RG・CX37TA
High Feed Milling 高進給銑削	CXBN・BNMU-RG・CX37TA	CXWN・WNMX-RG・CX37TA
Face Milling 面銑削	CXSN・SNMX-RG・CX37TA	CASX・SEMT-RG・CX37TA
Copy Milling 仿形銑削	CF21・WP32-MM・CX23TX	CF21・WP32-MM・CX22HX

N *Aluminum alloy & Brass* 鋁合金與銅

Application 應用	**1st Recommendation** 第一推薦 (Series・Insert・Grade)	**2nd Recommendation** 第二推薦 (Series・Insert・Grade)
Shoulder Milling 方肩銑削	CBAP・APGT-AL・CX10 	CAPK・APET-AL・CX10
High Feed Milling 高進給銑削	–	–
Face Milling 面銑削	CASX・SEET-AL・CX10	CASE・SEET-AL・CX10
Copy Milling 仿形銑削	–	–

Selection Guide 選擇指南

S *Super Alloy* 高溫合金

Application 應用	**1st Recommendation** 第一推薦 (Series・Insert・Grade)	**2nd Recommendation** 第二推薦 (Series・Insert・Grade)
Shoulder Milling 方肩銑削	CAXO・XOMT-SG・CX43TX	CR39・W390-SG・CX43TX
High Feed Milling 高進給銑削	CXBN・BNMU-SG・CX33TX	CXLO・LOGX-SG・CX33TX
Face Milling 面銑削	CXHN・HNMX-SG・CX43TX	CAOF・OFMT-SG・CX43TX
Copy Milling 仿形銑削	CF21・WP32-SM・CX23TX	CF21・WP32-MM・CX23TX

H *Hardened Steel* 高硬度鋼

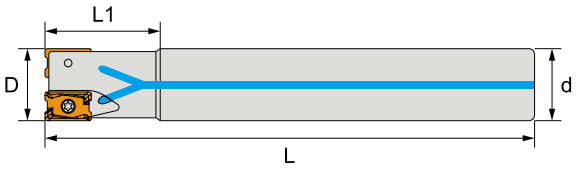
Application 應用	**1st Recommendation** 第一推薦 (Series・Insert・Grade)	**2nd Recommendation** 第二推薦 (Series・Insert・Grade)
Shoulder Milling 方肩銑削	CAPK・APKT-RG・CX33TX	CART・WRT-RG・CX33TX
High Feed Milling 高進給銑削	CXBN・BNMU-RG・CX33TX	CASR・SDNW-RG・CX33TX
Face Milling 面銑削	CASE・SEKW・CX33TX	CXSN・SNMX-RG・CX33TX
Copy Milling 仿形銑削	CF21・WP32-MM・CX23TX	CF21・WP32-SM・CX23TX

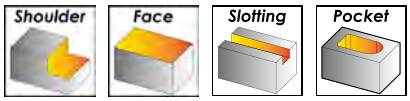
CXAN Series

- Use ANMX double-sided inserts with 4 cutting edges.
- Positive rake angle design for lower side cutting forces.
- Max. 15mm depth of cut, cutter diameter 40~100mm.

- 使用 ANMX 雙面銑刀片，4 個可用切削角
- 正前角設計可降低切削力
- 每次最大切深可達 15mm, 刀桿直徑 25~100mm

Shank Type 方肩銑刀



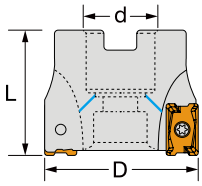


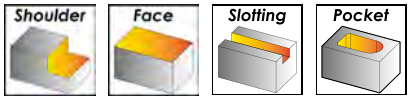
Insert Brand : Winstar

Order No.	D	L1	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICXANE502025170	25	40	170	25	2		ANMX15T6	ITS4004	ITK15	●
ICXANE502025171	25	40	170	25	2	✓				●

● stock ○ by inquiry

Arbor Type 方肩銑刀





Insert Brand : Winstar

Order No.	D	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICXANF504040161	40	40	16	4	✓	ANMX15T6	ITS4006	ITK15	●
ICXANF505050221	50	40	22	5	✓				●
ICXANF506063221	63	40	22	6	✓				●
ICXANF507080271	80	50	27	7	✓				●
ICXANF508100321	100	50	32	8	✓				●

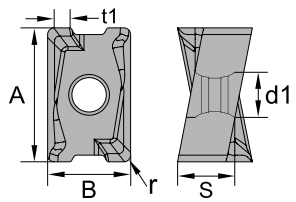
● stock ○ by inquiry

Shoulder Milling - CXAN 方肩銑刀

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	110 ~ 260	0.09 ~ 0.27	0.3 ~ 15
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 15
Cast Iron	110 ~ 260	0.09 ~ 0.27	0.3 ~ 15
Super Alloy	40 ~ 70	0.07 ~ 0.14	0.3 ~ 15

Insert Specifications 刀片規格

Insert	Dimensions (mm)						Chipbreaker	
	A	B	S	r	d1	t1		
ANMX15T608	16.1	10	6.88	0.8	4.65	1.9	MG	
ANMX15T616	16.1	10	6.88	1.6	4.65	1.9	MG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IANMX15T608MG32HS	ANMX-15T608-MG-CX32HS	●	○	●			
	IANMX15T608MG33TX	ANMX-15T608-MG-CX33TX	●	●	●		●	●
	IANMX15T608MG43TX	ANMX-15T608-MG-CX43TX	●	●			●	
	IANMX15T608MG37TA	ANMX-15T608-MG-CX37TA	●		●			○
	IANMX15T608MG47TA	ANMX-15T608-MG-CX47TA	●	○	●		○	
	IANMX15T616MG33TX	ANMX-15T616-MG-CX33TX	●	●	●		●	●
	IANMX15T616MG43TX	ANMX-15T616-MG-CX43TX	●	●			●	

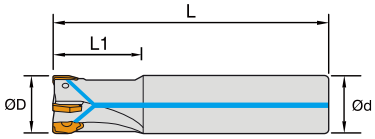
Shoulder Milling - CXXN 方肩銑刀

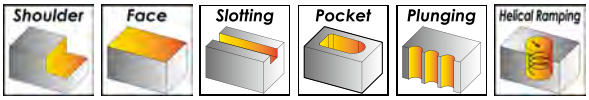
CXXN Series

- Use XNMX double-sided inserts with 6 cutting edges.
- Economic and high performance shoulder milling application.
- 17~125mm cutter diameter, max. 7mm depth of cut.

- 使用 XNMX 雙面銑刀片 , 6 個可用切削角
- 經濟與高性能方肩銑應用的最佳解決方案
- 17~125mm 刀桿直徑 , 最大切削深度可達 7mm

Shank Type 方肩銑刀





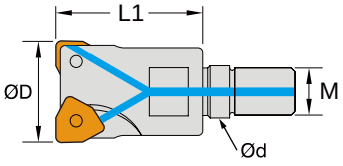
Insert Brand : Winstar

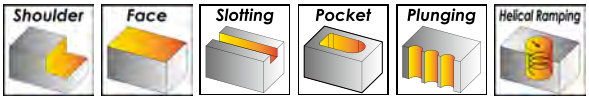
Order No.	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXXNE403020111	20	28	110	20	3	✓	XNMX0403	ITS2512	ITK08	●
ICXXNE403020150	20	40	150	20	3					●
ICXXNE403020200	20	100	200	20	3					●
ICXXNE404025121	25	28	120	25	4	✓				●
ICXXNE404025150	25	40	150	25	4					●
ICXXNE405032131	32	30	130	32	5	✓				●
ICXXNE405032200	32	45	200	32	5					●

● stock ○ by inquiry

Customize available.

Modular Type 方肩銑刀頭





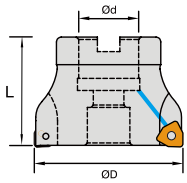
Insert Brand : Winstar

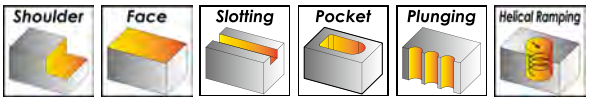
Order No.	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXXNM402017081	17	26	8.5	M08	2	✓	XNMX0403	ITS2512	ITK08	●
ICXXNM403021101	21	32	10.5	M10	3	✓				●
ICXXNM404026121	26	38	12.5	M12	4	✓				●
ICXXNM405032161	32	41	17	M16	5	✓				○

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Arbor Type 方肩銑刀





Insert Brand : Winstar

Order No.	D	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXXNF406050220	50	50	22	6		XNMX0403	ITS2512	ITK08	●
ICXXNF407063220	63	50	22	7					●
ICXXNF407063250	63	50	25.4	7					●
ICXXNF407040161	40	40	16	7	✓				●
ICXXNF409050221	50	40	22	9	✓				●
ICXXNF805050221	50	40	22	5	✓	XNMX0806	ITS4006	ITK15	●
ICXXNF806063221	63	40	22	6	✓				●
ICXXNF807080271	80	50	27	7	✓				●
ICXXNF811100321	100	50	32	11	✓				○
ICXXNF811125401	125	63	40	11	✓				○

● stock ○ by inquiry

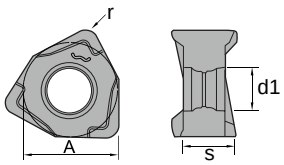
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	XNMX0403			XNMX0806		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.16	0.3 ~ 3.0	120 ~ 250	0.1 ~ 0.3	0.3 ~ 7.0
Stainless Steel	100 ~ 180	0.08 ~ 0.12	0.3 ~ 1.6	100 ~ 180	0.08 ~ 0.25	0.3 ~ 4.5
Cast Iron	120 ~ 250	0.10 ~ 0.16	0.3 ~ 3.0	120 ~ 250	0.1 ~ 0.3	0.3 ~ 7.0
Super Alloy	40 ~ 100	0.08 ~ 0.12	0.3 ~ 1.5	40 ~ 100	0.08 ~ 0.18	0.3 ~ 4.0
Hardened Steel	50 ~ 100	0.09 ~ 0.13	0.3 ~ 1.5	50 ~ 100	0.09 ~ 0.19	0.3 ~ 4.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	S	r	d1	
XNMX040304	6.7	3.285	0.4	3.15	SG, MG
XNMX040308	6.7	3.285	0.8	3.15	MG
XNMX080608	12.53	6.5	0.8	4.5	MG, RG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IXNMX040304SG23TX	XNMX-040304-SG-CX23TX	○	○	○		○	●
	IXNMX040304SG32HS	XNMX-040304-SG-CX32HS	●	○	●			
	IXNMX040304SG33TX	XNMX-040304-SG-CX33TX	●	●	●		●	●
	IXNMX040304MG23TX	XNMX-040304-MG-CX23TX	○	○	○		○	●
	IXNMX040304MG32HS	XNMX-040304-MG-CX32HS	●	○	●			
	IXNMX040304MG33TX	XNMX-040304-MG-CX33TX	●	●	●		●	●
	IXNMX040308MG23TX	XNMX-040308-MG-CX23TX	○	○	○		○	●
	IXNMX040308MG32HS	XNMX-040308-MG-CX32HS	●	○	●			
	IXNMX040308MG33TX	XNMX-040308-MG-CX33TX	●	●	●		●	●
	IXNMX040308MG43TX	XNMX-040308-MG-CX43TX	●	●			●	
	IXNMX080608MG23TX	XNMX-080608-MG-CX23TX	○	○	○		○	●
	IXNMX080608MG32HS	XNMX-080608-MG-CX32HS	●	○	●			
	IXNMX080608MG33TX	XNMX-080608-MG-CX33TX	●	●	●		●	●
	IXNMX080608MG43TX	XNMX-080608-MG-CX43TX	●	●			●	
	IXNMX080608MG37TA	XNMX-080608-MG-CX37TA	●		●			○
	IXNMX080608MG47TA	XNMX-080608-MG-CX47TA	●	○	●		○	
	IXNMX080608RG32HS	XNMX-080608-RG-CX32HS	●	○	●			
	IXNMX080608RG33TX	XNMX-080608-RG-CX33TX	●	●	●		●	●
	IXNMX080608RG43TX	XNMX-080608-RG-CX43TX	●	●			●	
	IXNMX080608RG37TA	XNMX-080608-RG-CX37TA	●		●			○
	IXNMX080608RG47TA	XNMX-080608-RG-CX47TA	●	○	●		○	

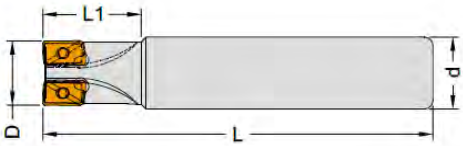
Shoulder Milling - CAPK 方肩銑刀

CAPK Series

- Use APKT inserts with 2 cutting edges.
- Optimized chip breaker for various applications and materials.
- 16~125mm cutter diameter, max. 11mm depth of cut.

- 使用 APKT 銑刀片 , 2 個可用切削角
- 優化的刀口設計適用於各種加工應用和材料
- 16~125mm 刀桿直徑 , 最大切削深度可達 11mm

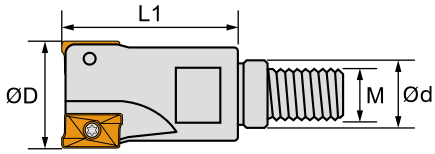
Shank Type 方肩銑刀



Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICAPKE302016120	16	25	120	16	2	APKT1003	ITS2515	ITK08	●
ICAPKE302020120	20	30	120	20	2				●
ICAPKE302020150	20	30	150	20	2				●
ICAPKE304025150	25	35	150	25	4				●
ICAPKE305032150	32	35	150	32	5				○
ICAPKE402025150	25	40	150	25	2	APET1604 APKT1604	ITS4004	ITK15	●
ICAPKE403032150	32	45	150	32	3				○

Modular Type 方肩銑刀頭



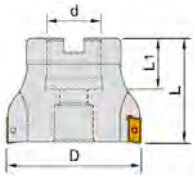
Insert Brand : Winstar

Order No.	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICAPKM302016080	16	26	8.5	M8	2	APKT1003	ITS2515	ITK08	●
ICAPKM303020100	20	32	10.5	M10	3				○
ICAPKM304025120	25	38	12.5	M12	4				●
ICAPKM305032160	32	41	17	M16	5				○
ICAPKM402025120	25	38	12.5	M12	2	APET1604 APKT1604	ITS4004	ITK15	○
ICAPKM403032160	32	41	17	M16	3				○

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Arbor Type 方肩銑刀



Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICAPKF306050220	50	20	40	22	6	APKT1003	ITS2515	ITK08	●
ICAPKF306063220	63	21	45	22	6				●
ICAPKF307080270	80	23	50	27	7				●
ICAPKF404050220	50	23	50	22	4	APET1604 APKT1604	ITS4004	ITK15	●
ICAPKF405063220	63	23	50	22	5				●
ICAPKF405063250	63	23	50	25.4	5				●
ICAPKF406080250	80	32	55	25.4	6				●
ICAPKF406080270	80	32	55	27	6				●
ICAPKF408100310	100	32	55	31.75	8				●
ICAPKF408100320	100	32	55	32	8				●
ICAPKF408125380	125	38	63	38.1	8				●

● stock ○ by inquiry

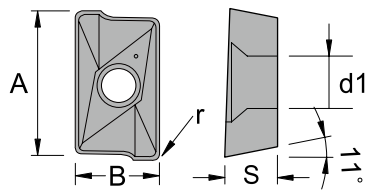
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	APKT1003			APKT1604 / APET1604		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
Aluminum Alloy	-	-	-	300 ~ 1000	0.18 ~ 0.40	0.3 ~ 11.0
Super Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
APKT100304	10.5	6.7	3.5	0.4	2.8	MG
APKT100308	10.5	6.7	3.5	0.8	2.8	MG
APET160402	16.3	9.525	4.76	0.2	4.5	AL, FG
APET160404	16.3	9.525	4.76	0.4	4.5	AL, FG
APKT160408	16.3	9.525	5.25	0.8	4.5	MG, RG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IAPKT100304EMG23TX	APKT-100304PDER-MG-CX23TX	○	○	○		○	●
	IAPKT100304EMG32HS	APKT-100304PDER-MG-CX32HS	●	○	●			
	IAPKT100304EMG33TX	APKT-100304PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100304EMG43TX	APKT-100304PDER-MG-CX43TX	●	●			●	
	IAPKT100308EMG23TX	APKT-100308PDER-MG-CX23TX	○	○	○		○	●
	IAPKT100308EMG32HS	APKT-100308PDER-MG-CX32HS	●	○	●			
	IAPKT100308EMG33TX	APKT-100308PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100308EMG43TX	APKT-100308PDER-MG-CX43TX	●	●			●	
	IAPKT100304ERG32HS	APKT-100304PDER-RG-CX32HS	●	○	●			
	IAPKT100304ERG33TX	APKT-100304PDER-RG-CX33TX	●	●	●		●	●
	IAPET160402FAL10	APET-160402PDFR-AL-CX10				●		
	IAPET160404FAL10	APET-160404PDFR-AL-CX10				●		
	IAPET160402FFG23TX	APET-160402PDFR-FG-CX23TX	○	○	○		○	●
	IAPET160404FFG23TX	APET-160404PDFR-FG-CX23TX	○	○	○		○	●
	IAPKT160408EMG23TX	APKT-160408PDER-MG-CX23TX	○	○	○		○	●
	IAPKT160408EMG32HS	APKT-160408PDER-MG-CX32HS	●	○	●			
	IAPKT160408EMG33TX	APKT-160408PDER-MG-CX33TX	●	●	●		●	●
	IAPKT160408EMG43TX	APKT-160408PDER-MG-CX43TX	●	●			●	
	IAPKT160408ERG23TX	APKT-160408PDER-RG-CX23TX	○	○	○		○	●
	IAPKT160408ERG32HS	APKT-160408PDER-RG-CX32HS	●	○	●			
	IAPKT160408ERG33TX	APKT-160408PDER-RG-CX33TX	●	●	●		●	●
	IAPKT160408ERG43TX	APKT-160408PDER-RG-CX43TX	●	●			●	

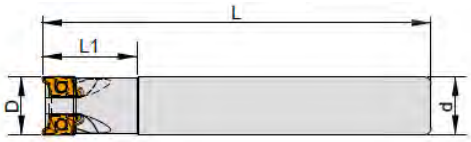
Shoulder Milling - CART 方肩銑刀

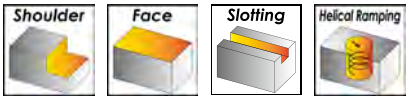
CART Series

- Use WRT inserts with 2 cutting edges.
- Strong chip breaker provides well ramping and slotting capabilities.
- 10~26mm cutter diameter, max. 7mm depth of cut.

- 使用 WRT 銑刀片 , 2 個可用切削角
- 強化的刀口設計提供了極佳的斜坡銑削及開槽能力
- 10~26mm 刀桿直徑 , 最大切削深度可達 7mm

Shank Type 方肩銑刀





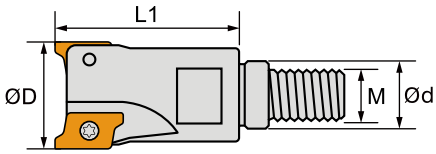
Insert Brand : Winstar

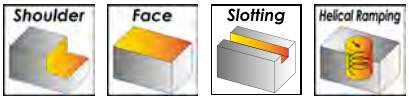
Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICARTE702011100	11	18	100	10	2	WRT0702	ITS2003	ITK06	●
ICARTE702013100	13	20	100	12	2				●
ICARTE703016150	16	30	150	16	3				○
ICARTE102017150	17	30	150	16	2	WRT1003	ITS2515	ITK08	●
ICARTE103021150	21	30	150	20	3				●
ICARTE104026150	26	40	150	25	4				●

● stock ○ by inquiry

Customize available.

Modular Type 方肩銑刀頭





Order No.	D	L1	M	d	T	Inserts	Screw	Wrench	Stock
ICARTM702010050	10	18	M5	5.5	2	WRT0702	ITS2003	ITK06	●
ICARTM702011050	11	18	M5	5.5	2				●
ICARTM702012060	12	20	M6	6.5	2				●
ICARTM702013060	13	20	M6	6.5	2				●
ICARTM103017080	17	30	M8	8.5	3	WRT1003	ITS2515	ITK08	●
ICARTM103021100	21	32	M10	10.5	3				●

● stock ○ by inquiry

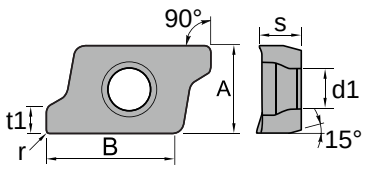
※ For screw-in type adapter, please refer to Tooling System

Recommended Cutting Conditions 建議切削數據

Working Material	WRT0702			WRT1003		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.20	0.3 ~ 5.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 7.0
Stainless Steel	100 ~ 180	0.05 ~ 0.15	0.3 ~ 3.0	100 ~ 180	0.08 ~ 0.18	0.5 ~ 4.0
Cast Iron	120 ~ 250	0.08 ~ 0.20	0.3 ~ 4.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0
Super Alloy	40 ~ 100	0.05 ~ 0.12	0.3 ~ 3.0	40 ~ 100	0.07 ~ 0.14	0.5 ~ 4.0
Hardened Steel	50 ~ 100	0.05 ~ 0.13	0.3 ~ 3.0	50 ~ 100	0.07 ~ 0.15	0.5 ~ 4.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
WRT070204	4.30	6.4	2.38	0.4	2.2	MG, RG
WRT100308	6.35	9.3	3.4	0.8	2.9	MG, RG



Insert Designation 刀片型號

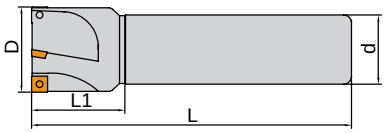
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWRT070204MG32HS	WRT-070204-MG-CX32HS	●	○	●			
	IWRT070204MG33TX	WRT-070204-MG-CX33TX	●	●	●		●	●
	IWRT070204RG23TX	WRT-070204-RG-CX23TX	○	○	○		○	●
	IWRT070204RG32HS	WRT-070204-RG-CX32HS	●	○	●			
	IWRT070204RG33TX	WRT-070204-RG-CX33TX	●	●	●		●	●
	IWRT070204RG43TX	WRT-070204-RG-CX43TX	●	●			●	
	IWRT100308MG23TX	WRT-100308-MG-CX23TX	○	○	○		○	●
	IWRT100308MG32HS	WRT-100308-MG-CX32HS	●	○	●			
	IWRT100308MG33TX	WRT-100308-MG-CX33TX	●	●	●		●	●
	IWRT100308MG43TX	WRT-100308-MG-CX43TX	●	●			●	
	IWRT100308RG23TX	WRT-100308-RG-CX23TX	○	○	○		○	●
	IWRT100308RG32HS	WRT-100308-RG-CX32HS	●	○	●			
	IWRT100308RG33TX	WRT-100308-RG-CX33TX	●	●	●		●	●
	IWRT100308RG43TX	WRT-100308-RG-CX43TX	●	●			●	

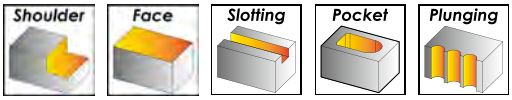
CASP Series

- Use SPMG inserts with 4 cutting edges.
- Cost effective shoulder milling tools.
- 12~80mm cutter diameter, max. 6mm depth of cut.

- 使用 SPMG 單面銑刀片 , 4 個可用切削角
- 經濟實惠的方肩銑刀
- 12~80mm 刀桿直徑 , 最大切削深度可達 6mm

Shank Type 方肩銑刀





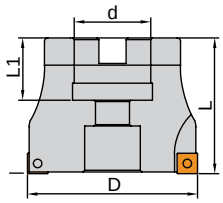
Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICASPE502012100	12	20	100	12	2	SPMG0502	ITS2003	ITK06	●
ICASPE502013100	13	20	100	12	2				●
ICASPE502014100	14	20	100	12	2				●
ICASPE602016120	16	25	120	16	2	SPMG0602	ITS2205	ITK06	●
ICASPE603020120	20	30	120	20	3				●
ICASPE604025120	25	30	120	25	4				●
ICASPE605030120	30	30	120	25	5				●
ICASPE605032120	32	30	120	25	5				●
ICASPE904032150	32	40	150	32	4	SPMG0904	ITS3504	ITK15	●
ICASPE904040150	40	40	150	32	4				●

● stock ○ by inquiry

Customize available.

Arbor Type 方肩銑刀



Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICASPF607050220	50	20	45	22	7	SPMG0602	ITS2205	ITK06	●
ICASPF607050250	50	20	45	25.4	7				○
ICASPF609063220	63	20	45	22	9				●
ICASPF609063250	63	20	45	25.4	9				●
ICASPF611080270	80	23	50	27	11				○
ICASPF611080250	80	23	50	25.4	11				●
ICASPF905050220	50	20	45	22	5	SPMG0904	ITS3504	ITK15	●
ICASPF905050250	50	20	45	25.4	5				○
ICASPF906063220	63	20	45	22	6				●
ICASPF906063250	63	20	45	25.4	6				○
ICASPF907080270	80	23	50	27	7				●
ICASPF907080250	80	23	50	25.4	7				○

● stock ○ by inquiry

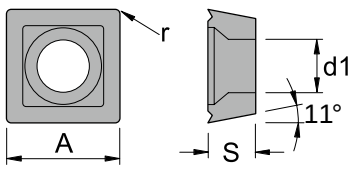
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	SPMG050204 & SPMG060204			SPMG07T308 & SPMG090408		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 2.0	100 ~ 180	0.08 ~ 0.18	0.5 ~ 4.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0
Super Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 2.0	40 ~ 100	0.07 ~ 0.14	0.5 ~ 4.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 2.0	50 ~ 100	0.07 ~ 0.15	0.5 ~ 4.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	S	r	d1	
SPGG050204	5.00	2.38	0.4	2.30	SG
SPGG060204	6.00	2.38	0.4	2.65	SG
SPGG07T308	7.94	3.97	0.8	2.85	SG
SPGG090408	9.80	4.3	0.8	4.05	SG
SPGG110408	11.50	4.8	0.8	4.45	SG
SPMG050204	5.00	2.38	0.4	2.30	MG
SPMG060204	6.00	2.38	0.4	2.65	MG
SPMG07T308	7.94	3.97	0.8	2.85	MG
SPMG090408	9.80	4.3	0.8	4.05	MG
SPMG110408	11.50	4.8	0.8	4.45	MG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISPGG050204SG33TX	SPGG-050204-SG-CX33TX	●	●	●	●	●	●
	ISPGG060204SG33TX	SPGG-060204-SG-CX33TX	●	●	●	●	●	●
	ISPGG07T308SG33TX	SPGG-070308-SG-CX33TX	●	●	●	●	●	●
	ISPGG090408SG33TX	SPGG-090408-SG-CX33TX	●	●	●	●	●	●
	ISPGG110408SG33TX	SPGG-110408-SG-CX33TX	●	●	●	●	●	●

Insert Designation 刀片型號

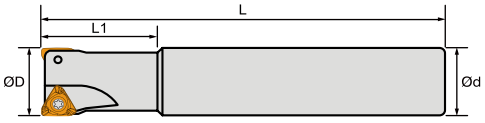
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG-050204-MG-CX32HS	●	○	●			
	ISPMG050204MG33TX	SPMG-050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG-050204-MG-CX43TX	●	●	○		●	
	ISPMG060204MG32HS	SPMG-060204-MG-CX32HS	●	○	●			
	ISPMG060204MG33TX	SPMG-060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG-060204-MG-CX43TX	●	●	○		●	
	ISPMG07T308MG32HS	SPMG-07T308-MG-CX32HS	●	○	●			
	ISPMG07T308MG33TX	SPMG-07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG-07T308-MG-CX43TX	●	●	○		●	
	ISPMG090408MG32HS	SPMG-090408-MG-CX32HS	●	○	●			
	ISPMG090408MG33TX	SPMG-090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG-090408-MG-CX43TX	●	●	○		●	
	ISPMG110408MG32HS	SPMG-110408-MG-CX32HS	●	○	●			
	ISPMG110408MG33TX	SPMG-110408-MG-CX33TX	●	●	●		●	●
	ISPMG110408MG43TX	SPMG-110408-MG-CX43TX	●	●	○		●	

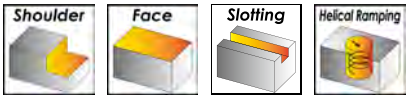
CATP Series

- Use TPMX inserts with 3 cutting edges.
- Sharp cutting edges for various low milling force applications.
- 20~80mm cutter diameter, max. 11mm depth of cut.

- 使用 TPMX 銑刀片 , 3 個可用切削角
- 出色的銳利刀口設計適用於各種低銑削阻力的應用
- 20~80mm 刀桿直徑 , 最大切削深度可達 11mm

Shank Type 方肩銑刀





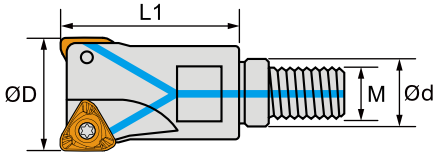
Insert Brand : Winstar

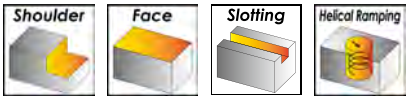
Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICATPE102020130	20	50	130	20	2	TPMX1004	ITS2517	ITK08	●
ICATPE103025150	25	55	150	25	3				●
ICATPE503033200	33	45	200	32	3	TPMX1505	ITS4014	ITK15	●
ICATPE504040200	40	45	200	32	4				○

● stock ○ by inquiry

Customize available.

Modular Type 方肩銑刀頭





Insert Brand : Winstar

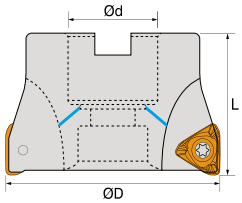
Order No.	D	L1	d	M	T	Coolant	Inserts	Screw	Wrench	Stock
ICATPM102020100	20	35	10.5	M10	2		TPMX1004	ITS2517	ITK08	○
ICATPM102020101	20	35	18	M10	2	✓				●
ICATPM102021100	21	35	10.5	M10	2					●
ICATPM103025120	25	35	12.5	M12	3					○
ICATPM103025121	25	35	21	M12	3	✓				●
ICATPM103026120	26	35	12.5	M12	3					●
ICATPM105032160	32	43	29	M16	5					●
ICATPM105032161	32	43	17	M16	5	✓				●
ICATPM105033160	33	43	17	M16	5					●
ICATPM105033161	33	43	17	M16	5	✓				●

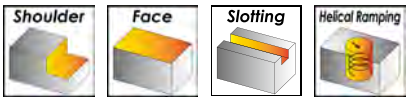
● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Shoulder Milling - CATP 方肩銑刀

Arbor Type 方肩銑刀





Insert Brand : Winstar

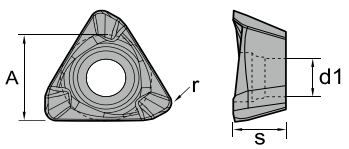
Order No.	D	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICATPF106050221	50	50	22	6	✓	TPMX1004	ITS2517	ITK08	●
ICATPF107050220	50	50	22	7					●
ICATPF107063221	63	50	22	7	✓				●
ICATPF109063220	63	50	22	9					●
ICATPF504040161	40	40	16	4	✓	TPMX1505	ITS4004	ITK15	●
ICATPF505050221	50	40	22	5	✓				●
ICATPF506063221	63	40	22	6	✓				●
ICATPF508080271	80	50	27	8	✓				●

● stock ○ by inquiry *Customize available.*

Recommended Cutting Conditions 建議切削數據

Working Material	TPMX1004			TPMX1505		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.20	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.05 ~ 0.15	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.08 ~ 0.20	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
Super Alloy	40 ~ 100	0.05 ~ 0.12	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.05 ~ 0.13	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker	
	A	S	r	d1		
TPMX100404	6.9	4	0.4	3	SG	
TPMX100408	6.9	4	0.8	3	SG, MG	
TPMX150508	10.7	5	0.8	4.85	MG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ITPMX100404SG32HS	TPMX-100404-SG-CX32HS	●	○	●			
	ITPMX100404SG33TX	TPMX-100404-SG-CX33TX	●	●	●		●	●
	ITPMX100408SG32HS	TPMX-100408-SG-CX32HS	●	○	●			
	ITPMX100408SG33TX	TPMX-100408-SG-CX33TX	●	●	●		●	●
	ITPMX100408MG23TX	TPMX-100408-MG-CX23TX	○	○	○		○	●
	ITPMX100408MG32HS	TPMX-100408-MG-CX32HS	●	○	●			
	ITPMX100408MG33TX	TPMX-100408-MG-CX33TX	●	●	●		●	●
	ITPMX100408MG43TX	TPMX-100408-MG-CX43TX	●	●			●	
	ITPMX150508MG23TX	TPMX-150508-MG-CX23TX	○	○	○		○	●
	ITPMX150508MG32HS	TPMX-150508-MG-CX32HS	●	○	●			
	ITPMX150508MG33TX	TPMX-150508-MG-CX33TX	●	●	●		●	●
	ITPMX150508MG43TX	TPMX-150508-MG-CX43TX	●	●			●	

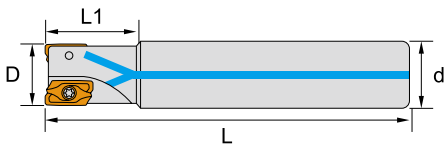
Shoulder Milling - CAXD 方肩銑刀

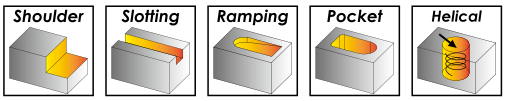
CAXD Series

- Use XDMT inserts with 2 cutting edges.
- Cutter dia. : 16~32mm, max. depth of cut : 10mm.
- Cutting edge design provides stable machining and reduces vibration during machining.

- 使用 XDMT 銑刀片 , 2 個可用切削刀口
- 刀桿尺寸 : 16~32mm, 最大切削深度 : 10mm
- 刃口設計提供切削穩定性，減少加工時的震動

Shank Type 方肩銑刀





Insert Brand : Winstar

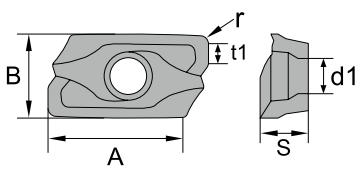
Order No.	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICAXDE102016120	16	30	120	16	2		XDMT11T3	ITS2515	ITK08	○
ICAXDE103020120	20	30	120	20	3					●
ICAXDE103020151	20	35	150	20	3	✓				●
ICAXDE104025150	25	45	150	25	4					●
ICAXDE104025151	25	45	150	25	4	✓				●
ICAXDE105032150	32	45	150	32	5					●
ICAXDE105032151	32	45	150	32	5	✓				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	XDMT11T3		
	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 10.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 8.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 10.0
Super Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)						Chipbreaker	
	A	B	S	r	d1	t1		
XDMT11T308	10.6	6.8	3.8	0.8	2.8	1.4	MG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IXDMT11T308MG33TX	XDMT-11T308-MG-CX33TX	●	●	●		●	●
	IXDMT11T308MG43TX	XDMT-11T308-MG-CX43TX	●	●			●	

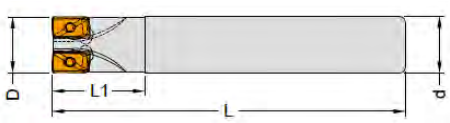
Shoulder Milling - CAXO 方肩銑刀

CAXO Series

- Use XOMT inserts with 2 cutting edges.
- Optimized chip breaker reduces heat generation and cutting forces.
- 6~32mm cutter diameter, max. 7mm depth of cut.

- 使用 XOMT 銑刀片 , 2 個可用切削角
- 泛優化的刀口設計降低熱能產生及切削力 , 能維持長時間高效率加工
- 6~32mm 刀桿直徑 , 最大切削深度可達 7mm

Shank Type 方肩銑刀



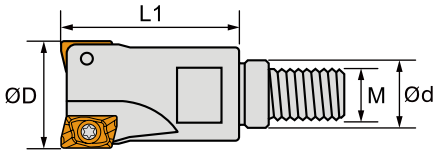
Insert Brand : Winstar

Order No.	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICAXOE601006080	6	10	80	6	1		XOMT0602	ITS1610	ITK06	●
ICAXOE601008090	8	10	90	8	1					●
ICAXOE602010100	10	20	100	10	2			ITS1801	ITK06	●
ICAXOE602012100	12	20	100	12	2					●
ICAXOE603012100	12	20	100	12	3					●
ICAXOE602013100	13	20	100	12	2					●
ICAXOE603013100	13	20	100	12	3					●
ICAXOE604016100	16	30	100	16	4					●
ICAXOE605020120	20	30	120	20	5					●
ICAXOE102016150	16	22	150	16	2		XOMT10T3	ITS2515	ITK08	●
ICAXOE103020150	20	28	150	20	3					●
ICAXOE104025150	25	35	150	25	4					●
ICAXOE105032150	32	40	150	32	5					●
ICAXOE203025151	25	36	150	25	3	✓	XOMT1204	ITS3501	ITK15	●
ICAXOE204032150	32	40	150	32	4					●

● stock ○ by inquiry

Customize available.

Modular Type 方肩銑刀頭



Insert Brand : Winstar

Order No.	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICAXOM602010050	10	16	5.5	M5	2		XOMT0602	ITS1801	ITK06	○
ICAXOM603012060	12	18	6.5	M6	3					●
ICAXOM604016080	16	20	8.5	M8	4					●
ICAXOM605020100	20	30	10.5	M10	5					●
ICAXOM605021100	21	30	10.5	M10	5					●
ICAXOM607025120	25	35	12.5	M12	7					●
ICAXOM102016080	16	26	8.5	M8	2		XOMT10T3	TS2515	ITK08	●
ICAXOM102016081	16	26	8.5	M8	2	✓				●
ICAXOM103020100	20	30	10.5	M10	3					●
ICAXOM103020101	20	30	10.5	M10	3	✓				●

● stock ○ by inquiry

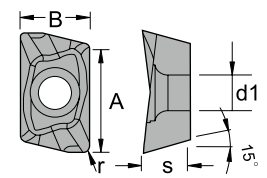
※ For screw-in type adapter, please refer to Tooling System

Recommended Cutting Conditions 建議切削數據

Working Material	XOMT0602			XOMT10T3		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.20	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0
Stainless Steel	100 ~ 180	0.05 ~ 0.15	0.3 ~ 2.5	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0
Cast Iron	120 ~ 250	0.08 ~ 0.13	0.3 ~ 3.0	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0
Super Alloy	40 ~ 100	0.05 ~ 0.12	0.3 ~ 2.5	40 ~ 100	0.07 ~ 0.14	0.3 ~ 5.0
Hardened Steel	50 ~ 100	0.05 ~ 0.13	0.3 ~ 2.5	50 ~ 100	0.07 ~ 0.15	0.3 ~ 5.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
XOMT060204	5.5	4.1	2.45	0.4	2	MG
XOMT060208	5.5	4.1	2.45	0.8	2	SG, MG
XOMT060216	5.5	4.1	2.45	1.6	2	MG
XOMT10T308	9.3	6.9	3.83	0.8	3	SG
XOMT120408	11.6	8.2	5.07	0.8	3.9	MG
XOMT120412	11.6	8.2	5.07	1.2	3.9	SG



A = Effective Cutting length

Insert Designation 刀片型號

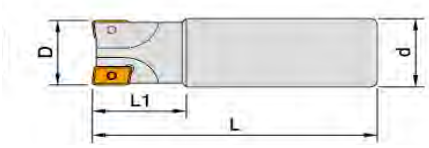
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IXOMT060208SG32HS	XOMT-060208-SG-CX32HS	●	○	●			
	IXOMT060208SG33TX	XOMT-060208-SG-CX33TX	●	●	●		●	●
	IXOMT060204MG23TX	XOMT-060204-MG-CX23TX	○	○	○		○	●
	IXOMT060204MG32HS	XOMT-060204-MG-CX32HS	●	○	●			
	IXOMT060204MG33TX	XOMT-060204-MG-CX33TX	●	●	●		●	●
	IXOMT060208MG23TX	XOMT-060208-MG-CX23TX	○	○	○		○	●
	IXOMT060208MG32HS	XOMT-060208-MG-CX32HS	●	○	●			
	IXOMT060208MG33TX	XOMT-060208-MG-CX33TX	●	●	●		●	●
	IXOMT060208MG43TX	XOMT-060208-MG-CX43TX	●	●			●	
	IXOMT060216MG23TX	XOMT-060216-MG-CX23TX	○	○	○		○	●
	IXOMT060216MG32HS	XOMT-060216-MG-CX32HS	●	○	●			
	IXOMT060216MG33TX	XOMT-060216-MG-CX33TX	●	●	●		●	●
	IXOMT060216MG43TX	XOMT-060216-MG-CX43TX	●	●			●	
	IXOMT10T308SG32HS	XOMT-10T308-SG-CX32HS	●	○	●			
	IXOMT10T308SG33TX	XOMT-10T308-SG-CX33TX	●	●	●		●	●
	IXOMT120408MG32HS	XOMT-120408-MG-CX32HS	●	○	●			
	IXOMT120408MG33TX	XOMT-120408-MG-CX33TX	●	●	●		●	●
	IXOMT120408MG43TX	XOMT-120408-MG-CX43TX	●	●			●	
	IXOMT120408MG37TA	XOMT-120408-MG-CX37TA	●		●			○
	IXOMT120408MG47TA	XOMT-120408-MG-CX47TA	●	○	●		○	
	IXOMT120412SG33TX	XOMT-120412-SG-CX33TX	●	●	●		●	●
	IXOMT120412SG43TX	XOMT-120412-SG-CX43TX	●	●			●	

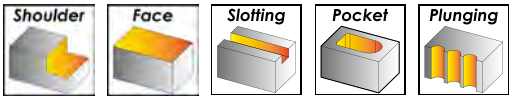
CBAP Series

- Use APMT inserts with 2 cutting edges.
- Low cost and various geometric designs for versatile applications.
- 16~80mm cutter diameter, max. 11mm depth of cut.

- 使用 APMT 銑刀片 , 2 個可用切削角
- 低成本和多樣化的幾何設計適用於多種加工應用
- 16~80mm 刀桿直徑 , 最大切削深度可達 11mm

Shank Type 方肩銑刀





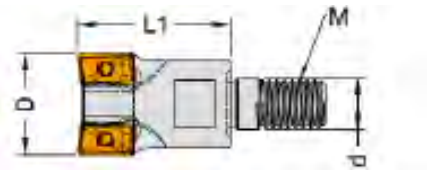
Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICBAPE302016100	16	25	100	16	2	APGT1135 APMT1135	ITS2515	ITK08	●
ICBAPE302016160	16	35	160	16	2				●
ICBAPE302020150	20	35	150	20	2				●
ICBAPE303020100	20	30	100	20	3				●
ICBAPE303020150	20	35	150	20	3				●
ICBAPE304025100	25	35	100	25	4				○
ICBAPE304030120	30	40	120	25	4				○
ICBAPE305032120	32	40	120	32	5				○
ICBAPE402025150	25	40	150	25	2	APGT1604 APMT1604	ITS4023	ITK15	●
ICBAPE402025200	25	70	200	25	2				○
ICBAPE403032150	32	45	150	32	3				●
ICBAPE403032200	32	80	200	32	3				●

● stock ○ by inquiry

Customize available.

Modular Type 方肩銑刀頭



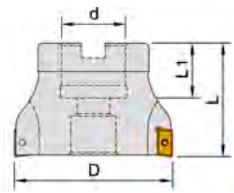
Insert Brand : Winstar

Order No.	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICBAPM302016080	16	26	8.5	M8	2	APGT1135 APMT1135	ITS2515	ITK08	●
ICBAPM302020100	20	30	10.5	M10	2				●
ICBAPM303020100	20	30	10.5	M10	3				○
ICBAPM304025120	25	35	12.5	M12	4				●
ICBAPM305032160	32	40	17	M16	5				●
ICBAPM305033160	33	40	17	M16	5				○
ICBAPM402025120	25	35	12.5	M12	2	APGT1604 APMT1604	ITS4023	ITK15	●
ICBAPM403032160	32	40	17	M16	3				●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Arbor Type 方肩銑刀



Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICBAPF306050250	50	18	45	25.4	6	APGT1135 APMT1135	ITS2515	ITK08	●
ICBAPF307050220	50	18	45	22	7				●
ICBAPF307063220	63	22	45	22	7				●
ICBAPF307063254	63	22	45	25.4	7				●
ICBAPF308080250	80	26	50	25.4	8				●
ICBAPF308080270	80	26	50	27	8				●
ICBAPF405050220	50	22	45	22	5	APGT1604 APMT1604	ITS4023	ITK15	●
ICBAPF405050250	50	18	45	25.4	5				●
ICBAPF406063220	63	22	45	22	6				●
ICBAPF406063250	63	22	45	25.4	6				●
ICBAPF407080250	80	26	26	25.4	7				●
ICBAPF407080270	80	26	26	27	7				●

● stock ○ by inquiry

Customize available.

Recommended Cutting Conditions 建議切削數據

· For Shoulder Milling

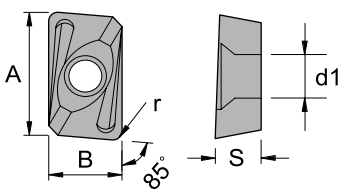
Working Material	APMT1135			APMT1604		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.5 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.5 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.5 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Aluminum Alloy	-	-	-	300 ~ 1000	0.10 ~ 0.40	0.5 ~ 11.0
Super Alloy	40 ~ 100	0.07 ~ 0.14	0.5 ~ 4.0	40 ~ 100	0.10 ~ 0.22	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.5 ~ 4.0	50 ~ 100	0.10 ~ 0.22	0.5 ~ 7.0

· For High Feed Face Milling (use APMT113516 or APMT160416 insert)

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.25 ~ 0.55	0.2 ~ 0.5
Stainless Steel	100 ~ 180	0.2 ~ 0.45	0.2 ~ 0.5
Cast Iron	120 ~ 250	0.25 ~ 0.55	0.2 ~ 0.5
Super Alloy	40 ~ 100	0.175 ~ 0.35	0.2 ~ 0.5
Hardened Steel	50 ~ 100	0.175 ~ 0.375	0.2 ~ 0.5

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
APGT113508	11.0	6.35	3.5	0.8	2.8	AL, FG
APMT113508	11.0	6.35	3.5	0.8	2.8	MG, RG, HG
APMT113516	11.0	6.35	3.5	1.6	2.8	MG
APGT160408	16.5	9.525	4.76	0.8	4.4	AL, FG
APMT160408	16.5	9.525	4.76	0.8	4.4	MG, RG, HG
APMT160416	16.5	9.525	4.76	1.6	4.4	MG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IAPGT113508EAL10	APGT-113508PDER-AL-CX10				●		
	IAPGT113508EFG23TX	APGT-113508PDER-FG-CX23TX	○	○	○		○	●
	IAPMT113508EMG23TX	APMT-113508PDER-MG-CX23TX	○	○	○		○	●
	IAPMT113508EMG32HS	APMT-113508PDER-MG-CX32HS	●	○	●			
	IAPMT113508EMG33TX	APMT-113508PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113508EMG43TX	APMT-113508PDER-MG-CX43TX	●	●			●	

Insert Designation 刀片型號

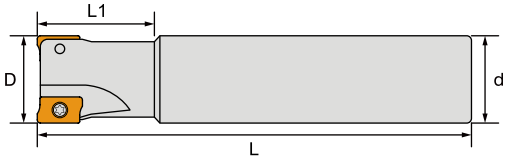
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IAPMT113516EMG23TX	APMT-113516PDER-MG-CX23TX	○	○	○		○	●
	IAPMT113516EMG32HS	APMT-113516PDER-MG-CX32HS	●	○	●			
	IAPMT113516EMG33TX	APMT-113516PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113516EMG43TX	APMT-113516PDER-MG-CX43TX	●	●			●	
	IAPMT113508ERG23TX	APMT-113508PDER-RG-CX23TX	○	○	○		○	●
	IAPMT113508ERG32HS	APMT-113508PDER-RG-CX32HS	●	○	●			
	IAPMT113508ERG33TX	APMT-113508PDER-RG-CX33TX	●	●	●		●	●
	IAPMT113508EHG32HS	APMT-113508PDER-HG-CX32HS	●	○	●			
	IAPMT113508EHG33TX	APMT-113508PDER-HG-CX33TX	●	●	●		●	●
	IAPMT113508EHG43TX	APMT-113508PDER-HG-CX43TX	●	●			●	
	IAPGT160408EAL10	APGT-160408PDER-AL-CX10				●		
	IAPGT160408EFG23TX	APGT-160408PDER-FG-CX23TX	○	○	○		○	●
	IAPMT160408EMG23TX	APMT-160408PDER-MG-CX23TX	○	○	○		○	●
	IAPMT160408EMG32HS	APMT-160408PDER-MG-CX32HS	●	○	●			
	IAPMT160408EMG33TX	APMT-160408PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160408EMG43TX	APMT-160408PDER-MG-CX43TX	●	●			●	
	IAPMT160408EMG47TA	APMT-160408PDER-MG-CX47TA	●	○	●		○	
	IAPMT160416EMG32HS	APMT-160416PDER-MG-CX32HS	●	○	●			
	IAPMT160416EMG33TX	APMT-160416PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160416EMG43TX	APMT-160416PDER-MG-CX43TX	●	●			●	
	IAPMT160408ERG23TX	APMT-160408PDER-RG-CX23TX	○	○	○		○	●
	IAPMT160408ERG32HS	APMT-160408PDER-RG-CX32HS	●	○	●			
	IAPMT160408ERG33TX	APMT-160408PDER-RG-CX33TX	●	●	●		●	●
	IAPMT160408ERG43TX	APMT-160408PDER-RG-CX43TX	●	●			●	
	IAPMT160408EHG23TX	APMT-160408PDER-HG-CX23TX	○	○	○		○	●
	IAPMT160408EHG32HS	APMT-160408PDER-HG-CX32HS	●	○	●			
	IAPMT160408EHG33TX	APMT-160408PDER-HG-CX33TX	●	●	●		●	●
	IAPMT160408EHG43TX	APMT-160408PDER-HG-CX43TX	●	●			●	

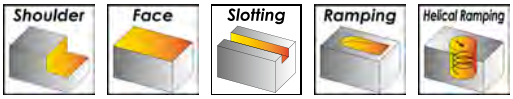
CR39 Series

- Use W390 inserts with 2 cutting edges.
- Optimized chip breaker for high efficient shoulder and side milling.
- 16~125mm cutter diameter, max. 11mm depth of cut.

- 使用 W390 銑刀片 , 2 個可用切削角
- 優化的刀口設計適用於各種加工材料的高移除率的方肩銑和側銑
- 16~125mm 刀桿直徑 , 最大切削深度可達 11mm

Shank Type 方肩銑刀





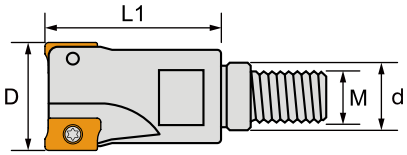
Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICR39E302016150	16	30	150	16	2	W39011T3	ITS2509	ITK08	●
ICR39E303020150	20	30	150	20	3				○
ICR39E303025150	25	30	150	25	3				●
ICR39E303032150	32	35	150	32	3				○
ICR39E702025150	25	32	150	25	2	W3901704	IMS3507A	ITK15	●
ICR39E702025200	25	32	200	25	2				●
ICR39E702026150	26	32	150	25	2				●
ICR39E702026200	26	32	200	25	2				●
ICR39E703032150	32	35	150	32	3		IMS3509A		●
ICR39E703032200	32	35	200	32	3				●
ICR39E703033150	33	35	150	32	3				●
ICR39E703033200	33	35	200	32	3				●
ICR39E802025150	25	35	150	25	2	W3901806	ITS4005	ITK15	○
ICR39E803032150	32	40	150	32	3				○

● stock ○ by inquiry

Customize available.

Modular Type 方肩銑刀頭



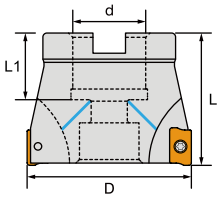
Insert Brand : Winstar

Order No.	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICR39M302016080	16	26	8.5	M8	2	W39011T3	ITS2509	ITK08	○
ICR39M303020100	20	32	10.5	M10	3				○
ICR39M303025120	25	38	12.5	M12	3				○
ICR39M303032160	32	41	17	M16	3				○
ICR39M702025120	25	35	12.5	M12	2	W3901704	IMS3507A	ITK15	●
ICR39M702026120	26	35	12.5	M12	2				●
ICR39M703032160	32	43	17	M16	3		IMS3509A		●
ICR39M703033160	33	43	17	M16	3				●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Arbor Type 方肩銑刀



Insert Brand : Winstar

Order No.	D	L	d	T	Coolant	Inserts	Screw	Wrench	Stock
ICR39F305040161	40	40	16	5	✓	W39011T3	ITS2509	ITK08	●
ICR39F304050220	50	40	22	4					○
ICR39F306050221	50	40	22	6	✓				●
ICR39F305063220	63	40	22	5					○
ICR39F307063221	63	50	22	7	✓				●
ICR39F308080270	80	50	27	8					○
ICR39F704040161	40	40	16	4	✓	W3901704	ITS3505	ITK15	●
ICR39F705050221	50	40	22	5	✓				●
ICR39F706063221	63	40	22	6	✓				●
ICR39F707080271	80	50	27	7	✓				●
ICR39F708100321	100	50	32	8	✓				●
ICR39F709125400	125	63	40	9					●
ICR39F805050221	50	40	22	5	✓	W3901806	ITS4005	ITK15	●
ICR39F806063221	63	40	22	6	✓				●
ICR39F807080271	80	50	27	7	✓				●
ICR39F808100321	100	50	32	8	✓				●

● stock ○ by inquiry

Customize available.

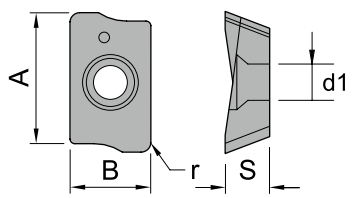
Recommended Cutting Conditions 建議切削數據

Working Material	W39011T3		
	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0
Super Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0

Working Material	W3901704 / W3901806		
	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
Stainless Steel	100 ~ 180	0.10 ~ 0.22	0.5 ~ 6.0
Cast Iron	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
Super Alloy	40 ~ 100	0.10 ~ 0.18	0.5 ~ 6.0
Hardened Steel	50 ~ 100	0.10 ~ 0.20	0.5 ~ 6.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
W39011T308	10	6.8	3.59	0.8	2.8	SG, MG
W39011T320	10	6.8	3.59	2.0	2.8	MG
W390170408	15.7	9.6	4.76	0.8	4.1	MG
W390180612	15.4	11	6.33	1.2	4.15	SG



Insert Designation 刀片型號

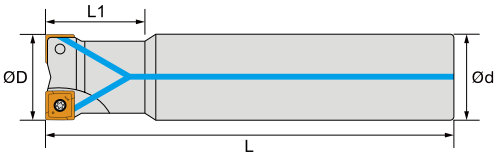
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IW39011T308SG23TX	W390-11T308-SG-CX23TX	○	○	○		○	●
	IW39011T308SG32HS	W390-11T308-SG-CX32HS	●	○	●			
	IW39011T308SG33TX	W390-11T308-SG-CX33TX	●	●	●		●	●
	IW39011T308SG43TX	W390-11T308-SG-CX43TX	●	●			●	
	IW39011T308MG23TX	W390-11T308-MG-CX23TX	○	○	○		○	●
	IW39011T308MG32HS	W390-11T308-MG-CX32HS	●	○	●			
	IW39011T308MG33TX	W390-11T308-MG-CX33TX	●	●	●		●	●
	IW39011T308MG43TX	W390-11T308-MG-CX43TX	●	●			●	
	IW39011T308MG37TA	W390-11T308-MG-CX37TA	●		●			○
	IW39011T308MG47TA	W390-11T308-MG-CX47TA	●	○	●		○	
	IW39011T320MG23TX	W390-11T320-MG-CX23TX	○	○	○		○	●
	IW39011T320MG32HS	W390-11T320-MG-CX32HS	●	○	●			
	IW39011T320MG33TX	W390-11T320-MG-CX33TX	●	●	●		●	●
	IW39011T320MG43TX	W390-11T320-MG-CX43TX	●	●			●	
	IW39011T320MG37TA	W390-11T320-MG-CX37TA	●		●			○
	IW39011T320MG47TA	W390-11T320-MG-CX47TA	●	○	●		○	
	IW390170408MG32HS	W390-170408-MG-CX32HS	●	○	●			
	IW390170408MG33TX	W390-170408-MG-CX33TX	●	●	●		●	●
	IW390170408MG43TX	W390-170408-MG-CX43TX	●	●			●	
	IW390170408MG37TA	W390-170408-MG-CX37TA	●		●			○
	IW390170408MG47TA	W390-170408-MG-CX47TA	●	○	●		○	
	IW390180612SG32HS	W390-180612-SG-CX32HS	●	○	●			
	IW390180612SG33TX	W390-180612-SG-CX33TX	●	●	●		●	●
	IW390180612SG43TX	W390-180612-SG-CX43TX	●	●			●	
	IW390180612SG37TA	W390-180612-SG-CX37TA	●		●			○
	IW390180612SG47TA	W390-180612-SG-CX47TA	●	○	●		○	

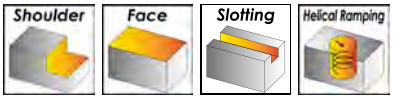
CR49 Series

- Use W490 inserts with 4 cutting edges.
- Great repeat side milling capability to reduce burs and get good surface finishing.
- 20~80mm cutter diameter, max. 9mm depth of cut.

- 使用 W490 單面銑刀片 , 4 個可用切削角
- 出色的重複側銑能力可減少毛刺產生並獲得良好的表面光潔度
- 20~80mm 刀盤直徑 , 最大切削深度可達 9mm

Shank Type 方肩銑刀





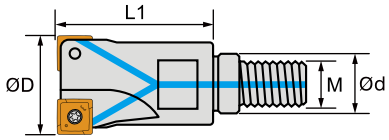
Insert Brand : Winstar

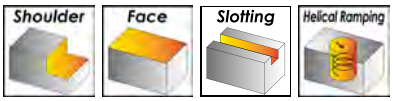
Order No.	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICR49E802020100	20	25	100	20	2		W49008T3	ITS2507	ITK08	●
ICR49E802020150	20	25	150	20	2					●
ICR49E802020151	20	40	150	20	2	✓				●
ICR49E803025150	25	32	150	20	3					●
ICR49E803025151	25	40	150	25	3	✓				●
ICR49E803026151	26	30	150	25	3	✓				●
ICR49E804032150	32	40	150	32	4					●
ICR49E804032151	32	40	150	32	4	✓				●

● stock ○ by inquiry

Shoulder Milling - CR49 方肩銑刀

Modular Type 方肩銑刀頭



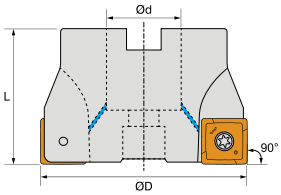


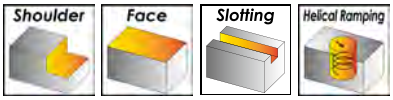
Insert Brand : Winstar

Order No.	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICR49M802020101	20	30	10.5	M10	2	✓	W49008T3	ITS2507	ITK08	●
ICR49M803025121	25	35	12.5	M12	3	✓				●
ICR49M804032161	32	43	17	M16	4	✓				●

● stock ○ by inquiry

Arbor Type 方肩銑刀





Insert Brand : Winstar

Order No.	D	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICR49F804040161	40	40	16	4	✓	W49008T3	ITS2507	ITK08	●
ICR49F805050221	50	40	22	5	✓				●
ICR49F806063221	63	40	22	6	✓				●
ICR49F404050221	50	40	22	4	✓	W4901404	ITS3505	ITK15	●
ICR49F405063221	63	40	22	5	✓				●
ICR49F407080271	80	50	27	7	✓				●

● stock ○ by inquiry

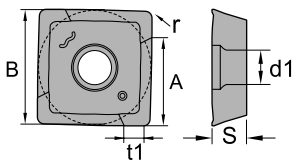
Shoulder Milling - CR49 方肩銑刀

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	W49008T3		W4901404	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.05 ~ 0.12	0.3 ~ 5.5	0.06 ~ 0.15	0.3 ~ 9
Stainless Steel	100 ~ 180	0.04 ~ 0.10	0.3 ~ 4.5	0.05 ~ 0.12	0.3 ~ 8
Cast Iron	120 ~ 250	0.05 ~ 0.12	0.3 ~ 5.5	0.06 ~ 0.15	0.3 ~ 9
Super Alloy	40 ~ 100	0.03 ~ 0.09	0.3 ~ 4.5	0.04 ~ 0.11	0.3 ~ 8
Hardened Steel	50 ~ 100	0.03 ~ 0.09	0.3 ~ 4.5	0.04 ~ 0.11	0.3 ~ 8

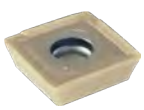
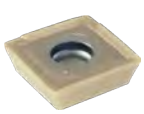
Insert Specifications 刀片規格

Insert	Dimensions (mm)						Chipbreaker
	A	B	S	r	d1	t1	
W49008T308	5.6	8.5	3.3	0.8	2.8	1.2	SG, MG
W490140408	10.3	13.8	3.9	0.8	4.1	2.0	SG, MG



A = Max. axial depth of cut

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IW49008T308SG32HS	W490-08T308-SG-CX32HS	●	○	●			
	IW49008T308SG33TX	W490-08T308-SG-CX33TX	●	●	●		●	●
	IW49008T308SG43TX	W490-08T308-SG-CX43TX	●	●			●	
	IW49008T308MG32HS	W490-08T308-MG-CX32HS	●	○	●			
	IW49008T308MG33TX	W490-08T308-MG-CX33TX	●	●	●		●	●
	IW49008T308MG43TX	W490-08T308-MG-CX43TX	●	●			●	
	IW490140408SG33TX	W490-140408-SG-CX33TX	●	●	●		●	●
	IW490140408SG43TX	W490-140408-SG-CX43TX	●	●			●	
	IW490140408SG37TA	W490-140408-SG-CX37TA	●		●			○
	IW490140408MG32HS	W490-140408-MG-CX32HS	●	○	●			
	IW490140408MG33TX	W490-140408-MG-CX33TX	●	●	●		●	●
	IW490140408MG43TX	W490-140408-MG-CX43TX	●	●			●	
	IW490140408MG37TA	W490-140408-MG-CX37TA	●		●			○
	IW490140408MG47TA	W490-140408-MG-CX47TA	●	○	●		○	

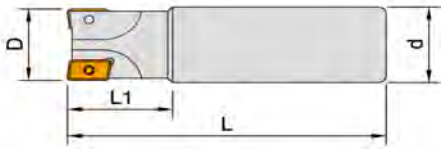
Shoulder Milling - CWEX 方肩銑刀

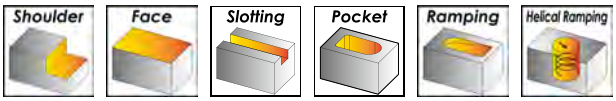
CWEX Series

- Use AXMT inserts with 2 cutting edges.
- Strong cutting edges for high removal rate shoulder milling.
- 16~100mm cutter diameter, max. 11mm depth of cut.

- 使用 AXMT 銑刀片 , 2 個可用切削角
- 堅固的切削刃提供高移除率的方肩銑刀
- 16~100mm 刀桿直徑 , 最大切削深度可達 11mm

Shank Type 方肩銑刀

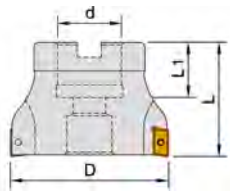


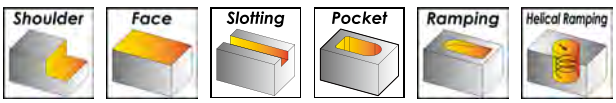


Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWEXE202016120	16	35	120	16	2	AXMT1235	ITS3002	ITK09	●
ICWEXE203020120	20	40	120	20	3				●
ICWEXE204025150	25	45	150	25	4				●
ICWEXE205032150	32	45	150	32	5				●
ICWEXE702025150	25	40	150	25	2	AXMT1705	ITS4004	ITK15	●
ICWEXE703032150	32	45	150	32	3				●

Arbor Type 方肩銑刀





Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWEXF206050220	50	20	45	22	6	AXMT1235	ITS3002	ITK09	●
ICWEXF207063220	63	20	45	22	7				●
ICWEXF208080270	80	26	50	27	8				●
ICWEXF704050220	50	20	45	22	4	AXMT1705	ITS4004	ITK15	●
ICWEXF705063220	63	20	45	22	5				●
ICWEXF707080270	80	26	50	27	7				●
ICWEXF707100320	100	26	50	32	7				○

● stock ○ by inquiry

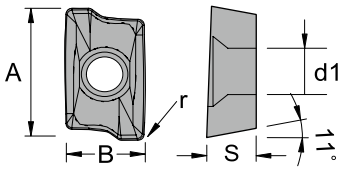
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	AXMT1235			AXMT1705		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
Super Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
AXMT123508	12.18	6.93	3.58	0.8	3.4	RG
AXMT170508	17.50	10.2	5.56	0.8	4.6	RG
AXMT170516	17.50	10.2	5.56	1.6	4.6	RG



Insert Designation 刀片型號

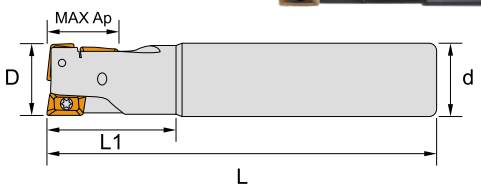
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IAXMT123508ERG23TX	AXMT-123508PEER-RG-CX23TX	○	○	○		○	●
	IAXMT123508ERG32HS	AXMT-123508PEER-RG-CX32HS	●	○	●			
	IAXMT123508ERG33TX	AXMT-123508PEER-RG-CX33TX	●	●	●		●	●
	IAXMT123508ERG43TX	AXMT-123508PEER-RG-CX43TX	●	●			●	
	IAXMT123508ERG37TA	AXMT-123508PEER-RG-CX37TA	●		●			○
	IAXMT170508ERG32HS	AXMT-170508PEER-RG-CX32HS	●	○	●			
	IAXMT170508ERG33TX	AXMT-170508PEER-RG-CX33TX	●	●	●		●	●
	IAXMT170508ERG43TX	AXMT-170508PEER-RG-CX43TX	●	●			●	
	IAXMT170516ERG32HS	AXMT-170516PEER-RG-CX32HS	●	○	●			
	IAXMT170516ERG33TX	AXMT-170516PEER-RG-CX33TX	●	●	●		●	●
	IAXMT170516ERG43TX	AXMT-170516PEER-RG-CX43TX	●	●			●	

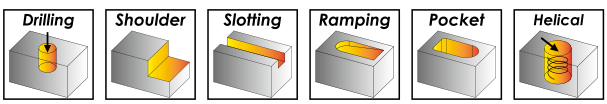
CWMM Series

- Use APMT inserts with 2 cutting edges.
- Cutter with over-center design for drilling and milling.
- 10~80mm cutter diameter, max. 11mm depth of cut.

- 使用 APMT 銑刀片 , 2 個可用切削角
- 刀桿過中心設計 , 適用於鑽孔、方肩、開槽、斜坡、挖槽、及螺旋銑削
- 10~80mm 刀桿直徑 , 最大端銑切削深度可達 11mm

Drilling & Milling Tools 鑽銑刀



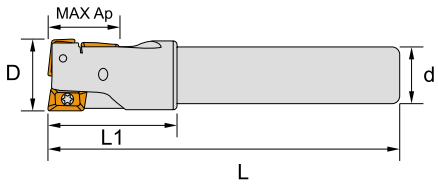


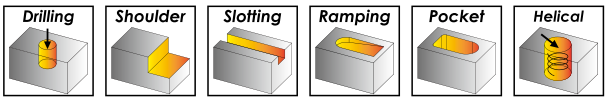
Insert Brand : Winstar

Order No.	D	L1	L	d	Insert Number	Max Ap	Inserts	Screw	Wrench	Stock
ICWMMD303020120	20	35	125	20	3	16	APMT1035	ITS2515	ITK08	●
ICWMMD303020180	20	35	185	20	3	16				●
ICWMMD304025140	25	35	140	25	4	24				●
ICWMMD304025220	25	35	220	25	4	24				●
ICWMMD604032150	32	50	150	32	4	40	APMT1605	ITS4004	ITK15	●
ICWMMD604032230	32	60	230	32	4	40				●

● stock ○ by inquiry

Drilling & Milling Tools 鑽銑刀





Insert Brand : Winstar

Order No.	D	L1	L	d	Insert Number	Max Ap	Inserts	Screw	Wrench	Stock
ICWMMD303021120	21	35	125	20	3	16	APMT1035	ITS2515	ITK08	●
ICWMMD304026140	26	35	140	25	4	24				●
ICWMMD305030150	30	50	150	25	5	32				●
ICWMMD604033150	33	50	150	32	4	40	APMT1605	ITS4004	ITK15	●
ICWMMD604040160	40	60	160	32	4	40				●
ICWMMD604040240	40	60	240	32	4	40				●

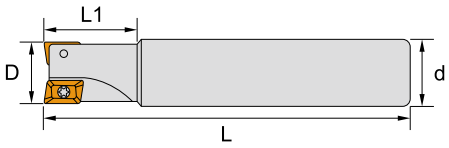
● stock ○ by inquiry

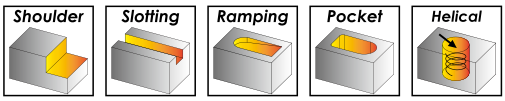
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz					
		APMT1035			APMT1605		
		Shoulder	Slotting	Drilling	Shoulder	Slotting	Drilling
Carbon Steel / Alloy Steel	100 ~ 160	0.06 ~ 0.20	0.06 ~ 0.12	0.06 ~ 0.18	0.06 ~ 0.25	0.06 ~ 0.15	0.06 ~ 0.20
Stainless Steel	80 ~ 120	0.05 ~ 0.15	0.05 ~ 0.10	0.05 ~ 0.12	0.05 ~ 0.20	0.05 ~ 0.12	0.05 ~ 0.18
Cast Iron	90 ~ 180	0.06 ~ 0.20	0.06 ~ 0.12	0.06 ~ 0.18	0.06 ~ 0.25	0.06 ~ 0.15	0.06 ~ 0.20
Super Alloy	60 ~ 100	0.05 ~ 0.12	0.05 ~ 0.08	0.05 ~ 0.10	0.05 ~ 0.17	0.05 ~ 0.10	0.05 ~ 0.15
Hardened Steel	60 ~ 100	0.05 ~ 0.12	0.05 ~ 0.08	0.05 ~ 0.10	0.05 ~ 0.17	0.05 ~ 0.10	0.05 ~ 0.15

※ Use step feed in drilling, per step Ap 0.5 ~ 1.0mm.

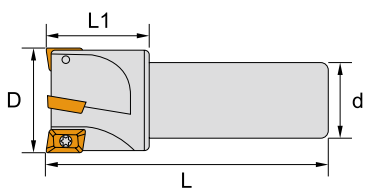
Shank Type 方肩銑刀





Insert Brand : Winstar

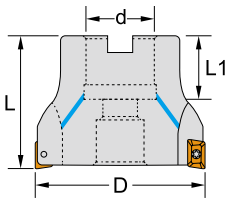
Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWMME301010100	10	20	100	12	1	APMT1035	ITS2515	ITK08	●
ICWMME301012100	12	25	100	12	1				●
ICWMME302016120	16	25	120	16	2				●
ICWMME303020120	20	30	120	20	3				●
ICWMME304025150	25	35	150	25	4				●
ICWMME305032150	32	45	150	32	5				●
ICWMME602025150	25	40	150	25	2	APMT1605	ITS4004	ITK15	●
ICWMME602032150	32	45	150	32	2				●
ICWMME602032250	32	45	250	32	2				●
ICWMME603032150	32	45	150	32	3				●

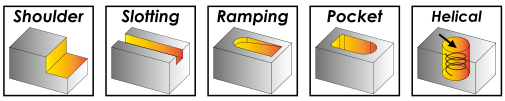


Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICWMME306040130	40	45	135	32	6	APMT1035	ITS2515	ITK08	○
ICWMME306050130	50	45	135	32	6				○
ICWMME306063130	63	45	135	32	6				○
ICWMME603035150	35	45	150	32	3	APMT1605	ITS4004	ITK15	○
ICWMME603035250	35	45	250	32	3				○
ICWMME603040130	40	45	135	32	3				○
ICWMME604050130	50	45	135	32	4				○

● stock ○ by inquiry

Arbor Type 方肩銑刀





Insert Brand : Winstar

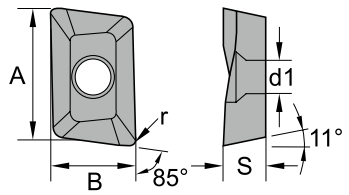
Order No.	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICWMMF306050221	50	20	45	22	6	✓	APMT1035	ITS2515	ITK08	●
ICWMMF306050250	50	20	45	25.4	6					●
ICWMMF306063220	63	20	45	22	6					●
ICWMMF306063250	63	20	45	25.4	6					●
ICWMMF604050221	50	20	45	22	4	✓	APMT1605	ITS4004	ITK15	●
ICWMMF604050251	50	20	45	25.4	4	✓				●
ICWMMF605063220	63	20	45	22	5					○
ICWMMF605063251	63	20	45	25.4	5	✓				●
ICWMMF606080250	80	26	50	25.4	6					●
ICWMMF606080270	80	26	50	27	6					○

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	APMT1035			APMT1605		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	0.3 ~ 7.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 11.0
Stainless Steel	100 ~ 180	0.08 ~ 0.18	0.3 ~ 4.0	100 ~ 180	0.10 ~ 0.22	0.5 ~ 7.0
Cast Iron	120 ~ 250	0.10 ~ 0.22	0.3 ~ 6.0	120 ~ 250	0.12 ~ 0.28	0.5 ~ 10.0
Super Alloy	40 ~ 100	0.07 ~ 0.14	0.3 ~ 4.0	40 ~ 100	0.10 ~ 0.18	0.5 ~ 7.0
Hardened Steel	50 ~ 100	0.07 ~ 0.15	0.3 ~ 4.0	50 ~ 100	0.10 ~ 0.20	0.5 ~ 7.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker	
	A	B	S	r	d1		
APMT103508	10	6.6	3.5	0.8	3	RG	
APET160508	16	9.525	5.56	0.8	4.4	AL	
APMT160508	16	9.525	5.56	0.8	4.4	RG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IAPMT103508ERG32HS	APMT-103508PDER-RG-CX32HS	●	○	●			
	IAPMT103508ERG33TX	APMT-103508PDER-RG-CX33TX	●	●	●		●	●
	IAPMT103508ERG43TX	APMT-103508PDER-RG-CX43TX	●	●			●	
	IAPET160508FAL10	APET-160508PDFR-AL-CX10				●		
	IAPMT160508ERG32HS	APMT-160508PDER-RG-CX32HS	●	○	●			
	IAPMT160508ERG33TX	APMT-160508PDER-RG-CX33TX	●	●	●		●	●

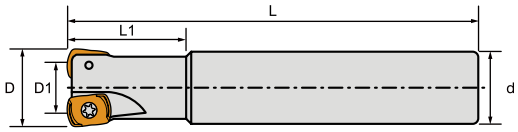
High Feed Milling - CXBN 高進給銑刀

CXBN Series

- Use BNMU double-sided inserts with 4 cutting edges.
- High feed and low cutting force offers better productivity.
- 15~63mm cutter diameter, max. 1.5mm depth of cut.

- 使用 BNMU 雙面銑刀片 , 4 個可用切削角
- 高進給及低切削阻力設計確保較大的生產率 , 適用於各種應用及材料
- 15~63mm 刀桿直徑 , 最大切削深度可達 1.5mm

Shank Type 高進給銑刀



Insert Brand : Winstar

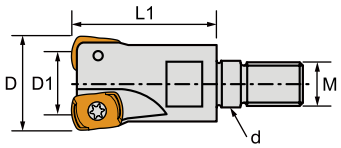
Order No.	D	D1	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICXBNE602015130	15	8	26	130	16	2	BNMU0303	ITS3004	ITK08	●
ICXBNE602016130	16	9	26	130	16	2				●
ICXBNE602017130	17	10	26	130	16	2				●
ICXBNE602018130	18	11	25	130	20	2				●
ICXBNE603020150	20	13	40	150	20	3				●
ICXBNE603021150	21	14	40	150	20	3				●
ICXBNE604025150	25	18	40	150	25	4				●
ICXBNE604026150	26	19	30	150	25	4				●
ICXBNE604032200	32	25	45	200	32	4				●
ICXBNE903025150	25	15.4	40	150	25	3	BNMU0404	ITS4009	ITK15	●
ICXBNE903032150	32	22.4	40	150	32	3				●

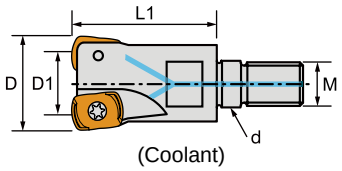
● stock ○ by inquiry

※ ICXBNE6 simulation diameter = D - 0.5
ICXBNE9 simulation diameter = D - 0.1

High Feed Milling - CXBN 高進給銑刀

Modular Type 高進給銑刀頭





(Coolant)

Insert Brand : Winstar

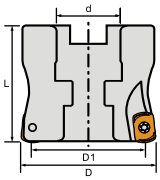
Order No.	D	D1	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXBNM602016080	16	9	26	8.5	M8	2		BNMU0303	ITS3004	ITK08	●
ICXBNM602016081	16	9	26	8.5	M8	2	✓				●
ICXBNM603020100	20	13	30	10.5	M10	3					●
ICXBNM603020101	20	13	30	10.5	M10	3	✓				●
ICXBNM603021100	21	14	30	10.5	M10	3					●
ICXBNM603025120	25	18	35	12.5	M12	3					●
ICXBNM604025120	25	18	35	12.5	M12	4					●
ICXBNM604025121	25	18	35	12.5	M12	4	✓				●
ICXBNM603026120	26	19	35	12.5	M12	3					●
ICXBNM604032161	32	25	40	17.0	M16	4	✓				●
ICXBNM605032161	32	25	40	17.0	M16	5	✓				●
ICXBNM606040161	40	33	43	17.0	M16	6	✓				●
ICXBNM903025121	25	15.4	35	12.5	M12	3	✓	BNMU0404	ITS4009	ITK15	●
ICXBNM904032161	32	22.4	40	17.0	M16	4	✓				●
ICXBNM904035161	35	25.4	43	17.0	M16	4	✓				○
ICXBNM905042161	42	32.4	43	17.0	M16	5	✓				●

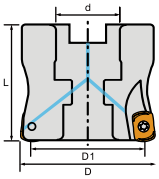
● stock ○ by inquiry

※ ICXBNM6 simulation diameter = D - 0.5
ICXBNM9 simulation diameter = D - 0.1

※ For screw-in type adapter, please refer to Tooling System

Arbor Type 高進給銑刀





(Coolant)

Insert Brand : Winstar

Order No.	D	D1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXBNF606040220	40	33	50	22	6		BNMU0303	ITS3004	ITK08	●
ICXBNF606040221	40	33	50	22	6	✓				●
ICXBNF607050220	50	43	50	22	7					●
ICXBNF607050221	50	43	50	22	7	✓				●
ICXBNF607052221	52	45	50	22	7	✓				○
ICXBNF607063220	63	56	50	22	7					●
ICXBNF906050221	50	40.4	50	22	6	✓	BNMU0404	ITS3504	ITK15	●
ICXBNF906052221	52	42.4	50	22	6	✓				●
ICXBNF907063220	63	53.4	50	22	7			ITS4009		●
ICXBNF907063271	63	53.4	50	27	7	✓		ITS3504		●
ICXBNF907066271	66	56.4	50	27	7	✓				○
ICXBNF908080271	80	70.4	50	27	8	✓				●
ICXBNF910100321	100	90.4	50	32	10	✓				●

● stock ○ by inquiry

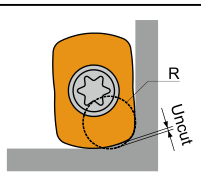
※ ICXBNF6 simulation diameter = D - 0.5
ICXBNF9 simulation diameter = D - 0.1

Recommended Cutting Conditions 建議切削數據

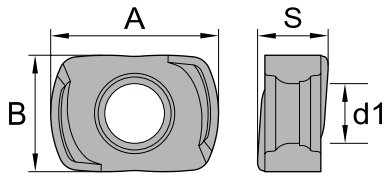
Working Material	BNMU0303			BNMU0404		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.6	0.3 ~ 1.2	120 ~ 250	0.4 ~ 2.0	0.3 ~ 1.5
Stainless Steel	100 ~ 180	0.3 ~ 1.2	0.3 ~ 1.0	100 ~ 180	0.3 ~ 1.6	0.3 ~ 1.2
Cast Iron	120 ~ 250	0.4 ~ 1.6	0.3 ~ 1.2	120 ~ 250	0.4 ~ 2.0	0.3 ~ 1.5
Super Alloy	40 ~ 100	0.3 ~ 0.8	0.3 ~ 1.0	40 ~ 100	0.3 ~ 1.2	0.3 ~ 1.2
Hardened Steel	50 ~ 100	0.3 ~ 1.0	0.3 ~ 1.0	50 ~ 100	0.3 ~ 1.4	0.3 ~ 1.2

Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
BNMU0303	2.0	0.18
BNMU0404	2.5	0.44

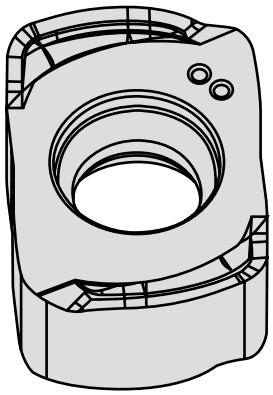


Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker	
	A	B	S	d1		
BNMU0303	9.0	6.24	3.75	3.2	SG, MG, RG	
BNMU0404	11.9	9.18	4.8	4.2	MG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IBNMU0303SG32HS	BNMU-0303-SG-CX32HS	●	○	●			
	IBNMU0303SG33TX	BNMU-0303-SG-CX33TX	●	●	●		●	●
	IBNMU0303SG43TX	BNMU-0303-SG-CX43TX	●	●			●	
	IBNMU0303MG32HS	BNMU-0303-MG-CX32HS	●	○	●			
	IBNMU0303MG33TX	BNMU-0303-MG-CX33TX	●	●	●		●	●
	IBNMU0303MG43TX	BNMU-0303-MG-CX43TX	●	●			●	
	IBNMU0303RG32HS	BNMU-0303-RG-CX32HS	●	○	●			
	IBNMU0303RG33TX	BNMU-0303-RG-CX33TX	●	●	●		●	●
	IBNMU0303RG43TX	BNMU-0303-RG-CX43TX	●	●			●	
	IBNMU0404MG32HS	BNMU-0404-MG-CX32HS	●	○	●			
	IBNMU0404MG33TX	BNMU-0404-MG-CX33TX	●	●	●		●	●
	IBNMU0404MG43TX	BNMU-0404-MG-CX43TX	●	●			●	

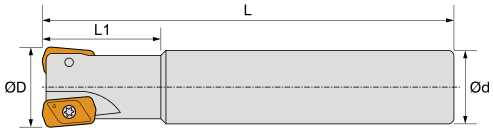


CXLN Series

- Use LNMX double-sided inserts with 4 cutting edges.
- High feed and sharp cutting edges for low cutting force applications.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 LNMX 雙面銑刀片 , 4 個可用切削角
- 高進給及大前角設計的切削刃可實現極低切削阻力 , 並達成高金屬移除率
- 16~50mm 刀桿直徑 , 最大切削深度可達 0.9mm

Shank Type 高進給銑刀

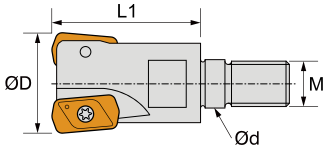


Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICXLNE302016100	16	30	100	16	2	LNMX0303	ITS2535	ITK07	●
ICXLNE302016150	16	30	150	16	2				●
ICXLNE303020150	20	50	150	20	3				●
ICXLNE304020130	20	50	130	20	4				○
ICXLNE304025150	25	60	150	25	4				●
ICXLNE305025140	25	60	140	25	5				○
ICXLNE306032150	32	70	150	32	6				●

● stock ○ by inquiry *Customize available.*

Modular Type 高進給銑刀頭

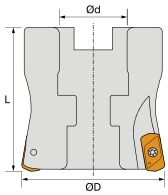


Insert Brand : Winstar

Order No.	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXLNM302017080	17	26	8.5	M8	2		LNMX0303	ITS2535	ITK07	●
ICXLNM303021100	21	32	10.5	M10	3					●
ICXLNM303021101	21	32	10.5	M10	3	✓				●
ICXLNM304026120	26	38	12.5	M12	4					●
ICXLNM304032160	32	41	17	M16	4					●

● stock ○ by inquiry ※ For screw-in type adapter, please refer to Tooling System

Arbor Type 高進給銑刀



Insert Brand : Winstar

Order No.	D	L	d	T	Inserts	Screw	Wrench	Stock
ICXLNF308050220	50	50	22	8	LNMX0303	ITS2535	ITK07	○

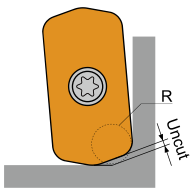
● stock ○ by inquiry

Customize available.

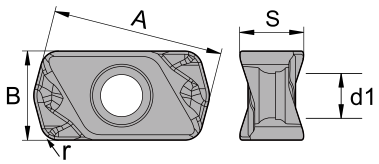
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
Stainless Steel	100 ~ 180	0.3 ~ 1.2	0.3 ~ 0.7
Cast Iron	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
Super Alloy	40 ~ 100	0.3 ~ 0.8	0.3 ~ 0.6
Hardened Steel	50 ~ 100	0.3 ~ 1.0	0.3 ~ 0.6

Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)		
	Input. R	Uncut	
LNMX0303	1.5	0.5	

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker	
	A	B	S	d1		
LNMX0303	11.59	6.0	4.29	2.85	SG, MG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ILNMX0303SG23TX	LNMX-0303-SG-CX23TX	○	○	○		○	●
	ILNMX0303SG32HS	LNMX-0303-SG-CX32HS	●	○	●			
	ILNMX0303SG33TX	LNMX-0303-SG-CX33TX	●	●	●		●	●
	ILNMX0303SG43TX	LNMX-0303-SG-CX43TX	●	●			●	
	ILNMX0303MG23TX	LNMX-0303-MG-CX23TX	○	○	○		○	●
	ILNMX0303MG32HS	LNMX-0303-MG-CX32HS	●	○	●			
	ILNMX0303MG33TX	LNMX-0303-MG-CX33TX	●	●	●		●	●
	ILNMX0303MG43TX	LNMX-0303-MG-CX43TX	●	●			●	

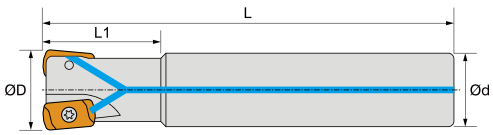
High Feed Milling - CXLO 高進給銑刀

CXLO Series

- Use LOGX double-sided inserts with 4 cutting edges.
- High feed and high precision cutting edges for good surface finishing.
- 16~50mm cutter diameter, max. 0.9mm depth of cut.

- 使用 LOGX 雙面銑刀片 , 4 個可用切削角
- 高進給及高精度切削刃適用於高溫合金加工 , 並可達到優良的表面光潔度
- 16~50mm 刀桿直徑 , 最大切削深度可達 0.9mm

Shank Type 高進給銑刀



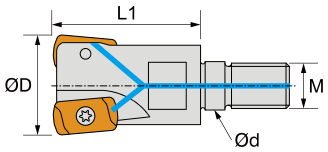
Insert Brand : Winstar

Order No.	D	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXLOE302016150	16	30	150	16	2		LOGX0303	ITS3004	ITK08	●
ICXLOE302016151	16	30	150	16	2	✓				●
ICXLOE302017150	17	20	150	16	2					●
ICXLOE302018150	18	20	150	16	2					●
ICXLOE303020150	20	50	150	20	3					●
ICXLOE303020151	20	50	150	20	3	✓				●
ICXLOE303021150	21	30	150	20	3					●
ICXLOE303022150	22	20	150	20	3					●
ICXLOE304025150	25	60	150	25	4					●
ICXLOE304025151	25	50	150	25	4	✓				●
ICXLOE304026150	26	35	150	25	4					●
ICXLOE304026151	26	35	150	25	4	✓				●
ICXLOE304026200	26	45	200	25	4					●
ICXLOE304028150	28	20	150	25	4					●
ICXLOE305028150	28	20	150	25	5					●
ICXLOE304030150	30	46	150	32	4					●
ICXLOE305032150	32	70	150	32	5					●
ICXLOE305033151	33	20	150	32	5	✓				●
ICXLOE305033200	33	20	200	32	5					●
ICXLOE305035200	35	20	200	32	5					●

● stock ○ by inquiry

Customize available.

Modular Type 高進給銑刀頭



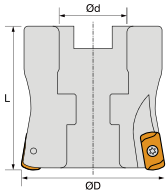
Insert Brand : Winstar

Order No.	D	L1	d	M	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXLOM302017081	17	25	8.5	M8	2	✓	LOGX0303	ITS3004	ITK08	●
ICXLOM303021101	21	30	10.5	M10	3	✓				●
ICXLOM304026121	26	35	12.5	M12	4	✓				●
ICXLOM304035161	35	40	17	M16	4	✓				●
ICXLOM305035161	35	40	17	M16	5	✓				●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Arbor Type 高進給銑刀



Insert Brand : Winstar

Order No.	D	L	d	T	Inserts	Screw	Wrench	Stock
ICXLOF307050220	50	50	22	7	LOGX0303	ITS3004	ITK08	●

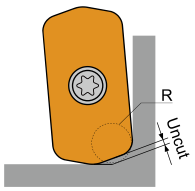
● stock ○ by inquiry

Customize available.

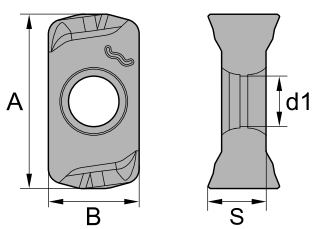
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
Stainless Steel	100 ~ 180	0.3 ~ 1.2	0.3 ~ 0.7
Cast Iron	120 ~ 250	0.4 ~ 1.6	0.3 ~ 0.9
Super Alloy	40 ~ 100	0.3 ~ 0.8	0.3 ~ 0.6
Hardened Steel	50 ~ 100	0.3 ~ 1.0	0.3 ~ 0.6

Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)		
	Input. R	Uncut	
LOGX030310	1.6	0.39	

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker	
	A	B	S	d1		
LOGX030310	11.9	6.2	3.96	3.45	SG, MG	

Insert Designation 刀片型號

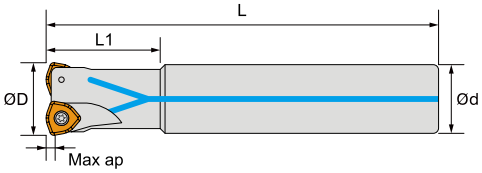
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ILOGX030310SG32HS	LOGX-030310-SG-CX32HS	●	○	●			
	ILOGX030310SG33TX	LOGX-030310-SG-CX33TX	●	●	●		●	●
	ILOGX030310SG43TX	LOGX-030310-SG-CX43TX	●	●			●	
	ILOGX030310MG32HS	LOGX-030310-MG-CX32HS	●	○	●			
	ILOGX030310MG33TX	LOGX-030310-MG-CX33TX	●	●	●		●	●
	ILOGX030310MG43TX	LOGX-030310-MG-CX43TX	●	●			●	

CXWN Series

- Use WNMX double-sided inserts with 6 cutting edges.
- High feed and low cost for multi-functional applications.
- 25~160mm cutter diameter, max. 1.35mm depth of cut.

- 使用 WNMX 雙面銑刀片 , 6 個可用切削角
- 高進給及低成本適用於面銑、斜坡銑和插銑等多功能加工
- 25~160mm 刀桿直徑 , 最大切削深度可達 1.35mm

Shank Type 高進給銑刀

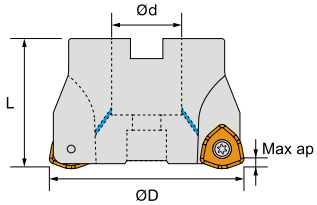


Insert Brand : Winstar

Order No.	D	L1	L	d	T	Max ap	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXWNE902025150	25	40	150	25	2	1.5		WNMX09T3	ITS3006	ITK10	●
ICXWNE902026151	26	30	150	25	2	1.5	✓				●
ICXWNE903032151	32	30	150	25	3	1.5	✓				●
ICXWNE903032150	32	40	150	32	3	1.5					●

● stock ○ by inquiry *Customize available.*

Arbor Type 高進給銑刀

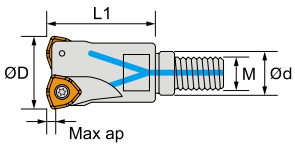


Insert Brand : Winstar

Order No.	D	L	d	T	Max ap	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXWNF905050220	50	50	22	5	1.5		WNMX09T3	ITS3006	ITK10	●
ICXWNF905050221	50	50	22	5	1.5	✓				●
ICXWNF905063220	63	50	22	5	1.5					●
ICXWNF905063221	63	50	22	5	1.5	✓				●
ICXWNF305050221	50	40	22	5	1.8	✓	WNMX1307	ITS4006	ITK15	●
ICXWNF305063220	63	50	22	5	1.8					●
ICXWNF307080270	80	50	27	7	1.8					●
ICXWNF310160400	160	63	40	10	1.8					●

● stock ○ by inquiry *Customize available.*

Modular Type 高進給銑刀



Insert Brand : Winstar

Order No.	D	L1	d	M	T	Max ap	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXWNM902025121	25	35	12.5	M12	2	1.5	✓	WNMX09T3	ITS3006	ITK10	●

● stock ○ by inquiry *Customize available.*

Recommended Cutting Conditions 建議切削數據

WNMX09T316

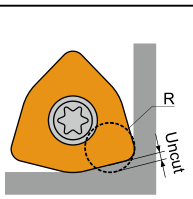
Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.35
Stainless Steel	100 ~ 180	0.4 ~ 1.2	0.4 ~ 1.0
Cast Iron	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.35
Super Alloy	40 ~ 100	0.4 ~ 1.0	0.4 ~ 1.0
Hardened Steel	50 ~ 100	0.4 ~ 1.1	0.4 ~ 1.0

WNMX130716

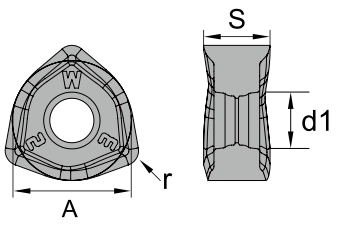
Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 3.0	0.4 ~ 1.7
Stainless Steel	100 ~ 180	0.3 ~ 2.0	0.4 ~ 1.4
Cast Iron	120 ~ 250	0.4 ~ 3.0	0.4 ~ 1.7
Super Alloy	40 ~ 100	0.3 ~ 1.6	0.4 ~ 1.3
Hardened Steel	50 ~ 100	0.3 ~ 2.0	0.4 ~ 1.3

Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
WNMX09T316	2.5	0.6
WNMX130716	3.0	1.0



Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker	
	A	S	r	d1		
WNMX09T316	9.525	3.97	1.6	3.6	MG, RG	
WNMX130716	12.7	7.0	1.6	4.7	MG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWNMX09T316MG32HS	WNMX-09T316-MG-CX32HS	●	○	●			
	IWNMX09T316MG33TX	WNMX-09T316-MG-CX33TX	●	●	●		●	●
	IWNMX09T316MG43TX	WNMX-09T316-MG-CX43TX	●	●			●	
	IWNMX09T316MG37TA	WNMX-09T316-MG-CX37TA	●		●			○
	IWNMX09T316MG47TA	WNMX-09T316-MG-CX47TA	●	○	●		○	
	IWNMX09T316RG32HS	WNMX-09T316-RG-CX32HS	●	○	●			
	IWNMX09T316RG33TX	WNMX-09T316-RG-CX33TX	●	●	●		●	●
	IWNMX09T316RG43TX	WNMX-09T316-RG-CX43TX	●	●			●	
	IWNMX09T316RG37TA	WNMX-09T316-RG-CX37TA	●		●			○
	IWNMX09T316RG47TA	WNMX-09T316-RG-CX47TA	●	○	●		○	
	IWNMX130716MG32HS	WNMX-130716-MG-CX32HS	●	○	●			
	IWNMX130716MG33TX	WNMX-130716-MG-CX33TX	●	●	●		●	●
	IWNMX130716MG43TX	WNMX-130716-MG-CX43TX	●	●			●	
	IWNMX130716MG37TA	WNMX-130716-MG-CX37TA	●		●			○
	IWNMX130716MG47TA	WNMX-130716-MG-CX47TA	●	○	●		○	

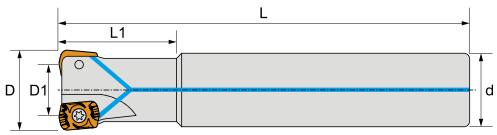
High Feed Milling - CALP 高進給銑刀

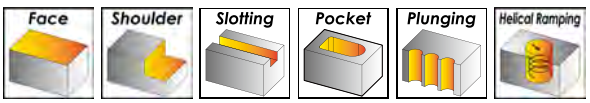
CALP Series

- Use LPGX inserts with 2 cutting edges.
- High feed and small size cutter for replacing solid carbide tools.
- 8~16mm cutter diameter, max. 0.5mm depth of cut.

- 使用 LPGX 銑刀片 , 2 個可用切削角
- 高進給及小尺寸刀具可取代全鎢鋼刀具 , 適用於廣泛的加工及材質應用
- 8~16mm 刀桿直徑 , 最大切削深度可達 0.5mm

Shank Type 高進給銑刀





Insert Brand : Winstar

Order No.	D	D1	L1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICALPE101008080	8	4.2	16	80	10	1		LPGX0102	IMS1804A	ITK06	●
ICALPE101008081	8	4.2	16	80	10	1	✓				●
ICALPE102010080	10	6.2	20	80	10	2					●
ICALPE102010081	10	6.2	20	80	10	2	✓				●
ICALPE103012080	12	8.2	20	80	12	3					●
ICALPE103012081	12	8.2	20	80	12	3	✓				●
ICALPE104016090	16	12.2	20	90	16	4					●
ICALPE104016091	16	12.2	20	90	16	4	✓				●

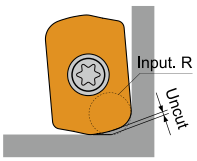
● stock ○ by inquiry

Customize available.

Recommended Cutting Conditions 建議切削數據

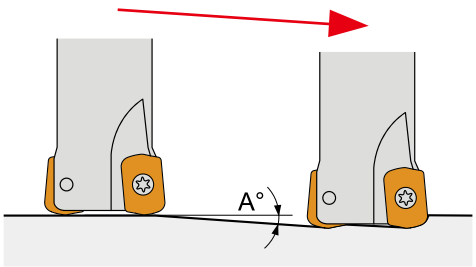
Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.2 ~ 0.8	0.2 ~ 0.5
Stainless Steel	100 ~ 180	0.2 ~ 0.6	0.2 ~ 0.4
Cast Iron	120 ~ 250	0.2 ~ 0.8	0.2 ~ 0.5
Super Alloy	40 ~ 100	0.2 ~ 0.4	0.2 ~ 0.3
Hardened Steel	50 ~ 100	0.2 ~ 0.5	0.2 ~ 0.3

Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)		
	Input. R	Uncut	
LPGX0102	1.2	0.17	

For Ramping 斜坡加工

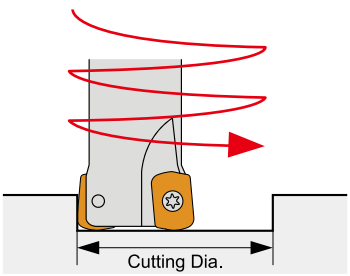
Cutter Dia. (mm)	Max. ramping angle (A°)	tan (A°)
10	3.0°	0.052
11	2.5°	0.044
12	2.0°	0.035
16	1.2°	0.021
17	1.0°	0.017



For Helical Milling 螺旋加工

Mini Cutting Dia.	Max Cutting Dia.
2 × Cutter Dia. - 3.5	2 × Cutter Dia. - 2

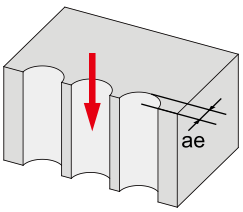
※Do not exceed the Max Cutting Dia and lower than the Mini Cutting Dia.



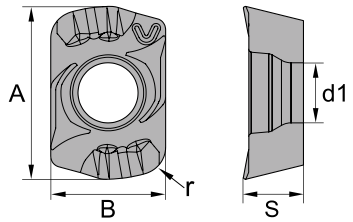
For Plunging 垂直加工

Max. ae
1.7mm

※Reduce feed rate to fz=0.2mm/t or less.



Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker	
	A	B	S	r	d1		
LPGX0102	6.26	4.19	2.19	1.0	2.2	SG, MG	

※Suitable for M2.0 or M1.8 screw.

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ILPGX0102SG33TX	LPGX-0102-SG-CX33TX	●	●	●		●	●
	ILPGX0102SG43TX	LPGX-0102-SG-CX43TX	●	●			●	
	ILPGX0102MG33TX	LPGX-0102-MG-CX33TX	●	●	●		●	●
	ILPGX0102MG43TX	LPGX-0102-MG-CX43TX	●	●			●	

CAJX Series

- Use JDMT or JDMW inserts with 3 cutting edges.
- High feed and high rigidity cutting edge for wide range applications.
- 32~100mm cutter diameter, max. 2mm depth of cut.

- 使用 JDMT 或 JDMW 銑刀片 , 3 個可用切削角
- 高進給及高剛性切削刀口適用於各種材料和應用
- 32~100mm 刀桿直徑 , 最大切削深度可達 2mm

Shank Type 高進給銑刀

Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICAJXE202032150	32	35	150	32	2	JDMW1204	ITS4008	ITK15	IAS04	IAJ4012	●

Arbor Type 高進給銑刀

Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICAJXF204050220	50	23	45	22	4	JDMW1204	ITS4008	ITK15	IAS04	IAJ4012	●
ICAJXF205063220	63	23	50	22	5						●
ICAJXF206080270	80	26	55	27	6						●
ICAJXF404063220	63	23	50	22	4	JDMW1405 JDMT1405	ITS5001	ITK20	IAS05	IAJ5014	●
ICAJXF405080270	80	26	55	27	5						●
ICAJXF406100320	100	32	55	32	6						●

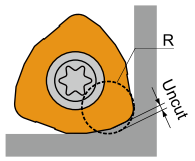
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	JDMW1204			JDMW1405		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.8 ~ 1.3	0.3 ~ 1.5	120 ~ 250	0.8 ~ 1.8	0.5 ~ 2.0
Stainless Steel	100 ~ 180	0.6 ~ 1.0	0.3 ~ 1.0	100 ~ 180	0.6 ~ 1.2	0.5 ~ 1.5
Cast Iron	120 ~ 250	0.8 ~ 1.3	0.3 ~ 1.5	120 ~ 250	0.8 ~ 1.8	0.5 ~ 2.0
Super Alloy	40 ~ 100	0.5 ~ 1.0	0.3 ~ 1.0	40 ~ 100	0.5 ~ 1.2	0.5 ~ 1.5
Hardened Steel	50 ~ 100	0.5 ~ 1.0	0.3 ~ 1.0	50 ~ 100	0.5 ~ 1.2	0.5 ~ 1.5

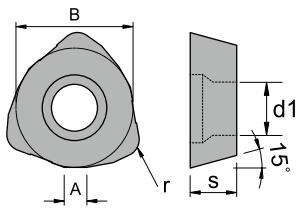
Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)	
	Input. R	Uncut
JDMW1204	3.0	0.63
JDMW / JDMT1405	3.0	0.64



Insert Specifications 刀片規格

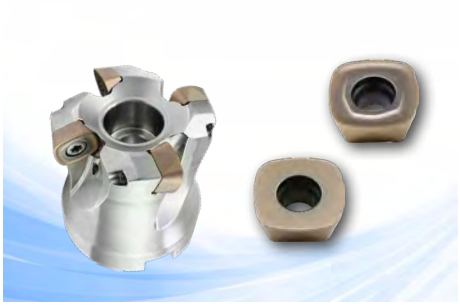
Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
JDMW1204	2.5	12.0	4.76	2.0	4.75	MG, RG
JDMW1405	2.8	14.0	5.56	2.0	5.75	MG, RG
JDMT1405	2.8	14.0	5.56	2.0	5.75	MG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IJDMW120420SMG32HS	JDMW-120420ZDSR-MG-CX32HS	●	○	●			
	IJDMW120420SMG33TX	JDMW-120420ZDSR-MG-CX33TX	●	●	●		●	●
	IJDMW120420SMG43TX	JDMW-120420ZDSR-MG-CX43TX	●	●			●	
	IJDMW120420SRG32HS	JDMW-120420ZDSR-RG-CX32HS	●	○	●			
	IJDMW120420SRG33TX	JDMW-120420ZDSR-RG-CX33TX	●	●	●		●	●
	IJDMW120420SRG43TX	JDMW-120420ZDSR-RG-CX43TX	●	●			●	
	IJDMW120420SRG37TA	JDMW-120420ZDSR-RG-CX37TA	●		●			○
	IJDMW140520SMG32HS	JDMW-140520ZDSR-MG-CX32HS	●	○	●			
	IJDMW140520SMG33TX	JDMW-140520ZDSR-MG-CX33TX	●	●	●		●	●
	IJDMW140520SRG32HS	JDMW-140520ZDSR-RG-CX32HS	●	○	●			
	IJDMW140520SRG33TX	JDMW-140520ZDSR-RG-CX33TX	●	●	●		●	●
	IJDMT140520SMG32HS	JDMT-140520ZDSR-MG-CX32HS	●	○	●			
	IJDMT140520SMG33TX	JDMT-140520ZDSR-MG-CX33TX	●	●	●		●	●
	IJDMT140520SMG43TX	JDMT-140520ZDSR-MG-CX43TX	●	●			●	

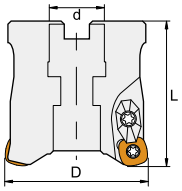
CASR Series



- Use SDMT or SDNW inserts with 4 cutting edges.
- High feed and more economical for wide range applications.
- 50~80mm cutter diameter, max. 1.5mm depth of cut.

- 使用 SDMT 或 SDNW 銑刀片 , 4 個可用切削角
- 高進給、高經濟及高剛性切削刀口適用於各種材料和應用
- 50~80mm 刀盤直徑 , 最大切削深度可達 1.5mm

Arbor Type 高進給銑刀



Insert Brand : Winstar

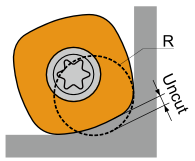
Order No.	D	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICASRF203050220	50	22	50	3	SDMT1205 SDNW1205	IMS4011A	ITF15	IYR-06	IMS4008ES	●
ICASRF204050220	50	22	50	4						●
ICASRF203063220	63	22	50	3						●
ICASRF204063220	63	22	50	4						●
ICASRF204080310	80	31.75	55	4						●
ICASRF204080320	80	32	55	4						●
ICASRF205080310	80	31.75	55	5						●
ICASRF205080320	80	32	55	5						●

● stock ○ by inquiry

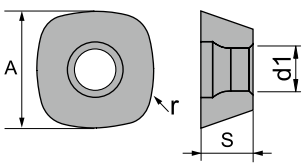
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.8 ~ 1.8	0.3 ~ 1.5
Stainless Steel	100 ~ 180	0.6 ~ 1.2	0.3 ~ 1.0
Cast Iron	120 ~ 250	0.8 ~ 1.8	0.3 ~ 1.5
Super Alloy	40 ~ 100	0.5 ~ 1.2	0.3 ~ 1.0
Hardened Steel	50 ~ 100	0.5 ~ 1.2	0.3 ~ 1.0

Corner R Programming R 角軟體模擬設定

Designation	Approx. R (mm)		
	Input. R	Uncut	
SDMT1205 / SDNW1205	4.5	0.83	

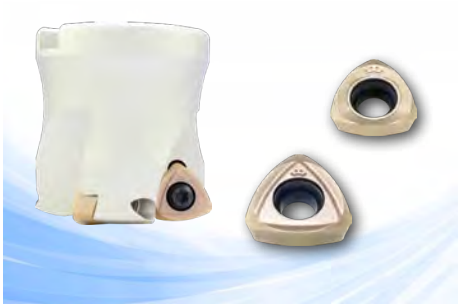
Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker	
	A	S	r	d1		
SDMT1205	12.7	5.56	15	4.6	SG, MG, RG	
SDNW1205	12.7	5.56	15	4.6	MG, RG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISDMT1205ZDENSG23TX	SDMT-1205ZDEN-SG-CX23TX	○	○	○		○	●
	ISDMT1205ZDENSG32HS	SDMT-1205ZDEN-SG-CX32HS	●	○	●			
	ISDMT1205ZDENSG33TX	SDMT-1205ZDEN-SG-CX33TX	●	●	●		●	●
	ISDMT1205ZDENSG43TX	SDMT-1205ZDEN-SG-CX43TX	●	●			●	
	ISDMT1205ZDTNMG23TX	SDMT-1205ZDTN-MG-CX23TX	○	○	○		○	●
	ISDMT1205ZDTNMG32HS	SDMT-1205ZDTN-MG-CX32HS	●	○	●			
	ISDMT1205ZDTNMG33TX	SDMT-1205ZDTN-MG-CX33TX	●	●	●		●	●
	ISDMT1205ZDTNMG43TX	SDMT-1205ZDTN-MG-CX43TX	●	●			●	
	ISDMT1205ZDTNRG23TX	SDMT-1205ZDTN-RG-CX23TX	○	○	○		○	●
	ISDMT1205ZDTNRG32HS	SDMT-1205ZDTN-RG-CX32HS	●	○	●			
	ISDMT1205ZDTNRG33TX	SDMT-1205ZDTN-RG-CX33TX	●	●	●		●	●
	ISDMT1205ZDTNRG43TX	SDMT-1205ZDTN-RG-CX43TX	●	●			●	
	ISDNW1205ZDTNMG32HS	SDNW-1205ZDTN-MG-CX32HS	●	○	●			
	ISDNW1205ZDTNMG33TX	SDNW-1205ZDTN-MG-CX33TX	●	●	●		●	●
	ISDNW1205ZDTNRG23TX	SDNW-1205ZDTN-RG-CX23TX	○	○	○		○	●
	ISDNW1205ZDTNRG32HS	SDNW-1205ZDTN-RG-CX32HS	●	○	●			
	ISDNW1205ZDTNRG33TX	SDNW-1205ZDTN-RG-CX33TX	●	●	●		●	●
	ISDNW1205ZDTNRG43TX	SDNW-1205ZDTN-RG-CX43TX	●	●			●	
	ISDNW1205ZDTNRG37TA	SDNW-1205ZDTN-RG-CX37TA	●		●			○

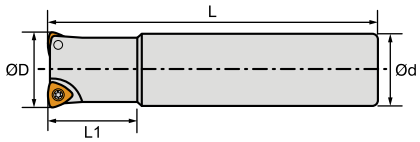
CF23 Series



- Use WP26 inserts with 3 cutting edges.
- High feed and high rigidity negative designed for hardened steel.
- 32~160mm cutter diameter, max. 2mm depth of cut.

- 使用 WP26 銑刀片 , 3 個可用切削角
- 高進給及高剛性負角設計 , 適用於較硬材料加工
- 32~160mm 刀桿直徑 , 最大切削深度可達 2mm

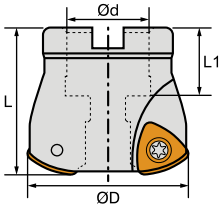
Shank Type 高進給銑刀



Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICF23E203032150	32	28	150	32	3	WP26339R14	ITS4005	ITK15	○
ICF23E203035180	35	40	180	32	3				○
ICF23E203035230	35	40	230	32	3				●
ICF23E204040200	40	40	200	32	4				○
ICF23E202040200	40	45	200	32	2	WP26379R25	ITS5002	ITK20	○
ICF23E203050200	50	45	200	32	3				○

Arbor Type 高進給銑刀



Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICF23F203050220	50	21	50	22	3	WP26379R25	ITS5002	ITK20	●
ICF23F204063220	63	21	50	22	4				○
ICF23F205080270	80	23	50	27	5				○
ICF23F205100320	100	26	50	32	5				●
ICF23F206125400	125	38	63	40	6				○
ICF23F207160400	160	38	63	40	7				●

● stock ○ by inquiry

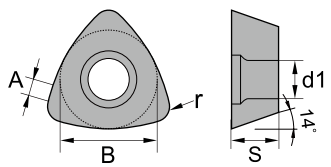
Customize available.

Recommended Cutting Conditions 建議切削數據

Working Material	WP26339R14			WP26379R25		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.5	120 ~ 250	0.4 ~ 3.0	0.4 ~ 2.0
Stainless Steel	100 ~ 180	0.4 ~ 1.2	0.4 ~ 1.0	100 ~ 180	0.4 ~ 2.0	0.4 ~ 1.4
Cast Iron	120 ~ 250	0.4 ~ 1.5	0.4 ~ 1.5	120 ~ 250	0.4 ~ 3.0	0.4 ~ 2.0
Super Alloy	40 ~ 100	0.4 ~ 1.0	0.4 ~ 1.0	40 ~ 100	0.4 ~ 1.6	0.4 ~ 1.2

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
WP26339R14	-	9.52	3.97	1.2	4.4	MG, RG
WP26379R25	1.1	13	5.56	2.0	5.5	MG, RG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWP26314MG32HS	WP26-339R14-MG-CX32HS	●	○	●			
	IWP26314MG33TX	WP26-339R14-MG-CX33TX	●	●	●		●	●
	IWP26314MG43TX	WP26-339R14-MG-CX43TX	●	●			●	
	IWP26314RG23TX	WP26-339R14-RG-CX23TX	○	○	○		○	●
	IWP26314RG32HS	WP26-339R14-RG-CX32HS	●	○	●			
	IWP26314RG33TX	WP26-339R14-RG-CX33TX	●	●	●		●	●
	IWP26314RG43TX	WP26-339R14-RG-CX43TX	●	●			●	
	IWP26725MG32HS	WP26-379R25-MG-CX32HS	●	○	●			
	IWP26725MG33TX	WP26-379R25-MG-CX33TX	●	●	●		●	●
	IWP26725MG43TX	WP26-379R25-MG-CX43TX	●	●			●	
	IWP26725RG23TX	WP26-379R25-RG-CX23TX	○	○	○		○	●
	IWP26725RG32HS	WP26-379R25-RG-CX32HS	●	○	●			
	IWP26725RG33TX	WP26-379R25-RG-CX33TX	●	●	●		●	●
	IWP26725RG43TX	WP26-379R25-RG-CX43TX	●	●			●	

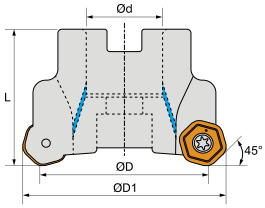
Face Milling - CXHN 面銑刀

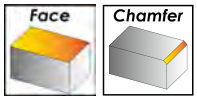
CXHN Series

- Use HNMX double-sided inserts with 12 cutting edges.
- Sharp cutting edge design for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 3.5mm depth of cut.

- 使用 HNMX 雙面銑刀片 , 12 個可用切削角
- 鋒利切削刃設計適用於淺切面銑加工
- 50~100mm 刀盤直徑 , 最大切削深度可達 3.5mm

Arbor Type 面銑刀





Insert Brand : Winstar

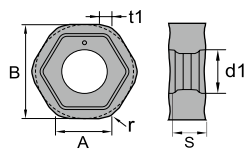
Order No.	D	D1	L	d	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXHNF705050224	50	58.7	40	22	5	✓	HNMX0704	ITS4005	ITK15	●
ICXHNF706063224	63	71.7	40	22	6	✓				●
ICXHNF708080274	80	88.7	50	27	8	✓				●
ICXHNF709100324	100	108.7	50	32	9	✓				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	140 ~ 250	0.10 ~ 0.3	0.3 ~ 3.5
Stainless Steel	60 ~ 140	0.08 ~ 0.2	0.3 ~ 2.0
Super Alloy	30 ~ 70	0.08 ~ 0.2	0.3 ~ 2.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)						Chipbreaker	
	A	B	S	r	d1	t1		
HNMX0704	6.8	12.7	4.45	1.2	4.9	1.4	SG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IHNMX0704SG32HS	HNMX-0704-SG-CX32HS	●	○	●			
	IHNMX0704SG33TX	HNMX-0704-SG-CX33TX	●	●	●		●	●
	IHNMX0704SG43TX	HNMX-0704-SG-CX43TX	●	●			●	
	IHNMX0704SG47TA	HNMX-0704-SG-CX47TA	●	○	●		○	

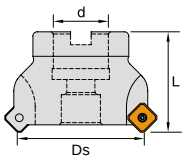
Face Milling - CXSN 面銑刀

CXSN Series

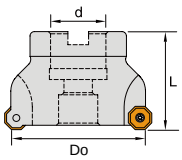
- Use SNMX or ONMX double-sided inserts with 8 or 16 cutting edges.
- 2 type inserts can fit in same cutter for multiple applications.
- 50~202.9mm cutter diameter, max. 6mm depth of cut.

- 使用 SNMX 或 ONMX 雙面銑刀片 , 8 或 16 個可用切削角
- 兩種刀片可鎖附在相同刀盤上，可應用於不同的深淺加工
- 50~202.9mm 刀盤直徑 , 最大切削深度可達 6mm

Arbor Type 面銑刀



for SNMX1205



for ONMX0505

Insert Brand : Winstar

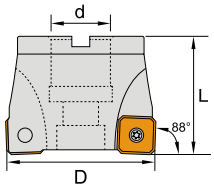
Order No.	D		L	d	T	Inserts	Screw	Wrench	Stock
	Ds	Do							
ICXSNF504050220	50	52.9	40	22	4	SNMX1205 ONMX0505	ITS4015	ITK15	●
ICXSNF505063220	63	65.9	40	22	5				●
ICXSNF506080270	80	82.9	50	27	6				●
ICXSNF508100320	100	102.9	50	32	8				●
ICXSNF510125400	125	127.9	63	40	10				●
ICXSNF512160400	160	162.9	63	40	12				●
ICXSNF514200600	200	202.9	63	60	14				●

● stock ○ by inquiry *Customize available.*

Recommended Cutting Conditions 建議切削數據

Working Material	SNMX1205			ONMX0505		
	Vc	fz	ap	Vc	fz	ap
Carbon Steel / Alloy Steel	80 ~ 200	0.1 ~ 0.3	0.3 ~ 6.0	80 ~ 200	0.1 ~ 0.3	0.3 ~ 2.0
Stainless Steel	50 ~ 110	0.08 ~ 0.25	0.3 ~ 3.6	50 ~ 110	0.08 ~ 0.25	0.3 ~ 1.5
Cast Iron	80 ~ 180	0.1 ~ 0.3	0.3 ~ 6.0	80 ~ 180	0.1 ~ 0.3	0.3 ~ 2.0
Super Alloy	30 ~ 60	0.08 ~ 0.2	0.3 ~ 3.6	30 ~ 60	0.08 ~ 0.2	0.3 ~ 1.5
Hardened Steel	35 ~ 70	0.08 ~ 0.23	0.3 ~ 3.6	35 ~ 70	0.08 ~ 0.23	0.3 ~ 1.5

CXSNE - Milling Tools 方肩銑刀



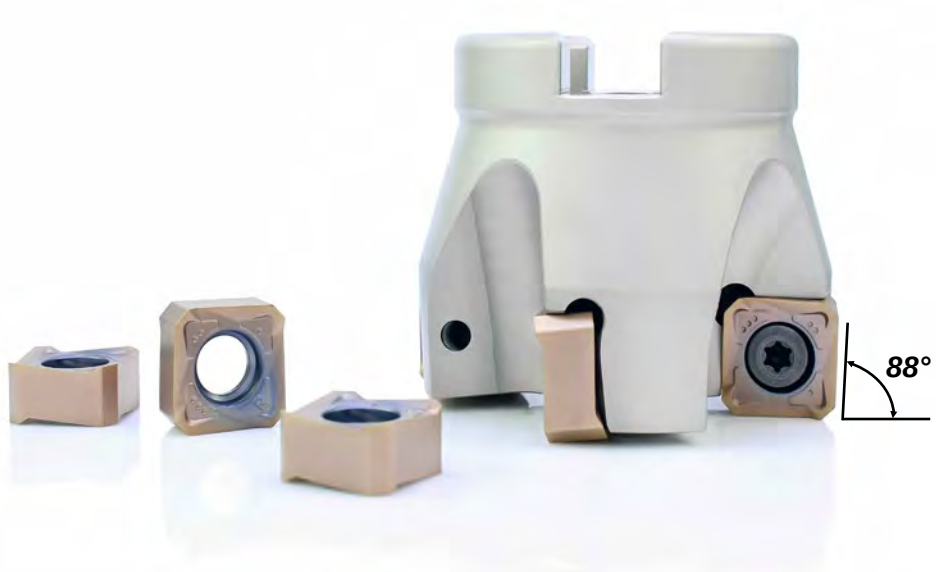
Insert Brand : Winstar

Order No.	D	L	d	T	Inserts	Screw	Wrench	Stock
ICXSNE504050220	50	40	22	4	SNMX1205	ITS4015	ITK15	●
ICXSNE505063220	63	40	22	5				●
ICXSNE506080270	80	50	27	6				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	80 ~ 200	0.1 ~ 0.2	0.3 ~ 11
Stainless Steel	50 ~ 110	0.08 ~ 0.18	0.3 ~ 5
Cast Iron	80 ~ 180	0.1 ~ 0.2	0.3 ~ 11
Super Alloy	30 ~ 60	0.08 ~ 0.14	0.3 ~ 5
Hardened Steel	35 ~ 70	0.08 ~ 0.16	0.3 ~ 5

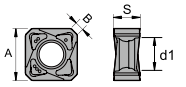


Face Milling - CXSN 面銑刀

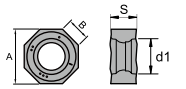
Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	B	S	d1	
SNMX1205	12.7	1.5	6.4	6	MG, RG
ONMX0505	12.7	5.0	6.4	6	MG, RG

SNMX



ONMX



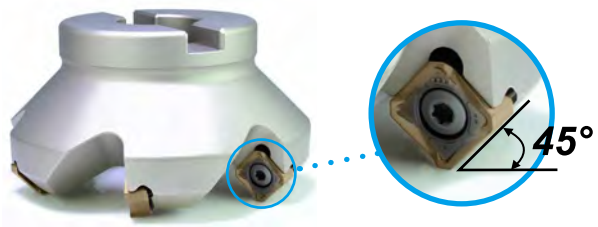
Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISNMX1205MG23TX	SNMX-1205-MG-CX23TX	○	○	○		○	●
	ISNMX1205MG32HS	SNMX-1205-MG-CX32HS	●	○	●			
	ISNMX1205MG33TX	SNMX-1205-MG-CX33TX	●	●	●		●	●
	ISNMX1205MG43TX	SNMX-1205-MG-CX43TX	●	●			●	
	ISNMX1205MG37TA	SNMX-1205-MG-CX37TA	●		●			○
	ISNMX1205MG47TA	SNMX-1205-MG-CX47TA	●	○	●		○	
	ISNMX1205RG23TX	SNMX-1205-RG-CX23TX	○	○	○		○	●
	ISNMX1205RG32HS	SNMX-1205-RG-CX32HS	●	○	●			
	ISNMX1205RG33TX	SNMX-1205-RG-CX33TX	●	●	●		●	●
	ISNMX1205RG43TX	SNMX-1205-RG-CX43TX	●	●			●	
	ISNMX1205RG37TA	SNMX-1205-RG-CX37TA	●		●			○
	ISNMX1205RG47TA	SNMX-1205-RG-CX47TA	●	○	●		○	
	IONMX0505MG32HS	ONMX-0505-MG-CX32HS	●	○	●			
	IONMX0505MG33TX	ONMX-0505-MG-CX33TX	●	●	●		●	●
	IONMX0505MG43TX	ONMX-0505-MG-CX43TX	●	●			●	
	IONMX0505RG23TX	ONMX-0505-RG-CX23TX	○	○	○		○	●
	IONMX0505RG32HS	ONMX-0505-RG-CX32HS	●	○	●			
	IONMX0505RG33TX	ONMX-0505-RG-CX33TX	●	●	●		●	●
	IONMX0505RG43TX	ONMX-0505-RG-CX43TX	●	●			●	
	IONMX0505RG37TA	ONMX-0505-RG-CX37TA	●		●			○

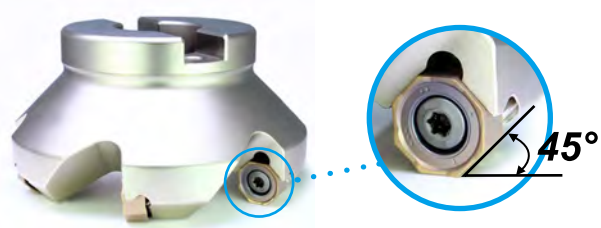
Tools Features 刀具特性

2 types of double sided inserts fit in same pocket !

- *Depth of cutting > 2mm*
  use Square insert - ***SNMX1205 (Total 8 cutting edges)***



- *Depth of cutting <= 2mm*
  use Octagonal insert - ***ONMX0505 (Total 16 cutting edges)***



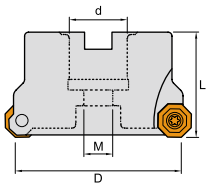
43° Face Milling - CAOF 43° 面銑刀

CAOF Series

- Use OFMT inserts with 8 cutting edges.
- Cost effective for low depth-of-cut face milling.
- 50~100mm cutter diameter, max. 2.8mm depth of cut.

- 使用 OFMT 銑刀片 , 8 個可用切削角
- 經濟實惠的較淺面銑加工
- 50~100mm 刀盤直徑 , 最大切削深度可達 2.8mm

Arbor Type 面銑刀



Insert Brand : Winstar

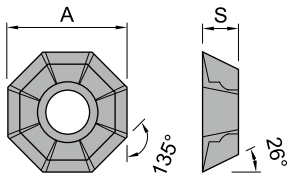
Order No.	D	d	L	M	T	Inserts	Screw	Wrench	Stock
ICAOFF505050220	50	22	40	11	5	OFMT05T3...	IMS4011A	ITK15	●
ICAOFF506063220	63	22	40	11	6				●
ICAOFF506063250	63	25.4	50	13	6				●
ICAOFF507080250	80	25.4	50	13	7				●
ICAOFF507080270	80	27	50	38	7				●
ICAOFF508100310	100	31.75	50	46	8				●
ICAOFF508100320	100	32	50	46	8				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 2.8
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 1.7
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 2.8
Super Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 1.7
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 1.7

Insert Specifications 刀片規格

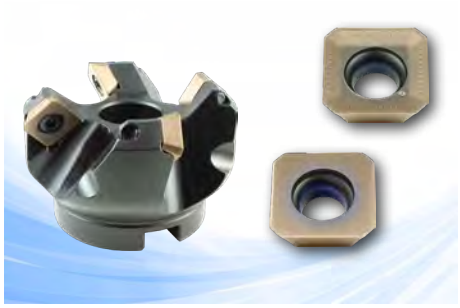
Insert	Dimensions (mm)				Chipbreaker	
	A	S	r	d1		
OFMT05T3	12.7	3.8	0.6	4.6	SG, MG, RG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IOFMT05T3TNSG32HS	OFMT-05T3TN-SG-CX32HS	●	○	●			
	IOFMT05T3TNSG33TX	OFMT-05T3TN-SG-CX33TX	●	●	●		●	●
	IOFMT05T3TNMG32HS	OFMT-05T3TN-MG-CX32HS	●	○	●			
	IOFMT05T3TNMG33TX	OFMT-05T3TN-MG-CX33TX	●	●	●		●	●
	IOFMT05T3TNRG32HS	OFMT-05T3TN-RG-CX32HS	●	○	●			
	IOFMT05T3TNRG33TX	OFMT-05T3TN-RG-CX33TX	●	●	●		●	●
	IOFMT05T3TNRG43TX	OFMT-05T3TN-RG-CX43TX	●	●			●	

Face Milling - CASE 面銑刀

CASE Series



- Use SEKT or SEKW inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~100mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEKT 或 SEKW 銑刀片 , 4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~100mm 刀盤直徑 , 最大切削深度可達 5.5mm

Arbor Type 面銑刀

Insert Brand : Winstar

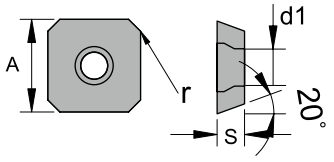
Order No.	D	L	L1	d	Dc	T	Inserts	Screw	Wrench	Stock
ICASEF204050220	50	40	20	22	64	4	SEKT1204 SEKW1204 SEET1204	ITS5006	ITK20	●
ICASEF205063220	63	45	21	22	77	5				●
ICASEF205063250	63	45	21	25.4	77	5				○
ICASEF206080270	80	50	26	27	94	6				●
ICASEF206080310	80	50	26	31.75	94	6				○
ICASEF206100310	100	32	32	31.75	114	6				○
ICASEF206100320	100	32	32	32	114	6				○

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.5
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 3.0
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.0
Aluminum Alloy	300 ~ 1000	0.10 ~ 0.40	0.3 ~ 5.5
Super Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker	
	A	S	r	d1		
SEKT1204	12.7	4.76	0.8	5.5	MG, RG, Flat	
SEKW1204					Flat	
SEET1204					AL, FG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISEET1204AFFNAL10	SEET-1204AFFN-AL-CX10				●		
	ISEET1204AFFNFG23TX	SEET-1204AFFN-FG-CX23TX	○	○	○		○	●
	ISEKT1204AFENMG32HS	SEKT-1204AFEN-MG-CX32HS	●	○	●			
	ISEKT1204AFENMG33TX	SEKT-1204AFEN-MG-CX33TX	●	●	●		●	●
	ISEKT1204AFTNRG32HS	SEKT-1204AFTN-RG-CX32HS	●	○	●			
	ISEKT1204AFTNRG33TX	SEKT-1204AFTN-RG-CX33TX	●	●	●		●	●
	ISEKT1204AFTNRG43TX	SEKT-1204AFTN-RG-CX43TX	●	●			●	
	ISEKW1204AFEN32HS	SEKW-1204AFEN-CX32HS	●	○	●			
	ISEKW1204AFEN33TX	SEKW-1204AFEN-CX33TX	●	●	●		●	●
	ISEKW1204AFEN43TX	SEKW-1204AFEN-CX43TX	●	●			●	
	ISEKW1204AFTN32HS	SEKW-1204AFTN-CX32HS	●	○	●			
	ISEKW1204AFTN33TX	SEKW-1204AFTN-CX33TX	●	●	●		●	●
	ISEKW1204AFTN37TA	SEKW-1204AFTN-CX37TA	●		●			○

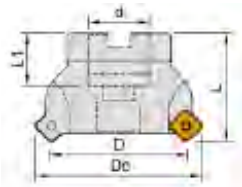
Face Milling - CASX 面銑刀

CASX Series

- Use SEMT inserts with 4 cutting edges.
- Cost effective for wide range face milling applications.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 SEMT 銑刀片 , 4 個可用切削角
- 經濟實惠的不同切深面銑應用
- 50~315mm 刀盤直徑 , 最大切削深度可達 5.5mm

Arbor Type 面銑刀



Insert Brand : Winstar

Order No.	D	L	L1	d	Dc	T	Inserts	Stock
ICASXF304050220	50	40	20	22	63	4	SEMT13T3	●
ICASXF304050250	50	40	20	25.4	63	4		●
ICASXF305063220	63	40	20	22	75.9	5		●
ICASXF305063250	63	40	20	25.4	75.9	5		●
ICASXF306080250	80	50	26	25.4	93.2	6		●
ICASXF306080270	80	50	26	27	93.2	6		●
ICASXF307100310	100	50	32	31.75	113.2	7		●
ICASXF307100320	100	50	32	32	113.2	7		●
ICASXF308125380	125	63	38	38.1	138	8		●
ICASXF308125400	125	63	38	40	138	8		●
ICASXF310160400	160	63	38	40	173	10		●
ICASXF310160500	160	63	38	50.8	173	10		●
ICASXF312200470	200	63	38	47.625	212.9	12		●
ICASXF314250470	250	63	38	47.625	262.9	14		●
ICASXF314315470	315	63	40	47.625	327.9	14		●

● stock ○ by inquiry

Spare parts 配件

Shim	Screw	Wrench	Screw	Wrench
IAS445N	IPS35T	IPL20	ITS3505	ITK15

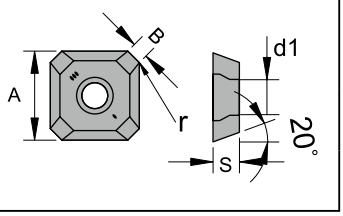
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.5
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 3.0
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.0
Aluminum Alloy	300 ~ 1000	0.10 ~ 0.40	0.3 ~ 5.5
Super Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0

※ Max ap of 6mm.

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
SEMT13T3	13.4	1.9	3.97	1.5	4.2	SG, MG, RG
SEET13T3	13.4	1.9	3.97	1.5	4.2	AL, FG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISEET13T3AGFNAL10	SEET-13T3AGFN-AL-CX10				●		
	ISEET13T3AGFNFG23TX	SEET-13T3AGFN-FG-CX23TX	○	○	○		○	●
	ISEMT13T3AGENSG23TX	SEMT-13T3AGEN-SG-CX23TX	○	○	○		○	●
	ISEMT13T3AGENSG32HS	SEMT-13T3AGEN-SG-CX32HS	●	○	●			
	ISEMT13T3AGENSG33TX	SEMT-13T3AGEN-SG-CX33TX	●	●	●		●	●
	ISEMT13T3AGENSG43TX	SEMT-13T3AGEN-SG-CX43TX	●	●			●	
	ISEMT13T3AGTNMG23TX	SEMT-13T3AGTN-MG-CX23TX	○	○	○		○	●
	ISEMT13T3AGTNMG32HS	SEMT-13T3AGTN-MG-CX32HS	●	○	●			
	ISEMT13T3AGTNMG33TX	SEMT-13T3AGTN-MG-CX33TX	●	●	●		●	●
	ISEMT13T3AGTNMG43TX	SEMT-13T3AGTN-MG-CX43TX	●	●			●	
	ISEMT13T3AGTNRG32HS	SEMT-13T3AGTN-RG-CX32HS	●	○	●			
	ISEMT13T3AGTNRG33TX	SEMT-13T3AGTN-RG-CX33TX	●	●	●		●	●
	ISEMT13T3AGTNRG43TX	SEMT-13T3AGTN-RG-CX43TX	●	●			●	

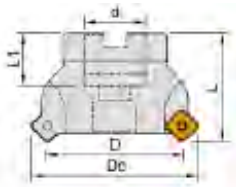
Face Milling - CR24 面銑刀

CR24 Series

- Use W245-12T3 inserts with 4 cutting edges.
- High performance face milling tools for general purpose.
- 50~315mm cutter diameter, max. 5.5mm depth of cut.

- 使用 W245-12T3 銑刀片 , 4 個可用切削角
- 高效率的泛用型面銑刀具
- 50~315mm 刀盤直徑 , 最大切削深度可達 5.5mm

Arbor Type 面銑刀



Insert Brand : Winstar

Order No.	D	L	L1	d	Dc	T	Inserts	Stock
ICR24F304050220	50	40	20	22	63	4	W245-12T3	●
ICR24F304050250	50	40	20	25.4	63	4		●
ICR24F305063220	63	40	20	22	75.9	5		●
ICR24F305063250	63	40	20	25.4	75.9	5		●
ICR24F306080250	80	50	26	25.4	93.2	6		●
ICR24F306080270	80	50	26	27	93.2	6		●
ICR24F307100310	100	50	32	31.75	113.2	7		●
ICR24F307100320	100	50	32	32	113.2	7		●
ICR24F308125380	125	63	38	38.1	138	8		●
ICR24F308125400	125	63	38	40	138	8		●
ICR24F310160400	160	63	38	40	173	10		●
ICR24F310160500	160	63	38	50.8	173	10		●
ICR24F312200470	200	63	38	47.625	212.9	12		●
ICR24F314250470	250	63	38	47.625	262.9	14		●
ICR24F314315470	315	63	40	47.625	327.9	14		●

● stock ○ by inquiry

Spare parts 配件

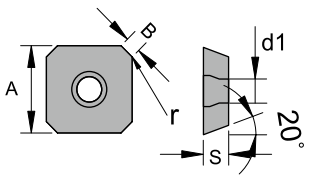
Shim	Screw	Wrench	Screw	Wrench
IAS445N	IPS35T	IPL20	ITS3505	ITK15

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.5
Stainless Steel	100 ~ 180	0.08 ~ 0.25	0.3 ~ 3.0
Cast Iron	120 ~ 250	0.10 ~ 0.30	0.3 ~ 5.0
Aluminum Alloy	300 ~ 1000	0.10 ~ 0.40	0.3 ~ 5.5
Super Alloy	40 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0
Hardened Steel	50 ~ 100	0.08 ~ 0.25	0.3 ~ 3.0

※ Max ap of 6mm.

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker	
	A	B	S	r	d1		
W245-12T3	13.4	1.9	3.97	1.5	4.2	AL, FG, MG, HG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IW24512T3AL10	W245-12T3-AL-CX10				●		
	IW24512T3FG23TX	W245-12T3-FG-CX23TX	○	○	○		○	●
	IW24512T3MG23TX	W245-12T3-MG-CX23TX	○	○	○		○	●
	IW24512T3MG32HS	W245-12T3-MG-CX32HS	●	○	●			
	IW24512T3MG33TX	W245-12T3-MG-CX33TX	●	●	●		●	●
	IW24512T3MG43TX	W245-12T3-MG-CX43TX	●	●			●	
	IW24512T3MG37TA	W245-12T3-MG-CX37TA	●		●			○
	IW24512T3MG47TA	W245-12T3-MG-CX47TA	●	○	●		○	
	IW24512T3HG32HS	W245-12T3-HG-CX32HS	●	○	●			
	IW24512T3HG33TX	W245-12T3-HG-CX33TX	●	●	●		●	●
	IW24512T3HG43TX	W245-12T3-HG-CX43TX	●	●			●	
	IW24512T3HG37TA	W245-12T3-HG-CX37TA	●		●			○
	IW24512T3HG47TA	W245-12T3-HG-CX47TA	●	○	●		○	

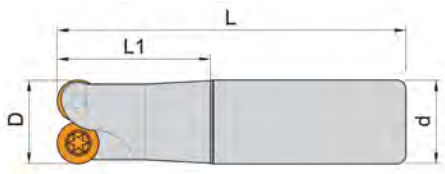
Copy Milling - CARD 仿形銑刀

CARD Series

- Use RDMT or RDMW 2.5R, 3R, 3.5R, 5R, 6R and 8R round inserts.
- Suitable for mould & die machining and steel profiling.
- 10~100mm cutter diameter.

- 使用 RDMT 或 RDMW 2.5R, 3R, 3.5R, 5R, 6R 或 8R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 10~100mm 刀桿直徑

Shank Type 仿形銑刀

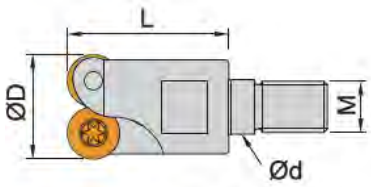


Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICARDE502010100	10	25	100	10	2	RDKW0501	ITS2003	ITK06	●
ICARDE502012100	12	25	100	12	2				○
ICARDE503016130	16	35	130	16	3				○
ICARDE703016130	16	40	130	16	3	RDKW0702	ITS2515	ITK08	○
ICARDE704020150	20	40	150	20	4				●
ICARDE704025150	25	40	150	25	4				○
ICARDE102025150	25	45	150	25	2	RDMT10T3 RDMW10T3	ITS3504	ITK15	●
ICARDE102030150	30	45	150	25	2				●
ICARDE103032150	32	45	150	32	3				○
ICARDE202032150	32	50	150	32	2	RDMT1204 RDMW1204	ITS4008	ITK15	○
ICARDE302020150	20	40	150	20	2	RDMT1003 RDMX1003	IMS3507A	ITK15	●
ICARDE303025150	25	40	150	25	3				●
ICARDE303026150	26	25	150	25	3				●
ICARDE303030150	30	25	150	25	3		IMS3509A		●
ICARDE304035150	35	40	150	32	4				●

● stock ○ by inquiry

Modular Type 仿形銑刀頭



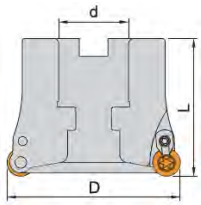
Insert Brand : Winstar

Order No.	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICARDM502012060	12	21	6.5	M06	2	RDKW0501	ITS2003	ITK06	●
ICARDM503012060	12	21	6.5	M06	3				○
ICARDM504016080	16	26	8.5	M08	4				○
ICARDM703016080	16	26	8.5	M08	3	RDKW0702	ITS2515	ITK08	○
ICARDM704020100	20	32	10.5	M10	4				○
ICARDM705025120	25	38	12.5	M12	5				○
ICARDM103025120	25	38	12.5	M12	3	RDMT10T3 RDMW10T3	ITS3504	ITK10	●
ICARDM104030120	30	38	12.5	M12	4				●
ICARDM105035120	35	38	12.5	M12	5				○
ICARDM302020100	20	30	10.5	M10	2	RDMT1003 RDMX1003	IMS3507A	ITK15	●
ICARDM302021100	21	30	10.5	M10	2				●
ICARDM303025120	25	35	12.5	M12	3				●
ICARDM303026120	26	35	12.5	M12	3				●
ICARDM303030120	30	35	12.5	M12	3		IMS3509A		●

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

Arbor Type 仿形銑刀



Insert Brand : Winstar

Order No.	D	L	d	T	Inserts	Screw	Wrench	Clamp	Clamp Screw	Stock
ICARDF104050220	50	45	22	4	RDMT10T3 RDMW10T3	ITS3504	ITK15	IRD-45	ITS4009	●
ICARDF105063220	63	45	22	5						●
ICARDF204050220	50	45	22	4	RDMT1204 RDMW1204	ITS4008	ITK15	IRD-6R	ITS5004	●
ICARDF205050220	50	45	22	5						●
ICARDF205063220	63	45	22	5						●
ICARDF206063220	63	45	22	6						●
ICARDF207080270	80	50	27	7						○
ICARDF208100320	100	50	32	8						○
ICARDF604063220	63	45	22	4	RDMT1604 RDMW1604	ITS5007	ITK20	IRD-68	ITS5009	●
ICARDF605063220	63	45	22	5						●
ICARDF606080270	80	50	27	6						○
ICARDF607100320	100	50	32	7						○
ICARDF305050220	50	40	22	5	RDMT1003 RDMX1003	IMS3509A	ITK15	IMC35-3V	-	●
ICARDF305050250	50	50	25.4	5						●
ICARDF306063250	63	50	25.4	6						●

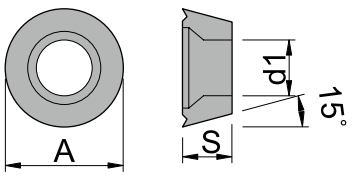
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	Dia ≤ 10		Dia > 10	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
Stainless Steel	100 ~ 180	0.08 ~ 0.4	0.3 ~ 1.2	0.15 ~ 0.4	0.5 ~ 2.0
Cast Iron	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
Super Alloy	40 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0
Hardened Steel	50 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)			Chipbreaker
	A	S	d1	
RDKW0501	5	1.59	2.2	MOE
RDKW0702	7	2.38	2.8	MOE
RDMT1003	10	3.18	3.9	MOE, MOT
RDMX1003	10	3.18	4.15	MOE, MOT
RDMT10T3	10	3.97	4.5	MOE, MOT
RDMW10T3	10	3.97	4.5	MOE, MOT
RDMT12T3	12	3.97	4.1	MOE, MOT
RDMX12T3	12	3.97	4.1	MOE, MOT
RDHT1204	12	4.76	4.4	MOE, MOT
RDMT1204	12	4.76	4.4	MOE, MOT
RDMW1204	12	4.76	4.4	MOE, MOT
RDMT1604	16	4.76	5.5	MOT
RDMW1604	16	4.76	5.5	MOT



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IRDKW0501MOE23TX	RDKW-0501MOE-CX23TX	○	○	○		○	●
	IRDKW0501MOE32HS	RDKW-0501MOE-CX32HS	●	○	●			
	IRDKW0501MOE33TX	RDKW-0501MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE23TX	RDKW-0702MOE-CX23TX	○	○	○		○	●
	IRDKW0702MOE32HS	RDKW-0702MOE-CX32HS	●	○	●			
	IRDKW0702MOE33TX	RDKW-0702MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE43TX	RDKW-0702MOE-CX43TX	●	●			●	
	IRDMT1003MOE23TX	RDMT-1003MOE-CX23TX	○	○	○		○	●
	IRDMT1003MOE32HS	RDMT-1003MOE-CX32HS	●	○	●			
	IRDMT1003MOE33TX	RDMT-1003MOE-CX33TX	●	●	●		●	●
	IRDMT1003MOE43TX	RDMT-1003MOE-CX43TX	●	●			●	
	IRDMT1003MOT23TX	RDMT-1003MOT-CX23TX	○	○	○		○	●
	IRDMT1003MOT32HS	RDMT-1003MOT-CX32HS	●	○	●			
	IRDMT1003MOT33TX	RDMT-1003MOT-CX33TX	●	●	●		●	●
	IRDMT1003MOT43TX	RDMT-1003MOT-CX43TX	●	●			●	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IRDMX1003MOE23TX	RDMX-1003MOE-CX23TX	○	○	○		○	●
	IRDMX1003MOE32HS	RDMX-1003MOE-CX32HS	●	○	●			
	IRDMX1003MOE33TX	RDMX-1003MOE-CX33TX	●	●	●		●	●
	IRDMX1003MOE43TX	RDMX-1003MOE-CX43TX	●	●			●	
	IRDMX1003MOT23TX	RDMX-1003MOT-CX23TX	○	○	○		○	●
	IRDMX1003MOT32HS	RDMX-1003MOT-CX32HS	●	○	●			
	IRDMX1003MOT33TX	RDMX-1003MOT-CX33TX	●	●	●		●	●
	IRDMX1003MOT43TX	RDMX-1003MOT-CX43TX	●	●			●	
	IRDMT10T3MOE23TX	RDMT-10T3MOE-CX23TX	○	○	○		○	●
	IRDMT10T3MOE32HS	RDMT-10T3MOE-CX32HS	●	○	●			
	IRDMT10T3MOE33TX	RDMT-10T3MOE-CX33TX	●	●	●		●	●
	IRDMT10T3MOE43TX	RDMT-10T3MOE-CX43TX	●	●			●	
	IRDMT10T3MOT23TX	RDMT-10T3MOT-CX23TX	○	○	○		○	●
	IRDMT10T3MOT32HS	RDMT-10T3MOT-CX32HS	●	○	●			
	IRDMT10T3MOT33TX	RDMT-10T3MOT-CX33TX	●	●	●		●	●
	IRDMT10T3MOT43TX	RDMT-10T3MOT-CX43TX	●	●			●	
	IRDMW10T3MOE32HS	RDMW-10T3MOE-CX32HS	●	○	●			
	IRDMW10T3MOE33TX	RDMW-10T3MOE-CX33TX	●	○	●		○	●
	IRDMW10T3MOT32HS	RDMW-10T3MOT-CX32HS	●	○	●			
	IRDMW10T3MOT33TX	RDMW-10T3MOT-CX33TX	●	●	●		●	●
	IRDMT12T3MOE23TX	RDMT-12T3MOE-CX23TX	○	○	○		○	●
	IRDMT12T3MOE32HS	RDMT-12T3MOE-CX32HS	●	○	●			
	IRDMT12T3MOE33TX	RDMT-12T3MOE-CX33TX	●	●	●		●	●
	IRDMT12T3MOE37TA	RDMT-12T3MOE-CX37TA	●		●			○
	IRDMT12T3MOT23TX	RDMT-12T3MOT-CX23TX	○	○	○		○	●
	IRDMT12T3MOT32HS	RDMT-12T3MOT-CX32HS	●	○	●			
	IRDMT12T3MOT33TX	RDMT-12T3MOT-CX33TX	●	●	●		●	●
	IRDMX12T3MOE23TX	RDMX-12T3MOE-CX23TX	○	○	○		○	●
	IRDMX12T3MOE32HS	RDMX-12T3MOE-CX32HS	●	○	●			
	IRDMX12T3MOE33TX	RDMX-12T3MOE-CX33TX	●	●	●		●	●
	IRDMX12T3MOE43TX	RDMX-12T3MOE-CX43TX	●	●			●	
	IRDMX12T3MOT23TX	RDMX-12T3MOT-CX23TX	○	○	○		○	●
	IRDMX12T3MOT32HS	RDMX-12T3MOT-CX32HS	●	○	●			
	IRDMX12T3MOT33TX	RDMX-12T3MOT-CX33TX	●	●	●		●	●
	IRDMX12T3MOT43TX	RDMX-12T3MOT-CX43TX	●	●			●	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IRDHT1204MOE33TX	RDHT-1204MOE-CX33TX	●	●	●		●	●
	IRDHT1204MOT33TX	RDHT-1204MOT-CX33TX	●	○	●		○	●
	IRDMT1204MOE23TX	RDMT-1204MOE-CX23TX	○	○	○		○	●
	IRDMT1204MOE32HS	RDMT-1204MOE-CX32HS	●	○	●			
	IRDMT1204MOE33TX	RDMT-1204MOE-CX33TX	●	●	●		●	●
	IRDMT1204MOE43TX	RDMT-1204MOE-CX43TX	●	●			●	
	IRDMT1204MOT23TX	RDMT-1204MOT-CX23TX	○	○	○		○	●
	IRDMT1204MOT32HS	RDMT-1204MOT-CX32HS	●	○	●			
	IRDMT1204MOT33TX	RDMT-1204MOT-CX33TX	●	●	●		●	●
	IRDMT1204MOT43TX	RDMT-1204MOT-CX43TX	●	●			●	
	IRDMW1204MOE32HS	RDMW-1204MOE-CX32HS	●	○	●			
	IRDMW1204MOE33TX	RDMW-1204MOE-CX33TX	●	●	●		●	●
	IRDMW1204MOE43TX	RDMW-1204MOE-CX43TX	●	●			●	
	IRDMW1204MOT23TX	RDMW-1204MOT-CX23TX	○	○	○		○	●
	IRDMW1204MOT32HS	RDMW-1204MOT-CX32HS	●	○	●			
	IRDMW1204MOT33TX	RDMW-1204MOT-CX33TX	●	●	●		●	●
	IRDMW1204MOT43TX	RDMW-1204MOT-CX43TX	●	●			●	
	IRDMW1204MOT37TA	RDMW-1204MOT-CX37TA	●		●			○
	IRDMT1604MOT23TX	RDMT-1604MOT-CX23TX	○	○	○		○	●
	IRDMT1604MOT32HS	RDMT-1604MOT-CX32HS	●	○	●			
	IRDMT1604MOT33TX	RDMT-1604MOT-CX33TX	●	●	●		●	●
	IRDMT1604MOT43TX	RDMT-1604MOT-CX43TX	●	●			●	
	IRDMW1604MOT23TX	RDMW-1604MOT-CX23TX	○	○	○		○	●
	IRDMW1604MOT32HS	RDMW-1604MOT-CX32HS	●	○	●			
	IRDMW1604MOT33TX	RDMW-1604MOT-CX33TX	●	●	●		●	●
	IRDMW1604MOT43TX	RDMW-1604MOT-CX43TX	●	●			●	
	IRDMW1604MOT37TA	RDMW-1604MOT-CX37TA	●		●			○

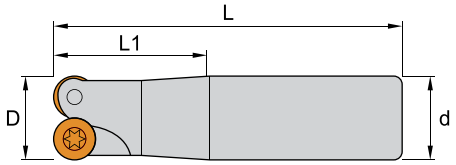
Copy Milling - CARP 仿形銑刀

CARP Series

- Use RPMT or RPMW 4R, 5R and 6R round inserts.
- Suitable for mould & die machining and steel profiling.
- 16~80mm cutter diameter.

- 使用 RPMT 或 RPMW 4R, 5R 或 6R 圓形銑刀片
- 適用於模具與各類型鋼料仿形加工
- 16~80mm 刀桿直徑

Shank Type 仿形銑刀



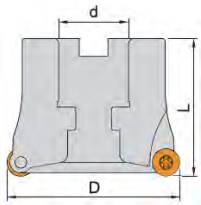
Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICARPE802016150	16	50	150	16	2	RPMT08T2	ITS3004	ITK09	●
ICARPE802020150	20	50	150	20	2				●
ICARPE803025150	25	40	150	25	3				●
ICARPE102025150	25	40	150	25	2	RPHT10T3 RPMT10T3	ITS3503	ITK15	●
ICARPE103030150	30	40	150	25	3				●
ICARPE103032150	32	40	150	32	3				●
ICARPE202032170	32	45	170	32	2	RPHT1204 RPMT1204 RPMW1204	ITS4006	ITK15	●

Order No.	D	L1	L	d	T	Inserts	Screw	Clamp	Wrench	Stock
ICARPE302025150	25	50	150	25	2	RPMW1003	ITS4004	IAS5	ITK15	●
ICARPE302025180	25	50	180	25	2					●
ICARPE302025200	25	50	200	25	2					●
ICARPE302025250	25	50	250	25	2					●
ICARPE302026150	26	30	150	25	2					●
ICARPE302030150	30	35	150	25	2					●
ICARPE302030200	30	35	200	25	2					●
ICARPE302030300	30	35	300	25	2					●
ICARPE303032120	32	55	125	32	3					●
ICARPE303035150	35	55	150	32	3					●
ICARPE303035250	35	55	250	32	3					●
ICARPE303035300	35	55	300	32	3					●

● stock ○ by inquiry

Arbor Type 仿形銑刀



Insert Brand : Winstar

Order No.	D	L	d	T	Inserts	Screw	Wrench	Stock
ICARPF105050220	50	45	22	5	RPHT10T3 RPMT10T3	ITS3503	ITK15	●
ICARPF105050250	50	45	25.4	5				●
ICARPF106063220	63	45	22	6				○
ICARPF106063250	63	45	25.4	6				○
ICARPF204050250	50	45	25.4	4	RPHT1204 RPMT1204 RPMW1204	ITS4006	ITK15	●
ICARPF205063220	63	45	22	5				●
ICARPF205063250	63	45	25.4	5				●
ICARPF206080250	80	50	25.4	6				●
ICARPF206080270	80	50	27	6				●

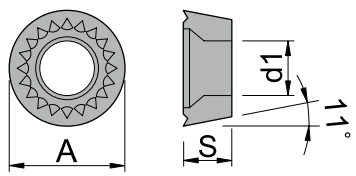
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	Dia ≤ 10		Dia > 10	
		fz	ap	fz	ap
Carbon Steel / Alloy Steel	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
Stainless Steel	100 ~ 180	0.08 ~ 0.4	0.3 ~ 1.2	0.15 ~ 0.4	0.5 ~ 2.0
Cast Iron	120 ~ 250	0.1 ~ 0.6	0.3 ~ 1.5	0.2 ~ 0.8	0.5 ~ 2.5
Super Alloy	40 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0
Hardened Steel	50 ~ 100	0.08 ~ 0.3	0.3 ~ 1.0	0.15 ~ 0.3	0.3 ~ 2.0

Insert Specifications 刀片規格

Insert	Dimensions (mm)			Chipbreaker
	A	S	d1	
RPMT08T2	8	2.78	3.2	MOE, MOT
RPMW1003	10	3.18	4.6	MOE, MOT
RPHT10T3	10	3.97	4.5	MOE
RPMT10T3	10	3.97	4.5	MOE, MOT
RPHT1204	12	4.76	4.3	MOE, MOT
RPMT1204	12	4.76	4.3	MOE, MOT
RPMW1204	12	4.76	4.3	MOE, MOT



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IRPMT08T2MOE32HS	RPMT-08T2MOE-CX32HS	●	○	●			
	IRPMT08T2MOE33TX	RPMT-08T2MOE-CX33TX	●	●	●		●	●
	IRPMT08T2MOE43TX	RPMT-08T2MOE-CX43TX	●	●			●	
	IRPMT08T2MOT32HS	RPMT-08T2MOT-CX32HS	●	○	●			
	IRPMT08T2MOT33TX	RPMT-08T2MOT-CX33TX	●	●	●		●	●
	IRPMT08T2MOT43TX	RPMT-08T2MOT-CX43TX	●	●			●	
	IRPMW1003MOE32HS	RPMW-1003MOE-CX32HS	●	○	●			
	IRPMW1003MOE33TX	RPMW-1003MOE-CX33TX	●	●	●		●	●
	IRPMW1003MOE43TX	RPMW-1003MOE-CX43TX	●	●			●	
	IRPMW1003MOT23TX	RPMW-1003MOT-CX23TX	○	○	○		○	●
	IRPMW1003MOT32HS	RPMW-1003MOT-CX32HS	●	○	●			
	IRPMW1003MOT33TX	RPMW-1003MOT-CX33TX	●	●	●		●	●
	IRPMW1003MOT43TX	RPMW-1003MOT-CX43TX	●	●			●	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IRPHT10T3MOE43TX	RPHT-10T3MOE-CX43TX	●	●			●	
	IRPMT10T3MOE32HS	RPMT-10T3MOE-CX32HS	●	○	●			
	IRPMT10T3MOE33TX	RPMT-10T3MOE-CX33TX	●	●	●		●	●
	IRPMT10T3MOE43TX	RPMT-10T3MOE-CX43TX	●	●			●	
	IRPMT10T3MOT32HS	RPMT-10T3MOT-CX32HS	●	○	●			
	IRPMT10T3MOT33TX	RPMT-10T3MOT-CX33TX	●	●	●		●	●
	IRPMT10T3MOT43TX	RPMT-10T3MOT-CX43TX	●	●			●	
	IRPHT1204MOE33TX	RPHT-1204MOE-CX33TX	●	●	●		●	●
	IRPHT1204MOT33TX	RPHT-1204MOT-CX33TX	●	●	●		●	●
	IRPMT1204MOE23TX	RPMT-1204MOE-CX23TX	○	○	○		○	●
	IRPMT1204MOE32HS	RPMT-1204MOE-CX32HS	●	○	●			
	IRPMT1204MOE33TX	RPMT-1204MOE-CX33TX	●	●	●		●	●
	IRPMT1204MOE43TX	RPMT-1204MOE-CX43TX	●	●			●	
	IRPMT1204MOT23TX	RPMT-1204MOT-CX23TX	○	○	○		○	●
	IRPMT1204MOT32HS	RPMT-1204MOT-CX32HS	●	○	●			
	IRPMT1204MOT33TX	RPMT-1204MOT-CX33TX	●	●	●		●	●
	IRPMT1204MOT43TX	RPMT-1204MOT-CX43TX	●	●			●	
	IRPMW1204MOE32HS	RPMW-1204MOE-CX32HS	●	○	●			
	IRPMW1204MOE33TX	RPMW-1204MOE-CX33TX	●	●	●		●	●
	IRPMW1204MOE43TX	RPMW-1204MOE-CX43TX	●	●			●	
	IRPMW1204MOT32HS	RPMW-1204MOT-CX32HS	●	○	●			
	IRPMW1204MOT33TX	RPMW-1204MOT-CX33TX	●	●	●		●	●
	IRPMW1204MOT43TX	RPMW-1204MOT-CX43TX	●	●			●	

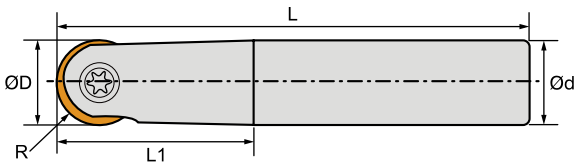
Copy Milling - CF21 仿形銑刀

CF21 Series

- Use WP32 insert include 5R, 6R, 8R, 10R, 12.5R, 15R and 16R.
- Suitable for mould & die finish or medium copy milling.
- 10~32mm cutter diameter.

- 使用 WP32 銑刀片 , 尺寸包含 5R, 6R, 8R, 10R, 12.5R, 15R 及 16R
- 適用於模具中加工或精加工應用的仿形銑削
- 10~32mm 刀桿直徑

Shank Type 仿形銑刀

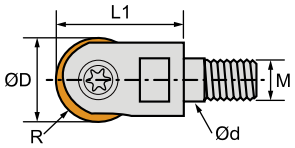


Insert Brand : Winstar

Order No.	R	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICF21E302010100	5R	10	25	100	10	2	WP3210..	IMGR4010	IETL15	●
ICF21E302010150	5R	10	25	150	10	2				●
ICF21E302012150	6R	12	32	150	12	2	WP3212..	IMGR5012	IETL20	●
ICF21E302012200	6R	12	58	200	16	2				●
ICF21E302016150	8R	16	36	150	16	2	WP3216..	IMGR5016	IETL20	●
ICF21E302016200	8R	16	36	200	16	2				●
ICF21E302016201	8R	16	65	200	20	2				●
ICF21E302020150	10R	20	45	150	20	2	WP3220..	IMGR5020	IETL20	●
ICF21E302020200	10R	20	45	200	20	2				●
ICF21E302020201	10R	20	76	200	25	2				●
ICF21E302020250	10R	20	76	250	25	2				●
ICF21E302025200	12.5R	25	45	200	25	2	WP3225..	IMGR6025	IETL30	●
ICF21E302025250	12.5R	25	45	250	25	2				●
ICF21E302025201	12.5R	25	98	200	32	2				●
ICF21E302025251	12.5R	25	98	250	32	2				●
ICF21E302025300	12.5R	25	98	300	32	2				●
ICF21E302030200	15R	30	50	200	32	2	WP3230..	IMGR8030	IETL30	●
ICF21E302030250	15R	30	50	250	32	2				●
ICF21E302030300	15R	30	50	300	32	2				●
ICF21E302032200	16R	32	50	200	32	2	WP3232..	IMGR8030	IETL30	●
ICF21E302032250	16R	32	50	250	32	2				●
ICF21E302032300	16R	32	50	300	32	2				●

● stock ○ by inquiry

Modular Type 仿形銑刀頭



Insert Brand : Winstar

Order No.	R	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICF21M302010050	5R	10	20	5.5	M5	2	WP3210..	IMGR4010	IETL15	●
ICF21M302012060	6R	12	22	6.5	M6	2	WP3212..	IMGR5012	IETL20	●
ICF21M302012080	6R	12	30	8.5	M8	2				●
ICF21M302016080	8R	16	28	8.5	M8	2	WP3216 ..	IMGR5016	IETL20	●
ICF21M302020100	10R	20	30	10.5	M10	2	WP3220 ..	IMGR5020	IETL20	●
ICF21M302025120	12.5R	25	40	12.5	M12	2	WP3225 ..	IMGR6025	IETL30	●
ICF21M302030160	15R	30	43	17	M16	2	WP3230 ..	IMGR8030	IETL30	●
ICF21M302032160	16R	32	43	17	M16	2	WP3232 ..	IMGR8030	IETL30	●

● stock ○ by inquiry

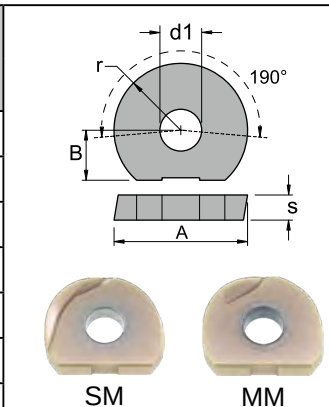
※ For screw-in type adapter, please refer to Tooling System

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz					ap
		WP3212	WP3216	WP3220	WP3225	WP3232	
Carbon Steel / Alloy Steel	150 ~ 300	0.20	0.20	0.25	0.25	0.30	≤ 0.03 × ØD
Stainless Steel	100 ~ 250	0.20	0.20	0.25	0.25	0.30	≤ 0.03 × ØD
Cast Iron	90 ~ 350	0.25	0.30	0.30	0.35	0.40	≤ 0.04 × ØD
Hardened Steel	100 ~ 350	0.10	0.125	0.15	0.20	0.25	≤ 0.02 × ØD

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
WP3210	10	5	2.5	5	4	SM, MM
WP3212	12	6	2.5	6	5	SM, MM
WP3216	16	6	3	8	5	SM, MM
WP3220	20	6	3	10	5	SM, MM
WP3225	25	9	4	12.5	6	SM, MM
WP3230	30	10	5	15	8	SM, MM
WP3232	32	10	5	16	8	SM, MM



Insert Designation 刀片型號

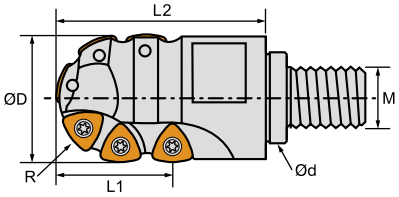
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWP3210SM13TX	WP32-10-SM-CX13TX	●	●	●		○	●
	IWP3210SM23TX	WP32-10-SM-CX23TX	●	●	●		○	●
	IWP3210MM13TX	WP32-10-MM-CX13TX	●	●	●		○	●
	IWP3210MM23TX	WP32-10-MM-CX23TX	●	●	●		○	●
	IWP3212SM13TX	WP32-12-SM-CX13TX	●	●	●		○	●
	IWP3212SM23TX	WP32-12-SM-CX23TX	●	●	●		○	●
	IWP3212MM13TX	WP32-12-MM-CX13TX	●	●	●		○	●
	IWP3212MM23TX	WP32-12-MM-CX23TX	●	●	●		○	●
	IWP3216SM13TX	WP32-16-SM-CX13TX	●	●	●		○	●
	IWP3216SM23TX	WP32-16-SM-CX23TX	●	●	●		○	●
	IWP3216MM13TX	WP32-16-MM-CX13TX	●	●	●		○	●
	IWP3216MM23TX	WP32-16-MM-CX23TX	●	●	●		○	●
	IWP3220SM13TX	WP32-20-SM-CX13TX	●	●	●		○	●
	IWP3220SM23TX	WP32-20-SM-CX23TX	●	●	●		○	●
	IWP3220MM13TX	WP32-20-MM-CX13TX	●	●	●		○	●
	IWP3220MM23TX	WP32-20-MM-CX23TX	●	●	●		○	●
	IWP3225SM13TX	WP32-25-SM-CX13TX	●	●	●		○	●
	IWP3225SM23TX	WP32-25-SM-CX23TX	●	●	●		○	●
	IWP3225MM13TX	WP32-25-MM-CX13TX	●	●	●		○	●
	IWP3225MM23TX	WP32-25-MM-CX23TX	●	●	●		○	●
	IWP3230SM13TX	WP32-30-SM-CX13TX	●	●	●		○	●
	IWP3230SM23TX	WP32-30-SM-CX23TX	●	●	●		○	●
	IWP3230MM13TX	WP32-30-MM-CX13TX	●	●	●		○	●
	IWP3230MM23TX	WP32-30-MM-CX23TX	●	●	●		○	●
	IWP3232SM13TX	WP32-32-SM-CX13TX	●	●	●		○	●
	IWP3232SM23TX	WP32-32-SM-CX23TX	●	●	●		○	●
	IWP3232MM13TX	WP32-32-MM-CX13TX	●	●	●		○	●
	IWP3232MM23TX	WP32-32-MM-CX23TX	●	●	●		○	●

CF22 Series

- Use WP26 inserts.
- Ball nose cutters are suitable for mould & die copy roughing.
- 25~50mm cutter diameter.

- 使用 WP26 銑刀片
- 適用於粗加工應用的仿形銑削
- 25~50mm 刀桿直徑

Modular Type 仿形銑刀頭



Insert Brand : Winstar

Order No.	R	D	L1	L2	d	M	T	Inserts	Screw	Wrench	Stock
ICF22M202025120	12.5R	25	21	42	12.5	M12	2	WP26339R14	ITS4023	ITK15	●
ICF22M202030120	15R	30	23	50	12.5	M12	2				●
ICF22M202032160	16R	32	23	50	17.0	M16	2				●
ICF22M202040180	20R	40	38	65	28.0	M18	2	WP26379R25	ITS5002	ITK20	○
ICF22M202050250	25R	50	45	80	36.0	M25	2				●

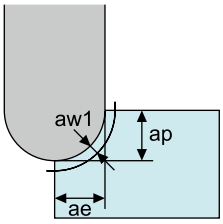
● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Recommended Cutting Conditions 建議切削數據

WP26339R14

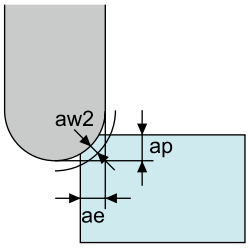
Working Material	Vc	aw1 = (0.5D, 0.5D)	aw2 = (0.25D, 0.25D)
		fz	
Carbon Steel / Alloy Steel	120 ~ 250	0.16 ~ 0.30	0.2 ~ 0.39
Stainless Steel	100 ~ 180	0.08 ~ 0.14	0.1 ~ 0.18
Cast Iron	120 ~ 250	0.16 ~ 0.30	0.2 ~ 0.39
Super Alloy	40 ~ 100	0.08 ~ 0.12	0.1 ~ 0.18



aw1 = (ap, ae)

WP26379R25

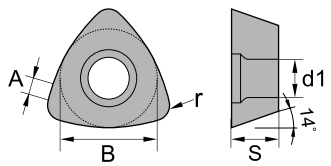
Working Material	Vc	aw1 = (0.5D, 0.5D)	aw2 = (0.25D, 0.25D)
		fz	
Carbon Steel / Alloy Steel	120 ~ 250	0.20 ~ 0.36	0.26 ~ 0.46
Stainless Steel	100 ~ 180	0.08 ~ 0.14	0.10 ~ 0.18
Cast Iron	120 ~ 250	0.20 ~ 0.36	0.26 ~ 0.46
Super Alloy	40 ~ 100	0.08 ~ 0.12	0.10 ~ 0.18



aw2 = (ap, ae)

Copy Milling - CF22 仿形銑刀

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker	
	A	B	S	r	d1		
WP26339R14	-	9.52	3.97	1.2	4.4	MG, RG	
WP26379R25	1.1	13	5.56	2.0	5.5	MG, RG	

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWP26314MG32HS	WP26-339R14-MG-CX32HS	●	○	●			
	IWP26314MG33TX	WP26-339R14-MG-CX33TX	●	●	●		●	●
	IWP26314MG43TX	WP26-339R14-MG-CX43TX	●	●			●	
	IWP26314RG23TX	WP26-339R14-RG-CX23TX	○	○	○		○	●
	IWP26314RG32HS	WP26-339R14-RG-CX32HS	●	○	●			
	IWP26314RG33TX	WP26-339R14-RG-CX33TX	●	●	●		●	●
	IWP26314RG43TX	WP26-339R14-RG-CX43TX	●	●			●	
	IWP26725MG32HS	WP26-379R25-MG-CX32HS	●	○	●			
	IWP26725MG33TX	WP26-379R25-MG-CX33TX	●	●	●		●	●
	IWP26725MG43TX	WP26-379R25-MG-CX43TX	●	●			●	
	IWP26725RG23TX	WP26-379R25-RG-CX23TX	○	○	○		○	●
	IWP26725RG32HS	WP26-379R25-RG-CX32HS	●	○	●			
	IWP26725RG33TX	WP26-379R25-RG-CX33TX	●	●	●		●	●
	IWP26725RG43TX	WP26-379R25-RG-CX43TX	●	●			●	

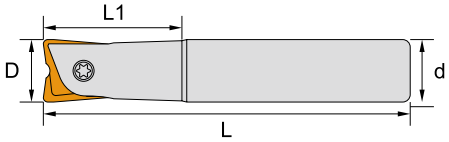
Copy Milling - CGWV 仿形銑刀

CGWV Series

- Use WPBC insert include Ø12, Ø16 and Ø20.
- Various corner radii available for copy or shoulder milling.
- 12~20mm cutter diameter.

- 使用 WPBC 銑刀片 , 尺寸包含 Ø12, Ø16 及 Ø20
- 提供各種圓角，用於仿形或方肩銑削
- 12~20mm 刀桿直徑

Shank Type 仿形銑刀

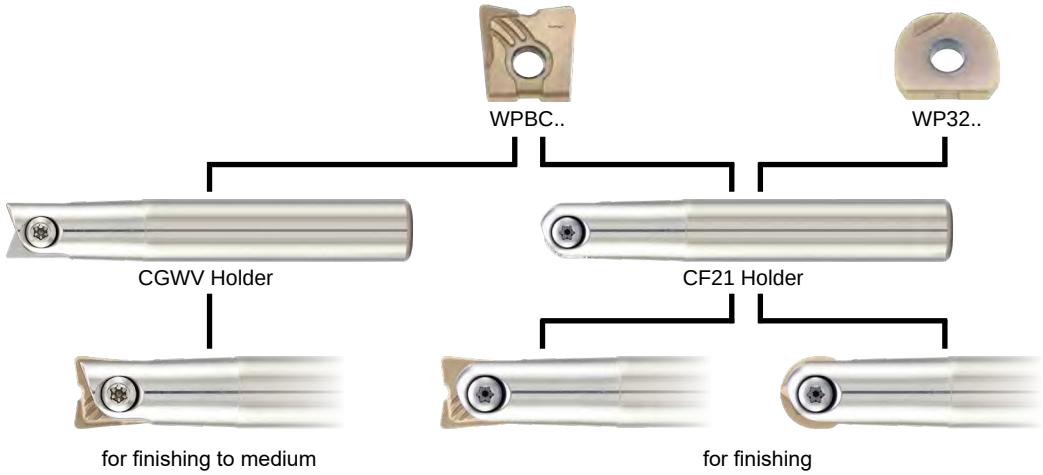


Insert Brand : Winstar

Order No.	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICGWVE012150	12	30	150	12	2	WPBC12..	IMGR5012	ETL20	●
ICGWVE016150	16	35	150	16	2	WPBC16..	IMGR5016	ETL20	●
ICGWVE016200	16	35	200	16	2				●
ICGWVE020150	20	40	150	20	2	WPBC20..	IMGR5020	ETL20	●
ICGWVE020200	20	40	200	20	2				●

● stock ○ by inquiry

CF21 holder can be use WPBC or WP32 inserts CF21 刀桿可使用 WPBC 或 WP32 刀片



Recommended Cutting Conditions 建議切削數據

for Copy milling 適用於仿形銑削

Working Material	Vc	fz	ap	ae
Carbon Steel / Alloy Steel	170 ~ 270	0.20 ~ 0.25	≤ 0.03D	≤ 0.03D
Stainless Steel	170 ~ 190	0.20 ~ 0.25	≤ 0.03D	≤ 0.03D
Cast Iron	170 ~ 230	0.20 ~ 0.25	≤ 0.04D	≤ 0.04D
Super Alloy	50 ~ 80	0.20 ~ 0.25	≤ 0.02D	≤ 0.02D
Hardened Steel	80 ~ 210	0.15 ~ 0.25	≤ 0.02D	≤ 0.02D

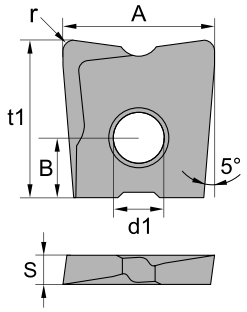
for Shoulder milling 適用於方肩銑削

Working Material	Vc	fz	ap			ae
			WPBC12	WPBC16	WPBC20	
Carbon Steel / Alloy Steel	120 ~ 190	0.20 ~ 0.25	0.1 ~ 2	0.1 ~ 3	0.1 ~ 4	0.1D ~ 1D
Stainless Steel	120 ~ 135	0.20 ~ 0.25	0.1 ~ 2	0.1 ~ 3	0.1 ~ 4	0.1D ~ 1D
Cast Iron	120 ~ 160	0.20 ~ 0.25	0.1 ~ 2	0.1 ~ 3	0.1 ~ 4	0.1D ~ 1D
Super Alloy	35 ~ 55	0.20 ~ 0.25	0.1 ~ 0.5	0.1 ~ 0.5	0.1 ~ 0.5	0.1D ~ 1D
Hardened Steel	55 ~ 145	0.15 ~ 0.25	0.1 ~ 0.5	0.1 ~ 0.5	0.1 ~ 0.5	0.1D ~ 1D

※ D = cutter cutting diameter

Insert Specifications 刀片規格

Insert	Dimensions (mm)						Chipbreaker
	A	B	t1	S	r	d1	
WPBC1205	12	6	14	2.5	0.5	5	MM
WPBC1210	12	6	14	2.5	1.0	5	MM
WPBC1220	12	6	14	2.5	2.0	5	MM
WPBC1605	16	6	16	3	0.5	5	MM
WPBC1610	16	6	16	3	1.0	5	MM
WPBC1613	16	6	16	3	1.3	5	MM
WPBC1620	16	6	16	3	2.0	5	MM
WPBC1630	16	6	16	3	3.0	5	MM
WPBC2010	20	6	18	3	1.0	5	MM
WPBC2020	20	6	18	3	2.0	5	MM
WPBC2040	20	6	18	3	4.0	5	MM



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Continuous	Interrupted	Working Material					
					P	M	K	N	S	H
	IWPBC1205MM33TX	WPBC-1205-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1205MM43TX	WPBC-1205-MM-CX43TX		✓	●	●			●	
	IWPBC1210MM33TX	WPBC-1210-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1210MM43TX	WPBC-1210-MM-CX43TX		✓	●	●			●	
	IWPBC1220MM33TX	WPBC-1220-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1220MM43TX	WPBC-1220-MM-CX43TX		✓	●	●			●	
	IWPBC1605MM33TX	WPBC-1605-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1605MM43TX	WPBC-1605-MM-CX43TX		✓	●	●			●	
	IWPBC1610MM33TX	WPBC-1610-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1610MM43TX	WPBC-1610-MM-CX43TX		✓	●	●			●	
	IWPBC1613MM33TX	WPBC-1613-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1613MM43TX	WPBC-1613-MM-CX43TX		✓	●	●			●	
	IWPBC1620MM33TX	WPBC-1620-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1620MM43TX	WPBC-1620-MM-CX43TX		✓	●	●			●	
	IWPBC1630MM33TX	WPBC-1630-MM-CX33TX	✓		●	●	●		●	●
	IWPBC1630MM43TX	WPBC-1630-MM-CX43TX		✓	●	●			●	
	IWPBC2010MM33TX	WPBC-2010-MM-CX33TX	✓		●	●	●		●	●
	IWPBC2010MM43TX	WPBC-2010-MM-CX43TX		✓	●	●			●	
	IWPBC2020MM33TX	WPBC-2020-MM-CX33TX	✓		●	●	●		●	●
	IWPBC2020MM43TX	WPBC-2020-MM-CX43TX		✓	●	●			●	
	IWPBC2040MM33TX	WPBC-2040-MM-CX33TX	✓		●	●	●		●	●
	IWPBC2040MM43TX	WPBC-2040-MM-CX43TX		✓	●	●			●	

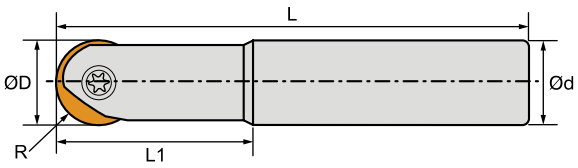
Copy Milling - CMBX 仿形銑刀

CMBX Series

- Use WBNM insert include 6R, 8R, 10R and 12.5R.
- 200° R-shaped to avoid interference.
- High rigidity thick insert for finish or medium high efficiency copy milling.

- 使用 WBNM 銑刀片 , 尺寸包含 6R, 8R, 10R 及 12.5R
- 200° R 形避免加工干涉
- 適用於精加工或中加工高效能仿形銑削的高剛性厚刀片

Shank Type 仿形銑刀

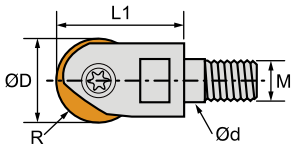


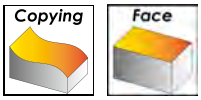
Insert Brand : Winstar

Order No.	R	D	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICMBXE102012130	6R	12	30	130	12	2	WBNM12	IPH06	ITK10	●
ICMBXE102016150	8R	16	30	150	16	2	WBNM16	IPH08	ITK15	●
ICMBXE202020160	10R	20	45	160	20	2	WBNM20	IPH10	ITK20	○
ICMBXE202025180	12.5R	25	45	180	25	2	WBNM25	IPH12	ITK30	○

● stock ○ by inquiry

Modular Type 仿形銑刀頭





Insert Brand : Winstar

Order No.	R	D	L1	d	M	T	Inserts	Screw	Wrench	Stock
ICMBXM102012060	6R	12	22	6.5	M6	2	WBNM12	IPH06	ITK10	●
ICMBXM102016080	8R	16	28	8.5	M8	2	WBNM16	IPH08	ITK15	●
ICMBXM202020100	10R	20	30	10.5	M10	2	WBNM20	IPH10	ITK20	●
ICMBXM202025120	12.5R	25	40	12.5	M12	2	WBNM25	IPH12	ITK30	●

● stock ○ by inquiry

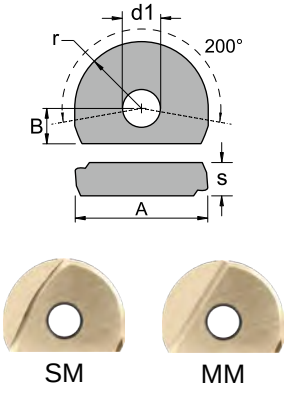
※ For screw-in type adapter, please refer to Tooling System

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz				ap
		WBNM12	WBNM16	WBNM20	WBNM25	
Carbon Steel / Alloy Steel	150 ~ 300	0.22	0.22	0.28	0.28	≤ 0.03 × ØD
Stainless Steel	100 ~ 250	0.22	0.22	0.28	0.28	≤ 0.03 × ØD
Cast Iron	90 ~ 350	0.28	0.33	0.33	0.39	≤ 0.04 × ØD
Hardened Steel	100 ~ 350	0.11	0.14	0.17	0.22	≤ 0.02 × ØD

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
WBNM12	12	4	3	6	3.5	SM, MM
WBNM16	16	4	4	8	4	SM, MM
WBNM20	20	5	5	10	5	SM, MM
WBNM25	25	6	6	12.5	6	SM, MM

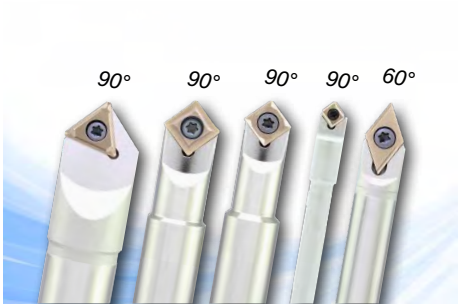


Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWBNM12SM23TX	WBNM-12-SM-CX23TX	●	●	●		○	●
	IWBNM12MM23TX	WBNM-12-MM-CX23TX	●	●	●		○	●
	IWBNM16SM23TX	WBNM-16-SM-CX23TX	●	●	●		○	●
	IWBNM16MM23TX	WBNM-16-MM-CX23TX	●	●	●		○	●
	IWBNM20SM23TX	WBNM-20-SM-CX23TX	●	●	●		○	●
	IWBNM20MM23TX	WBNM-20-MM-CX23TX	●	●	●		○	●
	IWBNM25SM23TX	WBNM-25-SM-CX23TX	●	●	●		○	●
	IWBNM25MM23TX	WBNM-25-MM-CX23TX	●	●	●		○	●

Engraving / Chamfering - DTS60 雕刻倒角銑刀

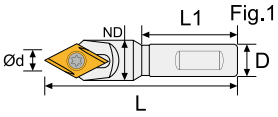
DTS Series

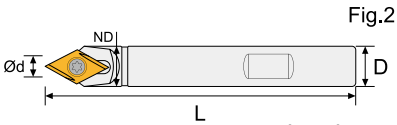


- Use DCEX, SCGX, SCMX, SDMX, TCMX inserts.
- Engraving, chamfering, countersinking, grooving and spotting functions in one tool.

- 使用 DCEX, SCMX 或 TCMX 銑刀片
- 一種刀具搞定雕刻、倒角、開槽和定位等功能

Shank Type 雕刻倒角銑刀





DTS 60 - DCEX11T3

Insert Brand : Winstar

Order No.	D	ND	L	L1	Fig	Insert	Screw	Wrench	Stock
IDTS1006006011	10	12	60	30	1	DCEX11T3	ITS3520	ITK15	●
IDTS1210006011	12	12	100	-	2				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 60 Chamfering / Countersinking

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	12 ~ 180	0.05 ~ 0.15
Alloy steel	12 ~ 180	0.05 ~ 0.15
Stainless steel	12 ~ 180	0.05 ~ 0.15
Cast iron	12 ~ 180	0.05 ~ 0.15
Aluminum	12 ~ 180	0.10 ~ 0.20
Hardened steel	12 ~ 180	0.03 ~ 0.10

DTS 60 Grooving / Engraving

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	10 ~ 170	0.005 ~ 0.05
Alloy steel	10 ~ 170	0.005 ~ 0.03
Stainless steel	10 ~ 170	0.005 ~ 0.05
Cast iron	10 ~ 170	0.005 ~ 0.03
Aluminum	10 ~ 170	0.005 ~ 0.08
Hardened steel	10 ~ 170	0.005 ~ 0.02

DTS 60 Cutting Depth of Passes

No. of Passes	ap of one pass (mm)					
	Aluminum	Cast iron	Carbon steel	Alloy steel	Stainless steel	Hardened steel
1	1.0	0.8	0.8	0.6	0.5	0.2
2	0.8	0.7	0.6	0.5	0.4	0.2
3	0.2	0.3	0.3	0.3	0.3	0.15
4		0.2	0.2	0.3	0.3	0.15
5			0.1	0.2	0.2	0.1
6				0.1	0.2	0.1
7					0.1	0.1

※ Max ap is 2mm

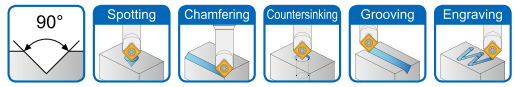
Engraving / Chamfering - DTS60 雕刻倒角銑刀

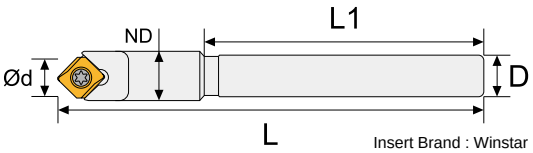
Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	r	Engraving Ød	P	M	K	N	S	H
	IDCEX11T301SG32HS	DCEX-11T301-SG-CX32HS	0.1	0.2 ~ 1	●	●	●	●	●	
	IDCEX11T302SG32HS	DCEX-11T302-SG-CX32HS	0.2	0.4 ~ 2	●	●	●	●	●	
	IDCEX11T304SG32HS	DCEX-11T304-SG-CX32HS	0.4	0.8 ~ 3	●	●	●	●	●	
	IDCEX11T30132HS	DCEX-11T301-CX32HS	0.1	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30232HS	DCEX-11T302-CX32HS	0.2	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30432HS	DCEX-11T304-CX32HS	0.4	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30832HS	DCEX-11T308-CX32HS	0.8	0.8 ~ 3	●	●	●		●	●

Engraving / Chamfering - DTS90 雕刻倒角銑刀

Shank Type 雕刻倒角銑刀

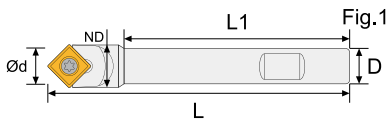


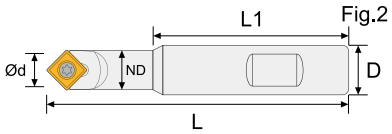


DTS90 - SDMX05T1 (for small lathe)

Insert Brand : Winstar

Order No.	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS0604009005	6	40	7	20	1 ~ 5	0.8 ~ 1.5	SDMX05T1	ITS1801	ITK06	●
IDTS0606009005	6	60	7	40						●

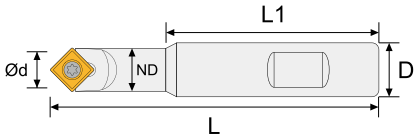




DTS90 - SCGX09T3, SCMX09T3

Insert Brand : Winstar

Order No.	D	L	ND	L1	Fig	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1010009009	10	100	12.2	71	1	2 ~ 11	0.8 ~ 2.5	SCGX09T3 SCMX09T3	ITS3520	ITK15	●
IDTS1210009009	12	100	12.2	71							●
IDTS1610009009	16	100	12.2	71	2						●
IDTS1613009009	16	130	12.2	101							●

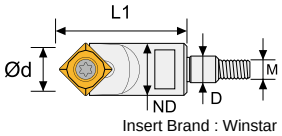


DTS90 - SDMX11T3

Insert Brand : Winstar

Order No.	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1610009011	16	100	14.1	71	3 ~ 14	1.6 ~ 4.0	SDMX11T3	ITS3521	ITK15	●

Modular Type 雕刻倒角銑刀頭



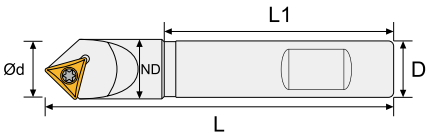
Insert Brand : Winstar

Order No.	L1	ND	D	M	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTSM603009009	30	12.4	6.5	M6	2 ~ 11	0.8 ~ 2.5	SCMX09T3	ITS3520	ITK15	○

● stock ○ by inquiry

※ For screw-in type adapter, please refer to Tooling System

Shank Type 雕刻倒角銑刀



DTS90 - TCMX16T3

Insert Brand : Winstar

Order No.	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS2012009016	20	120	21.2	78	3 ~ 20	1.6 ~ 4.0	TCMX16T3	ITS3521	ITK15	●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 90 Spotting

Material	Vc (m/min)		Fr (mm/rev)	
	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm
Carbon steel	60 ~ 120	90 ~ 220	0.04 ~ 0.08	0.06 ~ 0.10
Alloy steel	50 ~ 100	75 ~ 180	0.03 ~ 0.06	0.05 ~ 0.08
Stainless steel	30 ~ 60	45 ~ 120	0.02 ~ 0.04	0.04 ~ 0.06
Cast iron	40 ~ 80	60 ~ 130	0.04 ~ 0.08	0.06 ~ 0.10
Hardened steel	20 ~ 40	30 ~ 60	0.02 ~ 0.04	0.04 ~ 0.08

DTS 90 Chamfering / Countersinking

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	60 ~ 270	0.15 ~ 0.24
Alloy steel	50 ~ 220	0.12 ~ 0.20
Stainless steel	35 ~ 120	0.10 ~ 0.20
Cast iron	60 ~ 220	0.15 ~ 0.25
Hardened steel	20 ~ 60	0.03 ~ 0.08

DTS 90 Grooving / Engraving

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	40 ~ 140	0.12 ~ 0.18
Alloy steel	35 ~ 120	0.10 ~ 0.14
Stainless steel	25 ~ 70	0.08 ~ 0.12
Cast iron	30 ~ 100	0.12 ~ 0.18
Hardened steel	20 ~ 50	0.02 ~ 0.04

Engraving / Chamfering - DTS90 雕刻倒角銑刀

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	r	Spotting Ød	Engraving Ød	P	M	K	N	S	H
	ISCGX09T304AG10	SCGX-09T304-AG-CX10	0.4	2 ~ 11	0.8 ~ 2.5				●		
	ISCGX09T304FG13TX	SCGX-09T304-FG-CX13TX	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	●
	ISCMX09T304SM32HS	SCMX-09T304-SM-CX32HS	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	○
	ISDMX05T104FG13TX	SDMX-05T104-FG-CX13TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX05T104FG33TX	SDMX-05T104-FG-CX33TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX11T308SG33TX	SDMX-11T308-SG-CX33TX	0.8	3 ~ 14	1.6 ~ 4.0	●	●	●		●	●
	ITCMX16T308SM32HS	TCMX-16T308-SM-CX32HS	0.8	3 ~ 20	1.6 ~ 4.0	●	●	●	○	●	●

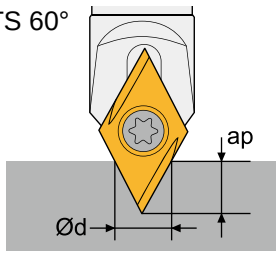
How to calculate Ød ,RPM and Feed 如何計算 Ød ,RPM 和 Feed

Formula :

$$RPM = \frac{Vc \times 1000}{Ød \times \pi}$$

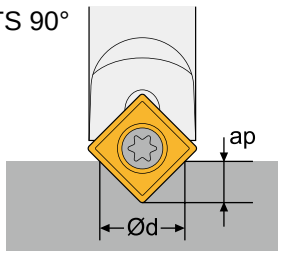
Feed = RPM × fr

DTS 60°



Ød ≒ (0.577 × (ap + r) + 0.05) × 2

DTS 90°



Ød ≒ (0.4r + ap + 0.05) × 2

EX :

Working Material : Cast iron
Insert : SCGX09T304
Application : 90° Spotting
ap : 2.5mm

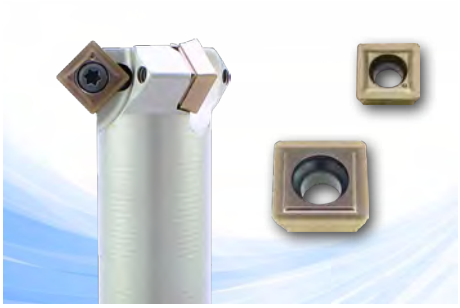
Ød = (0.4r + ap + 0.05) × 2 = (0.4 × 0.4 + 2.5 + 0.05) × 2 = 5.42 mm
Reference conditions table get Vc ≒ 85 m/min and fr ≒ 0.075 mm/rev
RPM = (Vc × 1000) / (Ød × π) = (85 × 1000) / (5.42 × π) ≒ 5000
Feed = RPM × fr = 5000 × 0.075 = 375 mm/min

Working Demonstration 加工實例

Cutting parameter	
Tools	DTS 90° with SCMX09T304-SP CX32HS
Material	Cast Iron
Coolant	Dry
Application	Spotting
Vc	85 m/min
S	4800 rpm
Feed	360 mm/min
ap	2.5 mm

Chamfering - CSPC 倒角銑刀

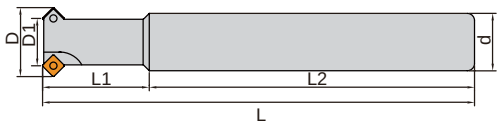
CSPC Series

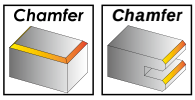


- Use SPMG inserts with 4 cutting edges.
- T-slot cutter with up and down chamfering applications.
- 11~50mm cutter diameter.

- 使用 SPMG 銑刀片 , 4 個可用切削角
- T 型刀桿適用於上下倒角加工應用
- 11~50mm 刀桿直徑

Shank Type 倒角銑刀





Insert Brand : Winstar

Order No.	D	D1	d	L1	L2	L	T	Inserts	Screw	Wrench	Stock
ICSPCE501011100	11	6	10	17	83	100	1	SPMG0502	ITS2003	ITK06	●
ICSPCE502015120	15	10	12	20	100	120	2				●
ICSPCE503017150	17	11	16	25	125	150	3				●
ICSPCE503019150	19	13	16	30	120	150	3				●
ICSPCE504024150	24	18	20	35	115	150	4				●
ICSPCE603022120	22	16	16	30	90	120	3	SPMG0602	ITS2205	ITK06	●
ICSPCE703027120	27	17	20	30	90	120	3	SPMG07T3	ITS2511	ITK08	●
ICSPCE902030150	30	19	20	40	110	150	2	SPMG0904	ITS3504	ITK15	●
ICSPCE903040150	40	29	25	40	110	150	3				●
ICSPCE904050150	50	39	25	40	110	150	4				●

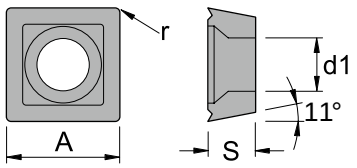
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz				
		Ø11 ~ Ø15	Ø16 ~ Ø22	Ø23 ~ Ø33	Ø34 ~ Ø41	Ø42 ~ Ø50
Carbon Steel / Alloy Steel	120 ~ 250	0.06 ~ 0.12	0.06 ~ 0.12	0.06 ~ 0.12	0.12 ~ 0.24	0.12 ~ 0.25
Stainless Steel	100 ~ 180	0.05 ~ 0.10	0.05 ~ 0.10	0.05 ~ 0.10	0.10 ~ 0.17	0.10 ~ 0.17
Cast Iron	120 ~ 250	0.06 ~ 0.12	0.06 ~ 0.12	0.06 ~ 0.12	0.12 ~ 0.24	0.12 ~ 0.25
Super Alloy	40 ~ 100	0.03 ~ 0.06	0.03 ~ 0.06	0.03 ~ 0.06	0.05 ~ 0.10	0.05 ~ 0.10
Hardened Steel	50 ~ 100	0.03 ~ 0.06	0.03 ~ 0.06	0.03 ~ 0.06	0.05 ~ 0.10	0.05 ~ 0.10

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	S	r	d1	
SPGG050204	5.00	2.38	0.4	2.30	SG
SPGG060204	6.00	2.38	0.4	2.65	SG
SPGG07T308	7.94	3.97	0.8	2.85	SG
SPGG090408	9.80	4.3	0.8	4.05	SG
SPMG050204	5.00	2.38	0.4	2.30	MG
SPMG060204	6.00	2.38	0.4	2.65	MG
SPMG07T308	7.94	3.97	0.8	2.85	MG
SPMG090408	9.80	4.3	0.8	4.05	MG

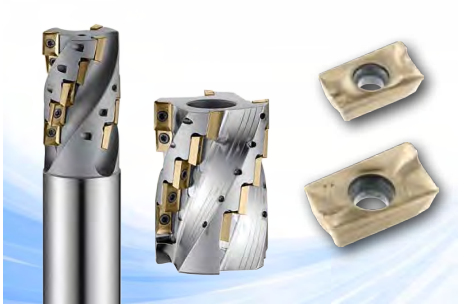


Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISPGG050204SG33TX	SPGG-050204-SG-CX33TX	●	●	●	●	●	●
	ISPGG060204SG33TX	SPGG-060204-SG-CX33TX	●	●	●	●	●	●
	ISPGG07T304SG33TX	SPGG-070304-SG-CX33TX	●	●	●	●	●	●
	ISPGG090408SG33TX	SPGG-090408-SG-CX33TX	●	●	●	●	●	●
	ISPMG050204MG32HS	SPMG-050204-MG-CX32HS	●	○	●			
	ISPMG050204MG33TX	SPMG-050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG-050204-MG-CX43TX	●	●	○		●	
	ISPMG060204MG32HS	SPMG-060204-MG-CX32HS	●	○	●			
	ISPMG060204MG33TX	SPMG-060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG-060204-MG-CX43TX	●	●	○		●	
	ISPMG07T308MG32HS	SPMG-07T308-MG-CX32HS	●	○	●			
	ISPMG07T308MG33TX	SPMG-07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG-07T308-MG-CX43TX	●	●	○		●	
	ISPMG090408MG32HS	SPMG-090408-MG-CX32HS	●	○	●			
	ISPMG090408MG33TX	SPMG-090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG-090408-MG-CX43TX	●	●	○		●	

Helical Milling - CAPH 玉米粗銑刀

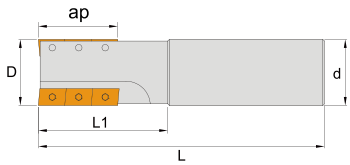
CAPH Series

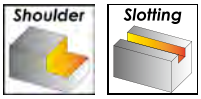


- Use APKT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APKT 銑刀片 , 2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

Shank Type 玉米粗銑刀



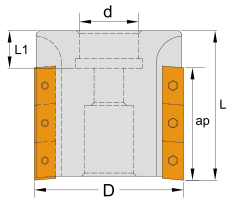


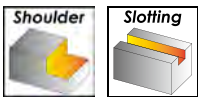
Insert Brand : Winstar

Order No.	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICAPHE305020100	20	28	42	107	20	1 x 5	APKT1003	ITS2515	ITK08	●
ICAPHE308025120	25	35	50	125	25	2 x 4				●
ICAPHE315032130	32	44	60	135	32	3 x 5				●

● stock ○ by inquiry

Arbor Type 玉米粗銑刀





Insert Brand : Winstar

Order No.	D	ap	L2	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICAPHF409050220	50	42	21	69	22	3 x 3	APET1604 APKT1604	ITS4023	ITK15	●
ICAPHF412063250	63	42	38	69	25.4	4 x 3				●
ICAPHF420063252	63	68	38	97	25.4	4 x 5				●

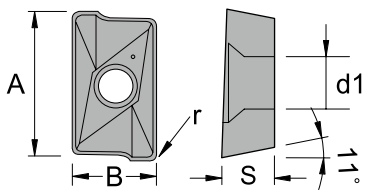
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	APKT1003		APKT1604	
	Vc	fz	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Stainless Steel	100 ~ 180	0.08 ~ 0.18	100 ~ 180	0.10 ~ 0.22
Cast Iron	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Aluminum Alloy	-	-	300 ~ 1000	0.10 ~ 0.40
Super Alloy	40 ~ 100	0.07 ~ 0.14	40 ~ 100	0.10 ~ 0.18

Insert Specifications 刀片規格

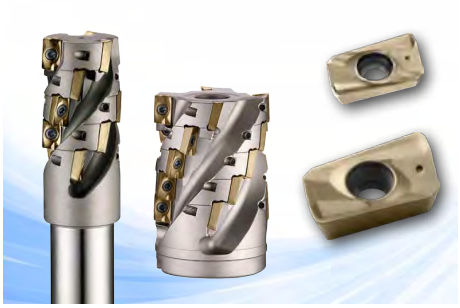
Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
APKT100304	10.5	6.7	3.5	0.4	2.8	MG
APKT100308	10.5	6.7	3.5	0.8	2.8	MG, RG
APET160402	16.3	9.525	4.76	0.2	4.5	AL, FG
APET160404	16.3	9.525	4.76	0.4	4.5	AL, FG
APKT160408	16.3	9.525	5.25	0.8	4.5	MG, RG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IAPKT100304EMG23TX	APKT-100304PDER-MG-CX23TX	○	○	○		○	●
	IAPKT100304EMG32HS	APKT-100304PDER-MG-CX32HS	●	○	●			
	IAPKT100304EMG33TX	APKT-100304PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100304EMG43TX	APKT-100304PDER-MG-CX43TX	●	●			●	
	IAPKT100308EMG23TX	APKT-100308PDER-MG-CX23TX	○	○	○		○	●
	IAPKT100308EMG32HS	APKT-100308PDER-MG-CX32HS	●	○	●			
	IAPKT100308EMG33TX	APKT-100308PDER-MG-CX33TX	●	●	●		●	●
	IAPKT100308EMG43TX	APKT-100308PDER-MG-CX43TX	●	●			●	
	IAPKT100304ERG32HS	APKT-100304PDER-RG-CX32HS	●	○	●			
	IAPKT100304ERG33TX	APKT-100304PDER-RG-CX33TX	●	●	●		●	●
	IAPET160402FAL10	APET-160402PDFR-AL-CX10				●		
	IAPET160404FAL10	APET-160404PDFR-AL-CX10				●		
	IAPET160402FFG23TX	APET-160402PDFR-FG-CX23TX	○	○	○		○	●
	IAPET160404FFG23TX	APET-160404PDFR-FG-CX23TX	○	○	○		○	●
	IAPKT160408EMG23TX	APKT-160408PDER-MG-CX23TX	○	○	○		○	●
	IAPKT160408EMG32HS	APKT-160408PDER-MG-CX32HS	●	○	●			
	IAPKT160408EMG33TX	APKT-160408PDER-MG-CX33TX	●	●	●		●	●
	IAPKT160408EMG43TX	APKT-160408PDER-MG-CX43TX	●	●			●	
	IAPKT160408ERG23TX	APKT-160408PDER-RG-CX23TX	○	○	○		○	●
	IAPKT160408ERG32HS	APKT-160408PDER-RG-CX32HS	●	○	●			
	IAPKT160408ERG33TX	APKT-160408PDER-RG-CX33TX	●	●	●		●	●
	IAPKT160408ERG43TX	APKT-160408PDER-RG-CX43TX	●	●			●	

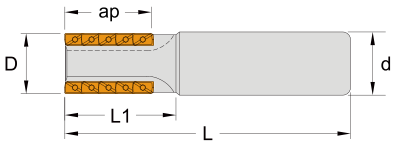
CBAH Series

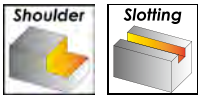


- Use APMT inserts with 2 cutting edges.
- Offers large depth of cut in rough contouring applications.
- 20~63mm cutter diameter.

- 使用 APMT 銑刀片 , 2 個可用切削角
- 適用於較大切削深度的輪廓粗加工應用
- 20~63mm 刀桿直徑

Shank Type 玉米粗銑刀

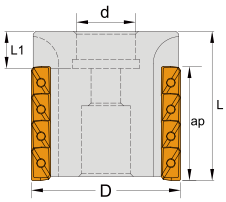


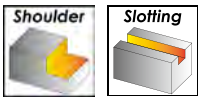


Insert Brand : Winstar

Order No.	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICBAHE305020100	20	28	42	107	20	1 x 5	APGT1135 APMT1135	ITS2515	ITK08	●
ICBAHE308025120	25	35	50	125	25	2 x 4				●
ICBAHE315032130	32	44	60	135	32	3 x 5				●
ICBAHE324040170	40	72	94	175	32	3 x 8				●
ICBAHE406032130	32	42	55	135	32	2 x 3	APGT1604 APMT1604	ITS4023	ITK15	●
ICBAHE410040170	40	68	94	175	32	2 x 5				●
ICBAHE415040170	40	68	94	175	32	3 x 5				●
ICBAHE424050220	50	100	128	224	50.8	3 x 8				●
ICBAHE436050280	50	158	188	284	50.8	3 x 12				●

Arbor Type 玉米粗銑刀





Order No.	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
ICBAHF409050220	50	42	21	69	22	3 x 3	APGT1604 APMT1604	ITS4023	ITK15	●
ICBAHF412063250	63	42	38	69	25.4	4 x 3				●
ICBAHF420063250	63	68	38	97	25.4	4 x 5				●

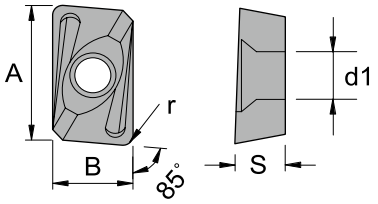
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	APMT1135		APMT1604	
	Vc	fz	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Stainless Steel	100 ~ 180	0.08 ~ 0.18	100 ~ 180	0.10 ~ 0.22
Cast Iron	120 ~ 250	0.10 ~ 0.22	120 ~ 250	0.12 ~ 0.28
Aluminum Alloy	-	-	300 ~ 1000	0.10 ~ 0.40
Super Alloy	40 ~ 100	0.07 ~ 0.14	40 ~ 100	0.10 ~ 0.22

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
APGT113508	11.0	6.35	3.5	0.8	2.8	AL, FG
APMT113508	11.0	6.35	3.5	0.8	2.8	MG, RG, HG
APMT113516	11.0	6.35	3.5	1.6	2.8	MG
APGT160408	16.5	9.525	4.76	0.8	4.4	AL, FG
APMT160408	16.5	9.525	4.76	0.8	4.4	MG, RG, HG
APMT160416	16.5	9.525	4.76	1.6	4.4	MG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IAPGT113508EAL10	APGT-113508PDER-AL-CX10				●		
	IAPGT113508EFG23TX	APGT-113508PDER-FG-CX23TX	○	○	○		○	●
	IAPMT113508EMG23TX	APMT-113508PDER-MG-CX23TX	○	○	○		○	●
	IAPMT113508EMG32HS	APMT-113508PDER-MG-CX32HS	●	○	●			
	IAPMT113508EMG33TX	APMT-113508PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113508EMG43TX	APMT-113508PDER-MG-CX43TX	●	●			●	
	IAPMT113516EMG23TX	APMT-113516PDER-MG-CX23TX	○	○	○		○	●
	IAPMT113516EMG32HS	APMT-113516PDER-MG-CX32HS	●	○	●			
	IAPMT113516EMG33TX	APMT-113516PDER-MG-CX33TX	●	●	●		●	●
	IAPMT113516EMG43TX	APMT-113516PDER-MG-CX43TX	●	●			●	
	IAPMT113508ERG23TX	APMT-113508PDER-RG-CX23TX	○	○	○		○	●
	IAPMT113508ERG32HS	APMT-113508PDER-RG-CX32HS	●	○	●			
	IAPMT113508ERG33TX	APMT-113508PDER-RG-CX33TX	●	●	●		●	●
	IAPMT113508EHG32HS	APMT-113508PDER-HG-CX32HS	●	○	●			
	IAPMT113508EHG33TX	APMT-113508PDER-HG-CX33TX	●	●	●		●	●
	IAPMT113508EHG43TX	APMT-113508PDER-HG-CX43TX	●	●			●	
	IAPGT160408EAL10	APGT-160408PDER-AL-CX10				●		
	IAPGT160408EFG23TX	APGT-160408PDER-FG-CX23TX	○	○	○		○	●
	IAPMT160408EMG23TX	APMT-160408PDER-MG-CX23TX	○	○	○		○	●
	IAPMT160408EMG32HS	APMT-160408PDER-MG-CX32HS	●	○	●			
	IAPMT160408EMG33TX	APMT-160408PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160408EMG43TX	APMT-160408PDER-MG-CX43TX	●	●			●	
	IAPMT160408EMG47TA	APMT-160408PDER-MG-CX47TA	●	○	●		○	
	IAPMT160416EMG32HS	APMT-160416PDER-MG-CX32HS	●	○	●			
	IAPMT160416EMG33TX	APMT-160416PDER-MG-CX33TX	●	●	●		●	●
	IAPMT160416EMG43TX	APMT-160416PDER-MG-CX43TX	●	●			●	
	IAPMT160408ERG23TX	APMT-160408PDER-RG-CX23TX	○	○	○		○	●
	IAPMT160408ERG32HS	APMT-160408PDER-RG-CX32HS	●	○	●			
	IAPMT160408ERG33TX	APMT-160408PDER-RG-CX33TX	●	●	●		●	●
	IAPMT160408ERG43TX	APMT-160408PDER-RG-CX43TX	●	●			●	
	IAPMT160408EHG23TX	APMT-160408PDER-HG-CX23TX	○	○	○		○	●
	IAPMT160408EHG32HS	APMT-160408PDER-HG-CX32HS	●	○	●			
	IAPMT160408EHG33TX	APMT-160408PDER-HG-CX33TX	●	●	●		●	●
	IAPMT160408EHG43TX	APMT-160408PDER-HG-CX43TX	●	●			●	

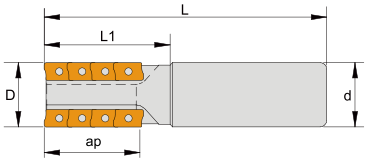
Helical Milling - C39H 玉米粗銑刀

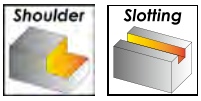
C39H Series

- Use W390 inserts with 2 cutting edges.
- High efficient and large depth of cut in rough contouring applications.
- 25~32mm cutter diameter.

- 使用 W390 銑刀片 , 2 個可用切削角
- 適用於高效率及較大切削深度的輪廓粗加工應用
- 25~32mm 刀桿直徑

Shank Type 玉米粗銑刀





Insert Brand : Winstar

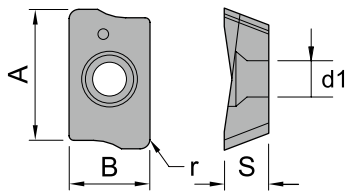
Order No.	D	ap	L1	L	d	T × Pcs	Inserts	Screw	Wrench	Stock
IC39HE308025110	25	36	50	110	25	2 x 4	W39011T3	ITS2509	ITK08	●
IC39HE308032120	32	36	50	125	32	2 x 4				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.10 ~ 0.22
Stainless Steel	100 ~ 180	0.08 ~ 0.18
Cast Iron	120 ~ 250	0.10 ~ 0.22
Super Alloy	40 ~ 100	0.07 ~ 0.14

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker	
	A	B	S	r	d1		
W39011T308	11	6.9	3.59	0.8	2.8	SG, MG	
W39011T320	11	6.9	3.59	2.0	2.8	MG	

Insert Designation 刀片型號

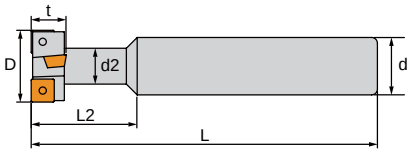
Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IW39011T308SG23TX	W390-11T308-SG-CX23TX	○	○	○		○	●
	IW39011T308SG32HS	W390-11T308-SG-CX32HS	●	○	●			
	IW39011T308SG33TX	W390-11T308-SG-CX33TX	●	●	●		●	●
	IW39011T308SG43TX	W390-11T308-SG-CX43TX	●	●			●	
	IW39011T308MG23TX	W390-11T308-MG-CX23TX	○	○	○		○	●
	IW39011T308MG32HS	W390-11T308-MG-CX32HS	●	○	●			
	IW39011T308MG33TX	W390-11T308-MG-CX33TX	●	●	●		●	●
	IW39011T308MG43TX	W390-11T308-MG-CX43TX	●	●			●	
	IW39011T308MG37TA	W390-11T308-MG-CX37TA	●		●			○
	IW39011T308MG47TA	W390-11T308-MG-CX47TA	●	○	●		○	
	IW39011T320MG23TX	W390-11T320-MG-CX23TX	○	○	○		○	●
	IW39011T320MG32HS	W390-11T320-MG-CX32HS	●	○	●			
	IW39011T320MG33TX	W390-11T320-MG-CX33TX	●	●	●		●	●
	IW39011T320MG43TX	W390-11T320-MG-CX43TX	●	●			●	
	IW39011T320MG37TA	W390-11T320-MG-CX37TA	●		●			○
	IW39011T320MG47TA	W390-11T320-MG-CX47TA	●	○	●		○	

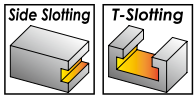
CSPT Series

- Use SPMG inserts with 4 cutting edges.
- For side slotting and T-slotting applications.
- 19~40mm cutter diameter.

- 使用 SPMG 銑刀片 , 4 個可用切削角
- 適用於側溝和 T 型槽加工應用
- 19~40mm 刀桿直徑

Shank Type T 型銑刀





Insert Brand : Winstar

Order No.	D	t	d2	L2	L	d	T	Inserts	Screw	Wrench	Stock
ICSPTE504019090	19	8	9.5	25	95	16	4	SPMG0502	ITS2003	ITK06	●
ICSPTE604021100	21	9	11	27	100	16	4	SPMG0602	ITS2205	ITK06	●
ICSPTE504022090	22	6.3	15	15	90	20	4	SPMG0502	ITS2003	ITK06	●
ICSPTE704025110	25	11	12	31	110	20	4	SPMG07T3	ITS2511	ITK08	●
ICSPTE504032110	32	7.8	19	9.5	110	20	4	SPMG0502	ITS2003	ITK06	●
ICSPTE504032112	32	8	19	9.5	110	20	4	SPMG0502	ITS2003	ITK06	●
ICSPTE904032110	32	14	17	39	110	25	4	SPMG0904	ITS3504	ITK15	●
ICSPTE104040120	40	18	21	49	125	25	4	SPMG1104	ITS4006	ITK15	●

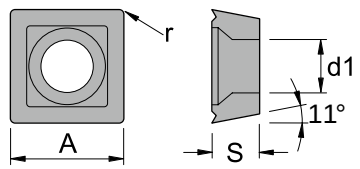
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.12
Stainless Steel	100 ~ 180	0.07 ~ 0.10
Cast Iron	120 ~ 250	0.08 ~ 0.12
Super Alloy	40 ~ 100	0.05 ~ 0.08
Hardened Steel	50 ~ 100	0.05 ~ 0.08

Insert Specifications 刀片規格

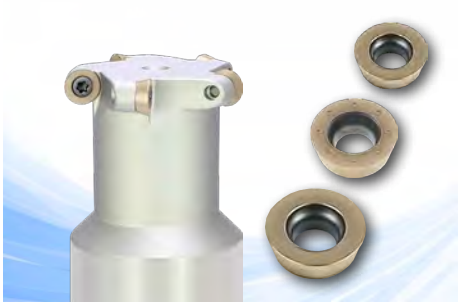
Insert	Dimensions (mm)				Chipbreaker
	A	S	r	d1	
SPMG050204	5.00	2.38	0.4	2.30	MG
SPMG060204	6.00	2.38	0.4	2.65	MG
SPMG07T308	7.94	3.97	0.8	2.85	MG
SPMG090408	9.80	4.3	0.8	4.05	MG



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG-050204-MG-CX32HS	●	○	●			
	ISPMG050204MG33TX	SPMG-050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG-050204-MG-CX43TX	●	●			●	
	ISPMG060204MG32HS	SPMG-060204-MG-CX32HS	●	○	●			
	ISPMG060204MG33TX	SPMG-060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG-060204-MG-CX43TX	●	●			●	
	ISPMG07T308MG32HS	SPMG-07T308-MG-CX32HS	●	○	●			
	ISPMG07T308MG33TX	SPMG-07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG-07T308-MG-CX43TX	●	●			●	
	ISPMG090408MG32HS	SPMG-090408-MG-CX32HS	●	○	●			
	ISPMG090408MG33TX	SPMG-090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG-090408-MG-CX43TX	●	●			●	

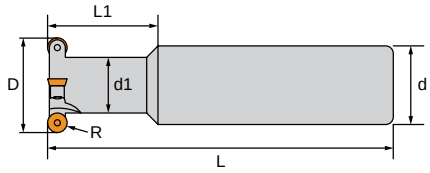
CRDT Series

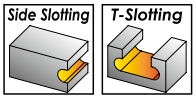


- Use RDKW or RPMT round inserts.
- For side R slotting and T-slotting applications.
- 26~50mm cutter diameter.

- 使用 RDKW 或 RPMT 圓形刀片
- 適用於 R 底側溝和 T 型槽加工應用
- 26~50mm 刀桿直徑

Shank Type 圓頭 T 型銑刀





Insert Brand : Winstar

Order No.	D	R	d1	L1	L	d	T	Inserts	Screw	Wrench	Stock
ICRDTE505026100	26	2.5	18	21	105	25	5	RDKW0501	ITS2001	ITK06	●
ICRDTE506033110	33	2.5	23	25	110	32	6	RDKW0501	ITS2001	ITK06	●
ICRDTE604030110	30	3	18	35	110	25	4	RDKW0620	ITS2205	ITK06	●
ICRDTE606050110	50	3	32	30	110	32	6	RDKW0620	ITS2504	ITK08	●
ICRDTE705039110	39.3	3.5	26	26	110	32	5	RDKW0702	ITS2515	ITK08	●
ICRPTE104050150	50	5	28	35	150	32	4	RPMT10T3	ITS3503	ITK15	○

● stock ○ by inquiry

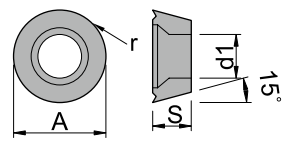
Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	120 ~ 250	0.08 ~ 0.12
Stainless Steel	100 ~ 180	0.07 ~ 0.10
Cast Iron	120 ~ 250	0.08 ~ 0.12
Super Alloy	40 ~ 100	0.05 ~ 0.08
Hardened Steel	50 ~ 100	0.05 ~ 0.08

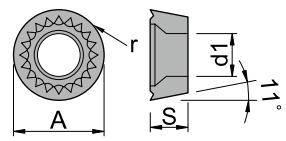
Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	r	S	d1	
RDKW0501	5	2.5	1.59	2.2	MOE
RDMW0620	6	3.0	1.99	2.6	MOE
RDKW0702	7	3.5	2.38	2.8	MOE
RPMT10T3	10	5.0	3.97	4.5	MOE, MOT

RD..



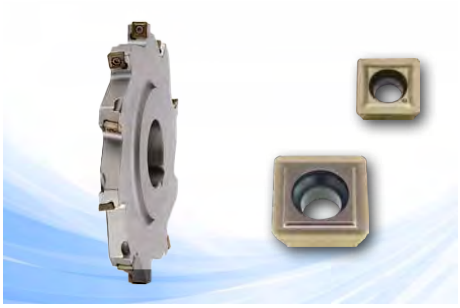
RP..



Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IRDKW0501MOE23TX	RDKW0501MOE-CX23TX	○	○	○		○	●
	IRDKW0501MOE32HS	RDKW0501MOE-CX32HS	●	○	●			
	IRDKW0501MOE33TX	RDKW0501MOE-CX33TX	●	●	●		●	●
	IRDKW0620MOE32HS	RDKW0620MOE-CX32HS	●	○	●			
	IRDKW0620MOE33TX	RDKW0620MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE23TX	RDKW0702MOE-CX23TX	○	○	○		○	●
	IRDKW0702MOE32HS	RDKW0702MOE-CX32HS	●	○	●			
	IRDKW0702MOE33TX	RDKW0702MOE-CX33TX	●	●	●		●	●
	IRDKW0702MOE43TX	RDKW0702MOE-CX43TX	●	●			●	
	IRPMT10T3MOE32HS	RPMT10T3MOE-CX32HS	●	○	●			
	IRPMT10T3MOE33TX	RPMT10T3MOE-CX33TX	●	●	●		●	●
	IRPMT10T3MOE43TX	RPMT10T3MOE-CX43TX	●	●			●	
	IRPMT10T3MOT32HS	RPMT10T3MOT-CX32HS	●	○	●			
	IRPMT10T3MOT33TX	RPMT10T3MOT-CX33TX	●	●	●		●	●
	IRPMT10T3MOT43TX	RPMT10T3MOT-CX43TX	●	●			●	

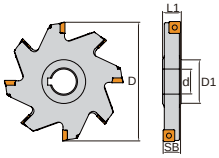
CSPD Series

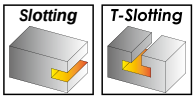


- Use SPMG inserts with 4 cutting edges.
- Economical and versatile disc cutting solution.
- 80~200mm cutter diameter.

- 使用 SPMG 銑刀片 , 4 個可用切削角
- 經濟且多功能三面刃適用於側邊較深加工
- 80~200mm 刀桿直徑

Arbor Type 三面刃銑刀

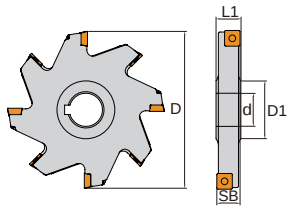


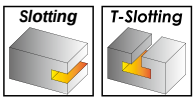


Insert Brand : Winstar

Order No.	D	L1	SB	d	D1	T	Inserts	Screw	Wrench	Stock
ICSPDE506080220	80	12	6	22	44	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDE507080220	80	12	7	22	44	2 × 4	SPMG0502	ITS2003	ITK06	○
ICSPDE608080220	80	12	8	22	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE609080220	80	12	9	22	44	2 × 4	SPMG0602	ITS2205	ITK06	○
ICSPDE610080220	80	12	10	22	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE711080220	80	12	11	22	44	2 × 4	SPMG07T3	ITS2511	ITK08	○
ICSPDE712080220	80	12	12	22	44	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDE506100270	100	12	6	27	50	2 × 5	SPMG0502	ITS2003	ITK06	●
ICSPDE507100270	100	12	7	27	50	2 × 5	SPMG0502	ITS2003	ITK06	●
ICSPDE608100270	100	12	8	27	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDE609100270	100	12	9	27	50	2 × 5	SPMG0602	ITS2205	ITK06	○
ICSPDE710100270	100	12	10	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDE711100270	100	12	11	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	○
ICSPDE712100270	100	12	12	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDE914100270	100	16	14	27	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDE916100270	100	16	16	27	50	2 × 5	SPMG0904	ITS3504	ITK15	●
ICSPDE711125320	125	12	11	32	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE712125320	125	12	12	32	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE914125320	125	16	14	32	65	2 × 6	SPMG0904	ITS3504	ITK15	○
ICSPDE916125320	125	16	16	32	65	2 × 6	SPMG0904	ITS3504	ITK15	●
ICSPDE118125320	125	20	18	32	65	2 × 5	SPMG1104	ITS4006	ITK15	○
ICSPDE120125320	125	20	20	32	65	2 × 5	SPMG1104	ITS4006	ITK15	○
ICSPDE711160400	160	12	11	40	75	2 × 8	SPMG07T3	ITS2511	ITK08	○
ICSPDE712160400	160	12	12	40	75	2 × 8	SPMG07T3	ITS2511	ITK08	●
ICSPDE914160400	160	16	14	40	75	2 × 8	SPMG0904	ITS3504	ITK15	○
ICSPDE916160400	160	16	16	40	75	2 × 8	SPMG0904	ITS3504	ITK15	●
ICSPDE118160400	160	20	18	40	75	2 × 6	SPMG1104	ITS4006	ITK15	○
ICSPDE120160400	160	20	20	40	75	2 × 6	SPMG1104	ITS4006	ITK15	●
ICSPDE914200400	200	16	14	40	80	2 × 9	SPMG0904	ITS3504	ITK15	○
ICSPDE915200400	200	16	16	40	80	2 × 9	SPMG0904	ITS3504	ITK15	●
ICSPDE118200400	200	20	18	40	80	2 × 9	SPMG1104	ITS4006	ITK15	○
ICSPDE120200400	200	20	20	40	80	2 × 7	SPMG1104	ITS4006	ITK15	○

Arbor Type 三面刃銑刀



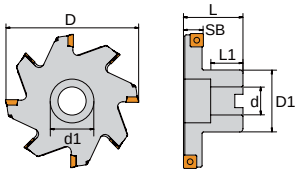


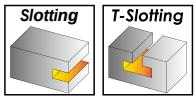
Insert Brand : Winstar

Order No.	D	L1	SB	d	D1	T	Inserts	Screw	Wrench	Stock
ICSPDE506080250	80	12	6	25.4	44	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDE507080250	80	12	7	25.4	44	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDE608080250	80	12	8	25.4	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE609080250	80	12	9	25.4	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE610080250	80	12	10	25.4	44	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDE711080250	80	12	11	25.4	44	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDE712080250	80	12	12	25.4	44	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDE608100250	100	12	8	25.4	50	2 × 5	SPMG0602	ITS2205	ITK06	○
ICSPDE609100250	100	12	9	25.4	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDE610100250	100	12	10	25.4	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDE711100250	100	12	11	25.4	50	2 × 5	SPMG07T3	ITS2511	ITK08	○
ICSPDE712100250	100	12	12	25.4	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDE914100250	100	16	14	25.4	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDE916100250	100	16	16	25.4	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDE506125310	125	12	6	31.75	65	2 × 6	SPMG0502	ITS2003	ITK06	●
ICSPDE507125310	125	12	7	31.75	65	2 × 6	SPMG0502	ITS2003	ITK06	○
ICSPDE608125310	125	12	8	31.75	65	2 × 6	SPMG0602	ITS2205	ITK06	○
ICSPDE610125310	125	12	10	31.75	65	2 × 6	SPMG0602	ITS2205	ITK06	○
ICSPDE711125310	125	12	11	31.75	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE712125310	125	12	12	31.75	65	2 × 6	SPMG07T3	ITS2511	ITK08	○
ICSPDE914125310	125	16	14	31.75	65	2 × 6	SPMG0904	ITS3504	ITK15	●
ICSPDE916125310	125	16	16	31.75	65	2 × 6	SPMG0904	ITS3504	ITK15	○
ICSPDE118125310	125	20	18	31.75	65	2 × 5	SPMG1104	ITS4006	ITK15	○
ICSPDE120125310	125	20	20	31.75	65	2 × 5	SPMG1104	ITS4006	ITK15	○

● stock ○ by inquiry

Arbor Type 三面刃銑刀





Insert Brand : Winstar

Order No.	D	L1	L	SB	d	D1	T	Inserts	Screw	Wrench	Stock
ICSPDF506080220	80	22	40	6	22	42	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDF507080220	80	22	40	7	22	42	2 × 4	SPMG0502	ITS2003	ITK06	●
ICSPDF608080220	80	22	40	8	22	42	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDF609080220	80	22	40	9	22	42	2 × 4	SPMG0602	ITS2205	ITK06	○
ICSPDF610080220	80	22	40	10	22	42	2 × 4	SPMG0602	ITS2205	ITK06	●
ICSPDF711080220	80	22	40	11	22	42	2 × 4	SPMG07T3	ITS2511	ITK08	○
ICSPDF712080220	80	22	40	12	22	42	2 × 4	SPMG07T3	ITS2511	ITK08	●
ICSPDF506100270	100	22	40	6	27	50	2 × 5	SPMG0502	ITS2003	ITK06	○
ICSPDF507100270	100	22	40	7	27	50	2 × 5	SPMG0502	ITS2003	ITK06	○
ICSPDF608100270	100	22	40	8	27	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDF609100270	100	22	40	9	27	50	2 × 5	SPMG0602	ITS2205	ITK06	●
ICSPDF610100270	100	22	40	10	27	50	2 × 5	SPMG0602	ITS2511	ITK08	●
ICSPDF711100270	100	22	40	11	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	○
ICSPDF712100270	100	22	40	12	27	50	2 × 5	SPMG07T3	ITS2511	ITK08	●
ICSPDF914100270	100	22	40	14	27	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDF916100270	100	22	40	16	27	50	2 × 5	SPMG0904	ITS3504	ITK15	○
ICSPDF608125320	125	25	45	8	32	70	2 × 6	SPMG0602	ITS2205	ITK06	○
ICSPDF610125320	125	25	45	10	32	70	2 × 6	SPMG0602	ITS2205	ITK06	●
ICSPDF711125320	125	25	45	11	32	70	2 × 6	SPMG07T3	ITS2511	ITK08	●
ICSPDF712125320	125	25	45	12	32	70	2 × 6	SPMG07T3	ITS2511	ITK08	●
ICSPDF914125320	125	25	45	14	32	70	2 × 6	SPMG0904	ITS3504	ITK15	○
ICSPDF916125320	125	25	45	16	32	70	2 × 6	SPMG0904	ITS3504	ITK15	○

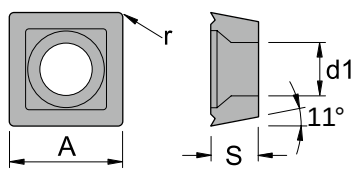
● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

Working Material	Vc	fz
Carbon Steel / Alloy Steel	100 ~ 220	0.10 ~ 0.35
Stainless Steel	130 ~ 200	0.12 ~ 0.30
Cast Iron	100 ~ 210	0.10 ~ 0.20

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	S	r	d1	
SPGG050204	5.00	2.38	0.4	2.30	SG
SPGG060204	6.00	2.38	0.4	2.65	SG
SPGG07T308	7.94	3.97	0.8	2.85	SG
SPGG090408	9.80	4.3	0.8	4.05	SG
SPGG110408	11.50	4.8	0.8	4.45	SG
SPMG050204	5.00	2.38	0.4	2.30	MG
SPMG060204	6.00	2.38	0.4	2.65	MG
SPMG07T308	7.94	3.97	0.8	2.85	MG
SPMG090408	9.80	4.3	0.8	4.05	MG
SPMG110408	11.50	4.8	0.8	4.45	MG



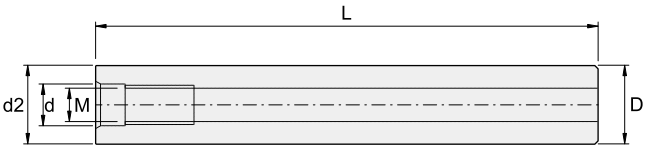
Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISPGG050204SG33TX	SPGG-050204-SG-CX33TX	●	●	●	●	●	●
	ISPGG060204SG33TX	SPGG-060204-SG-CX33TX	●	●	●	●	●	●
	ISPGG07T304SG33TX	SPGG-070304-SG-CX33TX	●	●	●	●	●	●
	ISPGG090408SG33TX	SPGG-090408-SG-CX33TX	●	●	●	●	●	●
	ISPGG110408SG33TX	SPGG-110408-SG-CX33TX	●	●	●	●	●	●

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISPMG050204MG32HS	SPMG-050204-MG-CX32HS	●	○	●			
	ISPMG050204MG33TX	SPMG-050204-MG-CX33TX	●	●	●		●	●
	ISPMG050204MG43TX	SPMG-050204-MG-CX43TX	●	●	○		●	
	ISPMG060204MG32HS	SPMG-060204-MG-CX32HS	●	○	●			
	ISPMG060204MG33TX	SPMG-060204-MG-CX33TX	●	●	●		●	●
	ISPMG060204MG43TX	SPMG-060204-MG-CX43TX	●	●	○		●	
	ISPMG07T308MG32HS	SPMG-07T308-MG-CX32HS	●	○	●			
	ISPMG07T308MG33TX	SPMG-07T308-MG-CX33TX	●	●	●		●	●
	ISPMG07T308MG43TX	SPMG-07T308-MG-CX43TX	●	●	○		●	
	ISPMG090408MG32HS	SPMG-090408-MG-CX32HS	●	○	●			
	ISPMG090408MG33TX	SPMG-090408-MG-CX33TX	●	●	●		●	●
	ISPMG090408MG43TX	SPMG-090408-MG-CX43TX	●	●	○		●	
	ISPMG110408MG32HS	SPMG-110408-MG-CX32HS	●	○	●			
	ISPMG110408MG33TX	SPMG-110408-MG-CX33TX	●	●	●		●	●
	ISPMG110408MG43TX	SPMG-110408-MG-CX43TX	●	●	○		●	

SWMEA - Carbide Adapter (Straight)

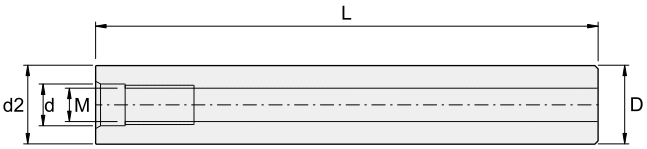


Straight

Order No.	Dimensions (mm)				
	d2	d	L	D	M
ISWMEA10075050	10	5.5	75	10	M5
ISWMEA10100050	10	5.5	100	10	M5
ISWMEA10150050	10	5.5	150	10	M5
ISWMEA10100060	10	6.5	100	10	M6
ISWMEA10150060	10	6.5	150	10	M6
ISWMEA11100060	11	6.5	100	11	M6
ISWMEA11150060	11	6.5	150	11	M6
ISWMEA12075060	12	6.5	75	12	M6
ISWMEA12100060	12	6.5	100	12	M6
ISWMEA12150060	12	6.5	150	12	M6
ISWMEA12200060	12	6.5	200	12	M6
ISWMEA14100080	14	8.5	100	14	M8
ISWMEA14150080	14	8.5	150	14	M8
ISWMEA14200080	14	8.5	200	14	M8
ISWMEA15100080	15	8.5	100	15	M8
ISWMEA15150080	15	8.5	150	15	M8
ISWMEA15200080	15	8.5	200	15	M8
ISWM2A06204080	15.875 (.625")	8.5 (.335")	100 (4")	15.875 (.625")	M8
ISWM2A06206080	15.875 (.625")	8.5 (.335")	150 (6")	15.875 (.625")	M8
ISWMEA16100080	16	8.5	100	16	M8
ISWMEA16150080	16	8.5	150	16	M8
ISWMEA16200080	16	8.5	200	16	M8
ISWMEA16250080	16	8.5	250	16	M8
ISWMEA16100100	16	10.5	100	16	M10
ISWMEA18150100	18	10.5	150	18	M10
ISWMEA18200100	18	10.5	200	18	M10

(continued)

SWMEA - Carbide Adapter (Straight)

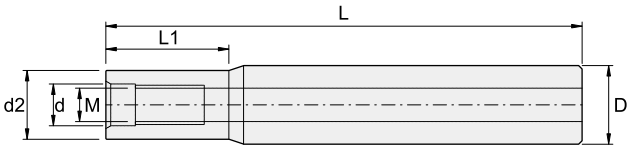


Straight

Order No.	Dimensions (mm)				
	d2	d	L	D	M
ISWM2A07504100	19.05 (.75")	10.5 (.413")	100 (4")	19.05 (.75")	M10
ISWM2A07506100	19.05 (.75")	10.5 (.413")	150 (6")	19.05 (.75")	M10
ISWMEA20100100	20	10.5	100	20	M10
ISWMEA20150100	20	10.5	150	20	M10
ISWMEA20200100	20	10.5	200	20	M10
ISWMEA20250100	20	10.5	250	20	M10
ISWMEA20300100	20	10.5	300	20	M10
ISWMEA20400100	20	10.5	400	20	M10
ISWMEA25100120	25	12.5	100	25	M12
ISWMEA25150120	25	12.5	150	25	M12
ISWMEA25200120	25	12.5	200	25	M12
ISWMEA25250120	25	12.5	250	25	M12
ISWMEA25300120	25	12.5	300	25	M12
ISWMEA25350120	25	12.5	350	25	M12
ISWM2A10004120	25.4 (1")	12.5 (.492")	100 (4")	25.4 (1")	M12
ISWM2A10006120	25.4 (1")	12.5 (.492")	150 (6")	25.4 (1")	M12
ISWM2A12506160	31.75 (1.25")	17 (.669")	150 (6")	31.75 (1.25")	M16
ISWMEA32200160	32	17	200	32	M16
ISWMEA32300160	32	17	300	32	M16
ISWMEA32350160	32	17	350	32	M16
ISWMEA32400160	32	17	400	32	M16

Customize available.

SWMEB - Carbide Adapter (Straight Neck)

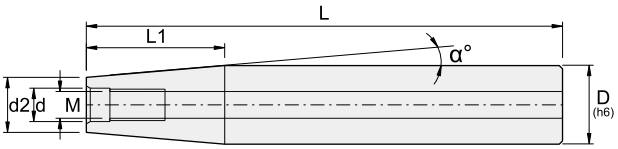


Straight Neck

Order No.	Dimensions (mm)					
	d2	d	L1	L	D	M
ISWMEB10100060	8.5	6.5	24	100	10	M6
ISWMEB12100060	11.5	6.5	24	100	12	M6
ISWMEB12100061	11.5	6.5	40	100	12	M6
ISWMEB12100062	11.5	6.5	60	100	12	M6
ISWMEB12150060	11.5	6.5	24	150	12	M6
ISWMEB12150061	11.5	6.5	100	150	12	M6
ISWMEB14100080	13	8.5	30	100	14	M8
ISWMEB14150080	13	8.5	60	150	14	M8
ISWMEB14200080	13	8.5	100	200	14	M8
ISWMEB16150082	13	8.5	32	150	16	M8
ISWMEB16150083	14	8.5	80	150	16	M8
ISWMEB16150080	15	8.5	30	150	16	M8
ISWMEB16150081	15	8.5	100	150	16	M8
ISWMEB16200080	15	8.5	40	200	16	M8
ISWMEB16200081	15	8.5	120	200	16	M8
ISWMEB20150102	17	10.5	40	150	20	M10
ISWMEB20200103	17	10.5	120	200	20	M10
ISWMEB20150100	19	10.5	40	150	20	M10
ISWMEB20150101	19	10.5	100	150	20	M10
ISWMEB20200100	19	10.5	40	200	20	M10
ISWMEB20200101	19	10.5	120	200	20	M10
ISWMEB20250101	19	10.5	200	250	20	M10
ISWMEB25150120	24	12.5	48	150	25	M12
ISWMEB25150121	24	12.5	100	150	25	M12
ISWMEB25200120	24	12.5	48	200	25	M12
ISWMEB25200121	24	12.5	100	200	25	M12
ISWMEB25200122	24	12.5	150	200	25	M12
ISWMEB25250121	24	12.5	200	250	25	M12
ISWMEB32200161	30	17	120	200	32	M16
ISWMEB32250162	30	17	200	250	32	M16
ISWMEB32300162	30	17	250	300	32	M16
ISWMEB32350162	30	17	300	350	32	M16

Customize available.

SWMET - Carbide Adapter (Taper Neck)

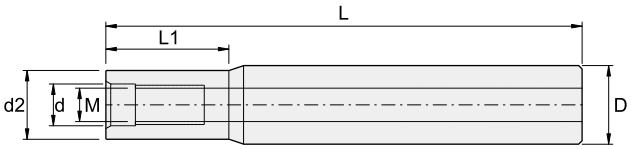


Taper Neck

Order No.	Dimensions (mm)						
	d2	d	α°	L1	L	D	M
ISWMET12150050	9.8	5.5	1°	60	150	12	M5
ISWMET12150060	9.8	6.5	1°	60	150	12	M6
ISWMET16150060	11.8	6.5	1.65°	70	150	16	M6
ISWMET16250060	11.8	6.5	1°	115	250	16	M6
ISWMET20300060	11.8	6.5	1.7°	135	300	20	M6
ISWMET20200080	15.5	8.5	1.3°	90	200	20	M8
ISWMET20300080	15.5	8.5	0.85°	135	300	20	M8
ISWMET25200100	19.8	10.5	1.6°	90	200	25	M10
ISWMET25300100	19.8	10.5	1.1°	135	300	25	M10
ISWMET32200120	24.5	12.5	2.3°	90	200	32	M12
ISWMET32300120	24.5	12.5	1.5°	135	300	32	M12

Customize available.

SWMSB - Alloy Steel Adapter (Straight Neck)



Straight Neck

Order No.	Dimensions (mm)					
	d2	d	L1	L	D	M
ISWMSB16100080	15	8.5	12	100	16	M8
ISWMSB16150080	15	8.5	12	150	16	M8
ISWMSB20100100	18	10.5	25	100	20	M10
ISWMSB20150100	18	10.5	25	150	20	M10
ISWMSB20200100	18	10.5	35	200	20	M10
ISWMSB25100120	23	12.5	12	100	25	M12
ISWMSB25150120	23	12.5	12	150	25	M12
ISWMSB25200120	23	12.5	20	200	25	M12
ISWMSB32150160	30	17	30	150	32	M16
ISWMSB32200160	30	17	30	200	32	M16
ISWMSB32250160	30	17	30	250	32	M16

Modular Tools Installation 安裝模組化銑刀

How to install the Modular Milling Head 如何安裝銑刀頭至抗震刀桿

1. Screw the adapter to the holder and clean.
將抗震刀桿鎖在刀把上

2. Screw the Milling Head to the adapter.
將銑刀頭鎖在抗震刀桿上

3. Use the spanner to screw the Milling Head.
使用板手鎖緊銑刀頭

4. Complete installation.
完成安裝

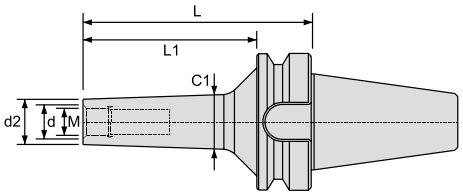
How to uninstall the Modular Milling Head 如何拆卸銑刀頭

When uninstall the Milling head, please push the spanner lightly for avoiding the neck broken.
拆卸銑刀頭時，請輕輕推動板手，避免刀頭頸部斷裂

Recommended Torque 建議板手扭力值

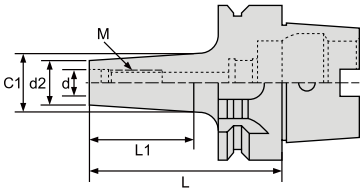
Suitable Modular Milling Head	Recommended Clamping Torque (N・m)
M5	10
M6	15
M8	23
M10	46
M12	80
M16	90

BT40/50 Arbor (screw-on)



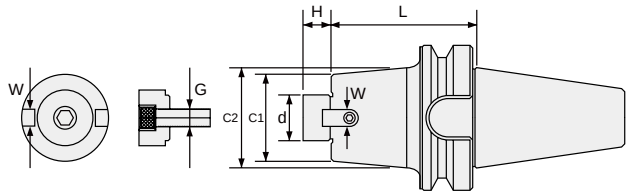
Order No.	d2	d	C1	L1	L	M	Arbor Type
IBT40DM08050	13	8.5	15	23	50	M8	BT40
IBT40DM10057	18	10.5	21	30	57	M10	
IBT40DM12080	21	12.5	25	53	80	M12	
IBT40DM16087	28	17.0	31	60	87	M16	
IBT40FMC403060	36	28.0	40	30	60	M18	
IBT40FMC406090	36	28.0	40	60	90	M18	
IBT50FMC5003065	48	36.0	50	30	65	M25	BT50
IBT50FMC50080115	48	36.0	50	80	115	M25	
IBT50FMC50130165	48	36.0	50	130	165	M25	

HSK63 Arbor (screw-on)



Order No.	d2	d	C1	L1	L	M
IHSK63AM08050	17	8.5	18	16	50	M8×P1.25
IHSK63AM10060	18	10.5	23	26	60	M10×P1.5
IHSK63AM10080	20	10.5	24	44	80	M10×P1.5
IHSK63AM12060	23	12.5	24	26	60	M12×P1.75
IHSK63AM12080	21	12.5	24	44	80	M12×P1.75
IHSK63AM16080	29	17	34	46	80	M16×P2.0
IHSK63AM16100	34	17	34	66	100	M16×P2.0

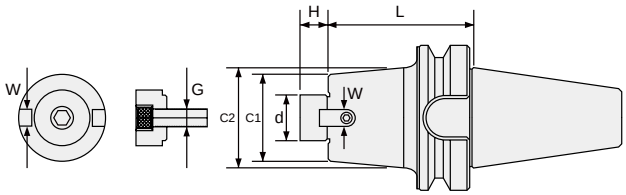
BT FMA Series (BT30, BT40, BT50)



Order No.	Dimensions (mm)							
	Cutter dia.	d	L	C1	C2	H	W	G
IBT30FMA25045	76	25.4	45	45	-	20	9.5	M12
IBT30FMA31045	100	31.75	45	60	-	22	12.7	M12
IBT40FMA25045	76	25.4	45	50	-	20	9.5	M12
IBT40FMA25090	76	25.4	90	50	60	20	9.5	M12
IBT40FMA31045	100	31.75	45	60	-	22	12.5	M12
IBT40FMA31075	100	31.75	75	60	70	22	12.5	M12
IBT40FMA31105	100	31.75	105	60	70	22	12.5	M12
IBT50FMA25045	76	25.4	45	50	-	20	9.5	M12
IBT50FMA25075	76	25.4	75	50	60	20	9.5	M12
IBT50FMA25100	76	25.4	100	50	60	20	9.5	M12
IBT50FMA31045	100	31.75	45	60	-	20	12.5	M12
IBT50FMA31075	100	31.75	75	60	70	20	12.5	M12
IBT50FMA31100	100	31.75	100	60	70	20	12.5	M12

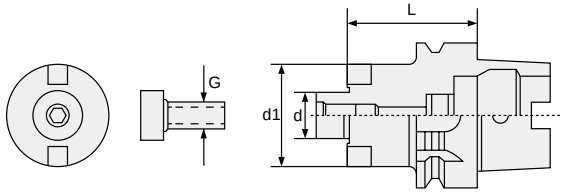
BT Face Milling Holder BT 面銑刀柄

BT FMB Series (BT30, BT40, BT50)



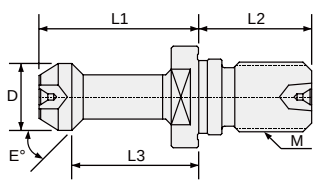
Order No.	Dimensions (mm)							
	Cutter dia.	d	L	C1	C2	H	W	G
IBT30FMB22045	60	22	45	56	-	18	10	M10
IBT30FMB27045	80	27	45	64	-	20	12	M12
IBT30FMB32045	100	32	45	70	-	20	14	M16
IBT40FMB22045	60	22	45	50	-	18	10	M10
IBT40FMB22060	60	22	60	50	60	18	10	M10
IBT40FMB22090	60	22	90	50	60	18	10	M10
IBT40FMB27045	80	27	45	60	-	20	12	M12
IBT40FMB27060	80	27	60	60	-	20	12	M12
IBT40FMB27090	80	27	90	60	-	20	12	M12
IBT40FMB27105	80	27	105	60	-	20	12	M12
IBT40FMB32045	100	32	45	78	-	20	14	M16
IBT40FMB40060	125	40	60	85	-	22	16	M16
IBT50FMB22060	60	22	60	50	-	18	10	M10
IBT50FMB22090	60	22	90	50	60	18	10	M10
IBT50FMB22150	60	22	150	50	60	18	10	M10
IBT50FMB27045	80	27	45	60	-	20	12	M12
IBT50FMB27090	80	27	90	60	70	20	12	M12
IBT50FMB27150	80	27	150	60	70	20	12	M12
IBT50FMB32045	100	32	45	70	-	20	14	M16
IBT50FMB32090	100	32	90	70	80	20	14	M16
IBT50FMB40045	125	40	45	90	-	23	16	M16
IBT50FMB40090	125	40	90	90	100	23	16	M16

HSK63 FMA / FMB Series



Order No.	Dimensions (mm)			
	d	d1	L	G
IHSK63AFMA25050	25.4	52	50	M12
IHSK63AFMA25075	25.4	51	75	M12
IHSK63AFMA25105	25.4	54	105	M12
IHSK63AFMA25150	25.4	54	150	M12
IHSK63AFMB16045	16	37	45	M8
IHSK63AFMB22050	22	45	50	M10
IHSK63AFMB22075	22	47	75	M10
IHSK63AFMB22105	22	47	105	M10
IHSK63AFMB22150	22	47	150	M10
IHSK63AFMB27050	27	52	50	M12
IHSK63AFMB27150	27	58	150	M12
IHSK63AFMB32150	32	76	150	M16

BT Pull Studs



Order No.	Dimensions (mm)						For Arbor
	L1	L2	L3	D	E°	M	
IP30T01	23	20	18	11	45°	M12	BT30
IP30T02	23	20	18	11	60°	M12	BT30
IP40T01	35	25	28	15	45°	M16	BT40
IP40T02	35	25	28	15	60°	M16	BT40
IP50T01	45	40	35	23	45°	M24	BT50
IP50T02	45	40	35	23	60°	M24	BT50

Milling Inserts Grade Comparison - PVD 銑刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10			JP4115	ACU2500 ACP200	PR1225 PR1230 PR1525		PC2005 PC2010	TT2510
	P20	CX23TX CX32HS CX33TX	MP6120 VP15TF	JP4020 JP4120 CP9020 CY150	ACP3000 ACU2500 ACP200 ACP300	PR1225 PR1230 PR1525	AH725 AH120 AH330	PC3600 PC3700 PC2510	TT7080 TT7030
	P30	CX32HS CX33TX	VP15TF MP6120 MP6130 VP30RT	JS4045 CY250 CY25	ACP3000 ACU2500 ACP200 ACP300	PR1225 PR1230 PR1525	AH725 AH130 AH140 AH730	PC5300	TT9080 TT9030
	P40	CX43TX	VP30RT	JS4060 JS4160 JX1060	ACP3000 ACU2500 ACP300		AH140 AH3035	PC5400	TT8080 TT8020
M Stainless Steel	M10				ACM100 ACU2500 ACK300 ACP300	PR1225 PR1525			
	M20	CX23TX	VP15TF MP7130 MP7140 VP20RT	JP4020 JP4120	ACM300 ACU2500 ACP300	PR1225 PR1525 PR1535	AH725 AH120 AH330 GH110	PC210F PC5300	TT9080 TT9030
	M30	CX33TX CX43TX	VP15TF MP7130 MP7140 VP30RT	JS4045 CY250 CY25	ACM300	PR1225 PR1525 PR1535	AH725 AH130 AH730 GH130	PC9530	TT3540 TT8080 TT8020
	M40	CX43TX	MP7140 VP30RT	JM4160	ACM300	PR1525 PR1535	AH140 AH3135 AH4035	PC5400 PC9540	TT3540
K Cast Iron	K01		MP8010	ATH80D TH308		PR1510	AH110 GH110 AH330	PC8110	
	K10	CX23TX	MP8010	TH315 CY100H	ACK3000 ACU2500	PR1210 PR1510	AH110 AH120 GH110 AH725 AH330	PC6510	TT7515 TT6080
	K20	CX32HS CX33TX	VP15TF VP20RT	CY150 JP4120 CY9020	ACK3000 ACU2500 ACK300	PR1210 PR1510	GH130	PC5300	TT7515 TT6080
	K30	CX33TX CX43TX	VP15TF VP20RT	CY250 JS4045	ACK3000 ACU2500 ACK300	PR1510		PC5300	TT3080
S Super Alloy	S01			PN08M PN208	ACM100 ACU2500 ACK300 ACP300	PR905 PR1210 PR1535	AH110 AH710		
	S10	CX33TX	MP9120 VP15TF	JS1025 JP4120	ACM100 ACU2500 ACK300 ACP300	PR905 PR1210 PR1535	AH120 AH725		TT9030 TT9080 TT8080
	S20	CX43TX	MP9120 VP15TF MP9130 MP9030	PTH30H	ACM300 ACU2500 ACP300	PR905 PR1210 PR1535	AH725 AH130 AH6030	PC5300	TT8080 TT8020
	S30	CX43TX	MP9140	JM4160	ACM300	PR1535	AH130	PC3545	TT3540 TT8020

The above table is selected from a publication for reference only, which is not obtained approval from each brand.
此材質比較表僅供參考

Milling Inserts Grade Comparison - PVD 銑刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10		GC1010	IC903 IC4100 IC4050	KC715M KC930M KC935M		WKP25 WKP25S WPP20 WKK20S
	P20	CX23TX CX33TX	GC1010 GC1030 GC1130 GC2030	IC8080 IC810 IC380	KC715M KC930M KC935M	F25M MP3000	WSM20
	P30	CX33TX CX43TX	GC1010 GC1030 GC1130 GC2030	IC830 IC928 IC330	KC735M KC530M KC537M	F30M F40M MP3000	WSM30 WSM35
	P40	CX43TX	GC2030 GC1030 GC1130		KC735M KC537M KCPM40	F40M T60M	WKP45 WP45S WSP45
M Stainless Steel	M10		GC1025 GC1030	IC903	KC715M KC515M		
	M20	CX23TX	GC1025 GC1030 GC1040 GC2230	IC908 IC928	KC635M KC730M KC525M KCPM40	F25M MP3000	WSM35 WXM35
	M30	CX43TX	S30T GC1040 GC2230	IC328 IC330 IC830	KC530M KC537M K735M KCPM40	F30M F40M MP3000	WSM35 WXM35
	M40	CX43TX		IC328 IC300 IC330		F40M	WSP45 WSM45S
K Cast Iron	K01						
	K10	CX23AX	GC1010	IC350 IC810	KC514M KC515M KC527M KC635M	MK1500	WAK15
	K20	CX33TX	GC1010 GC1020	IC5100 IC830	KC514M KC610M KC520M KC620M	MK1500 MK2000 T150M	WAK15 WKK25 WKP25S
	K30	CX33TX CX43TX	GC1020	IC810 IC908 IC910 IC928 IC950	KC522M KC725M KC524M KC735M	MK2000 MK2050	WKP35S WPP20
S Super Alloy	S01		GC1010	IC808 IC907 IC908	KC510M		
	S10	CX33TX	S30T GC1010 GC1030 GC2030	IC808 IC907 IC908 IC903	KC510M KC610M	MS2050	
	S20	CX43TX	S30T GC1030 GC1040 GC2030 GC2040	IC300 IC900 IC830 IC928	KC522M KC525M KC610M	MS2050 F40M	WSM35 WSM36
	S30	CX43TX	S30T GC1040 GC2040	IC830 IC928	KC522M KC525M KC725M	MS2050 F40M	WSM35 WSM36 WSP45 WSP46

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此材質比較表僅供參考

Milling Inserts Grade Comparison - CVD 銑刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10				XCU2500 ACP2000 ACP100				
	P20	CX47TA	F7030 MC7020	GX2140	XCU2500 ACP2000 ACP100		T3130 T3225	NC5330	
	P30	CX47TA	F7030 MC7020	GX2140 GX2160	XCU2500 ACP2000 ACP100		T3130 T3225	NC5330 NCM535	TT8525B
	P40			GX2030 GX30 GX2160				NCM545	TT8525B
M Stainless Steel	M10				XCU2500 ACM200			NC5330	
	M20	CX47TA	F7030 MC7020	AX2040 GX2140	XCU2500 ACM200	CA6535	T3130 T3225	NC5330	TT9540
	M30	CX47TA	F7030 FC7020 MC7020	AX2040 GX2140 GX2160 GX30	XCU2500 ACM200	CA6535	T3130 T3225	NCM535 NCM545	TT8525B TT9540
	M40			GX2030 GX2160 GX30				NCM545	TT8525B TT9540
K Cast Iron	K01								
	K10	CX37TA	MC5020		XCK2000 ACK2000 ACK200	CA420M	T1215 T1115 T1015	NC5330	TT7515
	K20	CX37TA	MC5020		XCK2000 XCU2500 ACK2000 ACK200		T1115 T1015	NC5330	TT7515
	K30			GX30				NCM535	TT7515

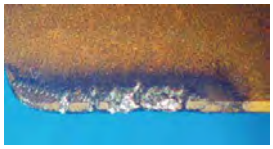
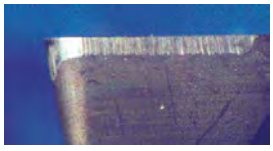
The above table is selected from a publication for reference only, which is not obtained approval from each brand.
此材質比較表僅供參考

Milling Inserts Grade Comparison - CVD 銑刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10			IC9080 IC4100 IC9015		MP1500	WKP25
	P20	CX37TA	GC4220	IC5500 IC5100 IC520M		MP1500 MP2500	WKP35
	P30	CX37TA	GC4330 GC4230	IC5500 IC4050	KCPK30 KC930M	MP2500	
	P40	CX47TA	GC4340 GC4240		KC935M KC530M KCPM20		
M Stainless Steel	M10			IC9250			
	M20			IC520M IC9350	KC925M	MP2500 MM4500	
	M30	CX47TA	GC2040	IC9350 IC4050	KC930M KCPM20	MP2500 MM4500	
	M40			IC635	KC930M KC935M		
K Cast Iron	K01						
	K10						WAK15
	K20	CX37TA	GC3220 GC3330 K20W	IC5100 IC9150	KC915M	MK1500 MK2000	WKP25
	K30	CX37TA CX47TA	GC3330 GC3040	IC4100 IC4050 IC520M	KC920M KC925M KCPK30 KC930M KC935M KCPM20	MK2000 MK3000	WKP35

The above table is selected from a publication for reference only, which is not obtained approval from each brand.
此材質比較表僅供參考

Troubleshooting 加工異常原因及對策

Trouble / 情況	Occurrences / 原因	Countermeasures / 對策
 Thermal Crackin 熱裂	Intermittent heating of the cutting edge. High speed, high volume metal removal. 切削角間歇性高熱，高切削線速度和較大的金屬移除量，造成的熱裂	1.Use heat resistant grades 使用具有耐熱阻抗的刀片材質 2.Use positive or large rake tools 使用正角或較銳利的刀片 3.Increase nose radius 使用較大半徑刀口的刀片 4.Reduce speed, feed or depth of cut 降低切削線速度、進給或切深
Chipping 脆裂	Cutting tool excessively brittle. 刀片材質太硬脆	1.Use tougher grades 使用韌性較高的刀片材質 2.Use negative or smaller rake tools 使用負角或較鈍的刀片 3.Increase nose radius 使用較大半徑刀口的刀片 4.Use increased edge land 使用較大刀口平台的刀片 5.Increase cutting speed 增加切削線速度
 Excessive Flank Wear 過度磨耗	Cutting tool too soft. 刀片材質太軟 Surface speed too fast. 切削線速度太快	1.Use harder and more wear resistant grade 使用較硬或較耐磨的刀片材質 2.Reduce cutting speed 降低切削線速度 3.Increase feed 增加進給 4.Use coolant 使用冷卻液
Notching 凹陷	Cutting material working harden cause serious wear of insert. 被加工材料產生硬化而造成刀片嚴重磨損	1.Increase approach angle 增加進刀時切削邊隙角 2.Reduce cutting speed and feed 降低切削線速度及進給量 3.Use high lubricity coolant 使用潤滑性較高的冷卻液
Built-Up-Edge 積屑	Cutting speed too slow for material being machined. 就被加工材料而言，切削線速度太低	1.Increase cutting speed 提高切削線速度 2.Use friction reducing grade 使用摩擦力較低的刀片材質 3.Use high lubricity coolant 使用潤滑性較高的冷卻液
Deformation 變形	Heavy feeds or higher cutting speed. 切削線速度太快或是進給量太大	1.Reduce cutting speed or feed 降低切削線速度或進給量 2.Use polished tools to reducing friction 使用拋光刀片降低磨擦阻力 3.Use more heat resistant grade 使用更高耐熱阻抗的刀片材質
Crater Wear 熱裂	Excessive heat and pressure welding of chip to rake. 切削產生的高溫和高壓，造成鐵屑焊黏在刀口上	1.Use a harder grade 使用較硬的刀片材質 2.Reduce cutting speed and feed 降低切削線速度及進給量 3.Use high lubricity coolant 使用潤滑性較高的冷卻液

＊ Pictures from Kennametal Tooling Catalogue

WINSTAR

Solid End Milling

整體式銑刀

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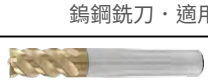
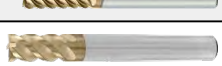
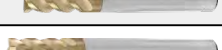
H65X ***Carbide Endmills for High Hardened Steel*** 鎢鋼銑刀・適用於高硬度鋼					High Speed・General Purpose 高速泛用加工							ASIA (Metric)
	Square · High Helix · 2F / 4F 平銑刀・高導型・2 刃 / 4 刃	EHSSH	45°	Ø0.2~Ø20	ANAX	●	○	●		○	●	B017
	Square · High Helix · Long Shank · 4F 平銑刀・高導長柄型・4 刃	EHSLH	45°	Ø3~Ø20	ANAX	●	○	●		○	●	B018
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	EHCSH	30°	Ø1~Ø12	ANAX	●	○	●		○	●	B019
	Corner Radius · Short Flute · 4F 圓鼻銑刀・短刃型・4 刃	EHCUH	30°	Ø3~Ø12	ANAX	●	○	●		○	●	B020
	Corner Radius · Long Shank · 4F 圓鼻銑刀・長柄型・4 刃	EHCLH	30°	Ø4~Ø12	ANAX	●	○	●		○	●	B021
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	EHBSH	30°	0.1R~8R	ANAX	●	○	●		○	●	B022
	Ball Nose · Short Flute · 2F 球型銑刀・短刃型・2 刃	EHBUH	27°	1R~8R	ANAX	●	○	●		○	●	B023
	Ball Nose · Near Center Design · 3F / 4F 球型銑刀・刃近中心型・3 刃 / 4 刃	EHBHS	30°	1R~8R	ANAX	●	●	●		○	●	B024
	Ball Nose · Long Shank · 2F 球型銑刀・長柄型・2 刃	EHBLH	30°	1R~10R	ANAX	●	○	●		○	●	B025
	Square · Long Neck · 2F 平銑刀・長頸型・2 刃	EHSRC	30°	Ø0.2~Ø12	ANAX	●	○	●		○	●	B026
	Square · Long Neck · 4F 平銑刀・長頸型・4 刃	EHSRC	30°	Ø1~Ø12	ANAX	●	○	●		○	●	B032
	Corner Radius · Long Neck · 2F 圓鼻銑刀・長頸型・2 刃	EHCRC	30°	Ø1~Ø12	ANAX	●	○	●		○	●	B034
	Corner Radius · Long Neck · 4F 圓鼻銑刀・長頸型・4 刃	EHCRC	30°	Ø2~Ø12	ANAX	●	○	●		○	●	B040
	Ball Nose · Long Neck · 2F 球型銑刀・長頸型・2 刃	EHBRC	30°	0.15R~6R	ANAX	●	○	●		○	●	B044
	Corner Radius · Short Flute · Taper Neck · 2F 圓鼻銑刀・短刃斜頸型・2 刃	EHCRT	30°	Ø1~Ø6	ANAX	●	○	●		○	●	B049
	Ball Nose · Short Flute · Taper Neck · 2F 球型銑刀・短刃斜頸型・2 刃	EHBRT	30°	0.5R~4R	ANAX	●	○	●		○	●	B053
H68X ***Carbide Endmills for High Hardened Steel*** 鎢鋼銑刀・適用於高硬度鋼					High Precision Finishing 高精加工							ASIA (Metric)
	Square · High Precision · Standard · 4F 平銑刀・高精標準型・4 刃	EHSSF	45°	Ø1~Ø12	SNAX	●	○	●		○	●	B056
	Square · High Precision · High Helix · 6F / 8F 平銑刀・高精高導型・6 刃 / 8 刃	EHSMF	50°	Ø6~Ø16	SNAX	●	○	●		○	●	B057
	Square · High Precision · Long Shank · 4F 平銑刀・高精長柄型・4 刃	EHSLF	45°	Ø4~Ø12	SNAX	●	○	●		○	●	B058
	Corner Radius · High Precision · Standard · 4F 圓鼻銑刀・高精標準型・4 刃	EHCSF	30°	Ø1~Ø12	SNAX	●	○	●		○	●	B059
	Corner Radius · High Precision · Long Shank · 4F 圓鼻銑刀・高精長柄型・4 刃	EHCLF	30°	Ø4~Ø12	SNAX	●	○	●		○	●	B060
	Ball Nose · High Precision · Standard · 2F 球型銑刀・高精標準型・2 刃	EHBSF	30°	0.5R~6R	SNAX	●	○	●		○	●	B061
	Ball Nose · High Precision · Finishing · Short · 2F 球型銑刀・高精短刃型・2 刃	EHBUA	30°	0.5R~3R	SNAX	●	○	●		○	●	B062
	Ball Nose · High Precision · Finishing · Neck · 2F 球型銑刀・高精短刃長頸型・2 刃	EHBUA	30°	0.5R~3R	SNAX	●	○	●		○	●	B063
	Ball Nose · High Precision · Short with Neck · 2F 球型銑刀・高精短刃型・2 刃	EHBUF	30°	0.1R~6R	SNAX	●	○	●		○	●	B064
	Ball Nose · High Precision · Long Shank · 2F 球型銑刀・高精長柄型・2 刃	EHBLF	30°	2R~6R	SNAX	●	○	●		○	●	B065

Index 索引

Appearance 外觀	Name 名稱	Code No. 編碼	Helix 螺旋角	Diameter 外徑	Coating 塗層	P	M	K	N	S	H	Page 頁碼
H70X ***Carbide Endmills for High Hardened Steel*** 鎢鋼銑刀・適用於高硬度鋼				High Feed・Finishing 高進給・精加工								ASIA (Metric)
	Square · High Helix · 6F 平銑刀・高導型・6 刃	EHSSS	45°	Ø6~Ø12	SNAX	●	○	●		○	●	B066
	Square · High Helix · 8F 平銑刀・高導型・8 刃	EHSSS	45°	Ø16~Ø25	SNAX	●	○	●		○	●	B066
	Square · High Helix · Short Flute · 4F 平銑刀・高導短刃型・4 刃	EHSUS	45°	Ø1~Ø5	SNAX	●	○	●		○	●	B067
	Square · High Helix · Short Flute · 6F 平銑刀・高導短刃型・6 刃	EHSUS	45°	Ø6~Ø12	SNAX	●	○	●		○	●	B067
	Square · High Helix · Short Flute · 8F 平銑刀・高導短刃型・8 刃	EHSUS	45°	Ø16~Ø20	SNAX	●	○	●		○	●	B067
	Corner Radius · High Helix · 6F 圓鼻銑刀・高導型・6 刃	EHCSS	45°	Ø6~Ø20	SNAX	●	○	●		○	●	B068
	Corner Radius · High Feed · Short Flute · 4F 圓鼻銑刀・高進給直短刃型・4 刃	EHCUK	0°	Ø2~Ø12	SNAX	●	○	●		○	●	B069
	Corner Radius · High Feed · 4F 圓鼻銑刀・高進給直刃型・4 刃	EHCUS	0°	Ø1~Ø12	SNAX	●	○	●		○	●	B070
	Ball Nose · Low Helix · Short Flute · 2F 球型銑刀・低導短刃型・2 刃	EHBUS	15°	0.5R~8R	SNAX	●	○	●		○	●	B071
V53 ***Carbide Endmills for Super Alloy*** 鎢鋼銑刀・適用於高溫合金				Anti-vibration・Variable Helix 抗震・不等螺旋								ASIA (Metric)
	Square · Variable Helix 30~32 · 4F 不等螺旋平銑刀・4 刃	ESSSVA	30°~32°	Ø6~Ø16	PNAX	●	●	●		●	○	B073
	Square · Variable Helix 35~38 · 4F 不等螺旋平銑刀・4 刃	ESSSVB	35°~38°	Ø4~Ø20	PNAX	●	●	●		●	○	B074
	Square · Variable Helix 38~41 · 4F 不等螺旋平銑刀・4 刃	ESSSVC	38°~41°	Ø1~Ø25	PNAX	●	●	●		●	○	B075
	Square · Variable Helix 38~42 · 5F 不等螺旋平銑刀・5 刃	ESSSVC	38°~42°	Ø6~Ø16	PNAX	○	●	○		●	○	B076
	Square · Variable Helix 43~46 · 4F 不等螺旋平銑刀・4 刃	ESSSVD	43°~46°	Ø4~Ø12	PNAX	●	●	●		●	○	B077
	Corner Radius · Variable Helix 35~38 · 4F 不等螺旋圓鼻銑刀・4 刃	ESSSVB	35°~38°	Ø4~Ø16	PNAX	●	●	●		●	○	B078
	Corner Radius · Variable Helix 35~38 · Necked · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃	ESSUVB	35°~38°	Ø4~Ø16	PNAX	●	●	●		●	○	B079
	Corner Radius · Variable Helix 38~41 · 4F 不等螺旋圓鼻銑刀・4 刃	ESSSVC	38°~41°	Ø4~Ø12	PNAX	●	●	●		●	○	B080
	Corner Radius · Variable Helix 38~42 · 5F 不等螺旋圓鼻銑刀・5 刃	ESSSVC	38°~42°	Ø4~Ø16	PNAX	○	●	○		●	○	B081
	Corner Radius · Variable Helix 43~46 · 4F 不等螺旋圓鼻銑刀・4 刃	ESSSVD	43°~46°	Ø4~Ø12	PNAX	●	●	●		●	○	B082
	Corner Radius · Variable Helix 43~46 · Necked · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃	ESSUVD	43°~46°	Ø4~Ø16	PNAX	●	●	●		●	○	B083

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												DIN (Metric)
	Square · Variable Helix 35~38 · Neck · 4F 不等螺旋平銑刀・帶頸型・4 刃	E514VB	35°~38°	Ø4~Ø16	PNAX	●	●	●		●	○	B084
	Square · Variable Helix 39~42 · Neck · 4F 不等螺旋平銑刀・帶頸型・4 刃	E514VC	39°~42°	Ø4~Ø16	PNAX	●	●	●		●	○	B085
	Square · Variable Helix 39~42 · Neck · 5F 不等螺旋平銑刀・帶頸型・5 刃	E514VC	39°~42°	Ø6~Ø16	PNAX	○	●	○		●	○	B086
	Square · Variable Helix 43~46 · Neck · 4F 不等螺旋平銑刀・帶頸型・4 刃	E514VD	43°~46°	Ø4~Ø16	PNAX	●	●	●		●	○	B087
	Corner Radius · Variable Helix 35~38 · Neck · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃	E534VB	35°~38°	Ø4~Ø16	PNAX	●	●	●		●	○	B088
	Corner Radius · Variable Helix 39~42 · Neck · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃	E534VC	39°~42°	Ø4~Ø16	PNAX	●	●	●		●	○	B089
	Corner Radius · Variable Helix 39~42 · Neck · 5F 不等螺旋圓鼻銑刀・帶頸型・5 刃	E534VC	39°~42°	Ø6~Ø16	PNAX	○	●	○		●	○	B090
	Corner Radius · Variable Helix 43~46 · Neck · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃	E534VD	43°~46°	Ø4~Ø16	PNAX	●	●	●		●	○	B091

V47 Carbide Endmills for Stainless Steel
鎢鋼銑刀・適用於不鏽鋼

Anti-vibration・Variable Pitch
抗震・不等分割

ASIA (Metric)

	Square · Variable Pitch · Helix 35 · 4F 不等分割平銑刀・4 刃	EPSSVB	35°	Ø4~Ø16	TACO	●	○	●				B093
	Square · Variable Pitch · Helix 38 · 4F 不等分割平銑刀・4 刃	EPSSVC	38°	Ø1~Ø25	TACO ANAX	● ●	○ ●	● ●		○	○	B094
	Square · Variable Pitch · Helix 38 · 5F 不等分割平銑刀・5 刃	EPSSVC	38°	Ø6~Ø16	PNAX	○	●	○		●	○	B095
	Square · Variable Pitch · Helix 38 · 7F 不等分割平銑刀・7 刃	EPSSVC	38°	Ø6~Ø16	ANAX	○	●	○		●	○	B096
	Square · Variable Pitch · Helix 38 · Necked · 4F 不等分割平銑刀・帶頸型・4 刃	EPSUVC	38°	Ø6~Ø16	ANAX	●	●	●		○	○	B097
	Square · Variable Pitch · Helix 38 · Roughing & Finishing · 4F 不等分割平銑刀・粗精一體型・4 刃	EPSRVC	38°	Ø6~Ø16	ANAX	●	●	●		○	○	B098
	Square · Variable Pitch · Helix 45 · 4F 不等分割平銑刀・4 刃	EPSSVD	45°	Ø4~Ø16	ANAX	●	●	●		●	●	B099
	Square · Variable Pitch · Helix 43 · 5F 不等分割平銑刀・5 刃	EPSSVD	43°	Ø6~Ø16	ANAX	●	●	●		●	●	B100
	Square · Variable Pitch · Helix 43 · 7F 不等分割平銑刀・7 刃	EPSSVD	43°	Ø10~Ø16	ANAX		●			●	●	B101
	Square · Variable Pitch · Helix 43 · Long Flute · 5F 不等分割平銑刀・長刃型・5 刃	EPSCVD	43°	Ø6~Ø16	ANAX	●	●	●		●	●	B102
	Square · Variable Pitch · Helix 43 · Long Flute · 7F 不等分割平銑刀・長刃型・7 刃	EPSCVD	43°	Ø10~Ø16	ANAX		●			●	●	B103
	Square · Variable Pitch · Chip Breaker · Helix 43 · Long Flute · 5F 不等分割平銑刀・斷屑長刃型・5 刃	EPSCVH	43°	Ø6~Ø16	ANAX	●	●	●		●	●	B104
	Corner Radius · Variable Pitch · Helix 35 · 4F 不等分割圓鼻銑刀・4 刃	EPSSVB	35°	Ø8~Ø16	TACO	●	○	●				B093
	Corner Radius · Variable Pitch · Helix 38 · 4F 不等分割圓鼻銑刀・4 刃	EPSSVC	38°	Ø4~Ø25	TACO ANAX	● ●	○ ●	● ●		○	○	B105
	Corner Radius · Variable Pitch · Helix 38 · 5F 不等分割圓鼻銑刀・5 刃	EPSSVC	38°	Ø6~Ø16	PNAX	○	●	○		●	○	B106
	Corner Radius · Variable Pitch · Helix 38 · Necked · 4F 不等分割圓鼻銑刀・帶頸型・4 刃	EPSUVC	38°	Ø6~Ø16	ANAX	●	●	●		○	○	B107

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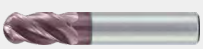
	Corner Radius · Variable Pitch · Helix 45 · 4F 不等分割圓鼻銑刀・4 刃	EPSSVD	45°	Ø6~Ø16	ANAX	●	●	●		●	●	B108
	Corner Radius · Variable Pitch · Helix 43 · 7F 不等分割圓鼻銑刀・7 刃	EPSSVD	43°	Ø10~Ø12	ANAX		●			●	●	B101
	Corner Radius · Variable Pitch · Helix 43 · Long Flute · 5F 不等分割圓鼻銑刀・長刃型・5 刃	EPSCVD	43°	Ø6~Ø12	ANAX	●	●	●		●	●	B102
	Corner Radius · Variable Pitch · Helix 43 · Long Flute · 7F 不等分割圓鼻銑刀・長刃型・7 刃	EPSCVD	43°	Ø10~Ø16	ANAX		●			●	●	B103
	Corner Radius · Variable Pitch · Helix 52 · Standard · 4F 不等分割圓鼻銑刀・標準型・4 刃	EPSSVE	52°	Ø8~Ø16	ANAX		●			●	●	B109
	Ball Nose · Variable Pitch · Helix 38 · Standard · 4F 不等分割球銑刀・標準型・4 刃	EPBSVC	38°	2R ~ 8R	ANAX	●	●	●		●	○	B110

DIN (Metric)

	Square · Variable Pitch · Helix 38° · 4F 不等分割平銑刀・4 刃	E113VC	38°	Ø4~Ø20	ANAX	●	●	●		●	○	B111
	Corner Radius · Variable Pitch · Helix 38° · 4F 不等分割圓鼻銑刀・4 刃	E133VC	38°	Ø4~Ø20	ANAX	●	●	●		●	○	B112

ANSI (Inch)

	Square · Variable Pitch · 4F (Inch) 不等分割平銑刀・4 刃 (英吋)	EP□□V	38°	Ø1/8"~1"	UNICO	●	●	●		○	○	B113
	Corner Radius · Variable Pitch · 4F (Inch) 不等分割圓鼻銑刀・4 刃 (英吋)	EP□□V	38°	Ø1/8"~1"	UNICO	●	●	●		○	○	B115
	Ball Nose · Variable Pitch · 2F (Inch) 不等分割球型銑刀・2 刃 (英吋)	EPB□V	38°	Ø1/8"~5/16"	UNICO	●	●	●		○	○	B117
	Ball Nose · Variable Pitch · 4F (Inch) 不等分割球型銑刀・4 刃 (英吋)	EPB□V	38°	Ø1/8"~5/16"	UNICO	●	●	●		○	○	B117

M50X Carbide Endmills for Stainless Steel
鎢鋼銑刀・適用於不鏽鋼

General Milling
泛用加工

ASIA (Metric)

	Square · Standard · 2F 平銑刀・標準型・2 刃	ESSSA	35°	Ø0.5~Ø16	ANAX	●	●	●		○	○	B118
	Square · Standard · 4F 平銑刀・標準型・4 刃	ESSSA	35°	Ø1~Ø16	ANAX	●	●	●		○	○	B119
	Square · High Helix · 4F 平銑刀・高導高效能型・4 刃	ESSSH	45°	Ø1~Ø16	ANAX	●	●	●		●	○	B120
	Square · Wave Edge · 3F 平銑刀・波浪型・3 刃	ESSSW	30°~40°	Ø6~Ø20	ANAX	●	●	●		●	○	B121
	Square · Wave Edge · 4F 平銑刀・波浪型・4 刃	ESSSW	30°~40°	Ø6~Ø20	ANAX	●	●	●		●	○	B121
	Square · High Feed · 4F 平銑刀・高進給型・4 刃	ESSSU ESCSU	30°	Ø3~Ø16	ANAX	●	●	●		●	○	B122
	Square · Short Flute · 4F 平銑刀・短刃型・4 刃	ESSHA	35°	Ø3~Ø16	ANAX	●	●	●		○	○	B123
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	ESCSA	35°	Ø1~Ø12	ANAX	●	●	●		○	○	B124
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	ESBSA	35°	0.25R~8R	ANAX	●	●	●		○	○	B125
	Ball Nose · Near Center Design · 3F / 4F 球型銑刀・刃近中心型・3 刃 / 4 刃	ESBHS	35°	1R~8R	ANAX	●	●	●		●	○	B126

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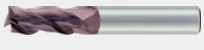
G55 Carbide Endmills for Alloy Steel 鎢鋼銑刀・適用於合金鋼	G55A for Semi-fininshing to medium, G55C for Medium to roughuing 半精至中加工 中至粗加工											ASIA (Metric)
	Square · Standard · Helix 30 · 2F 平銑刀・標準型・2 刃	EPSSC	30°	Ø0.2~Ø25	UNICO	●	○	●			○	B127
					UNAX	●	●	●		○	○	
	Square · Standard · Helix 35 · 2F 平銑刀・標準型・2 刃	EPSSA	35°	Ø1~Ø25	UNICO	●	○	●			○	B129
					UNAX	●	●	●		○	○	
	Square · Standard · Helix 30 · 3F 平銑刀・標準型・3 刃	EPSSC	30°	Ø1~Ø25	UNICO	●	○	●			○	B130
					UNAX	●	●	●		○	○	
	Square · Standard · Helix 35 · 3F 平銑刀・標準型・3 刃	EPSSA	35°	Ø1~Ø25	UNICO	●	○	●			○	B131
					UNAX	●	●	●		○	○	
	Square · Standard · Helix 30 · 4F 平銑刀・標準型・4 刃	EPSSC	30°	Ø1~Ø25	UNICO	●	○	●			○	B132
					UNAX	●	●	●		○	○	
	Square · Standard · Helix 35 · 4F 平銑刀・標準型・4 刃	EPSSA	35°	Ø1~Ø25	UNICO	●	○	●			○	B133
					UNAX	●	●	●		○	○	
	Square · Sharp Edge · Helix 30 · 4F 平銑刀・銳角型・4 刃	EPSPC	30°	Ø1~Ø16	UNICO	●	○	●			○	B134
					UNAX	●	●	●		○	○	
	Square · Helix 45 · 4F 平銑刀・高導型・4 刃	EPSSH	45°	Ø1~Ø16	UNICO	●	○	●			○	B135
					UNAX	●	○	●		○	●	
	Square · Helix 45 · 4F 平銑刀・高導型・4 刃	EPSSH	45°	Ø1~Ø16	UNICO	●	○	●			○	B136
					UNAX	●	●	●		●	○	
	Square · Helix 45 · 6F 平銑刀・高導型・6 刃	EPSSH	45°	Ø6~Ø12	UNICO	●	○	●			○	B137
					UNAX	●	●	●		○	○	
	Square · Short · Helix 30 · 4F 平銑刀・短刃型・4 刃	EPSHC	30°	Ø1~Ø12	UNICO	●	○	●			○	B138
	Square · Short · Helix 35 · 4F 平銑刀・短刃型・4 刃	EPSHA	35°	Ø3~Ø16	UNICO	●	○	●			○	B139
	Square · Taper · Helix 35 · 2F 平銑刀・斜度型・2 刃	EPSST	35°	Ø0.15~Ø10	UNICO	●	○	●			○	B140
	Square · Roughing · Helix 30 · 4F 平銑刀・粗銑型・4 刃	EPSRR	30°	Ø6~Ø20	UNICO	●	○	●			○	B143
	Square · Long Shank · Helix 30 · 2F 平銑刀・長柄型・2 刃	EPSLC	30°	Ø1~Ø20	UNICO	●	○	●			○	B144
	Square · Long Shank · Helix 30 · 4F 平銑刀・長柄型・4 刃	EPSLC	30°	Ø2~Ø25	UNICO	●	○	●			○	B145
	Square · Long Flute · Helix 35 · 4F 平銑刀・長刃型・4 刃	EPSCC	35°	Ø1~Ø25	UNICO	●	○	●			○	B146
					UNAX	●	●	●		○	○	
	Square · Long Flute · Helix 45 · 6F 平銑刀・高導長刃型・6 刃	EPSCH	45°	Ø6~Ø16	UNICO	●	○	●			○	B147
					UNAX	●	●	●		○	○	
	Square · High Helix · Extra Long Flute · Helix 45 · 4F 平銑刀・高導超長刃型・4 刃	EPSCH	45°	Ø6~Ø12	UNAX	●	○	●			○	B148
					SNAX	●	●	●		○	○	
	Corner Radius · Standard · Helix 30 · 2F 圓鼻銑刀・標準型・2 刃	EPCSC	30°	Ø1~Ø12	UNICO	●	○	●			○	B149
					UNAX	●	●	●		○	○	
	Corner Radius · Standard · Helix 30 · 4F 圓鼻銑刀・標準型・4 刃	EPCSC	30°	Ø1~Ø16	UNICO	●	○	●			○	B151
					UNAX	●	●	●		○	○	
	Corner Radius · Standard · Helix 35 · 4F 圓鼻銑刀・標準型・4 刃	EPCSA	35°	Ø1~Ø12	UNICO	●	○	●			○	B153
					UNAX	●	●	●		○	○	
	Corner Radius · Short · Helix 30 · 4F 圓鼻銑刀・短刃型・4 刃	EPCHC	30°	Ø2~Ø6	UNICO	●	○	●			○	B154
	Corner Radius · Helix 45 · 4F 圓鼻銑刀・高導型・4 刃	EPCSH	45°	Ø3~Ø12	UNICO	●	○	●			○	B155
					UNAX	●	●	●		○	○	
	Corner Radius · Long Shank · Helix 30 · 4F 圓鼻銑刀・長柄型・4 刃	EPCLC	30°	Ø2~Ø16	UNICO	●	○	●			○	B156

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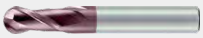
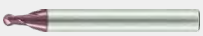
	Ball Nose · Standard · Helix 30 · 2F 球型銑刀・標準型・2 刃	EPBSC	30°	0.1R~10R	UNICO	●	○	●			○	B157
					UNAX	●	●	●		○	○	
	Ball Nose · Standard · Helix 35 · 2F 球型銑刀・標準型・2 刃	EPBSA	35°	0.5R~6R	UNICO	●	○	●			○	B158
					UNAX	●	●	●		○	○	
	Ball Nose · Standard · Helix 30 · 4F 球型銑刀・標準型・4 刃	EPBSC	30°	1R~10R	UNICO	●	○	●			○	B159
					UNAX	●	●	●		○	○	
	Ball Nose · Short · Helix 30 · 2F 球型銑刀・短刃型・2 刃	EPBHC	30°	0.1R~3R	UNICO	●	○	●			○	B160
	Ball Nose · Taper · Helix 30 · 2F 球型銑刀・斜度型・2 刃	EPBST	30°	1R~3R	UNICO	●	○	●			○	B161
	Ball Nose · Long Shank · Helix 30 · 2F 球型銑刀・長柄型・2 刃	EPBLC	30°	0.5R~10R	UNICO	●	○	●			○	B162
	Ball Nose · Long Shank · Helix 30 · 4F 球型銑刀・長柄型・4 刃	EPBLC	30°	1R~8R	UNICO	●	○	●			○	B163
	Square · Long Neck · Helix 30 · 2F 平銑刀・長頸型・2 刃	EPSRC	30°	Ø0.2~Ø12	UNICO	●	○	●			○	B164
	Square · Long Neck · Helix 30 · 4F 平銑刀・長頸型・4 刃	EPSRC	30°	Ø1~Ø12	UNICO	●	○	●			○	B171
	Corner Radius · Long Neck · Helix 30 · 2F 圓鼻銑刀・長頸型・2 刃	EPCRC	30°	Ø1~Ø12	UNICO	●	○	●			○	B175
	Corner Radius · Long Neck · Helix 30 · 4F 圓鼻銑刀・長頸型・4 刃	EPCRC	30°	Ø2~Ø12	UNICO	●	○	●			○	B180
	Ball Nose · Long Neck · Helix 30 · 2F 球型銑刀・長頸型・2 刃	EPBRC	30°	0.15R~6R	UNICO	●	○	●			○	B184
	Corner Radius · Short Flute · Taper Neck · Helix 30 · 2F 圓鼻銑刀・短刃斜頸型・2 刃	EPCRT	30°	Ø1~Ø6	UNICO	●	●	●			○	B191
	Ball Nose · Short Flute · Taper Neck · Helix 30 · 2F 球型銑刀・短刃斜頸型・2 刃	EPBRT	30°	0.5R~4R	UNICO	●	●	●			○	B195

DIN (Metric)

	Square · Standard · Helix 30 · 2F 平銑刀・標準型・2 刃	E113C	30°	Ø1~Ø20	ANAX	●	●	●			○	B198
	Ball Nose · Standard · Helix 30 · 2F 球型銑刀・標準型・2 刃	E123C	30°	1R~10R	ANAX	●	●	●			○	B199

ANSI (Inch)

	Double-End · Square · Standard · 4F (Inch) 雙頭平銑刀・標準型・4 刃 (英吋)	EPS8A	30°	Ø1/16"~1/2"	TACO	●	●	●			○	B200

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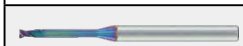
Appearance 外觀	Name 名稱	Code No. 編碼	Helix 螺旋角	Diameter 外徑	Coating 塗層	P	M	K	N	S	H	Page 頁碼
A100 Carbide Endmills for Aluminum Alloy 鎢鋼銑刀・適用於鋁合金												ASIA (Metric)
	Square · Standard · 1F 平銑刀・標準型・1 刃	ENSSC	30°	Ø1~Ø12	–				●			B201
	Square · Standard · 2F 平銑刀・標準型・2 刃	ENSSS	45°	Ø1~Ø20	–				●			B202
	Square · Standard · 3F 平銑刀・標準型・3 刃	ENSSS	45°	Ø2~Ø20	–				●			B203
	Square · High Helix · Finishing · 3F 平銑刀・高導精銑型・3 刃	ENSSH	55°	Ø4~Ø16	–				●			B204
	Square · High Performance Roughing · 3F 平銑刀・高效能粗銑型・3 刃	ENSSB	45°	Ø3~Ø20	–				●			B205
	Square · Finishing · 3F 平銑刀・精銑型・3 刃	ENSSF	45°	Ø1~Ø12	–				●			B206
	Square · Finishing & Roughing · 3F 平銑刀・精銑 & 粗銑型・3 刃	ENSSP	45°	Ø6~Ø16	–				●			B207
	Square · Fine Finishing · 3F 平銑刀・超精銑型・3 刃	ENSSA	40°	Ø3~Ø20	–				●			B208
	Square · Virable Pitch · Standard · 3F 不等分割平銑刀・標準型・3 刃	ENSSV	40°	Ø3~Ø16	–				●			B209
	Square · Virable Pitch · Chip Breaker · 3F 不等分割平銑刀・斷屑型・3 刃	ENSSVG	40°	Ø6~Ø16	–				●			B210
	Square · Roughing · 3F 平銑刀・粗銑型・3 刃	ENSSR	30°	Ø6~Ø20	–				●			B211
	Square · Roughing · 4F 平銑刀・粗銑型・4 刃	ENSSR	30°	Ø6~Ø20	–				●			B211
	Square · Wave Edge · 3F 平銑刀・波浪型・3 刃	ENSSW	30°	Ø6~Ø12	–				●			B212
	Square · Long Flute · 3F 平銑刀・長刃型・3 刃	ENSCS	45°	Ø3~Ø20	–				●			B213
	Corner Radius · Standard · 3F 圓鼻銑刀・標準型・3 刃	ENCSS	45°	Ø3~Ø16	–				●			B214
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	ENBSA	35°	0.5R~8R	–				●			B215
	Square · Standard · 4F (for CU & AL) 平銑刀・標準型・4 刃	ENSSC	30°	Ø5~Ø12	NDLC				●			B216
	Long Neck · Square · 2F (for CU & AL) 長頸型・平銑刀・2 刃	ENSRC	38°	Ø0.5~Ø4	NDLC				●			B217
	Long Neck · Corner Radius · 2F (for CU & AL) 長頸型・圓鼻銑刀・2 刃	ENCRC	38°	Ø0.5~Ø4	NDLC				●			B219
	Long Neck · Ball Nose · 2F (for CU & AL) 長頸型・球型銑刀・2 刃	ENBRC	30°	0.25R~2R	NDLC				●			B221
												DIN (Metric)
	Square · Variable Pitch · Neck · 3F 不等分割平銑刀・帶頸型・3 刃	E413V	40°	Ø2~Ø20	–				●			B223
	Square · Variable Pitch · Neck · 3F 不等分割平銑刀・帶頸型・3 刃	E413V	40°	Ø2~Ø20	NDLC				●			B223
												ANSI (Inch)
	Square · Virable Pitch · Standard · 3F (Inch) 不等分割平銑刀・標準型・3 刃 (英吋)	ENS□V	45°	Ø1/8"~Ø5/8"	–				●			B224

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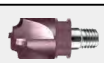
A200 Carbide Endmills for Graphite 鎢鋼銑刀・適用於石墨 ASIA (Metric)												
	Square · Standard · 4F 平銑刀・標準型・4 刃	EGSSC	30°	Ø3~Ø12	DIA / NDLC				●			B225
	Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃	EGCSC	30°	Ø3~Ø12	DIA / NDLC				●			B226
	Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃	EGBSC	30°	0.1R~6R	DIA / NDLC				●			B227
	Long Neck · Square · 2F 長頸型・平銑刀・2 刃	EGSRC	30°	Ø0.5~Ø6	DIA / NDLC				●			B228
	Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃	EGCRC	30°	Ø1~Ø6	DIA / NDLC				●			B229
	Long Neck · Ball Nose · 2F 長頸型・球型銑刀・2 刃	EGBRC	30°	0.25R~3R	DIA / NDLC				●			B230
A300 Carbide Endmills for CFRP/GFRP 鎢鋼銑刀・適用於 CFRP/GFRP 複合材料 ASIA (Metric)												
	Square · Roughing · 8~17F 平銑刀 - 粗銑用・8~17 刃	ECSSR	±25°	Ø3~Ø12	NDLC / DIA				●			B231
	Square · Kevlar · 4F 平銑刀 - 克維拉纖維材料用・4 刃	ECSSK	0°	Ø4~Ø12	NDLC / DIA				●			B232
	Square · Finishing · 6F / 8F 平銑刀 - 精銑用・6 刃 / 8 刃	ECSSF	8°	Ø6~Ø12	NDLC / DIA				●			B233
	Square · Compression · 2F / 3F 複合平銑刀・2 刃 / 3 刃	ECSSD	-	Ø6~Ø12	NDLC / DIA				●			B234
S910 Modular Carbide Endmills for Deep Milling 模組化鎢鋼銑刀・適用於深加工 ASIA (Metric)												
	Square Solid Head · 4F 平銑刀頭・4 刃	EHSWH	45°	Ø10~Ø20	SNAX	●	○	●		○	●	B235
	Square Solid Head (Unequal spacing) · 4F 不等分割平銑刀頭 (難削材用)・4 刃	EPSWV	38°	Ø10~Ø20	SNAX	●	●	●		●	○	B235
	Square Solid Head (Unequal spacing) · 3F 不等分割平銑刀頭 (鋁用)・3 刃	ENSWV	45°	Ø10~Ø20	–				●			B236
	Corner Radius Solid Head · 4F 圓鼻銑刀頭・4 刃	EHCWH	30°	Ø10~Ø20	SNAX	●	○	●		○	●	B236
	Ball Nose Solid Head · 2F 球型銑刀頭・2 刃	EHBWH	30°	5R~10R	SNAX	●	○	●		○	●	B237
	High Feed Solid Head · 4F / 6F 高進給銑刀頭・4 刃 / 6 刃	EHWWA	38°	Ø10~Ø16	SNAX	●	●	●		○	○	B237
	High Feed Solid Head with Internal Coolant · 4F / 6F 內冷高進給銑刀頭・4 刃 / 6 刃	EHWWC	38°	Ø10~Ø16	SNAX	●	●	●		○	○	B238
	Chamfer & Spotting Solid Head · 2F 倒角 & 定位刀頭・4 刃	EPFWA	0°	Ø10~Ø20	UNICO	●	●	●		○	○	B238
	Chamfer Solid Head · 4F / 6F 倒角刀頭・4 刃 / 6 刃	EPFWA	0°	Ø10~Ø20	UNICO	●	●	●		○	○	B239
	Inner Radius Solid Head · 4F 內 R 角刀頭・4 刃	EPIWA	0°	Ø3.2~Ø5.55	UNICO	●	●	●			○	B239

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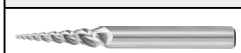
S930 *Barrel Carbide Endmills for Profile Milling* 酒桶鎢鋼銑刀・適用於曲面加工												ASIA (Metric)
	Barrel Shape · 4F 酒桶形・4 刃	EBASB	30°	Ø10~Ø12	ANAX	●	●	○		●	○	B248
	Barrel Shape · for Aluminum Alloy · 4F 酒桶形・鋁用・4 刃	EBNSB	40°	Ø10~Ø12	–				●			B248
	Oval Shape · 3F / 4F 橢圓形・3 刃 / 4 刃	EBASO	30°	Ø6~Ø12	ANAX	●	●	○		●	○	B249
	Oval Shape · for Aluminum Alloy · 3F / 4F 橢圓形・鋁用・3 刃 / 4 刃	EBNSO	40°	Ø6~Ø12	–				●			B249
	Lens Shape · 3F 透鏡形・3 刃	EBASL	30°	Ø6~Ø12	ANAX	●	●	○		●	○	B250
	Lens Shape · for Aluminum Alloy · 3F 透鏡形・鋁用・3 刃	EBNSL	40°	Ø6~Ø12	–				●			B250
	ST Taper Shape · 3F 圓錐形・3 刃	EBAST	20°	Ø6~Ø12	ANAX	●	●	○		●	○	B251
	ST Taper Shape · for Aluminum Alloy · 3F 圓錐形・鋁用・3 刃	EBNST	30°	Ø6~Ø12	–				●			B251
	HT Taper Shape · 2F 短錐形・2 刃	EBAHT	20°	Ø10	ANAX	●	●	○		●	○	B252
	HT Taper Shape · for Aluminum Alloy · 2F 短錐形・鋁用・2 刃	EBNHT	30°	Ø10	–				●			B252
	FT Taper Shape · for Aluminum Alloy · 3F 斜度球形・鋁用・3 刃	EBNFT	45°	0.5R~1.0R	–				●			B253
S950 *Spherical Ball Carbide Endmills for Under Cutting* 全球頭球型鎢鋼銑刀・適用於底切加工												ASIA (Metric)
	Spherical Ball 220° · 2F 球型銑刀・220°全球頭球型・2 刃	EHRRC	15°	0.5R~6R	SNAX	●	●	●	●	○	●	B254
	Spherical Ball 260° · 2F 球型銑刀・260°全球頭球型・2 刃	EPRRC	15°	1R~8R	ANAX	●	●	●	●	○	○	B255
	Spherical Ball 300° · 2F 球型銑刀・300°全球頭球型・2 刃	EPRRC	10°	1R~6R	ANAX	●	●	●	●	○	○	B256
S960 *Carbide Endmills for Engraving & Chamfer* 鎢鋼銑刀・適用於雕刻及倒角加工												ASIA (Metric)
	Engraving Endmill 雕刻銑刀	EPESF	0°	Ø0.1~Ø1.5	TACO	●	●	●	●	●	○	B257
	Chamfer Endmill · 2F 倒角銑刀・2 刃	EPFSA	0°	Ø3~Ø12	UNICO	●	●	●	○	○	○	B258
	Chamfer Endmill · 4F / 5F / 6F 倒角銑刀・4 刃 / 5 刃 / 6 刃	EPFSA	0°	Ø4~Ø20	UNICO	●	●	●		●	●	B259
	Drill Mills · 2F 倒角兼用銑刀・2 刃	EPFSC	30°	Ø3~Ø12	UNICO	●	●	●	○			B260
	Dovetail Endmill · 4F 鳩尾槽銑刀・4 刃	EPSDT	0°, 15°	Ø3~Ø12	UNICO	●	●	●	●			B261
	Front Back Chamfer Endmill · 4F 上下倒角銑刀・4 刃	EPTSV	0°	Ø4~Ø10	UNICO	●	●	●	○			B262
	Inner Radius Endmill · 2F 內 R 角銑刀・2 刃	EPISA	0°	Ø1.9~Ø5.9	UNICO	●	●	●			○	B263
	Inner Radius Endmill · 4F 內 R 角銑刀・4 刃	EPISA	0°	Ø1.9~Ø5.9	UNICO	●	●	●			○	B264

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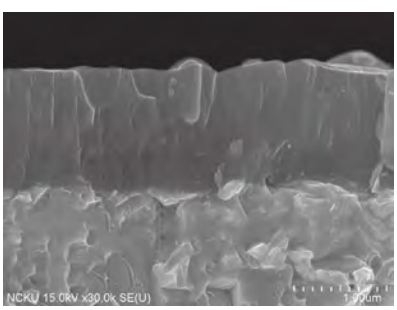
S970 ***High Feed Carbide Endmills for High Feed Face Milling*** 高進給鎢鋼銑刀・適用於高進給面銑加工												ASIA (Metric)
	High Feed EndMill · 4F / 6F 高進給銑刀・4 刃 / 6 刃	EHWSA	38°	Ø3.175~Ø16	SNAX	●	●	●		○	○	B265
	High Feed EndMill · Internal Coolant · 4F / 6F 高進給銑刀・中心出水型・4 刃 / 6 刃	EHWCA	38°	Ø6~Ø12	SNAX	●	●	●		●	○	B266
	High Feed EndMill · Straight Flute · 4F / 6F 高進給銑刀・直刃型・4 刃 / 6 刃	EHWUS	0°	Ø4~Ø16	SNAX	●	○	●			●	B267
H800 ***CBN Endmills for Hardened Steel*** 立方氮化硼銑刀・適用於高硬度鋼				Finishing 精加工								ASIA (Metric)
	CBN · Corner Radius · 4F CBN 圓鼻銑刀・4 刃	EBCUA	0°	Ø1~Ø3	–						●	B268
	CBN · Ball Nose · 2F CBN 球型銑刀・2 刃	EBBUA	0°	0.1R~1.5R	–						●	B269
A830 ***PCD Endmills for Ceramics, Carbide and Glass*** 聚晶鑽石銑刀・適用於陶磁、鎢鋼和玻璃加工												ASIA (Metric)
	PCD · Corner Radius PCD 圓鼻型銑刀	EDCUD	45°	Ø1~Ø3	–				●			B270

Coating Introduction 塗層介紹

Coating Type	Color	Coating	Coating Elements	Working Material					
				P	M	K	N	S	H
UNICO		PVD	TiAlN	●	○	●			○
UNAX		PVD	TiAlN	●	●	●		○	○
TACO		PVD	AlTiN	●	●	●			○
ANAX		PVD	AlTiCrN	●	●	●		●	○
SNAX		PVD	AlTiSiN	●	●	●		●	●
PNAX		PVD	AlTiXN+ZrN	○	●	○		●	
NACO		PVD	Nano AlTiSiN	●	○	●		○	●
DIA		CVD	Diamond				●		
NDLC		CVD	Diamond-like				●		

Multi-layer Coating



ICONS Descriptions 圖標說明

Tool Material	
MG	Micro Grain
UMG	Ultra Micro Grain
UMG Plus	Ultra Micro Grain ≤ 0.4μm

Material Hardness	
HRC 35	Material Hardness (HRC 35)

Coating	
UNICO	UNICO Coated (TiAlN)
UNAX	UNAX Smooth Coated (TiAlN)
TACO	TACO Coated (AlTiN)
ANAX	ANAX Smooth Coated (AlTiCrN)
SNAX	SNAX Smooth Coated (AlTiSiN)
PNAX	PNAX Smooth Coated (AlTiXN+ZrN)
NACO	Naco Blue Coaded (Nano AlTiSiN)
DIA	DIA Coated (Diamond)
NDLC	NDLC Coated (Diamond-like)

Tool Geometry	
30°	Helix Angle
VP	Variable Pitch (Unequal Flute Spacing)
VH	Variable Helix
	Sharp Edge
	Flatland Edge
45°	Chamfer Edge
R	Radius Edge
2	2 Flutes
3	3 Flutes
4	4 Flutes
5	5 Flutes
6	6 Flutes
7	7 Flutes
8	8 Flutes

Cutting Application	
	Face Milling
	Slot Milling
	Side Milling
	Helical Milling
	Rlunge Milling
	Ramping
	Trochoidal Milling
	Profile Milling
	Inner R Side Milling
	Chamfering
	Chamfering
	Undercutting
	Dovetail Slotting
	Dovetail Side Milling

Selection Guide 選擇指南

P *Steel* 鋼

Application 應用	**1st Recommendation** 第一推薦 (Series・Type・Coating)	**2nd Recommendation** 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	V47C・EPSSVC4	G55C・EPSSC2
Side Roughing 粗側銑削	V47C・EPSSVC4	G55C・EPSSC4
Side Finishing 精側銑削	V47D・EPSSVD4	G55C・EPSSH4
Profiling 輪廓銑削	G55C・EPBSC2	G55A・EPBSA2

M *Stainless Steel* 不鏽鋼

Application 應用	**1st Recommendation** 第一推薦 (Series・Type・Coating)	**2nd Recommendation** 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	V47C・EPSSVC4	V53C・ESSSVC4
Side Roughing 粗側銑削	V47C・EPSSVC4	V53C・ESSSVC4
Side Finishing 精側銑削	V47C・EPSSVC5	V53D・ESSSVD4
Profiling 輪廓銑削	M50X・ESBHS4	M50X・ESBSA2

K *Cast Iron* 鑄鐵

Application 應用	**1st Recommendation** 第一推薦 (Series・Type・Coating)	**2nd Recommendation** 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	V47C・EPSSVC4	G55C・EPSSC2
Side Roughing 粗側銑削	V47C・EPSSVC4	G55C・EPSSC4
Side Finishing 精側銑削	V47D・EPSSVD4	G55C・EPSSH4
Profiling 輪廓銑削	G55C・EPBSC2	G55A・EPBSA2

N *Aluminum alloy & Brass* 鋁合金與銅

Application 應用	**1st Recommendation** 第一推薦 (Series・Type・Coating)	**2nd Recommendation** 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	A100・ENSSV3	A100・ENSSS3
Side Roughing 粗側銑削	A100・ENSSV3	A100・ENSSP3
Side Finishing 精側銑削	A100・ENSSF3	A100・ENSSP3
Profiling 輪廓銑削	A100・ENBSA2	G55A・EPBSA2

S Super Alloy 高溫合金

Application 應用	1st Recommendation 第一推薦 (Series・Type・Coating)	2nd Recommendation 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	V53C・ESSSVC4	V47C・EPSSVC4
Side Roughing 粗側銑削	V53C・ESSSVC4	V47C・EPSSVC5
Side Finishing 精側銑削	V47D・EPSSVD5	V53D・ESSSVD4
Profiling 輪廓銑削	M50X・ESBHS4	H65X・EHBHS4

H Hardened Steel 高硬度鋼

Application 應用	1st Recommendation 第一推薦 (Series・Type・Coating)	2nd Recommendation 第二推薦 (Series・Type・Coating)
Slotting 溝銑削	H65X・EHCUH4	H68X・EHCSF4
Side Roughing 粗側銑削	H65X・EHSSH4	V47D・EPSSVD5
Side Finishing 精側銑削	H70X・EHSSS6	V47D・EPSSVD5
Profiling 輪廓銑削	H65X・EHBHS4	H65X・EHBSH2

H65X - Square · High Helix · 2F / 4F

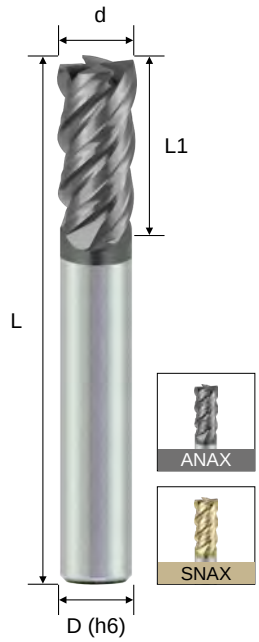
平銑刀・高導型・2 刃 / 4 刃

- UMG Carbide with Incredible toughness and wear resistance at high speed.
- Good surface and long tool life.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

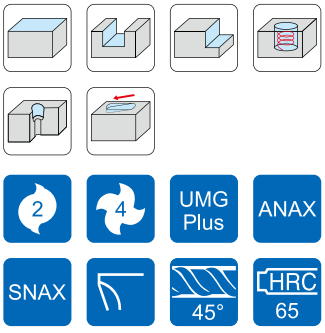
ASIA (Metric)

EHSSH

P	M	K	N	S	H
●	○	●		○	●



Order No.		Dia.	CL	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L)	(D)	(Z)
EHSSH240200A	EHSSH240200S	0.2	0.4	50	4	2
EHSSH240300A	EHSSH240300S	0.3	0.6	50	4	2
EHSSH240400A	EHSSH240400S	0.4	0.8	50	4	2
EHSSH240500A	EHSSH240500S	0.5	1.0	50	4	2
EHSSH240600A	EHSSH240600S	0.6	1.5	50	4	2
EHSSH240700A	EHSSH240700S	0.7	2.0	50	4	2
EHSSH240800A	EHSSH240800S	0.8	2.0	50	4	2
EHSSH240900A	EHSSH240900S	0.9	2.0	50	4	2
EHSSH441000A	EHSSH441000S	1.0	3	50	4	4
EHSSH441500A	EHSSH441500S	1.5	4	50	4	4
EHSSH442000A	EHSSH442000S	2.0	5	50	4	4
EHSSH442500A	EHSSH442500S	2.5	6	50	4	4
EHSSH433000A	EHSSH433000S	3.0	8	50	3	4
EHSSH443000A	EHSSH443000S	3.0	8	50	4	4
EHSSH444000A	EHSSH444000S	4.0	10	50	4	4
EHSSH404000A	EHSSH404000S	4.0	10	50	6	4
EHSSH405000A	EHSSH405000S	5.0	13	50	6	4
EHSSH406000A	EHSSH406000S	6.0	15	50	6	4
EHSSH408000A	EHSSH408000S	8.0	20	60	8	4
EHSSH410000A	EHSSH410000S	10.0	25	75	10	4
EHSSH412000A	EHSSH412000S	12.0	30	75	12	4
EHSSH416000A	EHSSH416000S	16.0	35	100	16	4
EHSSH420000A	EHSSH420000S	20.0	45	100	20	4



d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	15390	1415	13270	1220	11150	1025
4mm	11550	1386	9950	1194	8360	1003
6mm	7700	1232	6630	1060	5570	891
8mm	5770	923	4980	796	4180	668
10mm	4620	924	3980	796	3345	669
12mm	3850	770	3320	664	2790	558
	ap = 1d ae = 0.05d					

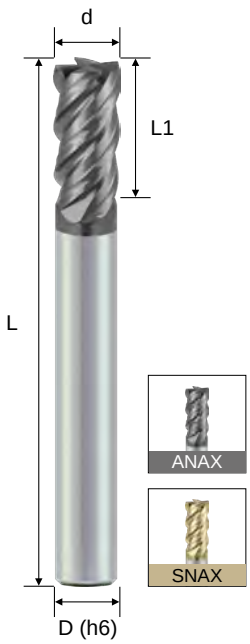
H65X - Square · High Helix · Long Shank · 4F 平銑刀・高導長柄型・4 刃

- UMG Carbide with Incredible toughness and wear resistance at high speeds.
- Good surface and long tool life.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

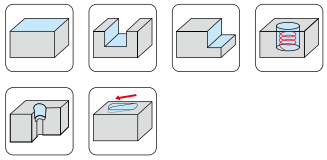
ASIA (Metric)

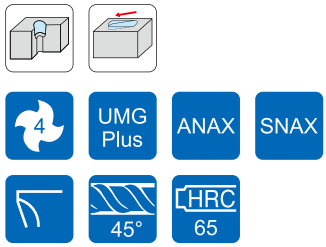
EHSLH

P	M	K	N	S	H
●	○	●		○	●

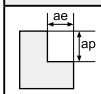


Order No.		Dia.	CL	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L)	(D)	(Z)
EHSLH443007A	EHSLH443007S	3.0	8	75	4	4
EHSLH443010A	EHSLH443010S	3.0	8	100	4	4
EHSLH444006A	EHSLH444006S	4.0	10	60	4	4
EHSLH444007A	EHSLH444007S	4.0	10	75	4	4
EHSLH444010A	EHSLH444010S	4.0	10	100	4	4
EHSLH406006A	EHSLH406006S	6.0	15	60	6	4
EHSLH406007A	EHSLH406007S	6.0	15	75	6	4
EHSLH406010A	EHSLH406010S	6.0	15	100	6	4
EHSLH408007A	EHSLH408007S	8.0	20	75	8	4
EHSLH408010A	EHSLH408010S	8.0	20	100	8	4
EHSLH408015A	EHSLH408015S	8.0	20	150	8	4
EHSLH410010A	EHSLH410010S	10.0	25	100	10	4
EHSLH410015A	EHSLH410015S	10.0	25	150	10	4
EHSLH412010A	EHSLH412010S	12.0	30	100	12	4
EHSLH412015A	EHSLH412015S	12.0	30	150	12	4
EHSLH416015A	EHSLH416015S	16.0	35	150	16	4
EHSLH420015A	EHSLH420015S	20.0	45	150	20	4





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	123 m/min		106 m/min		89 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	13080	1200	11280	1038	9480	871
4mm	9820	1178	8460	1015	7100	852
6mm	6545	1050	5635	900	4740	757
8mm	4905	785	4235	676	3555	568
10mm	3927	785	3385	676	2845	568
12mm	3270	655	2820	564	2370	474
	ap = 1d ae = 0.05d					

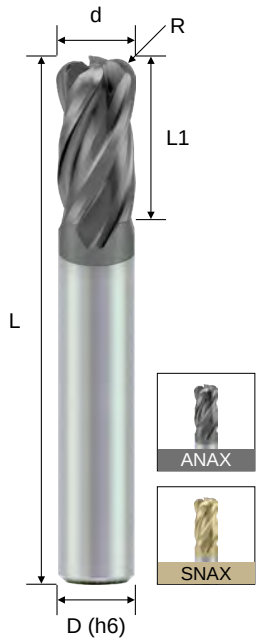
H65X - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

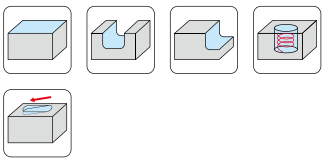
- Long tool life and wear resistant due to its negative angle with corner radius design.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCSH

P	M	K	N	S	H
●	○	●		○	●





4 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L)	(D)	(Z)
EHCSH441002A	EHCSH441002S	1	0.2R	2	50	4	4
EHCSH441003A	EHCSH441003S	1	0.3R	2	50	4	4
EHCSH441502A	EHCSH441502S	1.5	0.2R	3	50	4	4
EHCSH441503A	EHCSH441503S	1.5	0.3R	3	50	4	4
EHCSH442002A	EHCSH442002S	2	0.2R	4	50	4	4
EHCSH442003A	EHCSH442003S	2	0.3R	4	50	4	4
EHCSH442005A	EHCSH442005S	2	0.5R	4	50	4	4
EHCSH433002A	EHCSH433002S	3	0.2R	6	50	3	4
EHCSH443002A	EHCSH443002S	3	0.2R	6	50	4	4
EHCSH433003A	EHCSH433003S	3	0.3R	6	50	3	4
EHCSH443003A	EHCSH443003S	3	0.3R	6	50	4	4
EHCSH433005A	EHCSH433005S	3	0.5R	6	50	3	4
EHCSH443005A	EHCSH443005S	3	0.5R	6	50	4	4
EHCSH433010A	EHCSH433010S	3	1.0R	6	50	3	4
EHCSH443010A	EHCSH443010S	3	1.0R	6	50	4	4
EHCSH444002A	EHCSH444002S	4	0.2R	8	50	4	4
EHCSH444003A	EHCSH444003S	4	0.3R	8	50	4	4
EHCSH444005A	EHCSH444005S	4	0.5R	8	50	4	4
EHCSH444010A	EHCSH444010S	4	1.0R	8	50	4	4
EHCSH404003A	EHCSH404003S	4	0.3R	8	50	6	4
EHCSH404005A	EHCSH404005S	4	0.5R	8	50	6	4
EHCSH404010A	EHCSH404010S	4	1.0R	8	50	6	4
EHCSH405005A	EHCSH405005S	5	0.5R	10	50	6	4
EHCSH405010A	EHCSH405010S	5	1.0R	10	50	6	4
EHCSH406003A	EHCSH406003S	6	0.3R	12	50	6	4
EHCSH406005A	EHCSH406005S	6	0.5R	12	50	6	4
EHCSH406010A	EHCSH406010S	6	1.0R	12	50	6	4
EHCSH408005A	EHCSH408005S	8	0.5R	16	60	8	4
EHCSH408010A	EHCSH408010S	8	1.0R	16	60	8	4
EHCSH408015A	EHCSH408015S	8	1.5R	16	60	8	4
EHCSH410005A	EHCSH410005S	10	0.5R	20	75	10	4
EHCSH410010A	EHCSH410010S	10	1.0R	20	75	10	4
EHCSH410015A	EHCSH410015S	10	1.5R	20	75	10	4
EHCSH410020A	EHCSH410020S	10	2.0R	20	75	10	4
EHCSH412005A	EHCSH412005S	12	0.5R	24	75	12	4
EHCSH412010A	EHCSH412010S	12	1.0R	24	75	12	4
EHCSH412015A	EHCSH412015S	12	1.5R	24	75	12	4
EHCSH412020A	EHCSH412020S	12	2.0R	24	75	12	4

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
Diameter (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	15390	1415	13270	1220	11150	1025
4mm	11550	1386	9950	1194	8360	1003
6mm	7700	1232	6630	1060	5570	891
8mm	5770	923	4980	796	4180	668
10mm	4620	924	3980	796	3345	669
12mm	3850	770	3320	664	2790	558

ap = 1d ae = 0.05d ※If the machine runs stable, please increase the feed about 20%.

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

H65X - Corner Radius · Short Flute · 4F

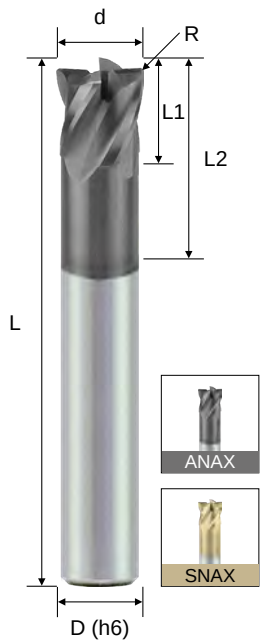
圓鼻銑刀・短刃型・4 刃

- Short cutting length with high rigidity is suitable for high speed cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

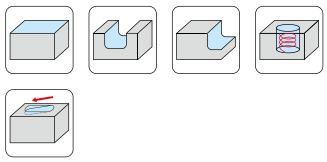
ASIA (Metric)

EHCUH

P	M	K	N	S	H
●	○	●		○	●



Order No. ANAX	Order No. SNAX	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCUH403001A	EHCUH403001S	3	0.1R	3	7.5	50	6	4
EHCUH403005A	EHCUH403005S	3	0.5R	3	7.5	50	6	4
EHCUH404002A	EHCUH404002S	4	0.2R	4	10.0	50	6	4
EHCUH404005A	EHCUH404005S	4	0.5R	4	10.0	50	6	4
EHCUH405002A	EHCUH405002S	5	0.2R	5	12.5	50	6	4
EHCUH405005A	EHCUH405005S	5	0.5R	5	12.5	50	6	4
EHCUH406002A	EHCUH406002S	6	0.2R	6	15.0	50	6	4
EHCUH406005A	EHCUH406005S	6	0.5R	6	15.0	50	6	4
EHCUH406010A	EHCUH406010S	6	1.0R	6	15.0	50	6	4
EHCUH408003A	EHCUH408003S	8	0.3R	8	20.0	60	8	4
EHCUH408005A	EHCUH408005S	8	0.5R	8	20.0	60	8	4
EHCUH408010A	EHCUH408010S	8	1.0R	8	20.0	60	8	4
EHCUH408015A	EHCUH408015S	8	1.5R	8	20.0	60	8	4
EHCUH410003A	EHCUH410003S	10	0.3R	10	25.0	75	10	4
EHCUH410005A	EHCUH410005S	10	0.5R	10	25.0	75	10	4
EHCUH410010A	EHCUH410010S	10	1.0R	10	25.0	75	10	4
EHCUH410015A	EHCUH410015S	10	1.5R	10	25.0	75	10	4
EHCUH410020A	EHCUH410020S	10	2.0R	10	25.0	75	10	4
EHCUH412003A	EHCUH412003S	12	0.3R	12	30.0	75	12	4
EHCUH412005A	EHCUH412005S	12	0.5R	12	30.0	75	12	4
EHCUH412010A	EHCUH412010S	12	1.0R	12	30.0	75	12	4
EHCUH412015A	EHCUH412015S	12	1.5R	12	30.0	75	12	4
EHCUH412020A	EHCUH412020S	12	2.0R	12	30.0	75	12	4

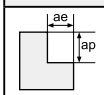


4 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	15390	1415	13270	1220	11150	1025
4mm	11550	1386	9950	1194	8360	1003
6mm	7700	1232	6630	1060	5570	891
8mm	5770	923	4980	796	4180	668
10mm	4620	924	3980	796	3345	669
12mm	3850	770	3320	664	2790	558
	ap = 1d ae = 0.05d					

※If the machine runs stable, please increase the feed about 20%.

H65X - Corner Radius · Long Shank · 4F 圓鼻銑刀・長柄型・4 刃

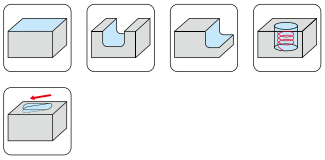
- Long tool life and wear resistant due to its negative angle with corner radius design.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCLH

P	M	K	N	S	H
●	○	●		○	●

Order No. ANAX	Order No. SNAX	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCLH44400507A	EHCLH44400507S	4	0.5R	8	75	4	4
EHCLH44401007A	EHCLH44401007S	4	1.0R	8	75	4	4
EHCLH44400510A	EHCLH44400510S	4	0.5R	8	100	4	4
EHCLH44401010A	EHCLH44401010S	4	1.0R	8	100	4	4
EHCLH40600507A	EHCLH40600507S	6	0.5R	12	75	6	4
EHCLH40601007A	EHCLH40601007S	6	1.0R	12	75	6	4
EHCLH40600510A	EHCLH40600510S	6	0.5R	12	100	6	4
EHCLH40601010A	EHCLH40601010S	6	1.0R	12	100	6	4
EHCLH40800507A	EHCLH40800507S	8	0.5R	16	75	8	4
EHCLH40801007A	EHCLH40801007S	8	1.0R	16	75	8	4
EHCLH40800510A	EHCLH40800510S	8	0.5R	16	100	8	4
EHCLH40801010A	EHCLH40801010S	8	1.0R	16	100	8	4
EHCLH41000510A	EHCLH41000510S	10	0.5R	20	100	10	4
EHCLH41001010A	EHCLH41001010S	10	1.0R	20	100	10	4
EHCLH41000515A	EHCLH41000515S	10	0.5R	20	150	10	4
EHCLH41001015A	EHCLH41001015S	10	1.0R	20	150	10	4
EHCLH41200510A	EHCLH41200510S	12	0.5R	24	100	12	4
EHCLH41201010A	EHCLH41201010S	12	1.0R	24	100	12	4
EHCLH41200515A	EHCLH41200515S	12	0.5R	24	150	12	4
EHCLH41201015A	EHCLH41201015S	12	1.0R	24	150	12	4

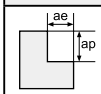


4 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	123 m/min		106 m/min		89 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	13080	1200	11280	1038	9480	871
4mm	9820	1178	8460	1015	7100	852
6mm	6545	1050	5635	900	4740	757
8mm	4905	785	4235	676	3555	568
10mm	3927	785	3385	676	2845	568
12mm	3270	655	2820	564	2370	474
	ap = 1d ae = 0.05d					

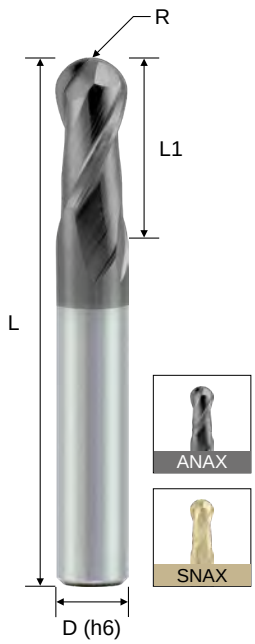
H65X - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

- Due to short cutting length provides an excellent face milling surface roughness of the work pieces.
- New tool geometry increases wear resistance and cutting force is decreased.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

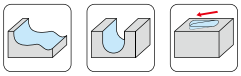
ASIA (Metric)

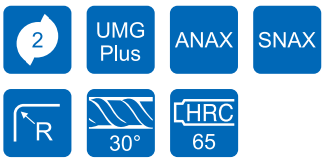
EHBSH

P	M	K	N	S	H
●	○	●		○	●



Order No.		Radius	Dia.	CL	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L)	(D)	(Z)
EHBSH240200A	EHBSH240200S	0.10R	0.2	0.4	50	4	2
EHBSH240300A	EHBSH240300S	0.15R	0.3	0.6	50	4	2
EHBSH240400A	EHBSH240400S	0.20R	0.4	0.8	50	4	2
EHBSH240500A	EHBSH240500S	0.25R	0.5	1	50	4	2
EHBSH240600A	EHBSH240600S	0.30R	0.6	1.2	50	4	2
EHBSH240700A	EHBSH240700S	0.35R	0.7	1.4	50	4	2
EHBSH240800A	EHBSH240800S	0.40R	0.8	1.6	50	4	2
EHBSH240900A	EHBSH240900S	0.45R	0.9	1.8	50	4	2
EHBSH241000A	EHBSH241000S	0.50R	1.0	2	50	4	2
EHBSH241500A	EHBSH241500S	0.75R	1.5	3	50	4	2
EHBSH242000A	EHBSH242000S	1.00R	2.0	4	50	4	2
EHBSH233000A	EHBSH233000S	1.50R	3.0	6	50	3	2
EHBSH243000A	EHBSH243000S	1.50R	3.0	6	50	4	2
EHBSH244000A	EHBSH244000S	2.00R	4.0	8	50	4	2
EHBSH205000A	EHBSH205000S	2.50R	5.0	10	50	6	2
EHBSH206000A	EHBSH206000S	3.00R	6.0	12	50	6	2
EHBSH208000A	EHBSH208000S	4.00R	8.0	16	60	8	2
EHBSH210000A	EHBSH210000S	5.00R	10.0	20	75	10	2
EHBSH212000A	EHBSH212000S	6.00R	12.0	24	75	12	2
EHBSH216000A	EHBSH216000S	8.00R	16.0	32	100	16	2





R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	45270	1130	39030	975	32780	820
2R	22636	1358	19500	1170	16400	984
3R	15090	1130	13000	975	10930	820
4R	11320	905	9750	780	8195	655
5R	9055	770	7800	663	6555	557
6R	7545	680	6500	585	5460	491
	ap = 0.07d pf = 0.1d					

H65X - Ball Nose · Short Flute · 2F

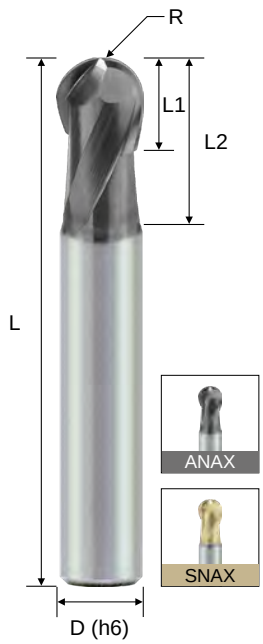
球型銑刀・短刃型・2 刃

- Due to short cutting length provides an excellent face milling surface roughness of the work pieces.
- Short cutting length provides high resistance for high speed cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

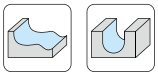
ASIA (Metric)

EHBUH

P	M	K	N	S	H
●	○	●		○	●



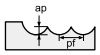
Order No.		Radius	Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHBUH202000A	EHBUH202000S	1.0R	2	2	4	50	6	2
EHBUH203000A	EHBUH203000S	1.5R	3	3	6	50	6	2
EHBUH204000A	EHBUH204000S	2.0R	4	4	8	50	6	2
EHBUH205000A	EHBUH205000S	2.5R	5	5	10	50	6	2
EHBUH206000A	EHBUH206000S	3.0R	6	6	12	50	6	2
EHBUH208000A	EHBUH208000S	4.0R	8	8	16	60	8	2
EHBUH210000A	EHBUH210000S	5.0R	10	10	20	75	10	2
EHBUH212000A	EHBUH212000S	6.0R	12	12	24	75	12	2
EHBUH216000A	EHBUH216000S	8.0R	16	16	32	100	16	2



2 | UMG Plus | ANAX | SNAX

R | 27° | HRC 65

R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	45270	1130	39030	975	32780	820
2R	22636	1358	19500	1170	16400	984
3R	15090	1130	13000	975	10930	820
4R	11320	905	9750	780	8195	655
5R	9055	770	7800	663	6555	557
6R	7545	680	6500	585	5460	491
	ap = 0.07d pf = 0.1d					

H65X - Ball Nose · Near Center Design · 3F / 4F

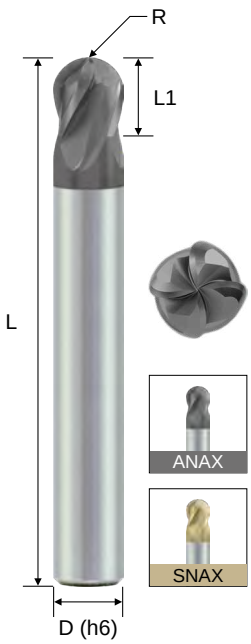
球型銑刀・刃近中心型・3 刃 / 4 刃

- For high temperature alloy and high hardened steel machining.
- Reach to center and near to center flutes design, significantly improves the tool life and surface finish in profile milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

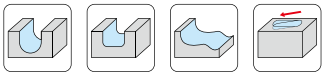
ASIA (Metric)

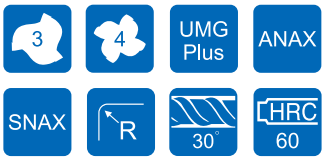
EHBHS

P	M	K	N	S	H
●	●	●		○	●



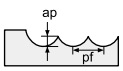
Order No.		Radius	Dia.	CL	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L)	(D)	(Z)
EHBHS342000A	EHBHS342000S	1R	2	2	50	4	3
EHBHS302000A	EHBHS302000S	1R	2	2	50	6	3
EHBHS303000A	EHBHS303000S	1.5R	3	3	50	6	3
EHBHS344000A	EHBHS344000S	2R	4	4	50	4	3
EHBHS304000A	EHBHS304000S	2R	4	4	50	6	3
EHBHS406000A	EHBHS406000S	3R	6	6	50	6	4
EHBHS408000A	EHBHS408000S	4R	8	8	60	8	4
EHBHS410000A	EHBHS410000S	5R	10	10	75	10	4
EHBHS412000A	EHBHS412000S	6R	12	12	75	12	4
EHBHS416000A	EHBHS416000S	8R	16	16	100	16	4





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	High temperature alloy			Hardened steel (HRC 40~55)			Hardened steel (HRC 50~60)			Hardened steel (HRC 60~65)		
Vc	120 m/min			55 m/min			95 m/min			30 m/min		
Radius (R)	RPM	Feed	ap	RPM	Feed	ap	RPM	Feed	ap	RPM	Feed	ap
3R	15000	3400	0.25	21000	8400	0.25	16000	4800	0.2	8000	2300	0.09
4R	12000	2600	0.3	16000	6400	0.3	12000	3600	0.2	6000	1900	0.09
5R	9600	2200	0.5	13000	5200	0.5	10000	3200	0.2	4800	1500	0.1
6R	7200	1700	0.5	9000	3600	0.5	7000	2200	0.3	3600	1100	0.1
8R	5400	1300	0.7	6800	2700	0.7	5300	1700	0.4	2700	830	0.13



H65X - Ball Nose · Long Shank · 2F 球型銑刀・長柄型・2 刃

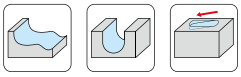
- Due to short cutting length provides an excellent face milling surface roughness of the work pieces.
- New tool geometry increases wear resistance and cutting force is decreased.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

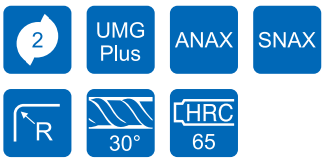
ASIA (Metric)

EHBLH

P	M	K	N	S	H
●	○	●		○	●

Order No. ANAX	Order No. SNAX	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBLH242007A	EHBLH242007S	1.0R	2	4	75	4	2
EHBLH243007A	EHBLH243007S	1.5R	3	6	75	4	2
EHBLH243010A	EHBLH243010S	1.5R	3	6	100	4	2
EHBLH244006A	EHBLH244006S	2.0R	4	8	60	4	2
EHBLH244007A	EHBLH244007S	2.0R	4	8	75	4	2
EHBLH244010A	EHBLH244010S	2.0R	4	8	100	4	2
EHBLH206006A	EHBLH206006S	3.0R	6	12	60	6	2
EHBLH206007A	EHBLH206007S	3.0R	6	12	75	6	2
EHBLH206010A	EHBLH206010S	3.0R	6	12	100	6	2
EHBLH208007A	EHBLH208007S	4.0R	8	16	75	8	2
EHBLH208010A	EHBLH208010S	4.0R	8	16	100	8	2
EHBLH208015A	EHBLH208015S	4.0R	8	16	150	8	2
EHBLH210010A	EHBLH210010S	5.0R	10	20	100	10	2
EHBLH210015A	EHBLH210015S	5.0R	10	20	150	10	2
EHBLH212010A	EHBLH212010S	6.0R	12	24	100	12	2
EHBLH212015A	EHBLH212015S	6.0R	12	24	150	12	2
EHBLH216015A	EHBLH216015S	8.0R	16	32	150	16	2
EHBLH220015A	EHBLH220015S	10.0R	20	40	150	20	2





R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Vc	145 m/min		125 m/min		105 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	36200	904	31200	780	26200	656
2R	18100	1086	15600	930	13120	787
3R	12050	904	10400	780	8750	656
4R	9050	724	7800	624	6550	524
5R	7250	616	6250	530	5250	446
6R	6036	544	5200	468	4370	393
	ap = 0.07d pf = 0.1d					

H65X - Square · Long Neck · 2F

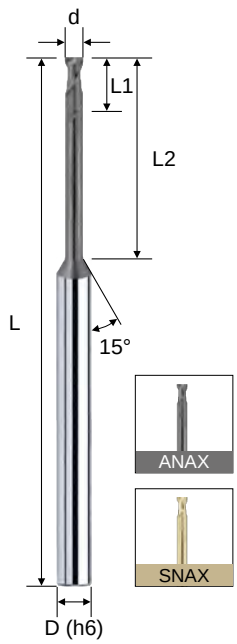
平銑刀・長頸型・2 刃

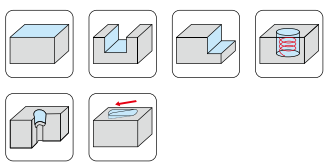
- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHSRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHSRC240201A	EHSRC240201S	0.2	0.3	1	50	4	2
EHSRC240202A	EHSRC240202S	0.2	0.3	2	50	4	2
EHSRC240301A	EHSRC240301S	0.3	0.4	1	50	4	2
EHSRC240302A	EHSRC240302S	0.3	0.4	2	50	4	2
EHSRC240303A	EHSRC240303S	0.3	0.4	3	50	4	2
EHSRC240304A	EHSRC240304S	0.3	0.4	4	50	4	2
EHSRC240305A	EHSRC240305S	0.3	0.4	5	50	4	2
EHSRC240401A	EHSRC240401S	0.4	0.5	1	50	4	2
EHSRC240402A	EHSRC240402S	0.4	0.5	2	50	4	2
EHSRC240403A	EHSRC240403S	0.4	0.5	3	50	4	2
EHSRC240404A	EHSRC240404S	0.4	0.5	4	50	4	2
EHSRC240405A	EHSRC240405S	0.4	0.5	5	50	4	2
EHSRC240406A	EHSRC240406S	0.4	0.5	6	50	4	2
EHSRC240408A	EHSRC240408S	0.4	0.5	8	50	4	2
EHSRC240410A	EHSRC240410S	0.4	0.5	10	50	4	2
EHSRC240502A	EHSRC240502S	0.5	0.6	2	50	4	2
EHSRC240503A	EHSRC240503S	0.5	0.6	3	50	4	2
EHSRC240504A	EHSRC240504S	0.5	0.6	4	50	4	2
EHSRC240505A	EHSRC240505S	0.5	0.6	5	50	4	2
EHSRC240506A	EHSRC240506S	0.5	0.6	6	50	4	2
EHSRC240508A	EHSRC240508S	0.5	0.6	8	50	4	2
EHSRC240510A	EHSRC240510S	0.5	0.6	10	50	4	2
EHSRC240512A	EHSRC240512S	0.5	0.6	12	50	4	2
EHSRC240514A	EHSRC240514S	0.5	0.6	14	50	4	2
EHSRC240602A	EHSRC240602S	0.6	0.7	2	50	4	2
EHSRC240603A	EHSRC240603S	0.6	0.7	3	50	4	2
EHSRC240604A	EHSRC240604S	0.6	0.7	4	50	4	2
EHSRC240605A	EHSRC240605S	0.6	0.7	5	50	4	2
EHSRC240606A	EHSRC240606S	0.6	0.7	6	50	4	2
EHSRC240608A	EHSRC240608S	0.6	0.7	8	50	4	2
EHSRC240610A	EHSRC240610S	0.6	0.7	10	50	4	2
EHSRC240612A	EHSRC240612S	0.6	0.7	12	50	4	2
EHSRC240614A	EHSRC240614S	0.6	0.7	14	50	4	2
EHSRC240616A	EHSRC240616S	0.6	0.7	16	50	4	2
EHSRC240702A	EHSRC240702S	0.7	0.8	2	50	4	2
EHSRC240704A	EHSRC240704S	0.7	0.8	4	50	4	2
EHSRC240706A	EHSRC240706S	0.7	0.8	6	50	4	2
EHSRC240708A	EHSRC240708S	0.7	0.8	8	50	4	2
EHSRC240710A	EHSRC240710S	0.7	0.8	10	50	4	2
EHSRC240712A	EHSRC240712S	0.7	0.8	12	50	4	2

(continued)

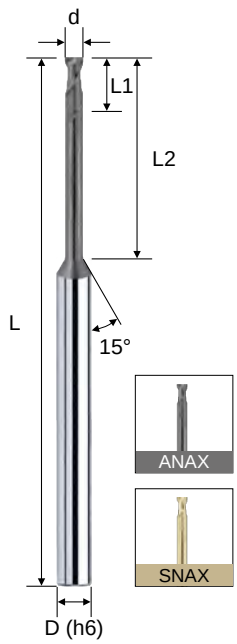
H65X - Square · Long Neck · 2F 平銑刀・長頸型・2 刃

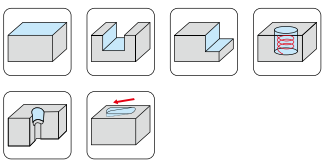
- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHSRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHSRC240802A	EHSRC240802S	0.8	1.0	2	50	4	2
EHSRC240804A	EHSRC240804S	0.8	1.0	4	50	4	2
EHSRC240806A	EHSRC240806S	0.8	1.0	6	50	4	2
EHSRC240808A	EHSRC240808S	0.8	1.0	8	50	4	2
EHSRC240810A	EHSRC240810S	0.8	1.0	10	50	4	2
EHSRC240812A	EHSRC240812S	0.8	1.0	12	50	4	2
EHSRC240814A	EHSRC240814S	0.8	1.0	14	50	4	2
EHSRC240906A	EHSRC240906S	0.9	1.1	6	50	4	2
EHSRC240908A	EHSRC240908S	0.9	1.1	8	50	4	2
EHSRC240910A	EHSRC240910S	0.9	1.1	10	50	4	2
EHSRC241002A	EHSRC241002S	1.0	1.2	2	50	4	2
EHSRC241003A	EHSRC241003S	1.0	1.2	3	50	4	2
EHSRC241004A	EHSRC241004S	1.0	1.2	4	50	4	2
EHSRC241005A	EHSRC241005S	1.0	1.2	5	50	4	2
EHSRC241006A	EHSRC241006S	1.0	1.2	6	50	4	2
EHSRC241008A	EHSRC241008S	1.0	1.2	8	50	4	2
EHSRC241010A	EHSRC241010S	1.0	1.2	10	50	4	2
EHSRC241012A	EHSRC241012S	1.0	1.2	12	50	4	2
EHSRC241014A	EHSRC241014S	1.0	1.2	14	50	4	2
EHSRC241016A	EHSRC241016S	1.0	1.2	16	50	4	2
EHSRC241018A	EHSRC241018S	1.0	1.2	18	50	4	2
EHSRC241020A	EHSRC241020S	1.0	1.2	20	50	4	2
EHSRC241204A	EHSRC241204S	1.2	1.5	4	50	4	2
EHSRC241206A	EHSRC241206S	1.2	1.5	6	50	4	2
EHSRC241208A	EHSRC241208S	1.2	1.5	8	50	4	2
EHSRC241210A	EHSRC241210S	1.2	1.5	10	50	4	2
EHSRC241212A	EHSRC241212S	1.2	1.5	12	50	4	2
EHSRC241216A	EHSRC241216S	1.2	1.5	16	50	4	2
EHSRC241220A	EHSRC241220S	1.2	1.5	20	50	4	2
EHSRC241406A	EHSRC241406S	1.4	1.8	6	50	4	2
EHSRC241408A	EHSRC241408S	1.4	1.8	8	50	4	2
EHSRC241410A	EHSRC241410S	1.4	1.8	10	50	4	2
EHSRC241414A	EHSRC241414S	1.4	1.8	14	50	4	2
EHSRC241416A	EHSRC241416S	1.4	1.8	16	50	4	2
EHSRC241420A	EHSRC241420S	1.4	1.8	20	50	4	2
EHSRC241504A	EHSRC241504S	1.5	1.8	4	50	4	2
EHSRC241506A	EHSRC241506S	1.5	1.8	6	50	4	2
EHSRC241508A	EHSRC241508S	1.5	1.8	8	50	4	2
EHSRC241510A	EHSRC241510S	1.5	1.8	10	50	4	2
EHSRC241512A	EHSRC241512S	1.5	1.8	12	50	4	2

(continued)

H65X - Square · Long Neck · 2F

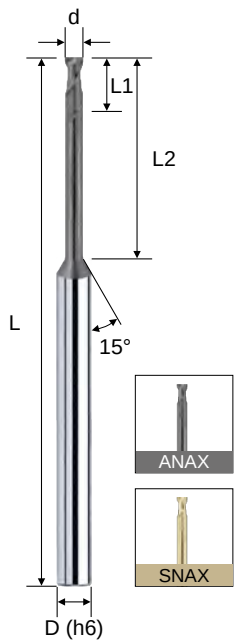
平銑刀・長頸型・2 刃

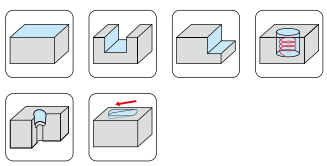
- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHSRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHSRC241514A	EHSRC241514S	1.5	1.8	14	50	4	2
EHSRC241516A	EHSRC241516S	1.5	1.8	16	50	4	2
EHSRC241518A	EHSRC241518S	1.5	1.8	18	50	4	2
EHSRC241520A	EHSRC241520S	1.5	1.8	20	50	4	2
EHSRC241610A	EHSRC241610S	1.6	1.9	10	50	4	2
EHSRC241614A	EHSRC241614S	1.6	1.9	14	50	4	2
EHSRC241618A	EHSRC241618S	1.6	1.9	18	50	4	2
EHSRC241810A	EHSRC241810S	1.8	2.0	10	50	4	2
EHSRC241814A	EHSRC241814S	1.8	2.0	14	50	4	2
EHSRC241818A	EHSRC241818S	1.8	2.0	18	50	4	2
EHSRC242004A	EHSRC242004S	2.0	2.5	4	50	4	2
EHSRC242006A	EHSRC242006S	2.0	2.5	6	50	4	2
EHSRC242008A	EHSRC242008S	2.0	2.5	8	50	4	2
EHSRC242010A	EHSRC242010S	2.0	2.5	10	50	4	2
EHSRC242012A	EHSRC242012S	2.0	2.5	12	50	4	2
EHSRC242014A	EHSRC242014S	2.0	2.5	14	50	4	2
EHSRC242016A	EHSRC242016S	2.0	2.5	16	50	4	2
EHSRC242018A	EHSRC242018S	2.0	2.5	18	50	4	2
EHSRC242020A	EHSRC242020S	2.0	2.5	20	50	4	2
EHSRC242022A	EHSRC242022S	2.0	2.5	22	60	4	2
EHSRC242025A	EHSRC242025S	2.0	2.5	25	60	4	2
EHSRC242030A	EHSRC242030S	2.0	2.5	30	75	4	2
EHSRC242035A	EHSRC242035S	2.0	2.5	35	75	4	2
EHSRC242508A	EHSRC242508S	2.5	3.0	8	50	4	2
EHSRC242510A	EHSRC242510S	2.5	3.0	10	50	4	2
EHSRC242512A	EHSRC242512S	2.5	3.0	12	50	4	2
EHSRC242516A	EHSRC242516S	2.5	3.0	16	50	4	2
EHSRC242520A	EHSRC242520S	2.5	3.0	20	50	4	2
EHSRC242525A	EHSRC242525S	2.5	3.0	25	60	4	2
EHSRC242530A	EHSRC242530S	2.5	3.0	30	75	4	2
EHSRC242535A	EHSRC242535S	2.5	3.0	35	75	4	2
EHSRC203006A	EHSRC203006S	3.0	3.5	6	50	6	2
EHSRC203010A	EHSRC203010S	3.0	3.5	10	50	6	2
EHSRC203012A	EHSRC203012S	3.0	3.5	12	50	6	2
EHSRC203016A	EHSRC203016S	3.0	3.5	16	50	6	2
EHSRC203020A	EHSRC203020S	3.0	3.5	20	60	6	2
EHSRC203025A	EHSRC203025S	3.0	3.5	25	60	6	2
EHSRC203030A	EHSRC203030S	3.0	3.5	30	75	6	2
EHSRC203035A	EHSRC203035S	3.0	3.5	35	75	6	2

(continued)

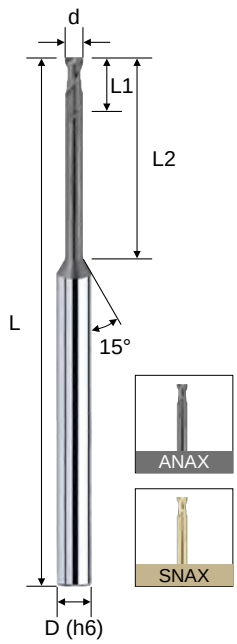
H65X - Square · Long Neck · 2F 平銑刀・長頸型・2 刃

- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

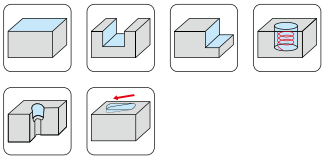
ASIA (Metric)

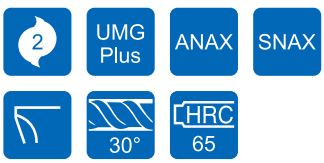
EHSRC

P	M	K	N	S	H
●	○	●		○	●



Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHSRC204008A	EHSRC204008S	4.0	4.5	8	50	6	2
EHSRC204010A	EHSRC204010S	4.0	4.5	10	50	6	2
EHSRC204012A	EHSRC204012S	4.0	4.5	12	50	6	2
EHSRC204016A	EHSRC204016S	4.0	4.5	16	50	6	2
EHSRC204020A	EHSRC204020S	4.0	4.5	20	60	6	2
EHSRC204025A	EHSRC204025S	4.0	4.5	25	60	6	2
EHSRC204030A	EHSRC204030S	4.0	4.5	30	75	6	2
EHSRC204035A	EHSRC204035S	4.0	4.5	35	75	6	2
EHSRC205016A	EHSRC205016S	5.0	7.0	16	50	6	2
EHSRC205020A	EHSRC205020S	5.0	7.0	20	60	6	2
EHSRC205025A	EHSRC205025S	5.0	7.0	25	60	6	2
EHSRC205030A	EHSRC205030S	5.0	7.0	30	75	6	2
EHSRC205035A	EHSRC205035S	5.0	7.0	35	75	6	2
EHSRC206020A	EHSRC206020S	6.0	10.0	20	60	6	2
EHSRC206030A	EHSRC206030S	6.0	10.0	30	75	6	2
EHSRC208020A	EHSRC208020S	8.0	15.0	20	60	8	2
EHSRC208030A	EHSRC208030S	8.0	15.0	30	75	8	2
EHSRC208040A	EHSRC208040S	8.0	15.0	40	100	8	2
EHSRC210025A	EHSRC210025S	10.0	20.0	25	75	10	2
EHSRC210035A	EHSRC210035S	10.0	20.0	35	75	10	2
EHSRC210045A	EHSRC210045S	10.0	20.0	45	100	10	2
EHSRC212030A	EHSRC212030S	12.0	25.0	30	75	12	2
EHSRC212040A	EHSRC212040S	12.0	25.0	40	100	12	2
EHSRC212050A	EHSRC212050S	12.0	25.0	50	100	12	2





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Material		PREHARDENED STEELS NAK80 CENA1			HARDENED STEELS SKD61,SKD11			Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45			HRC 40~55			HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
0.2mm	0.5	56000	270	0.003	44800	180	0.002	15000	10	0.001	0.160
	1	50900	230	0.004	40800	160	0.003	-	-	-	
	1.5	48200	200	0.002	38500	140	0.002	-	-	-	
0.3mm	1.5	50800	360	0.005	42700	260	0.004	14600	13	0.003	0.057
	3	31900	190	0.001	25500	130	0.001	14600	10	0.001	0.004
	5	20400	80	0.001	16300	60	0.001	-	-	-	-
0.4mm	1	48100	470	0.008	38500	320	0.005	14300	17	0.003	0.054
	5	30100	240	0.002	24100	160	0.001	14300	14	0.001	0.003
	10	24600	150	0.001	19700	100	0.001	14300	11	0.001	0.001

(continued)

H65X - Square · Long Neck · 2F

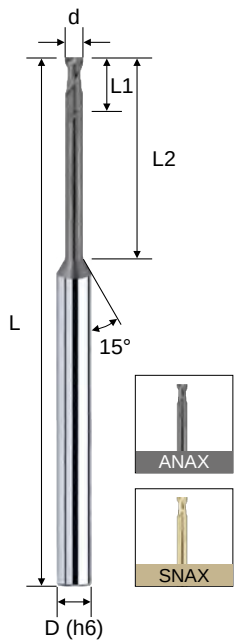
平銑刀・長頸型・2 刃

- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

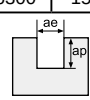
ASIA (Metric)

EHSRC

P	M	K	N	S	H
●	○	●		○	●



Material		PREHARDENED STEELS NAK80 CENA1			HARDENED STEELS SKD61,SKD11			Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45			HRC 40~55			HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
0.5mm	3	32200	370	0.008	25700	260	0.006	14000	19	0.004	0.016
	5	27200	290	0.006	21700	200	0.004	14000	17	0.003	0.008
	8	21600	190	0.001	17400	130	0.001	14000	14	0.001	0.002
	10	19600	150	0.001	15600	100	0.001	14000	12	0.001	0.001
	14	16300	70	0.001	13000	50	0.001	-	-	-	-
0.6mm	3	33500	500	0.013	26800	340	0.009	12000	22	0.005	0.114
	6	23000	290	0.005	18400	200	0.003	12000	19	0.002	0.008
	8	20000	230	0.003	16000	160	0.002	12000	17	0.001	0.003
	10	17900	180	0.002	14300	130	0.001	12000	15	0.001	0.002
	12	16400	150	0.001	13100	100	0.001	12000	13	0.001	0.001
	16	13500	70	0.001	10800	50	0.001	-	-	-	-
0.7mm	4	25800	440	0.012	20600	290	0.009	10000	22	0.006	0.047
	6	21200	330	0.007	16900	230	0.005	10000	20	0.003	0.014
	8	18400	260	0.004	14700	190	0.003	10000	18	0.002	0.006
	10	16500	220	0.003	13200	160	0.002	10000	16	0.001	0.003
0.8mm	4	24100	480	0.019	19300	330	0.013	8000	20	0.010	0.080
	8	17200	300	0.006	13800	200	0.004	8000	16	0.003	0.010
	12	14100	200	0.003	11300	140	0.002	8000	12	0.001	0.003
	14	12300	150	0.001	9800	100	0.001	-	-	-	
0.9mm	6	18500	420	0.013	14800	290	0.010	7200	18	0.007	0.038
	8	16100	330	0.008	12900	230	0.006	7200	16	0.004	0.016
	10	14500	270	0.005	11600	190	0.004	7200	14	0.002	0.008
1.0mm	5	19600	510	0.022	15700	360	0.016	6500	15	0.009	0.013
	10	13800	300	0.007	11000	210	0.005	6500	12	0.003	0.013
	12	12600	250	0.005	10100	170	0.003	6500	11	0.002	0.007
	14	11700	210	0.003	9400	150	0.002	650	10	0.001	0.005
	16	11000	180	0.003	8800	130	0.002	-	-	-	-
	20	9800	130	0.002	7900	90	0.001	-	-	-	-
1.2mm	6	16100	490	0.026	12800	340	0.019	9600	22	0.011	0.120
	12	11400	290	0.008	9100	200	0.005	-	-	-	-
	16	9800	220	0.004	7900	150	0.003	-	-	-	-
	20	8800	170	0.003	7000	120	0.002	-	-	-	-
1.4mm	8	12900	440	0.025	10300	310	0.018	9600	18	0.010	0.094
	10	11500	380	0.017	9200	260	0.012	-	-	-	0.048
	16	9100	250	0.007	7300	180	0.005	-	-	-	0.012
	20	7800	180	0.004	6200	120	0.003	-	-	-	0.005
1.5mm	8	12500	460	0.029	10000	320	0.020	9600	25	0.012	0.124
	12	10200	340	0.016	8200	240	0.011	-	-	-	-
	14	9500	300	0.012	7600	210	0.008	-	-	-	-
	16	8900	270	0.009	7100	190	0.007	-	-	-	-
	20	7900	220	0.006	6300	150	0.004	-	-	-	-



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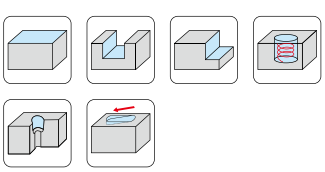
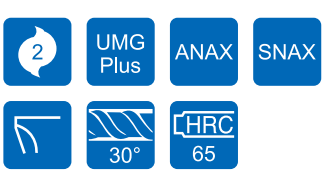




d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

WINSTAR

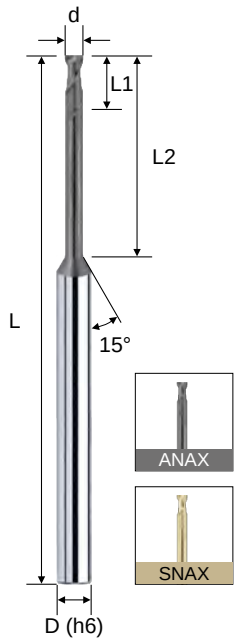
H65X - Square · Long Neck · 2F 平銑刀・長頸型・2 刃

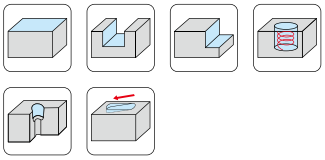
- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHSRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Material		PREHARDENED STEELS NAK80 CENA1			HARDENED STEELS SKD61,SKD11			Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45			HRC 40~55			HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
1.6mm	10	10800	410	0.025	8600	280	0.018	9600	15	0.010	0.082
	14	9100	320	0.014	7300	220	0.010	-	-	-	-
	18	8000	260	0.009	6400	180	0.006	-	-	-	-
2.0mm	6	12500	650	0.045	10000	450	0.032	9600	211	0.019	0.926
	10	9700	470	0.031	7800	330	0.022	9600	45	0.013	0.200
	12	8900	420	0.026	7100	290	0.019	9600	56	0.011	0.116
	14	8200	370	0.022	6600	260	0.016	9600	16	0.009	0.073
	20	6900	280	0.013	5500	190	0.009	-	-	-	-
	25	6200	230	0.008	4900	160	0.006	-	-	-	-
	30	5600	180	0.005	4500	130	0.004	-	-	-	-
2.5mm	8	9600	670	0.054	7700	460	0.039	9600	227	0.023	0.954
	12	7900	520	0.042	6300	360	0.030	9600	67	0.018	0.283
	16	6800	430	0.031	5500	290	0.022	9600	28	0.013	0.119
	20	6100	360	0.023	4900	250	0.017	9600	14	0.010	0.061
	25	5500	300	0.015	4400	210	0.011	-	-	-	-
	30	5000	250	0.010	4000	170	0.007	-	-	-	-
	35	4800	190	0.007	3800	140	0.005	-	-	-	-
3.0mm	6	8000	700	0.072	6400	480	0.052	8000	435	0.031	1.978
	10	7200	620	0.064	5800	430	0.046	8000	222	0.027	1.013
	16	5900	470	0.045	4700	320	0.032	8000	54	0.019	0.247
	20	5300	400	0.035	4300	280	0.025	8000	27	0.015	0.127
	25	4800	340	0.025	3900	230	0.018	8000	14	0.010	0.065
	30	4500	290	0.018	3600	200	0.013	8000	10	0.007	0.038
	35	4200	250	0.013	3300	170	0.009	-	-	-	-
4.0mm	8	6800	770	0.093	5300	500	0.070	6000	450	0.050	1.990
	12	5100	600	0.078	4100	410	0.056	6000	388	0.033	1.852
	16	4400	510	0.065	3600	350	0.046	6000	164	0.027	0.781
	20	4000	440	0.054	3200	300	0.038	6000	84	0.022	0.400
	25	3600	380	0.042	2900	260	0.030	6000	43	0.018	0.205
	30	3300	330	0.033	2600	230	0.024	6000	24	0.014	0.119
	35	3100	290	0.026	2500	200	0.019	6000	15	0.011	0.075
5.0mm	16	3500	520	0.089	2800	360	0.064	4800	457	0.038	1.907
	20	3100	440	0.085	2500	310	0.061	4800	234	0.036	0.977
	25	2800	390	0.077	2200	270	0.055	4800	120	0.033	0.500
	30	2500	340	0.066	2000	230	0.047	4800	69	0.028	0.289
	35	2300	300	0.054	1900	210	0.038	4800	43	0.022	0.182
6.0mm	20	2600	470	0.088	2100	330	0.063	4000	607	0.037	2.025
	30	2000	340	0.077	1600	240	0.055	4000	180	0.033	0.600
8.0mm	20	2300	450	0.130	1700	330	0.090	3400	580	0.050	1.600
	40	1500	250	0.800	1100	160	0.060	3400	84	0.035	0.200
10.0mm	25	2100	430	0.130	1500	310	0.080	3200	540	0.050	1.760
	45	1300	220	0.700	900	150	0.050	3200	76	0.030	0.240
12.0mm	30	2000	400	0.140	1400	280	0.080	3000	540	0.050	1.840
	50	1500	200	0.800	800	140	0.050	3000	72	0.030	0.280

H65X - Square · Long Neck · 4F

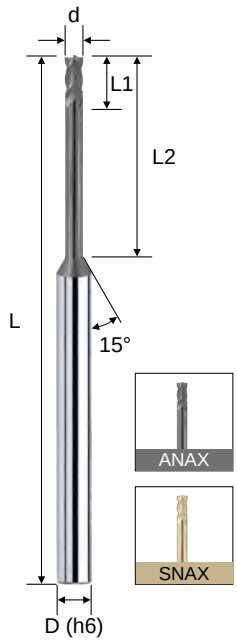
平銑刀・長頸型・4 刃

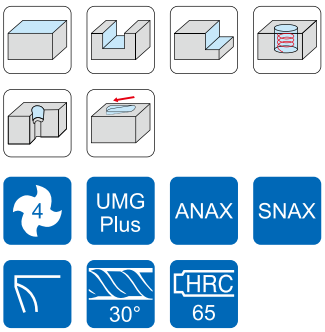
- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHSRC

P	M	K	N	S	H
●	○	●		○	●





4 | UMG Plus | ANAX | SNAX

30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHSRC441003A	EHSRC441003S	1.0	1.0	3	50	4	4
EHSRC441004A	EHSRC441004S	1.0	1.0	4	50	4	4
EHSRC441006A	EHSRC441006S	1.0	1.0	6	50	4	4
EHSRC441008A	EHSRC441008S	1.0	1.0	8	50	4	4
EHSRC441010A	EHSRC441010S	1.0	1.0	10	50	4	4
EHSRC441012A	EHSRC441012S	1.0	1.0	12	50	4	4
EHSRC441016A	EHSRC441016S	1.0	1.0	16	50	4	4
EHSRC441020A	EHSRC441020S	1.0	1.0	20	50	4	4
EHSRC441025A	EHSRC441025S	1.0	1.0	25	60	4	4
EHSRC401004A	EHSRC401004S	1.0	1.0	4	50	6	4
EHSRC401006A	EHSRC401006S	1.0	1.0	6	50	6	4
EHSRC401008A	EHSRC401008S	1.0	1.0	8	50	6	4
EHSRC401010A	EHSRC401010S	1.0	1.0	10	50	6	4
EHSRC401012A	EHSRC401012S	1.0	1.0	12	50	6	4
EHSRC441506A	EHSRC441506S	1.5	1.5	6	50	4	4
EHSRC441508A	EHSRC441508S	1.5	1.5	8	50	4	4
EHSRC441510A	EHSRC441510S	1.5	1.5	10	50	4	4
EHSRC441512A	EHSRC441512S	1.5	1.5	12	50	4	4
EHSRC441516A	EHSRC441516S	1.5	1.5	16	50	4	4
EHSRC441520A	EHSRC441520S	1.5	1.5	20	50	4	4
EHSRC441525A	EHSRC441525S	1.5	1.5	25	60	4	4
EHSRC401506A	EHSRC401506S	1.5	1.5	6	50	6	4
EHSRC401508A	EHSRC401508S	1.5	1.5	8	50	6	4
EHSRC401510A	EHSRC401510S	1.5	1.5	10	50	6	4
EHSRC401512A	EHSRC401512S	1.5	1.5	12	50	6	4
EHSRC442006A	EHSRC442006S	2.0	2.0	6	50	4	4
EHSRC442008A	EHSRC442008S	2.0	2.0	8	50	4	4
EHSRC442010A	EHSRC442010S	2.0	2.0	10	50	4	4
EHSRC442012A	EHSRC442012S	2.0	2.0	12	50	4	4
EHSRC442016A	EHSRC442016S	2.0	2.0	16	50	4	4
EHSRC442020A	EHSRC442020S	2.0	2.0	20	50	4	4
EHSRC442025A	EHSRC442025S	2.0	2.0	25	60	4	4
EHSRC442030A	EHSRC442030S	2.0	2.0	30	75	4	4
EHSRC402006A	EHSRC402006S	2.0	2.0	6	50	6	4
EHSRC402008A	EHSRC402008S	2.0	2.0	8	50	6	4
EHSRC402010A	EHSRC402010S	2.0	2.0	10	50	6	4
EHSRC402016A	EHSRC402016S	2.0	2.0	16	50	6	4
EHSRC442510A	EHSRC442510S	2.5	2.5	10	50	4	4
EHSRC442512A	EHSRC442512S	2.5	2.5	12	50	4	4
EHSRC442516A	EHSRC442516S	2.5	2.5	16	50	4	4

(continued)

H65X - Square · Long Neck · 4F

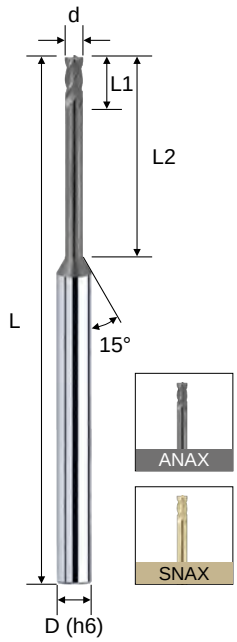
平銑刀・長頸型・4 刃

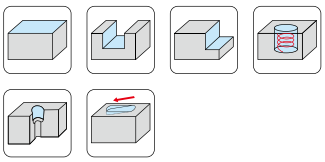
- Long neck design is suitable for Rib cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHSRC

P	M	K	N	S	H
●	○	●		○	●





4 | UMG Plus | ANAX | SNAX

30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHSRC442520A	EHSRC442520S	2.5	2.5	20	50	4	4
EHSRC442525A	EHSRC442525S	2.5	2.5	25	60	4	4
EHSRC442530A	EHSRC442530S	2.5	2.5	30	75	4	4
EHSRC402506A	EHSRC402506S	2.5	2.5	6	50	6	4
EHSRC402510A	EHSRC402510S	2.5	2.5	10	50	6	4
EHSRC403010A	EHSRC403010S	3.0	3.0	10	50	6	4
EHSRC403012A	EHSRC403012S	3.0	3.0	12	50	6	4
EHSRC403016A	EHSRC403016S	3.0	3.0	16	50	6	4
EHSRC403020A	EHSRC403020S	3.0	3.0	20	60	6	4
EHSRC403025A	EHSRC403025S	3.0	3.0	25	60	6	4
EHSRC403030A	EHSRC403030S	3.0	3.0	30	75	6	4
EHSRC403035A	EHSRC403035S	3.0	3.0	35	75	6	4
EHSRC404010A	EHSRC404010S	4.0	4.0	10	50	6	4
EHSRC404012A	EHSRC404012S	4.0	4.0	12	50	6	4
EHSRC404016A	EHSRC404016S	4.0	4.0	16	50	6	4
EHSRC404020A	EHSRC404020S	4.0	4.0	20	60	6	4
EHSRC404025A	EHSRC404025S	4.0	4.0	25	60	6	4
EHSRC404030A	EHSRC404030S	4.0	4.0	30	75	6	4
EHSRC405016A	EHSRC405016S	5.0	5.0	16	50	6	4
EHSRC405020A	EHSRC405020S	5.0	5.0	20	60	6	4
EHSRC405025A	EHSRC405025S	5.0	5.0	25	60	6	4
EHSRC405030A	EHSRC405030S	5.0	5.0	30	75	6	4
EHSRC406020A	EHSRC406020S	6.0	6.0	20	60	6	4
EHSRC406030A	EHSRC406030S	6.0	6.0	30	75	6	4
EHSRC408020A	EHSRC408020S	8.0	15.0	20	60	8	4
EHSRC408030A	EHSRC408030S	8.0	15.0	30	75	8	4
EHSRC408040A	EHSRC408040S	8.0	15.0	40	100	8	4
EHSRC410025A	EHSRC410025S	10.0	20.0	25	75	10	4
EHSRC410035A	EHSRC410035S	10.0	20.0	35	100	10	4
EHSRC410045A	EHSRC410045S	10.0	20.0	45	100	10	4
EHSRC412030A	EHSRC412030S	12.0	25.0	30	75	12	4
EHSRC412040A	EHSRC412040S	12.0	25.0	40	100	12	4
EHSRC412050A	EHSRC412050S	12.0	25.0	50	100	12	4

Material	PREHARDENED STEELS NAK80 CENA1		HARDENED STEELS SKD61,SKD11		Hardened Steel SKD11,SKH51	
Hardness	HRC 35~45		HRC 40~55		HRC 55~65	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	38000	1050	25500	710	20500	430
2mm	26000	1250	17500	840	14500	520
3mm	17300	1250	11500	840	9500	520
4mm	13200	1300	8800	880	7200	540
5mm	12500	1500	8300	1000	6400	580
6mm	10350	1400	6900	950	5300	560
8mm	7800	1350	5200	900	4000	520
10mm	6450	1260	4100	840	3200	480
12mm	5250	1260	3500	840	2650	480

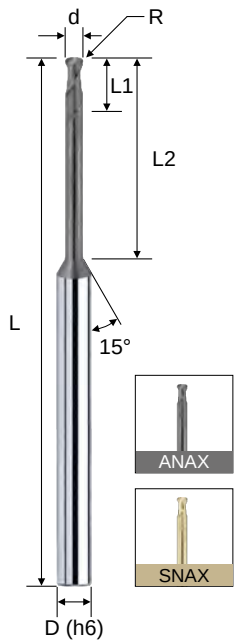
H65X - Corner Radius · Long Neck · 2F 圓鼻銑刀・長頸型・2 刃

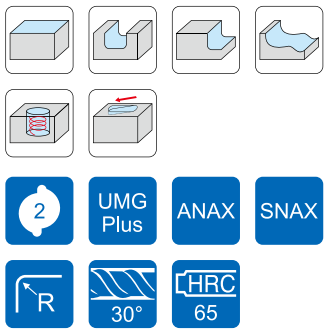
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC24100104A	EHCRC24100104S	1.0	0.1R	1.0	4	50	4	2
EHCRC24100106A	EHCRC24100106S	1.0	0.1R	1.0	6	50	4	2
EHCRC24100108A	EHCRC24100108S	1.0	0.1R	1.0	8	50	4	2
EHCRC24100110A	EHCRC24100110S	1.0	0.1R	1.0	10	50	4	2
EHCRC24100112A	EHCRC24100112S	1.0	0.1R	1.0	12	50	4	2
EHCRC24100204A	EHCRC24100204S	1.0	0.2R	1.0	4	50	4	2
EHCRC24100206A	EHCRC24100206S	1.0	0.2R	1.0	6	50	4	2
EHCRC24100208A	EHCRC24100208S	1.0	0.2R	1.0	8	50	4	2
EHCRC24100210A	EHCRC24100210S	1.0	0.2R	1.0	10	50	4	2
EHCRC24100212A	EHCRC24100212S	1.0	0.2R	1.0	12	50	4	2
EHCRC24100304A	EHCRC24100304S	1.0	0.3R	1.0	4	50	4	2
EHCRC24100306A	EHCRC24100306S	1.0	0.3R	1.0	6	50	4	2
EHCRC24100308A	EHCRC24100308S	1.0	0.3R	1.0	8	50	4	2
EHCRC24100310A	EHCRC24100310S	1.0	0.3R	1.0	10	50	4	2
EHCRC24100312A	EHCRC24100312S	1.0	0.3R	1.0	12	50	4	2
EHCRC24120104A	EHCRC24120104S	1.2	0.1R	1.2	4	50	4	2
EHCRC24120106A	EHCRC24120106S	1.2	0.1R	1.2	6	50	4	2
EHCRC24120108A	EHCRC24120108S	1.2	0.1R	1.2	8	50	4	2
EHCRC24120110A	EHCRC24120110S	1.2	0.1R	1.2	10	50	4	2
EHCRC24120112A	EHCRC24120112S	1.2	0.1R	1.2	12	50	4	2
EHCRC24120204A	EHCRC24120204S	1.2	0.2R	1.2	4	50	4	2
EHCRC24120206A	EHCRC24120206S	1.2	0.2R	1.2	6	50	4	2
EHCRC24120208A	EHCRC24120208S	1.2	0.2R	1.2	8	50	4	2
EHCRC24120210A	EHCRC24120210S	1.2	0.2R	1.2	10	50	4	2
EHCRC24120212A	EHCRC24120212S	1.2	0.2R	1.2	12	50	4	2
EHCRC24120304A	EHCRC24120304S	1.2	0.3R	1.2	4	50	4	2
EHCRC24120306A	EHCRC24120306S	1.2	0.3R	1.2	6	50	4	2
EHCRC24120308A	EHCRC24120308S	1.2	0.3R	1.2	8	50	4	2
EHCRC24120310A	EHCRC24120310S	1.2	0.3R	1.2	10	50	4	2
EHCRC24120312A	EHCRC24120312S	1.2	0.3R	1.2	12	50	4	2
EHCRC24150106A	EHCRC24150106S	1.5	0.1R	1.5	6	50	4	2
EHCRC24150108A	EHCRC24150108S	1.5	0.1R	1.5	8	50	4	2
EHCRC24150110A	EHCRC24150110S	1.5	0.1R	1.5	10	50	4	2
EHCRC24150112A	EHCRC24150112S	1.5	0.1R	1.5	12	50	4	2
EHCRC24150116A	EHCRC24150116S	1.5	0.1R	1.5	16	50	4	2
EHCRC24150206A	EHCRC24150206S	1.5	0.2R	1.5	6	50	4	2
EHCRC24150208A	EHCRC24150208S	1.5	0.2R	1.5	8	50	4	2
EHCRC24150210A	EHCRC24150210S	1.5	0.2R	1.5	10	50	4	2
EHCRC24150212A	EHCRC24150212S	1.5	0.2R	1.5	12	50	4	2
EHCRC24150216A	EHCRC24150216S	1.5	0.2R	1.5	16	50	4	2

(continued)

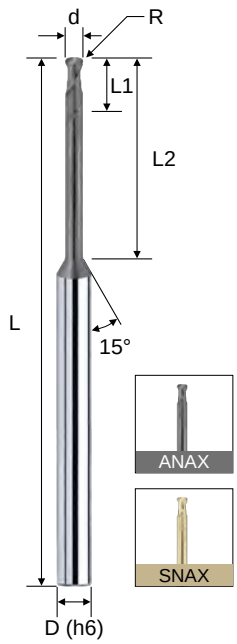
H65X - Corner Radius · Long Neck · 2F 圓鼻銑刀・長頸型・2 刃

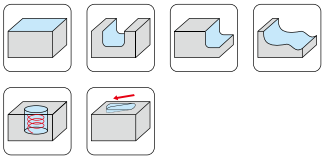
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC24150306A	EHCRC24150306S	1.5	0.3R	1.5	6	50	4	2
EHCRC24150308A	EHCRC24150308S	1.5	0.3R	1.5	8	50	4	2
EHCRC24150310A	EHCRC24150310S	1.5	0.3R	1.5	10	50	4	2
EHCRC24150312A	EHCRC24150312S	1.5	0.3R	1.5	12	50	4	2
EHCRC24150316A	EHCRC24150316S	1.5	0.3R	1.5	16	50	4	2
EHCRC24150506A	EHCRC24150506S	1.5	0.5R	1.5	6	50	4	2
EHCRC24150508A	EHCRC24150508S	1.5	0.5R	1.5	8	50	4	2
EHCRC24150510A	EHCRC24150510S	1.5	0.5R	1.5	10	50	4	2
EHCRC24150512A	EHCRC24150512S	1.5	0.5R	1.5	12	50	4	2
EHCRC24150516A	EHCRC24150516S	1.5	0.5R	1.5	16	50	4	2
EHCRC24200106A	EHCRC24200106S	2.0	0.1R	2.0	6	50	4	2
EHCRC24200108A	EHCRC24200108S	2.0	0.1R	2.0	8	50	4	2
EHCRC24200110A	EHCRC24200110S	2.0	0.1R	2.0	10	50	4	2
EHCRC24200112A	EHCRC24200112S	2.0	0.1R	2.0	12	50	4	2
EHCRC24200116A	EHCRC24200116S	2.0	0.1R	2.0	16	50	4	2
EHCRC24200120A	EHCRC24200120S	2.0	0.1R	2.0	20	50	4	2
EHCRC24200125A	EHCRC24200125S	2.0	0.1R	2.0	25	60	4	2
EHCRC24200206A	EHCRC24200206S	2.0	0.2R	2.0	6	50	4	2
EHCRC24200208A	EHCRC24200208S	2.0	0.2R	2.0	8	50	4	2
EHCRC24200210A	EHCRC24200210S	2.0	0.2R	2.0	10	50	4	2
EHCRC24200212A	EHCRC24200212S	2.0	0.2R	2.0	12	50	4	2
EHCRC24200216A	EHCRC24200216S	2.0	0.2R	2.0	16	50	4	2
EHCRC24200220A	EHCRC24200220S	2.0	0.2R	2.0	20	50	4	2
EHCRC24200225A	EHCRC24200225S	2.0	0.2R	2.0	25	60	4	2
EHCRC24200306A	EHCRC24200306S	2.0	0.3R	2.0	6	50	4	2
EHCRC24200308A	EHCRC24200308S	2.0	0.3R	2.0	8	50	4	2
EHCRC24200310A	EHCRC24200310S	2.0	0.3R	2.0	10	50	4	2
EHCRC24200312A	EHCRC24200312S	2.0	0.3R	2.0	12	50	4	2
EHCRC24200316A	EHCRC24200316S	2.0	0.3R	2.0	16	50	4	2
EHCRC24200320A	EHCRC24200320S	2.0	0.3R	2.0	20	50	4	2
EHCRC24200325A	EHCRC24200325S	2.0	0.3R	2.0	25	60	4	2
EHCRC24200506A	EHCRC24200506S	2.0	0.5R	2.0	6	50	4	2
EHCRC24200508A	EHCRC24200508S	2.0	0.5R	2.0	8	50	4	2
EHCRC24200510A	EHCRC24200510S	2.0	0.5R	2.0	10	50	4	2
EHCRC24200512A	EHCRC24200512S	2.0	0.5R	2.0	12	50	4	2
EHCRC24200516A	EHCRC24200516S	2.0	0.5R	2.0	16	50	4	2
EHCRC24200520A	EHCRC24200520S	2.0	0.5R	2.0	20	50	4	2
EHCRC24200525A	EHCRC24200525S	2.0	0.5R	2.0	25	60	4	2
EHCRC20200510A	EHCRC20200510S	2.0	0.5R	2.0	10	50	6	2
EHCRC20200515A	EHCRC20200515S	2.0	0.5R	2.0	15	50	6	2

(continued)

H65X - Corner Radius · Long Neck · 2F

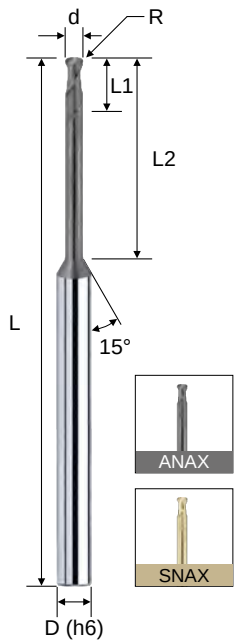
圓鼻銑刀・長頸型・2 刃

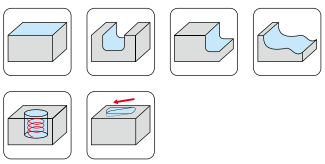
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC24250110A	EHCRC24250110S	2.5	0.1R	2.5	10	50	4	2
EHCRC24250116A	EHCRC24250116S	2.5	0.1R	2.5	16	50	4	2
EHCRC24250120A	EHCRC24250120S	2.5	0.1R	2.5	20	50	4	2
EHCRC24250125A	EHCRC24250125S	2.5	0.1R	2.5	25	60	4	2
EHCRC24250210A	EHCRC24250210S	2.5	0.2R	2.5	10	50	4	2
EHCRC24250216A	EHCRC24250216S	2.5	0.2R	2.5	16	50	4	2
EHCRC24250220A	EHCRC24250220S	2.5	0.2R	2.5	20	50	4	2
EHCRC24250225A	EHCRC24250225S	2.5	0.2R	2.5	25	60	4	2
EHCRC24250310A	EHCRC24250310S	2.5	0.3R	2.5	10	50	4	2
EHCRC24250316A	EHCRC24250316S	2.5	0.3R	2.5	16	50	4	2
EHCRC24250320A	EHCRC24250320S	2.5	0.3R	2.5	20	50	4	2
EHCRC24250325A	EHCRC24250325S	2.5	0.3R	2.5	25	60	4	2
EHCRC24250510A	EHCRC24250510S	2.5	0.5R	2.5	10	50	4	2
EHCRC24250516A	EHCRC24250516S	2.5	0.5R	2.5	16	50	4	2
EHCRC24250520A	EHCRC24250520S	2.5	0.5R	2.5	20	50	4	2
EHCRC24250525A	EHCRC24250525S	2.5	0.5R	2.5	25	60	4	2
EHCRC20300110A	EHCRC20300110S	3.0	0.1R	3.0	10	50	6	2
EHCRC20300116A	EHCRC20300116S	3.0	0.1R	3.0	16	60	6	2
EHCRC20300120A	EHCRC20300120S	3.0	0.1R	3.0	20	60	6	2
EHCRC20300125A	EHCRC20300125S	3.0	0.1R	3.0	25	60	6	2
EHCRC20300130A	EHCRC20300130S	3.0	0.1R	3.0	30	75	6	2
EHCRC20300135A	EHCRC20300135S	3.0	0.1R	3.0	35	75	6	2
EHCRC20300210A	EHCRC20300210S	3.0	0.2R	3.0	10	50	6	2
EHCRC20300216A	EHCRC20300216S	3.0	0.2R	3.0	16	60	6	2
EHCRC20300220A	EHCRC20300220S	3.0	0.2R	3.0	20	60	6	2
EHCRC20300225A	EHCRC20300225S	3.0	0.2R	3.0	25	60	6	2
EHCRC20300230A	EHCRC20300230S	3.0	0.2R	3.0	30	75	6	2
EHCRC20300235A	EHCRC20300235S	3.0	0.2R	3.0	35	75	6	2
EHCRC20300310A	EHCRC20300310S	3.0	0.3R	3.0	10	50	6	2
EHCRC20300316A	EHCRC20300316S	3.0	0.3R	3.0	16	60	6	2
EHCRC20300320A	EHCRC20300320S	3.0	0.3R	3.0	20	60	6	2
EHCRC20300325A	EHCRC20300325S	3.0	0.3R	3.0	25	60	6	2
EHCRC20300330A	EHCRC20300330S	3.0	0.3R	3.0	30	75	6	2
EHCRC20300335A	EHCRC20300335S	3.0	0.3R	3.0	35	75	6	2
EHCRC20300510A	EHCRC20300510S	3.0	0.5R	3.0	10	50	6	2
EHCRC20300516A	EHCRC20300516S	3.0	0.5R	3.0	16	60	6	2
EHCRC20300520A	EHCRC20300520S	3.0	0.5R	3.0	20	60	6	2
EHCRC20300525A	EHCRC20300525S	3.0	0.5R	3.0	25	60	6	2
EHCRC20300530A	EHCRC20300530S	3.0	0.5R	3.0	30	75	6	2
EHCRC20300535A	EHCRC20300535S	3.0	0.5R	3.0	35	75	6	2

(continued)

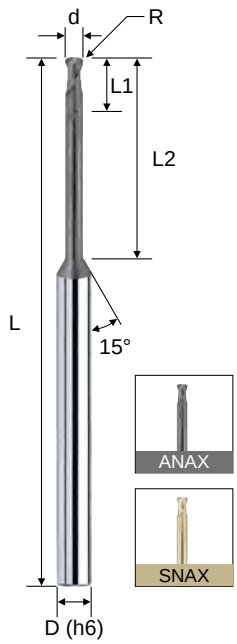
H65X - Corner Radius · Long Neck · 2F 圓鼻銑刀・長頸型・2 刃

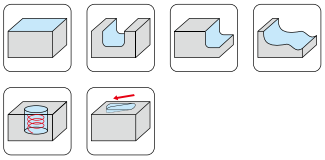
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC20301010A	EHCRC20301010S	3.0	1.0R	3.0	10	50	6	2
EHCRC20301016A	EHCRC20301016S	3.0	1.0R	3.0	16	60	6	2
EHCRC20301020A	EHCRC20301020S	3.0	1.0R	3.0	20	60	6	2
EHCRC20301025A	EHCRC20301025S	3.0	1.0R	3.0	25	60	6	2
EHCRC20301030A	EHCRC20301030S	3.0	1.0R	3.0	30	75	6	2
EHCRC20301035A	EHCRC20301035S	3.0	1.0R	3.0	35	75	6	2
EHCRC20400113A	EHCRC20400113S	4.0	0.1R	4.0	13	50	6	2
EHCRC20400116A	EHCRC20400116S	4.0	0.1R	4.0	16	60	6	2
EHCRC20400120A	EHCRC20400120S	4.0	0.1R	4.0	20	60	6	2
EHCRC20400125A	EHCRC20400125S	4.0	0.1R	4.0	25	60	6	2
EHCRC20400130A	EHCRC20400130S	4.0	0.1R	4.0	30	75	6	2
EHCRC20400135A	EHCRC20400135S	4.0	0.1R	4.0	35	75	6	2
EHCRC20400213A	EHCRC20400213S	4.0	0.2R	4.0	13	50	6	2
EHCRC20400216A	EHCRC20400216S	4.0	0.2R	4.0	16	60	6	2
EHCRC20400220A	EHCRC20400220S	4.0	0.2R	4.0	20	60	6	2
EHCRC20400225A	EHCRC20400225S	4.0	0.2R	4.0	25	60	6	2
EHCRC20400230A	EHCRC20400230S	4.0	0.2R	4.0	30	75	6	2
EHCRC20400235A	EHCRC20400235S	4.0	0.2R	4.0	35	75	6	2
EHCRC20400313A	EHCRC20400313S	4.0	0.3R	4.0	13	50	6	2
EHCRC20400316A	EHCRC20400316S	4.0	0.3R	4.0	16	60	6	2
EHCRC20400320A	EHCRC20400320S	4.0	0.3R	4.0	20	60	6	2
EHCRC20400325A	EHCRC20400325S	4.0	0.3R	4.0	25	60	6	2
EHCRC20400330A	EHCRC20400330S	4.0	0.3R	4.0	30	75	6	2
EHCRC20400335A	EHCRC20400335S	4.0	0.3R	4.0	35	75	6	2
EHCRC20400513A	EHCRC20400513S	4.0	0.5R	4.0	13	50	6	2
EHCRC20400516A	EHCRC20400516S	4.0	0.5R	4.0	16	60	6	2
EHCRC20400520A	EHCRC20400520S	4.0	0.5R	4.0	20	60	6	2
EHCRC20400525A	EHCRC20400525S	4.0	0.5R	4.0	25	60	6	2
EHCRC20400530A	EHCRC20400530S	4.0	0.5R	4.0	30	75	6	2
EHCRC20400535A	EHCRC20400535S	4.0	0.5R	4.0	35	75	6	2
EHCRC20401013A	EHCRC20401013S	4.0	1.0R	4.0	13	50	6	2
EHCRC20401016A	EHCRC20401016S	4.0	1.0R	4.0	16	60	6	2
EHCRC20401020A	EHCRC20401020S	4.0	1.0R	4.0	20	60	6	2
EHCRC20401025A	EHCRC20401025S	4.0	1.0R	4.0	25	60	6	2
EHCRC20401030A	EHCRC20401030S	4.0	1.0R	4.0	30	75	6	2
EHCRC20401035A	EHCRC20401035S	4.0	1.0R	4.0	35	75	6	2
EHCRC20500116A	EHCRC20500116S	5.0	0.1R	5.0	16	60	6	2
EHCRC20500130A	EHCRC20500130S	5.0	0.1R	5.0	30	75	6	2
EHCRC20500216A	EHCRC20500216S	5.0	0.2R	5.0	16	60	6	2
EHCRC20500230A	EHCRC20500230S	5.0	0.2R	5.0	30	75	6	2

(continued)

H65X - Corner Radius · Long Neck · 2F

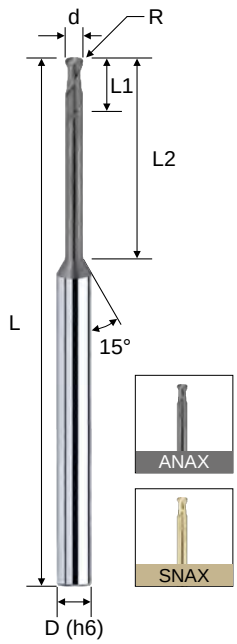
圓鼻銑刀・長頸型・2 刃

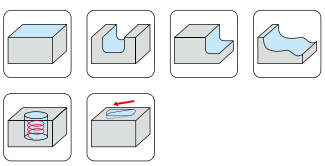
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●





2	UMG Plus	ANAX	SNAX

R	30°	HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC20500316A	EHCRC20500316S	5.0	0.3R	5.0	16	60	6	2
EHCRC20500330A	EHCRC20500330S	5.0	0.3R	5.0	30	75	6	2
EHCRC20500516A	EHCRC20500516S	5.0	0.5R	5.0	16	60	6	2
EHCRC20500530A	EHCRC20500530S	5.0	0.5R	5.0	30	75	6	2
EHCRC20501016A	EHCRC20501016S	5.0	1.0R	5.0	16	60	6	2
EHCRC20501030A	EHCRC20501030S	5.0	1.0R	5.0	30	75	6	2
EHCRC20600120A	EHCRC20600120S	6.0	0.1R	7.0	20	60	6	2
EHCRC20600130A	EHCRC20600130S	6.0	0.1R	7.0	30	75	6	2
EHCRC20600220A	EHCRC20600220S	6.0	0.2R	7.0	20	60	6	2
EHCRC20600230A	EHCRC20600230S	6.0	0.2R	7.0	30	75	6	2
EHCRC20600320A	EHCRC20600320S	6.0	0.3R	7.0	20	60	6	2
EHCRC20600330A	EHCRC20600330S	6.0	0.3R	7.0	30	75	6	2
EHCRC20600520A	EHCRC20600520S	6.0	0.5R	7.0	20	60	6	2
EHCRC20600530A	EHCRC20600530S	6.0	0.5R	7.0	30	75	6	2
EHCRC20601020A	EHCRC20601020S	6.0	1.0R	7.0	20	60	6	2
EHCRC20601030A	EHCRC20601030S	6.0	1.0R	7.0	30	75	6	2
EHCRC20601520A	EHCRC20601520S	6.0	1.5R	7.0	20	60	6	2
EHCRC20601530A	EHCRC20601530S	6.0	1.5R	7.0	30	75	6	2
EHCRC20800522A	EHCRC20800522S	8.0	0.5R	9.0	22	60	8	2
EHCRC20801022A	EHCRC20801022S	8.0	1.0R	9.0	22	60	8	2
EHCRC20801522A	EHCRC20801522S	8.0	1.5R	9.0	22	60	8	2
EHCRC20802022A	EHCRC20802022S	8.0	2.0R	9.0	22	60	8	2
EHCRC21000524A	EHCRC21000524S	10.0	0.5R	11.0	24	75	10	2
EHCRC21001024A	EHCRC21001024S	10.0	1.0R	11.0	24	75	10	2
EHCRC21001524A	EHCRC21001524S	10.0	1.5R	11.0	24	75	10	2
EHCRC21002024A	EHCRC21002024S	10.0	2.0R	11.0	24	75	10	2
EHCRC21200526A	EHCRC21200526S	12.0	0.5R	13.0	26	75	12	2
EHCRC21201026A	EHCRC21201026S	12.0	1.0R	13.0	26	75	12	2
EHCRC21201526A	EHCRC21201526S	12.0	1.5R	13.0	26	75	12	2
EHCRC21202026A	EHCRC21202026S	12.0	2.0R	13.0	26	75	12	2

Material		PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45				HRC 40~55				HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
1.0mm	4	13800	805	0.029	0.264	11730	655	0.034	0.264	8280	78	0.017	0.264
	10	8625	311	0.011	0.123	7475	264	0.013	0.123	5290	31	0.006	0.123
1.2mm	6	9200	575	0.018	0.088	8165	483	0.215	0.088	6095	59	0.011	0.088
	12	6670	368	0.007	0.070	5980	299	0.008	0.070	4370	37	0.004	0.070

(continued)

H65X - Corner Radius · Long Neck · 2F

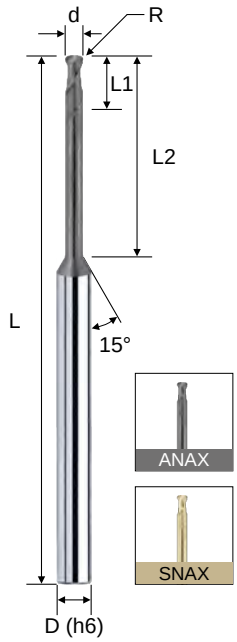
圓鼻銑刀・長頸型・2 刃

- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

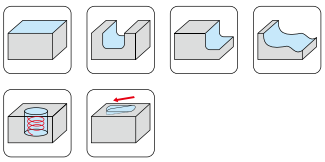
ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●



Material		PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45				HRC 40~55				HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
1.5mm	4	12880	1070	0.044	0.440	11730	920	0.059	0.440	8970	121	0.032	0.440
	10	8280	736	0.031	0.282	7590	633	0.041	0.282	5865	83	0.022	0.282
	16	5865	403	0.005	0.106	5405	345	0.006	0.106	4141	45	0.003	0.106
2.0mm	6	12535	1001	0.042	0.792	11730	909	0.095	0.792	9430	130	0.035	0.792
	12	9200	805	0.030	0.440	8280	725	0.043	0.440	6785	105	0.025	0.440
	20	6900	633	0.017	0.194	6440	564	0.023	0.194	5175	82	0.014	0.194
	25	5865	541	0.005	0.132	5405	495	0.005	0.132	4255	68	0.002	0.132
2.5mm	10	10350	1001	0.051	0.528	9775	943	0.073	0.528	8165	151	0.047	0.528
	25	6210	437	0.011	0.176	5865	414	0.016	0.176	4830	65	0.010	0.176
3.0mm	10	10350	1127	0.103	0.616	9775	874	0.103	0.655	8740	196	0.073	0.655
	20	8165	863	0.071	0.567	7705	667	0.071	0.567	6900	147	0.043	0.567
	30	6900	702	0.049	0.371	6325	541	0.049	0.371	5865	115	0.028	0.362
4.0mm	13	8740	1058	0.081	1.124	7360	920	0.117	1.124	6210	210	0.083	1.124
	20	6785	978	0.053	0.880	5750	840	0.078	0.880	4830	194	0.057	0.880
	30	5750	748	0.028	0.671	4715	656	0.041	0.671	4025	149	0.030	0.708
5.0mm	16	7705	1702	0.106	1.346	5520	1139	0.150	1.346	4600	342	0.110	1.346
	30	5290	817	0.053	1.035	3795	541	0.075	1.035	3220	164	0.055	1.035
6.0mm	20	5980	1219	0.476	1.356	3565	1035	0.186	1.356	3105	393	0.145	1.356
	30	4600	909	0.410	1.304	2645	759	0.164	1.304	2300	304	0.123	1.304
8.0mm	22	5520	1081	0.419	1.518	3220	909	0.164	1.518	2760	346	0.128	1.518
10.0mm	24	4485	920	0.356	1.645	2760	771	0.139	1.645	2300	294	0.108	1.645
12.0mm	26	3795	771	0.299	2.024	2300	644	0.117	2.024	1955	247	0.091	2.024



2 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

H65X - Corner Radius · Long Neck · 4F

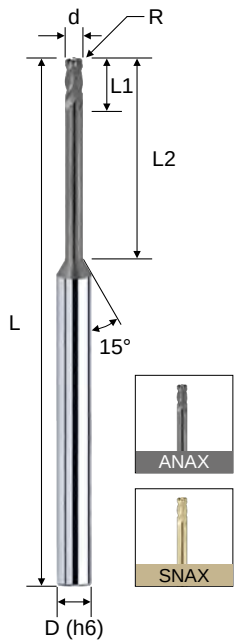
圓鼻銑刀・長頸型・4 刃

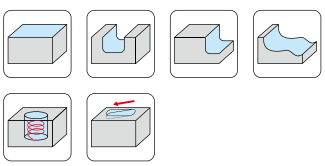
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●





4 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC44200106A	EHCRC44200106S	2.0	0.1R	2.0	6	50	4	4
EHCRC44200108A	EHCRC44200108S	2.0	0.1R	2.0	8	50	4	4
EHCRC44200110A	EHCRC44200110S	2.0	0.1R	2.0	10	50	4	4
EHCRC44200112A	EHCRC44200112S	2.0	0.1R	2.0	12	50	4	4
EHCRC44200116A	EHCRC44200116S	2.0	0.1R	2.0	16	50	4	4
EHCRC44200120A	EHCRC44200120S	2.0	0.1R	2.0	20	50	4	4
EHCRC44200125A	EHCRC44200125S	2.0	0.1R	2.0	25	60	4	4
EHCRC44200206A	EHCRC44200206S	2.0	0.2R	2.0	6	50	4	4
EHCRC44200208A	EHCRC44200208S	2.0	0.2R	2.0	8	50	4	4
EHCRC44200210A	EHCRC44200210S	2.0	0.2R	2.0	10	50	4	4
EHCRC44200212A	EHCRC44200212S	2.0	0.2R	2.0	12	50	4	4
EHCRC44200216A	EHCRC44200216S	2.0	0.2R	2.0	16	50	4	4
EHCRC44200220A	EHCRC44200220S	2.0	0.2R	2.0	20	50	4	4
EHCRC44200225A	EHCRC44200225S	2.0	0.2R	2.0	25	60	4	4
EHCRC44200306A	EHCRC44200306S	2.0	0.3R	2.0	6	50	4	4
EHCRC44200308A	EHCRC44200308S	2.0	0.3R	2.0	8	50	4	4
EHCRC44200310A	EHCRC44200310S	2.0	0.3R	2.0	10	50	4	4
EHCRC44200312A	EHCRC44200312S	2.0	0.3R	2.0	12	50	4	4
EHCRC44200316A	EHCRC44200316S	2.0	0.3R	2.0	16	50	4	4
EHCRC44200320A	EHCRC44200320S	2.0	0.3R	2.0	20	50	4	4
EHCRC44200325A	EHCRC44200325S	2.0	0.3R	2.0	25	60	4	4
EHCRC44200506A	EHCRC44200506S	2.0	0.5R	2.0	6	50	4	4
EHCRC44200508A	EHCRC44200508S	2.0	0.5R	2.0	8	50	4	4
EHCRC44200510A	EHCRC44200510S	2.0	0.5R	2.0	10	50	4	4
EHCRC44200512A	EHCRC44200512S	2.0	0.5R	2.0	12	50	4	4
EHCRC44200516A	EHCRC44200516S	2.0	0.5R	2.0	16	50	4	4
EHCRC44200520A	EHCRC44200520S	2.0	0.5R	2.0	20	50	4	4
EHCRC44200525A	EHCRC44200525S	2.0	0.5R	2.0	25	60	4	4
EHCRC40200510A	EHCRC40200510S	2.0	0.5R	2.0	10	50	6	4
EHCRC40200515A	EHCRC40200515S	2.0	0.5R	2.0	15	50	6	4
EHCRC44250110A	EHCRC44250110S	2.5	0.1R	2.5	10	50	4	4
EHCRC44250116A	EHCRC44250116S	2.5	0.1R	2.5	16	50	4	4
EHCRC44250120A	EHCRC44250120S	2.5	0.1R	2.5	20	50	4	4
EHCRC44250125A	EHCRC44250125S	2.5	0.1R	2.5	25	60	4	4
EHCRC44250210A	EHCRC44250210S	2.5	0.2R	2.5	10	50	4	4
EHCRC44250216A	EHCRC44250216S	2.5	0.2R	2.5	16	50	4	4
EHCRC44250220A	EHCRC44250220S	2.5	0.2R	2.5	20	50	4	4
EHCRC44250225A	EHCRC44250225S	2.5	0.2R	2.5	25	60	4	4
EHCRC44250310A	EHCRC44250310S	2.5	0.3R	2.5	10	50	4	4
EHCRC44250316A	EHCRC44250316S	2.5	0.3R	2.5	16	50	4	4

(continued)

H65X - Corner Radius · Long Neck · 4F

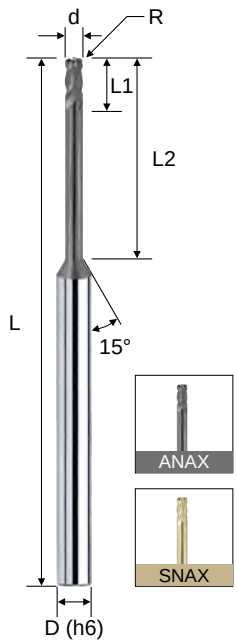
圓鼻銑刀・長頸型・4 刃

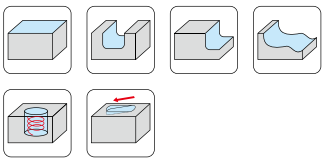
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

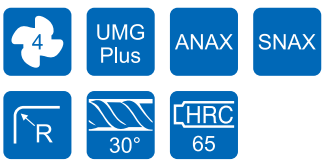
ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC44250320A	EHCRC44250320S	2.5	0.3R	2.5	20	50	4	4
EHCRC44250325A	EHCRC44250325S	2.5	0.3R	2.5	25	60	4	4
EHCRC44250510A	EHCRC44250510S	2.5	0.5R	2.5	10	50	4	4
EHCRC44250516A	EHCRC44250516S	2.5	0.5R	2.5	16	50	4	4
EHCRC44250520A	EHCRC44250520S	2.5	0.5R	2.5	20	50	4	4
EHCRC44250525A	EHCRC44250525S	2.5	0.5R	2.5	25	60	4	4
EHCRC40300110A	EHCRC40300110S	3.0	0.1R	3.0	10	50	6	4
EHCRC40300116A	EHCRC40300116S	3.0	0.1R	3.0	16	60	6	4
EHCRC40300120A	EHCRC40300120S	3.0	0.1R	3.0	20	60	6	4
EHCRC40300125A	EHCRC40300125S	3.0	0.1R	3.0	25	60	6	4
EHCRC40300130A	EHCRC40300130S	3.0	0.1R	3.0	30	75	6	4
EHCRC40300135A	EHCRC40300135S	3.0	0.1R	3.0	35	75	6	4
EHCRC40300210A	EHCRC40300210S	3.0	0.2R	3.0	10	50	6	4
EHCRC40300216A	EHCRC40300216S	3.0	0.2R	3.0	16	60	6	4
EHCRC40300220A	EHCRC40300220S	3.0	0.2R	3.0	20	60	6	4
EHCRC40300225A	EHCRC40300225S	3.0	0.2R	3.0	25	60	6	4
EHCRC40300230A	EHCRC40300230S	3.0	0.2R	3.0	30	75	6	4
EHCRC40300235A	EHCRC40300235S	3.0	0.2R	3.0	35	75	6	4
EHCRC40300310A	EHCRC40300310S	3.0	0.3R	3.0	10	50	6	4
EHCRC40300316A	EHCRC40300316S	3.0	0.3R	3.0	16	60	6	4
EHCRC40300320A	EHCRC40300320S	3.0	0.3R	3.0	20	60	6	4
EHCRC40300325A	EHCRC40300325S	3.0	0.3R	3.0	25	60	6	4
EHCRC40300330A	EHCRC40300330S	3.0	0.3R	3.0	30	75	6	4
EHCRC40300335A	EHCRC40300335S	3.0	0.3R	3.0	35	75	6	4
EHCRC40300510A	EHCRC40300510S	3.0	0.5R	3.0	10	50	6	4
EHCRC40300516A	EHCRC40300516S	3.0	0.5R	3.0	16	60	6	4
EHCRC40300520A	EHCRC40300520S	3.0	0.5R	3.0	20	60	6	4
EHCRC40300525A	EHCRC40300525S	3.0	0.5R	3.0	25	60	6	4
EHCRC40300530A	EHCRC40300530S	3.0	0.5R	3.0	30	75	6	4
EHCRC40300535A	EHCRC40300535S	3.0	0.5R	3.0	35	75	6	4
EHCRC40301010A	EHCRC40301010S	3.0	1.0R	3.0	10	50	6	4
EHCRC40301016A	EHCRC40301016S	3.0	1.0R	3.0	16	60	6	4
EHCRC40301020A	EHCRC40301020S	3.0	1.0R	3.0	20	60	6	4
EHCRC40301025A	EHCRC40301025S	3.0	1.0R	3.0	25	60	6	4
EHCRC40301030A	EHCRC40301030S	3.0	1.0R	3.0	30	75	6	4
EHCRC40301035A	EHCRC40301035S	3.0	1.0R	3.0	35	75	6	4
EHCRC40400113A	EHCRC40400113S	4.0	0.1R	4.0	13	50	6	4
EHCRC40400116A	EHCRC40400116S	4.0	0.1R	4.0	16	60	6	4
EHCRC40400120A	EHCRC40400120S	4.0	0.1R	4.0	20	60	6	4
EHCRC40400125A	EHCRC40400125S	4.0	0.1R	4.0	25	60	6	4

(continued)

H65X - Corner Radius · Long Neck · 4F

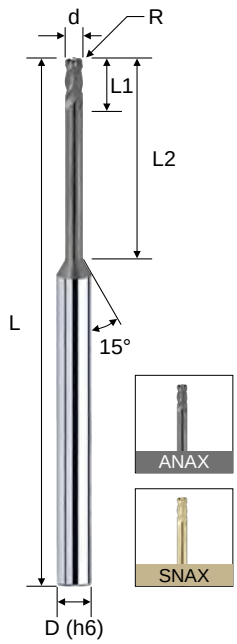
圓鼻銑刀・長頸型・4 刃

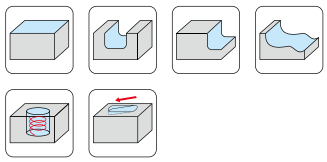
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRC

P	M	K	N	S	H
●	○	●		○	●





4 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCRC40400130A	EHCRC40400130S	4.0	0.1R	4.0	30	75	6	4
EHCRC40400135A	EHCRC40400135S	4.0	0.1R	4.0	35	75	6	4
EHCRC40400213A	EHCRC40400213S	4.0	0.2R	4.0	13	50	6	4
EHCRC40400216A	EHCRC40400216S	4.0	0.2R	4.0	16	60	6	4
EHCRC40400220A	EHCRC40400220S	4.0	0.2R	4.0	20	60	6	4
EHCRC40400225A	EHCRC40400225S	4.0	0.2R	4.0	25	60	6	4
EHCRC40400230A	EHCRC40400230S	4.0	0.2R	4.0	30	75	6	4
EHCRC40400235A	EHCRC40400235S	4.0	0.2R	4.0	35	75	6	4
EHCRC40400313A	EHCRC40400313S	4.0	0.3R	4.0	13	50	6	4
EHCRC40400316A	EHCRC40400316S	4.0	0.3R	4.0	16	60	6	4
EHCRC40400320A	EHCRC40400320S	4.0	0.3R	4.0	20	60	6	4
EHCRC40400325A	EHCRC40400325S	4.0	0.3R	4.0	25	60	6	4
EHCRC40400330A	EHCRC40400330S	4.0	0.3R	4.0	30	75	6	4
EHCRC40400335A	EHCRC40400335S	4.0	0.3R	4.0	35	75	6	4
EHCRC40400513A	EHCRC40400513S	4.0	0.5R	4.0	13	50	6	4
EHCRC40400516A	EHCRC40400516S	4.0	0.5R	4.0	16	60	6	4
EHCRC40400520A	EHCRC40400520S	4.0	0.5R	4.0	20	60	6	4
EHCRC40400525A	EHCRC40400525S	4.0	0.5R	4.0	25	60	6	4
EHCRC40400530A	EHCRC40400530S	4.0	0.5R	4.0	30	75	6	4
EHCRC40400535A	EHCRC40400535S	4.0	0.5R	4.0	35	75	6	4
EHCRC40401013A	EHCRC40401013S	4.0	1.0R	4.0	13	50	6	4
EHCRC40401016A	EHCRC40401016S	4.0	1.0R	4.0	16	60	6	4
EHCRC40401020A	EHCRC40401020S	4.0	1.0R	4.0	20	60	6	4
EHCRC40401025A	EHCRC40401025S	4.0	1.0R	4.0	25	60	6	4
EHCRC40401030A	EHCRC40401030S	4.0	1.0R	4.0	30	75	6	4
EHCRC40401035A	EHCRC40401035S	4.0	1.0R	4.0	35	75	6	4
EHCRC40500116A	EHCRC40500116S	5.0	0.1R	5.0	16	60	6	4
EHCRC40500130A	EHCRC40500130S	5.0	0.1R	5.0	30	75	6	4
EHCRC40500216A	EHCRC40500216S	5.0	0.2R	5.0	16	60	6	4
EHCRC40500230A	EHCRC40500230S	5.0	0.2R	5.0	30	75	6	4
EHCRC40500316A	EHCRC40500316S	5.0	0.3R	5.0	16	60	6	4
EHCRC40500330A	EHCRC40500330S	5.0	0.3R	5.0	30	75	6	4
EHCRC40500516A	EHCRC40500516S	5.0	0.5R	5.0	16	60	6	4
EHCRC40500530A	EHCRC40500530S	5.0	0.5R	5.0	30	75	6	4
EHCRC40501016A	EHCRC40501016S	5.0	1.0R	5.0	16	60	6	4
EHCRC40501030A	EHCRC40501030S	5.0	1.0R	5.0	30	75	6	4
EHCRC40600120A	EHCRC40600120S	6.0	0.1R	7.0	20	60	6	4
EHCRC40600130A	EHCRC40600130S	6.0	0.1R	7.0	30	75	6	4
EHCRC40600220A	EHCRC40600220S	6.0	0.2R	7.0	20	60	6	4
EHCRC40600230A	EHCRC40600230S	6.0	0.2R	7.0	30	75	6	4

(continued)

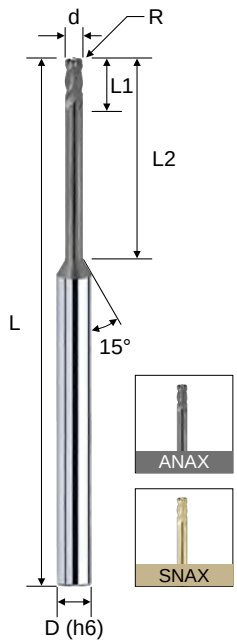
H65X - Corner Radius · Long Neck · 4F 圓鼻銑刀・長頸型・4 刃

- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

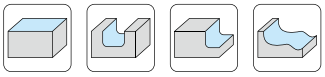
ASIA (Metric)

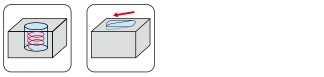
EHCRC

P	M	K	N	S	H
●	○	●		○	●



Order No. ANAX	Order No. SNAX	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCRC40600320A	EHCRC40600320S	6.0	0.3R	7.0	20	60	6	4
EHCRC40600330A	EHCRC40600330S	6.0	0.3R	7.0	30	75	6	4
EHCRC40600520A	EHCRC40600520S	6.0	0.5R	7.0	20	60	6	4
EHCRC40600530A	EHCRC40600530S	6.0	0.5R	7.0	30	75	6	4
EHCRC40601020A	EHCRC40601020S	6.0	1.0R	7.0	20	60	6	4
EHCRC40601030A	EHCRC40601030S	6.0	1.0R	7.0	30	75	6	4
EHCRC40601520A	EHCRC40601520S	6.0	1.5R	7.0	20	60	6	4
EHCRC40601530A	EHCRC40601530S	6.0	1.5R	7.0	30	75	6	4
EHCRC40800522A	EHCRC40800522S	8.0	0.5R	9.0	22	60	8	4
EHCRC40801022A	EHCRC40801022S	8.0	1.0R	9.0	22	60	8	4
EHCRC40801522A	EHCRC40801522S	8.0	1.5R	9.0	22	60	8	4
EHCRC40802022A	EHCRC40802022S	8.0	2.0R	9.0	22	60	8	4
EHCRC41000524A	EHCRC41000524S	10.0	0.5R	11.0	24	75	10	4
EHCRC41001024A	EHCRC41001024S	10.0	1.0R	11.0	24	75	10	4
EHCRC41001524A	EHCRC41001524S	10.0	1.5R	11.0	24	75	10	4
EHCRC41002024A	EHCRC41002024S	10.0	2.0R	11.0	24	75	10	4
EHCRC41200526A	EHCRC41200526S	12.0	0.5R	13.0	26	75	12	4
EHCRC41201026A	EHCRC41201026S	12.0	1.0R	13.0	26	75	12	4
EHCRC41201526A	EHCRC41201526S	12.0	1.5R	13.0	26	75	12	4
EHCRC41202026A	EHCRC41202026S	12.0	2.0R	13.0	26	75	12	4





4 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material		PREHARDENED STEELS NAK80 CENA1				Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45				HRC 55~65			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
2.0mm	6	12650	1265	0.063	0.633	11730	1173	0.059	0.713
	12	8970	1012	0.045	0.396	8280	943	0.043	0.396
2.5mm	10	10580	1380	0.065	0.528	9775	1150	0.065	0.528
	20	7590	1150	0.047	0.640	7360	655	0.030	0.220
3.0mm	10	11040	2070	0.094	0.684	10235	2070	0.059	0.684
	20	8165	1495	0.057	0.567	7705	1495	0.035	0.567
4.0mm	13	9085	1576	0.105	1.150	7590	1530	0.082	1.150
	20	7130	1380	0.069	0.920	59801	1288	0.054	0.920
	30	6325	1104	0.043	0.745	5290	1058	0.033	0.745
6.0mm	20	5635	1691	0.176	2.305	3335	978	0.176	1.281
	30	2875	782	0.098	1.320	1610	460	0.098	0.733
8.0mm	22	4600	1840	0.212	2.921	2760	782	0.212	1.518
10.0mm	24	3680	2013	0.242	3.140	2185	621	0.253	1.645
12.0mm	26	2875	2070	0.265	3.105	1725	495	0.276	1.714

H65X - Ball Nose · Long Neck · 2F

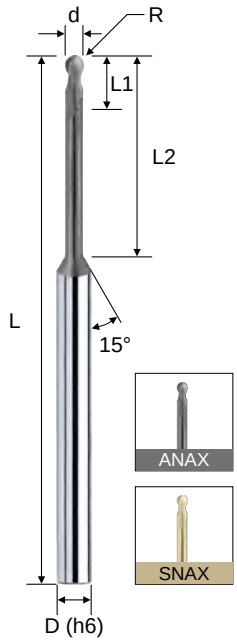
球型銑刀・長頸型・2 刃

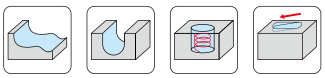
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

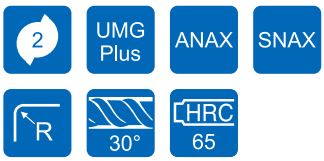
ASIA (Metric)

EHBRC

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.		Radius	Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHBRC240301A	EHBRC240301S	0.15R	0.3	0.3	1	50	4	2
EHBRC240302A	EHBRC240302S	0.15R	0.3	0.3	2	50	4	2
EHBRC240303A	EHBRC240303S	0.15R	0.3	0.3	3	50	4	2
EHBRC240401A	EHBRC240401S	0.20R	0.4	0.4	1	50	4	2
EHBRC240402A	EHBRC240402S	0.20R	0.4	0.4	2	50	4	2
EHBRC240403A	EHBRC240403S	0.20R	0.4	0.4	3	50	4	2
EHBRC240404A	EHBRC240404S	0.20R	0.4	0.4	4	50	4	2
EHBRC240405A	EHBRC240405S	0.20R	0.4	0.4	5	50	4	2
EHBRC240406A	EHBRC240406S	0.20R	0.4	0.4	6	50	4	2
EHBRC240408A	EHBRC240408S	0.20R	0.4	0.4	8	50	4	2
EHBRC240501A	EHBRC240501S	0.25R	0.5	0.5	1	50	4	2
EHBRC240502A	EHBRC240502S	0.25R	0.5	0.5	2	50	4	2
EHBRC240503A	EHBRC240503S	0.25R	0.5	0.5	3	50	4	2
EHBRC240504A	EHBRC240504S	0.25R	0.5	0.5	4	50	4	2
EHBRC240505A	EHBRC240505S	0.25R	0.5	0.5	5	50	4	2
EHBRC240506A	EHBRC240506S	0.25R	0.5	0.5	6	50	4	2
EHBRC240508A	EHBRC240508S	0.25R	0.5	0.5	8	50	4	2
EHBRC240510A	EHBRC240510S	0.25R	0.5	0.5	10	50	4	2
EHBRC240601A	EHBRC240601S	0.30R	0.6	0.6	1	50	4	2
EHBRC240602A	EHBRC240602S	0.30R	0.6	0.6	2	50	4	2
EHBRC240603A	EHBRC240603S	0.30R	0.6	0.6	3	50	4	2
EHBRC240604A	EHBRC240604S	0.30R	0.6	0.6	4	50	4	2
EHBRC240605A	EHBRC240605S	0.30R	0.6	0.6	5	50	4	2
EHBRC240606A	EHBRC240606S	0.30R	0.6	0.6	6	50	4	2
EHBRC240608A	EHBRC240608S	0.30R	0.6	0.6	8	50	4	2
EHBRC240610A	EHBRC240610S	0.30R	0.6	0.6	10	50	4	2
EHBRC240612A	EHBRC240612S	0.30R	0.6	0.6	12	50	4	2
EHBRC240702A	EHBRC240702S	0.35R	0.7	0.7	2	50	4	2
EHBRC240704A	EHBRC240704S	0.35R	0.7	0.7	4	50	4	2
EHBRC240708A	EHBRC240708S	0.35R	0.7	0.7	8	50	4	2
EHBRC240710A	EHBRC240710S	0.35R	0.7	0.7	10	50	4	2
EHBRC240712A	EHBRC240712S	0.35R	0.7	0.7	12	50	4	2
EHBRC240802A	EHBRC240802S	0.40R	0.8	0.8	2	50	4	2
EHBRC240804A	EHBRC240804S	0.40R	0.8	0.8	4	50	4	2
EHBRC240806A	EHBRC240806S	0.40R	0.8	0.8	6	50	4	2
EHBRC240808A	EHBRC240808S	0.40R	0.8	0.8	8	50	4	2
EHBRC240810A	EHBRC240810S	0.40R	0.8	0.8	10	50	4	2
EHBRC240812A	EHBRC240812S	0.40R	0.8	0.8	12	50	4	2
EHBRC240904A	EHBRC240904S	0.45R	0.9	0.9	4	50	4	2
EHBRC241002A	EHBRC241002S	0.50R	1.0	1.0	2	50	4	2

(continued)

H65X - Ball Nose · Long Neck · 2F

球型銑刀・長頸型・2 刃

- Suitable for deep cutting due to the long neck design.
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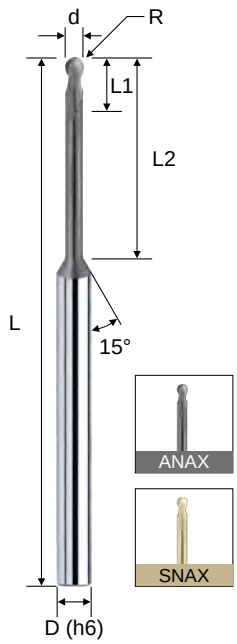
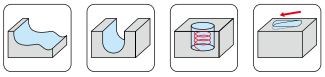
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHBRC

P	M	K	N	S	H
●	○	●		○	●





2 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.		Radius	Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHBRC241003A	EHBRC241003S	0.50R	1.0	1.0	3	50	4	2
EHBRC241004A	EHBRC241004S	0.50R	1.0	1.0	4	50	4	2
EHBRC241005A	EHBRC241005S	0.50R	1.0	1.0	5	50	4	2
EHBRC241006A	EHBRC241006S	0.50R	1.0	1.0	6	50	4	2
EHBRC241008A	EHBRC241008S	0.50R	1.0	1.0	8	50	4	2
EHBRC241010A	EHBRC241010S	0.50R	1.0	1.0	10	50	4	2
EHBRC241012A	EHBRC241012S	0.50R	1.0	1.0	12	50	4	2
EHBRC241014A	EHBRC241014S	0.50R	1.0	1.0	14	50	4	2
EHBRC241016A	EHBRC241016S	0.50R	1.0	1.0	16	50	4	2
EHBRC241018A	EHBRC241018S	0.50R	1.0	1.0	18	50	4	2
EHBRC241020A	EHBRC241020S	0.50R	1.0	1.0	20	50	4	2
EHBRC241022A	EHBRC241022S	0.50R	1.0	1.0	22	60	4	2
EHBRC201004A	EHBRC201004S	0.50R	1.0	1.0	4	50	6	2
EHBRC201006A	EHBRC201006S	0.50R	1.0	1.0	6	50	6	2
EHBRC201008A	EHBRC201008S	0.50R	1.0	1.0	8	50	6	2
EHBRC201010A	EHBRC201010S	0.50R	1.0	1.0	10	50	6	2
EHBRC201012A	EHBRC201012S	0.50R	1.0	1.0	12	50	6	2
EHBRC241204A	EHBRC241204S	0.60R	1.2	1.2	4	50	4	2
EHBRC241206A	EHBRC241206S	0.60R	1.2	1.2	6	50	4	2
EHBRC241208A	EHBRC241208S	0.60R	1.2	1.2	8	50	4	2
EHBRC241210A	EHBRC241210S	0.60R	1.2	1.2	10	50	4	2
EHBRC241212A	EHBRC241212S	0.60R	1.2	1.2	12	50	4	2
EHBRC241216A	EHBRC241216S	0.60R	1.2	1.2	16	50	4	2
EHBRC241220A	EHBRC241220S	0.60R	1.2	1.2	20	50	4	2
EHBRC241224A	EHBRC241224S	0.60R	1.2	1.2	24	60	4	2
EHBRC241406A	EHBRC241406S	0.70R	1.4	1.4	6	50	4	2
EHBRC241408A	EHBRC241408S	0.70R	1.4	1.4	8	50	4	2
EHBRC241412A	EHBRC241412S	0.70R	1.4	1.4	12	50	4	2
EHBRC241416A	EHBRC241416S	0.70R	1.4	1.4	16	50	4	2
EHBRC241503A	EHBRC241503S	0.75R	1.5	1.5	3	50	4	2
EHBRC241504A	EHBRC241504S	0.75R	1.5	1.5	4	50	4	2
EHBRC241506A	EHBRC241506S	0.75R	1.5	1.5	6	50	4	2
EHBRC241508A	EHBRC241508S	0.75R	1.5	1.5	8	50	4	2
EHBRC241510A	EHBRC241510S	0.75R	1.5	1.5	10	50	4	2
EHBRC241512A	EHBRC241512S	0.75R	1.5	1.5	12	50	4	2
EHBRC241514A	EHBRC241514S	0.75R	1.5	1.5	14	50	4	2
EHBRC241516A	EHBRC241516S	0.75R	1.5	1.5	16	50	4	2
EHBRC241518A	EHBRC241518S	0.75R	1.5	1.5	18	50	4	2
EHBRC241520A	EHBRC241520S	0.75R	1.5	1.5	20	50	4	2
EHBRC241522A	EHBRC241522S	0.75R	1.5	1.5	22	60	4	2

(continued)

H65X - Ball Nose · Long Neck · 2F

球型銑刀・長頸型・2 刃

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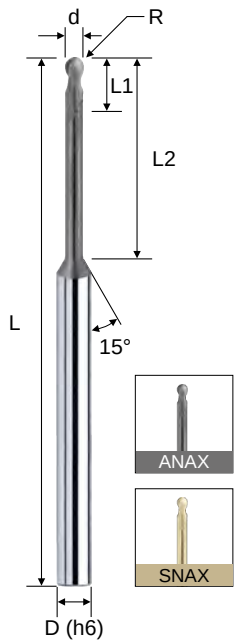
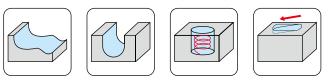
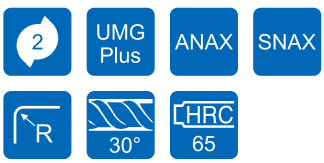
ASIA (Metric)

EHBRC

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.		Radius	Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHBRC241525A	EHBRC241525S	0.75R	1.5	1.5	25	60	4	2
EHBRC241530A	EHBRC241530S	0.75R	1.5	1.5	30	75	4	2
EHBRC201506A	EHBRC201506S	0.75R	1.5	1.5	6	50	6	2
EHBRC201508A	EHBRC201508S	0.75R	1.5	1.5	8	50	6	2
EHBRC201510A	EHBRC201510S	0.75R	1.5	1.5	10	50	6	2
EHBRC201512A	EHBRC201512S	0.75R	1.5	1.5	12	50	6	2
EHBRC241606A	EHBRC241606S	0.80R	1.6	1.6	6	50	4	2
EHBRC241608A	EHBRC241608S	0.80R	1.6	1.6	8	50	4	2
EHBRC241612A	EHBRC241612S	0.80R	1.6	1.6	12	50	4	2
EHBRC241616A	EHBRC241616S	0.80R	1.6	1.6	16	50	4	2
EHBRC241620A	EHBRC241620S	0.80R	1.6	1.6	20	50	4	2
EHBRC241806A	EHBRC241806S	0.90R	1.8	1.8	6	50	4	2
EHBRC241808A	EHBRC241808S	0.90R	1.8	1.8	8	50	4	2
EHBRC241812A	EHBRC241812S	0.90R	1.8	1.8	12	50	4	2
EHBRC241816A	EHBRC241816S	0.90R	1.8	1.8	16	50	4	2
EHBRC241820A	EHBRC241820S	0.90R	1.8	1.8	20	50	4	2
EHBRC242004A	EHBRC242004S	1.00R	2.0	2.0	4	50	4	2
EHBRC242006A	EHBRC242006S	1.00R	2.0	2.0	6	50	4	2
EHBRC242008A	EHBRC242008S	1.00R	2.0	2.0	8	50	4	2
EHBRC242010A	EHBRC242010S	1.00R	2.0	2.0	10	50	4	2
EHBRC242012A	EHBRC242012S	1.00R	2.0	2.0	12	50	4	2
EHBRC242014A	EHBRC242014S	1.00R	2.0	2.0	14	50	4	2
EHBRC242016A	EHBRC242016S	1.00R	2.0	2.0	16	50	4	2
EHBRC242018A	EHBRC242018S	1.00R	2.0	2.0	18	50	4	2
EHBRC242020A	EHBRC242020S	1.00R	2.0	2.0	20	50	4	2
EHBRC242022A	EHBRC242022S	1.00R	2.0	2.0	22	60	4	2
EHBRC242025A	EHBRC242025S	1.00R	2.0	2.0	25	60	4	2
EHBRC202006A	EHBRC202006S	1.00R	2.0	2.0	6	50	6	2
EHBRC202008A	EHBRC202008S	1.00R	2.0	2.0	8	50	6	2
EHBRC202010A	EHBRC202010S	1.00R	2.0	2.0	10	50	6	2
EHBRC202016A	EHBRC202016S	1.00R	2.0	2.0	16	50	6	2
EHBRC242508A	EHBRC242508S	1.25R	2.5	2.5	8	50	4	2
EHBRC242510A	EHBRC242510S	1.25R	2.5	2.5	10	50	4	2
EHBRC242516A	EHBRC242516S	1.25R	2.5	2.5	16	50	4	2
EHBRC242520A	EHBRC242520S	1.25R	2.5	2.5	20	60	4	2
EHBRC242525A	EHBRC242525S	1.25R	2.5	2.5	25	60	4	2
EHBRC242530A	EHBRC242530S	1.25R	2.5	2.5	30	75	4	2
EHBRC202506A	EHBRC202506S	1.25R	2.5	2.5	6	50	6	2
EHBRC202510A	EHBRC202510S	1.25R	2.5	2.5	10	50	6	2
EHBRC203006A	EHBRC203006S	1.50R	3.0	3.0	6	50	6	2

(continued)

H65X - Ball Nose · Long Neck · 2F

球型銑刀・長頸型・2 刃

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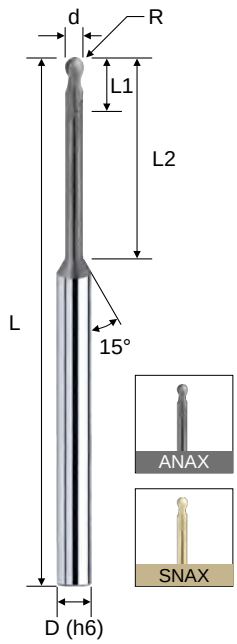
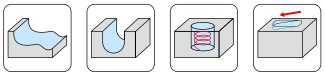
ASIA (Metric)

EHBRC

P	M	K	N	S	H
●	○	●		○	●



Order No.		Radius	Dia.	CL	EFF-L	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHBRC203008A	EHBRC203008S	1.50R	3.0	3.0	8	50	6	2
EHBRC203010A	EHBRC203010S	1.50R	3.0	3.0	10	50	6	2
EHBRC203012A	EHBRC203012S	1.50R	3.0	3.0	12	50	6	2
EHBRC203016A	EHBRC203016S	1.50R	3.0	3.0	16	60	6	2
EHBRC203020A	EHBRC203020S	1.50R	3.0	3.0	20	60	6	2
EHBRC203025A	EHBRC203025S	1.50R	3.0	3.0	25	60	6	2
EHBRC203030A	EHBRC203030S	1.50R	3.0	3.0	30	75	6	2
EHBRC203035A	EHBRC203035S	1.50R	3.0	3.0	35	75	6	2
EHBRC204008A	EHBRC204008S	2.00R	4.0	4.0	8	50	6	2
EHBRC204010A	EHBRC204010S	2.00R	4.0	4.0	10	50	6	2
EHBRC204012A	EHBRC204012S	2.00R	4.0	4.0	12	50	6	2
EHBRC204016A	EHBRC204016S	2.00R	4.0	4.0	16	60	6	2
EHBRC204020A	EHBRC204020S	2.00R	4.0	4.0	20	60	6	2
EHBRC204025A	EHBRC204025S	2.00R	4.0	4.0	25	60	6	2
EHBRC204030A	EHBRC204030S	2.00R	4.0	4.0	30	75	6	2
EHBRC204035A	EHBRC204035S	2.00R	4.0	4.0	35	75	6	2
EHBRC205015A	EHBRC205015S	2.50R	5.0	5.0	15	60	6	2
EHBRC205020A	EHBRC205020S	2.50R	5.0	5.0	20	60	6	2
EHBRC205025A	EHBRC205025S	2.50R	5.0	5.0	25	60	6	2
EHBRC205030A	EHBRC205030S	2.50R	5.0	5.0	30	75	6	2
EHBRC206015A	EHBRC206015S	3.00R	6.0	10.0	15	50	6	2
EHBRC208025A	EHBRC208025S	4.00R	8.0	12.0	25	60	8	2
EHBRC210030A	EHBRC210030S	5.00R	10.0	16.0	30	75	10	2
EHBRC212030A	EHBRC212030S	6.00R	12.0	18.0	30	75	12	2

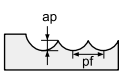


2 | UMG Plus | ANAX | SNAX

R | 30° | HRC 65

R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Material	PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Hardened Steel SKD11,SKH51			
Hardness	HRC 35~45				HRC 40~55				HRC 55~65			
Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.15R	1	45000	552	0.010	0.010	38000	420	0.090	0.010	38000	348	0.007	0.009
	3	40800	360	0.006	0.007	33600	264	0.005	0.005	33600	216	0.004	0.005
0.2R	1	54000	768	0.016	0.022	39600	516	0.013	0.022	39600	432	0.011	0.021
	3	44400	480	0.010	0.010	32400	312	0.009	0.010	32400	264	0.008	0.010
	5	30000	372	0.008	0.010	26400	288	0.006	0.010	26400	228	0.004	0.005
0.25R	5	34800	552	0.008	0.008	31200	444	0.007	0.010	31200	216	0.006	0.009
	10	28800	456	0.007	0.010	28800	372	0.005	0.010	27600	216	0.005	0.009



(continued)

H65X - Ball Nose · Long Neck · 2F

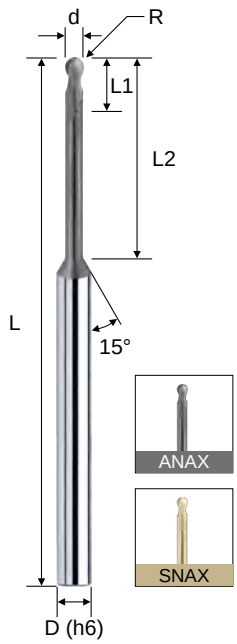
球型銑刀・長頸型・2 刃

- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance, for HRC < 55.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

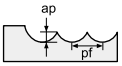
ASIA (Metric)

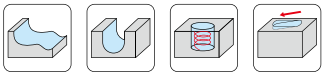
EHBRC

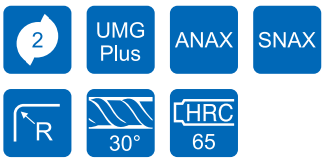
P	M	K	N	S	H
●	○	●		○	●



Material		PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Hardened Steel SKD11,SKH51			
Hardness		HRC 35~45				HRC 40~55				HRC 55~65			
Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.3R	1	39600	960	0.022	0.091	27600	600	0.019	0.091	26400	516	0.014	0.091
	5	28800	504	0.012	0.043	26400	396	0.008	0.042	26400	336	0.007	0.040
	10	24000	360	0.005	0.020	22800	312	0.004	0.020	22800	240	0.003	0.018
0.4R	2	34800	816	0.045	0.100	27600	552	0.038	0.100	26400	456	0.030	0.010
	6	28800	636	0.028	0.068	21600	420	0.020	0.068	21600	348	0.015	0.065
	10	2040	468	0.020	0.050	19200	408	0.015	0.050	16800	336	0.010	0.050
0.5R	5	33600	900	0.052	0.220	21600	540	0.040	0.220	18000	540	0.008	0.014
	10	16320	600	0.020	0.056	15000	456	0.014	0.056	13680	312	0.008	0.050
	16	13680	480	0.016	0.056	12360	384	0.012	0.056	11520	252	0.005	0.030
0.75R	10	14760	782	0.080	0.170	9720	480	0.062	0.170	9720	456	0.050	0.160
	18	12120	504	0.022	0.110	9600	432	0.020	0.110	9600	408	0.012	0.110
	30	9840	456	0.012	0.050	9480	420	0.010	0.050	9480	396	0.010	0.050
1.0R	4	21000	1392	0.180	0.350	14640	1080	0.140	0.350	14640	900	0.120	0.350
	10	21000	1224	0.140	0.230	14640	972	0.110	0.230	14640	792	0.090	0.230
	20	15960	600	0.060	0.110	12720	600	0.055	0.110	12720	492	0.035	0.110
1.5R	6	14400	1824	0.200	0.340	9840	1320	0.160	0.320	6480	732	0.160	0.320
	10	14400	1824	0.200	0.340	9840	1320	0.160	0.320	6480	732	0.160	0.300
	20	12360	1476	0.145	0.320	8520	1128	0.120	0.310	5760	660	0.080	0.300
	30	9360	816	0.100	0.150	8520	816	0.080	0.150	5760	384	0.070	0.300
2.0R	8	10440	1752	0.290	0.550	7200	1332	0.220	0.500	7200	1056	0.150	0.500
	20	10440	1752	0.290	0.550	7200	1332	0.220	0.500	7200	1056	0.150	0.500
	30	8880	1380	0.200	0.320	6600	1056	0.150	0.300	6600	816	0.130	0.300
	35	7200	1056	0.132	0.320	6600	1056	0.100	0.300	6600	816	0.090	0.300
2.5R	15	8400	1500	0.300	0.700	6000	1140	0.220	0.700	6000	900	0.200	0.650
	25	8400	1380	0.300	0.550	6000	1080	0.220	0.550	6000	816	0.200	0.500
3.0R	15	8160	1764	0.420	0.800	5760	1320	0.300	0.800	4440	864	0.300	0.800
4.0R	25	7200	1176	0.350	0.750	4920	912	0.180	0.600	4560	732	0.200	0.630
5.0R	30	5880	1128	0.370	0.900	4800	852	0.200	0.670	4200	708	0.200	0.650
6.0R	30	4800	984	0.420	0.900	4320	828	0.250	0.600	3600	600	0.250	0.600







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

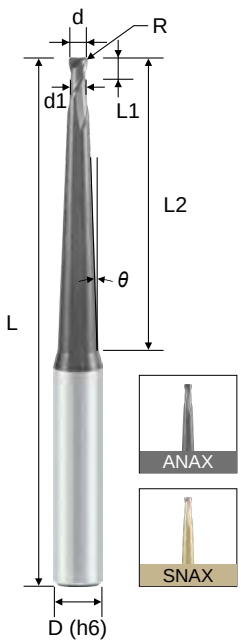
H65X - Corner Radius · Short Flute · Taper Neck · 2F 圓鼻銑刀・短刃斜頸型・2 刃

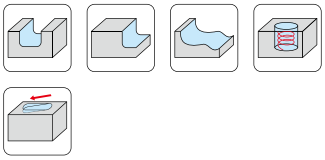
- Short flute design to increase tool rigidity.
- Suitable for high hardened steel deep milling.
- Small corner radius applied protect chipping of cutting edges.
- ANAX (AlTiCrN) smooth coating provides superior wear resistance and reduces the coefficient of friction.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRT

P	M	K	N	S	H
●	○	●		○	●





2 | UMG | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.		Dia.	Radius	θ	CL	EFF-L	Neck dia.	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)		(L1)	(L2)	(d1)	(L)	(D)	(Z)
EHCRT2010020510A	EHCRT2010020510S	1	0.2R	1.0°	1.2	5	0.94	60	6	2
EHCRT2010020515A	EHCRT2010020515S	1	0.2R	1.5°	1.2	5	0.94	60	6	2
EHCRT2010021005A	EHCRT2010021005S	1	0.2R	0.5°	1.2	10	0.94	60	6	2
EHCRT2010021010A	EHCRT2010021010S	1	0.2R	1.0°	1.2	10	0.94	60	6	2
EHCRT2010021015A	EHCRT2010021015S	1	0.2R	1.5°	1.2	10	0.94	60	6	2
EHCRT2010021505A	EHCRT2010021505S	1	0.2R	0.5°	1.2	15	0.94	60	6	2
EHCRT2010021510A	EHCRT2010021510S	1	0.2R	1.0°	1.2	15	0.94	60	6	2
EHCRT2010021515A	EHCRT2010021515S	1	0.2R	1.5°	1.2	15	0.94	60	6	2
EHCRT2010022005A	EHCRT2010022005S	1	0.2R	0.5°	1.2	20	0.94	75	6	2
EHCRT2010022010A	EHCRT2010022010S	1	0.2R	1.0°	1.2	20	0.94	75	6	2
EHCRT2010022015A	EHCRT2010022015S	1	0.2R	1.5°	1.2	20	0.94	75	6	2
EHCRT2010022505A	EHCRT2010022505S	1	0.2R	0.5°	1.2	25	0.94	75	6	2
EHCRT2010022510A	EHCRT2010022510S	1	0.2R	1.0°	1.2	25	0.94	75	6	2
EHCRT2010022515A	EHCRT2010022515S	1	0.2R	1.5°	1.2	25	0.94	75	6	2
EHCRT2010023005A	EHCRT2010023005S	1	0.2R	0.5°	1.2	30	0.94	75	6	2
EHCRT2010023010A	EHCRT2010023010S	1	0.2R	1.0°	1.2	30	0.94	75	6	2
EHCRT2010023015A	EHCRT2010023015S	1	0.2R	1.5°	1.2	30	0.94	75	6	2
EHCRT2010023505A	EHCRT2010023505S	1	0.2R	0.5°	1.2	35	0.94	100	6	2
EHCRT2010023510A	EHCRT2010023510S	1	0.2R	1.0°	1.2	35	0.94	100	6	2
EHCRT2010023515A	EHCRT2010023515S	1	0.2R	1.5°	1.2	35	0.94	75	6	2
EHCRT2020031010A	EHCRT2020031010S	2	0.3R	1.0°	2.3	10	1.94	60	6	2
EHCRT2020031015A	EHCRT2020031015S	2	0.3R	1.5°	2.3	10	1.94	60	6	2
EHCRT2020031505A	EHCRT2020031505S	2	0.3R	0.5°	2.3	15	1.94	60	6	2
EHCRT2020031510A	EHCRT2020031510S	2	0.3R	1.0°	2.3	15	1.94	60	6	2
EHCRT2020031515A	EHCRT2020031515S	2	0.3R	1.5°	2.3	15	1.94	60	6	2
EHCRT2020032005A	EHCRT2020032005S	2	0.3R	0.5°	2.3	20	1.94	60	6	2
EHCRT2020032010A	EHCRT2020032010S	2	0.3R	1.0°	2.3	20	1.94	60	6	2
EHCRT2020032015A	EHCRT2020032015S	2	0.3R	1.5°	2.3	20	1.94	60	6	2
EHCRT2020032505A	EHCRT2020032505S	2	0.3R	0.5°	2.3	25	1.94	75	6	2
EHCRT2020032510A	EHCRT2020032510S	2	0.3R	1.0°	2.3	25	1.94	75	6	2
EHCRT2020032515A	EHCRT2020032515S	2	0.3R	1.5°	2.3	25	1.94	75	6	2
EHCRT2020033005A	EHCRT2020033005S	2	0.3R	0.5°	2.3	30	1.94	75	6	2
EHCRT2020033010A	EHCRT2020033010S	2	0.3R	1.0°	2.3	30	1.94	75	6	2
EHCRT2020033015A	EHCRT2020033015S	2	0.3R	1.5°	2.3	30	1.94	75	6	2
EHCRT2020033505A	EHCRT2020033505S	2	0.3R	0.5°	2.3	35	1.94	75	6	2
EHCRT2020033510A	EHCRT2020033510S	2	0.3R	1.0°	2.3	35	1.94	75	6	2
EHCRT2020033515A	EHCRT2020033515S	2	0.3R	1.5°	2.3	35	1.94	75	6	2
EHCRT2020051005A	EHCRT2020051005S	2	0.5R	0.5°	2.3	10	1.94	60	6	2
EHCRT2020051010A	EHCRT2020051010S	2	0.5R	1.0°	2.3	10	1.94	60	6	2
EHCRT2020051015A	EHCRT2020051015S	2	0.5R	1.5°	2.3	10	1.94	60	6	2

(continued)

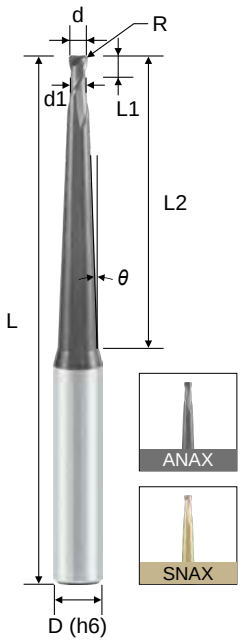
H65X - Corner Radius · Short Flute · Taper Neck · 2F 圓鼻銑刀・短刃斜頸型・2 刃

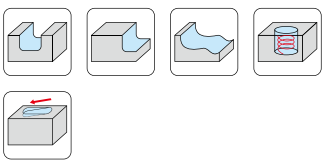
- Short flute design to increase tool rigidity.
- Suitable for high hardened steel deep milling.
- Small corner radius applied protect chipping of cutting edges.
- ANAX (AlTiCrN) smooth coating provides superior wear resistance and reduces the coefficient of friction.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRT

P	M	K	N	S	H
●	○	●		○	●





2 | UMG | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.		Dia.	Radius	θ	CL	EFF-L	Neck dia.	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)		(L1)	(L2)	(d1)	(L)	(D)	(Z)
EHCRT2020051505A	EHCRT2020051505S	2	0.5R	0.5°	2.3	15	1.94	60	6	2
EHCRT2020051510A	EHCRT2020051510S	2	0.5R	1.0°	2.3	15	1.94	60	6	2
EHCRT2020051515A	EHCRT2020051515S	2	0.5R	1.5°	2.3	15	1.94	60	6	2
EHCRT2020052005A	EHCRT2020052005S	2	0.5R	0.5°	2.3	20	1.94	60	6	2
EHCRT2020052010A	EHCRT2020052010S	2	0.5R	1.0°	2.3	20	1.94	60	6	2
EHCRT2020052015A	EHCRT2020052015S	2	0.5R	1.5°	2.3	20	1.94	60	6	2
EHCRT2020052505A	EHCRT2020052505S	2	0.5R	0.5°	2.3	25	1.94	75	6	2
EHCRT2020052510A	EHCRT2020052510S	2	0.5R	1.0°	2.3	25	1.94	75	6	2
EHCRT2020052515A	EHCRT2020052515S	2	0.5R	1.5°	2.3	25	1.94	75	6	2
EHCRT2020053005A	EHCRT2020053005S	2	0.5R	0.5°	2.3	30	1.94	75	6	2
EHCRT2020053010A	EHCRT2020053010S	2	0.5R	1.0°	2.3	30	1.94	75	6	2
EHCRT2020053015A	EHCRT2020053015S	2	0.5R	1.5°	2.3	30	1.94	75	6	2
EHCRT2020053505A	EHCRT2020053505S	2	0.5R	0.5°	2.3	35	1.94	75	6	2
EHCRT2020053510A	EHCRT2020053510S	2	0.5R	1.0°	2.3	35	1.94	75	6	2
EHCRT2020053515A	EHCRT2020053515S	2	0.5R	1.5°	2.3	35	1.94	75	6	2
EHCRT2030031510A	EHCRT2030031510S	3	0.3R	1.0°	3.5	15	2.94	60	6	2
EHCRT2030031515A	EHCRT2030031515S	3	0.3R	1.5°	3.5	15	2.94	60	6	2
EHCRT2030032005A	EHCRT2030032005S	3	0.3R	0.5°	3.5	20	2.94	60	6	2
EHCRT2030032010A	EHCRT2030032010S	3	0.3R	1.0°	3.5	20	2.94	60	6	2
EHCRT2030032015A	EHCRT2030032015S	3	0.3R	1.5°	3.5	20	2.94	60	6	2
EHCRT2030032505A	EHCRT2030032505S	3	0.3R	0.5°	3.5	25	2.94	75	6	2
EHCRT2030032510A	EHCRT2030032510S	3	0.3R	1.0°	3.5	25	2.94	75	6	2
EHCRT2030032515A	EHCRT2030032515S	3	0.3R	1.5°	3.5	25	2.94	75	6	2
EHCRT2030033005A	EHCRT2030033005S	3	0.3R	0.5°	3.5	30	2.94	75	6	2
EHCRT2030033010A	EHCRT2030033010S	3	0.3R	1.0°	3.5	30	2.94	75	6	2
EHCRT2030033015A	EHCRT2030033015S	3	0.3R	1.5°	3.5	30	2.94	75	6	2
EHCRT2030033505A	EHCRT2030033505S	3	0.3R	0.5°	3.5	35	2.94	75	6	2
EHCRT2030033510A	EHCRT2030033510S	3	0.3R	1.0°	3.5	35	2.94	75	6	2
EHCRT2030033515A	EHCRT2030033515S	3	0.3R	1.5°	3.5	35	2.94	75	6	2
EHCRT2030034005A	EHCRT2030034005S	3	0.3R	0.5°	3.5	40	2.94	100	6	2
EHCRT2030034010A	EHCRT2030034010S	3	0.3R	1.0°	3.5	40	2.94	100	6	2
EHCRT2030034015A	EHCRT2030034015S	3	0.3R	1.5°	3.5	40	2.94	75	6	2
EHCRT2030051505A	EHCRT2030051505S	3	0.5R	0.5°	3.5	15	2.94	60	6	2
EHCRT2030051510A	EHCRT2030051510S	3	0.5R	1.0°	3.5	15	2.94	60	6	2
EHCRT2030051515A	EHCRT2030051515S	3	0.5R	1.5°	3.5	15	2.94	60	6	2
EHCRT2030052005A	EHCRT2030052005S	3	0.5R	0.5°	3.5	20	2.94	60	6	2
EHCRT2030052010A	EHCRT2030052010S	3	0.5R	1.0°	3.5	20	2.94	60	6	2
EHCRT2030052015A	EHCRT2030052015S	3	0.5R	1.5°	3.5	20	2.94	60	6	2
EHCRT2030052505A	EHCRT2030052505S	3	0.5R	0.5°	3.5	25	2.94	75	6	2
EHCRT2030052510A	EHCRT2030052510S	3	0.5R	1.0°	3.5	25	2.94	75	6	2

(continued)

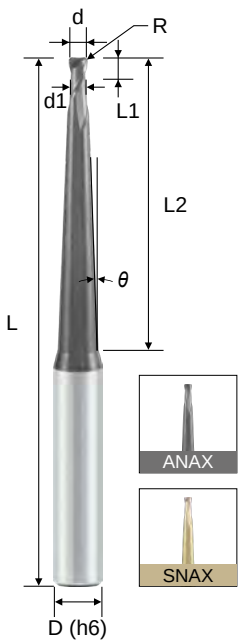
H65X - Corner Radius · Short Flute · Taper Neck · 2F 圓鼻銑刀・短刃斜頸型・2 刃

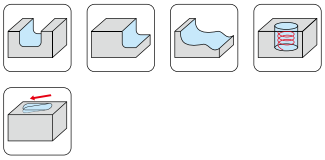
- Short flute design to increase tool rigidity.
- Suitable for high hardened steel deep milling.
- Small corner radius applied protect chipping of cutting edges.
- ANAX (AlTiCrN) smooth coating provides superior wear resistance and reduces the coefficient of friction.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

ASIA (Metric)

EHCRT

P	M	K	N	S	H
●	○	●		○	●





2 | UMG | ANAX | SNAX

R | 30° | HRC 65

d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.		Dia.	Radius	θ	CL	EFF-L	Neck dia.	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)		(L1)	(L2)	(d1)	(L)	(D)	(Z)
EHCRT2030052515A	EHCRT2030052515S	3	0.5R	1.5°	3.5	25	2.94	75	6	2
EHCRT2030053005A	EHCRT2030053005S	3	0.5R	0.5°	3.5	30	2.94	75	6	2
EHCRT2030053010A	EHCRT2030053010S	3	0.5R	1.0°	3.5	30	2.94	75	6	2
EHCRT2030053015A	EHCRT2030053015S	3	0.5R	1.5°	3.5	30	2.94	75	6	2
EHCRT2030053505A	EHCRT2030053505S	3	0.5R	0.5°	3.5	35	2.94	75	6	2
EHCRT2030053510A	EHCRT2030053510S	3	0.5R	1.0°	3.5	35	2.94	75	6	2
EHCRT2030053515A	EHCRT2030053515S	3	0.5R	1.5°	3.5	35	2.94	75	6	2
EHCRT2030054005A	EHCRT2030054005S	3	0.5R	0.5°	3.5	40	2.94	100	6	2
EHCRT2030054010A	EHCRT2030054010S	3	0.5R	1.0°	3.5	40	2.94	100	6	2
EHCRT2030054015A	EHCRT2030054015S	3	0.5R	1.5°	3.5	40	2.94	75	6	2
EHCRT2040032005A	EHCRT2040032005S	4	0.3R	0.5°	4.6	20	3.94	60	6	2
EHCRT2040032010A	EHCRT2040032010S	4	0.3R	1.0°	4.6	20	3.94	60	6	2
EHCRT2040032015A	EHCRT2040032015S	4	0.3R	1.5°	4.6	20	3.94	60	6	2
EHCRT2040032505A	EHCRT2040032505S	4	0.3R	0.5°	4.6	25	3.94	75	6	2
EHCRT2040032510A	EHCRT2040032510S	4	0.3R	1.0°	4.6	25	3.94	60	6	2
EHCRT2040032515A	EHCRT2040032515S	4	0.3R	1.5°	4.6	25	3.94	60	6	2
EHCRT2040033005A	EHCRT2040033005S	4	0.3R	0.5°	4.6	30	3.94	75	6	2
EHCRT2040033010A	EHCRT2040033010S	4	0.3R	1.0°	4.6	30	3.94	75	6	2
EHCRT2040033015A	EHCRT2040033015S	4	0.3R	1.5°	4.6	30	3.94	75	8	2
EHCRT2040033505A	EHCRT2040033505S	4	0.3R	0.5°	4.6	35	3.94	75	6	2
EHCRT2040033510A	EHCRT2040033510S	4	0.3R	1.0°	4.6	35	3.94	75	6	2
EHCRT2040033515A	EHCRT2040033515S	4	0.3R	1.5°	4.6	35	3.94	75	8	2
EHCRT2040034005A	EHCRT2040034005S	4	0.3R	0.5°	4.6	40	3.94	75	6	2
EHCRT2040034010A	EHCRT2040034010S	4	0.3R	1.0°	4.6	40	3.94	75	6	2
EHCRT2040034015A	EHCRT2040034015S	4	0.3R	1.5°	4.6	40	3.94	100	8	2
EHCRT2040034505A	EHCRT2040034505S	4	0.3R	0.5°	4.6	45	3.94	100	6	2
EHCRT2040034510A	EHCRT2040034510S	4	0.3R	1.0°	4.6	45	3.94	100	8	2
EHCRT2040034515A	EHCRT2040034515S	4	0.3R	1.5°	4.6	45	3.94	100	8	2
EHCRT2040035005A	EHCRT2040035005S	4	0.3R	0.5°	4.6	50	3.94	100	6	2
EHCRT2040035010A	EHCRT2040035010S	4	0.3R	1.0°	4.6	50	3.94	100	8	2
EHCRT2040035015A	EHCRT2040035015S	4	0.3R	1.5°	4.6	50	3.94	100	8	2
EHCRT2040052005A	EHCRT2040052005S	4	0.5R	0.5°	4.6	20	3.94	60	6	2
EHCRT2040052010A	EHCRT2040052010S	4	0.5R	1.0°	4.6	20	3.94	60	6	2
EHCRT2040052015A	EHCRT2040052015S	4	0.5R	1.5°	4.6	20	3.94	60	6	2
EHCRT2040052505A	EHCRT2040052505S	4	0.5R	0.5°	4.6	25	3.94	75	6	2
EHCRT2040052510A	EHCRT2040052510S	4	0.5R	1.0°	4.6	25	3.94	60	6	2
EHCRT2040052515A	EHCRT2040052515S	4	0.5R	1.5°	4.6	25	3.94	60	6	2
EHCRT2040053005A	EHCRT2040053005S	4	0.5R	0.5°	4.6	30	3.94	75	6	2
EHCRT2040053010A	EHCRT2040053010S	4	0.5R	1.0°	4.6	30	3.94	75	6	2
EHCRT2040053015A	EHCRT2040053015S	4	0.5R	1.5°	4.6	30	3.94	75	8	2

(continued)

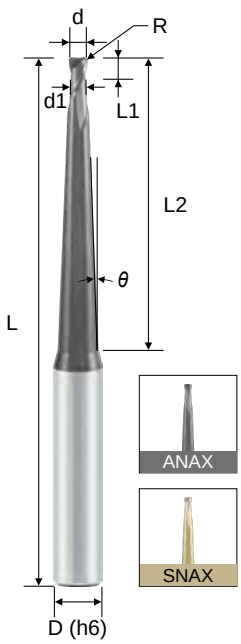
H65X - Corner Radius · Short Flute · Taper Neck · 2F 圓鼻銑刀・短刃斜頸型・2 刃

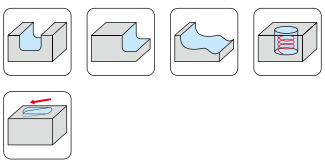
- Short flute design to increase tool rigidity.
- Suitable for high hardened steel deep milling.
- Small corner radius applied protect chipping of cutting edges.
- ANAX (AlTiCrN) smooth coating provides superior wear resistance and reduces the coefficient of friction.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

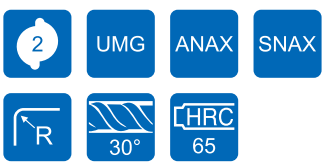
ASIA (Metric)

EHCRT

P	M	K	N	S	H
●	○	●		○	●







d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.		Dia.	Radius	θ	CL	EFF-L	Neck dia.	OAL	Shank	Flutes
ANAX	SNAX	(d)	(R)		(L1)	(L2)	(d1)	(L)	(D)	(Z)
EHCRT2040053505A	EHCRT2040053505S	4	0.5R	0.5°	4.6	35	3.94	75	6	2
EHCRT2040053510A	EHCRT2040053510S	4	0.5R	1.0°	4.6	35	3.94	75	6	2
EHCRT2040053515A	EHCRT2040053515S	4	0.5R	1.5°	4.6	35	3.94	75	8	2
EHCRT2040054005A	EHCRT2040054005S	4	0.5R	0.5°	4.6	40	3.94	75	6	2
EHCRT2040054010A	EHCRT2040054010S	4	0.5R	1.0°	4.6	40	3.94	100	8	2
EHCRT2040054015A	EHCRT2040054015S	4	0.5R	1.5°	4.6	40	3.94	100	8	2
EHCRT2040054505A	EHCRT2040054505S	4	0.5R	0.5°	4.6	45	3.94	100	6	2
EHCRT2040054510A	EHCRT2040054510S	4	0.5R	1.0°	4.6	45	3.94	100	8	2
EHCRT2040054515A	EHCRT2040054515S	4	0.5R	1.5°	4.6	45	3.94	100	8	2
EHCRT2040055005A	EHCRT2040055005S	4	0.5R	0.5°	4.6	50	3.94	100	6	2
EHCRT2040055010A	EHCRT2040055010S	4	0.5R	1.0°	4.6	50	3.94	100	8	2
EHCRT2040055015A	EHCRT2040055015S	4	0.5R	1.5°	4.6	50	3.94	100	8	2
EHCRT2050053010A	EHCRT2050053010S	5	0.5R	1.0°	5.8	30	4.9	75	8	2
EHCRT2050053015A	EHCRT2050053015S	5	0.5R	1.5°	5.8	30	4.9	75	8	2
EHCRT2050055010A	EHCRT2050055010S	5	0.5R	1.0°	5.8	50	4.9	100	8	2
EHCRT2060053510A	EHCRT2060053510S	6	0.5R	1.0°	6.9	35	5.9	75	8	2
EHCRT2060053515A	EHCRT2060053515S	6	0.5R	1.5°	6.9	35	5.9	100	10	2
EHCRT2060054010A	EHCRT2060054010S	6	0.5R	1.0°	6.9	40	5.9	75	8	2
EHCRT2060054015A	EHCRT2060054015S	6	0.5R	1.5°	6.9	40	5.9	100	10	2
EHCRT2060055010A	EHCRT2060055010S	6	0.5R	1.0°	6.9	50	5.9	100	10	2
EHCRT2060056010A	EHCRT2060056010S	6	0.5R	1.0°	6.9	60	5.9	110	10	2
EHCRT2060103510A	EHCRT2060103510S	6	1.0R	1.0°	6.9	35	5.9	75	8	2
EHCRT2060103515A	EHCRT2060103515S	6	1.0R	1.5°	6.9	35	5.9	100	10	2
EHCRT2060104010A	EHCRT2060104010S	6	1.0R	1.0°	6.9	40	5.9	75	8	2
EHCRT2060104015A	EHCRT2060104015S	6	1.0R	1.5°	6.9	40	5.9	100	10	2
EHCRT2060105010A	EHCRT2060105010S	6	1.0R	1.0°	6.9	50	5.9	100	10	2
EHCRT2060106010A	EHCRT2060106010S	6	1.0R	1.0°	6.9	60	5.9	110	10	2

H65X - Ball Nose · Short Flute · Taper Neck · 2F 球型銑刀・短刃斜頸型・2 刃

- Short flute design to increase tool rigidity.
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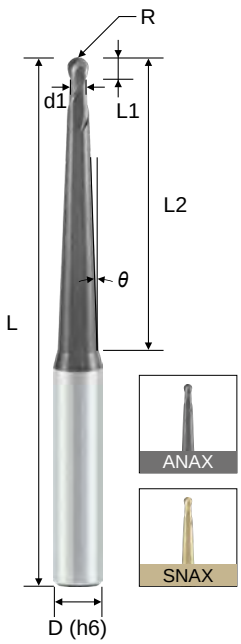
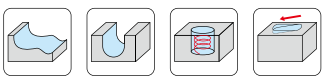
ASIA (Metric)

EHBRT

P	M	K	N	S	H
●	○	●		○	●





2 | UMG | ANAX | SNAX

R | 30° | HRC 65

R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.		Radius	Dia.	θ	CL	EFF-L	Neck dia.	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)		(L1)	(L2)	(d1)	(L)	(D)	(Z)
EHBRT20100510A	EHBRT20100510S	0.5R	1	1.0°	1.2	5	0.94	60	6	2
EHBRT20100515A	EHBRT20100515S	0.5R	1	1.5°	1.2	5	0.94	60	6	2
EHBRT20101005A	EHBRT20101005S	0.5R	1	0.5°	1.2	10	0.94	60	6	2
EHBRT20101010A	EHBRT20101010S	0.5R	1	1.0°	1.2	10	0.94	60	6	2
EHBRT20101015A	EHBRT20101015S	0.5R	1	1.5°	1.2	10	0.94	60	6	2
EHBRT20101505A	EHBRT20101505S	0.5R	1	0.5°	1.2	15	0.94	60	6	2
EHBRT20101510A	EHBRT20101510S	0.5R	1	1.0°	1.2	15	0.94	60	6	2
EHBRT20101515A	EHBRT20101515S	0.5R	1	1.5°	1.2	15	0.94	60	6	2
EHBRT20102005A	EHBRT20102005S	0.5R	1	0.5°	1.2	20	0.94	75	6	2
EHBRT20102010A	EHBRT20102010S	0.5R	1	1.0°	1.2	20	0.94	75	6	2
EHBRT20102015A	EHBRT20102015S	0.5R	1	1.5°	1.2	20	0.94	75	6	2
EHBRT20102505A	EHBRT20102505S	0.5R	1	0.5°	1.2	25	0.94	75	6	2
EHBRT20102510A	EHBRT20102510S	0.5R	1	1.0°	1.2	25	0.94	75	6	2
EHBRT20102515A	EHBRT20102515S	0.5R	1	1.5°	1.2	25	0.94	75	6	2
EHBRT20103005A	EHBRT20103005S	0.5R	1	0.5°	1.2	30	0.94	75	6	2
EHBRT20103010A	EHBRT20103010S	0.5R	1	1.0°	1.2	30	0.94	75	6	2
EHBRT20103015A	EHBRT20103015S	0.5R	1	1.5°	1.2	30	0.94	75	6	2
EHBRT20103505A	EHBRT20103505S	0.5R	1	0.5°	1.2	35	0.94	100	6	2
EHBRT20103510A	EHBRT20103510S	0.5R	1	1.0°	1.2	35	0.94	100	6	2
EHBRT20103515A	EHBRT20103515S	0.5R	1	1.5°	1.2	35	0.94	75	6	2
EHBRT20201010A	EHBRT20201010S	1.0R	2	1.0°	2.3	10	1.94	60	6	2
EHBRT20201015A	EHBRT20201015S	1.0R	2	1.5°	2.3	10	1.94	60	6	2
EHBRT20201505A	EHBRT20201505S	1.0R	2	0.5°	2.3	15	1.94	60	6	2
EHBRT20201510A	EHBRT20201510S	1.0R	2	1.0°	2.3	15	1.94	60	6	2
EHBRT20201515A	EHBRT20201515S	1.0R	2	1.5°	2.3	15	1.94	60	6	2
EHBRT20202005A	EHBRT20202005S	1.0R	2	0.5°	2.3	20	1.94	60	6	2
EHBRT20202010A	EHBRT20202010S	1.0R	2	1.0°	2.3	20	1.94	60	6	2
EHBRT20202015A	EHBRT20202015S	1.0R	2	1.5°	2.3	20	1.94	60	6	2
EHBRT20202505A	EHBRT20202505S	1.0R	2	0.5°	2.3	25	1.94	75	6	2
EHBRT20202510A	EHBRT20202510S	1.0R	2	1.0°	2.3	25	1.94	75	6	2
EHBRT20202515A	EHBRT20202515S	1.0R	2	1.5°	2.3	25	1.94	75	6	2
EHBRT20203005A	EHBRT20203005S	1.0R	2	0.5°	2.3	30	1.94	75	6	2
EHBRT20203010A	EHBRT20203010S	1.0R	2	1.0°	2.3	30	1.94	75	6	2
EHBRT20203015A	EHBRT20203015S	1.0R	2	1.5°	2.3	30	1.94	75	6	2
EHBRT20203505A	EHBRT20203505S	1.0R	2	0.5°	2.3	35	1.94	75	6	2
EHBRT20203510A	EHBRT20203510S	1.0R	2	1.0°	2.3	35	1.94	75	6	2
EHBRT20203515A	EHBRT20203515S	1.0R	2	1.5°	2.3	35	1.94	75	6	2
EHBRT20203530A	EHBRT20203530S	1.0R	2	3.0°	2.3	35	1.94	75	8	2
EHBRT20301505A	EHBRT20301505S	1.5R	3	0.5°	3.5	15	2.94	60	6	2
EHBRT20301510A	EHBRT20301510S	1.5R	3	1.0°	3.5	15	2.94	60	6	2

(continued)

H65X - Ball Nose · Short Flute · Taper Neck · 2F 球型銑刀・短刃斜頸型・2 刃

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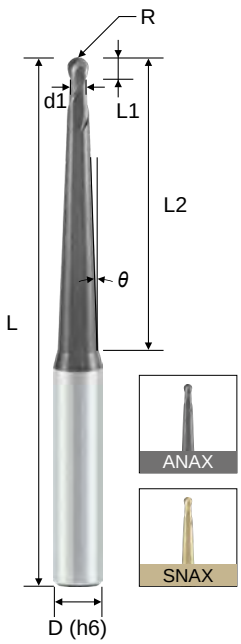
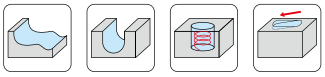
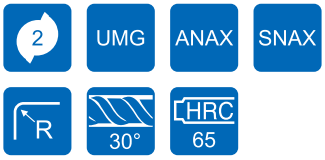
ASIA (Metric)

EHBRT

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.		Radius	Dia.	θ	CL	EFF-L	Neck dia.	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)		(L1)	(L2)	(d1)	(L)	(D)	(Z)
EHBRT20301515A	EHBRT20301515S	1.5R	3	1.5°	3.5	15	2.94	60	6	2
EHBRT20302005A	EHBRT20302005S	1.5R	3	0.5°	3.5	20	2.94	60	6	2
EHBRT20302010A	EHBRT20302010S	1.5R	3	1.0°	3.5	20	2.94	60	6	2
EHBRT20302015A	EHBRT20302015S	1.5R	3	1.5°	3.5	20	2.94	60	6	2
EHBRT20302505A	EHBRT20302505S	1.5R	3	0.5°	3.5	25	2.94	75	6	2
EHBRT20302510A	EHBRT20302510S	1.5R	3	1.0°	3.5	25	2.94	75	6	2
EHBRT20302515A	EHBRT20302515S	1.5R	3	1.5°	3.5	25	2.94	75	6	2
EHBRT20303005A	EHBRT20303005S	1.5R	3	0.5°	3.5	30	2.94	75	6	2
EHBRT20303010A	EHBRT20303010S	1.5R	3	1.0°	3.5	30	2.94	75	6	2
EHBRT20303015A	EHBRT20303015S	1.5R	3	1.5°	3.5	30	2.94	75	6	2
EHBRT20303505A	EHBRT20303505S	1.5R	3	0.5°	3.5	35	2.94	75	6	2
EHBRT20303510A	EHBRT20303510S	1.5R	3	1.0°	3.5	35	2.94	75	6	2
EHBRT20303515A	EHBRT20303515S	1.5R	3	1.5°	3.5	35	2.94	75	6	2
EHBRT20304005A	EHBRT20304005S	1.5R	3	0.5°	3.5	40	2.94	100	6	2
EHBRT20304010A	EHBRT20304010S	1.5R	3	1.0°	3.5	40	2.94	100	6	2
EHBRT20304015A	EHBRT20304015S	1.5R	3	1.5°	3.5	40	2.94	75	6	2
EHBRT20402005A	EHBRT20402005S	2.0R	4	0.5°	4.6	20	3.94	60	6	2
EHBRT20402010A	EHBRT20402010S	2.0R	4	1.0°	4.6	20	3.94	60	6	2
EHBRT20402015A	EHBRT20402015S	2.0R	4	1.5°	4.6	20	3.94	60	6	2
EHBRT20402505A	EHBRT20402505S	2.0R	4	0.5°	4.6	25	3.94	75	6	2
EHBRT20402510A	EHBRT20402510S	2.0R	4	1.0°	4.6	25	3.94	60	6	2
EHBRT20402515A	EHBRT20402515S	2.0R	4	1.5°	4.6	25	3.94	60	6	2
EHBRT20403005A	EHBRT20403005S	2.0R	4	0.5°	4.6	30	3.94	75	6	2
EHBRT20403010A	EHBRT20403010S	2.0R	4	1.0°	4.6	30	3.94	75	6	2
EHBRT20403015A	EHBRT20403015S	2.0R	4	1.5°	4.6	30	3.94	75	8	2
EHBRT20403505A	EHBRT20403505S	2.0R	4	0.5°	4.6	35	3.94	75	6	2
EHBRT20403510A	EHBRT20403510S	2.0R	4	1.0°	4.6	35	3.94	75	6	2
EHBRT20403515A	EHBRT20403515S	2.0R	4	1.5°	4.6	35	3.94	75	8	2
EHBRT20404005A	EHBRT20404005S	2.0R	4	0.5°	4.6	40	3.94	75	6	2
EHBRT20404010A	EHBRT20404010S	2.0R	4	1.0°	4.6	40	3.94	75	6	2
EHBRT20404015A	EHBRT20404015S	2.0R	4	1.5°	4.6	40	3.94	100	8	2
EHBRT20404505A	EHBRT20404505S	2.0R	4	0.5°	4.6	45	3.94	100	6	2
EHBRT20404510A	EHBRT20404510S	2.0R	4	1.0°	4.6	45	3.94	100	8	2
EHBRT20404515A	EHBRT20404515S	2.0R	4	1.5°	4.6	45	3.94	100	8	2
EHBRT20405005A	EHBRT20405005S	2.0R	4	0.5°	4.6	50	3.94	100	6	2
EHBRT20405010A	EHBRT20405010S	2.0R	4	1.0°	4.6	50	3.94	100	8	2
EHBRT20405015A	EHBRT20405015S	2.0R	4	1.5°	4.6	50	3.94	100	8	2
EHBRT20405030A	EHBRT20405030S	2.0R	4	3.0°	4.6	50	3.94	100	10	2
EHBRT20503010A	EHBRT20503010S	2.5R	5	1.0°	5.8	30	4.9	75	8	2
EHBRT20503015A	EHBRT20503015S	2.5R	5	1.5°	5.8	30	4.9	75	8	2

(continued)

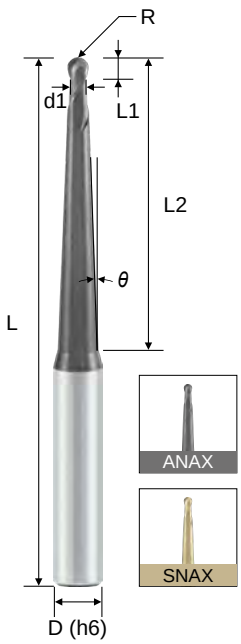
H65X - Ball Nose · Short Flute · Taper Neck · 2F 球型銑刀・短刃斜頸型・2 刃

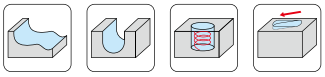
- Short flute design to increase tool rigidity.
- Suitable for high hardened steel deep milling.
- ANAX (AlTiCrN) smooth coating provides superior wear resistance and reduces the coefficient of friction.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating, for HRC ≥ 55.

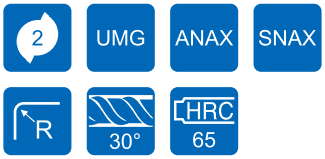
ASIA (Metric)

EHBRT

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.		Radius	Dia.	θ	CL	EFF-L	Neck dia.	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)		(L1)	(L2)	(d1)	(L)	(D)	(Z)
EHBRT20505010A	EHBRT20505010S	2.5R	5	1.0°	5.8	50	4.9	100	8	2
EHBRT20505030A	EHBRT20505030S	2.5R	5	3.0°	5.8	34	4.9	100	8	2
EHBRT20603510A	EHBRT20603510S	3.0R	6	1.0°	6.9	35	5.9	75	8	2
EHBRT20603515A	EHBRT20603515S	3.0R	6	1.5°	6.9	35	5.9	100	10	2
EHBRT20604010A	EHBRT20604010S	3.0R	6	1.0°	6.9	40	5.9	75	8	2
EHBRT20604015A	EHBRT20604015S	3.0R	6	1.5°	6.9	40	5.9	100	10	2
EHBRT20605010A	EHBRT20605010S	3.0R	6	1.0°	6.9	50	5.9	100	10	2
EHBRT20805010A	EHBRT20805010S	4.0R	8	1.0°	9.2	50	7.8	100	12	2
EHBRT20805030A	EHBRT20805030S	4.0R	8	3.0°	9.2	50	7.8	100	12	2

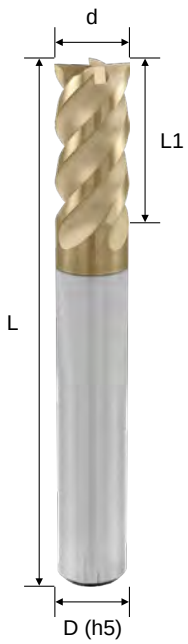
H68X - Square · High Precision · Standard · 4F 平銑刀・高精標準型・4 刃

- High precision cutting for HRC 30~65 hardened steel.
- For general side finishing (Ae < d×10%).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

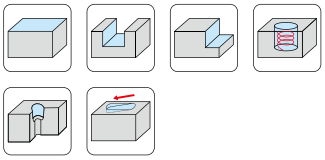
ASIA (Metric)

EHSSF

P	M	K	N	S	H
●	○	●		○	●



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSSF441000S	1.0	3	50	4	4
EHSSF441500S	1.5	4	50	4	4
EHSSF442000S	2.0	5	50	4	4
EHSSF442500S	2.5	6	50	4	4
EHSSF403000S	3.0	8	50	6	4
EHSSF404000S	4.0	10	50	6	4
EHSSF405000S	5.0	13	50	6	4
EHSSF406000S	6.0	15	50	6	4
EHSSF408000S	8.0	20	60	8	4
EHSSF410000S	10.0	25	75	10	4
EHSSF412000S	12.0	30	75	12	4



4 | UMG | SNAX | 45° | HRC 65

d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae ≤ 0.05d		ap = 1.5d ae ≤ 0.07d		ap = 1.5d ae ≤ 0.02d		ap = 1.5d ae ≤ 0.05d	

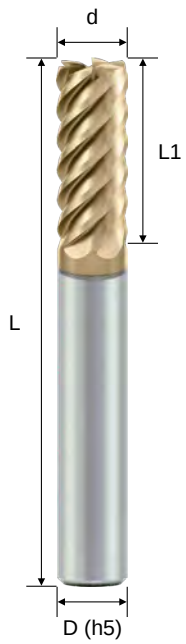
H68X - Square · High Precision · High Helix · 6F / 8F 平銑刀・高精高導型・6 刃 / 8 刃

- High precision cutting for HRC 30~65 hardened steel.
- 50° helix for general side finishing (Ae < d×10%), 50° helix for light side finishing (Ae < d×5%).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

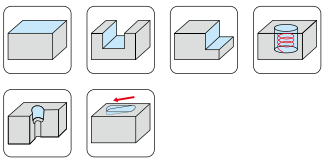
ASIA (Metric)

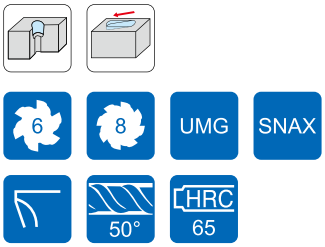
EHSMF

P	M	K	N	S	H
●	○	●		○	●



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSMF606000S	6	15	50	6	6
EHSMF608000S	8	20	60	8	6
EHSMF610000S	10	25	75	10	6
EHSMF612000S	12	30	75	12	6
EHSMF816000S	16	40	100	16	8





d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae ≤ 0.05d		ap = 1.5d ae ≤ 0.07d		ap = 1.5d ae ≤ 0.02d		ap = 1.5d ae ≤ 0.05d	

H68X - Square · High Precision · Long Shank · 4F

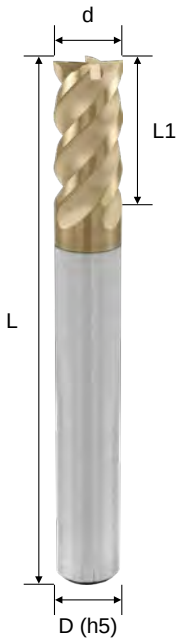
平銑刀・高精長柄型・4 刃

- High precision cutting for HRC 30~65 hardened steel.
- 45° helix for general side finishing (Ae < d×10%), 50° helix for light side finishing (Ae < d×5%).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

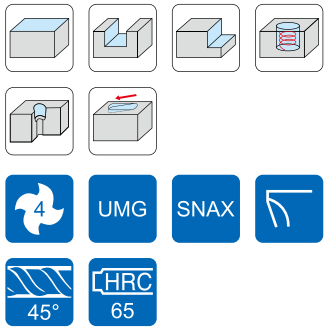
ASIA (Metric)

EHSLF

P	M	K	N	S	H
●	○	●		○	●



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSLF404007S	4	10	75	6	4
EHSLF406007S	6	15	75	6	4
EHSLF406010S	6	15	100	6	4
EHSLF408007S	8	20	75	8	4
EHSLF408010S	8	20	100	8	4
EHSLF410010S	10	25	100	10	4
EHSLF412010S	12	30	100	12	4



d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae ≤ 0.05d		ap = 1.5d ae ≤ 0.07d		ap = 1.5d ae ≤ 0.02d		ap = 1.5d ae ≤ 0.05d	

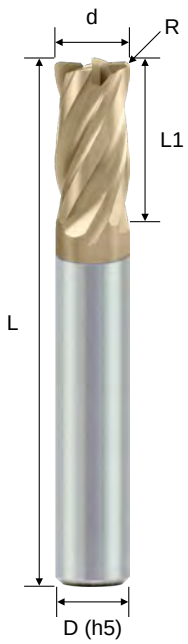
H68X - Corner Radius · High Precision · Standard · 4F 圓鼻銑刀・高精標準型・4 刃

- High precision cutting for HRC 30~65 hardened steel.
- For general slot finishing.
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

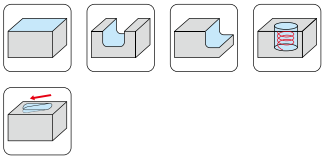
ASIA (Metric)

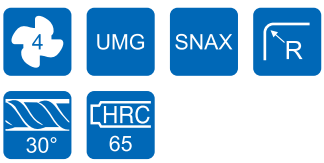
EHCSF

P	M	K	N	S	H
●	○	●		○	●



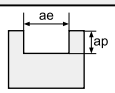
Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCSF441001S	1.0	0.1R	2	50	4	4
EHCSF441002S	1.0	0.2R	2	50	4	4
EHCSF441501S	1.5	0.1R	3	50	4	4
EHCSF441502S	1.5	0.2R	3	50	4	4
EHCSF442001S	2.0	0.1R	4	50	4	4
EHCSF442002S	2.0	0.2R	4	50	4	4
EHCSF442005S	2.0	0.5R	4	50	4	4
EHCSF443002S	3.0	0.2R	6	50	4	4
EHCSF443005S	3.0	0.5R	6	50	4	4
EHCSF403005S	3.0	0.5R	6	50	6	4
EHCSF444002S	4.0	0.2R	8	50	4	4
EHCSF444005S	4.0	0.5R	8	50	4	4
EHCSF404005S	4.0	0.5R	8	50	6	4
EHCSF404010S	4.0	1.0R	8	50	6	4
EHCSF406002S	6.0	0.2R	12	50	6	4
EHCSF406003S	6.0	0.3R	12	50	6	4
EHCSF406005S	6.0	0.5R	12	50	6	4
EHCSF406010S	6.0	1.0R	12	50	6	4
EHCSF408005S	8.0	0.5R	16	60	8	4
EHCSF408010S	8.0	1.0R	16	60	8	4
EHCSF410005S	10.0	0.5R	20	75	10	4
EHCSF410010S	10.0	1.0R	20	75	10	4
EHCSF412005S	12.0	0.5R	24	75	12	4
EHCSF412010S	12.0	1.0R	24	75	12	4





d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

R Tolerance	
R < 2	±0.010
R ≥ 2	±0.015

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1		HARDENED STEEL SKD61,SKD11,SKH51	
HARDNESS	HRC 35~45		HRC 45~60	
Vc	60 m/min		40 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	7690	410	3990	200
4mm	5800	520	3000	240
5mm	4640	600	2430	300
6mm	3770	550	1950	330
8mm	2900	520	1500	300
10mm	2320	495	1200	270
12mm	1890	470	1020	240
	ap ≤ 0.5d ae = 1d		ap ≤ 0.2d ae = 1d	

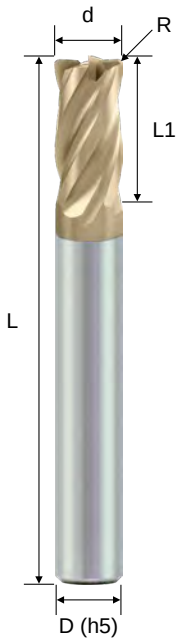
H68X - Corner Radius · High Precision · Long Shank · 4F 圓鼻銑刀・高精長柄型・4 刃

- High precision cutting for HRC 30~65 hardened steel.
- For general slot finishing.
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

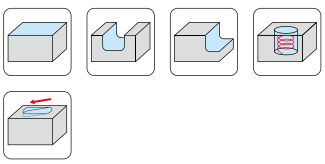
ASIA (Metric)

EHCLF

P	M	K	N	S	H
●	○	●		○	●



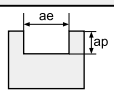
Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCLF40400507S	4	0.5R	8	75	6	4
EHCLF40600507S	6	0.5R	12	75	6	4
EHCLF40600510S	6	0.5R	12	100	6	4
EHCLF40800507S	8	0.5R	16	75	8	4
EHCLF40800510S	8	0.5R	16	100	8	4
EHCLF41000510S	10	0.5R	20	100	10	4
EHCLF41200510S	12	0.5R	24	100	12	4



4 | UMG | SNAX | R | 30° | HRC 65

d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1		HARDENED STEEL SKD61,SKD11,SKH51	
HARDNESS	HRC 35~45		HRC 45~60	
Vc	60 m/min		40 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	7690	410	3990	200
4mm	5800	520	3000	240
5mm	4640	600	2430	300
6mm	3770	550	1950	330
8mm	2900	520	1500	300
10mm	2320	495	1200	270
12mm	1890	470	1020	240
	ap ≤ 0.5d ae = 1d		ap ≤ 0.2d ae = 1d	

H68X - Ball Nose · High Precision · Standard · 2F 球型銑刀・高精標準型・2 刃

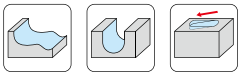
- High precision cutting for HRC 30~65 hardened steel.
- The ball nose radius tolerance is within ±5μm (d ≤ 6) and ±7μm (d > 6).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

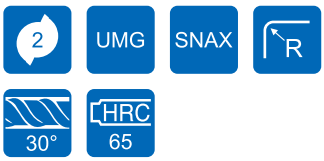
ASIA (Metric)

EHBSF

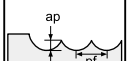
P	M	K	N	S	H
●	○	●		○	●

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBSF241000S	0.5R	1	2	50	4	2
EHBSF242000S	1.0R	2	4	50	4	2
EHBSF244000S	2.0R	4	8	50	4	2
EHBSF203000S	1.5R	3	6	50	6	2
EHBSF204000S	2.0R	4	8	50	6	2
EHBSF206000S	3.0R	6	12	50	6	2
EHBSF208000S	4.0R	8	16	60	8	2
EHBSF210000S	5.0R	10	20	75	10	2
EHBSF212000S	6.0R	12	24	75	12	2





R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~55				HRC 55~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	50~95 m/min		25~70 m/min		40~95 m/min		20~70 m/min		30~95 m/min		20~50 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	50000	3200	36000	1600	50000	2560	36000	1280	50000	2000	25000	1000
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640
	ap = 0.05d~0.1d pf = 0.2d								ap = 0.05d~0.1d pf = 0.15d			

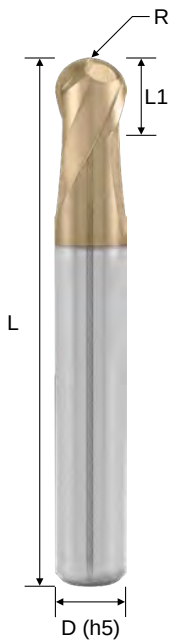
H68X - Ball Nose · High Precision · Finishing · Short · 2F 球型銑刀・高精短刃型・2 刃

- High precision tolerance R ±0.004mm from ball nose cutting edge 0° to 180°.
- Sharp cutting edge reduce cutting load and chattering for HRC 30~65 hardened steel.
- SNAX (AlTiSiN) smooth coating provides excellent wear resistance and low friction.

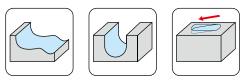
ASIA (Metric)

EHBUA

P	M	K	N	S	H
●	○	●		○	●



Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBUA241000S	0.5R	1.0	1.0	50	4	2
EHBUA241500S	0.75R	1.5	1.5	50	4	2
EHBUA242000S	1.0R	2.0	2.0	50	4	2
EHBUA242500S	1.25R	2.5	2.5	50	4	2
EHBUA203000S	1.5R	3.0	3.0	50	6	2
EHBUA204000S	2.0R	4.0	4.0	50	6	2
EHBUA205000S	2.5R	5.0	5.0	50	6	2
EHBUA206000S	3.0R	6.0	6.0	50	6	2

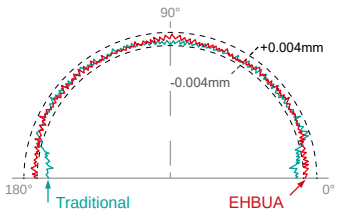


2 | UMG | SNAX | R

30° | HRC 65

d Tolerance	
d	0 ~ -0.01

R Tolerance	
R	±0.004



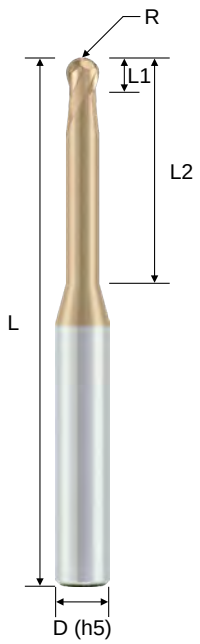
H68X - Ball Nose · High Precision · Finishing · Neck · 2F 球型銑刀・高精短刃長頸型・2 刃

- High precision tolerance R ±0.004mm from ball nose cutting edge 0° to 180°.
- Sharp cutting edge reduce cutting load and chattering for HRC 30~65 hardened steel.
- SNAX (AlTiSiN) smooth coating provides excellent wear resistance and low friction.

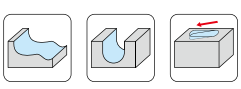
ASIA (Metric)

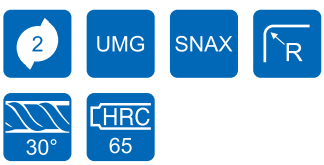
EHBUA

P	M	K	N	S	H
●	○	●		○	●



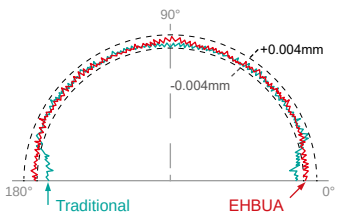
Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBUA241002S	0.5R	1.0	1.0	2	50	4	2
EHBUA241003S	0.5R	1.0	1.0	3	50	4	2
EHBUA241004S	0.5R	1.0	1.0	4	50	4	2
EHBUA241005S	0.5R	1.0	1.0	5	50	4	2
EHBUA241503S	0.75R	1.5	1.5	3	50	4	2
EHBUA241504S	0.75R	1.5	1.5	4	50	4	2
EHBUA241506S	0.75R	1.5	1.5	6	50	4	2
EHBUA241508S	0.75R	1.5	1.5	8	50	4	2
EHBUA242004S	1.0R	2.0	2.0	4	50	4	2
EHBUA242006S	1.0R	2.0	2.0	6	50	4	2
EHBUA242008S	1.0R	2.0	2.0	8	50	4	2
EHBUA242010S	1.0R	2.0	2.0	10	50	4	2
EHBUA242505S	1.25R	2.5	2.5	5	50	4	2
EHBUA242508S	1.25R	2.5	2.5	8	50	4	2
EHBUA242510S	1.25R	2.5	2.5	10	50	4	2
EHBUA242516S	1.25R	2.5	2.5	16	50	4	2
EHBUA203006S	1.5R	3.0	3.0	6	50	6	2
EHBUA203008S	1.5R	3.0	3.0	8	50	6	2
EHBUA203012S	1.5R	3.0	3.0	12	50	6	2
EHBUA203016S	1.5R	3.0	3.0	16	50	6	2
EHBUA204008S	2.0R	4.0	4.0	8	50	6	2
EHBUA204012S	2.0R	4.0	4.0	12	50	6	2
EHBUA204016S	2.0R	4.0	4.0	16	50	6	2
EHBUA204020S	2.0R	4.0	4.0	20	50	6	2
EHBUA205010S	2.5R	5.0	5.0	10	50	6	2
EHBUA205015S	2.5R	5.0	5.0	15	50	6	2
EHBUA205020S	2.5R	5.0	5.0	20	50	6	2
EHBUA205025S	2.5R	5.0	5.0	25	60	6	2
EHBUA206012S	3.0R	6.0	6.0	12	50	6	2
EHBUA206018S	3.0R	6.0	6.0	18	50	6	2
EHBUA206024S	3.0R	6.0	6.0	24	60	6	2
EHBUA206030S	3.0R	6.0	6.0	30	60	6	2





d Tolerance	
d	0 ~ -0.01

R Tolerance	
R	±0.004



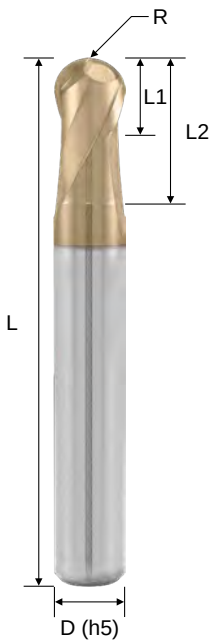
H68X - Ball Nose · High Precision · Short with Neck · 2F 球型銑刀・高精短刃型・2 刃

- High precision cutting for HRC 30~65 hardened steel.
- The ball nose radius tolerance is within ±5μm (d ≤ 6) and ±7μm (d > 6).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

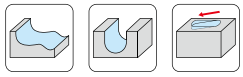
ASIA (Metric)

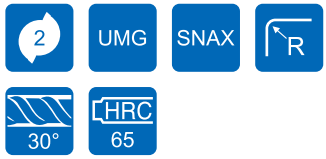
EHBUF

P	M	K	N	S	H
●	○	●		○	●

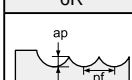


Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBUF240201S	0.10R	0.2	0.2	0.4	50	4	2
EHBUF240401S	0.20R	0.4	0.4	0.8	50	4	2
EHBUF240601S	0.30R	0.6	0.6	1.2	50	4	2
EHBUF240801S	0.40R	0.8	0.8	1.6	50	4	2
EHBUF241001S	0.50R	1.0	1.0	2	50	4	2
EHBUF241501S	0.75R	1.5	1.5	3	50	4	2
EHBUF242001S	1.00R	2.0	2.0	4	50	4	2
EHBUF243001S	1.50R	3.0	3.0	6	50	4	2
EHBUF244001S	2.00R	4.0	4.0	8	50	4	2
EHBUF206001S	3.00R	6.0	6.0	12	50	6	2
EHBUF208001S	4.00R	8.0	8.0	16	60	8	2
EHBUF210001S	5.00R	10.0	10.0	20	75	10	2
EHBUF212001S	6.00R	12.0	12.0	24	75	12	2
EHBUF240200S	0.10R	0.2	0.2	-	50	4	2
EHBUF240400S	0.20R	0.4	0.4	-	50	4	2
EHBUF240600S	0.30R	0.6	0.6	-	50	4	2
EHBUF240800S	0.40R	0.8	0.8	-	50	4	2
EHBUF241000S	0.50R	1.0	1.0	-	50	4	2
EHBUF241500S	0.75R	1.5	1.5	-	50	4	2
EHBUF242000S	1.00R	2.0	2.0	-	50	4	2
EHBUF243000S	1.50R	3.0	3.0	-	50	4	2
EHBUF203000S	1.50R	3.0	3.0	-	50	6	2
EHBUF244000S	2.00R	4.0	4.0	-	50	4	2
EHBUF204000S	2.00R	4.0	4.0	-	50	6	2





R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~55				HRC 55~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	50~95 m/min		25~70 m/min		40~95 m/min		20~70 m/min		30~95 m/min		20~50 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	50000	3200	36000	1600	50000	2560	36000	1280	50000	2000	25000	1000
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640
	ap = 0.05d~0.1d pf = 0.2d								ap = 0.05d~0.1d pf = 0.15d			

H68X - Ball Nose · High Precision · Long Shank · 2F 球型銑刀・高精長柄型・2 刃

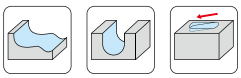
- High precision cutting for HRC 30~65 hardened steel.
- The ball nose radius tolerance is within ±5μm (d ≤ 6) and ±7μm (d > 6).
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

ASIA (Metric)

EHBLF

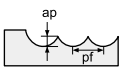
P	M	K	N	S	H
●	○	●		○	●

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBLF204007S	2R	4	8	75	6	2
EHBLF206007S	3R	6	12	75	6	2
EHBLF206010S	3R	6	12	100	6	2
EHBLF208007S	4R	8	16	75	8	2
EHBLF208010S	4R	8	16	100	8	2
EHBLF210010S	5R	10	20	100	10	2
EHBLF212010S	6R	12	24	100	12	2



2 | UMG | SNAX | R | 30° | HRC 65

R Tolerance	
R ≤ 3	±0.007
R > 3	±0.010

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~55				HRC 55~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	50~95 m/min		25~70 m/min		40~95 m/min		20~70 m/min		30~95 m/min		20~50 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	50000	3200	36000	1600	50000	2560	36000	1280	50000	2000	25000	1000
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640
	ap = 0.05d~0.1d pf = 0.2d								ap = 0.05d~0.1d pf = 0.15d			

H70X - Square · High Helix · 6F / 8F

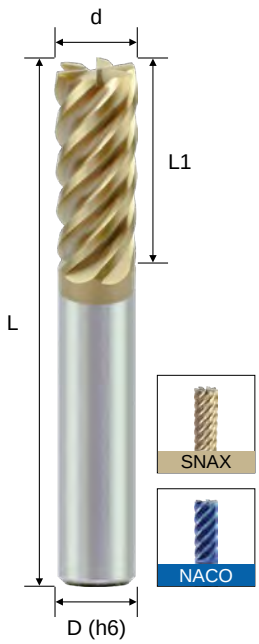
平銑刀・高導型・6 刃 / 8 刃

- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Horsepower consumption will be decreased with greater shearing action.
- High Helix and 6 Flutes design gives a good finishing surface.
- SNAX (Al, Ti, Si, N) smooth coating provides a superior wear and heat resistance.
- The coating can change to Naco Blue coating is optional.

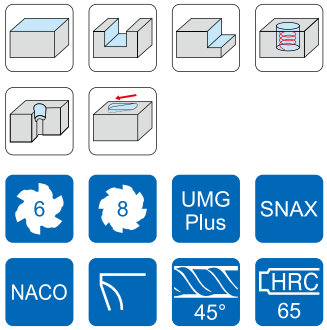
ASIA (Metric)

EHSSS

P	M	K	N	S	H
●	○	●		○	●



Order No.		Dia.	CL	OAL	Shank	Flutes
SNAX	NACO	(d)	(L1)	(L)	(D)	(Z)
EHSSS606000S	EHSSS606000N	6	15	50	6	6
EHSSS608000S	EHSSS608000N	8	20	60	8	6
EHSSS610000S	EHSSS610000N	10	25	75	10	6
EHSSS612000S	EHSSS612000N	12	30	75	12	6
EHSSS816000S	EHSSS816000N	16	40	100	16	8
EHSSS818000S	EHSSS818000N	18	40	100	18	8
EHSSS820000S	EHSSS820000N	20	45	100	20	8
EHSSS825000S	EHSSS825000N	25	45	100	25	8



d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	129 m/min		98 m/min		65 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	6,890	1,900	5,200	1,000	3,445	505
8mm	5,200	1,900	3,900	1,000	2,600	505
10mm	4,160	1,900	3,120	1,000	2,080	505
12mm	3,445	1,900	2,600	1,000	1,755	505
14mm	2,925	1,800	2,210	1,000	1,430	505
16mm	2,535	1,700	2,015	930	1,294	505
18mm	2,275	1,600	1,885	895	1,151	505
20mm	2,015	1,500	1,495	845	1,040	505
25mm	1,625	1,500	1,242	915	826	505
	ap = 1.5d ae = 0.05d		ap = 1.5d ae = 0.03d		ap = 1d ae = 0.02d	

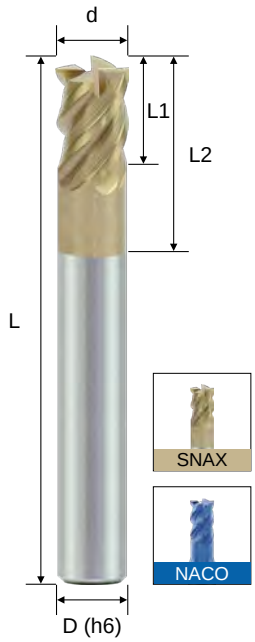
H70X - Square · High Helix · Short Flute · 4F / 6F / 8F 平銑刀・高導短刃型・4 刃 / 6 刃 / 8 刃

- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Prevents clogging of the flutes.
- SNAX (Al, Ti, Si, N) smooth coating provides a superior wear and heat resistance.
- The coating can change to Naco Blue coating is optional.

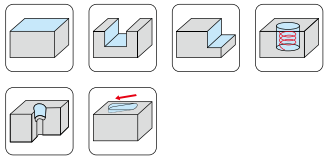
ASIA (Metric)

EHSUS

P	M	K	N	S	H
●	○	●		○	●



Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
SNAX	NACO	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHSUS441000S	EHSUS441000N	1	1.5	2.5	50	4	4
EHSUS442000S	EHSUS442000N	2	3.0	5.0	50	4	4
EHSUS403000S	EHSUS403000N	3	4.5	7.5	50	6	4
EHSUS404000S	EHSUS404000N	4	6.0	10.0	50	6	4
EHSUS405000S	EHSUS405000N	5	7.5	12.5	50	6	4
EHSUS606000S	EHSUS606000N	6	9.0	15.0	50	6	6
EHSUS608000S	EHSUS608000N	8	12.0	20.0	60	8	6
EHSUS610000S	EHSUS610000N	10	15.0	25.0	75	10	6
EHSUS612000S	EHSUS612000N	12	18.0	30.0	75	12	6
EHSUS816000S	EHSUS816000N	16	24.0	40.0	100	16	8
EHSUS820000S	EHSUS820000N	20	30.0	50.0	100	20	8
EHSSH441000S	EHSSH441000N	1	3	3	50	4	4
EHSSH441500S	EHSSH441500N	1.5	4	4	50	4	4
EHSSH442000S	EHSSH442000N	2	5	5	50	4	4
EHSSH442500S	EHSSH442500N	2.5	6	6	50	4	4
EHSSH443000S	EHSSH443000N	3	8	8	50	4	4
EHSSH444000S	EHSSH444000N	4	10	10	50	4	4



d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	208 m/min		195 m/min		129 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	11,050	2,450	10,335	2,000	6,890	1,210
8mm	8,255	2,440	7,735	1,995	5,200	1,215
10mm	6,630	2,450	6,110	1,970	4,160	1,215
12mm	5,525	2,450	5,135	1,985	3,445	1,210
14mm	4,680	2,420	4,420	1,995	2,925	1,200
16mm	4,095	2,420	3,900	2,000	2,535	1,285
18mm	3,640	2,420	3,445	2,000	2,275	1,200
20mm	3,250	2,400	3,055	1,970	2,015	1,180
25mm	2,600	2,400	2,470	1,990	1,625	1,190
	ap = 1.5d ae = 0.05d		ap = 1.5d ae = 0.03d		ap = 1d ae = 0.02d	

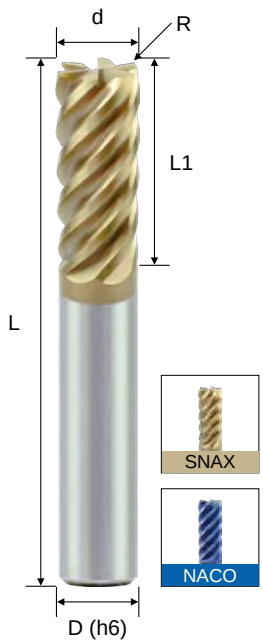
H70X - Corner Radius · High Helix · 6F 圓鼻銑刀・高導型・6 刃

- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Horsepower consumption will be decreased with greater shearing action.
- High Helix and 6 Flutes design gives a good finishing surface.
- SNAX (Al, Ti, Si, N) smooth coating provides a superior wear and heat resistance.
- The coating can change to Naco Blue coating is optional.

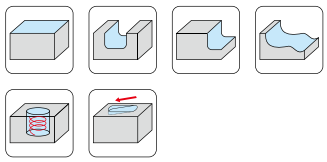
ASIA (Metric)

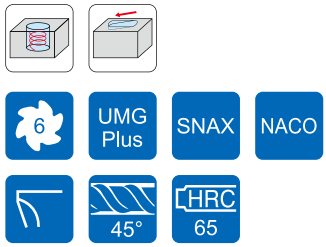
EHCSS

P	M	K	N	S	H
●	○	●		○	●



Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
SNAX	NACO	(d)	(R)	(L1)	(L)	(D)	(Z)
EHCSS606005S	EHCSS606005N	6	0.5R	12	50	6	6
EHCSS606010S	EHCSS606010N	6	1.0R	12	50	6	6
EHCSS608005S	EHCSS608005N	8	0.5R	16	60	8	6
EHCSS608010S	EHCSS608010N	8	1.0R	16	60	8	6
EHCSS610005S	EHCSS610005N	10	0.5R	20	75	10	6
EHCSS610010S	EHCSS610010N	10	1.0R	20	75	10	6
EHCSS612005S	EHCSS612005N	12	0.5R	24	75	12	6
EHCSS612010S	EHCSS612010N	12	1.0R	24	75	12	6
EHCSS616020S	EHCSS616020N	16	2.0R	32	100	16	6
EHCSS620020S	EHCSS620020N	20	2.0R	40	100	20	6





d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	129 m/min		98 m/min		65 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	6,890	1,900	5,200	1,000	3,445	505
8mm	5,200	1,900	3,900	1,000	2,600	505
10mm	4,160	1,900	3,120	1,000	2,080	505
12mm	3,445	1,900	2,600	1,000	1,755	505
14mm	2,925	1,800	2,210	1,000	1,430	505
16mm	2,535	1,700	2,015	930	1,294	505
18mm	2,275	1,600	1,885	895	1,151	505
20mm	2,015	1,500	1,495	845	1,040	505
25mm	1,625	1,500	1,242	915	826	505
	ap = 1.5d ae = 0.05d		ap = 1.5d ae = 0.03d		ap = 1d ae = 0.02d	

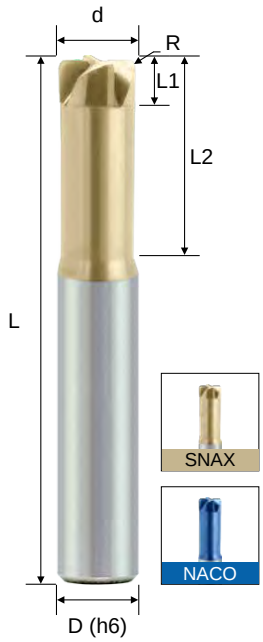
H70X - Corner Radius · High Feed · Short Flute · 4F 圓鼻銑刀・高進給直短刃型・4 刃

- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Cutting edges are very strong and wear resistant.
- For High speed and high feed cutting.
- SNAX (Al, Ti, Si, N) smooth coating provides a superior wear and heat resistance.
- The coating can change to Naco Blue coating is optional.

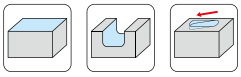
ASIA (Metric)

EHCUK

P	M	K	N	S	H
●	○	●		○	●



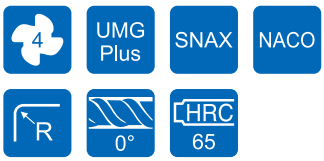
Order No. SNAX	Order No. NACO	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHCUK40200506S	EHCUK40200506N	2	0.5R	1.0	6	50	6	4
EHCUK40300508S	EHCUK40300508N	3	0.5R	1.5	8	50	6	4
EHCUK40400512S	EHCUK40400512N	4	0.5R	2.0	12	60	6	4
EHCUK40400516S	EHCUK40400516N	4	0.5R	2.0	16	60	6	4
EHCUK40401012S	EHCUK40401012N	4	1.0R	2.0	12	60	6	4
EHCUK40401016S	EHCUK40401016N	4	1.0R	2.0	16	60	6	4
EHCUK40600512S	EHCUK40600512N	6	0.5R	3.0	12	60	6	4
EHCUK40600515S	EHCUK40600515N	6	0.5R	3.0	15	60	6	4
EHCUK40601015S	EHCUK40601015N	6	1.0R	3.0	15	60	6	4
EHCUK40601515S	EHCUK40601515N	6	1.5R	3.0	15	60	6	4
EHCUK40800520S	EHCUK40800520N	8	0.5R	4.0	20	60	8	4
EHCUK40801020S	EHCUK40801020N	8	1.0R	4.0	20	60	8	4
EHCUK41000525S	EHCUK41000525N	10	0.5R	5.0	25	75	10	4
EHCUK41001025S	EHCUK41001025N	10	1.0R	5.0	25	75	10	4
EHCUK41201030S	EHCUK41201030N	12	1.0R	6.0	30	75	12	4
EHCUK41202030S	EHCUK41202030N	12	2.0R	6.0	30	75	12	4



WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
HARDNESS	HRC 40~50		HRC 50~55		HRC 55~60	
Vc	90~130 m/min		55~78 m/min		36~52 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
2mm	20,700	5,750	12,420	3,450	8,280	2,310
3mm	13,800	6,050	8,280	3,640	5,520	2,420
4mm	10,350	7,030	6,210	4,220	4,140	2,810
6mm	6,900	6,900	4,140	4,140	2,760	2,760
8mm	5,200	6,850	3,105	4,090	2,070	2,730
10mm	4,150	6,600	2,500	3,970	1,650	2,640
12mm	3,450	6,900	2,070	4,140	1,380	2,760

	ae	ap
R ≤ 1	0.2 x R	0.025d
R > 1	0.4mm	0.025d

	ae	ap
R ≤ 1	0.1 x R	0.025d
R > 1	0.2mm	0.025d



d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

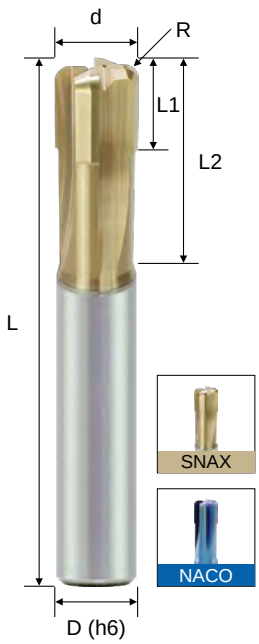
H70X - Corner Radius · High Feed · 4F 圓鼻銑刀・高進給直刃型・4 刃

- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Non-Helix Design.
- Cutting edges are very strong and wear resistant.
- SNAX (Al, Ti, Si, N) smooth coating provides a superior wear and heat resistance.
- The coating can change to Naco Blue coating is optional.

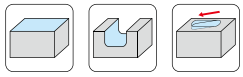
ASIA (Metric)

EHCUS

P	M	K	N	S	H
●	○	●		○	●



Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
SNAX	NACO	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EHCUS441002S	EHCUS441002N	1	0.20R	1	2.5	50	4	4
EHCUS442002S	EHCUS442002N	2	0.25R	2	6.5	50	4	4
EHCUS403005S	EHCUS403005N	3	0.50R	3	7.5	50	6	4
EHCUS404005S	EHCUS404005N	4	0.50R	4	10.0	50	6	4
EHCUS404010S	EHCUS404010N	4	1.00R	4	10.0	50	6	4
EHCUS405010S	EHCUS405010N	5	1.00R	5	12.5	50	6	4
EHCUS406010S	EHCUS406010N	6	1.00R	6	15.0	50	6	4
EHCUS406015S	EHCUS406015N	6	1.50R	6	15.0	50	6	4
EHCUS408010S	EHCUS408010N	8	1.00R	8	20.0	60	8	4
EHCUS408015S	EHCUS408015N	8	1.50R	8	20.0	60	8	4
EHCUS408020S	EHCUS408020N	8	2.00R	8	20.0	60	8	4
EHCUS410010S	EHCUS410010N	10	1.00R	10	25.0	75	10	4
EHCUS410020S	EHCUS410020N	10	2.00R	10	25.0	75	10	4
EHCUS412010S	EHCUS412010N	12	1.00R	12	30.0	75	12	4
EHCUS412020S	EHCUS412020N	12	2.00R	12	30.0	75	12	4
EHCUS412030S	EHCUS412030N	12	3.00R	12	30.0	75	12	4



4 | UMG Plus | SNAX | NACO

R | 0° | HRC 65

d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	65 M/min		39 M/min		26 M/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	20,670	2,150	12,350	980	8,281	500
2mm	10,335	2,145	6,175	980	4,134	500
3mm	6,890	2,150	4,160	990	2,756	500
4mm	5,200	2,160	3,120	990	2,067	500
6mm	4,350	2,150	2,600	990	1,750	500
8mm	3,260	2,160	1,950	990	1,310	500
10mm	2,600	2,160	1,560	980	1,050	500
12mm	2,175	2,190	1,300	980	875	500

	ae	ap
R ≦ 2	0.2 x R	0.05d
R > 2	0.4mm	0.05d

	ae	ap
R ≦ 2	0.1 x R	0.05d
R > 2	0.2mm	0.05d

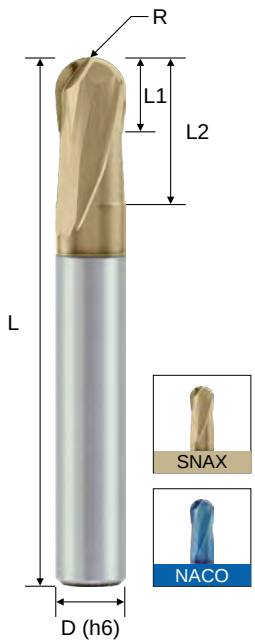
H70X - Ball Nose · Low Helix · Short Flute · 2F 球型銑刀・低導短刃型・2 刃

- Suitable for HRC 50 Hardened Steel, maximum up to HRC 65.
- Due to short cutting length it provides an excellent surface roughness of the work pieces.
- Low helix design is suitable for hardened steel cutting.
- SNAX (Al, Ti, Si, N) smooth coating provides a superior wear and heat resistance.
- The coating can change to Naco Blue coating is optional.

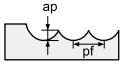
ASIA (Metric)

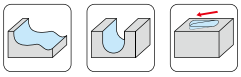
EHBUS

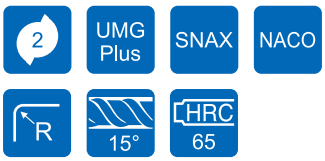
P	M	K	N	S	H
●	○	●		○	●



Order No.		Radius	Dia.	CL	EFF-L	OAL	Shank	Flutes
SNAX	NACO	(R)	(d)	(L1)	(L2)	(L)	(D)	(Z)
EHBUS241000S	EHBUS241000N	0.50R	1.0	1.0	2	50	4	2
EHBUS241500S	EHBUS241500N	0.75R	1.5	1.5	3	50	4	2
EHBUS202000S	EHBUS202000N	1.00R	2.0	2.0	4	50	6	2
EHBUS203000S	EHBUS203000N	1.50R	3.0	3.0	6	50	6	2
EHBUS204000S	EHBUS204000N	2.00R	4.0	4.0	8	50	6	2
EHBUS205000S	EHBUS205000N	2.50R	5.0	5.0	10	50	6	2
EHBUS206000S	EHBUS206000N	3.00R	6.0	6.0	12	50	6	2
EHBUS208000S	EHBUS208000N	4.00R	8.0	8.0	16	60	8	2
EHBUS210000S	EHBUS210000N	5.00R	10.0	10.0	20	75	10	2
EHBUS212000S	EHBUS212000N	6.00R	12.0	12.0	24	75	12	2
EHBUS216000S	EHBUS216000N	8.00R	16.0	16.0	32	100	16	2

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 45~55		HRC 55~60		HRC 60~70	
Vc	86~129 m/min		77~116 m/min		42~63 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	41,600	960	39,000	850	33,150	500
1.0R	40,950	1,900	37,050	1,880	20,150	600
1.5R	27,300	2,080	24,700	1,880	13,650	625
2.0R	20,150	2,050	18,200	1,850	10,335	630
2.5R	16,250	2,060	14,300	1,815	8,255	630
3.0R	13,650	2,080	12,350	1,880	6,890	630
4.0R	10,335	1,550	9,295	1,400	5,135	470
5.0R	8,255	1,250	7,410	1,100	4,095	375
6.0R	6,890	1,050	6,175	950	3,445	315
8.0R	5,135	790	4,745	710	2,535	230
	ap = 0.02d pf = 0.1d					





R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

V53 - Tools selection 刀具選擇建議

Standard	Type Number		Helix Angle	Tool Type	Slot milling	Side roughing	Side finishing	P	M	K	N	S	H
ASIA (Metric)	ESSSVA	Standard	30°~32°	Square	✓			●	●	●		●	○
	ESSSVB	Standard	35°~38°	Square	✓	✓	✓	●	●	●		●	○
	ESSUVB	Necked	35°~38°	Corner Radius	✓	✓	✓	●	●	●		●	○
	ESSSVC	Standard	38°~41°	Square Corner Radius	✓	✓	✓	●	●	●		●	○
	ESSSVC	Standard	38°~42°	Square Corner Radius		✓	✓	○	●	○		●	○
	ESSSVD	Standard	43°~46°	Square Corner Radius		✓	✓	●	●	●		●	○
	ESSUVD	Necked	43°~46°	Corner Radius		✓	✓	●	●	●		●	○
DIN (Metric)	E514VB E534VB	Necked	35°~38°	Square Corner Radius	✓	✓	✓	●	●	●		●	○
	E514VC E534VC	Necked	39°~42°	Square Corner Radius	✓	✓	✓	●	●	●		●	○
	E514VC E534VC	Necked	39°~42°	Square Corner Radius		✓	✓	○	●	○		●	○
	E514VD E534VD	Necked	43°~46°	Square Corner Radius		✓	✓	●	●	●		●	○

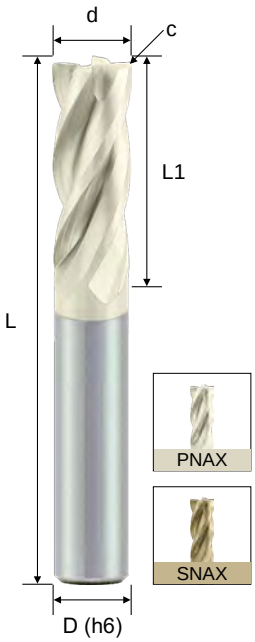
V53A - Square · Variable Helix 30~32 · 4F 不等螺旋平銑刀・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel slot milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

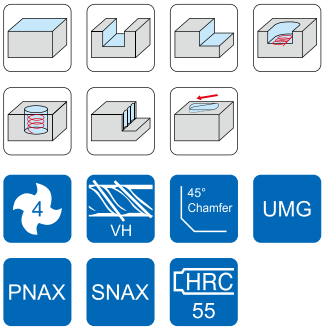
ASIA (Metric)

ESSSVA

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Chamfer	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(c)	(L1)	(L)	(D)	(Z)
ESSSVA4060011P	ESSSVA4060011S	6	0.10	15	50	6	4
ESSSVA4080011P	ESSSVA4080011S	8	0.15	20	60	8	4
ESSSVA4100021P	ESSSVA4100021S	10	0.20	25	75	10	4
ESSSVA4120021P	ESSSVA4120021S	12	0.20	30	75	12	4
ESSSVA4160031P	ESSSVA4160031S	16	0.32	35	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.035	0.041	0.055	0.069	0.083	0.110
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.030	0.037	0.049	0.064	0.077	0.102
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.021	0.028	0.041	0.048	0.055	0.077
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.021	0.028	0.035	0.041	0.048	0.067

※If the machine not stable, please reduce the feed about 20%.

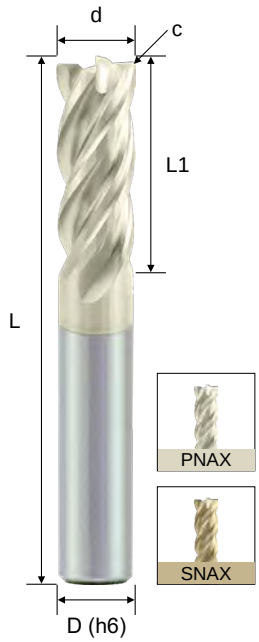
V53B - Square · Variable Helix 35 ~38 · 4F 不等螺旋平銑刀・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel general purpose milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

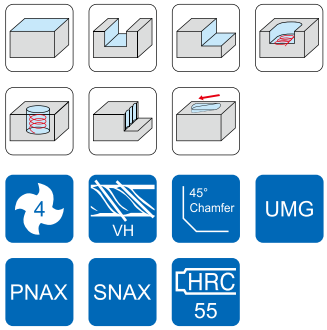
ASIA (Metric)

ESSSVB

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Chamfer	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(c)	(L1)	(L)	(D)	(Z)
ESSSVB4040000P	ESSSVB4040000S	4	-	10	50	6	4
ESSSVB4040011P	ESSSVB4040011S	4	0.10	10	50	6	4
ESSSVB4060000P	ESSSVB4060000S	6	-	13	50	6	4
ESSSVB4060011P	ESSSVB4060011S	6	0.15	13	50	6	4
ESSSVB4080000P	ESSSVB4080000S	8	-	20	60	8	4
ESSSVB4080011P	ESSSVB4080011S	8	0.15	20	60	8	4
ESSSVB4100000P	ESSSVB4100000S	10	-	25	75	10	4
ESSSVB4100021P	ESSSVB4100021S	10	0.20	25	75	10	4
ESSSVB4120000P	ESSSVB4120000S	12	-	30	75	12	4
ESSSVB4120021P	ESSSVB4120021S	12	0.20	30	75	12	4
ESSSVB4160000P	ESSSVB4160000S	16	-	35	100	16	4
ESSSVB4160031P	ESSSVB4160031S	16	0.32	35	100	16	4
ESSSVB4180000P	ESSSVB4180000S	18	-	45	100	20	4
ESSSVB4200000P	ESSSVB4200000S	20	-	45	100	20	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077

※If the machine not stable, please reduce the feed about 20%.

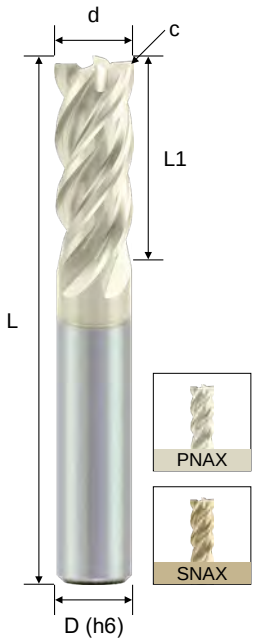
V53C - Square · Variable Helix 38~41 · 4F 不等螺旋平銑刀・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

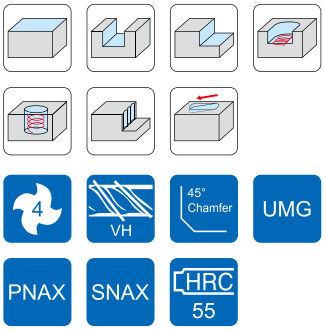
ASIA (Metric)

ESSSVC

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Chamfer	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(c)	(L1)	(L)	(D)	(Z)
ESSSVC4410000P	ESSSVC4410000S	1	-	3	50	4	4
ESSSVC4420000P	ESSSVC4420000S	2	-	5	50	4	4
ESSSVC4430000P	ESSSVC4430000S	3	-	8	50	4	4
ESSSVC4440000P	ESSSVC4440000S	4	-	10	50	4	4
ESSSVC4040011P	ESSSVC4040011S	4	0.10	10	50	6	4
ESSSVC4050000P	ESSSVC4050000S	5	-	13	50	6	4
ESSSVC4060000P	ESSSVC4060000S	6	-	15	50	6	4
ESSSVC4060011P	ESSSVC4060011S	6	0.15	15	50	6	4
ESSSVC4070000P	ESSSVC4070000S	7	-	18	60	8	4
ESSSVC4080000P	ESSSVC4080000S	8	-	20	60	8	4
ESSSVC4080011P	ESSSVC4080011S	8	0.15	20	60	8	4
ESSSVC4090000P	ESSSVC4090000S	9	-	22	75	10	4
ESSSVC4100000P	ESSSVC4100000S	10	-	25	75	10	4
ESSSVC4100003P	ESSSVC4100003S	10	-	30	75	10	4
ESSSVC4100021P	ESSSVC4100021S	10	0.20	25	75	10	4
ESSSVC4120000P	ESSSVC4120000S	12	-	30	75	12	4
ESSSVC4140000P	ESSSVC4140000S	14	-	30	75	14	4
ESSSVC4160000P	ESSSVC4160000S	16	-	35	100	16	4
ESSSVC4200000P	ESSSVC4200000S	20	-	45	100	20	4
ESSSVC4250000P	ESSSVC4250000S	25	-	45	100	25	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077

※If the machine not stable, please reduce the feed about 20%.

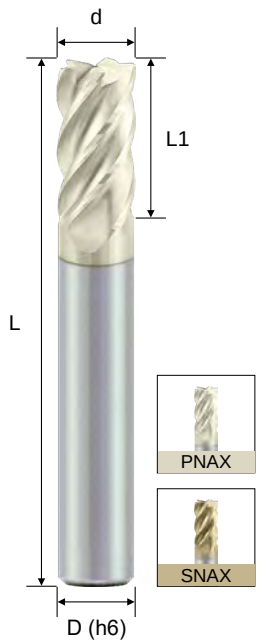
V53C - Square · Variable Helix 38~42 · 5F 不等螺旋平銑刀・5 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

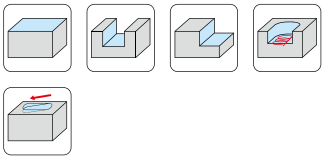
ASIA (Metric)

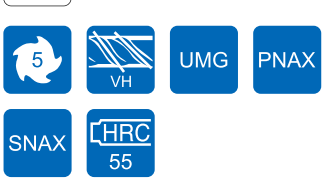
ESSSVC

P	M	K	N	S	H
○	●	○		●	○



Order No.		Dia.	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(L1)	(L)	(D)	(Z)
ESSSVC5060000P	ESSSVC5060000S	6	15	50	6	5
ESSSVC5080000P	ESSSVC5080000S	8	20	60	8	5
ESSSVC5100000P	ESSSVC5100000S	10	25	75	10	5
ESSSVC5120000P	ESSSVC5120000S	12	30	75	12	5
ESSSVC5160000P	ESSSVC5160000S	16	35	100	16	5





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077

※If the machine not stable, please reduce the feed about 20%.

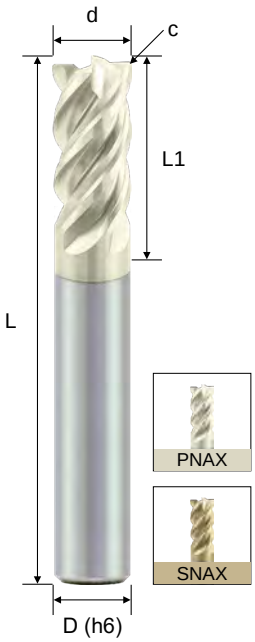
V53D - Square · Variable Helix 43~46 · 4F 不等螺旋平銑刀・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel trochoidal milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

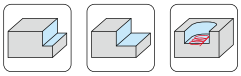
ASIA (Metric)

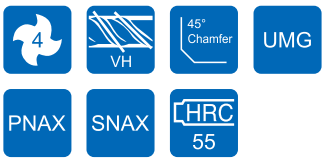
ESSSVD

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Chamfer	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(c)	(L1)	(L)	(D)	(Z)
ESSSVD4040000P	ESSSVD4040000S	4	-	8	50	6	4
ESSSVD4040011P	ESSSVD4040011S	4	0.10	8	50	6	4
ESSSVD4060000P	ESSSVD4060000S	6	-	12	50	6	4
ESSSVD4060011P	ESSSVD4060011S	6	0.15	12	50	6	4
ESSSVD4080000P	ESSSVD4080000S	8	-	16	60	8	4
ESSSVD4080011P	ESSSVD4080011S	8	0.15	16	60	8	4
ESSSVD4100000P	ESSSVD4100000S	10	-	20	75	10	4
ESSSVD4100003P	ESSSVD4100003S	10	-	30	75	10	4
ESSSVD4100021P	ESSSVD4100021S	10	0.20	20	75	10	4
ESSSVD4120000P	ESSSVD4120000S	12	-	24	75	12	4
ESSSVD4120021P	ESSSVD4120021S	12	0.20	24	75	12	4





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.040	0.048	0.064	0.081	0.097	0.129
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.045	0.053	0.071	0.089	0.106	0.141
Alloy steel / Tool steel (SK, SCM, SKD)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.036	0.044	0.058	0.076	0.090	0.120
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.039	0.048	0.063	0.084	0.099	0.131
Stainless steel (SUS304, SUS316)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.024	0.032	0.048	0.056	0.064	0.090
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.026	0.036	0.053	0.062	0.071	0.099
Super alloy	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.024	0.032	0.040	0.048	0.056	0.077
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.026	0.036	0.045	0.053	0.062	0.085

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

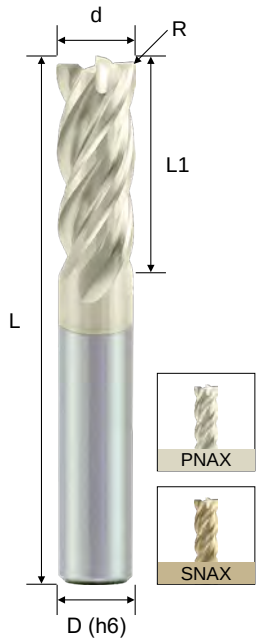
V53B - Corner Radius · Variable Helix 35~38 · 4F 不等螺旋圓鼻銑刀・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel general purpose milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

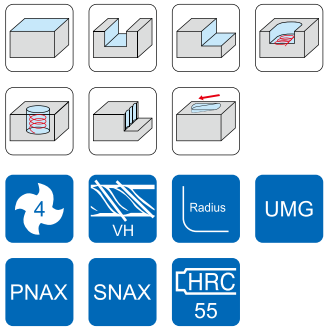
ASIA (Metric)

ESSSVB

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(R)	(L1)	(L)	(D)	(Z)
ESSSVB4040022P	ESSSVB4040022S	4	0.20R	8	50	6	4
ESSSVB4040032P	ESSSVB4040032S	4	0.30R	8	50	6	4
ESSSVB4040052P	ESSSVB4040052S	4	0.50R	8	50	6	4
ESSSVB4060022P	ESSSVB4060022S	6	0.20R	12	50	6	4
ESSSVB4060052P	ESSSVB4060052S	6	0.50R	12	50	6	4
ESSSVB4080022P	ESSSVB4080022S	8	0.20R	16	60	8	4
ESSSVB4080052P	ESSSVB4080052S	8	0.50R	16	60	8	4
ESSSVB4100032P	ESSSVB4100032S	10	0.30R	20	75	10	4
ESSSVB4100052P	ESSSVB4100052S	10	0.50R	20	75	10	4
ESSSVB4120032P	ESSSVB4120032S	12	0.30R	24	75	12	4
ESSSVB4120052P	ESSSVB4120052S	12	0.50R	24	75	12	4
ESSSVB4120102P	ESSSVB4120102S	12	1.00R	24	75	12	4
ESSSVB4120302P	ESSSVB4120302S	12	3.00R	24	75	12	4
ESSSVB4160102P	ESSSVB4160102S	16	1.00R	32	100	16	4
ESSSVB4160302P	ESSSVB4160302S	16	3.00R	32	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077

※If the machine not stable, please reduce the feed about 20%.

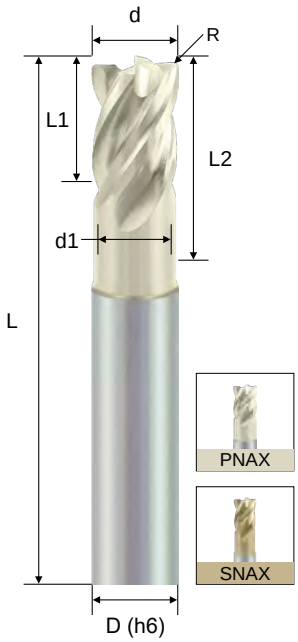
V53B - Corner Radius · Variable Helix 35~38 · Necked · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel slot or side rough milling.
- Necked design is able to increase feed rate.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

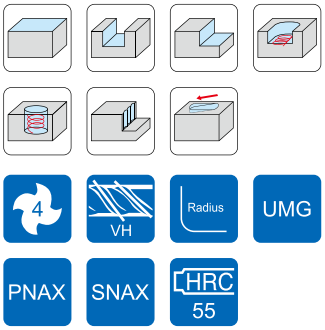
ASIA (Metric)

ESSUVB

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Radius	CL	EFF-L	ND	OAL	Shank	Flutes
PNAX	SNAX	(d)	(R)	(L1)	(L2)	(d1)	(L)	(D)	(Z)
ESSUVB4040052P	ESSUVB4040052S	4	0.5R	6	10	3.76	50	6	4
ESSUVB4060052P	ESSUVB4060052S	6	0.5R	9	15	5.64	50	6	4
ESSUVB4080052P	ESSUVB4080052S	8	0.5R	12	20	7.52	60	8	4
ESSUVB4080102P	ESSUVB4080102S	8	1.0R	12	20	7.52	60	8	4
ESSUVB4100052P	ESSUVB4100052S	10	0.5R	15	25	9.4	75	10	4
ESSUVB4100102P	ESSUVB4100102S	10	1.0R	15	25	9.4	75	10	4
ESSUVB4100152P	ESSUVB4100152S	10	1.5R	15	25	9.4	75	10	4
ESSUVB4100202P	ESSUVB4100202S	10	2.0R	15	25	9.4	75	10	4
ESSUVB4120102P	ESSUVB4120102S	12	1.0R	18	30	11.28	75	12	4
ESSUVB4120202P	ESSUVB4120202S	12	2.0R	18	30	11.28	75	12	4
ESSUVB4120302P	ESSUVB4120302S	12	3.0R	18	30	11.28	75	12	4
ESSUVB4160302P	ESSUVB4160302S	16	3.0R	24	40	15.04	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	≤ 0.8	90 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.3 ~ 1	100 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	≤ 0.8	70 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.3 ~ 1	80 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	≤ 0.6	50 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.3 ~ 1	60 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Super alloy	Slot milling	1	≤ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.3 ~ 1	40 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

※If the machine not stable, please reduce the feed about 20%.

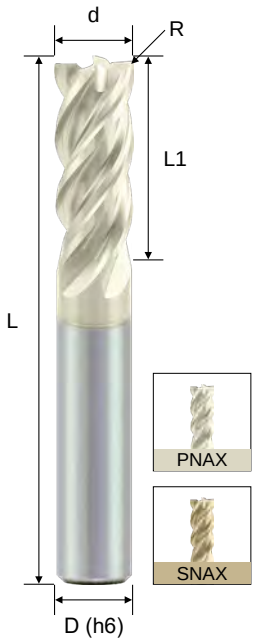
V53C - Corner Radius · Variable Helix 38~41 · 4F 不等螺旋圓鼻銑刀・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

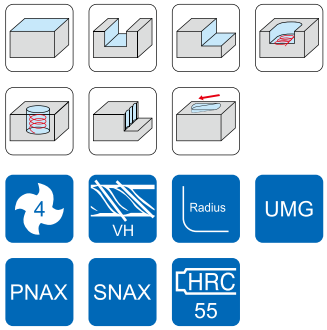
ASIA (Metric)

ESSSVC

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(R)	(L1)	(L)	(D)	(Z)
ESSSVC4040012P	ESSSVC4040012S	4	0.10R	10	50	6	4
ESSSVC4060012P	ESSSVC4060012S	6	0.15R	15	50	6	4
ESSSVC4060052P	ESSSVC4060052S	6	0.50R	12	50	6	4
ESSSVC4080012P	ESSSVC4080012S	8	0.15R	20	60	8	4
ESSSVC4080052P	ESSSVC4080052S	8	0.50R	16	60	8	4
ESSSVC4080102P	ESSSVC4080102S	8	1.00R	16	60	8	4
ESSSVC4100022P	ESSSVC4100022S	10	0.20R	25	75	10	4
ESSSVC4100052P	ESSSVC4100052S	10	0.50R	20	75	10	4
ESSSVC4100102P	ESSSVC4100102S	10	1.00R	20	75	10	4
ESSSVC4120022P	ESSSVC4120022S	12	0.20R	30	75	12	4
ESSSVC4120052P	ESSSVC4120052S	12	0.50R	30	75	12	4
ESSSVC4120102P	ESSSVC4120102S	12	1.00R	24	75	12	4
ESSSVC4120202P	ESSSVC4120202S	12	2.00R	24	75	12	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077

※If the machine not stable, please reduce the feed about 20%.

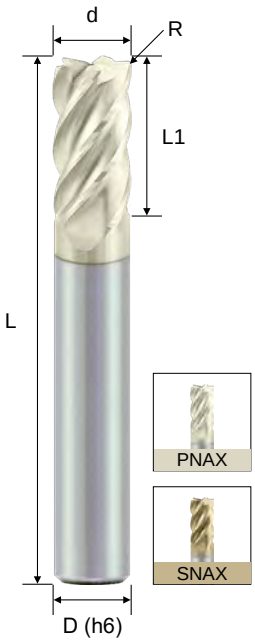
V53C - Corner Radius · Variable Helix 38~42 · 5F 不等螺旋圓鼻銑刀・5 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

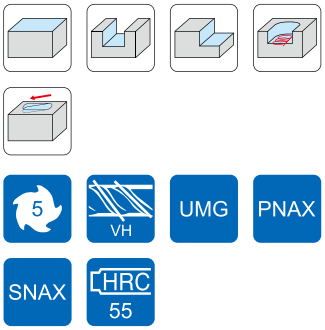
ASIA (Metric)

ESSSVC

P	M	K	N	S	H
○	●	○		●	○



Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(R)	(L1)	(L)	(D)	(Z)
ESSSVC5040022P	ESSSVC5040022S	4	0.25R	8	50	6	5
ESSSVC5060042P	ESSSVC5060042S	6	0.40R	12	50	6	5
ESSSVC5080012P	ESSSVC5080012S	8	0.15R	16	60	8	5
ESSSVC5080052P	ESSSVC5080052S	8	0.50R	16	60	8	5
ESSSVC5100052P	ESSSVC5100052S	10	0.50R	20	75	10	5
ESSSVC5100102P	ESSSVC5100102S	10	1.00R	20	75	10	5
ESSSVC5120052P	ESSSVC5120052S	12	0.50R	24	75	12	5
ESSSVC5120072P	ESSSVC5120072S	12	0.75R	24	75	12	5
ESSSVC5120102P	ESSSVC5120102S	12	1.00R	24	75	12	5
ESSSVC5120202P	ESSSVC5120202S	12	2.00R	24	75	12	5
ESSSVC5160072P	ESSSVC5160072S	16	0.75R	32	100	16	5
ESSSVC5160102P	ESSSVC5160102S	16	1.00R	32	100	16	5
ESSSVC5160202P	ESSSVC5160202S	16	2.00R	32	100	16	5
ESSSVC5160302P	ESSSVC5160302S	16	3.00R	32	100	16	5



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.029	0.035	0.046	0.058	0.069	0.092
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 280	0.040	0.048	0.064	0.081	0.097	0.129
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.025	0.031	0.041	0.054	0.064	0.085
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	110 ~ 220	0.036	0.044	0.058	0.076	0.090	0.120
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.017	0.023	0.035	0.040	0.046	0.064
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 140	0.024	0.032	0.048	0.056	0.064	0.090
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.017	0.023	0.029	0.035	0.040	0.055
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.024	0.032	0.040	0.048	0.056	0.077

※If the machine not stable, please reduce the feed about 20%.

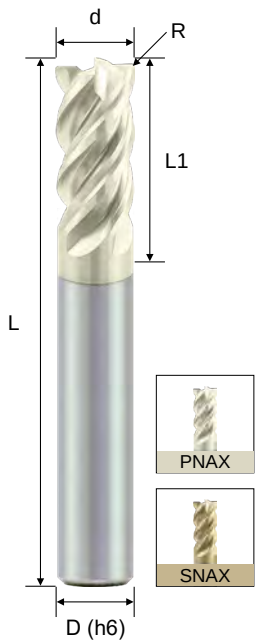
V53D - Corner Radius · Variable Helix 43~46 · 4F 不等螺旋圓鼻銑刀・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel trochoidal milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

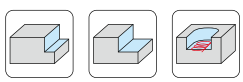
ASIA (Metric)

ESSSVD

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
PNAX	SNAX	(d)	(R)	(L1)	(L)	(D)	(Z)
ESSSVD4040032P	ESSSVD4040032S	4	0.30R	8	50	6	4
ESSSVD4060052P	ESSSVD4060052S	6	0.50R	12	50	6	4
ESSSVD4080052P	ESSSVD4080052S	8	0.50R	16	60	8	4
ESSSVD4100052P	ESSSVD4100052S	10	0.50R	20	75	10	4
ESSSVD4120052P	ESSSVD4120052S	12	0.50R	24	75	12	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.040	0.048	0.064	0.081	0.097	0.129
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.045	0.053	0.071	0.089	0.106	0.141
Alloy steel / Tool steel (SK, SCM, SKD)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.036	0.044	0.058	0.076	0.090	0.120
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.039	0.048	0.063	0.084	0.099	0.131
Stainless steel (SUS304, SUS316)	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.024	0.032	0.048	0.056	0.064	0.090
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.026	0.036	0.053	0.062	0.071	0.099
Super alloy	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.024	0.032	0.040	0.048	0.056	0.077
	Side finishing	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.026	0.036	0.045	0.053	0.062	0.085

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

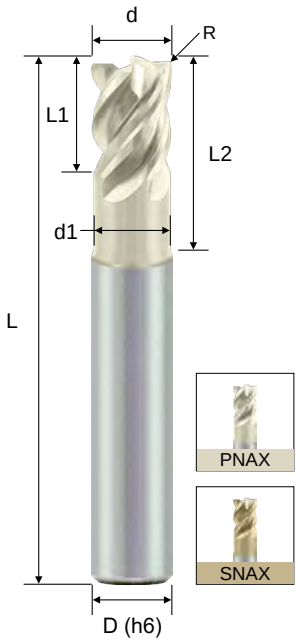
V53D - Corner Radius · Variable Helix 43~46 · Necked · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃

- Unequal flute spacing and variable helix design.
- Suitable for super alloy, stainless steel and alloy steel side finishing or trochoidal milling.
- Necked design is able to increase feed rate.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating provides superior wear resistance and extend tool life.

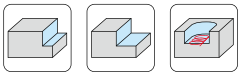
ASIA (Metric)

ESSUVD

P	M	K	N	S	H
●	●	●		●	○



Order No.		Dia.	Radius	CL	EFF-L	ND	OAL	Shank	Flutes
PNAX	SNAX	(d)	(R)	(L1)	(L2)	(d1)	(L)	(D)	(Z)
ESSUVD4040052P	ESSUVD4040052S	4	0.5R	6	12	3.9	50	6	4
ESSUVD4060052P	ESSUVD4060052S	6	0.5R	9	18	5.85	50	6	4
ESSUVD4080052P	ESSUVD4080052S	8	0.5R	12	24	7.85	60	8	4
ESSUVD4080102P	ESSUVD4080102S	8	1.0R	12	24	7.85	60	8	4
ESSUVD4100052P	ESSUVD4100052S	10	0.5R	15	30	9.7	75	10	4
ESSUVD4100102P	ESSUVD4100102S	10	1.0R	15	30	9.7	75	10	4
ESSUVD4100202P	ESSUVD4100202S	10	2.0R	15	30	9.7	75	10	4
ESSUVD4120102P	ESSUVD4120102S	12	1.0R	18	36	11.7	75	12	4
ESSUVD4120202P	ESSUVD4120202S	12	2.0R	18	36	11.7	75	12	4
ESSUVD4120302P	ESSUVD4120302S	12	3.0R	18	36	11.7	75	12	4
ESSUVD4160302P	ESSUVD4160302S	16	3.0R	24	42	15.5	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.3 ~ 1	80 ~ 125	0.048	0.058	0.077	0.097	0.116	0.155
	Side milling	0.05 ~ 0.2	0.3 ~ 1	90 ~ 180	0.054	0.064	0.085	0.107	0.127	0.169
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.3 ~ 1	70 ~ 105	0.043	0.053	0.070	0.091	0.108	0.144
	Side milling	0.05 ~ 0.2	0.3 ~ 1	80 ~ 150	0.047	0.058	0.076	0.101	0.119	0.157
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.3 ~ 1	60 ~ 90	0.029	0.038	0.058	0.067	0.077	0.108
	Side milling	0.05 ~ 0.2	0.3 ~ 1	70 ~ 130	0.031	0.043	0.064	0.074	0.085	0.119
Super alloy	Slot milling	0.1 ~ 0.3	0.3 ~ 1	40 ~ 70	0.029	0.038	0.048	0.058	0.067	0.092
	Side milling	0.05 ~ 0.2	0.3 ~ 1	50 ~ 100	0.031	0.043	0.054	0.064	0.074	0.102

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

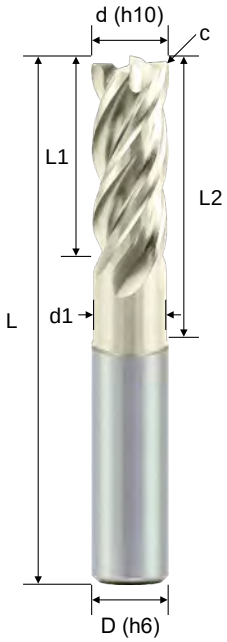
V53B - Square · Variable Helix 35~38 · Neck · 4F 不等螺旋平銑刀・帶頸型・4 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel general milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

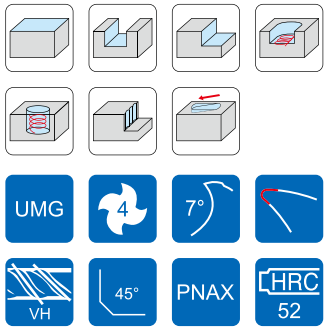
DIN (Metric)

E514VB

P	M	K	N	S	H
●	●	●		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Chamfer (c)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E514VB404001P	-	4	0.10	11	18	3.8	57	6	4
E514VB406001P	E514VB406001PW	6	0.15	13	20	5.7	57	6	4
E514VB408001P	E514VB408001PW	8	0.15	19	26	7.7	63	8	4
E514VB410002P	E514VB410002PW	10	0.20	22	30	9.5	72	10	4
E514VB412002P	E514VB412002PW	12	0.20	26	36	11.5	83	12	4
E514VB416003P	E514VB416003PW	16	0.30	32	42	15.5	92	16	4



Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z) 4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	110 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

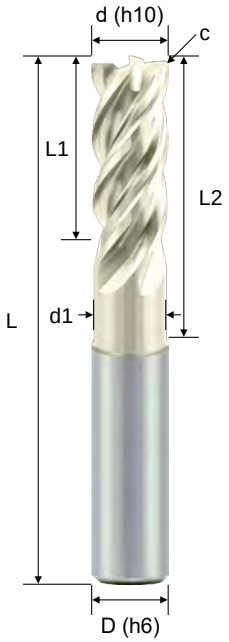
V53C - Square · Variable Helix 39~42 · Neck · 4F 不等螺旋平銑刀・帶頸型・4 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

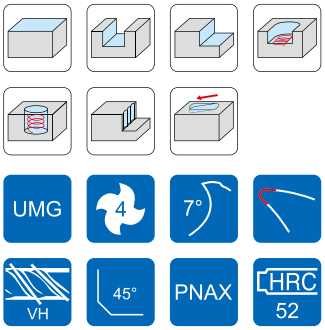
DIN (Metric)

E514VC

P	M	K	N	S	H
●	●	●		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Chamfer (c)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E514VC404001P	-	4	0.10	11	18	3.8	57	6	4
E514VC406001P	E514VC406001PW	6	0.15	13	20	5.7	57	6	4
E514VC408001P	E514VC408001PW	8	0.15	19	26	7.7	63	8	4
E514VC410002P	E514VC410002PW	10	0.20	22	30	9.5	72	10	4
E514VC412002P	E514VC412002PW	12	0.20	26	36	11.5	83	12	4
E514VC416003P	E514VC416003PW	16	0.30	32	42	15.5	92	16	4



Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	110 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

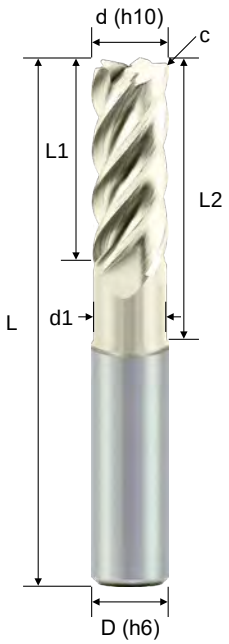
V53C - Square · Variable Helix 39~42 · Neck · 5F 不等螺旋平銑刀・帶頸型・5 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

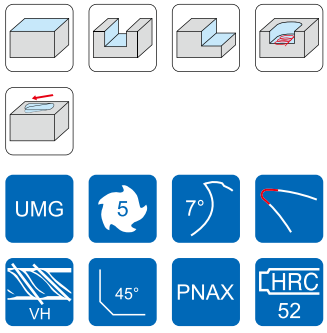
DIN (Metric)

E514VC

P	M	K	N	S	H
○	●	○		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Chamfer (c)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E514VC506001P	E514VC506001PW	6	0.15	13	20	5.7	57	6	5
E514VC508001P	E514VC508001PW	8	0.15	19	26	7.7	63	8	5
E514VC510002P	E514VC510002PW	10	0.20	22	30	9.5	72	10	5
E514VC512002P	E514VC512002PW	12	0.20	26	36	11.5	83	12	5
E514VC516003P	E514VC516003PW	16	0.30	32	42	15.5	92	16	5



Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	110 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

V53D - Square · Variable Helix 43~46 · Neck · 4F 不等螺旋平銑刀・帶頸型・4 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel trochoidal milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

DIN (Metric)

E514VD

P	M	K	N	S	H
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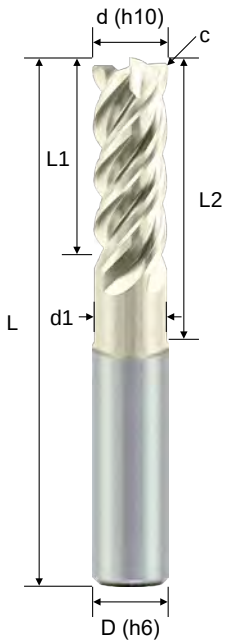
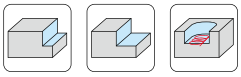
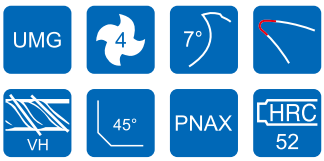


Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Chamfer (c)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E514VD404001P	-	4	0.10	11	18	3.8	57	6	4
E514VD406001P	E514VD406001PW	6	0.15	13	20	5.7	57	6	4
E514VD408001P	E514VD408001PW	8	0.15	19	26	7.7	63	8	4
E514VD410002P	E514VD410002PW	10	0.20	22	30	9.5	72	10	4
E514VD412002P	E514VD412002PW	12	0.20	26	36	11.5	83	12	4
E514VD416003P	E514VD416003PW	16	0.30	32	42	15.5	92	16	4





Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.040	0.048	0.064	0.081	0.097	0.129
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.045	0.053	0.071	0.089	0.106	0.141
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.036	0.044	0.058	0.076	0.090	0.120
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.039	0.048	0.063	0.084	0.099	0.131
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.024	0.032	0.048	0.056	0.064	0.090
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.026	0.036	0.053	0.062	0.071	0.099
Super alloy	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.024	0.032	0.040	0.048	0.056	0.077
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.026	0.036	0.045	0.053	0.062	0.085

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

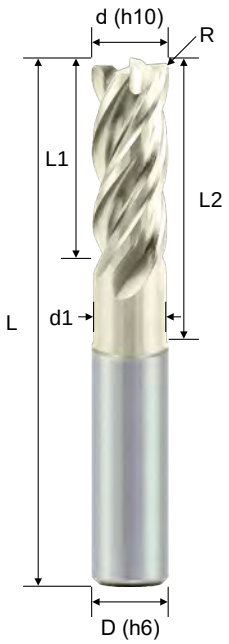
V53B - Corner Radius · Variable Helix 35~38 · Neck · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel general milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

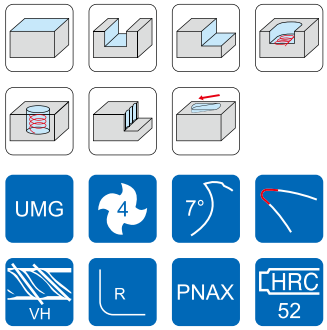
DIN (Metric)

E534VB

P	M	K	N	S	H
●	●	●		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E534VB404005P	-	4	0.5R	11	18	3.8	57	6	4
E534VB406005P	E534VB406005PW	6	0.5R	13	20	5.7	57	6	4
E534VB408005P	E534VB408005PW	8	0.5R	19	26	7.7	63	8	4
E534VB408010P	E534VB408010PW	8	1.0R	19	26	7.7	63	8	4
E534VB410005P	E534VB410005PW	10	0.5R	22	30	9.5	72	10	4
E534VB410010P	E534VB410010PW	10	1.0R	22	30	9.5	72	10	4
E534VB412005P	E534VB412005PW	12	0.5R	26	36	11.5	83	12	4
E534VB412010P	E534VB412010PW	12	1.0R	26	36	11.5	83	12	4
E534VB412020P	E534VB412020PW	12	2.0R	26	36	11.5	83	12	4
E534VB416005P	E534VB416005PW	16	0.5R	32	42	15.5	92	16	4
E534VB416010P	E534VB416010PW	16	1.0R	32	42	15.5	92	16	4
E534VB416030P	E534VB416030PW	16	3.0R	32	42	15.5	92	16	4



Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	110 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

V53C - Corner Radius · Variable Helix 39~42 · Neck · 4F 不等螺旋螺旋銑刀・帶頸型・4 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

DIN (Metric)

E534VC

P	M	K	N	S	H
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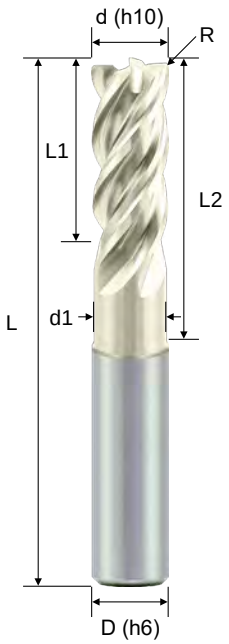
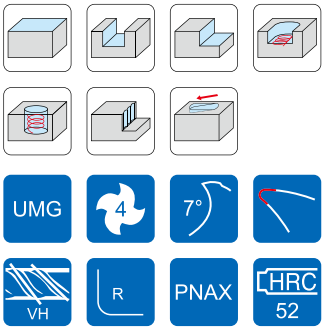


Order No. Cylindrical	Order No. Weldon	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E534VC404005P	-	4	0.5R	11	18	3.8	57	6	4
E534VC406005P	E534VC406005PW	6	0.5R	13	20	5.7	57	6	4
E534VC408005P	E534VC408005PW	8	0.5R	19	26	7.7	63	8	4
E534VC408010P	E534VC408010PW	8	1.0R	19	26	7.7	63	8	4
E534VC410005P	E534VC410005PW	10	0.5R	22	30	9.5	72	10	4
E534VC410010P	E534VC410010PW	10	1.0R	22	30	9.5	72	10	4
E534VC412005P	E534VC412005PW	12	0.5R	26	36	11.5	83	12	4
E534VC412010P	E534VC412010PW	12	1.0R	26	36	11.5	83	12	4
E534VC412020P	E534VC412020PW	12	2.0R	26	36	11.5	83	12	4
E534VC416005P	E534VC416005PW	16	0.5R	32	42	15.5	92	16	4
E534VC416010P	E534VC416010PW	16	1.0R	32	42	15.5	92	16	4
E534VC416030P	E534VC416030PW	16	3.0R	32	42	15.5	92	16	4



Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	110 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

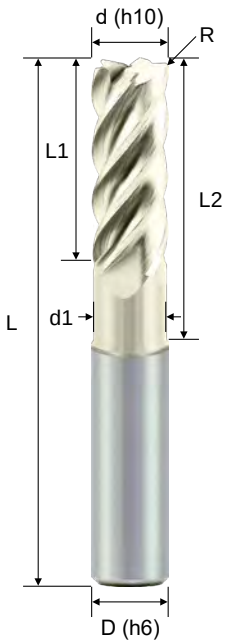
V53C - Corner Radius · Variable Helix 39~42 · Neck · 5F 不等螺旋螺旋銑刀・帶頸型・5 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel side milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

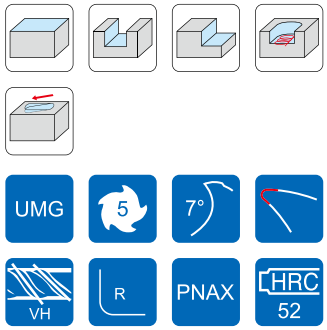
DIN (Metric)

E534VC

P	M	K	N	S	H
○	●	○		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E534VC506005P	E534VC506005PW	6	0.5R	13	20	5.7	57	6	5
E534VC508005P	E534VC508005PW	8	0.5R	19	26	7.7	63	8	5
E534VC508010P	E534VC508010PW	8	1.0R	19	26	7.7	63	8	5
E534VC510005P	E534VC510005PW	10	0.5R	22	30	9.5	72	10	5
E534VC510010P	E534VC510010PW	10	1.0R	22	30	9.5	72	10	5
E534VC512005P	E534VC512005PW	12	0.5R	26	36	11.5	83	12	5
E534VC512010P	E534VC512010PW	12	1.0R	26	36	11.5	83	12	5
E534VC512020P	E534VC512020PW	12	2.0R	26	36	11.5	83	12	5
E534VC516005P	E534VC516005PW	16	0.5R	32	42	15.5	92	16	5
E534VC516010P	E534VC516010PW	16	1.0R	32	42	15.5	92	16	5
E534VC516030P	E534VC516030PW	16	3.0R	32	42	15.5	92	16	5



Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	100 ~ 180	0.035	0.041	0.055	0.069	0.083	0.110
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 280	0.048	0.058	0.077	0.097	0.116	0.154
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	80 ~ 160	0.030	0.037	0.049	0.064	0.077	0.102
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	110 ~ 220	0.043	0.053	0.069	0.091	0.108	0.144
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	60 ~ 120	0.021	0.028	0.041	0.048	0.055	0.077
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 140	0.029	0.039	0.058	0.068	0.077	0.108
Super alloy	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.021	0.028	0.035	0.041	0.048	0.067
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.029	0.039	0.048	0.058	0.068	0.092

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

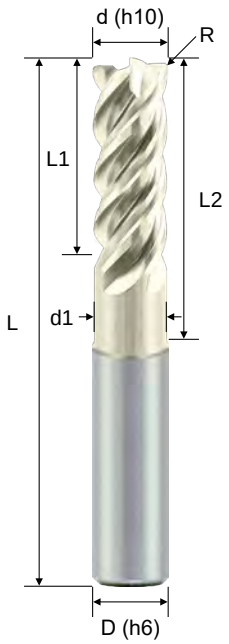
V53D - Corner Radius · Variable Helix 43~46 · Neck · 4F 不等螺旋圓鼻銑刀・帶頸型・4 刃

- Variable helix design for anti-vibration machining.
- Suitable for super alloy, stainless steel and alloy steel trochoidal milling.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

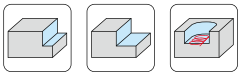
DIN (Metric)

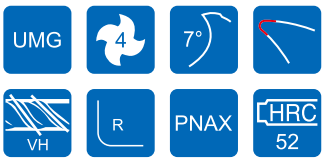
E534VD

P	M	K	N	S	H
●	●	●		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
E534VD404005P	-	4	0.5R	11	18	3.8	57	6	4
E534VD406005P	E534VD406005PW	6	0.5R	13	20	5.7	57	6	4
E534VD408005P	E534VD408005PW	8	0.5R	19	26	7.7	63	8	4
E534VD408010P	E534VD408010PW	8	1.0R	19	26	7.7	63	8	4
E534VD410005P	E534VD410005PW	10	0.5R	22	30	9.5	72	10	4
E534VD410010P	E534VD410010PW	10	1.0R	22	30	9.5	72	10	4
E534VD412005P	E534VD412005PW	12	0.5R	26	36	11.5	83	12	4
E534VD412010P	E534VD412010PW	12	1.0R	26	36	11.5	83	12	4
E534VD412020P	E534VD412020PW	12	2.0R	26	36	11.5	83	12	4
E534VD416005P	E534VD416005PW	16	0.5R	32	42	15.5	92	16	4
E534VD416010P	E534VD416010PW	16	1.0R	32	42	15.5	92	16	4
E534VD416030P	E534VD416030PW	16	3.0R	32	42	15.5	92	16	4





Working Material	Cutting Application	Ae×d	Ap×d	Vc (m/min)	fz (mm/z) 4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.040	0.048	0.064	0.081	0.097	0.129
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.045	0.053	0.071	0.089	0.106	0.141
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.036	0.044	0.058	0.076	0.090	0.120
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.039	0.048	0.063	0.084	0.099	0.131
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.024	0.032	0.048	0.056	0.064	0.090
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.026	0.036	0.053	0.062	0.071	0.099
Super alloy	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.024	0.032	0.040	0.048	0.056	0.077
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.026	0.036	0.045	0.053	0.062	0.085

※If the machine not stable, please reduce the feed about 20%.
If using trochoidal milling, please refer to the side milling cutting data.

V47 - Tools selection 刀具選擇建議

Standard	Type Number		Helix Angle	Tool Type	Slot milling	Side milling	Copy milling	P	M	K	N	S	H
ASIA (Metric)	EPSSVB	4 TACO Standard	35°	Square Corner Radius	✓	✓		●	○	●			
	EPSSVC	4 5 TACO ANAX PNAX Standard	38°	Square Corner Radius	✓	✓		●	○	●			
								●	●	●		●	○
	EPSUVC	4 ANAX Necked	38°	Square Corner Radius	✓	✓		●	●	●		●	○
	EPSRVC	4 ANAX Roughing/Finishing	38°	Square	✓	✓		●	●	●		●	○
	EPSSVD	4 5 7 ANAX Standard	43° or 45°	Square Corner Radius		✓		●	●	●		●	●
	EPSCVD	5 7 ANAX Long Flute	43°	Square Corner Radius		✓		●	●	●		●	●
	EPSCVH	5 ANAX Chip Breaker	43°	Square		✓		●	●	●		●	●
	EPSSVE	4 ANAX Standard	52°	Corner Radius		✓		○	●	○		●	●
	EPBSVC	2 ANAX Standard	38°	Ballnose			✓	●	●	●		●	○
DIN (Metric)	E113VC E133VC	4 ANAX Standard	38°	Square Corner Radius	✓	✓		●	●	●		●	○
ANSI (Inch)	EP□□V	4 UNICO Inch	38°	Square Corner Radius	✓	✓		●	●	●		●	○
	EPB□V	2 4 UNICO Inch	38°	Ballnose			✓	●	●	●		●	○

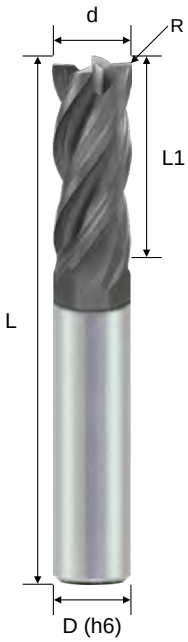
V47B - Square / Corner Radius · Variable Pitch · Helix 35 · 4F 不等分割平銑刀 / 圓鼻銑刀 · 4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- It is suitable for alloy steel and cast iron slot milling and side roughing.
- TACO (Al, Ti, Cr, N) coating provides superior wear resistance.

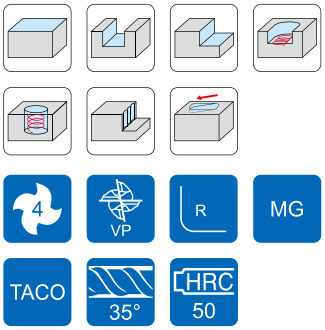
ASIA (Metric)

EPSSVB

P	M	K	N	S	H
●	○	●			



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
Square						
EPSSVB4440000T	4	-	10	50	4	4
EPSSVB4060000T	6	-	15	50	6	4
EPSSVB4080000T	8	-	20	60	8	4
EPSSVB4100000T	10	-	25	75	10	4
EPSSVB4120000T	12	-	30	75	12	4
EPSSVB4160000T	16	-	35	100	16	4
Corner Radius						
EPSSVB4080052T	8	0.5R	16	60	8	4
EPSSVB4080102T	8	1R	16	60	8	4
EPSSVB4080152T	8	1.5R	16	60	8	4
EPSSVB4100052T	10	0.5R	20	75	10	4
EPSSVB4120052T	12	0.5R	24	75	12	4
EPSSVB4160102T	16	1R	32	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	130 ~ 225	0.030	0.036	0.048	0.06	0.072	0.096
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	90 ~ 180	0.026	0.032	0.043	0.056	0.067	0.089
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 1.5	80 ~ 130	0.018	0.024	0.036	0.042	0.048	0.067
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 1.5	65 ~ 100	0.018	0.024	0.030	0.036	0.042	0.058

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

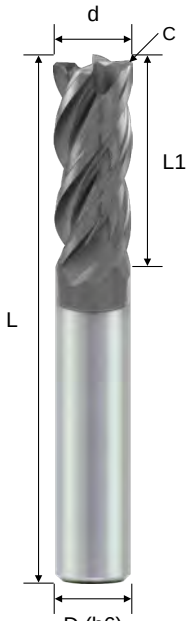
V47C - Square · Variable Pitch · Helix 38 · 4F 不等分割平銑刀・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Sharp geometry design for stainless steel, alloy steel and cast iron high efficiency slot and side milling.
- V47C with TACO (Al, Ti, N) coating for general milling.
- V47CX with ANAX (Al, Ti, Cr, N) smooth coating for high efficiency milling.

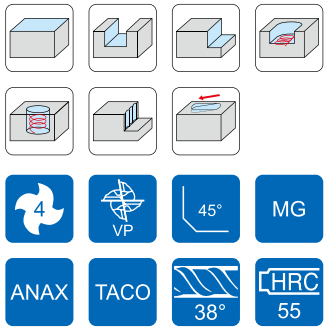
ASIA (Metric)

EPSSVC

	P	M	K	N	S	H
V47C	●	○	●			
V47CX	●	●	●		○	○



Order No.		Dia.	Chamfer	CL	OAL	Shank	Flutes
V47C	V47CX	(d)	(C)	(L1)	(L)	(D)	(Z)
EPSSVC4410000T	EPSSVC4410000A	1	-	3	50	4	4
EPSSVC4420000T	EPSSVC4420000A	2	-	5	50	4	4
EPSSVC4430000T	EPSSVC4430000A	3	-	8	50	4	4
EPSSVC4030000T	EPSSVC4030000A	3	-	8	50	6	4
EPSSVC4440000T	EPSSVC4440000A	4	-	10	50	4	4
EPSSVC4040000T	EPSSVC4040000A	4	-	10	50	6	4
EPSSVC4050000T	EPSSVC4050000A	5	-	13	50	6	4
EPSSVC4060000T	EPSSVC4060000A	6	-	15	50	6	4
EPSSVC4060011T	EPSSVC4060011A	6	0.10	15	50	6	4
EPSSVC4080000T	EPSSVC4080000A	8	-	20	60	8	4
EPSSVC4080003T	EPSSVC4080003A	8	-	24	60	8	4
EPSSVC4080011T	EPSSVC4080011A	8	0.15	20	60	8	4
EPSSVC4100000T	EPSSVC4100000A	10	-	25	75	10	4
EPSSVC4100003T	EPSSVC4100003A	10	-	30	75	10	4
EPSSVC4100011T	EPSSVC4100011A	10	0.15	25	75	10	4
EPSSVC4120000T	EPSSVC4120000A	12	-	30	75	12	4
EPSSVC4120003T	EPSSVC4120003A	12	-	36	75	12	4
EPSSVC4120021T	EPSSVC4120021A	12	0.20	30	75	12	4
EPSSVC4140000T	EPSSVC4140000A	14	-	30	75	14	4
EPSSVC4160000T	EPSSVC4160000A	16	-	35	100	16	4
EPSSVC4160021T	EPSSVC4160021A	16	0.25	35	100	16	4
EPSSVC4200000T	EPSSVC4200000A	20	-	45	100	20	4
EPSSVC4250000T	EPSSVC4250000A	25	-	45	100	25	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

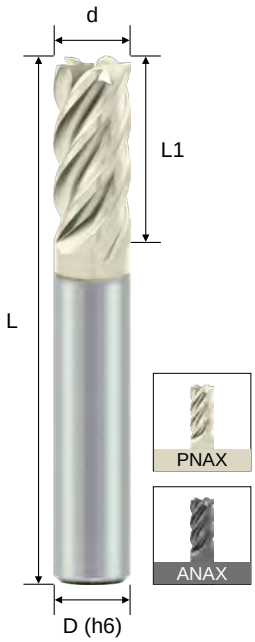
V47C - Square · Variable Pitch · Helix 38 · 5F 不等分割平銑刀・5 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency side milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

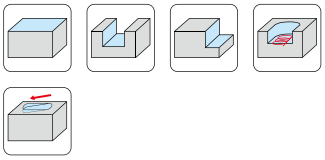
ASIA (Metric)

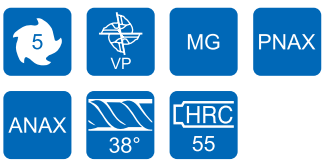
EPSSVC

P	M	K	N	S	H
○	●	○		●	○



Order No.		Dia.	CL	OAL	Shank	Flutes
PNAX	ANAX	(d)	(L1)	(L)	(D)	(Z)
EPSSVC5060000P	EPSSVC5060000A	6	15	50	6	5
EPSSVC5080000P	EPSSVC5080000A	8	20	60	8	5
EPSSVC5100000P	EPSSVC5100000A	10	25	75	10	5
EPSSVC5120000P	EPSSVC5120000A	12	30	75	12	5
EPSSVC5160000P	EPSSVC5160000A	16	35	100	16	5





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

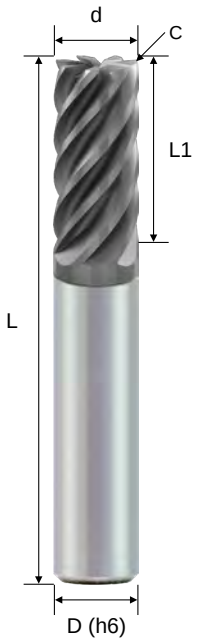
V47C - Square · Variable Pitch · Helix 38 · 7F 不等分割平銑刀・7 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, super alloys, alloy steel and cast iron high efficiency milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

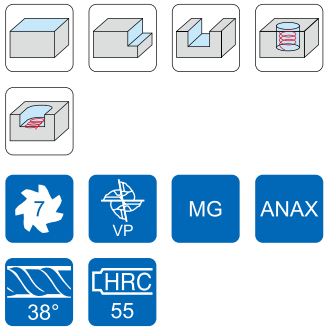
ASIA (Metric)

EPSSVC

P	M	K	N	S	H
○	●	○		●	○



Order No.	Dia. (d)	Chamfer (C)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSVC7100000A	10	-	25	75	10	7
EPSSVC7100011A	10	0.15	25	75	10	7
EPSSVC7120000A	12	-	30	75	12	7
EPSSVC7120021A	12	0.20	30	75	12	7
EPSSVC7160000A	16	-	35	100	16	7
EPSSVC7160021A	16	0.25	35	100	16	7



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)		
					10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

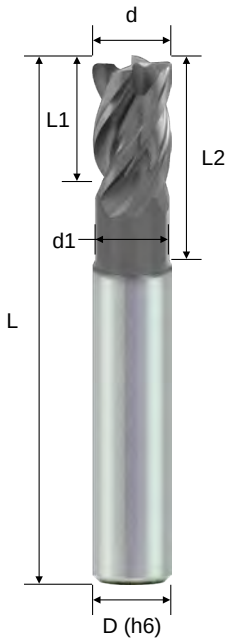
V47C - Square · Variable Pitch · Helix 38 · Necked · 4F 不等分割平銑刀・帶頸型・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron, high efficiency slot and side milling.
- Necked design is able to increase feed rate.
- ANAX (Al, Ti, Cr, N) smooth coatingprovides a superior wear resistance and extend tool life.

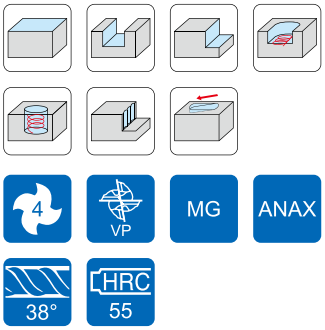
ASIA (Metric)

EPSUVC

P	M	K	N	S	H
●	●	●		○	○



Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	Neck Dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSUVC4060000A	6	9	15	5.64	50	6	4
EPSUVC4080000A	8	12	20	7.52	60	8	4
EPSUVC4100000A	10	15	25	9.4	75	10	4
EPSUVC4120000A	12	18	30	11.28	75	12	4
EPSUVC4160000A	16	24	40	15.04	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.030	0.036	0.048	0.060	0.072	0.096
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 225	0.042	0.050	0.067	0.084	0.101	0.134
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.026	0.032	0.043	0.056	0.067	0.089
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	90 ~ 180	0.037	0.046	0.060	0.079	0.094	0.125
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.018	0.024	0.036	0.042	0.048	0.067
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 130	0.025	0.034	0.050	0.059	0.067	0.094
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.018	0.024	0.030	0.036	0.042	0.058
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.025	0.034	0.042	0.050	0.059	0.080

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

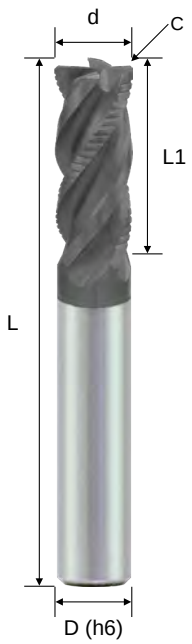
V47C - Square · Variable Pitch · Helix 38 · Roughing & Finishing · 4F 不等分割平銑刀・粗精一體型・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron, high efficiency slot milling and side roughing.
- ANAX (Al, Ti, Cr, N) smooth coatingprovides a superior wear resistance and extend tool life.

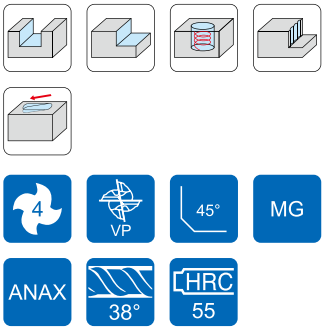
ASIA (Metric)

EPSRVC

P	M	K	N	S	H
●	●	●		○	○



Order No.	Dia. (d)	Chamfer (C)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSRVC4060021A	6	0.25	15	50	6	4
EPSRVC4080031A	8	0.30	20	60	8	4
EPSRVC4100041A	10	0.40	25	75	10	4
EPSRVC4120051A	12	0.50	30	75	12	4
EPSRVC4160061A	16	0.60	35	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.4	0.7 ~ 1.5	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.4	0.7 ~ 1.5	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

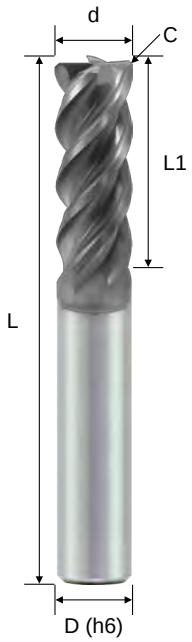
V47D - Square · Variable Pitch · Helix 45 · 4F 不等分割平銑刀・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency side milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

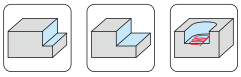
ASIA (Metric)

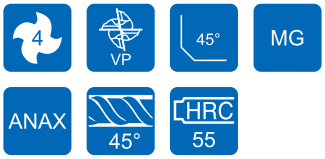
EPSSVD

P	M	K	N	S	H
●	●	●		●	●



Order No.	Dia. (d)	Chamfer (C)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSVD4440000A	4	-	10	50	4	4
EPSSVD4060000A	6	-	15	50	6	4
EPSSVD4060011A	6	0.10	15	50	6	4
EPSSVD4080000A	8	-	20	60	8	4
EPSSVD4080011A	8	0.15	20	60	8	4
EPSSVD4100000A	10	-	25	75	10	4
EPSSVD4100003A	10	-	30	75	10	4
EPSSVD4100011A	10	0.15	25	75	10	4
EPSSVD4120000A	12	-	30	75	12	4
EPSSVD4120021A	12	0.20	30	75	12	4
EPSSVD4160000A	16	-	35	100	16	4
EPSSVD4160021A	16	0.25	35	100	16	4





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.035	0.042	0.056	0.070	0.084	0.112
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.039	0.046	0.062	0.077	0.092	0.123
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.031	0.038	0.050	0.066	0.078	0.104
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.034	0.042	0.055	0.073	0.086	0.114
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.021	0.028	0.042	0.049	0.056	0.078
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.023	0.031	0.046	0.054	0.062	0.086
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.021	0.028	0.035	0.042	0.049	0.067
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.023	0.031	0.039	0.046	0.054	0.074

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

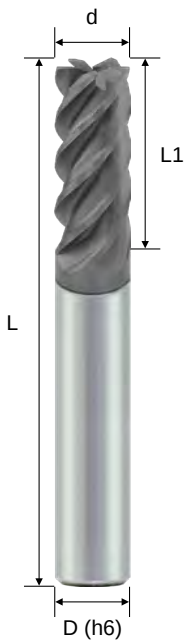
V47D - Square · Variable Pitch · Helix 43 · 5F 不等分割平銑刀・5 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency side milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

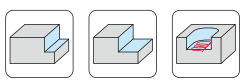
ASIA (Metric)

EPSSVD

P	M	K	N	S	H
●	●	●		●	●



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSVD5060000A	6	15	50	6	5
EPSSVD5080000A	8	20	60	8	5
EPSSVD5100000A	10	25	75	10	5
EPSSVD5120000A	12	30	75	12	5
EPSSVD5160000A	16	35	100	16	5



5 | VP | MG | ANAX

43° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.035	0.042	0.056	0.070	0.084	0.112
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.039	0.046	0.062	0.077	0.092	0.123
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.031	0.038	0.050	0.066	0.078	0.104
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.034	0.042	0.055	0.073	0.086	0.114
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.021	0.028	0.042	0.049	0.056	0.078
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.023	0.031	0.046	0.054	0.062	0.086
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.021	0.028	0.035	0.042	0.049	0.067
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.023	0.031	0.039	0.046	0.054	0.074

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

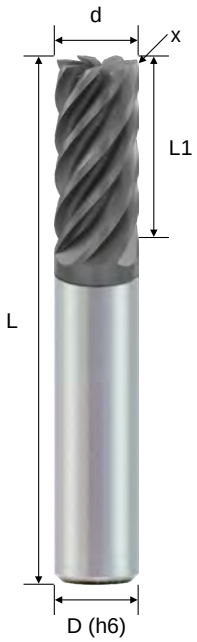
V47D - Square / Corner Radius · Variable Pitch · Helix 43 · 7F 不等分割平銑刀 / 圓鼻銑刀 · 7 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency side milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

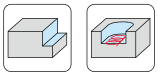
ASIA (Metric)

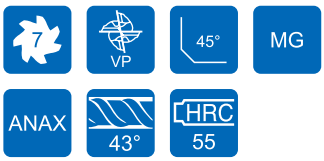
EPSSVD

P	M	K	N	S	H
	●			●	●



Order No.	Dia. (d)	C / R (x)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
Square						
EPSSVD7100000A	10	-	25	75	10	7
EPSSVD7100051A	10	0.5C	25	75	10	7
EPSSVD7120000A	12	-	30	75	12	7
EPSSVD7120051A	12	0.5C	30	75	12	7
EPSSVD7160000A	16	-	35	100	16	7
Corner Radius						
EPSSVD7100052A	10	0.5R	25	75	10	7
EPSSVD7120052A	12	0.5R	30	75	12	7





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.035	0.042	0.056	0.070	0.084	0.112
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.039	0.046	0.062	0.077	0.092	0.123
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.031	0.038	0.050	0.066	0.078	0.104
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.034	0.042	0.055	0.073	0.086	0.114
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.021	0.028	0.042	0.049	0.056	0.078
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.023	0.031	0.046	0.054	0.062	0.086
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.021	0.028	0.035	0.042	0.049	0.067
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.023	0.031	0.039	0.046	0.054	0.074

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

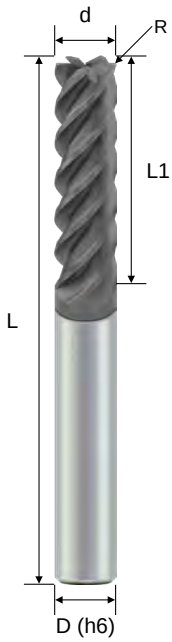
V47D - Square / Corner Radius · Variable Pitch · Helix 43 · Long Flute · 5F 不等分割平銑刀 / 圓鼻銑刀 · 5 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency deep side milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

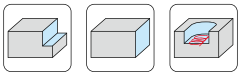
ASIA (Metric)

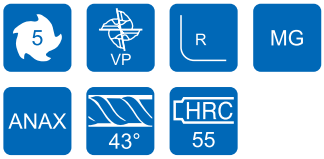
EPSCVD

P	M	K	N	S	H
●	●	●		●	●



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
Square						
EPSCVD5060000A	6	-	24	75	6	5
EPSCVD5080000A	8	-	32	75	8	5
EPSCVD5100000A	10	-	40	100	10	5
EPSCVD5120000A	12	-	48	100	12	5
EPSCVD5160000A	16	-	55	110	16	5
Corner Radius						
EPSCVD5060102A	6	1.0R	24	75	6	5
EPSCVD5080102A	8	1.0R	32	75	8	5
EPSCVD5120202A	12	2.0R	48	100	12	5





d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 3.0	80 ~ 125	0.028	0.034	0.045	0.056	0.067	0.090
	Side milling	0.05 ~ 0.3	0.7 ~ 2.5	120 ~ 180	0.031	0.037	0.050	0.062	0.074	0.098
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 3.0	70 ~ 105	0.025	0.030	0.040	0.053	0.062	0.083
	Side milling	0.05 ~ 0.3	0.7 ~ 2.5	100 ~ 150	0.027	0.034	0.044	0.058	0.069	0.091
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 2.5	60 ~ 90	0.017	0.022	0.034	0.039	0.045	0.062
	Side milling	0.05 ~ 0.3	0.7 ~ 2.0	85 ~ 130	0.018	0.025	0.037	0.043	0.050	0.069
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 2.5	45 ~ 70	0.017	0.022	0.028	0.034	0.039	0.054
	Side milling	0.05 ~ 0.3	0.7 ~ 2.0	65 ~ 100	0.018	0.025	0.031	0.037	0.043	0.059

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

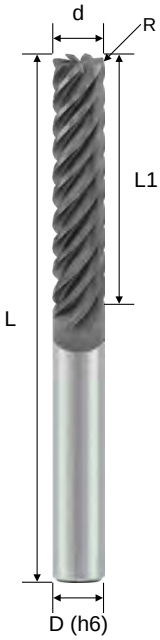
V47D - Square / Corner Radius · Variable Pitch · Helix 43 · Long Flute · 7F 不等分割平銑刀 / 圓鼻銑刀 · 7 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency deep side milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

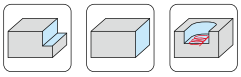
ASIA (Metric)

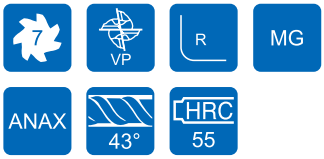
EPSCVD

P	M	K	N	S	H
	●			●	●



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
Square						
EPSCVD7100000A	10	-	50	100	10	7
EPSCVD7120000A	12	-	60	110	12	7
EPSCVD7160000A	16	-	80	150	16	7
Corner Radius						
EPSCVD7100052A	10	0.5R	50	100	10	7
EPSCVD7120052A	12	0.5R	60	110	12	7
EPSCVD7160052A	16	0.5R	80	150	16	7





d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 3.0	80 ~ 125	0.028	0.034	0.045	0.056	0.067	0.090
	Side milling	0.05 ~ 0.3	0.7 ~ 2.5	120 ~ 180	0.031	0.037	0.050	0.062	0.074	0.098
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 3.0	70 ~ 105	0.025	0.030	0.040	0.053	0.062	0.083
	Side milling	0.05 ~ 0.3	0.7 ~ 2.5	100 ~ 150	0.027	0.034	0.044	0.058	0.069	0.091
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 2.5	60 ~ 90	0.017	0.022	0.034	0.039	0.045	0.062
	Side milling	0.05 ~ 0.3	0.7 ~ 2.0	85 ~ 130	0.018	0.025	0.037	0.043	0.050	0.069
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 2.5	45 ~ 70	0.017	0.022	0.028	0.034	0.039	0.054
	Side milling	0.05 ~ 0.3	0.7 ~ 2.0	65 ~ 100	0.018	0.025	0.031	0.037	0.043	0.059

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

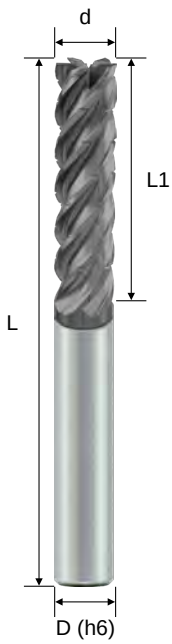
V47D - Square · Variable Pitch · Chip Breaker · Helix 43 · Long Flute · 5F 不等分割平銑刀・斷屑長刃型・5 刃

- The cutting edges incorporate chip breakers design.
- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency deep side milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

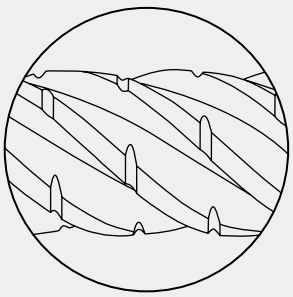
ASIA (Metric)

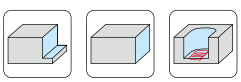
EPSCVH

P	M	K	N	S	H
●	●	●		●	●



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSCVH5060000A	6	24	75	6	5
EPSCVH5080000A	8	32	75	8	5
EPSCVH5100000A	10	40	100	10	5
EPSCVH5120000A	12	48	100	12	5
EPSCVH5160000A	16	55	110	16	5





5 | VP | MG | ANAX

43° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 3.0	80 ~ 125	0.028	0.034	0.045	0.056	0.067	0.090
	Side milling	0.05 ~ 0.3	0.7 ~ 2.5	120 ~ 180	0.031	0.037	0.050	0.062	0.074	0.098
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 3.0	70 ~ 105	0.025	0.030	0.040	0.053	0.062	0.083
	Side milling	0.05 ~ 0.3	0.7 ~ 2.5	100 ~ 150	0.027	0.034	0.044	0.058	0.069	0.091
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 2.5	60 ~ 90	0.017	0.022	0.034	0.039	0.045	0.062
	Side milling	0.05 ~ 0.3	0.7 ~ 2.0	85 ~ 130	0.018	0.025	0.037	0.043	0.050	0.069
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 2.5	45 ~ 70	0.017	0.022	0.028	0.034	0.039	0.054
	Side milling	0.05 ~ 0.3	0.7 ~ 2.0	65 ~ 100	0.018	0.025	0.031	0.037	0.043	0.059

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

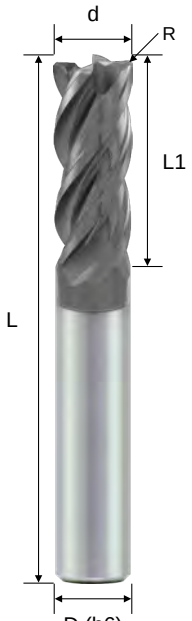
V47C - Corner Radius · Variable Pitch · Helix 38 · 4F 不等分割圓鼻銑刀・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Sharp geometry design for stainless steel, alloy steel and cast iron high efficiency slot and side milling.
- V47C with TACO (Al, Ti, N) coating for general milling.
- V47CX with ANAX (Al, Ti, Cr, N) smooth coating for high efficiency milling.

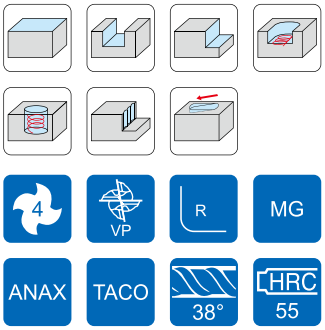
ASIA (Metric)

EPSSVC

	P	M	K	N	S	H
V47C	●	○	●			
V47CX	●	●	●		○	○



Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
V47C	V47CX	(d)	(R)	(L1)	(L)	(D)	(Z)
EPSSVC4440052T	EPSSVC4440052A	4	0.5R	8	50	4	4
EPSSVC4060032T	EPSSVC4060032A	6	0.3R	12	50	6	4
EPSSVC4060052T	EPSSVC4060052A	6	0.5R	12	50	6	4
EPSSVC4060102T	EPSSVC4060102A	6	1.0R	12	50	6	4
EPSSVC4080052T	EPSSVC4080052A	8	0.5R	16	60	8	4
EPSSVC4080102T	EPSSVC4080102A	8	1.0R	16	60	8	4
EPSSVC4080152T	EPSSVC4080152A	8	1.5R	16	60	8	4
EPSSVC4100052T	EPSSVC4100052A	10	0.5R	20	75	10	4
EPSSVC4100102T	EPSSVC4100102A	10	1.0R	20	75	10	4
EPSSVC4100202T	EPSSVC4100202A	10	2.0R	20	75	10	4
EPSSVC4120052T	EPSSVC4120052A	12	0.5R	24	75	12	4
EPSSVC4120102T	EPSSVC4120102A	12	1.0R	24	75	12	4
EPSSVC4120202T	EPSSVC4120202A	12	2.0R	24	75	12	4
EPSSVC4160102T	EPSSVC4160102A	16	1.0R	32	100	16	4
EPSSVC4160202T	EPSSVC4160202A	16	2.0R	32	100	16	4
EPSSVC4160302T	EPSSVC4160302A	16	3.0R	32	100	16	4
EPSSVC4200052T	EPSSVC4200052A	20	0.5R	40	100	20	4
EPSSVC4200102T	EPSSVC4200102A	20	1.0R	40	100	20	4
EPSSVC4200302T	EPSSVC4200302A	20	3.0R	45	100	25	4
EPSSVC4250052T	EPSSVC4250052A	25	0.5R	45	100	25	4
EPSSVC4250102T	EPSSVC4250102A	25	1.0R	45	100	25	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

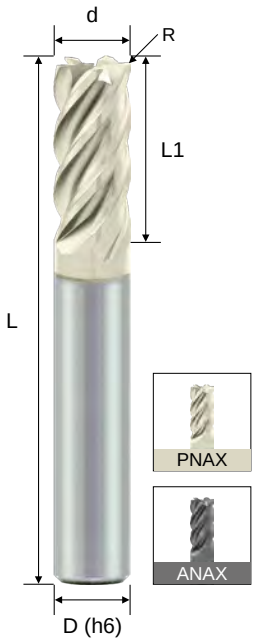
V47C - Corner Radius · Variable Pitch · Helix 38 · 5F 不等分割圓鼻銑刀・5 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency side milling.
- PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.
- The coating can change to ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

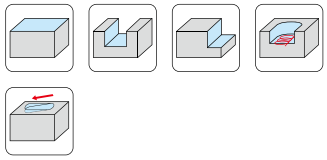
ASIA (Metric)

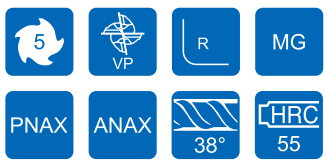
EPSSVC

P	M	K	N	S	H
○	●	○		●	○



Order No. PNAX	Order No. ANAX	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSVC5060032P	EPSSVC5060032A	6	0.3R	12	50	6	5
EPSSVC5060052P	EPSSVC5060052A	6	0.5R	12	50	6	5
EPSSVC5080052P	EPSSVC5080052A	8	0.5R	16	60	8	5
EPSSVC5080102P	EPSSVC5080102A	8	1.0R	16	60	8	5
EPSSVC5100052P	EPSSVC5100052A	10	0.5R	20	75	10	5
EPSSVC5100102P	EPSSVC5100102A	10	1.0R	20	75	10	5
EPSSVC5100202P	EPSSVC5100202A	10	2.0R	20	75	10	5
EPSSVC5120052P	EPSSVC5120052A	12	0.5R	24	75	12	5
EPSSVC5120102P	EPSSVC5120102A	12	1.0R	24	75	12	5
EPSSVC5120202P	EPSSVC5120202A	12	2.0R	24	75	12	5
EPSSVC5160102P	EPSSVC5160102A	16	1.0R	32	100	16	5
EPSSVC5160202P	EPSSVC5160202A	16	2.0R	32	100	16	5
EPSSVC5160302P	EPSSVC5160302A	16	3.0R	32	100	16	5





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z) 4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

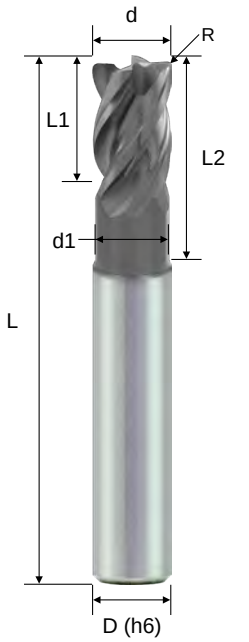
V47C - Corner Radius · Variable Pitch · Helix 38 · Necked · 4F 不等分割圓鼻銑刀・帶頸型・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron, high efficiency slot and side milling.
- Necked design is able to increase feed rate.
- ANAX (Al, Ti, Cr, N) smooth coatingprovides a superior wear resistance and extend tool life.

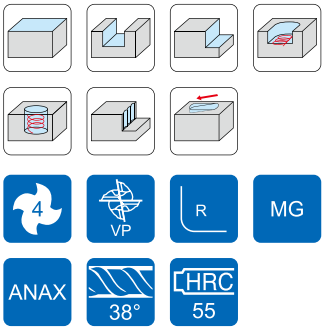
ASIA (Metric)

EPSUVC

P	M	K	N	S	H
●	●	●		○	○



Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	Neck Dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSUVC4060052A	6	0.50R	9	15	5.64	50	6	4
EPSUVC4080052A	8	0.50R	12	20	7.52	60	8	4
EPSUVC4080102A	8	1.00R	12	20	7.52	60	8	4
EPSUVC4100052A	10	0.50R	15	25	9.4	75	10	4
EPSUVC4100102A	10	1.00R	15	25	9.4	75	10	4
EPSUVC4100152A	10	1.50R	15	25	9.4	75	10	4
EPSUVC4120102A	12	1.00R	18	30	11.28	75	12	4
EPSUVC4120202A	12	2.00R	18	30	11.28	75	12	4
EPSUVC4160102A	16	1.00R	24	40	15.04	100	16	4
EPSUVC4160202A	16	2.00R	24	40	15.04	100	16	4
EPSUVC4160302A	16	3.00R	24	40	15.04	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.030	0.036	0.048	0.060	0.072	0.096
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	130 ~ 225	0.042	0.050	0.067	0.084	0.101	0.134
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.026	0.032	0.043	0.056	0.067	0.089
	Side milling	0.1 ~ 0.3	0.7 ~ 1.2	90 ~ 180	0.037	0.046	0.060	0.079	0.094	0.125
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.018	0.024	0.036	0.042	0.048	0.067
	Side milling	0.1 ~ 0.2	0.7 ~ 1.2	80 ~ 130	0.025	0.034	0.050	0.059	0.067	0.094
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.018	0.024	0.030	0.036	0.042	0.058
	Side milling	0.05 ~ 0.1	0.7 ~ 1.2	65 ~ 100	0.025	0.034	0.042	0.050	0.059	0.080

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

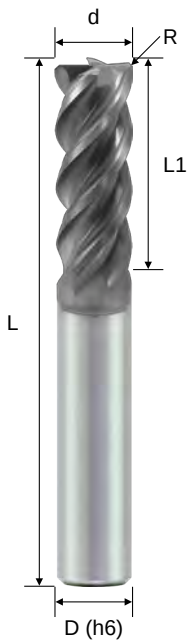
V47D - Corner Radius · Variable Pitch · Helix 45 · 4F 不等分割圓鼻銑刀・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron high efficiency side milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

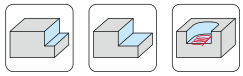
ASIA (Metric)

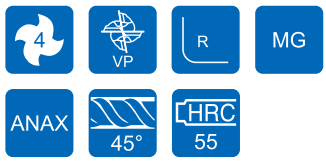
EPSSVD

P	M	K	N	S	H
●	●	●		●	●



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSVD4060052A	6	0.5R	12	50	6	4
EPSSVD4060102A	6	1.0R	12	50	6	4
EPSSVD4080052A	8	0.5R	16	60	8	4
EPSSVD4080102A	8	1.0R	16	60	8	4
EPSSVD4100052A	10	0.5R	20	75	10	4
EPSSVD4100102A	10	1.0R	20	75	10	4
EPSSVD4100202A	10	2.0R	20	75	10	4
EPSSVD4120052A	12	0.5R	24	75	12	4
EPSSVD4120102A	12	1.0R	24	75	12	4
EPSSVD4120202A	12	2.0R	24	75	12	4
EPSSVD4160102A	16	1.0R	32	100	16	4
EPSSVD4160202A	16	2.0R	32	100	16	4
EPSSVD4160302A	16	3.0R	32	100	16	4





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.035	0.042	0.056	0.070	0.084	0.112
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.039	0.046	0.062	0.077	0.092	0.123
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.031	0.038	0.050	0.066	0.078	0.104
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.034	0.042	0.055	0.073	0.086	0.114
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.021	0.028	0.042	0.049	0.056	0.078
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.023	0.031	0.046	0.054	0.062	0.086
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.021	0.028	0.035	0.042	0.049	0.067
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.023	0.031	0.039	0.046	0.054	0.074

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

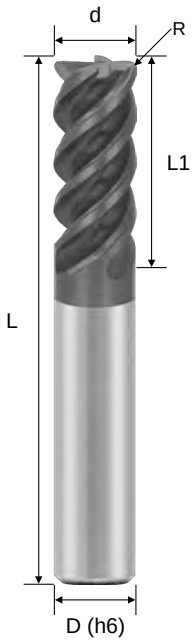
V47E - Corner Radius · Variable Pitch · Helix 52 · Standard · 4F 不等分割圓鼻銑刀・標準型・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Low cutting force design for stainless steel, alloy steel and cast iron, outstanding high efficiency side finishing.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

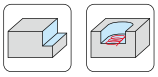
ASIA (Metric)

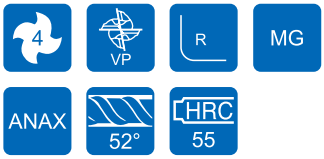
EPSSVE

P	M	K	N	S	H
	●			●	●



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSVE4080052A	8	0.5R	16	60	8	4
EPSSVE4100102A	10	1.0R	20	75	10	4
EPSSVE4120102A	12	1.0R	24	75	12	4
EPSSVE4160152A	16	1.5R	32	100	16	4





Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	80 ~ 125	0.035	0.042	0.056	0.070	0.084	0.112
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	120 ~ 180	0.039	0.046	0.062	0.077	0.092	0.123
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	70 ~ 105	0.031	0.038	0.050	0.066	0.078	0.104
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	100 ~ 150	0.034	0.042	0.055	0.073	0.086	0.114
Stainless steel (SUS304, SUS316)	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	60 ~ 90	0.021	0.028	0.042	0.049	0.056	0.078
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	85 ~ 130	0.023	0.031	0.046	0.054	0.062	0.086
Superalloy	Slot milling	0.1 ~ 0.3	0.7 ~ 1.5	45 ~ 70	0.021	0.028	0.035	0.042	0.049	0.067
	Side milling	0.05 ~ 0.2	0.7 ~ 1.5	65 ~ 100	0.023	0.031	0.039	0.046	0.054	0.074

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R	±0.020

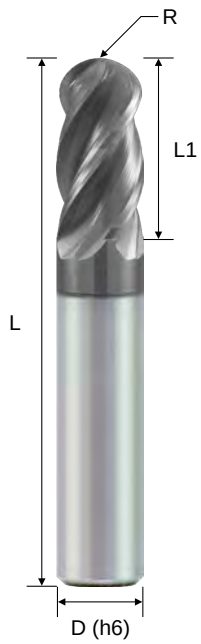
V47C - Ball Nose · Variable Pitch · Helix 38 · 4F 不等分割球銑刀・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Suitable for stainless steel, alloy steel and cast iron, high efficiency profile milling.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

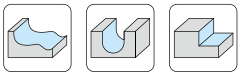
ASIA (Metric)

EPBSVC

P	M	K	N	S	H
●	●	●		●	○



Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBSVC4440000A	2R	4	8	50	4	4
EPBSVC4060000A	3R	6	12	50	6	4
EPBSVC4080000A	4R	8	16	60	8	4
EPBSVC4100000A	5R	10	20	75	10	4
EPBSVC4120000A	6R	12	24	75	12	4
EPBSVC4160000A	8R	16	32	100	16	4

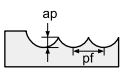


4 | VP | MG | ANAX

38° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Working Material	Cutting Application	pf×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	0.5	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 1.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	0.5	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 1.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	0.4 ~ 0.5	0.3 ~ 1.0	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.3	0.7 ~ 1.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Superalloy & Hardened steel (HRC 40 ~ 50)	Slot milling	0.4 ~ 0.5	0.3 ~ 0.5	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.1 ~ 0.3	0.7 ~ 1.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067



d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

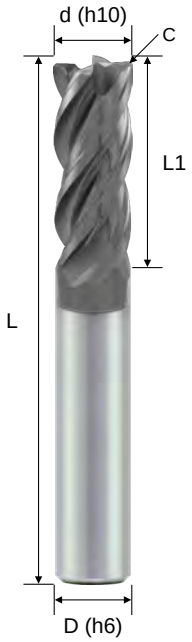
V47C - Square · Variable Pitch · Helix 38 · 4F 不等分割平銑刀・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and low friction cutting.

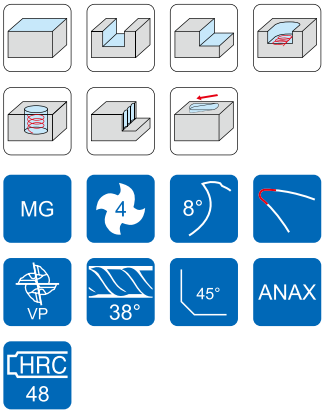
DIN (Metric)

E113VC

P	M	K	N	S	H
●	●	●		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Chamfer (c)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
E113VC404001A	-	4	0.10	11	57	6	4
E113VC406001A	E113VC406001AW	6	0.15	13	57	6	4
E113VC408001A	E113VC408001AW	8	0.15	19	63	8	4
E113VC410002A	E113VC410002AW	10	0.20	22	72	10	4
E113VC412002A	E113VC412002AW	12	0.20	26	83	12	4
E113VC416003A	E113VC416003AW	16	0.30	32	92	16	4
E113VC420004A	E113VC420004AW	20	0.40	38	104	20	4



Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z) 4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

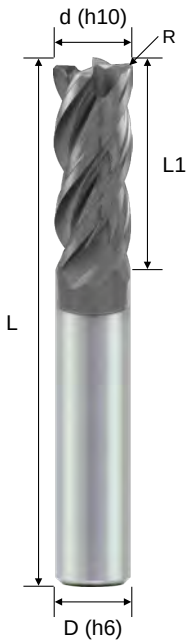
V47C - Corner Radius · Variable Pitch · Helix 38 · 4F 不等分割圓鼻銑刀・4 刃

- Variable pitch is unequal flute spacing for anti-vibration machining.
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and low friction cutting.

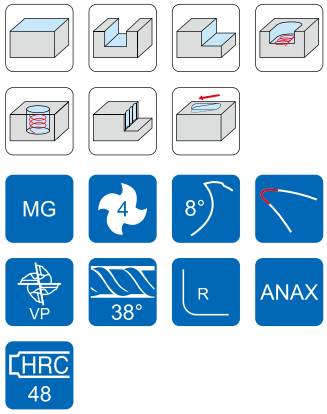
DIN (Metric)

E133VC

P	M	K	N	S	H
●	●	●		●	○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
E133VC404005A	-	4	0.5R	11	57	6	4
E133VC406005A	E133VC406005AW	6	0.5R	13	57	6	4
E133VC408005A	E133VC408005AW	8	0.5R	19	63	8	4
E133VC408010A	E133VC408010AW	8	1.0R	19	63	8	4
E133VC410005A	E133VC410005AW	10	0.5R	22	72	10	4
E133VC410010A	E133VC410010AW	10	1.0R	22	72	10	4
E133VC412005A	E133VC412005AW	12	0.5R	26	83	12	4
E133VC412010A	E133VC412010AW	12	1.0R	26	83	12	4
E133VC412020A	E133VC412020AW	12	2.0R	26	83	12	4
E133VC416005A	E133VC416005AW	16	0.5R	32	92	16	4
E133VC416010A	E133VC416010AW	16	1.0R	32	92	16	4
E133VC416030A	E133VC416030AW	16	3.0R	32	92	16	4
E133VC420010A	E133VC420010AW	20	1.0R	38	104	20	4
E133VC420030A	E133VC420030AW	20	3.0R	38	104	20	4



Working Material	Cutting Application	ae×d	ap×d	Vc (m/min)	fz (mm/z)					
					4mm	6mm	8mm	10mm	12mm	16mm
Carbon steel (S45C，S55C)	Slot milling	1	0.5 ~ 1.0	80 ~ 145	0.025	0.030	0.040	0.050	0.060	0.080
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	130 ~ 225	0.035	0.042	0.056	0.070	0.084	0.112
Alloy steel / Tool steel (SK, SCM, SKD)	Slot milling	1	0.5 ~ 1.0	65 ~ 130	0.022	0.027	0.036	0.047	0.056	0.074
	Side milling	0.1 ~ 0.3	0.7 ~ 2.0	90 ~ 180	0.031	0.038	0.050	0.066	0.078	0.104
Stainless steel (SUS304, SUS316)	Slot milling	1	0.3 ~ 0.6	50 ~ 100	0.015	0.020	0.030	0.035	0.040	0.056
	Side milling	0.1 ~ 0.2	0.7 ~ 2.0	80 ~ 130	0.021	0.028	0.042	0.049	0.056	0.078
Hardened steel (HRC 40 ~ 50)	Slot milling	1	0.2 ~ 0.4	30 ~ 60	0.015	0.020	0.025	0.030	0.035	0.048
	Side milling	0.05 ~ 0.1	0.7 ~ 2.0	65 ~ 100	0.021	0.028	0.035	0.042	0.049	0.067

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

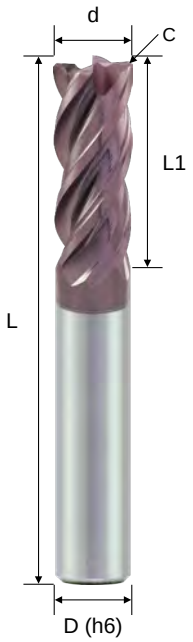
V47C - Square · Variable Pitch · Helix 38 · 4F (Inch) 不等分割平銑刀・4 刃 (英吋)

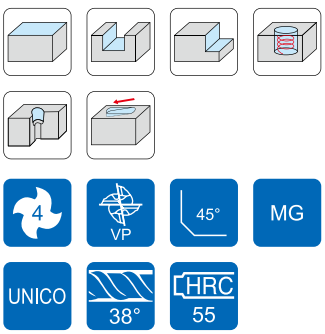
- Variable pitch is unequal flute spacing for anti-vibration machining.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- UNICO (Ti, Al, N) coating provides superior wear resistance.

ANSI (Inch)

EP□□V

P	M	K	N	S	H
●	●	●		○	○





d Tolerance	
d	.000 ~ -.002"

Order No.	Dia. (d)	Chamfer (C)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPF2V40120210U	1/8	.010C	1/4	1 1/2	1/8	4
EPS2V40120200U	1/8	-	1/4	1 1/2	1/8	4
EPS4V40120500U	1/8	-	1/2	2	1/8	4
EPF4V40120510U	1/8	.010C	1/2	2	1/8	4
EPS9V40120500U	1/8	-	1/2	2 1/2	1/8	4
EPF2V40180310U	3/16	.010C	5/16	2 1/2	3/16	4
EPS7V40180300U	3/16	-	5/16	2 1/2	3/16	4
EPF3V40180610U	3/16	.010C	5/8	2 1/2	3/16	4
EPS8V40180600U	3/16	-	5/8	2 1/2	3/16	4
EPS2V40250300U	1/4	-	3/8	2	1/4	4
EPF2V40250315U	1/4	.015C	3/8	2	1/4	4
EPF3V40250715U	1/4	.015C	3/4	2 1/2	1/4	4
EPS3V40250700U	1/4	-	3/4	2 1/2	1/4	4
EPS4V40251000U	1/4	-	1	3	1/4	4
EPS5V40251200U	1/4	-	1 1/4	3	1/4	4
EPF2V40310515U	5/16	.015C	1/2	2 1/2	5/16	4
EPS2V40310500U	5/16	-	1/2	2 1/2	5/16	4
EPF2V40310715U	5/16	.015C	3/4	2 1/2	5/16	4
EPS2V40310700U	5/16	-	3/4	2 1/2	5/16	4
EPS4V40311200U	5/16	-	1 1/4	3	5/16	4
EPF2V40370820U	3/8	.020C	7/8	2 1/2	3/8	4
EPS2V40370800U	3/8	-	7/8	2 1/2	3/8	4
EPS3V40371000U	3/8	-	1	3	3/8	4
EPS4V40371500U	3/8	-	1 1/2	4	3/8	4
EPF1V40430620U	7/16	.020C	5/8	2 3/4	7/16	4
EPS1V40430600U	7/16	-	5/8	2 3/4	7/16	4
EPF2V40430820U	7/16	.020C	7/8	2 3/4	7/16	4
EPS2V40430800U	7/16	-	7/8	2 3/4	7/16	4
EPS2V40501000U	1/2	-	1	3	1/2	4
EPF2V40501020U	1/2	.020C	1	3	1/2	4
EPF3V40501220U	1/2	.020C	1 1/4	3	1/2	4
EPS3V40501200U	1/2	-	1 1/4	3	1/2	4
EPF3V40501520U	1/2	.020C	1 1/2	4	1/2	4
EPS3V40501500U	1/2	-	1 1/2	4	1/2	4
EPS4V40502000U	1/2	-	2	4	1/2	4
EPS2V40621200U	5/8	-	1 1/4	3 1/2	5/8	4
EPF2V40621220U	5/8	.020C	1 1/4	3 1/2	5/8	4

(continued)

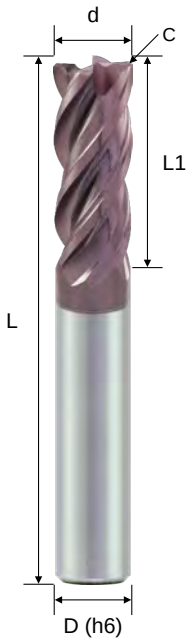
V47C - Square · Variable Pitch · Helix 38 · 4F (Inch) 不等分割平銑刀・4 刃 (英吋)

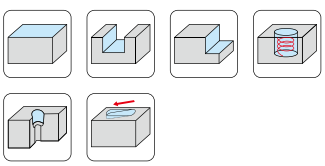
- Variable pitch is unequal flute spacing for anti-vibration machining.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- UNICO (Ti, Al, N) coating provides superior wear resistance.

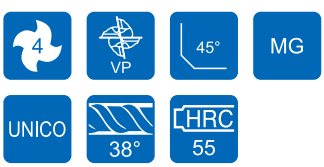
ANSI (Inch)

EP□□V

P	M	K	N	S	H
●	●	●		○	○







d Tolerance	
d	.000 ~ -.002"

Order No.	Dia. (d)	Chamfer (C)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPF2V40751520U	3/4	.020C	1 1/2	4	3/4	4
EPS2V40751500U	3/4	-	1 1/2	4	3/4	4
EPF2V41002020U	1	.020C	2	5	1	4
EPS2V41002000U	1	-	2	5	1	4
EPS2V41002200U	1	-	2 1/4	5	1	4
EPF2V41002220U	1	.020C	2 1/4	5	1	4

Working Material	Cutting Application	ae×d	ap×d	SFM	fz (inch/z)				
					1/8	1/4	5/16	3/8	1/2
Carbon steel (S45C, S55C)	Slot milling	1	0.5 ~ 1.0	260 ~ 475	.0008	.0012	.0016	.0019	.0025
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	295 ~ 525	.0009	.0015	.0020	.0023	.0031
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	425 ~ 740	.0006	.0010	.0014	.0017	.0023
Alloy steel (SK, SCM)	Slot milling	1	0.5 ~ 1.0	230 ~ 430	.0007	.0011	.0015	.0018	.0024
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	260 ~ 475	.0008	.0014	.0019	.0022	.0030
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	310 ~ 590	.0005	.0009	.0013	.0016	.0022
Tool Steel (SKD)	Slot milling	1	0.5 ~ 1.0	215 ~ 360	.0006	.0010	.0014	.0017	.0023
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	230 ~ 430	.0009	.0015	.0018	.0021	.0029
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	295 ~ 525	.0006	.0010	.0014	.0015	.0021
Stainless steel (SUS304, SUS316)	Slot milling	1	0.5 ~ 1.0	165 ~ 215	.0005	.0008	.0012	.0013	.0017
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	215 ~ 330	.0006	.0010	.0014	.0017	.0023
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	260 ~ 360	.0006	.0010	.0014	.0015	.0021
Hardened steel (HRC ≤ 45)	Slot milling	1	0.5 ~ 1.0	100 ~ 200	.0005	.0008	.0010	.0011	.0015
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	165 ~ 300	.0005	.0008	.0012	.0013	.0017
	Side finishing	0.1~ 0.3	0.7 ~ 1.5	215 ~ 395	.0006	.0010	.0014	.0015	.0021

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

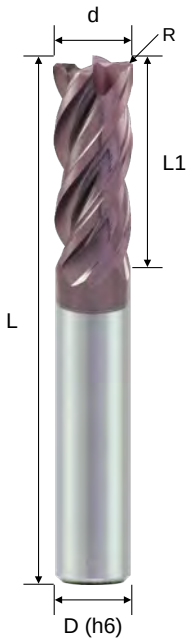
V47C - Corner Radius · Variable Pitch · Helix 38 · 4F (Inch) 不等分割圓鼻銑刀・4 刃 (英吋)

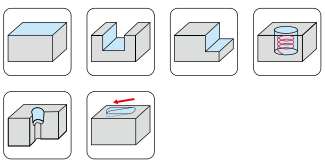
- Variable pitch is unequal flute spacing for anti-vibration machining.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- UNICO (Ti, Al, N) coating provides superior wear resistance.

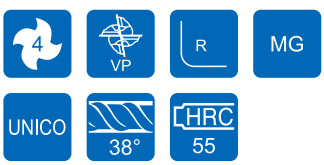
ANSI (Inch)

EP□□V

P	M	K	N	S	H
●	●	●		○	○







d Tolerance	
d	.000 ~ -.002"

Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPC2V40120215U	1/8	.015R	1/4	2 1/2	1/8	4
EPC4V40120515U	1/8	.015R	1/2	2	1/8	4
EPC2V40180315U	3/16	.015R	5/16	2 1/2	3/16	4
EPC8V40180615U	3/16	.015R	5/8	2 1/2	3/16	4
EPC8V40180630U	3/16	.030R	5/8	2 1/2	3/16	4
EPC2V40250330U	1/4	.030R	3/8	2	1/4	4
EPC3V40250715U	1/4	.015R	3/4	2 1/2	1/4	4
EPC3V40250730U	1/4	.030R	3/4	2 1/2	1/4	4
EPC3V40250760U	1/4	.060R	3/4	2 1/2	1/4	4
EPC4V40251015U	1/4	.015R	1	3	1/4	4
EPC5V40251215U	1/4	.015R	1 1/4	3	1/4	4
EPC5V40251230U	1/4	.030R	1 1/4	3	1/4	4
EPC2V40310530U	5/16	.030R	1/2	2 1/2	5/16	4
EPC2V40310715U	5/16	.015R	3/4	2 1/2	5/16	4
EPC2V40310730U	5/16	.030R	3/4	2 1/2	5/16	4
EPC2V40310760U	5/16	.060R	3/4	2 1/2	5/16	4
EPC4V40311230U	5/16	.030R	1 1/4	3	5/16	4
EPC2V40370815U	3/8	.015R	7/8	2 1/2	3/8	4
EPC2V40370830U	3/8	.030R	7/8	2 1/2	3/8	4
EPC2V40370860U	3/8	.060R	7/8	2 1/2	3/8	4
EPC2V40370890U	3/8	.090R	7/8	2 1/2	3/8	4
EPC3V40371015U	3/8	.015R	1	3	3/8	4
EPC3V40371030U	3/8	.030R	1	3	3/8	4
EPC3V40371060U	3/8	.060R	1	3	3/8	4
EPC4V40371530U	3/8	.030R	1 1/2	4	3/8	4
EPC4V40371560U	3/8	.060R	1 1/2	4	3/8	4
EPC7V40372530U	3/8	.030R	2 1/2	4	3/8	4
EPC7V40372560U	3/8	.060R	2 1/2	4	3/8	4
EPC2V40501030U	1/2	.030R	1	3	1/2	4
EPC2V40501060U	1/2	.060R	1	3	1/2	4
EPC3V40501215U	1/2	.015R	1 1/4	3	1/2	4
EPC3V40501230U	1/2	.030R	1 1/4	3	1/2	4
EPC3V40501260U	1/2	.060R	1 1/4	3	1/2	4
EPC3V40501290U	1/2	.090R	1 1/4	3	1/2	4
EPC3V405012C0U	1/2	.120R	1 1/4	3	1/2	4
EPC3V40501530U	1/2	.030R	1 1/2	4	1/2	4
EPC3V40501560U	1/2	.060R	1 1/2	4	1/2	4

(continued)

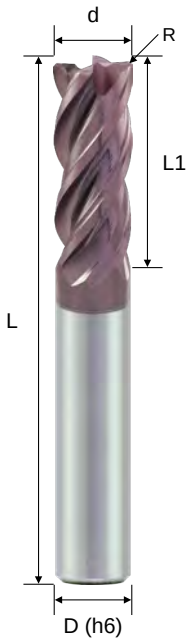
V47C - Corner Radius · Variable Pitch · Helix 38 · 4F (Inch) 不等分割圓鼻銑刀・4 刃 (英吋)

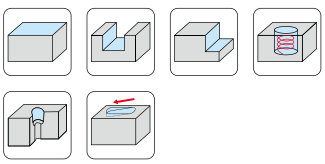
- Variable pitch is unequal flute spacing for anti-vibration machining.
- High removal rate for steel and alloy steel machining.
- Low cutting force and burr prevention.
- UNICO (Ti, Al, N) coating provides superior wear resistance.

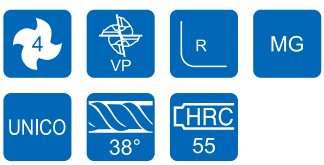
ANSI (Inch)

EP□□V

P	M	K	N	S	H
●	●	●		○	○







d Tolerance	
d	.000 ~ -.002"

Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPC4V40502030U	1/2	.030R	2	4	1/2	4
EPC4V40502060U	1/2	.060R	2	4	1/2	4
EPC2V40621230U	5/8	.030R	1 1/4	3 1/2	5/8	4
EPC2V40621260U	5/8	.060R	1 1/4	3 1/2	5/8	4
EPC2V40621290U	5/8	.090R	1 1/4	3 1/2	5/8	4
EPC2V406212C0U	5/8	.120R	1 1/4	3 1/2	5/8	4
EPC2V40751530U	3/4	.030R	1 1/2	4	3/4	4
EPC2V40751560U	3/4	.060R	1 1/2	4	3/4	4
EPC2V40751590U	3/4	.090R	1 1/2	4	3/4	4
EPC2V41002230U	1	.030R	2 1/4	5	1	4
EPC2V41002260U	1	.060R	2 1/4	5	1	4

Working Material	Cutting Application	ae×d	ap×d	SFM	fz (inch/z)				
					1/8	1/4	5/16	3/8	1/2
Carbon steel (S45C, S55C)	Slot milling	1	0.5 ~ 1.0	260 ~ 475	.0008	.0012	.0016	.0019	.0025
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	295 ~ 525	.0009	.0015	.0020	.0023	.0031
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	425 ~ 740	.0006	.0010	.0014	.0017	.0023
Alloy steel (SK, SCM)	Slot milling	1	0.5 ~ 1.0	230 ~ 430	.0007	.0011	.0015	.0018	.0024
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	260 ~ 475	.0008	.0014	.0019	.0022	.0030
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	310 ~ 590	.0005	.0009	.0013	.0016	.0022
Tool Steel (SKD)	Slot milling	1	0.5 ~ 1.0	215 ~ 360	.0006	.0010	.0014	.0017	.0023
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	230 ~ 430	.0009	.0015	.0018	.0021	.0029
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	295 ~ 525	.0006	.0010	.0014	.0015	.0021
Stainless steel (SUS304, SUS316)	Slot milling	1	0.5 ~ 1.0	165 ~ 215	.0005	.0008	.0012	.0013	.0017
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	215 ~ 330	.0006	.0010	.0014	.0017	.0023
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.5	260 ~ 360	.0006	.0010	.0014	.0015	.0021
Hardened steel (HRC ≤ 45)	Slot milling	1	0.5 ~ 1.0	100 ~ 200	.0005	.0008	.0010	.0011	.0015
	Side roughing	0.4 ~ 0.9	0.7 ~ 1.0	165 ~ 300	.0005	.0008	.0012	.0013	.0017
	Side finishing	0.1~ 0.3	0.7 ~ 1.5	215 ~ 395	.0006	.0010	.0014	.0015	.0021

d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

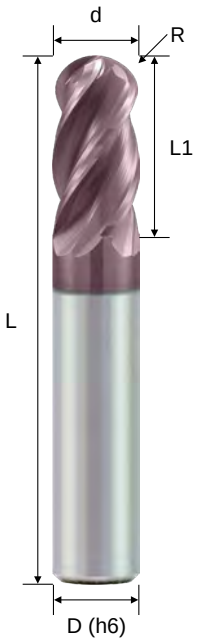
V47C - Ball Nose · Variable Pitch · Helix 38 · 2F / 4F (Inch) 不等分割球型銑刀・2 刃 / 4 刃 (英吋)

- Variable pitch is unequal flute spacing for anti-vibration machining.
- High removal rate for steel and alloy steel machining.
- UNICO (Ti, Al, N) coating provides superior wear resistance.

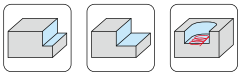
ANSI (Inch)

EPB□V

P	M	K	N	S	H
●	●	●		○	○



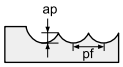
Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
2 Flutes						
EPB4V20120500U	1/16	1/8	1/2	2	1/8	2
EPB3V20180600U	3/32	3/16	5/8	2 1/2	3/16	2
EPB3V20250700U	1/8	1/4	3/4	2 1/2	1/4	2
EPB2V20310700U	5/32	5/16	3/4	2 1/2	5/16	2
EPB2V20370800U	3/16	3/8	7/8	2 1/2	3/8	2
EPB2V20430800U	7/32	7/16	7/8	2 3/4	7/16	2
EPB2V20501000U	1/4	1/2	1	3	1/2	2
EPB2V20621200U	5/16	5/8	1 1/4	3 1/2	5/8	2
4 Flutes						
EPB4V40120500U	1/16	1/8	1/2	2	1/8	4
EPB3V40180600U	3/32	3/16	5/8	2 1/2	3/16	4
EPB3V40250700U	1/8	1/4	3/4	2 1/2	1/4	4
EPB2V40310700U	5/32	5/16	3/4	2 1/2	5/16	4
EPB2V40370800U	3/16	3/8	7/8	2 1/2	3/8	4
EPB2V40430800U	7/32	7/16	7/8	2 3/4	7/16	4
EPB2V40501000U	1/4	1/2	1	3	1/2	4
EPB2V40621200U	5/16	5/8	1 1/4	3 1/2	5/8	4



d Tolerance	
d	.000 ~ -.002"

R Tolerance	
R	.000 ~ -.001"

Working Material	Cutting Application	pf×d	ap×d	SFM	fz (inch/z)				
					1/8	1/4	5/16	3/8	1/2
Carbon steel (S45C, S55C)	Slot milling	0.5	0.5 ~ 1.0	260 ~ 475	.0008	.0012	.0016	.0019	.0025
	Side roughing	0.3 ~ 0.6	0.6 ~ 1.0	295 ~ 525	.0009	.0015	.0020	.0023	.0031
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	425 ~ 740	.0006	.0010	.0014	.0017	.0023
Alloy steel (SK, SCM)	Slot milling	0.5	0.5 ~ 1.0	230 ~ 430	.0007	.0011	.0015	.0018	.0024
	Side roughing	0.3 ~ 0.6	0.6 ~ 1.0	260 ~ 475	.0008	.0014	.0019	.0022	.0030
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	310 ~ 590	.0005	.0009	.0013	.0016	.0022
Tool Steel (SKD)	Slot milling	0.5	0.5 ~ 1.0	215 ~ 360	.0006	.0010	.0014	.0017	.0023
	Side roughing	0.3 ~ 0.6	0.6 ~ 1.0	230 ~ 430	.0009	.0015	.0018	.0021	.0029
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	295 ~ 525	.0006	.0010	.0014	.0015	.0021
Stainless steel (SUS304, SUS316)	Slot milling	0.4 ~ 0.5	0.3 ~ 1.0	165 ~ 215	.0005	.0008	.0012	.0013	.0017
	Side roughing	0.3 ~ 0.6	0.5 ~ 1.0	215 ~ 330	.0006	.0010	.0014	.0017	.0023
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	260 ~ 360	.0006	.0010	.0014	.0015	.0021
Superalloy & Hardened steel	Slot milling	0.4 ~ 0.5	0.3 ~ 0.5	100 ~ 200	.0005	.0008	.0010	.0011	.0015
	Side roughing	0.3 ~ 0.6	0.5 ~ 1.0	165 ~ 300	.0005	.0008	.0012	.0013	.0017
	Side finishing	0.1 ~ 0.3	0.7 ~ 1.0	215 ~ 395	.0006	.0010	.0014	.0015	.0021



d = tool diameter

※If the machine not stable, please reduce the feed about 20%.

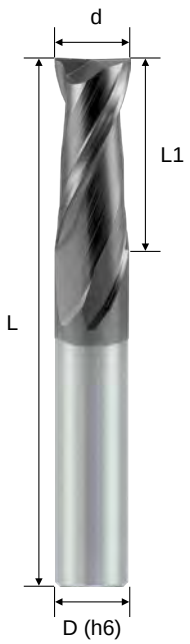
M50X - Square · Standard · 2F 平銑刀・標準型・2 刃

- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.

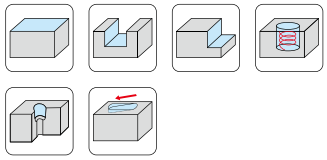
ASIA (Metric)

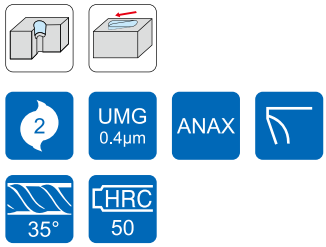
ESSSA

P	M	K	N	S	H
●	●	●		○	○

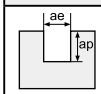


Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSA240500A	0.5	1	50	4	2
ESSSA240800A	0.8	2	50	4	2
ESSSA241000A	1	3	50	4	2
ESSSA242000A	2	5	50	4	2
ESSSA243000A	3	8	50	4	2
ESSSA244000A	4	10	50	4	2
ESSSA204000A	4	10	50	6	2
ESSSA205000A	5	13	50	6	2
ESSSA206000A	6	15	50	6	2
ESSSA208000A	8	20	60	8	2
ESSSA210000A	10	25	75	10	2
ESSSA212000A	12	30	75	12	2
ESSSA214000A	14	30	75	14	2
ESSSA216000A	16	35	100	16	2





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

WORKING MATERIAL	STAINLESS 304		Moderately Difficults SUS		STAINLESS 316 L		TITANIUM (ALLOYS)		SOFT STEEL		SG CAST IRON		High Temperature Alloys	
Vc	72~90 m/min		56~70 m/min		48~60 m/min		40~56 m/min		120~160 m/min		96~120 m/min		20~25 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	7,452	458	4,459	286	3,822	183	3,185	122	9,554	764	7,643	611	1,592	56
5mm	4,586	440	3,567	286	3,057	245	2,548	122	7,643	734	6,115	587	1,274	45
6mm	3,822	489	2,972	333	2,548	245	2,123	136	6,369	815	5,096	652	1,062	58
8mm	2,866	458	2,229	321	1,911	245	1,592	153	4,777	917	3,822	734	796	69
10mm	2,293	440	1,783	286	1,529	220	1,274	124	3,822	734	3,057	587	637	55
12mm	1,911	398	1,486	262	1,274	204	1,062	136	3,185	714	2,548	570	531	65
14mm	1,638	351	1,274	232	1,092	185	910	126	2,730	637	2,184	510	455	65
16mm	1,433	321	1,115	214	955	168	796	114	2,389	574	1,911	458	398	62
	ap = 0.2 ae = 1													

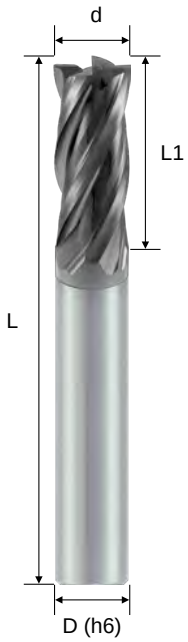
M50X - Square · Standard · 4F 平銑刀・標準型・4 刃

- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.

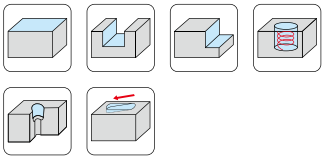
ASIA (Metric)

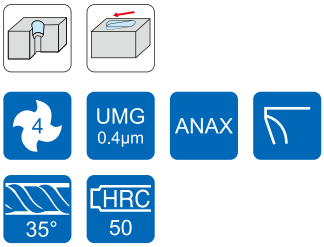
ESSSA

P	M	K	N	S	H
●	●	●		○	○

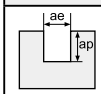


Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSA441000A	1	3	50	4	4
ESSSA441500A	1.5	4	50	4	4
ESSSA442000A	2	5	50	4	4
ESSSA442500A	2.5	6	50	4	4
ESSSA443000A	3	8	50	4	4
ESSSA443500A	3.5	9	50	4	4
ESSSA444000A	4	10	50	4	4
ESSSA404000A	4	10	50	6	4
ESSSA405000A	5	13	50	6	4
ESSSA406000A	6	15	50	6	4
ESSSA408000A	8	20	60	8	4
ESSSA410000A	10	25	75	10	4
ESSSA412000A	12	30	75	12	4
ESSSA414000A	14	30	75	14	4
ESSSA416000A	16	35	100	16	4





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

WORKING MATERIAL	STAINLESS 304		Moderately Difficults SUS		STAINLESS 316 L		TITANIUM (ALLOYS)		SOFT STEEL		SG CAST IRON		High Temperature Alloys	
Vc	72~90 m/min		56~70 m/min		48~60 m/min		40~56 m/min		120~160 m/min		96~120 m/min		20~25 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	5,732	458	4,459	286	3,822	183	3,185	122	9,554	764	7,643	611	1,592	56
5mm	4,586	440	3,567	286	3,057	245	2,548	122	7,643	734	6,115	587	1,274	45
6mm	3,822	489	2,972	333	2,548	245	2,123	136	6,369	815	5,096	652	1,062	58
8mm	2,866	458	2,229	321	1,911	245	1,592	153	4,777	917	3,822	734	796	69
10mm	2,293	440	1,783	286	1,529	220	1,274	124	3,822	734	3,057	587	637	55
12mm	1,911	398	1,486	262	1,274	204	1,062	136	3,185	714	2,548	570	531	65
14mm	1,638	351	1,274	232	1,092	185	910	126	2,730	637	2,184	510	455	65
16mm	1,433	321	1,115	214	955	168	796	114	2,389	574	1,911	458	398	62
	ap = 0.2 ae = 1													

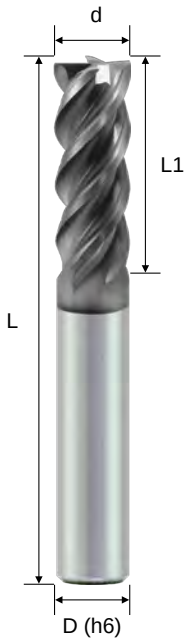
M50X - Square · High Helix · 4F 平銑刀・高導高效能 型・4 刃

- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- U-flute design with high chips volume space and easy to remove chips.
- For Stainless Steel, Pre-Hardened steel, Alloy Steel & Mold Steel... etc.
- UMG carbide grade is suitable for cutting difficult materials.

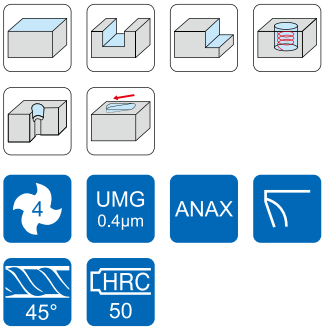
ASIA (Metric)

ESSSH

P	M	K	N	S	H
●	●	●		●	○



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSH441000A	1	3	50	4	4
ESSSH442000A	2	5	50	4	4
ESSSH443000A	3	8	50	4	4
ESSSH444000A	4	10	50	4	4
ESSSH404000A	4	10	50	6	4
ESSSH405000A	5	13	50	6	4
ESSSH406000A	6	15	50	6	4
ESSSH408000A	8	20	60	8	4
ESSSH410000A	10	25	75	10	4
ESSSH412000A	12	30	75	12	4
ESSSH416000A	16	35	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

WORKING MATERIAL	Carbon steel (S45C)		Alloy Steel (SKD)		Stainless steel (SUS304, SUS316)	
Vc	130 m/min		90 m/min		80 m/min	
Diameter (d)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)
4mm	10350	0.020	7170	0.020	6370	0.020
6mm	6900	0.025	4780	0.025	4250	0.025
8mm	5180	0.035	3580	0.035	3190	0.035
10mm	4140	0.045	2870	0.040	2550	0.040
12mm	3450	0.055	2390	0.050	2120	0.050
16mm	2590	0.072	1790	0.064	1590	0.064
	ap = 1d ae = 0.1d					

M50X - Square · Wave Edge · 3F / 4F

平銑刀・波浪型・3 刃 / 4 刃

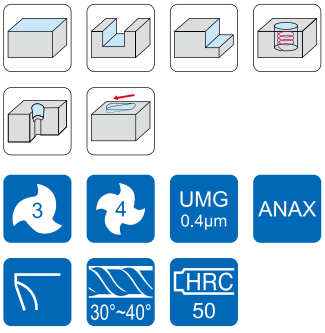
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- For Stainless Steel, Pre-Hardened steel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at high speeds.
- UMG carbide grade is suitable for cutting difficult materials.
- Wave type increases the performance.

ASIA (Metric)

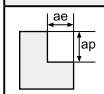
ESSSW

P	M	K	N	S	H
●	●	●		●	○

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
3 Flutes					
ESSSW306000A	6	15	50	6	3
ESSSW308000A	8	20	60	8	3
ESSSW310000A	10	25	75	10	3
ESSSW312000A	12	30	75	12	3
ESSSW316000A	16	40	100	16	3
ESSSW320000A	20	45	100	20	3
4 Flutes					
ESSSW406000A	6	15	50	6	4
ESSSW408000A	8	20	60	8	4
ESSSW410000A	10	25	75	10	4
ESSSW412000A	12	30	75	12	4
ESSSW416000A	16	40	100	16	4
ESSSW420000A	20	45	100	20	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~45		–		–	
Vc	88 m/min		71 m/min		59 m/min		35 m/min		71 m/min		103 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	4,680	260	3,744	175	3,042	120	1,872	50	3,744	205	5,616	310
8mm	3,510	260	2,808	175	2,340	120	1,404	50	2,808	205	4,212	310
10mm	2,808	260	2,223	175	1,872	120	1,131	50	2,223	205	3,276	300
12mm	2,340	260	1,872	175	1,560	120	936	50	1,872	205	2,808	310
16mm	2,028	300	2,730	345	1,300	135	819	60	2,730	400	2,340	345
20mm	1,560	260	1,248	175	1,040	120	624	50	1,248	205	1,820	300
	ap = 1d ae = 0.2d											

M50X - Square · High Feed · 4F 平銑刀・高進給型・4 刃

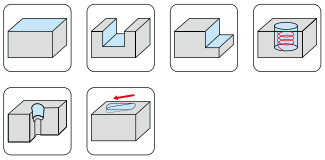
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- Honing & chamfering at the cutting edge geometries for high feed milling.
- Outstanding results for HRC 30 to HRC 55 steel, such as Alloy steel,cast Iron ...etc.
- Achieve long tool life, perfect surfaces and considerable reduction of machining time.

ASIA (Metric)

ESSSU
ESCSU

P	M	K	N	S	H
●	●	●		●	○

Order No.	Dia. (d)	Chamfer / Radius	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSSU403000A	3	0.10C	8	50	6	4
ESCSU403000A	3	0.10R	8	50	6	4
ESSSU404000A	4	0.10C	10	50	6	4
ESCSU404000A	4	0.10R	10	50	6	4
ESSSU405000A	5	0.15C	13	50	6	4
ESCSU405000A	5	0.15R	13	50	6	4
ESSSU406000A	6	0.15C	15	50	6	4
ESCSU406000A	6	0.15R	15	50	6	4
ESSSU408000A	8	0.15C	20	60	8	4
ESCSU408000A	8	0.15R	20	60	8	4
ESSSU410000A	10	0.20C	25	75	10	4
ESCSU410000A	10	0.20R	25	75	10	4
ESSSU412000A	12	0.20C	30	75	12	4
ESCSU412000A	12	0.20R	30	75	12	4
ESSSU416000A	16	0.20C	35	100	16	4
ESCSU416000A	16	0.20R	35	100	16	4

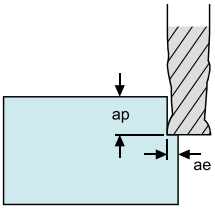


4 | MG | ANAX | 45° | R | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Feed recommend table

Dia (d) (mm)	fz (mm/z)
4	0.006 ~ 0.1
6	0.009 ~ 0.15
10	0.15 ~ 0.25



ap = 1.5d ae = 0.1d

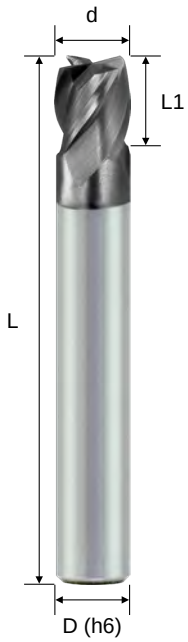
M50X - Square · Short Flute · 4F 平銑刀・短刃型・4 刃

- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.

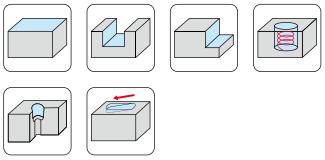
ASIA (Metric)

ESSHA

P	M	K	N	S	H
●	●	●		○	○

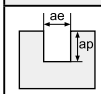


Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESSHA443000A	3	3	50	4	4
ESSHA444000A	4	4	50	4	4
ESSHA404000A	4	4	50	6	4
ESSHA405000A	5	5	50	6	4
ESSHA406000A	6	7	50	6	4
ESSHA408000A	8	9	60	8	4
ESSHA410000A	10	11	75	10	4
ESSHA412000A	12	13	75	12	4
ESSHA414000A	14	15	75	14	4
ESSHA416000A	16	17	100	16	4



4 | UMG 0.4μm | ANAX | 35° | HRC 50

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

WORKING MATERIAL	STAINLESS 304		Moderately Difficults SUS		STAINLESS 316 L		TITANIUM (ALLOYS)		SOFT STEEL		SG CAST IRON		High Temperature Alloys	
Vc	72~90 m/min		56~70 m/min		48~60 m/min		40~56 m/min		120~160 m/min		96~120 m/min		20~25 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	5,732	458	4,459	286	3,822	183	3,185	122	9,554	764	7,643	611	1,592	56
5mm	4,586	440	3,567	286	3,057	245	2,548	122	7,643	734	6,115	587	1,274	45
6mm	3,822	489	2,972	333	2,548	245	2,123	136	6,369	815	5,096	652	1,062	58
8mm	2,866	458	2,229	321	1,911	245	1,592	153	4,777	917	3,822	734	796	69
10mm	2,293	440	1,783	286	1,529	220	1,274	124	3,822	734	3,057	587	637	55
12mm	1,911	398	1,486	262	1,274	204	1,062	136	3,185	714	2,548	570	531	65
14mm	1,638	351	1,274	232	1,092	185	910	126	2,730	637	2,184	510	455	65
16mm	1,433	321	1,115	214	955	168	796	114	2,389	574	1,911	458	398	62
	ap = 0.2 ae = 1													

M50X - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

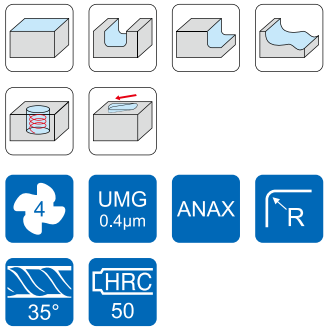
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining.
- Corner geometry and stronger design makes it suitable for cutting stainless steel.

ASIA (Metric)

ESCSA

P	M	K	N	S	H
●	●	●		○	○

Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESCSA441002A	1	0.2R	2	50	4	4
ESCSA441502A	1.5	0.2R	3	50	4	4
ESCSA442002A	2	0.2R	4	50	4	4
ESCSA443002A	3	0.2R	6	50	4	4
ESCSA443003A	3	0.3R	6	50	4	4
ESCSA403003A	3	0.3R	6	50	6	4
ESCSA443005A	3	0.5R	6	50	4	4
ESCSA403005A	3	0.5R	6	50	6	4
ESCSA403010A	3	1.0R	6	50	6	4
ESCSA444002A	4	0.2R	8	50	4	4
ESCSA404003A	4	0.3R	8	50	6	4
ESCSA444005A	4	0.5R	8	50	4	4
ESCSA404005A	4	0.5R	8	50	6	4
ESCSA404010A	4	1.0R	8	50	6	4
ESCSA405003A	5	0.3R	10	50	6	4
ESCSA405005A	5	0.5R	10	50	6	4
ESCSA406003A	6	0.3R	12	50	6	4
ESCSA406005A	6	0.5R	12	50	6	4
ESCSA406010A	6	1.0R	12	50	6	4
ESCSA408005A	8	0.5R	16	60	8	4
ESCSA408010A	8	1.0R	16	60	8	4
ESCSA408015A	8	1.5R	16	60	8	4
ESCSA410005A	10	0.5R	20	75	10	4
ESCSA410010A	10	1.0R	20	75	10	4
ESCSA410015A	10	1.5R	20	75	10	4
ESCSA410020A	10	2.0R	20	75	10	4
ESCSA412005A	12	0.5R	24	75	12	4
ESCSA412010A	12	1.0R	24	75	12	4
ESCSA412015A	12	1.5R	24	75	12	4
ESCSA412020A	12	2.0R	24	75	12	4
ESCSA412030A	12	3.0R	24	75	12	4



WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~45		–		–	
Vc	88 m/min		71 m/min		59 m/min		35 m/min		71 m/min		103 m/min	
Diameter (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	9,828	455	7,098	295	6,084	195	3,900	90	7,488	345	11,232	520
4mm	7,020	430	5,616	295	4,680	200	2,808	85	5,616	345	8,424	520
5mm	5,850	450	4,446	290	3,744	200	2,340	90	4,446	345	6,552	505
6mm	4,680	430	3,744	295	3,042	195	1,872	85	3,744	345	5,616	520
8mm	3,510	430	2,808	295	2,340	200	1,404	85	2,808	345	4,212	520
10mm	2,808	430	2,223	290	1,872	200	1,131	85	2,223	340	3,276	505
12mm	2,340	430	1,872	295	1,560	200	936	85	1,872	345	2,808	520
	ap = 1d ae = 0.02d											

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

M50X - Ball Nose · Standard · 2F

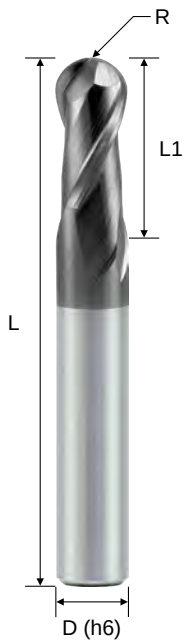
球型銑刀・標準型・2 刃

- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- For Stainless Steel, Alloy Steel & Mold Steel... etc.
- Edge treatment and vibration reduction at high speed machining, suitable for high performance profile milling.
- New ball nose geometry increases tool life and decreased cutting force.

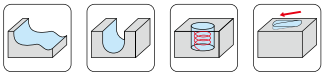
ASIA (Metric)

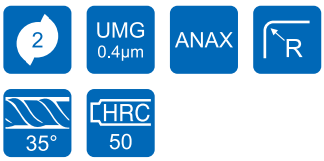
ESBSA

P	M	K	N	S	H
●	●	●		○	○



Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ESBSA240500A	0.25R	0.5	1	50	4	2
ESBSA241000A	0.5R	1	2	50	4	2
ESBSA241500A	0.75R	1.5	3	50	4	2
ESBSA242000A	1.0R	2	4	50	4	2
ESBSA242500A	1.25R	2.5	5	50	4	2
ESBSA243000A	1.5R	3	6	50	4	2
ESBSA244000A	2.0R	4	8	50	4	2
ESBSA204000A	2.0R	4	8	50	6	2
ESBSA205000A	2.5R	5	10	50	6	2
ESBSA206000A	3.0R	6	12	50	6	2
ESBSA208000A	4.0R	8	16	60	8	2
ESBSA210000A	5.0R	10	20	75	10	2
ESBSA212000A	6.0R	12	24	75	12	2
ESBSA216000A	8.0R	16	32	100	16	2

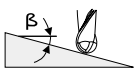




R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~55		–		–	
Vc	94 mmin		71 m/min		44 m/min		38 m/min		71 m/min		94 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	46,800	545	42,120	420	28,080	230	18,720	110	42,120	490	58,500	685
1.0R	26,676	700	21,060	470	15,210	280	10,660	140	21,060	555	29,718	780
2.0R	14,976	875	11,232	560	8,190	335	5,980	175	11,232	655	14,976	875
3.0R	9,828	860	7,488	560	4,914	300	3,926	170	7,488	655	9,828	860
4.0R	7,488	875	5,616	560	3,744	305	2,990	175	5,616	655	7,488	875
5.0R	5,967	870	4,446	550	2,808	285	2,379	175	4,446	650	5,967	870
6.0R	4,914	860	3,744	560	2,340	285	1,976	175	3,744	655	4,914	860
8.0R	4,160	970	3,120	620	2,028	330	1,664	195	3,120	730	4,160	970
10.0R	3,380	890	2,496	560	1,690	310	1,352	175	2,496	655	3,380	890

ap = 0.02d
pf = 0.05d



When β is less than 15° milling speed and feed speed in the table can be increased 1.0-1.2 times.

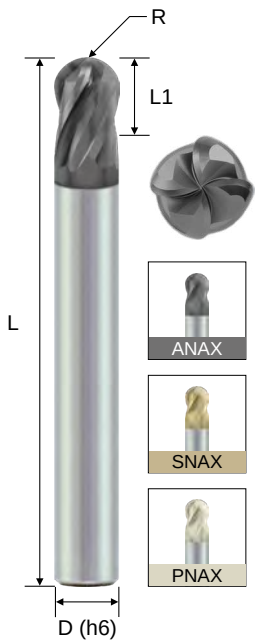
M50X - Ball Nose · Near Center Design · 3F / 4F 球型銑刀・刃近中心型・3 刃 / 4 刃

- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance.
- For high temperature alloy and high hardened steel machining.
- Reach to center and near to center flutes design, significantly improves the tool life and surface finish in profile milling.
- The coating can change to SNAX (Al, Ti, Si, N) smooth coating.
- The coating can change to PNAX (Al, TiXN+ZrN) smooth coating with anti-stick function.

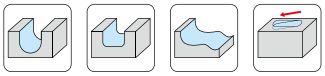
ASIA (Metric)

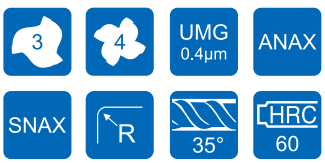
ESBHS

P	M	K	N	S	H
●	●	●		●	○

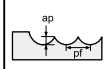


Order No.		Radius	Dia.	CL	OAL	Shank	Flutes
ANAX	SNAX	(R)	(d)	(L1)	(L)	(D)	(Z)
ESBHS342000A	–	1R	2	2	50	4	3
ESBHS302000A	–	1R	2	2	50	6	3
ESBHS303000A	–	1.5R	3	3	50	6	3
ESBHS344000A	–	2R	4	4	50	4	3
ESBHS304000A	–	2R	4	4	50	6	3
ESBHS406000A	ESBHS406000S	3R	6	6	50	6	4
ESBHS406007A	ESBHS406007S	3R	6	6	75	6	4
ESBHS408000A	ESBHS408000S	4R	8	8	60	8	4
ESBHS408010A	ESBHS408010S	4R	8	8	100	8	4
ESBHS410000A	ESBHS410000S	5R	10	10	75	10	4
ESBHS410010A	ESBHS410010S	5R	10	10	100	10	4
ESBHS412000A	ESBHS412000S	6R	12	12	75	12	4
ESBHS412010A	ESBHS412010S	6R	12	12	100	12	4
ESBHS416000A	–	8R	16	16	100	16	4





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Work Material	High temperature alloy (Nickel Titanium)		Hardened steel (HRC 40 ~55) (SKD11, SKD61)		Hardened steel (HRC 50~60) (SKD11, SUS420)		Hardened steel (HRC 60~65) (SKS, SKH)	
Vc	120 m/min		55 m/min		95 m/min		30 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3R	15000	3400	21000	8400	16000	4800	8000	2300
4R	12000	2600	16000	6400	12000	3600	6000	1900
5R	9600	2200	13000	5200	10000	3200	4800	1500
6R	7200	1700	9000	3600	7000	2200	3600	1100
8R	5400	1300	6800	2700	5300	1700	2700	830
	ap = 0.04d pf ≤ 0.2R							

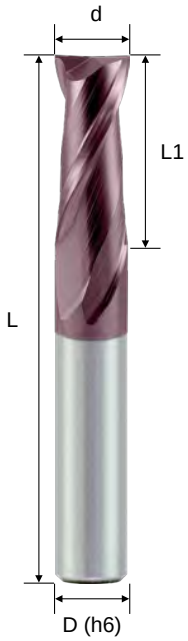
G55C - Square · Standard · Helix 30 · 2F 平銑刀・標準型・2 刃

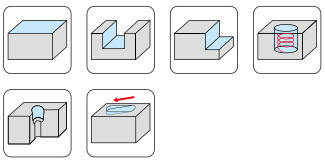
- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

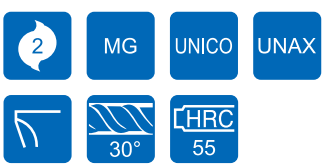
ASIA (Metric)

EPSSC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSSC240200U	EPSSC240200UX	0.2	0.4	50	4	2
EPSSC240300U	EPSSC240300UX	0.3	0.6	50	4	2
EPSSC240400U	EPSSC240400UX	0.4	0.8	50	4	2
EPSSC240500U	EPSSC240500UX	0.5	1.0	50	4	2
EPSSC240600U	EPSSC240600UX	0.6	1.5	50	4	2
EPSSC240700U	EPSSC240700UX	0.7	2.0	50	4	2
EPSSC240800U	EPSSC240800UX	0.8	2.0	50	4	2
EPSSC240900U	EPSSC240900UX	0.9	2.0	50	4	2
EPSSC241000U	EPSSC241000UX	1.0	3.0	50	4	2
EPSSC201000U	EPSSC201000UX	1.0	3.0	50	6	2
EPSSC241500U	EPSSC241500UX	1.5	4.0	50	4	2
EPSSC242000U	EPSSC242000UX	2.0	5.0	50	4	2
EPSSC202000U	EPSSC202000UX	2.0	5.0	50	6	2
EPSSC242500U	EPSSC242500UX	2.5	6.0	50	4	2
EPSSC233000U	EPSSC233000UX	3.0	8.0	50	3	2
EPSSC243000U	EPSSC243000UX	3.0	8.0	50	4	2
EPSSC203000U	EPSSC203000UX	3.0	8.0	50	6	2
EPSSC243500U	EPSSC243500UX	3.5	9.0	50	4	2
EPSSC203500U	EPSSC203500UX	3.5	9.0	50	6	2
EPSSC244000U	EPSSC244000UX	4.0	10.0	50	4	2
EPSSC204000U	EPSSC204000UX	4.0	10.0	50	6	2
EPSSC204500U	EPSSC204500UX	4.5	11.0	50	6	2
EPSSC205000U	EPSSC205000UX	5.0	13.0	50	6	2
EPSSC205500U	EPSSC205500UX	5.5	14.0	50	6	2
EPSSC206000U	EPSSC206000UX	6.0	15.0	50	6	2

(continued)

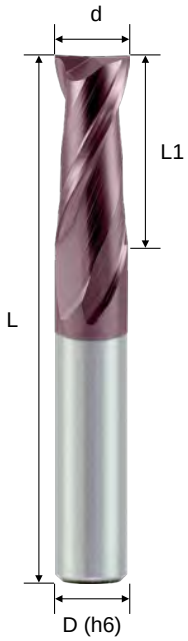
G55C - Square · Standard · Helix 30 · 2F 平銑刀・標準型・2 刃

- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

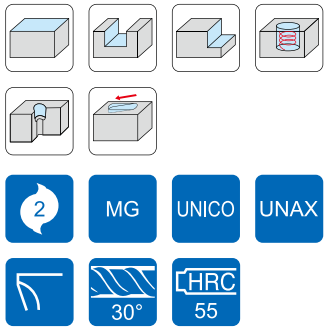
ASIA (Metric)

EPSSC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSSC206500U	EPSSC206500UX	6.5	16.0	60	8	2
EPSSC207000U	EPSSC207000UX	7.0	18.0	60	8	2
EPSSC208000U	EPSSC208000UX	8.0	20.0	60	8	2
EPSSC209000U	EPSSC209000UX	9.0	22.0	75	10	2
EPSSC210000U	EPSSC210000UX	10.0	25.0	75	10	2
EPSSC211000U	EPSSC211000UX	11.0	25.0	75	12	2
EPSSC212000U	EPSSC212000UX	12.0	30.0	75	12	2
EPSSC214000U	EPSSC214000UX	14.0	30.0	75	14	2
EPSSC216000U	EPSSC216000UX	16.0	40.0	100	16	2
EPSSC218000U	EPSSC218000UX	18.0	40.0	100	20	2
EPSSC220000U	EPSSC220000UX	20.0	45.0	100	20	2
EPSSC225000U	EPSSC225000UX	25.0	45.0	100	25	2



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	380	10000	300	8386	251	5095	152	8386	251
4mm	9550	382	7560	302	6290	251	3820	152	6290	251
6mm	6370	445	5040	352	4200	294	2548	178	4200	294
8mm	4770	333	3780	264	3140	220	1910	133	3140	220
10mm	3820	230	3020	181	2515	150	1528	92	2515	150
12mm	3180	190	2520	151	2100	126	1274	76	2100	126
	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d	

G55A - Square · Standard · Helix 35 · 2F 平銑刀・標準型・2 刃

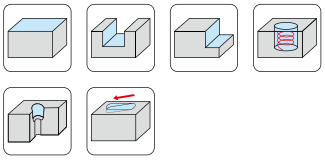
- Suitable for semi-finishing to medium.
- Sharp geometry design has semi-finishing ability of cutting edges.
- G55A with UNICO (Ti, Al, N) coating for general milling.
- G55AX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

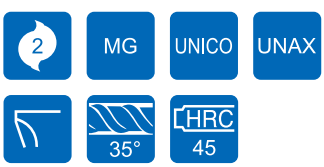
ASIA (Metric)

EPSSA

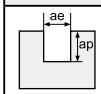
	P	M	K	N	S	H
G55A	●	○	●			○
G55AX	●	●	●		○	○

Order No.		Dia.	CL	OAL	Shank	Flutes
G55A	G55AX	(d)	(L1)	(L)	(D)	(Z)
EPSSA241000U	EPSSA241000UX	1	3	50	4	2
EPSSA241500U	EPSSA241500UX	1.5	4	50	4	2
EPSSA242000U	EPSSA242000UX	2	5	50	4	2
EPSSA242500U	EPSSA242500UX	2.5	6	50	4	2
EPSSA243000U	EPSSA243000UX	3	8	50	4	2
EPSSA243500U	EPSSA243500UX	3.5	9	50	4	2
EPSSA244000U	EPSSA244000UX	4	10	50	4	2
EPSSA204500U	EPSSA204500UX	4.5	11	50	6	2
EPSSA205000U	EPSSA205000UX	5	13	50	6	2
EPSSA205500U	EPSSA205500UX	5.5	14	50	6	2
EPSSA206000U	EPSSA206000UX	6	15	50	6	2
EPSSA206500U	EPSSA206500UX	6.5	16	60	8	2
EPSSA207000U	EPSSA207000UX	7	18	60	8	2
EPSSA208000U	EPSSA208000UX	8	20	60	8	2
EPSSA209000U	EPSSA209000UX	9	22	75	10	2
EPSSA210000U	EPSSA210000UX	10	25	75	10	2
EPSSA212000U	EPSSA212000UX	12	30	75	12	2
EPSSA214000U	EPSSA214000UX	14	30	75	14	2
EPSSA216000U	EPSSA216000UX	16	40	100	16	2
EPSSA218000U	EPSSA218000UX	18	40	100	20	2
EPSSA220000U	EPSSA220000UX	20	45	100	20	2
EPSSA225000U	EPSSA225000UX	25	45	100	25	2





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	380	10000	300	8386	251	5095	152	8386	251
4mm	9550	382	7560	302	6290	251	3820	152	6290	251
6mm	6370	445	5040	352	4200	294	2548	178	4200	294
8mm	4770	333	3780	264	3140	220	1910	133	3140	220
10mm	3820	230	3020	181	2515	150	1528	92	2515	150
12mm	3180	190	2520	151	2100	126	1274	76	2100	126
	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d	

G55C - Square · Standard · Helix 30 · 3F

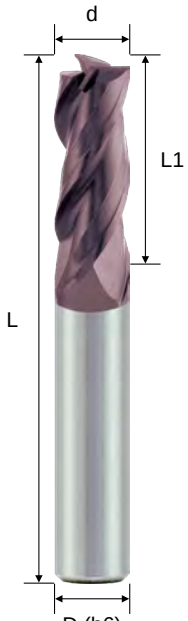
平銑刀・標準型・3 刃

- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

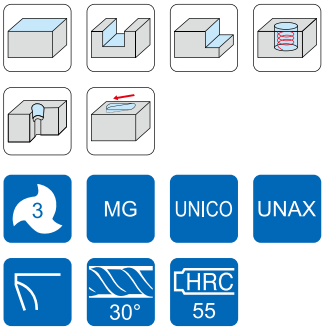
ASIA (Metric)

EPSSC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSSC331000U	EPSSC331000UX	1.0	3	50	3	3
EPSSC341000U	EPSSC341000UX	1.0	3	50	4	3
EPSSC331500U	EPSSC331500UX	1.5	4	50	3	3
EPSSC341500U	EPSSC341500UX	1.5	4	50	4	3
EPSSC332000U	EPSSC332000UX	2.0	5	50	3	3
EPSSC342000U	EPSSC342000UX	2.0	5	50	4	3
EPSSC342500U	EPSSC342500UX	2.5	6	50	4	3
EPSSC333000U	EPSSC333000UX	3.0	8	50	3	3
EPSSC343000U	EPSSC343000UX	3.0	8	50	4	3
EPSSC303000U	EPSSC303000UX	3.0	8	50	6	3
EPSSC343500U	EPSSC343500UX	3.5	9	50	4	3
EPSSC303500U	EPSSC303500UX	3.5	9	50	6	3
EPSSC344000U	EPSSC344000UX	4.0	10	50	4	3
EPSSC304000U	EPSSC304000UX	4.0	10	50	6	3
EPSSC304500U	EPSSC304500UX	4.5	11	50	6	3
EPSSC305000U	EPSSC305000UX	5.0	13	50	6	3
EPSSC305500U	EPSSC305500UX	5.5	14	50	6	3
EPSSC306000U	EPSSC306000UX	6.0	15	50	6	3
EPSSC306500U	EPSSC306500UX	6.5	16	60	8	3
EPSSC307000U	EPSSC307000UX	7.0	18	60	8	3
EPSSC308000U	EPSSC308000UX	8.0	20	60	8	3
EPSSC309000U	EPSSC309000UX	9.0	22	75	10	3
EPSSC310000U	EPSSC310000UX	10.0	25	75	10	3
EPSSC311000U	EPSSC311000UX	11.0	25	75	12	3
EPSSC312000U	EPSSC312000UX	12.0	30	75	12	3
EPSSC314000U	EPSSC314000UX	14.0	30	75	14	3
EPSSC316000U	EPSSC316000UX	16.0	40	100	16	3
EPSSC318000U	EPSSC318000UX	18.0	40	100	20	3
EPSSC320000U	EPSSC320000UX	20.0	45	100	20	3
EPSSC325000U	EPSSC325000UX	25.0	45	100	25	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

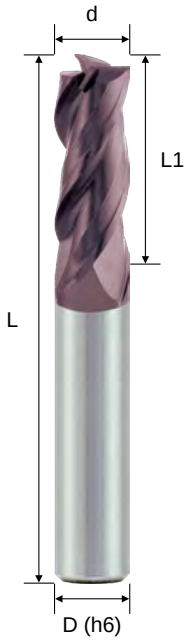
G55A - Square · Standard · Helix 35 · 3F 平銑刀・標準型・3 刃

- Suitable for semi-finishing to medium.
- Sharp geometry design has semi-finishing ability of cutting edges.
- G55A with UNICO (Ti, Al, N) coating for general milling.
- G55AX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

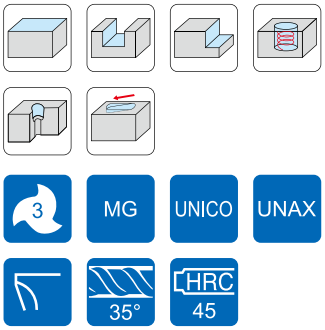
ASIA (Metric)

EPSSA

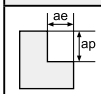
	P	M	K	N	S	H
G55A	●	○	●			○
G55AX	●	●	●		○	○



Order No.		Dia.	CL	OAL	Shank	Flutes
G55A	G55AX	(d)	(L1)	(L)	(D)	(Z)
EPSSA341000U	EPSSA341000UX	1	3	50	4	3
EPSSA341500U	EPSSA341500UX	1.5	4	50	4	3
EPSSA342000U	EPSSA342000UX	2	5	50	4	3
EPSSA342500U	EPSSA342500UX	2.5	6	50	4	3
EPSSA343000U	EPSSA343000UX	3	8	50	4	3
EPSSA344000U	EPSSA344000UX	4	10	50	4	3
EPSSA305000U	EPSSA305000UX	5	13	50	6	3
EPSSA306000U	EPSSA306000UX	6	15	50	6	3
EPSSA308000U	EPSSA308000UX	8	20	60	8	3
EPSSA310000U	EPSSA310000UX	10	25	75	10	3
EPSSA312000U	EPSSA312000UX	12	30	75	12	3
EPSSA314000U	EPSSA314000UX	14	30	75	14	3
EPSSA316000U	EPSSA316000UX	16	40	100	16	3
EPSSA320000U	EPSSA320000UX	20	45	100	20	3
EPSSA325000U	EPSSA325000UX	25	45	100	25	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

G55C - Square · Standard · Helix 30 · 4F

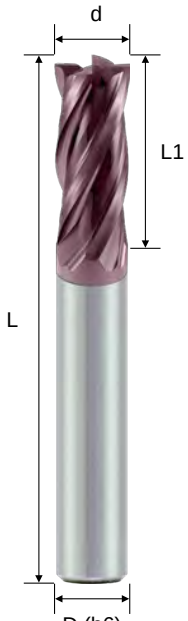
平銑刀・標準型・4 刃

- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

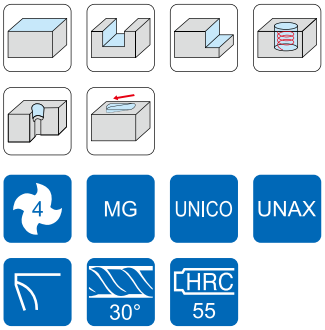
ASIA (Metric)

EPSSC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSSC431000U	EPSSC431000UX	1.0	3	50	3	4
EPSSC441000U	EPSSC441000UX	1.0	3	50	4	4
EPSSC431500U	EPSSC431500UX	1.5	4	50	3	4
EPSSC441500U	EPSSC441500UX	1.5	4	50	4	4
EPSSC432000U	EPSSC432000UX	2.0	5	50	3	4
EPSSC442000U	EPSSC442000UX	2.0	5	50	4	4
EPSSC442500U	EPSSC442500UX	2.5	6	50	4	4
EPSSC433000U	EPSSC433000UX	3.0	8	50	3	4
EPSSC443000U	EPSSC443000UX	3.0	8	50	4	4
EPSSC403000U	EPSSC403000UX	3.0	8	50	6	4
EPSSC443500U	EPSSC443500UX	3.5	9	50	4	4
EPSSC403500U	EPSSC403500UX	3.5	9	50	6	4
EPSSC444000U	EPSSC444000UX	4.0	10	50	4	4
EPSSC404000U	EPSSC404000UX	4.0	10	50	6	4
EPSSC404500U	EPSSC404500UX	4.5	11	50	6	4
EPSSC405000U	EPSSC405000UX	5.0	13	50	6	4
EPSSC405500U	EPSSC405500UX	5.5	14	50	6	4
EPSSC406000U	EPSSC406000UX	6.0	15	50	6	4
EPSSC406500U	EPSSC406500UX	6.5	16	60	8	4
EPSSC407000U	EPSSC407000UX	7.0	18	60	8	4
EPSSC408000U	EPSSC408000UX	8.0	20	60	8	4
EPSSC409000U	EPSSC409000UX	9.0	22	75	10	4
EPSSC410000U	EPSSC410000UX	10.0	25	75	10	4
EPSSC411000U	EPSSC411000UX	11.0	25	75	12	4
EPSSC412000U	EPSSC412000UX	12.0	30	75	12	4
EPSSC414000U	EPSSC414000UX	14.0	30	75	14	4
EPSSC416000U	EPSSC416000UX	16.0	40	100	16	4
EPSSC418000U	EPSSC418000UX	18.0	40	100	20	4
EPSSC420000U	EPSSC420000UX	20.0	45	100	20	4
EPSSC425000U	EPSSC425000UX	25.0	45	100	25	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

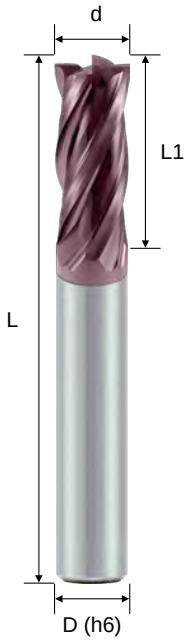
G55A - Square · Standard · Helix 35 · 4F 平銑刀・標準型・4 刃

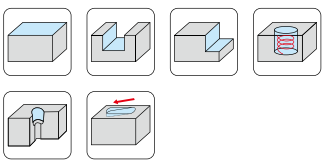
- Suitable for semi-finishing to medium.
- Sharp geometry design has semi-finishing ability of cutting edges.
- G55A with UNICO (Ti, Al, N) coating for general milling.
- G55AX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

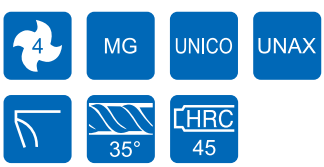
ASIA (Metric)

EPSSA

	P	M	K	N	S	H
G55A	●	○	●			○
G55AX	●	●	●		○	○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.		Dia.	CL	OAL	Shank	Flutes
G55A	G55AX	(d)	(L1)	(L)	(D)	(Z)
EPSSA441000U	EPSSA441000UX	1	3	50	4	4
EPSSA441100U	EPSSA441100UX	1.1	3	50	4	4
EPSSA441200U	EPSSA441200UX	1.2	3	50	4	4
EPSSA441300U	EPSSA441300UX	1.3	3	50	4	4
EPSSA441400U	EPSSA441400UX	1.4	3	50	4	4
EPSSA441500U	EPSSA441500UX	1.5	4	50	4	4
EPSSA441600U	EPSSA441600UX	1.6	4	50	4	4
EPSSA441700U	EPSSA441700UX	1.7	4	50	4	4
EPSSA441800U	EPSSA441800UX	1.8	4	50	4	4
EPSSA441900U	EPSSA441900UX	1.9	4	50	4	4
EPSSA442000U	EPSSA442000UX	2	5	50	4	4
EPSSA442100U	EPSSA442100UX	2.1	5	50	4	4
EPSSA442200U	EPSSA442200UX	2.2	5	50	4	4
EPSSA442300U	EPSSA442300UX	2.3	5	50	4	4
EPSSA442400U	EPSSA442400UX	2.4	5	50	4	4
EPSSA442500U	EPSSA442500UX	2.5	6	50	4	4
EPSSA442600U	EPSSA442600UX	2.6	6	50	4	4
EPSSA442700U	EPSSA442700UX	2.7	6	50	4	4
EPSSA442800U	EPSSA442800UX	2.8	6	50	4	4
EPSSA442900U	EPSSA442900UX	2.9	6	50	4	4
EPSSA443000U	EPSSA443000UX	3	8	50	4	4
EPSSA444000U	EPSSA444000UX	4	10	50	4	4
EPSSA405000U	EPSSA405000UX	5	13	50	6	4
EPSSA406000U	EPSSA406000UX	6	15	50	6	4
EPSSA408000U	EPSSA408000UX	8	20	60	8	4
EPSSA410000U	EPSSA410000UX	10	25	75	10	4
EPSSA412000U	EPSSA412000UX	12	30	75	12	4
EPSSA414000U	EPSSA414000UX	14	30	75	14	4
EPSSA416000U	EPSSA416000UX	16	40	100	16	4
EPSSA420000U	EPSSA420000UX	20	45	100	20	4
EPSSA425000U	EPSSA425000UX	25	45	100	25	4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252

ap = 1d
ae = 0.05d

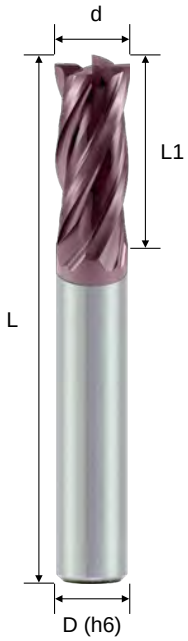
G55C - Square · Shape Edge · Helix 30 · 4F 平銑刀・銳角型・4 刃

- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- Unprotected cutting edge design provides high precision side milling.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

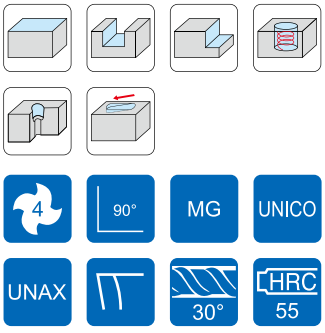
ASIA (Metric)

EPSPC

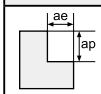
	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSPC441000U	EPSPC441000UX	1	3	50	4	4
EPSPC442000U	EPSPC442000UX	2	5	50	4	4
EPSPC443000U	EPSPC443000UX	3	8	50	4	4
EPSPC444000U	EPSPC444000UX	4	10	50	4	4
EPSPC405000U	EPSPC405000UX	5	13	50	6	4
EPSPC406000U	EPSPC406000UX	6	15	50	6	4
EPSPC408000U	EPSPC408000UX	8	20	60	8	4
EPSPC410000U	EPSPC410000UX	10	25	75	10	4
EPSPC412000U	EPSPC412000UX	12	30	75	12	4
EPSPC416000U	EPSPC416000UX	16	40	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

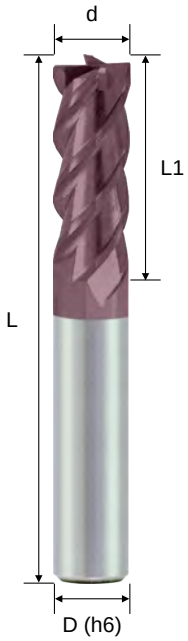
G55C - Square · Helix 45 · 4F 平銑刀・高導型・4 刃

- Suitable for medium to roughing.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Strong helix design provides high speed milling capabilities.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

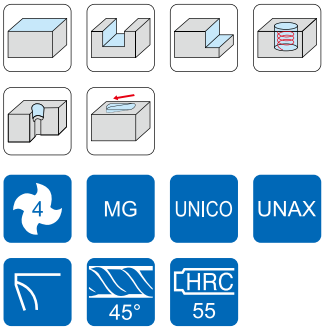
ASIA (Metric)

EPSSH

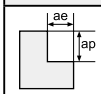
	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	○	●		○	●



Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSSH441000U	EPSSH441000UX	1.0	3	50	4	4
EPSSH442000U	EPSSH442000UX	2.0	5	50	4	4
EPSSH443000U	EPSSH443000UX	3.0	8	50	4	4
EPSSH444000U	EPSSH444000UX	4.0	10	50	4	4
EPSSH405000U	EPSSH405000UX	5.0	13	50	6	4
EPSSH406000U	EPSSH406000UX	6.0	15	50	6	4
EPSSH407000U	EPSSH407000UX	7.0	18	60	8	4
EPSSH408000U	EPSSH408000UX	8.0	20	60	8	4
EPSSH409000U	EPSSH409000UX	9.0	22	75	10	4
EPSSH410000U	EPSSH410000UX	10.0	25	75	10	4
EPSSH411000U	EPSSH411000UX	11.0	25	75	12	4
EPSSH412000U	EPSSH412000UX	12.0	30	75	12	4
EPSSH414000U	EPSSH414000UX	14.0	30	75	14	4
EPSSH416000U	EPSSH416000UX	16.0	40	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	7430	743
4mm	9550	764	7560	604	6290	503	3820	305	5570	577
6mm	6370	890	5040	705	4200	588	2548	356	3720	595
8mm	4770	668	3780	529	3140	440	1910	267	2780	556
10mm	3820	458	3020	362	2515	301	1528	183	2230	535
12mm	3180	380	2520	302	2100	252	1274	152	1860	484
	ap = 1.5d ae = 0.05d									

G55A - Square · Helix 45 · 4F

平銑刀・高導型・4 刃

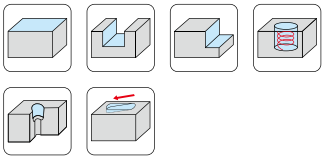
- Suitable for semi-finishing to medium.
- Sharp geometry design has semi-finishing ability of cutting edges.
- U-flute design with high chips volume space and easy to remove chips.
- G55A with UNICO (Ti, Al, N) coating for general milling.
- G55AX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

ASIA (Metric)

EPSSH

	P	M	K	N	S	H
G55A	●	○	●			○
G55AX	●	●	●		●	○

Order No.		Dia.	CL	OAL	Shank	Flutes
G55A	G55AX	(d)	(L1)	(L)	(D)	(Z)
EPSSH441001U	EPSSH441001UX	1	3	50	4	4
EPSSH442001U	EPSSH442001UX	2	5	50	4	4
EPSSH443001U	EPSSH443001UX	3	8	50	4	4
EPSSH444001U	EPSSH444001UX	4	10	50	4	4
EPSSH404001U	EPSSH404001UX	4	10	50	6	4
EPSSH405001U	EPSSH405001UX	5	13	50	6	4
EPSSH406001U	EPSSH406001UX	6	15	50	6	4
EPSSH408001U	EPSSH408001UX	8	20	60	8	4
EPSSH410001U	EPSSH410001UX	10	25	75	10	4
EPSSH412001U	EPSSH412001UX	12	30	75	12	4
EPSSH416001U	EPSSH416001UX	16	35	100	16	4



4 | MG | UNICO | UNAX

45° | HRC 45

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

WORKING MATERIAL	Carbon steel (S45C)		Alloy Steel (SKD)		Stainless steel (SUS304, SUS316)	
Vc	130 m/min		90 m/min		80 m/min	
Diameter (d)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)
4mm	10350	0.020	7170	0.020	6370	0.020
6mm	6900	0.025	4780	0.025	4250	0.025
8mm	5180	0.035	3580	0.035	3190	0.035
10mm	4140	0.045	2870	0.040	2550	0.040
12mm	3450	0.055	2390	0.050	2120	0.050
16mm	2590	0.072	1790	0.064	1590	0.064
	ap = 1d ae = 0.1d					

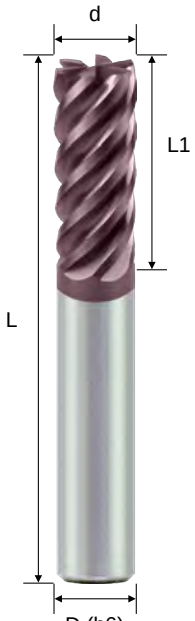
G55C - Square · Helix 45 · 6F 平銑刀・高導型・6 刃

- Suitable for medium to roughing.
- Strong helix design provides high speed milling capabilities.
- Six flute for good surface milling.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

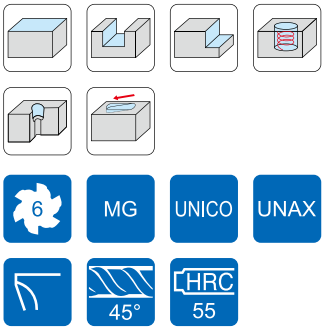
ASIA (Metric)

EPSSH

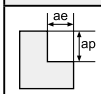
	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



Order No. G55C	Order No. G55CX	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSSH606000U	EPSSH606000UX	6	15	50	6	6
EPSSH608000U	EPSSH608000UX	8	20	60	8	6
EPSSH610000U	EPSSH610000UX	10	25	75	10	6
EPSSH612000U	EPSSH612000UX	12	30	75	12	6



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	7430	743
4mm	9550	764	7560	604	6290	503	3820	305	5570	577
6mm	6370	890	5040	705	4200	588	2548	356	3720	595
8mm	4770	668	3780	529	3140	440	1910	267	2780	556
10mm	3820	458	3020	362	2515	301	1528	183	2230	535
12mm	3180	380	2520	302	2100	252	1274	152	1860	484
	ap = 1.5d ae = 0.05d									

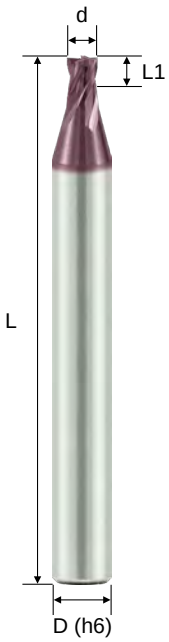
G55C - Square · Short · Helix 30 · 4F 平銑刀・短刃型・4 刃

- The cutting length of approximately 1×D, suitable for medium to roughing.
- Short cutting length with high rigidity is suitable for high feed milling.
- For die, mold, mechanical and electronic parts made of steel.
- Good for surface milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

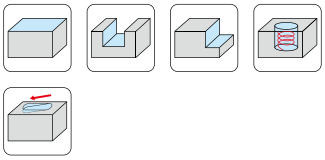
ASIA (Metric)

EPSHC

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSHC441000U	1.0	1.0	50	4	4
EPSHC441500U	1.5	1.5	50	4	4
EPSHC442000U	2.0	2.0	50	4	4
EPSHC442500U	2.5	2.5	50	4	4
EPSHC403000U	3.0	3.0	50	6	4
EPSHC404000U	4.0	4.0	50	6	4
EPSHC405000U	5.0	5.0	50	6	4
EPSHC406000U	6.0	6.0	50	6	4
EPSHC408000U	8.0	8.0	60	8	4
EPSHC410000U	10.0	10.0	75	10	4
EPSHC412000U	12.0	12.0	75	12	4



4 | MG | UNICO | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Working Material	Cutting Application	ae (mm)	ap (mm)	Vc (m/min)	fz (mm/z)					
					1mm	2mm	3mm	4mm	5mm	6mm
Carbon steel (S45C, S50C)	Slot milling	1×d	≤ 0.5×d	50 ~ 90	0.007	0.013	0.018	0.024	0.030	0.036
	Side milling	≤ 0.3×d	≤ 0.3×d	55 ~ 100	0.007	0.013	0.018	0.024	0.030	0.036
Alloy steel & Tool steel (SCM, SKT, SKD)	Slot milling	1×d	≤ 0.5×d	40 ~ 70	0.006	0.012	0.017	0.022	0.028	0.033
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 80	0.006	0.012	0.017	0.022	0.028	0.033
Stainless steel (SUS304, SUS316)	Slot milling	1×d	≤ 0.5×d	30 ~ 40	0.006	0.011	0.015	0.020	0.025	0.030
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 60	0.006	0.011	0.015	0.020	0.025	0.030
Hardened steel & High temperature alloy	Slot milling	1×d	≤ 0.5×d	20 ~ 40	0.005	0.010	0.014	0.018	0.023	0.027
	Side milling	≤ 0.3×d	≤ 0.3×d	30 ~ 55	0.005	0.010	0.014	0.018	0.023	0.027

Slot milling

Side milling

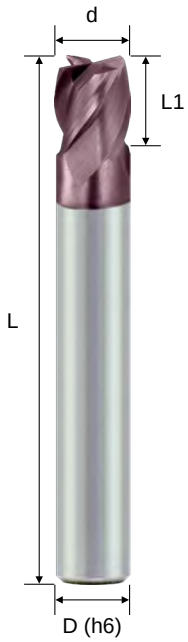
G55A - Square · Short · Helix 35 · 4F 平銑刀・短刃型・4 刃

- Suitable for semi-finishing to medium.
- Sharp geometry design has semi-finishing ability of cutting edges.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

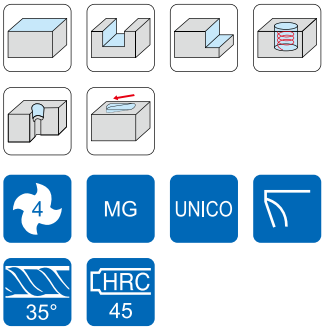
ASIA (Metric)

EPSHA

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSHA443000U	3	3	50	4	4
EPSHA444000U	4	4	50	4	4
EPSHA404000U	4	4	50	6	4
EPSHA405000U	5	5	50	6	4
EPSHA406000U	6	7	50	6	4
EPSHA408000U	8	9	60	8	4
EPSHA410000U	10	11	75	10	4
EPSHA412000U	12	13	75	12	4
EPSHA414000U	14	15	75	14	4
EPSHA416000U	16	17	100	16	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

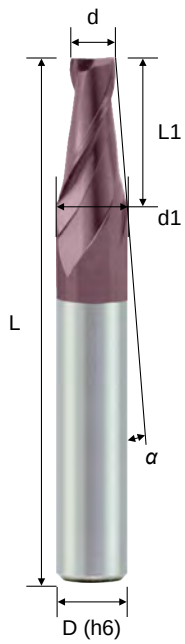
G55C - Square · Taper · Helix 35 · 2F 平銑刀・斜度型・2 刃

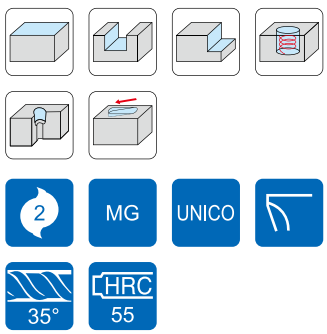
- Suitable for medium to roughing.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPSST

P	M	K	N	S	H
●	○	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	α	CL (L1)	NL (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSST24015CU	0.15	20°	5.29	-	42	4	2
EPSST24030CU	0.30	20°	5.08	-	42	4	2
EPSST24030DU	0.30	25°	3.96	-	42	4	2
EPSST24060BU	0.60	15°	4.50	-	42	4	2
EPSST24060CU	0.60	20°	4.67	-	42	4	2
EPSST24120CU	1.20	20°	3.84	-	42	4	2
EPSST241005U	1.0	0.5°	4.0	1.07	50	4	2
EPSST241010U	1.0	1.0°	4.0	1.14	50	4	2
EPSST241015U	1.0	1.5°	4.0	1.21	50	4	2
EPSST241020U	1.0	2.0°	4.0	1.28	50	4	2
EPSST241025U	1.0	2.5°	4.0	1.35	50	4	2
EPSST241030U	1.0	3.0°	4.0	1.42	50	4	2
EPSST241050U	1.0	5.0°	4.0	1.70	50	4	2
EPSST241070U	1.0	7.0°	4.0	1.98	50	4	2
EPSST2410A0U	1.0	10.0°	4.0	2.41	50	4	2
EPSST2410A5U	1.0	15.0°	4.0	3.14	50	4	2
EPSST241505U	1.5	0.5°	5.0	1.59	50	4	2
EPSST241510U	1.5	1.0°	5.0	1.68	50	4	2
EPSST241515U	1.5	1.5°	5.0	1.76	50	4	2
EPSST241520U	1.5	2.0°	5.0	1.85	50	4	2
EPSST241525U	1.5	2.5°	5.0	1.93	50	4	2
EPSST241530U	1.5	3.0°	5.0	2.02	50	4	2
EPSST241550U	1.5	5.0°	5.0	2.37	50	4	2
EPSST242005U	2.0	0.5°	6.0	2.10	50	4	2
EPSST242010U	2.0	1.0°	6.0	2.21	50	4	2
EPSST242015U	2.0	1.5°	6.0	2.31	50	4	2
EPSST242020U	2.0	2.0°	6.0	2.41	50	4	2
EPSST242025U	2.0	2.5°	6.0	2.52	50	4	2
EPSST242030U	2.0	3.0°	6.0	2.62	50	4	2
EPSST242050U	2.0	5.0°	6.0	3.05	50	4	2
EPSST242070U	2.0	7.0°	6.0	3.47	50	4	2
EPSST2020A0U	2.0	10.0°	6.0	4.11	50	6	2
EPSST2020A5U	2.0	15.0°	6.0	5.22	50	6	2
EPSST242505U	2.5	0.5°	8.0	2.64	50	4	2
EPSST242510U	2.5	1.0°	8.0	2.78	50	4	2
EPSST242515U	2.5	1.5°	8.0	2.91	50	4	2
EPSST242520U	2.5	2.0°	8.0	3.05	50	4	2
EPSST242525U	2.5	2.5°	8.0	3.20	50	4	2
EPSST242530U	2.5	3.0°	8.0	3.33	50	4	2
EPSST242550U	2.5	5.0°	8.0	3.90	50	4	2

(continued)

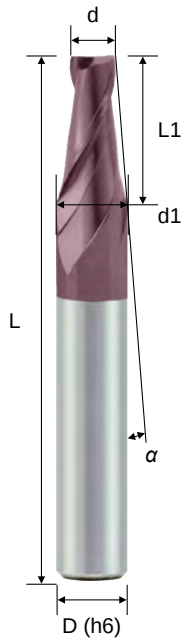
G55C - Square · Taper · Helix 35 · 2F 平銑刀・斜度型・2 刃

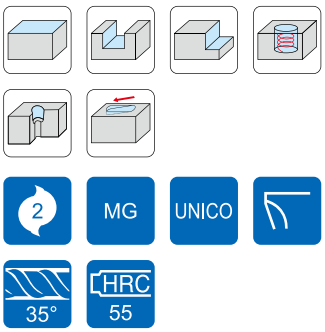
- Suitable for medium to roughing.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPSST

P	M	K	N	S	H
●	○	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	α	CL (L1)	NL (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSST203005U	3.0	0.5°	10.0	3.17	50	6	2
EPSST203010U	3.0	1.0°	10.0	3.35	50	6	2
EPSST203015U	3.0	1.5°	10.0	3.52	50	6	2
EPSST203020U	3.0	2.0°	10.0	3.69	50	6	2
EPSST203025U	3.0	2.5°	10.0	3.87	50	6	2
EPSST203030U	3.0	3.0°	10.0	4.05	50	6	2
EPSST203050U	3.0	5.0°	10.0	4.75	50	6	2
EPSST203070U	3.0	7.0°	12.0	6.00	50	6	2
EPSST2030A0U	3.0	10.0°	12.0	7.22	60	8	2
EPSST2030A5U	3.0	15.0°	12.0	9.40	75	10	2
EPSST204005U	4.0	0.5°	15.0	4.26	50	6	2
EPSST204010U	4.0	1.0°	15.0	4.52	50	6	2
EPSST204015U	4.0	1.5°	15.0	4.79	50	6	2
EPSST204020U	4.0	2.0°	15.0	5.04	50	6	2
EPSST204025U	4.0	2.5°	15.0	5.31	50	6	2
EPSST204030U	4.0	3.0°	15.0	5.57	50	6	2
EPSST204050U	4.0	5.0°	15.0	6.62	60	8	2
EPSST204070U	4.0	7.0°	16.0	8.00	60	8	2
EPSST2040A0U	4.0	10.0°	17.0	10.00	75	10	2
EPSST2040A5U	4.0	15.0°	14.9	12.00	75	12	2
EPSST205005U	5.0	0.5°	20.0	5.34	60	6	2
EPSST205010U	5.0	1.0°	20.0	5.70	60	6	2
EPSST205015U	5.0	1.5°	19.6	6.00	60	6	2
EPSST205020U	5.0	2.0°	20.0	6.39	60	8	2
EPSST205025U	5.0	2.5°	20.0	6.74	60	8	2
EPSST205030U	5.0	3.0°	20.0	7.10	60	8	2
EPSST205050U	5.0	5.0°	20.0	8.50	75	10	2
EPSST205070U	5.0	7.0°	20.0	10.00	75	10	2
EPSST2050A0U	5.0	10.0°	20.0	12.00	75	12	2
EPSST206005U	6.0	0.5°	20.0	6.35	60	8	2
EPSST206010U	6.0	1.0°	20.0	6.70	60	8	2
EPSST206015U	6.0	1.5°	20.0	7.05	60	8	2
EPSST206020U	6.0	2.0°	20.0	7.40	60	8	2
EPSST206025U	6.0	2.5°	20.0	7.75	60	8	2
EPSST206030U	6.0	3.0°	20.0	8.10	75	10	2
EPSST206050U	6.0	5.0°	20.0	9.50	75	10	2
EPSST206070U	6.0	7.0°	24.0	12.00	75	12	2
EPSST2060A0U	6.0	10.0°	22.0	14.00	75	14	2

(continued)

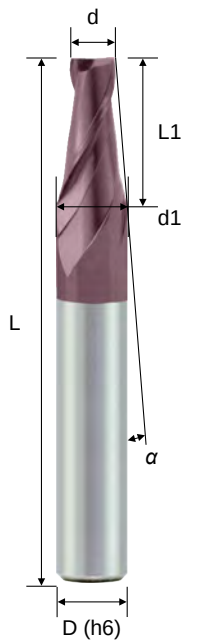
G55C - Square · Taper · Helix 35 · 2F　平銑刀・斜度型・2 刃

- Suitable for medium to roughing.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

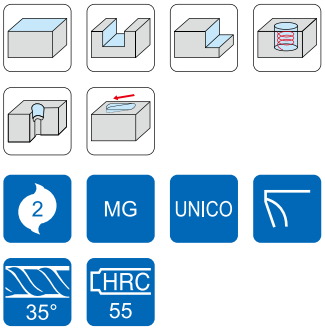
ASIA (Metric)

EPSST

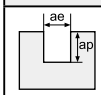
P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	α	CL (L1)	NL (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSST208005U	8.0	0.5°	25.0	8.44	75	10	2
EPSST208010U	8.0	1.0°	25.0	8.87	75	10	2
EPSST208015U	8.0	1.5°	25.0	9.31	75	10	2
EPSST208020U	8.0	2.0°	25.0	9.75	75	10	2
EPSST208030U	8.0	3.0°	25.0	10.62	75	12	2
EPSST208050U	8.0	5.0°	25.0	12.37	75	14	2
EPSST208070U	8.0	7.0°	32.0	16.00	100	16	2
EPSST2080A0U	8.0	10.0°	28.0	18.00	100	18	2
EPSST210005U	10.0	0.5°	35.0	10.61	75	12	2
EPSST210010U	10.0	1.0°	35.0	11.22	75	12	2
EPSST210015U	10.0	1.5°	35.0	11.83	75	12	2
EPSST210020U	10.0	2.0°	35.0	12.44	75	14	2
EPSST210030U	10.0	3.0°	35.0	13.67	75	14	2
EPSST210050U	10.0	5.0°	34.2	16.00	100	16	2



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20~30		HRC 30~40		HRC 45~45		–		–	
Vc	88 m/min		71 m/min		59 m/min		35 m/min		71 m/min		103 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	26,000	190	22,230	140	18,720	100	10,400	40	22,230	165	32,760	240
2mm	14,040	235	11,232	160	9,360	110	5,616	45	11,232	185	16,380	270
3mm	9,828	270	7,488	175	6,084	120	3,900	55	7,488	205	11,232	310
4mm	7,020	260	5,616	175	4,680	120	2,808	50	5,616	205	8,424	310
5mm	5,850	270	4,446	175	3,744	120	2,340	55	4,446	205	6,552	300
6mm	4,680	260	3,744	175	3,042	120	1,872	50	3,744	205	5,616	310
8mm	3,510	260	2,808	175	2,340	120	1,404	50	2,808	205	4,212	310
10mm	2,808	260	2,223	175	1,872	120	1,131	50	2,223	205	3,276	300
	ap ≤ 0.05d / ae 1d (d < 3)				ap 0.1d / ae 1d (d ≥ 3)				ap ≤ 0.25d / ae 1d (d < 3)		ap 0.5d / ae 1d (d ≥ 3)	

G55C - Square · Rough · Helix 30 · 4F 平銑刀・粗銑型・4 刃

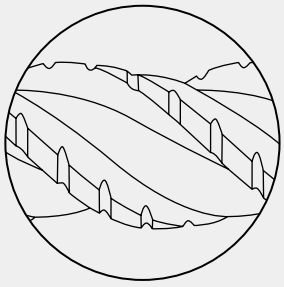
- Suitable for rough and high remove rate cutting environment.
- Chamfering design provides a stronger cutting edge.
- Middle coarse pitch provides high performance and avoids tip fracture.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

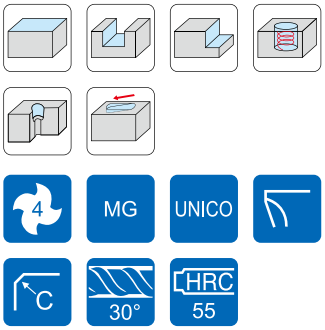
ASIA (Metric)

EPSRR

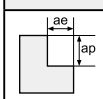
P	M	K	N	S	H
●	○	●			○

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSRR406000U	6	15	50	6	4
EPSRR408000U	8	20	60	8	4
EPSRR410000U	10	25	75	10	4
EPSRR412000U	12	30	75	12	4
EPSRR416000U	16	40	100	16	4
EPSRR420000U	20	45	100	20	4





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	68 m/min		54 m/min		45 m/min		27 m/min		54 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	3600	430	2880	295	2340	200	1440	85	2880	295
8mm	2700	430	2160	295	1800	200	1080	85	2160	295
10mm	2160	430	1710	295	1440	200	860	85	1710	295
12mm	1800	430	1440	295	1200	200	720	85	1440	295
	ap = 1d ae = 0.1d		ap = 1d ae = 0.1d		ap = 1d ae = 0.1d		ap = 1d ae = 0.2d		ap = 1d ae = 0.1d	

G55C - Square · Long Shank · Helix 30 · 2F

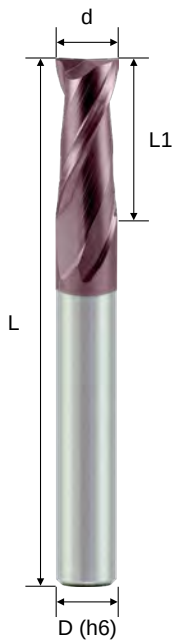
平銑刀・長柄型・2 刃

- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- Available in various length of cut and overall length end mills.
- Flat design to avoid chipping of the cutting tip.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

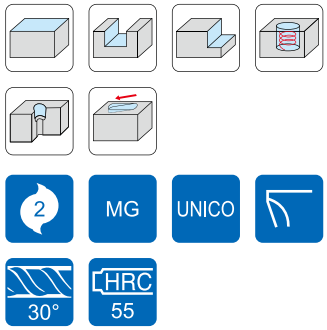
ASIA (Metric)

EPSLC

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSLC241006U	1	3	60	4	2
EPSLC241007U	1	3	75	4	2
EPSLC242006U	2	5	60	4	2
EPSLC242007U	2	5	75	4	2
EPSLC243006U	3	8	60	4	2
EPSLC243007U	3	8	75	4	2
EPSLC244006U	4	10	60	4	2
EPSLC244007U	4	10	75	4	2
EPSLC244010U	4	10	100	4	2
EPSLC204006U	4	10	60	6	2
EPSLC204007U	4	10	75	6	2
EPSLC204010U	4	10	100	6	2
EPSLC206006U	6	15	60	6	2
EPSLC206007U	6	15	75	6	2
EPSLC206010U	6	15	100	6	2
EPSLC208007U	8	20	75	8	2
EPSLC208010U	8	20	100	8	2
EPSLC208015U	8	20	150	8	2
EPSLC210010U	10	25	100	10	2
EPSLC210015U	10	25	150	10	2
EPSLC212010U	12	30	100	12	2
EPSLC212015U	12	30	150	12	2
EPSLC216015U	16	40	150	16	2
EPSLC220015U	20	40	150	20	2



d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10800	323	8500	255	7128	213	4330	130	7128	213
4mm	8118	324	4626	256	5346	213	3247	130	5346	213
6mm	5414	378	4284	300	3570	250	2165	151	3570	250
8mm	4054	283	3210	224	2670	187	1624	113	2670	187
10mm	3248	195	2568	154	2138	127	1298	78	2138	127
12mm	2700	160	2142	128	1785	107	1082	65	1785	107
	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d	

G55C - Square · Long Shank · Helix 30 · 4F 平銑刀・長柄型・4 刃

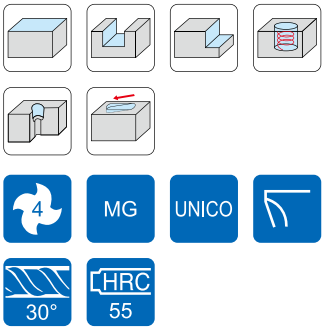
- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- Available in various length of cut and overall length end mills.
- Flat design to avoid chipping of the cutting tip.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

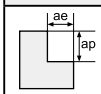
ASIA (Metric)

EPSLC

P	M	K	N	S	H
●	○	●			○

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPSLC442007U	2	5	75	4	4
EPSLC443007U	3	8	75	4	4
EPSLC443010U	3	8	100	4	4
EPSLC444006U	4	10	60	4	4
EPSLC444007U	4	10	75	4	4
EPSLC444010U	4	10	100	4	4
EPSLC404006U	4	10	60	6	4
EPSLC404007U	4	10	75	6	4
EPSLC404010U	4	10	100	6	4
EPSLC406006U	6	15	60	6	4
EPSLC406007U	6	15	75	6	4
EPSLC406010U	6	15	100	6	4
EPSLC408007U	8	20	75	8	4
EPSLC408010U	8	20	100	8	4
EPSLC408015U	8	20	150	8	4
EPSLC410010U	10	25	100	10	4
EPSLC410015U	10	25	150	10	4
EPSLC412010U	12	30	100	12	4
EPSLC412015U	12	30	150	12	4
EPSLC414010U	14	30	100	14	4
EPSLC414015U	14	30	150	14	4
EPSLC416015U	16	40	150	16	4
EPSLC420015U	20	40	150	20	4
EPSLC425015U	25	45	150	25	4



Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10800	647	8500	510	7128	427	4330	260	7128	427
4mm	8118	649	4626	513	5346	427	3247	260	5346	427
6mm	5414	756	4284	600	3570	500	2165	302	3570	500
8mm	4054	568	3210	450	2670	340	1624	226	2670	340
10mm	3248	389	2568	307	2138	255	1298	155	2138	255
12mm	2700	323	2142	256	1785	214	1082	129	1785	214
	ap = 1d ae = 0.05d									

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

G55C - Square · Long Flute · Helix 35 · 4F 平銑刀・長刃型・4 刃

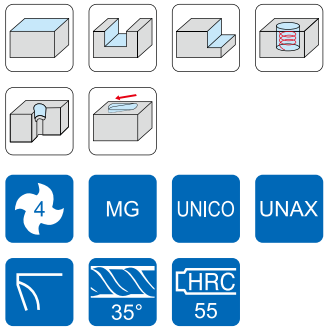
- Suitable for medium to roughing.
- Available in various length of cut and overall length end mills.
- Long cutting length is suitable for deep side milling.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

ASIA (Metric)

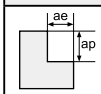
EPSCC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○

Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSCC401000U	EPSCC401000UX	1	5	60	6	4
EPSCC402000U	EPSCC402000UX	2	10	60	6	4
EPSCC443000U	EPSCC443000UX	3	15	60	4	4
EPSCC403000U	EPSCC403000UX	3	15	60	6	4
EPSCC444000U	EPSCC444000UX	4	20	60	4	4
EPSCC404000U	EPSCC404000UX	4	20	60	6	4
EPSCC405000U	EPSCC405000UX	5	25	75	6	4
EPSCC406000U	EPSCC406000UX	6	30	75	6	4
EPSCC408000U	EPSCC408000UX	8	35	100	8	4
EPSCC410000U	EPSCC410000UX	10	45	100	10	4
EPSCC412000U	EPSCC412000UX	12	45	100	12	4
EPSCC414000U	EPSCC414000UX	14	70	150	14	4
EPSCC416000U	EPSCC416000UX	16	70	150	16	4
EPSCC420000U	EPSCC420000UX	20	75	150	20	4
EPSCC425000U	EPSCC425000UX	25	75	150	25	4



d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	96 m/min		76 m/min		63 m/min		38 m/min		63 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10160	610	8000	480	6708	402	4076	244	6708	402
4mm	7640	610	6048	483	5032	402	3056	244	5032	402
6mm	5096	712	4032	564	3360	470	2038	285	3360	470
8mm	3816	534	3024	423	2512	352	1528	214	2512	352
10mm	3056	366	2416	290	2012	240	1222	146	2012	240
12mm	2544	304	2016	242	1680	202	1016	122	1680	202
	ap = 1d ae = 0.05d									

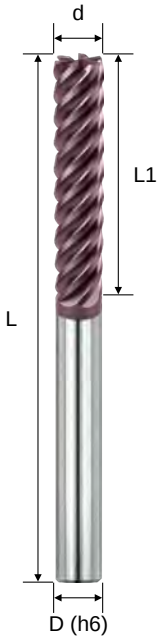
G55C - Square · Long Flute · Helix 45 · 6F 平銑刀・高導長刃型・6 刃

- Suitable for medium to roughing.
- Available in various length of cut and overall length end mills.
- Long cutting length is suitable for deep side milling.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

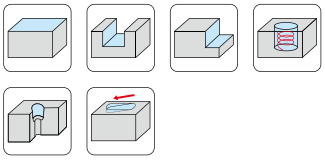
ASIA (Metric)

EPSCH

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



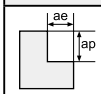
Order No.		Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(L1)	(L)	(D)	(Z)
EPSCH606000U	EPSCH606000UX	6	30	75	6	6
EPSCH608000U	EPSCH608000UX	8	35	100	8	6
EPSCH610000U	EPSCH610000UX	10	45	100	10	6
EPSCH612000U	EPSCH612000UX	12	45	100	12	6
EPSCH616000U	EPSCH616000UX	16	70	150	16	6



6 | MG | UNICO | UNAX

45° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	96 m/min		76 m/min		63 m/min		38 m/min		63 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10160	610	8000	480	67010	402	4076	244	5944	594
4mm	7640	611	6048	483	5032	402	3056	244	4456	462
6mm	5096	712	4032	564	3360	470	2040	285	2976	476
8mm	3816	534	3024	423	2512	352	1528	214	2224	445
10mm	3056	366	2416	290	2012	241	1220	146	1784	428
12mm	2544	304	2016	242	1680	202	1020	122	1488	387
	ap = 1.5d ae = 0.05d									

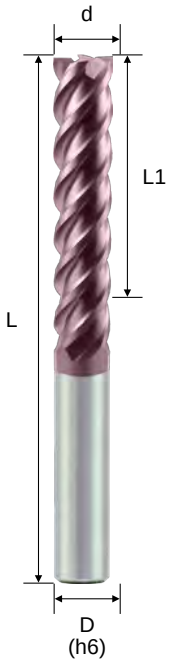
G55C - Square · Extra Long Flute · Helix 45 · 4F 平銑刀・高導超長刃型・4 刃

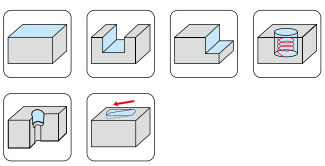
- Suitable for medium to roughing.
- Special geometry design, outstanding anti-vibrations and high surface finish quality.
- For deep side milling and finishing.
- UNAX (Ti, Al, N) smooth coating provides superior wear resistance and low friction.
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

ASIA (Metric)

EPSCH

	P	M	K	N	S	H
UNAX	●	○	●			○
SNAX	●	●	●		○	○



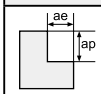


4 | MG 0.5μm | UNAX | SNAX

45° | HRC 60

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Order No.		Dia.	CL	OAL	Shank	Flutes
UNAX	SNAX	(d)	(L1)	(L)	(D)	(Z)
EPSCH406035UX	EPSCH406035S	6	35	100	6	4
EPSCH408040UX	EPSCH408040S	8	40	100	8	4
EPSCH410035UX	EPSCH410035S	10	35	75	10	4
EPSCH410050UX	EPSCH410050S	10	50	100	10	4
EPSCH412035UX	EPSCH412035S	12	35	75	12	4
EPSCH412055UX	EPSCH412055S	12	55	100	12	4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	96 m/min		76 m/min		63 m/min		38 m/min		63 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10160	610	8000	480	6708	402	4076	244	6708	402
4mm	7640	610	6048	483	5032	402	3056	244	5032	402
6mm	5096	712	4032	564	3360	470	2038	285	3360	470
8mm	3816	534	3024	423	2512	352	1528	214	2512	352
10mm	3056	366	2416	290	2012	240	1222	146	2012	240
12mm	2544	304	2016	242	1680	202	1016	122	1680	202
	ap = 1d ae = 0.05d									

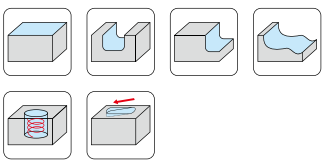
G55C - Corner Radius · Standard · Helix 30 · 2F 圓鼻銑刀・標準型・2 刃

- Suitable for medium to roughing.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

ASIA (Metric)

EPCSC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



2 | MG | UNICO | UNAX

R | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(R)	(L1)	(L)	(D)	(Z)
EPCSC241001U	EPCSC241001UX	1.0	0.1R	2	50	4	2
EPCSC241002U	EPCSC241002UX	1.0	0.2R	2	50	4	2
EPCSC241003U	EPCSC241003UX	1.0	0.3R	2	50	4	2
EPCSC241502U	EPCSC241502UX	1.5	0.2R	3	50	4	2
EPCSC241503U	EPCSC241503UX	1.5	0.3R	3	50	4	2
EPCSC241505U	EPCSC241505UX	1.5	0.5R	3	50	4	2
EPCSC242002U	EPCSC242002UX	2.0	0.2R	4	50	4	2
EPCSC242003U	EPCSC242003UX	2.0	0.3R	4	50	4	2
EPCSC242005U	EPCSC242005UX	2.0	0.5R	4	50	4	2
EPCSC243002U	EPCSC243002UX	3.0	0.2R	6	50	4	2
EPCSC243003U	EPCSC243003UX	3.0	0.3R	6	50	4	2
EPCSC243005U	EPCSC243005UX	3.0	0.5R	6	50	4	2
EPCSC244002U	EPCSC244002UX	4.0	0.2R	8	50	4	2
EPCSC244003U	EPCSC244003UX	4.0	0.3R	8	50	4	2
EPCSC244005U	EPCSC244005UX	4.0	0.5R	8	50	4	2
EPCSC244010U	EPCSC244010UX	4.0	1R	8	50	4	2
EPCSC204003U	EPCSC204003UX	4.0	0.3R	8	50	6	2
EPCSC204005U	EPCSC204005UX	4.0	0.5R	8	50	6	2
EPCSC204010U	EPCSC204010UX	4.0	1.0R	8	50	6	2
EPCSC205005U	EPCSC205005UX	5.0	0.5R	10	50	6	2
EPCSC205010U	EPCSC205010UX	5.0	1.0R	10	50	6	2

(continued)

G55C - Corner Radius · Standard · Helix 30 · 2F 圓鼻銑刀・標準型・2 刃

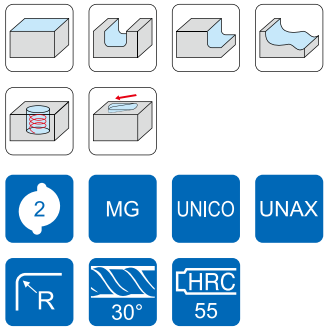
- Suitable for medium to roughing.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

ASIA (Metric)

EPCSC

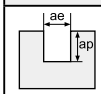
	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○

Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(R)	(L1)	(L)	(D)	(Z)
EPCSC206003U	EPCSC206003UX	6.0	0.3R	12	50	6	2
EPCSC206005U	EPCSC206005UX	6.0	0.5R	12	50	6	2
EPCSC206010U	EPCSC206010UX	6.0	1.0R	12	50	6	2
EPCSC208005U	EPCSC208005UX	8.0	0.5R	16	60	8	2
EPCSC208010U	EPCSC208010UX	8.0	1.0R	16	60	8	2
EPCSC208015U	EPCSC208015UX	8.0	1.5R	16	60	8	2
EPCSC210005U	EPCSC210005UX	10.0	0.5R	20	75	10	2
EPCSC210010U	EPCSC210010UX	10.0	1.0R	20	75	10	2
EPCSC210015U	EPCSC210015UX	10.0	1.5R	20	75	10	2
EPCSC210020U	EPCSC210020UX	10.0	2.0R	20	75	10	2
EPCSC212005U	EPCSC212005UX	12.0	0.5R	20	75	12	2
EPCSC212010U	EPCSC212010UX	12.0	1.0R	20	75	12	2
EPCSC212015U	EPCSC212015UX	12.0	1.5R	20	75	12	2
EPCSC212020U	EPCSC212020UX	12.0	2.0R	20	75	12	2



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	380	10000	300	8386	251	5095	152	8386	251
4mm	9550	382	7560	302	6290	251	3820	152	6290	251
6mm	6370	445	5040	352	4200	294	2548	178	4200	294
8mm	4770	333	3780	264	3140	220	1910	133	3140	220
10mm	3820	230	3020	181	2515	150	1528	92	2515	150
12mm	3180	190	2520	151	2100	126	1274	76	2100	126
	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d		ap = 0.05d ae = 1d	

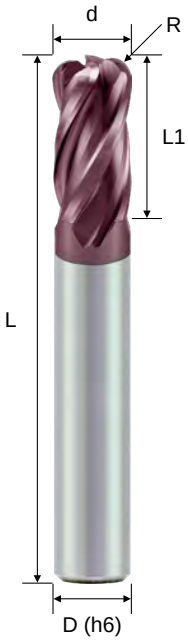
G55C - Corner Radius · Standard · Helix 30 · 4F 圓鼻銑刀・標準型・4 刃

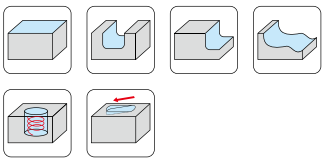
- Suitable for medium to roughing.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

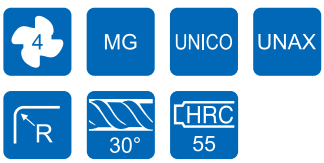
ASIA (Metric)

EPCSC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(R)	(L1)	(L)	(D)	(Z)
EPCSC441002U	EPCSC441002UX	1.0	0.2R	2	50	4	4
EPCSC441003U	EPCSC441003UX	1.0	0.3R	2	50	4	4
EPCSC441502U	EPCSC441502UX	1.5	0.2R	3	50	4	4
EPCSC441503U	EPCSC441503UX	1.5	0.3R	3	50	4	4
EPCSC441505U	EPCSC441505UX	1.5	0.5R	3	50	4	4
EPCSC442002U	EPCSC442002UX	2.0	0.2R	4	50	4	4
EPCSC442003U	EPCSC442003UX	2.0	0.3R	4	50	4	4
EPCSC442005U	EPCSC442005UX	2.0	0.5R	4	50	4	4
EPCSC443002U	EPCSC443002UX	3.0	0.2R	6	50	4	4
EPCSC443003U	EPCSC443003UX	3.0	0.3R	6	50	4	4
EPCSC433005U	EPCSC433005UX	3.0	0.5R	6	50	3	4
EPCSC443005U	EPCSC443005UX	3.0	0.5R	6	50	4	4
EPCSC443010U	EPCSC443010UX	3.0	1.0R	6	50	4	4
EPCSC403003U	EPCSC403003UX	3.0	0.3R	6	50	6	4
EPCSC403005U	EPCSC403005UX	3.0	0.5R	6	50	6	4
EPCSC403010U	EPCSC403010UX	3.0	1.0R	6	50	6	4
EPCSC444001U	EPCSC444001UX	4.0	0.1R	8	50	4	4
EPCSC444002U	EPCSC444002UX	4.0	0.2R	8	50	4	4
EPCSC444003U	EPCSC444003UX	4.0	0.3R	8	50	4	4
EPCSC444005U	EPCSC444005UX	4.0	0.5R	8	50	4	4
EPCSC444010U	EPCSC444010UX	4.0	1.0R	8	50	4	4
EPCSC404003U	EPCSC404003UX	4.0	0.3R	8	50	6	4
EPCSC404005U	EPCSC404005UX	4.0	0.5R	8	50	6	4
EPCSC404010U	EPCSC404010UX	4.0	1.0R	8	50	6	4

(continued)

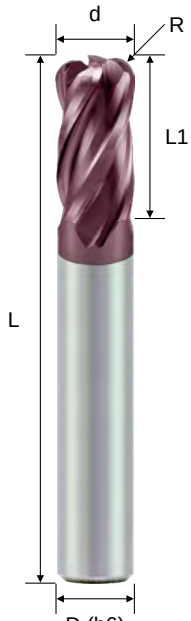
G55C - Corner Radius · Standard · Helix 30 · 4F 圓鼻銑刀・標準型・4 刃

- Suitable for medium to roughing.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

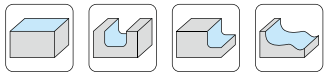
ASIA (Metric)

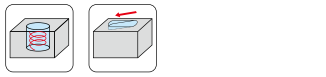
EPCSC

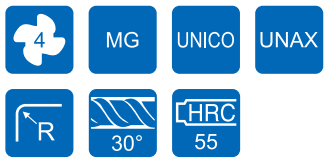
	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○

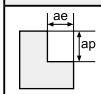


Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
G55C	G55CX	(d)	(R)	(L1)	(L)	(D)	(Z)
EPCSC405005U	EPCSC405005UX	5.0	0.5R	10	50	6	4
EPCSC405010U	EPCSC405010UX	5.0	1.0R	10	50	6	4
EPCSC406003U	EPCSC406003UX	6.0	0.3R	12	50	6	4
EPCSC406005U	EPCSC406005UX	6.0	0.5R	12	50	6	4
EPCSC406010U	EPCSC406010UX	6.0	1.0R	12	50	6	4
EPCSC408002U	EPCSC408002UX	8.0	0.2R	16	60	8	4
EPCSC408005U	EPCSC408005UX	8.0	0.5R	16	60	8	4
EPCSC408010U	EPCSC408010UX	8.0	1.0R	16	60	8	4
EPCSC408015U	EPCSC408015UX	8.0	1.5R	16	60	8	4
EPCSC410002U	EPCSC410002UX	10.0	0.2R	20	75	10	4
EPCSC410005U	EPCSC410005UX	10.0	0.5R	20	75	10	4
EPCSC410010U	EPCSC410010UX	10.0	1.0R	20	75	10	4
EPCSC410015U	EPCSC410015UX	10.0	1.5R	20	75	10	4
EPCSC410020U	EPCSC410020UX	10.0	2.0R	20	75	10	4
EPCSC412005U	EPCSC412005UX	12.0	0.5R	24	75	12	4
EPCSC412010U	EPCSC412010UX	12.0	1.0R	24	75	12	4
EPCSC412015U	EPCSC412015UX	12.0	1.5R	24	75	12	4
EPCSC412020U	EPCSC412020UX	12.0	2.0R	24	75	12	4
EPCSC412030U	EPCSC412030UX	12.0	3.0R	24	75	12	4
EPCSC416010U	EPCSC416010UX	16.0	1.0R	32	100	16	4
EPCSC416020U	EPCSC416020UX	16.0	2.0R	32	100	16	4
EPCSC416030U	EPCSC416030UX	16.0	3.0R	32	100	16	4







Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

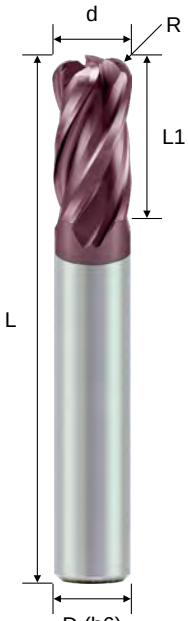
G55A - Corner Radius · Standard · Helix 35 · 4F 圓鼻銑刀・標準型・4 刃

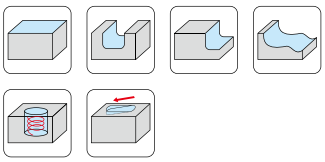
- Sitable for semi-finishing to medium.
- G55A with UNICO (Ti, Al, N) coating for general milling.
- G55AX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

ASIA (Metric)

EPCSA

	P	M	K	N	S	H
G55A	●	○	●			○
G55AX	●	●	●		○	○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
G55A	G55AX	(d)	(R)	(L1)	(L)	(D)	(Z)
EPCSA441002U	EPCSA441002UX	1	0.2R	2	50	4	4
EPCSA441502U	EPCSA441502UX	1.5	0.2R	3	50	4	4
EPCSA442002U	EPCSA442002UX	2	0.2R	4	50	4	4
EPCSA443002U	EPCSA443002UX	3	0.2R	6	50	4	4
EPCSA443003U	EPCSA443003UX	3	0.3R	6	50	4	4
EPCSA403003U	EPCSA403003UX	3	0.3R	6	50	6	4
EPCSA443005U	EPCSA443005UX	3	0.5R	6	50	4	4
EPCSA403005U	EPCSA403005UX	3	0.5R	6	50	6	4
EPCSA403010U	EPCSA403010UX	3	1.0R	6	50	6	4
EPCSA444002U	EPCSA444002UX	4	0.2R	8	50	4	4
EPCSA404003U	EPCSA404003UX	4	0.3R	8	50	6	4
EPCSA444005U	EPCSA444005UX	4	0.5R	8	50	4	4
EPCSA404005U	EPCSA404005UX	4	0.5R	8	50	6	4
EPCSA404010U	EPCSA404010UX	4	1.0R	8	50	6	4
EPCSA405003U	EPCSA405003UX	5	0.3R	10	50	6	4
EPCSA405005U	EPCSA405005UX	5	0.5R	10	50	6	4
EPCSA406003U	EPCSA406003UX	6	0.3R	12	50	6	4
EPCSA406005U	EPCSA406005UX	6	0.5R	12	50	6	4
EPCSA406010U	EPCSA406010UX	6	1.0R	12	50	6	4
EPCSA408005U	EPCSA408005UX	8	0.5R	16	60	8	4
EPCSA408010U	EPCSA408010UX	8	1.0R	16	60	8	4
EPCSA408015U	EPCSA408015UX	8	1.5R	16	60	8	4
EPCSA410005U	EPCSA410005UX	10	0.5R	20	75	10	4
EPCSA410010U	EPCSA410010UX	10	1.0R	20	75	10	4
EPCSA410015U	EPCSA410015UX	10	1.5R	20	75	10	4
EPCSA410020U	EPCSA410020UX	10	2.0R	20	75	10	4
EPCSA412005U	EPCSA412005UX	12	0.5R	24	75	12	4
EPCSA412010U	EPCSA412010UX	12	1.0R	24	75	12	4
EPCSA412015U	EPCSA412015UX	12	1.5R	24	75	12	4
EPCSA412020U	EPCSA412020UX	12	2.0R	24	75	12	4
EPCSA412030U	EPCSA412030UX	12	3.0R	24	75	12	4

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

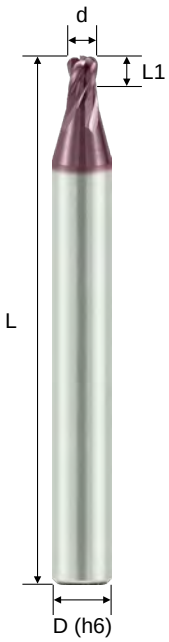
G55C - Corner Radius · Short · Helix 30 · 4F 圓鼻銑刀・短刃型・4 刃

- The cutting length of approximately 1×D, suitable for medium to roughing.
- Short cutting length with high rigidity is suitable for high feed milling.
- For die, mold, mechanical and electronic parts made of steel.
- Good for surface milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

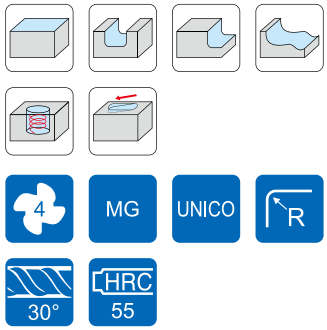
ASIA (Metric)

EPCHC

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCHC442001U	2.0	0.1R	2.0	50	4	4
EPCHC442002U	2.0	0.2R	2.0	50	4	4
EPCHC442003U	2.0	0.3R	2.0	50	4	4
EPCHC442005U	2.0	0.5R	2.0	50	4	4
EPCHC442501U	2.5	0.1R	2.5	50	4	4
EPCHC442502U	2.5	0.2R	2.5	50	4	4
EPCHC442503U	2.5	0.3R	2.5	50	4	4
EPCHC442505U	2.5	0.5R	2.5	50	4	4
EPCHC403001U	3.0	0.1R	3.0	50	6	4
EPCHC403002U	3.0	0.2R	3.0	50	6	4
EPCHC403003U	3.0	0.3R	3.0	50	6	4
EPCHC403005U	3.0	0.5R	3.0	50	6	4
EPCHC403010U	3.0	1.0R	3.0	50	6	4
EPCHC404001U	4.0	0.1R	4.0	50	6	4
EPCHC404002U	4.0	0.2R	4.0	50	6	4
EPCHC404003U	4.0	0.3R	4.0	50	6	4
EPCHC404005U	4.0	0.5R	4.0	50	6	4
EPCHC404010U	4.0	1.0R	4.0	50	6	4
EPCHC405001U	5.0	0.1R	5.0	50	6	4
EPCHC405002U	5.0	0.2R	5.0	50	6	4
EPCHC405003U	5.0	0.3R	5.0	50	6	4
EPCHC405005U	5.0	0.5R	5.0	50	6	4
EPCHC405010U	5.0	1.0R	5.0	50	6	4
EPCHC406001U	6.0	0.1R	7.0	50	6	4
EPCHC406002U	6.0	0.2R	7.0	50	6	4
EPCHC406003U	6.0	0.3R	7.0	50	6	4
EPCHC406005U	6.0	0.5R	7.0	50	6	4
EPCHC406010U	6.0	1.0R	7.0	50	6	4
EPCHC406015U	6.0	1.5R	7.0	50	6	4



Working Material	Cutting Application	ae (mm)	ap (mm)	Vc (m/min)	fz (mm/z)					
					1mm	2mm	3mm	4mm	5mm	6mm
Carbon steel (S45C, S50C)	Slot milling	1×d	≤ 0.5×d	50 ~ 90	0.007	0.013	0.018	0.024	0.030	0.036
	Side milling	≤ 0.3×d	≤ 0.3×d	55 ~ 100	0.007	0.013	0.018	0.024	0.030	0.036
Alloy steel & Tool steel (SCM, SKT, SKD)	Slot milling	1×d	≤ 0.5×d	40 ~ 70	0.006	0.012	0.017	0.022	0.028	0.033
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 80	0.006	0.012	0.017	0.022	0.028	0.033
Stainless steel (SUS304, SUS316)	Slot milling	1×d	≤ 0.5×d	30 ~ 40	0.006	0.011	0.015	0.020	0.025	0.030
	Side milling	≤ 0.3×d	≤ 0.3×d	40 ~ 60	0.006	0.011	0.015	0.020	0.025	0.030
Hardened steel & High temperature alloy	Slot milling	1×d	≤ 0.5×d	20 ~ 40	0.005	0.010	0.014	0.018	0.023	0.027
	Side milling	≤ 0.3×d	≤ 0.3×d	30 ~ 55	0.005	0.010	0.014	0.018	0.023	0.027

Slot milling

Side milling

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

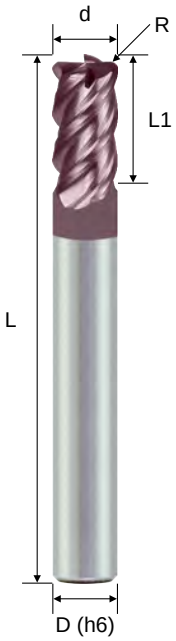
G55C - Corner Radius · Helix 45 · 4F 圓鼻銑刀・高導型・4 刃

- Suitable for medium to roughing.
- With high helix angle improves the side milling quality.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

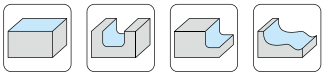
ASIA (Metric)

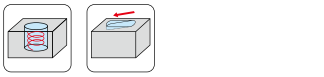
EPCSH

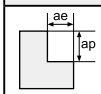
	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○



Order No. G55C	Order No. G55CX	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCSH443005U	EPCSH443005UX	3.0	0.5R	6	50	4	4
EPCSH444005U	EPCSH444005UX	4.0	0.5R	8	50	4	4
EPCSH405005U	EPCSH405005UX	5.0	0.5R	10	50	6	4
EPCSH405010U	EPCSH405010UX	5.0	1.0R	10	50	6	4
EPCSH406005U	EPCSH406005UX	6.0	0.5R	12	50	6	4
EPCSH406010U	EPCSH406010UX	6.0	1.0R	12	50	6	4
EPCSH408005U	EPCSH408005UX	8.0	0.5R	16	60	8	4
EPCSH408010U	EPCSH408010UX	8.0	1.0R	16	60	8	4
EPCSH410005U	EPCSH410005UX	10.0	0.5R	20	75	10	4
EPCSH410010U	EPCSH410010UX	10.0	1.0R	20	75	10	4
EPCSH410015U	EPCSH410015UX	10.0	1.5R	20	75	10	4
EPCSH410020U	EPCSH410020UX	10.0	2.0R	20	75	10	4
EPCSH412010U	EPCSH412010UX	12.0	1.0R	24	75	12	4
EPCSH412020U	EPCSH412020UX	12.0	2.0R	24	75	12	4
EPCSH412030U	EPCSH412030UX	12.0	3.0R	24	75	12	4





Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	762	10000	600	8386	503	5095	305	8386	503
4mm	9550	764	7560	604	6290	503	3820	305	6290	503
6mm	6370	890	5040	705	4200	588	2548	356	4200	588
8mm	4770	668	3780	529	3140	440	1910	267	3140	440
10mm	3820	458	3020	362	2515	301	1528	183	2515	301
12mm	3180	380	2520	302	2100	252	1274	152	2100	252
	ap = 1d ae = 0.05d									

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

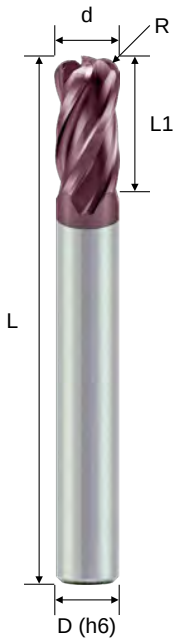
G55C - Corner Radius · Long Shank · Helix 30 · 4F 圓鼻銑刀・長柄型・4 刃

- Suitable for medium to roughing.
- With multiple flutes is suitable for general cutting and 3D milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

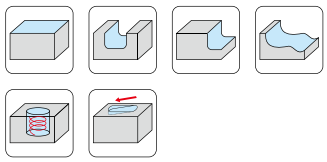
ASIA (Metric)

EPCLC

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPCLC44200307U	2	0.3R	4	75	4	4
EPCLC40300507U	3	0.5R	6	75	6	4
EPCLC40301007U	3	1.0R	6	75	6	4
EPCLC44400507U	4	0.5R	8	75	4	4
EPCLC40400507U	4	0.5R	8	75	6	4
EPCLC40401007U	4	1.0R	8	75	6	4
EPCLC44400510U	4	0.5R	8	100	4	4
EPCLC40500507U	5	0.5R	10	75	6	4
EPCLC40501007U	5	1.0R	10	75	6	4
EPCLC40600507U	6	0.5R	12	75	6	4
EPCLC40601007U	6	1.0R	12	75	6	4
EPCLC40600510U	6	0.5R	12	100	6	4
EPCLC40800507U	8	0.5R	16	75	8	4
EPCLC40800510U	8	0.5R	16	100	8	4
EPCLC40801010U	8	1.0R	16	100	8	4
EPCLC40801510U	8	1.5R	16	100	8	4
EPCLC41000510U	10	0.5R	20	100	10	4
EPCLC41001010U	10	1.0R	20	100	10	4
EPCLC41001510U	10	1.5R	20	100	10	4
EPCLC41002010U	10	2.0R	20	100	10	4
EPCLC41000515U	10	0.5R	20	150	10	4
EPCLC41200510U	12	0.5R	24	100	12	4
EPCLC41201010U	12	1.0R	24	100	12	4
EPCLC41201510U	12	1.5R	24	100	12	4
EPCLC41202010U	12	2.0R	24	100	12	4
EPCLC41203010U	12	3.0R	24	100	12	4
EPCLC41200515U	12	0.5R	24	150	12	4
EPCLC41601015U	16	1.0R	32	150	16	4
EPCLC41602015U	16	2.0R	32	150	16	4
EPCLC41603015U	16	3.0R	32	150	16	4



4 | MG | UNICO | R | 30° | HRC 55

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Dia	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	10800	647	8500	510	7128	427	4330	260	7128	427
4mm	8118	649	4626	513	5346	427	3247	260	5346	427
6mm	5414	756	4284	600	3570	500	2165	302	3570	500
8mm	4054	568	3210	450	2670	340	1624	226	2670	340
10mm	3248	389	2568	307	2138	255	1298	155	2138	255
12mm	2700	323	2142	256	1785	214	1082	129	1785	214
	ap = 1d ae = 0.05d									

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

R Tolerance	
R < 2	±0.020
R ≥ 2	±0.025

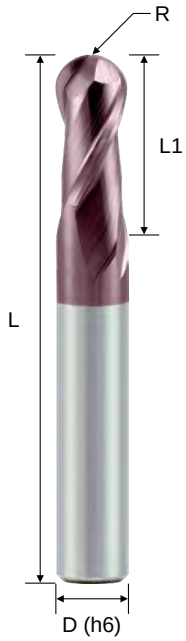
G55C - Ball Nose · Standard · Helix 30 · 2F 球型銑刀・標準型・2 刃

- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

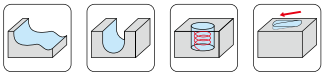
ASIA (Metric)

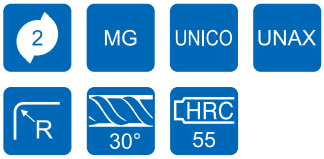
EPBSC

	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○

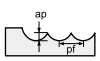


Order No.		Radius	Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(R)	(d)	(L1)	(L)	(D)	(Z)
EPBSC240200U	EPBSC240200UX	0.10R	0.2	0.4	50	4	2
EPBSC240300U	EPBSC240300UX	0.15R	0.3	0.6	50	4	2
EPBSC240400U	EPBSC240400UX	0.20R	0.4	0.8	50	4	2
EPBSC240500U	EPBSC240500UX	0.25R	0.5	1.0	50	4	2
EPBSC240600U	EPBSC240600UX	0.30R	0.6	1.2	50	4	2
EPBSC240700U	EPBSC240700UX	0.35R	0.7	1.4	50	4	2
EPBSC240800U	EPBSC240800UX	0.40R	0.8	1.6	50	4	2
EPBSC240900U	EPBSC240900UX	0.45R	0.9	1.8	50	4	2
EPBSC241000U	EPBSC241000UX	0.50R	1.0	2.0	50	4	2
EPBSC241500U	EPBSC241500UX	0.75R	1.5	3.0	50	4	2
EPBSC242000U	EPBSC242000UX	1.00R	2.0	4.0	50	4	2
EPBSC233000U	EPBSC233000UX	1.50R	3.0	6.0	50	3	2
EPBSC243000U	EPBSC243000UX	1.50R	3.0	6.0	50	4	2
EPBSC244000U	EPBSC244000UX	2.00R	4.0	8.0	50	4	2
EPBSC203000U	EPBSC203000UX	1.50R	3.0	6.0	50	6	2
EPBSC204000U	EPBSC204000UX	2.00R	4.0	8.0	50	6	2
EPBSC205000U	EPBSC205000UX	2.50R	5.0	10.0	50	6	2
EPBSC206000U	EPBSC206000UX	3.00R	6.0	12.0	50	6	2
EPBSC207000U	EPBSC207000UX	3.50R	7.0	14.0	60	8	2
EPBSC208000U	EPBSC208000UX	4.00R	8.0	16.0	60	8	2
EPBSC210000U	EPBSC210000UX	5.00R	10.0	20.0	75	10	2
EPBSC212000U	EPBSC212000UX	6.00R	12.0	24.0	75	12	2
EPBSC216000U	EPBSC216000UX	8.00R	16.0	32.0	100	16	2
EPBSC220000U	EPBSC220000UX	10.00R	20.0	40.0	100	20	2





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	37470	936	29660	740	24660	616	14990	374	24660	616
2R	18730	1120	14830	890	12330	740	7490	450	12330	740
3R	12490	936	9890	740	8220	616	4995	374	8220	616
4R	9366	750	7415	593	6170	494	3750	300	6170	494
5R	7490	636	5930	504	4930	420	3000	255	4930	420
6R	6244	560	4940	444	4110	370	2500	225	4110	370
	ap = 0.07d pf = 0.1d									

G55A - Ball Nose · Standard · Helix 35 · 2F

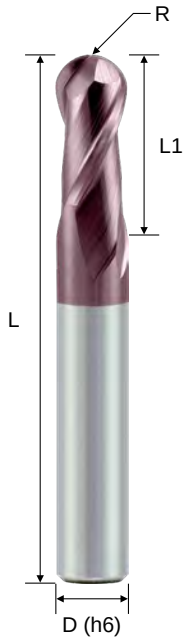
球型銑刀・標準型・2 刃

- Suitable for semi-finishing to medium.
- Sharp geometry design has semi-finishing ability of cutting edges.
- G55A with UNICO (Ti, Al, N) coating for general milling.
- G55AX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

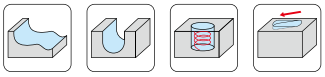
ASIA (Metric)

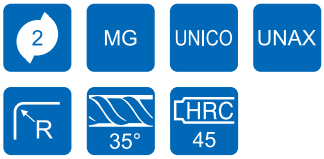
EPBSA

	P	M	K	N	S	H
G55A	●	○	●			○
G55AX	●	●	●		○	○

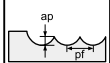


Order No.		Radius	Dia.	CL	OAL	Shank	Flutes
G55A	G55AX	(R)	(d)	(L1)	(L)	(D)	(Z)
EPBSA241000U	EPBSA241000UX	0.5R	1	2	50	4	2
EPBSA241500U	EPBSA241500UX	0.75R	1.5	3	50	4	2
EPBSA242000U	EPBSA242000UX	1.0R	2	4	50	4	2
EPBSA242500U	EPBSA242500UX	1.25R	2.5	5	50	4	2
EPBSA243000U	EPBSA243000UX	1.5R	3	6	50	4	2
EPBSA244000U	EPBSA244000UX	2.0R	4	8	50	4	2
EPBSA205000U	EPBSA205000UX	2.5R	5	10	50	6	2
EPBSA206000U	EPBSA206000UX	3.0R	6	12	50	6	2
EPBSA208000U	EPBSA208000UX	4.0R	8	16	60	8	2
EPBSA210000U	EPBSA210000UX	5.0R	10	20	75	10	2
EPBSA212000U	EPBSA212000UX	6.0R	12	24	75	12	2





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	37470	936	29660	740	24660	616	14990	374	24660	616
2R	18730	1120	14830	890	12330	740	7490	450	12330	740
3R	12490	936	9890	740	8220	616	4995	374	8220	616
4R	9366	750	7415	593	6170	494	3750	300	6170	494
5R	7490	636	5930	504	4930	420	3000	255	4930	420
6R	6244	560	4940	444	4110	370	2500	225	4110	370
	ap = 0.07d pf = 0.1d									

G55C - Ball Nose · Standard · Helix 30 · 4F 球型銑刀・標準型・4 刃

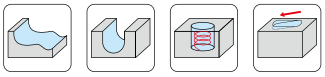
- Suitable for medium to roughing.
- Strong geometry design has excellent cutting ability of cutting edges.
- G55C with UNICO (Ti, Al, N) coating for general milling.
- G55CX with UNAX (Ti, Al, N) smooth coating for high efficiency milling.

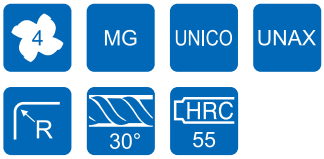
ASIA (Metric)

EPBSC

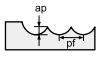
	P	M	K	N	S	H
G55C	●	○	●			○
G55CX	●	●	●		○	○

Order No.		Radius	Dia.	CL	OAL	Shank	Flutes
G55C	G55CX	(R)	(d)	(L1)	(L)	(D)	(Z)
EPBSC442000U	EPBSC442000UX	1.0R	2	4	50	4	4
EPBSC443000U	EPBSC443000UX	1.5R	3	6	50	4	4
EPBSC444000U	EPBSC444000UX	2.0R	4	8	50	4	4
EPBSC404000U	EPBSC404000UX	2.0R	4	8	50	6	4
EPBSC405000U	EPBSC405000UX	2.5R	5	10	50	6	4
EPBSC406000U	EPBSC406000UX	3.0R	6	12	50	6	4
EPBSC408000U	EPBSC408000UX	4.0R	8	16	60	8	4
EPBSC410000U	EPBSC410000UX	5.0R	10	20	75	10	4
EPBSC412000U	EPBSC412000UX	6.0R	12	24	75	12	4
EPBSC416000U	EPBSC416000UX	8.0R	16	32	100	16	4
EPBSC420000U	EPBSC420000UX	10.0R	20	40	100	20	4





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Radius	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	37470	936	29660	740	24660	616	14990	374	24660	616
2R	18730	1120	14830	890	12330	740	7490	450	12330	740
3R	12490	936	9890	740	8220	616	4995	374	8220	616
4R	9366	750	7415	593	6170	494	3750	300	6170	494
5R	7490	636	5930	504	4930	420	3000	255	4930	420
6R	6244	560	4940	444	4110	370	2500	225	4110	370
	ap = 0.07d pf = 0.1d									

G55C - Ball Nose · Short · Helix 30 · 2F

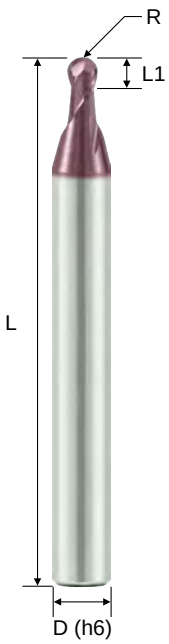
球型銑刀・短刃型・2 刃

- The cutting length of approximately 1×D, suitable for medium to roughing.
- Short cutting length with high rigidity is suitable for high feed milling.
- For die, mold, mechanical and electronic parts made of steel.
- Good for surface milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

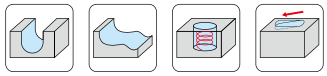
ASIA (Metric)

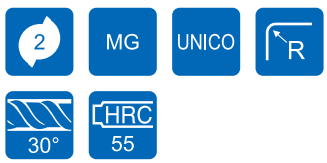
EPBHC

P	M	K	N	S	H
●	○	●			○



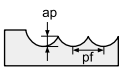
Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBHC240200U	0.10R	0.2	0.2	50	4	2
EPBHC240300U	0.15R	0.3	0.3	50	4	2
EPBHC240400U	0.20R	0.4	0.4	50	4	2
EPBHC240500U	0.25R	0.5	0.5	50	4	2
EPBHC240600U	0.30R	0.6	0.6	50	4	2
EPBHC240700U	0.35R	0.7	0.7	50	4	2
EPBHC240800U	0.40R	0.8	0.8	50	4	2
EPBHC240900U	0.45R	0.9	0.9	50	4	2
EPBHC241000U	0.50R	1.0	1.0	50	4	2
EPBHC241200U	0.60R	1.2	1.2	50	4	2
EPBHC241400U	0.70R	1.4	1.4	50	4	2
EPBHC241500U	0.75R	1.5	1.5	50	4	2
EPBHC241600U	0.80R	1.6	1.6	50	4	2
EPBHC241800U	0.90R	1.8	1.8	50	4	2
EPBHC242000U	1.00R	2.0	2.0	50	4	2
EPBHC242500U	1.25R	2.5	2.5	50	4	2
EPBHC203000U	1.50R	3.0	3.0	50	6	2
EPBHC204000U	2.00R	4.0	4.0	50	6	2
EPBHC205000U	2.50R	5.0	5.0	50	6	2
EPBHC206000U	3.00R	6.0	9.0	50	6	2





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Working Material	pf (mm)	ap (mm)	Vc (m/min)	fz (mm/z)					
				1mm	2mm	3mm	4mm	5mm	6mm
Carbon steel (S45C, S50C)	≤ 0.3×d	≤ 0.1×d	80 ~ 135	0.007	0.013	0.018	0.024	0.030	0.036
Alloy steel & Tool steel (SCM, SKT, SKD)	≤ 0.3×d	≤ 0.1×d	55 ~ 100	0.006	0.012	0.017	0.022	0.028	0.033
Stainless steel (SUS304, SUS316)	≤ 0.3×d	≤ 0.1×d	50 ~ 70	0.006	0.011	0.015	0.020	0.025	0.030
Hardened steel & High temperature alloy	≤ 0.3×d	≤ 0.1×d	40 ~ 70	0.005	0.010	0.014	0.018	0.023	0.027



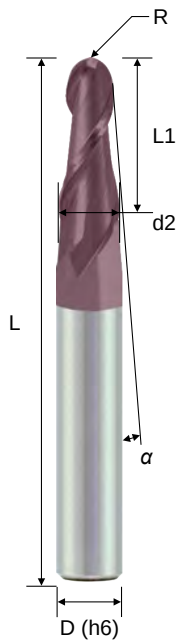
G55C - Ball Nose · Taper · Helix 30 · 2F 球型銑刀・斜度型・2 刃

- Suitable for medium to roughing.
- Tape cutting length is convenient for high performance 3D milling.
- Stronger geometry design gives good wear resistance.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

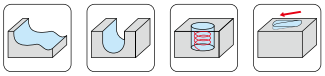
ASIA (Metric)

EPBST

P	M	K	N	S	H
●	○	●			○



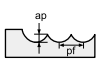
Order No.	Radius (R)	α	CL (L1)	NL (d2)	OAL (L)	Shank (D)	Flutes (Z)
EPBST242010U	1.00R	1°	8	2.24	50	4	2
EPBST242030U	1.00R	3°	8	2.74	50	4	2
EPBST242050U	1.00R	5°	8	3.23	50	4	2
EPBST242510U	1.25R	1°	10	2.81	50	4	2
EPBST242530U	1.25R	3°	10	3.42	50	4	2
EPBST202550U	1.25R	5°	10	4.04	50	6	2
EPBST243010U	1.50R	1°	12	3.37	50	4	2
EPBST203030U	1.50R	3°	12	4.10	50	6	2
EPBST203050U	1.50R	5°	12	4.85	50	6	2
EPBST204010U	2.00R	1°	16	4.49	60	6	2
EPBST204030U	2.00R	3°	16	5.47	60	6	2
EPBST204050U	2.00R	5°	16	6.46	60	8	2
EPBST206010U	3.00R	1°	24	6.73	75	8	2
EPBST206030U	3.00R	3°	24	8.20	75	10	2
EPBST206050U	3.00R	5°	24	9.67	75	10	2



2 | MG | UNICO | R

30° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

WORKING MATERIAL	ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		STAINLESS STEEL		CAST IRON	
CODE	45C,S50C,SCM		SCM,SKT,SKD		SCM,SKT,SKD		SKT, SKD		SUS 304		FC / FCD	
HARDNESS	HRC < 20		HRC 20~30		HRC 30~40		HRC 45~45		–		–	
Vc	94 m/min		71 m/min		34 m/min		38 m/min		71 m/min		94 m/min	
RADIUS (R)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
1.0R	26,676	700	21,060	470	15,210	280	10,660	140	21,060	555	29,718	780
2.0R	14,976	875	11,232	560	8,190	335	5,980	175	11,232	655	14,976	875
3.0R	9,828	860	7,488	560	4,914	300	3,926	170	7,488	655	9,828	860
	ap = 0.05d pf = 0.1d											

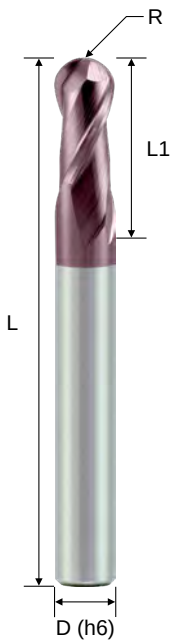
G55C - Ball Nose · Long Shank · Helix 30 · 2F 球型銑刀・長柄型・2 刃

- Suitable for medium to roughing.
- It provides an excellent surface due to better surface grindings.
- New tool geometry increases wear resistance and cutting force is decreased.
- Suitable for high speed profile surface milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

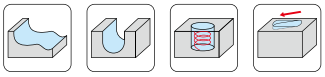
ASIA (Metric)

EPBLC

P	M	K	N	S	H
●	○	●			○



Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBLC241006U	0.5R	1	2	60	4	2
EPBLC241007U	0.5R	1	2	75	4	2
EPBLC242006U	1.0R	2	4	60	4	2
EPBLC242007U	1.0R	2	4	75	4	2
EPBLC243007U	1.5R	3	6	75	4	2
EPBLC243010U	1.5R	3	6	100	4	2
EPBLC244006U	2.0R	4	8	60	4	2
EPBLC244007U	2.0R	4	8	75	4	2
EPBLC244010U	2.0R	4	8	100	4	2
EPBLC204006U	2.0R	4	8	60	6	2
EPBLC204007U	2.0R	4	8	75	6	2
EPBLC204010U	2.0R	4	8	100	6	2
EPBLC206006U	3.0R	6	12	60	6	2
EPBLC206007U	3.0R	6	12	75	6	2
EPBLC206010U	3.0R	6	12	100	6	2
EPBLC208007U	4.0R	8	16	75	8	2
EPBLC208010U	4.0R	8	16	100	8	2
EPBLC208015U	4.0R	8	16	150	8	2
EPBLC210010U	5.0R	10	20	100	10	2
EPBLC210015U	5.0R	10	20	150	10	2
EPBLC212010U	6.0R	12	24	100	12	2
EPBLC212015U	6.0R	12	24	150	12	2
EPBLC216015U	8.0R	16	32	150	16	2
EPBLC220015U	10.0R	20	40	150	20	2



R Tolerance	
R ≤ 3	±0.020
R > 3	±0.025

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	31850	796	25210	629	20960	524	12740	318	20960	524
2R	15920	952	12606	757	10480	629	6370	383	10480	629
3R	10620	796	8400	629	6990	524	4245.8	318	6990	524
4R	7960	638	6300	504	5244.5	420	3187.5	255	5244.5	420
5R	6370	540	5040	428	4190	357	2550	217	4190	357
6R	5308	476	4200	377	3495	315	2125	191	3495	315
	ap = 0.07d pf = 0.1d									

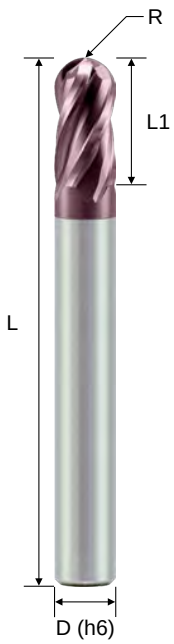
G55C - Ball Nose · Long Shank · Helix 30 · 4F 球型銑刀・長柄型・4 刃

- Suitable for medium to roughing.
- It provides an excellent surface due to better surface grindings.
- New tool geometry increases wear resistance and cutting force is decreased.
- Multiple flutes design and long shank design makes possible deep surface cutting.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

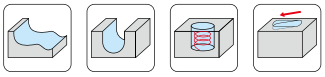
ASIA (Metric)

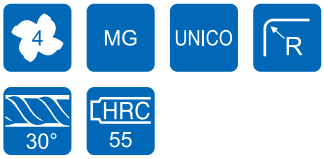
EPBLC

P	M	K	N	S	H
●	○	●			○



Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPBLC442007U	1R	2	4	75	4	4
EPBLC443007U	1.5R	3	6	75	4	4
EPBLC444007U	2R	4	8	75	4	4
EPBLC444010U	2R	4	8	100	4	4
EPBLC404007U	2R	4	8	75	6	4
EPBLC404010U	2R	4	8	100	6	4
EPBLC406007U	3R	6	12	75	6	4
EPBLC406010U	3R	6	12	100	6	4
EPBLC408007U	4R	8	16	75	8	4
EPBLC408010U	4R	8	16	100	8	4
EPBLC408015U	4R	8	16	150	8	4
EPBLC410010U	5R	10	20	100	10	4
EPBLC410015U	5R	10	20	150	10	4
EPBLC412010U	6R	12	24	100	12	4
EPBLC412015U	6R	12	24	150	12	4
EPBLC416015U	8R	16	32	150	16	4





R Tolerance	
R ≤ 3	±0.020
R > 3	±0.025

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	102 m/min		80 m/min		67 m/min		40 m/min		67 m/min	
Radius (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1R	31850	796	25210	629	20960	524	12740	318	20960	524
2R	15920	952	12606	757	10480	629	6370	383	10480	629
3R	10620	796	8400	629	6990	524	4246	318	6990	524
4R	7960	638	6300	504	5245	420	3188	255	5245	420
5R	6370	540	5040	428	4190	357	2550	217	4190	357
6R	5308	476	4200	377	3495	315	2125	191	3495	315
	ap = 0.07d pf = 0.1d									

G55C - Square · Long Neck · Helix 30 · 2F

長頸型・平銑刀・2 刃

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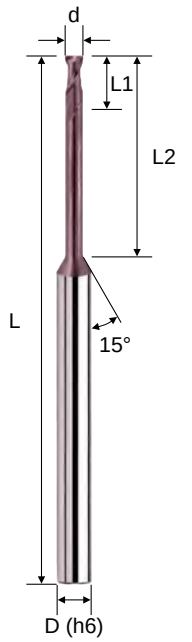
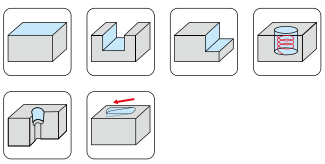
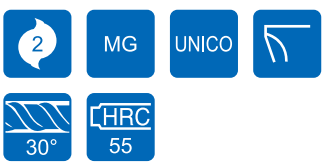
ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC240201U	0.2	0.3	1	50	4	2
EPSRC240202U	0.2	0.3	2	50	4	2
EPSRC240301U	0.3	0.4	1	50	4	2
EPSRC240302U	0.3	0.4	2	50	4	2
EPSRC240303U	0.3	0.4	3	50	4	2
EPSRC240304U	0.3	0.4	4	50	4	2
EPSRC240305U	0.3	0.4	5	50	4	2
EPSRC240401U	0.4	0.5	1	50	4	2
EPSRC240402U	0.4	0.5	2	50	4	2
EPSRC240403U	0.4	0.5	3	50	4	2
EPSRC240404U	0.4	0.5	4	50	4	2
EPSRC240405U	0.4	0.5	5	50	4	2
EPSRC240406U	0.4	0.5	6	50	4	2
EPSRC240408U	0.4	0.5	8	50	4	2
EPSRC240410U	0.4	0.5	10	50	4	2
EPSRC240502U	0.5	0.6	2	50	4	2
EPSRC240503U	0.5	0.6	3	50	4	2
EPSRC240504U	0.5	0.6	4	50	4	2
EPSRC240505U	0.5	0.6	5	50	4	2
EPSRC240506U	0.5	0.6	6	50	4	2
EPSRC240508U	0.5	0.6	8	50	4	2
EPSRC240510U	0.5	0.6	10	50	4	2
EPSRC240512U	0.5	0.6	12	50	4	2
EPSRC240514U	0.5	0.6	14	50	4	2
EPSRC240602U	0.6	0.7	2	50	4	2
EPSRC240603U	0.6	0.7	3	50	4	2
EPSRC240604U	0.6	0.7	4	50	4	2
EPSRC240605U	0.6	0.7	5	50	4	2
EPSRC240606U	0.6	0.7	6	50	4	2
EPSRC240608U	0.6	0.7	8	50	4	2
EPSRC240610U	0.6	0.7	10	50	4	2
EPSRC240612U	0.6	0.7	12	50	4	2
EPSRC240614U	0.6	0.7	14	50	4	2
EPSRC240616U	0.6	0.7	16	50	4	2

(continued)

G55C - Square · Long Neck · Helix 30 · 2F

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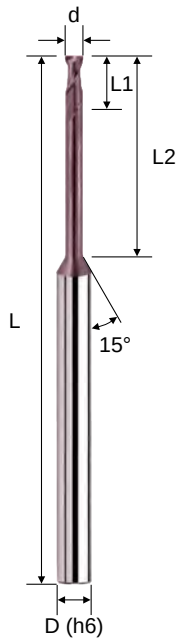
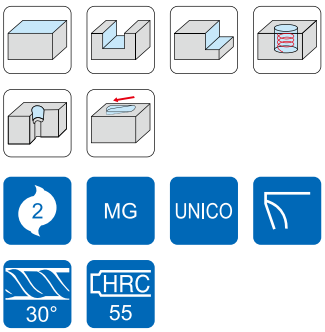
ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC240702U	0.7	0.8	2	50	4	2
EPSRC240704U	0.7	0.8	4	50	4	2
EPSRC240706U	0.7	0.8	6	50	4	2
EPSRC240708U	0.7	0.8	8	50	4	2
EPSRC240710U	0.7	0.8	10	50	4	2
EPSRC240712U	0.7	0.8	12	50	4	2
EPSRC240802U	0.8	1.0	2	50	4	2
EPSRC240804U	0.8	1.0	4	50	4	2
EPSRC240806U	0.8	1.0	6	50	4	2
EPSRC240808U	0.8	1.0	8	50	4	2
EPSRC240810U	0.8	1.0	10	50	4	2
EPSRC240812U	0.8	1.0	12	50	4	2
EPSRC240814U	0.8	1.0	14	50	4	2
EPSRC240906U	0.9	1.1	6	50	4	2
EPSRC240908U	0.9	1.1	8	50	4	2
EPSRC240910U	0.9	1.1	10	50	4	2
EPSRC241002U	1.0	1.2	2	50	4	2
EPSRC241003U	1.0	1.2	3	50	4	2
EPSRC241004U	1.0	1.2	4	50	4	2
EPSRC241005U	1.0	1.2	5	50	4	2
EPSRC241006U	1.0	1.2	6	50	4	2
EPSRC241008U	1.0	1.2	8	50	4	2
EPSRC241010U	1.0	1.2	10	50	4	2
EPSRC241012U	1.0	1.2	12	50	4	2
EPSRC241014U	1.0	1.2	14	50	4	2
EPSRC241016U	1.0	1.2	16	50	4	2
EPSRC241018U	1.0	1.2	18	50	4	2
EPSRC241020U	1.0	1.2	20	50	4	2
EPSRC241204U	1.2	1.5	4	50	4	2
EPSRC241206U	1.2	1.5	6	50	4	2
EPSRC241208U	1.2	1.5	8	50	4	2
EPSRC241210U	1.2	1.5	10	50	4	2
EPSRC241212U	1.2	1.5	12	50	4	2
EPSRC241216U	1.2	1.5	16	50	4	2
EPSRC241220U	1.2	1.5	20	50	4	2

(continued)

G55C - Square · Long Neck · Helix 30 · 2F

長頸型・平銑刀・2 刃

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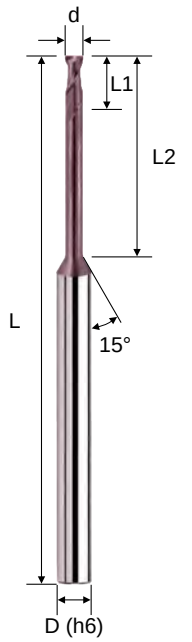
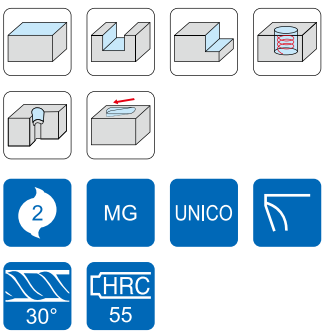
ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC241406U	1.4	1.8	6	50	4	2
EPSRC241408U	1.4	1.8	8	50	4	2
EPSRC241410U	1.4	1.8	10	50	4	2
EPSRC241414U	1.4	1.8	14	50	4	2
EPSRC241416U	1.4	1.8	16	50	4	2
EPSRC241420U	1.4	1.8	20	50	4	2
EPSRC241504U	1.5	1.8	4	50	4	2
EPSRC241506U	1.5	1.8	6	50	4	2
EPSRC241508U	1.5	1.8	8	50	4	2
EPSRC241510U	1.5	1.8	10	50	4	2
EPSRC241512U	1.5	1.8	12	50	4	2
EPSRC241514U	1.5	1.8	14	50	4	2
EPSRC241516U	1.5	1.8	16	50	4	2
EPSRC241518U	1.5	1.8	18	50	4	2
EPSRC241520U	1.5	1.8	20	50	4	2
EPSRC241610U	1.6	1.9	10	50	4	2
EPSRC241614U	1.6	1.9	14	50	4	2
EPSRC241618U	1.6	1.9	18	50	4	2
EPSRC241810U	1.8	2.0	10	50	4	2
EPSRC241814U	1.8	2.0	14	50	4	2
EPSRC241818U	1.8	2.0	18	50	4	2
EPSRC242004U	2.0	2.5	4	50	4	2
EPSRC242006U	2.0	2.5	6	50	4	2
EPSRC242008U	2.0	2.5	8	50	4	2
EPSRC242010U	2.0	2.5	10	50	4	2
EPSRC242012U	2.0	2.5	12	50	4	2
EPSRC242014U	2.0	2.5	14	50	4	2
EPSRC242016U	2.0	2.5	16	50	4	2
EPSRC242018U	2.0	2.5	18	50	4	2
EPSRC242020U	2.0	2.5	20	50	4	2
EPSRC242022U	2.0	2.5	22	60	4	2
EPSRC242025U	2.0	2.5	25	60	4	2
EPSRC242030U	2.0	2.5	30	75	4	2
EPSRC242035U	2.0	2.5	35	75	4	2

(continued)

G55C - Square · Long Neck · Helix 30 · 2F 長頸型・平銑刀・2 刃

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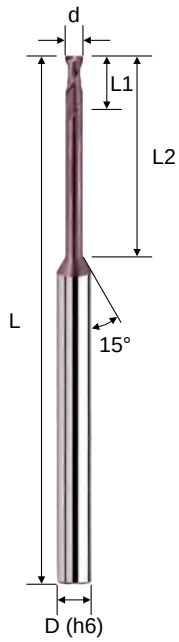
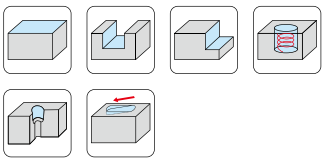
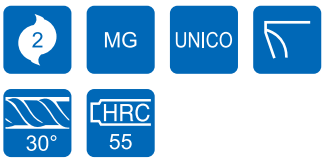
EPSRC

P	M	K	N	S	H
●	○	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC242508U	2.5	3.0	8	50	4	2
EPSRC242510U	2.5	3.0	10	50	4	2
EPSRC242512U	2.5	3.0	12	50	4	2
EPSRC242516U	2.5	3.0	16	50	4	2
EPSRC242520U	2.5	3.0	20	50	4	2
EPSRC242525U	2.5	3.0	25	60	4	2
EPSRC242530U	2.5	3.0	30	75	4	2
EPSRC242535U	2.5	3.0	35	75	4	2
EPSRC203006U	3.0	3.5	6	50	6	2
EPSRC203010U	3.0	3.5	10	50	6	2
EPSRC203012U	3.0	3.5	12	50	6	2
EPSRC203016U	3.0	3.5	16	50	6	2
EPSRC203020U	3.0	3.5	20	60	6	2
EPSRC203025U	3.0	3.5	25	60	6	2
EPSRC203030U	3.0	3.5	30	75	6	2
EPSRC203035U	3.0	3.5	35	75	6	2
EPSRC204008U	4.0	4.5	8	50	6	2
EPSRC204010U	4.0	4.5	10	50	6	2
EPSRC204012U	4.0	4.5	12	50	6	2
EPSRC204016U	4.0	4.5	16	50	6	2
EPSRC204020U	4.0	4.5	20	60	6	2
EPSRC204025U	4.0	4.5	25	60	6	2
EPSRC204030U	4.0	4.5	30	75	6	2
EPSRC204035U	4.0	4.5	35	75	6	2

(continued)

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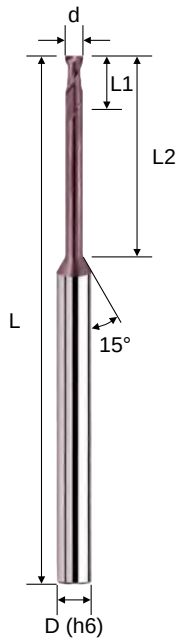
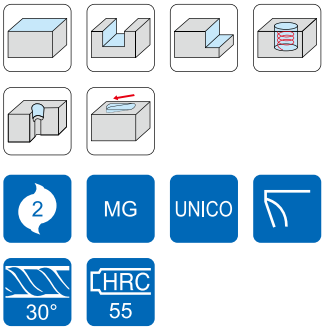
EPSRC

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC205016U	5.0	7.0	16	50	6	2
EPSRC205020U	5.0	7.0	20	60	6	2
EPSRC205025U	5.0	7.0	25	60	6	2
EPSRC205030U	5.0	7.0	30	75	6	2
EPSRC205035U	5.0	7.0	35	75	6	2
EPSRC206020U	6.0	10.0	20	60	6	2
EPSRC206030U	6.0	10.0	30	75	6	2
EPSRC208020U	8.0	15.0	20	60	8	2
EPSRC208030U	8.0	15.0	30	75	8	2
EPSRC208040U	8.0	15.0	40	100	8	2
EPSRC210025U	10.0	20.0	25	75	10	2
EPSRC210035U	10.0	20.0	35	75	10	2
EPSRC210045U	10.0	20.0	45	100	10	2
EPSRC212030U	12.0	25.0	30	75	12	2
EPSRC212040U	12.0	25.0	40	100	12	2
EPSRC212050U	12.0	25.0	50	100	12	2



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK			
Hardness	HRC 35~45			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
0.2mm	1	40000	400	0.001
	2	40000	200	0.005
0.3mm	1	40000	650	0.007
	2	40000	550	0.004
	3	40000	500	0.002
	4	30000	200	0.001
0.4mm	2	40000	800	0.007
	4	40000	800	0.003
	6	28000	350	0.001
	8	20000	200	0.001
	10	17000	150	0.001

(continued)

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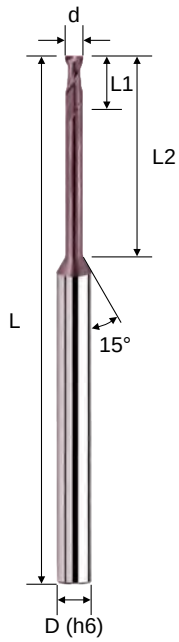
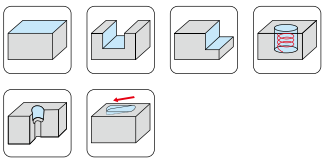
EPSRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness		HRC 35~45		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
0.5mm	4	40000	850	0.003
	6	40000	700	0.003
	8	30000	500	0.002
	12	20000	300	0.001
	14	14000	150	0.001
0.6mm	4	40000	950	0.010
	8	35000	500	0.004
	10	25000	450	0.003
	12	20000	300	0.002
	16	12000	150	0.001
0.7mm	4	40000	950	0.015
	8	30000	700	0.005
	12	9000	200	0.002
0.8mm	4	40000	1100	0.015
	8	40000	1000	0.010
	12	25000	400	0.030
	14	20000	300	0.020
0.9mm	6	40000	1300	0.020
	8	38000	1200	0.010
	10	35000	1000	0.010
1.0mm	6	40000	1600	0.040
	8	40000	1600	0.030
	10	38000	1300	0.025
	12	30000	1000	0.02
	16	23000	600	0.010
	20	15000	400	0.005
1.2mm	6	40000	1900	0.060
	10	35000	1500	0.040
	16	15000	500	0.020
	20	6500	150	0.01
1.4mm	6	40000	1900	0.060
	10	35000	1500	0.040
	16	15000	500	0.02
	20	6500	150	0.01
1.5mm	6	40000	2400	0.1
	10	30000	1800	0.05
	12	28000	1300	0.04
	16	20000	800	0.02
	20	15000	600	0.02
1.6mm	10	30000	1800	0.07
	14	25000	1500	0.05
	18	20000	1000	0.04
1.8mm	10	30000	1800	0.07
	14	25000	1500	0.05
	18	20000	1000	0.04

(continued)

G55C - Square · Long Neck · Helix 30 · 2F

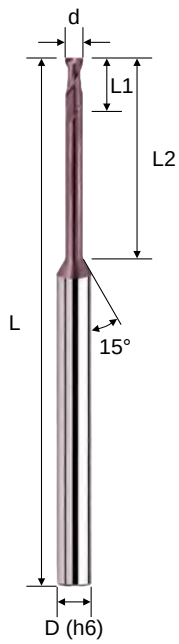
長頸型・平銑刀・2 刃

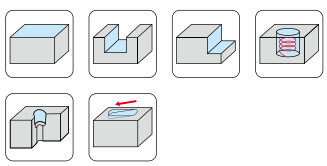
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○

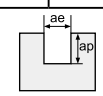




2 | MG | UNICO | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	**Carbon Steels/Cast iron/Alloy Steels** S50C/FC250/SCM/NAK			
Hardness	HRC 35~45			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
2.0mm	6	40000	2400	0.18
	10	30000	1800	0.1
	12	25000	1500	0.08
	16	20000	1000	0.06
	20	12000	800	0.05
	25	9000	600	0.04
	30	8000	500	0.04
	35	6500	300	0.02
2.5mm	8	25000	2500	0.2
	12	20000	2000	0.15
	16	18000	1700	0.1
	20	12000	1000	0.08
	25	10000	700	0.07
	30	9000	600	0.06
	35	8500	500	0.05
3.0mm	8	20000	2000	0.3
	12	20000	1500	0.18
	16	15000	1400	0.15
	20	10000	800	0.1
	25	8000	600	0.08
	30	7000	450	0.06
	35	6000	300	0.05
4.0mm	10	20000	3200	0.3
	16	13000	2500	0.25
	20	11000	2200	0.22
	25	8000	1500	0.15
	30	6400	1200	0.12
	35	5000	700	0.08
5.0mm	16	12000	2500	0.35
	20	10000	1200	0.3
	25	8000	1000	0.25
	30	6000	900	0.2
	35	5100	750	0.15
6.0mm	20	10000	2000	0.4
	30	6000	1200	0.3
8.0mm	20	3200	910	0.18
	30	3000	800	0.15
	40	2600	600	0.12
10.0mm	25	2900	890	0.20
	35	2500	700	0.16
	45	2200	580	0.14
12.0mm	30	2500	710	0.22
	40	2300	500	0.18
	50	1900	420	0.16



G55C - Square · Long Neck · Helix 30 · 4F

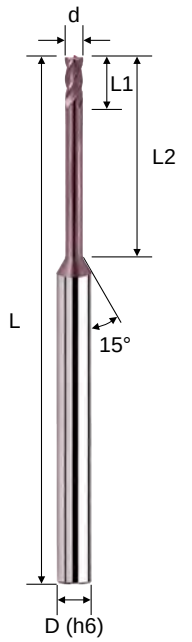
長頸型・平銑刀・4 刃

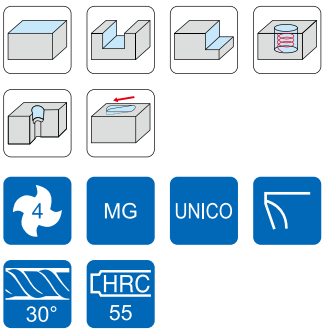
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC441003U	1.0	1.0	3	50	4	4
EPSRC441004U	1.0	1.0	4	50	4	4
EPSRC441006U	1.0	1.0	6	50	4	4
EPSRC441008U	1.0	1.0	8	50	4	4
EPSRC441010U	1.0	1.0	10	50	4	4
EPSRC441012U	1.0	1.0	12	50	4	4
EPSRC441016U	1.0	1.0	16	50	4	4
EPSRC441020U	1.0	1.0	20	50	4	4
EPSRC441025U	1.0	1.0	25	60	4	4
EPSRC401004U	1.0	1.0	4	50	6	4
EPSRC401006U	1.0	1.0	6	50	6	4
EPSRC401008U	1.0	1.0	8	50	6	4
EPSRC401010U	1.0	1.0	10	50	6	4
EPSRC401012U	1.0	1.0	12	50	6	4
EPSRC441506U	1.5	1.5	6	50	4	4
EPSRC441508U	1.5	1.5	8	50	4	4
EPSRC441510U	1.5	1.5	10	50	4	4
EPSRC441512U	1.5	1.5	12	50	4	4
EPSRC441516U	1.5	1.5	16	50	4	4
EPSRC441520U	1.5	1.5	20	50	4	4
EPSRC441525U	1.5	1.5	25	60	4	4
EPSRC401506U	1.5	1.5	6	50	6	4
EPSRC401508U	1.5	1.5	8	50	6	4
EPSRC401510U	1.5	1.5	10	50	6	4
EPSRC401512U	1.5	1.5	12	50	6	4
EPSRC442006U	2.0	2.0	6	50	4	4
EPSRC442008U	2.0	2.0	8	50	4	4
EPSRC442010U	2.0	2.0	10	50	4	4
EPSRC442012U	2.0	2.0	12	50	4	4
EPSRC442016U	2.0	2.0	16	50	4	4
EPSRC442020U	2.0	2.0	20	50	4	4
EPSRC442025U	2.0	2.0	25	60	4	4
EPSRC442030U	2.0	2.0	30	75	4	4
EPSRC402006U	2.0	2.0	6	50	6	4
EPSRC402008U	2.0	2.0	8	50	6	4
EPSRC402010U	2.0	2.0	10	50	6	4
EPSRC402016U	2.0	2.0	16	50	6	4

(continued)

G55C - Square · Long Neck · Helix 30 · 4F

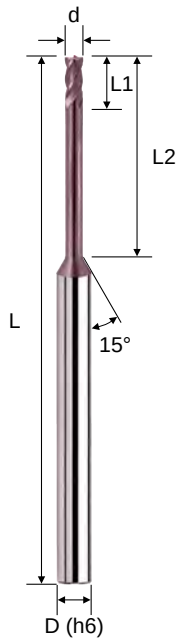
長頸型・平銑刀・4 刃

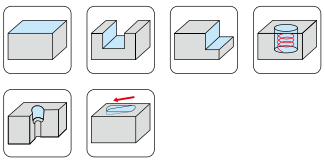
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○





4 | MG | UNICO | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPSRC442510U	2.5	2.5	10	50	4	4
EPSRC442512U	2.5	2.5	12	50	4	4
EPSRC442516U	2.5	2.5	16	50	4	4
EPSRC442520U	2.5	2.5	20	50	4	4
EPSRC442525U	2.5	2.5	25	60	4	4
EPSRC442530U	2.5	2.5	30	75	4	4
EPSRC402506U	2.5	2.5	6	50	6	4
EPSRC402510U	2.5	2.5	10	50	6	4
EPSRC403010U	3.0	3.0	10	50	6	4
EPSRC403012U	3.0	3.0	12	50	6	4
EPSRC403016U	3.0	3.0	16	50	6	4
EPSRC403020U	3.0	3.0	20	60	6	4
EPSRC403025U	3.0	3.0	25	60	6	4
EPSRC403030U	3.0	3.0	30	75	6	4
EPSRC403035U	3.0	3.0	35	75	6	4
EPSRC404010U	4.0	4.0	10	50	6	4
EPSRC404012U	4.0	4.0	12	50	6	4
EPSRC404016U	4.0	4.0	16	50	6	4
EPSRC404020U	4.0	4.0	20	60	6	4
EPSRC404025U	4.0	4.0	25	60	6	4
EPSRC404030U	4.0	4.0	30	75	6	4
EPSRC405016U	5.0	5.0	16	50	6	4
EPSRC405020U	5.0	5.0	20	60	6	4
EPSRC405025U	5.0	5.0	25	60	6	4
EPSRC405030U	5.0	5.0	30	75	6	4
EPSRC406020U	6.0	6.0	20	60	6	4
EPSRC406030U	6.0	6.0	30	75	6	4
EPSRC408020U	8.0	15.0	20	60	8	4
EPSRC408030U	8.0	15.0	30	75	8	4
EPSRC408040U	8.0	15.0	40	100	8	4
EPSRC410025U	10.0	20.0	25	75	10	4
EPSRC410035U	10.0	20.0	35	100	10	4
EPSRC410045U	10.0	20.0	45	100	10	4
EPSRC412030U	12.0	25.0	30	75	12	4
EPSRC412040U	12.0	25.0	40	100	12	4
EPSRC412050U	12.0	25.0	50	100	12	4

(continued)

G55C - Square · Long Neck · Helix 30 · 4F

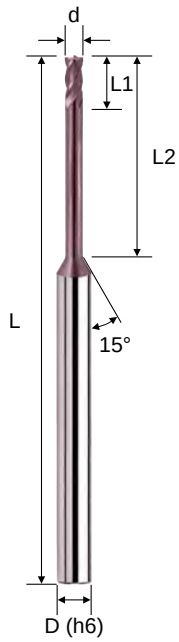
長頸型・平銑刀・4 刃

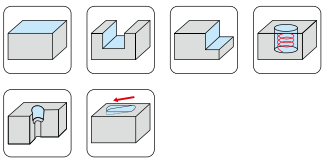
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

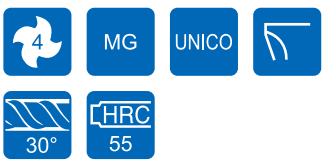
ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○







d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	**Carbon Steels/Cast iron/Alloy Steels** S50C/FC250/SCM/NAK			
Hardness	HRC 35~45			
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
1.0mm	4	40000	3000	0.040
	8	36000	2400	0.030
	10	30000	1500	0.025
	12	20000	1000	0.020
	16	10000	500	0.005
1.5mm	6	40000	3200	0.060
	10	35000	2500	0.050
	12	32000	2400	0.050
	16	16000	1100	0.030
	20	10000	600	0.010
	25	9000	500	0.009
2.0mm	6	40000	4000	0.100
	10	35000	3500	0.080
	12	32000	3200	0.070
	16	24000	2400	0.050
	20	12000	1200	0.030
	25	10000	800	0.020
	30	5000	500	0.010
2.5mm	10	32000	4000	0.200
	12	28000	2500	0.120
	16	23000	1800	0.100
	20	20000	1500	0.060
	25	9000	1100	0.040
	30	2500	300	0.005
3.0mm	10	25000	3600	0.400
	12	23000	3000	0.300
	16	18000	2500	0.200
	20	15000	2000	0.150
	25	12000	1700	0.100
	30	7000	800	0.050
	35	5000	300	0.030

(continued)

G55C - Square · Long Neck · Helix 30 · 4F

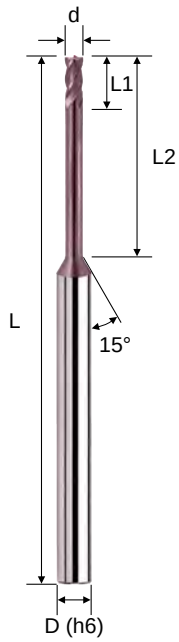
長頸型・平銑刀・4 刃

- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

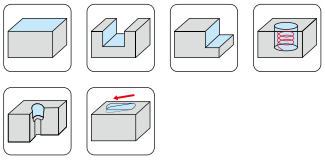
ASIA (Metric)

EPSRC

P	M	K	N	S	H
●	○	●			○



Material		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness		HRC 35~45		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)
4mm	10	20000	3200	1.200
	12	18000	3000	1.000
	16	15000	2500	1.000
	20	12000	2000	0.500
	25	10000	1800	0.400
	30	8000	1300	0.200
5mm	20	12000	2300	1.000
	25	9500	1800	0.500
	30	6400	1200	0.200
6mm	20	11000	2200	1.200
	30	8000	1600	0.600
8mm	20	8000	1600	1.000
	30	4000	800	0.500
	40	4000	800	0.500
10mm	25	6400	1300	1.000
	35	3200	640	0.600
	45	3200	640	0.600
12mm	30	6000	1200	2.000
	40	3200	640	0.600
	50	3200	640	0.600



4 | MG | UNICO

30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

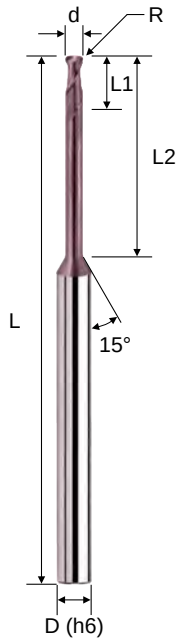
G55C - Corner Radius · Long Neck · Helix 30 · 2F 長頸型・圓鼻銑刀・2 刃

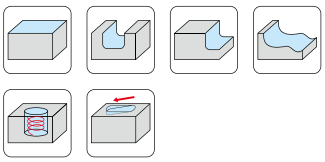
- Available in various cut lengths.
- With long neck are suitable for deep general cutting and 3D milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC24100104U	1.0	0.1R	1.0	4	50	4	2
EPCRC24100106U	1.0	0.1R	1.0	6	50	4	2
EPCRC24100108U	1.0	0.1R	1.0	8	50	4	2
EPCRC24100110U	1.0	0.1R	1.0	10	50	4	2
EPCRC24100112U	1.0	0.1R	1.0	12	50	4	2
EPCRC24100204U	1.0	0.2R	1.0	4	50	4	2
EPCRC24100206U	1.0	0.2R	1.0	6	50	4	2
EPCRC24100208U	1.0	0.2R	1.0	8	50	4	2
EPCRC24100210U	1.0	0.2R	1.0	10	50	4	2
EPCRC24100212U	1.0	0.2R	1.0	12	50	4	2
EPCRC24100304U	1.0	0.3R	1.0	4	50	4	2
EPCRC24100306U	1.0	0.3R	1.0	6	50	4	2
EPCRC24100308U	1.0	0.3R	1.0	8	50	4	2
EPCRC24100310U	1.0	0.3R	1.0	10	50	4	2
EPCRC24100312U	1.0	0.3R	1.0	12	50	4	2
EPCRC24120104U	1.2	0.1R	1.2	4	50	4	2
EPCRC24120106U	1.2	0.1R	1.2	6	50	4	2
EPCRC24120108U	1.2	0.1R	1.2	8	50	4	2
EPCRC24120110U	1.2	0.1R	1.2	10	50	4	2
EPCRC24120112U	1.2	0.1R	1.2	12	50	4	2
EPCRC24120204U	1.2	0.2R	1.2	4	50	4	2
EPCRC24120206U	1.2	0.2R	1.2	6	50	4	2
EPCRC24120208U	1.2	0.2R	1.2	8	50	4	2
EPCRC24120210U	1.2	0.2R	1.2	10	50	4	2
EPCRC24120212U	1.2	0.2R	1.2	12	50	4	2
EPCRC24120304U	1.2	0.3R	1.2	4	50	4	2
EPCRC24120306U	1.2	0.3R	1.2	6	50	4	2
EPCRC24120308U	1.2	0.3R	1.2	8	50	4	2
EPCRC24120310U	1.2	0.3R	1.2	10	50	4	2
EPCRC24120312U	1.2	0.3R	1.2	12	50	4	2
EPCRC24150106U	1.5	0.1R	1.5	6	50	4	2
EPCRC24150108U	1.5	0.1R	1.5	8	50	4	2
EPCRC24150110U	1.5	0.1R	1.5	10	50	4	2
EPCRC24150112U	1.5	0.1R	1.5	12	50	4	2
EPCRC24150116U	1.5	0.1R	1.5	16	50	4	2
EPCRC24150206U	1.5	0.2R	1.5	6	50	4	2
EPCRC24150208U	1.5	0.2R	1.5	8	50	4	2
EPCRC24150210U	1.5	0.2R	1.5	10	50	4	2
EPCRC24150212U	1.5	0.2R	1.5	12	50	4	2
EPCRC24150216U	1.5	0.2R	1.5	16	50	4	2

(continued)

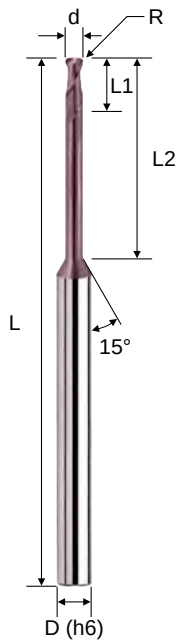
G55C - Corner Radius · Long Neck · Helix 30 · 2F 長頸型・圓鼻銑刀・2 刃

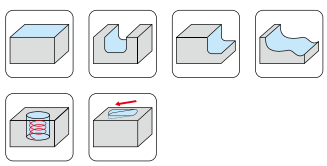
- Available in various cut lengths.
- With long neck are suitable for deep general cutting and 3D milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC24150306U	1.5	0.3R	1.5	6	50	4	2
EPCRC24150308U	1.5	0.3R	1.5	8	50	4	2
EPCRC24150310U	1.5	0.3R	1.5	10	50	4	2
EPCRC24150312U	1.5	0.3R	1.5	12	50	4	2
EPCRC24150316U	1.5	0.3R	1.5	16	50	4	2
EPCRC24150506U	1.5	0.5R	1.5	6	50	4	2
EPCRC24150508U	1.5	0.5R	1.5	8	50	4	2
EPCRC24150510U	1.5	0.5R	1.5	10	50	4	2
EPCRC24150512U	1.5	0.5R	1.5	12	50	4	2
EPCRC24150516U	1.5	0.5R	1.5	16	50	4	2
EPCRC24200106U	2.0	0.1R	2.0	6	50	4	2
EPCRC24200108U	2.0	0.1R	2.0	8	50	4	2
EPCRC24200110U	2.0	0.1R	2.0	10	50	4	2
EPCRC24200112U	2.0	0.1R	2.0	12	50	4	2
EPCRC24200116U	2.0	0.1R	2.0	16	50	4	2
EPCRC24200120U	2.0	0.1R	2.0	20	50	4	2
EPCRC24200125U	2.0	0.1R	2.0	25	60	4	2
EPCRC24200206U	2.0	0.2R	2.0	6	50	4	2
EPCRC24200208U	2.0	0.2R	2.0	8	50	4	2
EPCRC24200210U	2.0	0.2R	2.0	10	50	4	2
EPCRC24200212U	2.0	0.2R	2.0	12	50	4	2
EPCRC24200216U	2.0	0.2R	2.0	16	50	4	2
EPCRC24200220U	2.0	0.2R	2.0	20	50	4	2
EPCRC24200225U	2.0	0.2R	2.0	25	60	4	2
EPCRC24200306U	2.0	0.3R	2.0	6	50	4	2
EPCRC24200308U	2.0	0.3R	2.0	8	50	4	2
EPCRC24200310U	2.0	0.3R	2.0	10	50	4	2
EPCRC24200312U	2.0	0.3R	2.0	12	50	4	2
EPCRC24200316U	2.0	0.3R	2.0	16	50	4	2
EPCRC24200320U	2.0	0.3R	2.0	20	50	4	2
EPCRC24200325U	2.0	0.3R	2.0	25	60	4	2
EPCRC24200506U	2.0	0.5R	2.0	6	50	4	2
EPCRC24200508U	2.0	0.5R	2.0	8	50	4	2
EPCRC24200510U	2.0	0.5R	2.0	10	50	4	2
EPCRC24200512U	2.0	0.5R	2.0	12	50	4	2
EPCRC24200516U	2.0	0.5R	2.0	16	50	4	2
EPCRC24200520U	2.0	0.5R	2.0	20	50	4	2
EPCRC24200525U	2.0	0.5R	2.0	25	60	4	2
EPCRC20200510U	2.0	0.5R	2.0	10	50	6	2
EPCRC20200515U	2.0	0.5R	2.0	15	50	6	2

(continued)

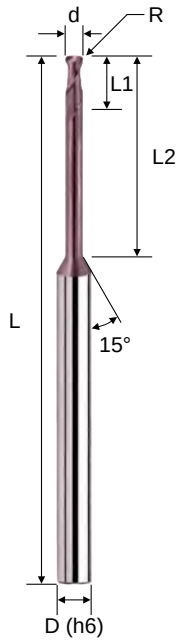
G55C - Corner Radius · Long Neck · Helix 30 · 2F 長頸型・圓鼻銑刀・2 刃

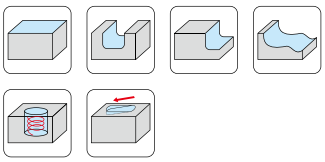
- Available in various cut lengths.
- With long neck are suitable for deep general cutting and 3D milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R

30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC24250110U	2.5	0.1R	2.5	10	50	4	2
EPCRC24250116U	2.5	0.1R	2.5	16	50	4	2
EPCRC24250120U	2.5	0.1R	2.5	20	50	4	2
EPCRC24250125U	2.5	0.1R	2.5	25	60	4	2
EPCRC24250210U	2.5	0.2R	2.5	10	50	4	2
EPCRC24250216U	2.5	0.2R	2.5	16	50	4	2
EPCRC24250220U	2.5	0.2R	2.5	20	50	4	2
EPCRC24250225U	2.5	0.2R	2.5	25	60	4	2
EPCRC24250310U	2.5	0.3R	2.5	10	50	4	2
EPCRC24250316U	2.5	0.3R	2.5	16	50	4	2
EPCRC24250320U	2.5	0.3R	2.5	20	50	4	2
EPCRC24250325U	2.5	0.3R	2.5	25	60	4	2
EPCRC24250510U	2.5	0.5R	2.5	10	50	4	2
EPCRC24250516U	2.5	0.5R	2.5	16	50	4	2
EPCRC24250520U	2.5	0.5R	2.5	20	50	4	2
EPCRC24250525U	2.5	0.5R	2.5	25	60	4	2
EPCRC20300110U	3.0	0.1R	3.0	10	50	6	2
EPCRC20300116U	3.0	0.1R	3.0	16	60	6	2
EPCRC20300120U	3.0	0.1R	3.0	20	60	6	2
EPCRC20300125U	3.0	0.1R	3.0	25	60	6	2
EPCRC20300130U	3.0	0.1R	3.0	30	75	6	2
EPCRC20300135U	3.0	0.1R	3.0	35	75	6	2
EPCRC20300210U	3.0	0.2R	3.0	10	50	6	2
EPCRC20300216U	3.0	0.2R	3.0	16	60	6	2
EPCRC20300220U	3.0	0.2R	3.0	20	60	6	2
EPCRC20300225U	3.0	0.2R	3.0	25	60	6	2
EPCRC20300230U	3.0	0.2R	3.0	30	75	6	2
EPCRC20300235U	3.0	0.2R	3.0	35	75	6	2
EPCRC20300310U	3.0	0.3R	3.0	10	50	6	2
EPCRC20300316U	3.0	0.3R	3.0	16	60	6	2
EPCRC20300320U	3.0	0.3R	3.0	20	60	6	2
EPCRC20300325U	3.0	0.3R	3.0	25	60	6	2
EPCRC20300330U	3.0	0.3R	3.0	30	75	6	2
EPCRC20300335U	3.0	0.3R	3.0	35	75	6	2
EPCRC20300510U	3.0	0.5R	3.0	10	50	6	2
EPCRC20300516U	3.0	0.5R	3.0	16	60	6	2
EPCRC20300520U	3.0	0.5R	3.0	20	60	6	2
EPCRC20300525U	3.0	0.5R	3.0	25	60	6	2
EPCRC20300530U	3.0	0.5R	3.0	30	75	6	2
EPCRC20300535U	3.0	0.5R	3.0	35	75	6	2

(continued)

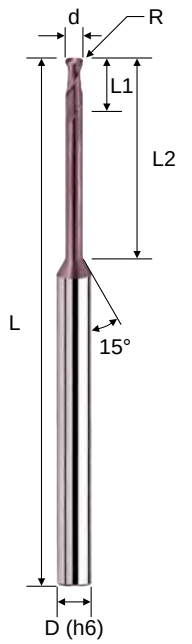
G55C - Corner Radius · Long Neck · Helix 30 · 2F 長頸型・圓鼻銑刀・2 刃

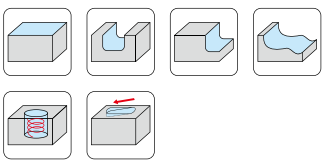
- Available in various cut lengths.
- With long neck are suitable for deep general cutting and 3D milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R

30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC20301010U	3.0	1.0R	3.0	10	50	6	2
EPCRC20301016U	3.0	1.0R	3.0	16	60	6	2
EPCRC20301020U	3.0	1.0R	3.0	20	60	6	2
EPCRC20301025U	3.0	1.0R	3.0	25	60	6	2
EPCRC20301030U	3.0	1.0R	3.0	30	75	6	2
EPCRC20301035U	3.0	1.0R	3.0	35	75	6	2
EPCRC20400113U	4.0	0.1R	4.0	13	50	6	2
EPCRC20400116U	4.0	0.1R	4.0	16	60	6	2
EPCRC20400120U	4.0	0.1R	4.0	20	60	6	2
EPCRC20400125U	4.0	0.1R	4.0	25	60	6	2
EPCRC20400130U	4.0	0.1R	4.0	30	75	6	2
EPCRC20400135U	4.0	0.1R	4.0	35	75	6	2
EPCRC20400213U	4.0	0.2R	4.0	13	50	6	2
EPCRC20400216U	4.0	0.2R	4.0	16	60	6	2
EPCRC20400220U	4.0	0.2R	4.0	20	60	6	2
EPCRC20400225U	4.0	0.2R	4.0	25	60	6	2
EPCRC20400230U	4.0	0.2R	4.0	30	75	6	2
EPCRC20400235U	4.0	0.2R	4.0	35	75	6	2
EPCRC20400313U	4.0	0.3R	4.0	13	50	6	2
EPCRC20400316U	4.0	0.3R	4.0	16	60	6	2
EPCRC20400320U	4.0	0.3R	4.0	20	60	6	2
EPCRC20400325U	4.0	0.3R	4.0	25	60	6	2
EPCRC20400330U	4.0	0.3R	4.0	30	75	6	2
EPCRC20400335U	4.0	0.3R	4.0	35	75	6	2
EPCRC20400513U	4.0	0.5R	4.0	13	50	6	2
EPCRC20400516U	4.0	0.5R	4.0	16	60	6	2
EPCRC20400520U	4.0	0.5R	4.0	20	60	6	2
EPCRC20400525U	4.0	0.5R	4.0	25	60	6	2
EPCRC20400530U	4.0	0.5R	4.0	30	75	6	2
EPCRC20400535U	4.0	0.5R	4.0	35	75	6	2
EPCRC20401013U	4.0	1.0R	4.0	13	50	6	2
EPCRC20401016U	4.0	1.0R	4.0	16	60	6	2
EPCRC20401020U	4.0	1.0R	4.0	20	60	6	2
EPCRC20401025U	4.0	1.0R	4.0	25	60	6	2
EPCRC20401030U	4.0	1.0R	4.0	30	75	6	2
EPCRC20401035U	4.0	1.0R	4.0	35	75	6	2
EPCRC20500116U	5.0	0.1R	5.0	16	60	6	2
EPCRC20500130U	5.0	0.1R	5.0	30	75	6	2
EPCRC20500216U	5.0	0.2R	5.0	16	60	6	2
EPCRC20500230U	5.0	0.2R	5.0	30	75	6	2

(continued)

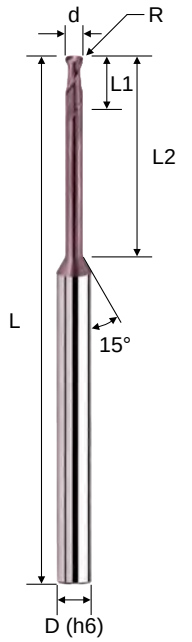
G55C - Corner Radius · Long Neck · Helix 30 · 2F 長頸型・圓鼻銑刀・2 刃

- Available in various cut lengths.
- With long neck are suitable for deep general cutting and 3D milling.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

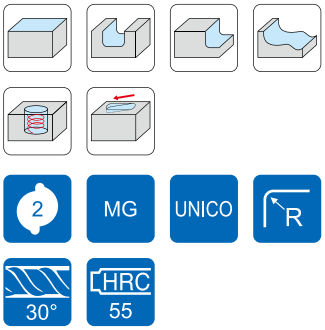
ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC20500316U	5.0	0.3R	5.0	16	60	6	2
EPCRC20500330U	5.0	0.3R	5.0	30	75	6	2
EPCRC20500516U	5.0	0.5R	5.0	16	60	6	2
EPCRC20500530U	5.0	0.5R	5.0	30	75	6	2
EPCRC20501016U	5.0	1.0R	5.0	16	60	6	2
EPCRC20501030U	5.0	1.0R	5.0	30	75	6	2
EPCRC20600120U	6.0	0.1R	7.0	20	60	6	2
EPCRC20600130U	6.0	0.1R	7.0	30	75	6	2
EPCRC20600220U	6.0	0.2R	7.0	20	60	6	2
EPCRC20600230U	6.0	0.2R	7.0	30	75	6	2
EPCRC20600320U	6.0	0.3R	7.0	20	60	6	2
EPCRC20600330U	6.0	0.3R	7.0	30	75	6	2
EPCRC20600520U	6.0	0.5R	7.0	20	60	6	2
EPCRC20600530U	6.0	0.5R	7.0	30	75	6	2
EPCRC20601020U	6.0	1.0R	7.0	20	60	6	2
EPCRC20601030U	6.0	1.0R	7.0	30	75	6	2
EPCRC20601520U	6.0	1.5R	7.0	20	60	6	2
EPCRC20601530U	6.0	1.5R	7.0	30	75	6	2
EPCRC20800522U	8.0	0.5R	9.0	22	60	8	2
EPCRC20801022U	8.0	1.0R	9.0	22	60	8	2
EPCRC20801522U	8.0	1.5R	9.0	22	60	8	2
EPCRC20802022U	8.0	2.0R	9.0	22	60	8	2
EPCRC21000524U	10.0	0.5R	11.0	24	75	10	2
EPCRC21001024U	10.0	1.0R	11.0	24	75	10	2
EPCRC21001524U	10.0	1.5R	11.0	24	75	10	2
EPCRC21002024U	10.0	2.0R	11.0	24	75	10	2
EPCRC21200526U	12.0	0.5R	13.0	26	75	12	2
EPCRC21201026U	12.0	1.0R	13.0	26	75	12	2
EPCRC21201526U	12.0	1.5R	13.0	26	75	12	2
EPCRC21202026U	12.0	2.0R	13.0	26	75	12	2



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	CARBON STEEL / ALLOY STEEL SCM, SNCM, S45		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1	
Hardness	~HRC 35		HRC 35~45		HRC 45~55	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1.0mm	33100	280	21600	120	13200	70
1.2mm	30000	300	18000	125	12000	70
1.5mm	26400	300	16200	130	10200	70
2.0mm	21600	310	13800	140	8640	80
2.5mm	18000	320	11400	150	7320	80
3.0mm	15900	330	10300	160	6300	80
4.0mm	12800	400	8200	200	5150	95
5.0mm	11000	500	7000	240	4560	120
6.0mm	9500	600	6000	300	3930	140
8.0mm	7200	640	4550	300	3020	140
10.0mm	6000	640	4000	300	2420	140
12.0mm	5000	500	3340	270	2000	120

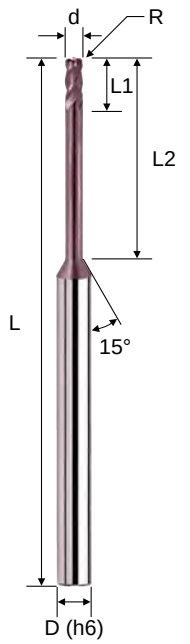
G55C - Corner Radius · Long Neck · Helix 30 · 4F 長頸型・圓鼻銑刀・4 刃

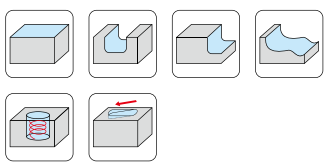
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

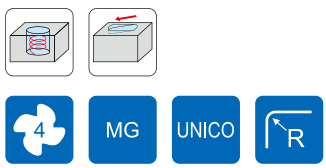
ASIA (Metric)

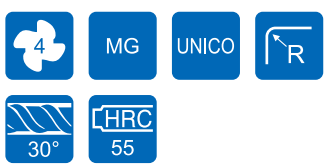
EPCRC

P	M	K	N	S	H
●	○	●			○









d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC44200106U	2.0	0.1R	2.0	6	50	4	4
EPCRC44200108U	2.0	0.1R	2.0	8	50	4	4
EPCRC44200110U	2.0	0.1R	2.0	10	50	4	4
EPCRC44200112U	2.0	0.1R	2.0	12	50	4	4
EPCRC44200116U	2.0	0.1R	2.0	16	50	4	4
EPCRC44200120U	2.0	0.1R	2.0	20	50	4	4
EPCRC44200125U	2.0	0.1R	2.0	25	60	4	4
EPCRC44200206U	2.0	0.2R	2.0	6	50	4	4
EPCRC44200208U	2.0	0.2R	2.0	8	50	4	4
EPCRC44200210U	2.0	0.2R	2.0	10	50	4	4
EPCRC44200212U	2.0	0.2R	2.0	12	50	4	4
EPCRC44200216U	2.0	0.2R	2.0	16	50	4	4
EPCRC44200220U	2.0	0.2R	2.0	20	50	4	4
EPCRC44200225U	2.0	0.2R	2.0	25	60	4	4
EPCRC44200306U	2.0	0.3R	2.0	6	50	4	4
EPCRC44200308U	2.0	0.3R	2.0	8	50	4	4
EPCRC44200310U	2.0	0.3R	2.0	10	50	4	4
EPCRC44200312U	2.0	0.3R	2.0	12	50	4	4
EPCRC44200316U	2.0	0.3R	2.0	16	50	4	4
EPCRC44200320U	2.0	0.3R	2.0	20	50	4	4
EPCRC44200325U	2.0	0.3R	2.0	25	60	4	4
EPCRC44200506U	2.0	0.5R	2.0	6	50	4	4
EPCRC44200508U	2.0	0.5R	2.0	8	50	4	4
EPCRC44200510U	2.0	0.5R	2.0	10	50	4	4
EPCRC44200512U	2.0	0.5R	2.0	12	50	4	4
EPCRC44200516U	2.0	0.5R	2.0	16	50	4	4
EPCRC44200520U	2.0	0.5R	2.0	20	50	4	4
EPCRC44200525U	2.0	0.5R	2.0	25	60	4	4
EPCRC40200510U	2.0	0.5R	2.0	10	50	6	4
EPCRC40200515U	2.0	0.5R	2.0	15	50	6	4
EPCRC44250110U	2.5	0.1R	2.5	10	50	4	4
EPCRC44250116U	2.5	0.1R	2.5	16	50	4	4
EPCRC44250120U	2.5	0.1R	2.5	20	50	4	4
EPCRC44250125U	2.5	0.1R	2.5	25	60	4	4
EPCRC44250210U	2.5	0.2R	2.5	10	50	4	4
EPCRC44250216U	2.5	0.2R	2.5	16	50	4	4
EPCRC44250220U	2.5	0.2R	2.5	20	50	4	4
EPCRC44250225U	2.5	0.2R	2.5	25	60	4	4
EPCRC44250310U	2.5	0.3R	2.5	10	50	4	4
EPCRC44250316U	2.5	0.3R	2.5	16	50	4	4

(continued)

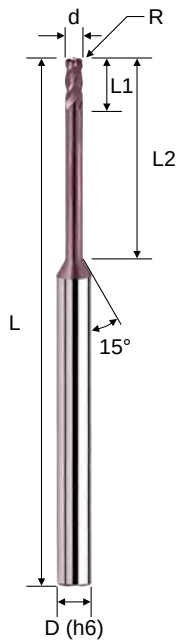
G55C - Corner Radius · Long Neck · Helix 30 · 4F 長頸型・圓鼻銑刀・4 刃

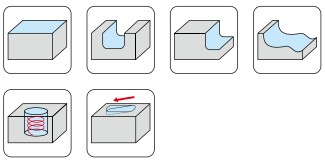
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○





4 | MG | UNICO | R | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC44250320U	2.5	0.3R	2.5	20	50	4	4
EPCRC44250325U	2.5	0.3R	2.5	25	60	4	4
EPCRC44250510U	2.5	0.5R	2.5	10	50	4	4
EPCRC44250516U	2.5	0.5R	2.5	16	50	4	4
EPCRC44250520U	2.5	0.5R	2.5	20	50	4	4
EPCRC44250525U	2.5	0.5R	2.5	25	60	4	4
EPCRC40300110U	3.0	0.1R	3.0	10	50	6	4
EPCRC40300116U	3.0	0.1R	3.0	16	60	6	4
EPCRC40300120U	3.0	0.1R	3.0	20	60	6	4
EPCRC40300125U	3.0	0.1R	3.0	25	60	6	4
EPCRC40300130U	3.0	0.1R	3.0	30	75	6	4
EPCRC40300135U	3.0	0.1R	3.0	35	75	6	4
EPCRC40300210U	3.0	0.2R	3.0	10	50	6	4
EPCRC40300216U	3.0	0.2R	3.0	16	60	6	4
EPCRC40300220U	3.0	0.2R	3.0	20	60	6	4
EPCRC40300225U	3.0	0.2R	3.0	25	60	6	4
EPCRC40300230U	3.0	0.2R	3.0	30	75	6	4
EPCRC40300235U	3.0	0.2R	3.0	35	75	6	4
EPCRC40300310U	3.0	0.3R	3.0	10	50	6	4
EPCRC40300316U	3.0	0.3R	3.0	16	60	6	4
EPCRC40300320U	3.0	0.3R	3.0	20	60	6	4
EPCRC40300325U	3.0	0.3R	3.0	25	60	6	4
EPCRC40300330U	3.0	0.3R	3.0	30	75	6	4
EPCRC40300335U	3.0	0.3R	3.0	35	75	6	4
EPCRC40300510U	3.0	0.5R	3.0	10	50	6	4
EPCRC40300516U	3.0	0.5R	3.0	16	60	6	4
EPCRC40300520U	3.0	0.5R	3.0	20	60	6	4
EPCRC40300525U	3.0	0.5R	3.0	25	60	6	4
EPCRC40300530U	3.0	0.5R	3.0	30	75	6	4
EPCRC40300535U	3.0	0.5R	3.0	35	75	6	4
EPCRC40301010U	3.0	1.0R	3.0	10	50	6	4
EPCRC40301016U	3.0	1.0R	3.0	16	60	6	4
EPCRC40301020U	3.0	1.0R	3.0	20	60	6	4
EPCRC40301025U	3.0	1.0R	3.0	25	60	6	4
EPCRC40301030U	3.0	1.0R	3.0	30	75	6	4
EPCRC40301035U	3.0	1.0R	3.0	35	75	6	4
EPCRC40400113U	4.0	0.1R	4.0	13	50	6	4
EPCRC40400116U	4.0	0.1R	4.0	16	60	6	4
EPCRC40400120U	4.0	0.1R	4.0	20	60	6	4
EPCRC40400125U	4.0	0.1R	4.0	25	60	6	4

(continued)

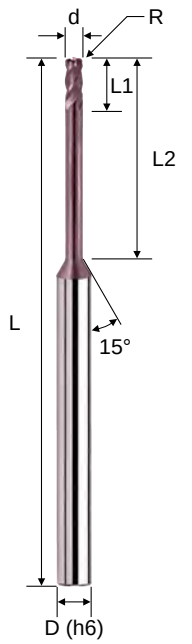
G55C - Corner Radius · Long Neck · Helix 30 · 4F 長頸型・圓鼻銑刀・4 刃

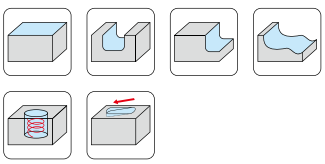
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○





4 | MG | UNICO | R

30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC40400130U	4.0	0.1R	4.0	30	75	6	4
EPCRC40400135U	4.0	0.1R	4.0	35	75	6	4
EPCRC40400213U	4.0	0.2R	4.0	13	50	6	4
EPCRC40400216U	4.0	0.2R	4.0	16	60	6	4
EPCRC40400220U	4.0	0.2R	4.0	20	60	6	4
EPCRC40400225U	4.0	0.2R	4.0	25	60	6	4
EPCRC40400230U	4.0	0.2R	4.0	30	75	6	4
EPCRC40400235U	4.0	0.2R	4.0	35	75	6	4
EPCRC40400313U	4.0	0.3R	4.0	13	50	6	4
EPCRC40400316U	4.0	0.3R	4.0	16	60	6	4
EPCRC40400320U	4.0	0.3R	4.0	20	60	6	4
EPCRC40400325U	4.0	0.3R	4.0	25	60	6	4
EPCRC40400330U	4.0	0.3R	4.0	30	75	6	4
EPCRC40400335U	4.0	0.3R	4.0	35	75	6	4
EPCRC40400513U	4.0	0.5R	4.0	13	50	6	4
EPCRC40400516U	4.0	0.5R	4.0	16	60	6	4
EPCRC40400520U	4.0	0.5R	4.0	20	60	6	4
EPCRC40400525U	4.0	0.5R	4.0	25	60	6	4
EPCRC40400530U	4.0	0.5R	4.0	30	75	6	4
EPCRC40400535U	4.0	0.5R	4.0	35	75	6	4
EPCRC40401013U	4.0	1.0R	4.0	13	50	6	4
EPCRC40401016U	4.0	1.0R	4.0	16	60	6	4
EPCRC40401020U	4.0	1.0R	4.0	20	60	6	4
EPCRC40401025U	4.0	1.0R	4.0	25	60	6	4
EPCRC40401030U	4.0	1.0R	4.0	30	75	6	4
EPCRC40401035U	4.0	1.0R	4.0	35	75	6	4
EPCRC40500116U	5.0	0.1R	5.0	16	60	6	4
EPCRC40500130U	5.0	0.1R	5.0	30	75	6	4
EPCRC40500216U	5.0	0.2R	5.0	16	60	6	4
EPCRC40500230U	5.0	0.2R	5.0	30	75	6	4
EPCRC40500316U	5.0	0.3R	5.0	16	60	6	4
EPCRC40500330U	5.0	0.3R	5.0	30	75	6	4
EPCRC40500516U	5.0	0.5R	5.0	16	60	6	4
EPCRC40500530U	5.0	0.5R	5.0	30	75	6	4
EPCRC40501016U	5.0	1.0R	5.0	16	60	6	4
EPCRC40501030U	5.0	1.0R	5.0	30	75	6	4
EPCRC40600120U	6.0	0.1R	7.0	20	60	6	4
EPCRC40600130U	6.0	0.1R	7.0	30	75	6	4
EPCRC40600220U	6.0	0.2R	7.0	20	60	6	4
EPCRC40600230U	6.0	0.2R	7.0	30	75	6	4

(continued)

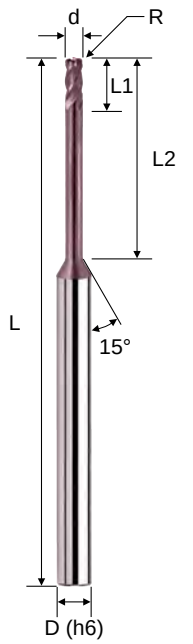
G55C - Corner Radius · Long Neck · Helix 30 · 4F 長頸型・圓鼻銑刀・4 刃

- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

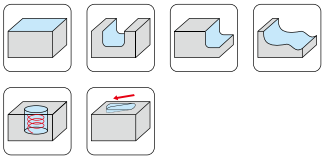
ASIA (Metric)

EPCRC

P	M	K	N	S	H
●	○	●			○



Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPCRC40600320U	6.0	0.3R	7.0	20	60	6	4
EPCRC40600330U	6.0	0.3R	7.0	30	75	6	4
EPCRC40600520U	6.0	0.5R	7.0	20	60	6	4
EPCRC40600530U	6.0	0.5R	7.0	30	75	6	4
EPCRC40601020U	6.0	1.0R	7.0	20	60	6	4
EPCRC40601030U	6.0	1.0R	7.0	30	75	6	4
EPCRC40601520U	6.0	1.5R	7.0	20	60	6	4
EPCRC40601530U	6.0	1.5R	7.0	30	75	6	4
EPCRC40800522U	8.0	0.5R	9.0	22	60	8	4
EPCRC40801022U	8.0	1.0R	9.0	22	60	8	4
EPCRC40801522U	8.0	1.5R	9.0	22	60	8	4
EPCRC40802022U	8.0	2.0R	9.0	22	60	8	4
EPCRC41000524U	10.0	0.5R	11.0	24	75	10	4
EPCRC41001024U	10.0	1.0R	11.0	24	75	10	4
EPCRC41001524U	10.0	1.5R	11.0	24	75	10	4
EPCRC41002024U	10.0	2.0R	11.0	24	75	10	4
EPCRC41200526U	12.0	0.5R	13.0	26	75	12	4
EPCRC41201026U	12.0	1.0R	13.0	26	75	12	4
EPCRC41201526U	12.0	1.5R	13.0	26	75	12	4
EPCRC41202026U	12.0	2.0R	13.0	26	75	12	4



4 | MG | UNICO | R | 30° | HRC 55

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	CARBON STEEL / ALLOY STEEL SCM, SNCM, S45		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1	
Hardness	~HRC 35		HRC 35~45		HRC 45~55	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
2mm	21600	380	13800	280	8640	150
2.5mm	18000	390	11400	300	7320	150
3mm	15900	400	10300	310	6300	150
4mm	12800	500	8200	360	5150	160
5mm	11000	510	7000	430	4560	200
6mm	9500	510	6000	430	3930	200
8mm	7200	550	4550	430	3020	200
10mm	6000	550	4000	430	2420	200
12mm	5000	430	3340	380	2000	160

G55C - Ball Nose · Long Neck · Helix 30 · 2F

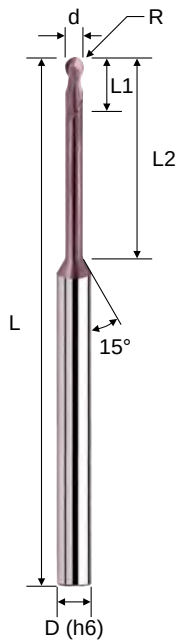
長頸型・球型銑刀・2 刃

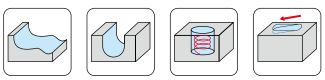
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPBRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R | 30° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC240301U	0.15R	0.3	0.3	1	50	4	2
EPBRC240302U	0.15R	0.3	0.3	2	50	4	2
EPBRC240303U	0.15R	0.3	0.3	3	50	4	2
EPBRC240401U	0.20R	0.4	0.4	1	50	4	2
EPBRC240402U	0.20R	0.4	0.4	2	50	4	2
EPBRC240403U	0.20R	0.4	0.4	3	50	4	2
EPBRC240404U	0.20R	0.4	0.4	4	50	4	2
EPBRC240405U	0.20R	0.4	0.4	5	50	4	2
EPBRC240406U	0.20R	0.4	0.4	6	50	4	2
EPBRC240408U	0.20R	0.4	0.4	8	50	4	2
EPBRC240501U	0.25R	0.5	0.5	1	50	4	2
EPBRC240502U	0.25R	0.5	0.5	2	50	4	2
EPBRC240503U	0.25R	0.5	0.5	3	50	4	2
EPBRC240504U	0.25R	0.5	0.5	4	50	4	2
EPBRC240505U	0.25R	0.5	0.5	5	50	4	2
EPBRC240506U	0.25R	0.5	0.5	6	50	4	2
EPBRC240508U	0.25R	0.5	0.5	8	50	4	2
EPBRC240510U	0.25R	0.5	0.5	10	50	4	2
EPBRC240601U	0.30R	0.6	0.6	1	50	4	2
EPBRC240602U	0.30R	0.6	0.6	2	50	4	2
EPBRC240603U	0.30R	0.6	0.6	3	50	4	2
EPBRC240604U	0.30R	0.6	0.6	4	50	4	2
EPBRC240605U	0.30R	0.6	0.6	5	50	4	2
EPBRC240606U	0.30R	0.6	0.6	6	50	4	2
EPBRC240608U	0.30R	0.6	0.6	8	50	4	2
EPBRC240610U	0.30R	0.6	0.6	10	50	4	2
EPBRC240612U	0.30R	0.6	0.6	12	50	4	2
EPBRC240702U	0.35R	0.7	0.7	2	50	4	2
EPBRC240704U	0.35R	0.7	0.7	4	50	4	2
EPBRC240708U	0.35R	0.7	0.7	8	50	4	2
EPBRC240710U	0.35R	0.7	0.7	10	50	4	2
EPBRC240712U	0.35R	0.7	0.7	12	50	4	2
EPBRC240802U	0.40R	0.8	0.8	2	50	4	2
EPBRC240804U	0.40R	0.8	0.8	4	50	4	2
EPBRC240806U	0.40R	0.8	0.8	6	50	4	2
EPBRC240808U	0.40R	0.8	0.8	8	50	4	2
EPBRC240810U	0.40R	0.8	0.8	10	50	4	2
EPBRC240812U	0.40R	0.8	0.8	12	50	4	2

(continued)

G55C - Ball Nose · Long Neck · Helix 30 · 2F

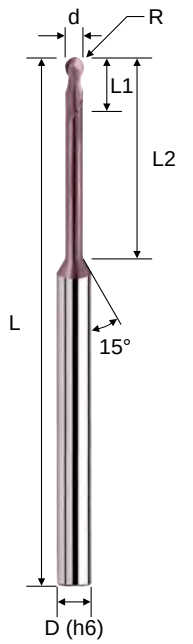
長頸型・球型銑刀・2 刃

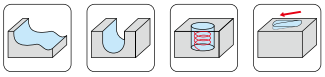
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

EPBRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R | 30° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC240904U	0.45R	0.9	0.9	4	50	4	2
EPBRC241002U	0.50R	1.0	1.0	2	50	4	2
EPBRC241003U	0.50R	1.0	1.0	3	50	4	2
EPBRC241004U	0.50R	1.0	1.0	4	50	4	2
EPBRC241005U	0.50R	1.0	1.0	5	50	4	2
EPBRC241006U	0.50R	1.0	1.0	6	50	4	2
EPBRC241008U	0.50R	1.0	1.0	8	50	4	2
EPBRC241010U	0.50R	1.0	1.0	10	50	4	2
EPBRC241012U	0.50R	1.0	1.0	12	50	4	2
EPBRC241014U	0.50R	1.0	1.0	14	50	4	2
EPBRC241016U	0.50R	1.0	1.0	16	50	4	2
EPBRC241018U	0.50R	1.0	1.0	18	50	4	2
EPBRC241020U	0.50R	1.0	1.0	20	50	4	2
EPBRC241022U	0.50R	1.0	1.0	22	60	4	2
EPBRC201004U	0.50R	1.0	1.0	4	50	6	2
EPBRC201006U	0.50R	1.0	1.0	6	50	6	2
EPBRC201008U	0.50R	1.0	1.0	8	50	6	2
EPBRC201010U	0.50R	1.0	1.0	10	50	6	2
EPBRC201012U	0.50R	1.0	1.0	12	50	6	2
EPBRC241204U	0.60R	1.2	1.2	4	50	4	2
EPBRC241206U	0.60R	1.2	1.2	6	50	4	2
EPBRC241208U	0.60R	1.2	1.2	8	50	4	2
EPBRC241210U	0.60R	1.2	1.2	10	50	4	2
EPBRC241212U	0.60R	1.2	1.2	12	50	4	2
EPBRC241216U	0.60R	1.2	1.2	16	50	4	2
EPBRC241220U	0.60R	1.2	1.2	20	50	4	2
EPBRC241224U	0.60R	1.2	1.2	24	60	4	2
EPBRC241406U	0.70R	1.4	1.4	6	50	4	2
EPBRC241408U	0.70R	1.4	1.4	8	50	4	2
EPBRC241412U	0.70R	1.4	1.4	12	50	4	2
EPBRC241416U	0.70R	1.4	1.4	16	50	4	2
EPBRC241503U	0.75R	1.5	1.5	3	50	4	2
EPBRC241504U	0.75R	1.5	1.5	4	50	4	2
EPBRC241506U	0.75R	1.5	1.5	6	50	4	2
EPBRC241508U	0.75R	1.5	1.5	8	50	4	2
EPBRC241510U	0.75R	1.5	1.5	10	50	4	2

(continued)

G55C - Ball Nose · Long Neck · Helix 30 · 2F

長頸型・球型銑刀・2 刃

- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.
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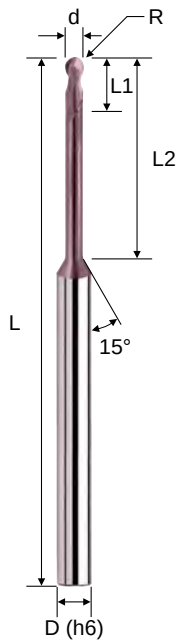
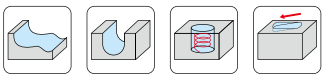
ASIA (Metric)

EPBRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R | 30° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC241512U	0.75R	1.5	1.5	12	50	4	2
EPBRC241514U	0.75R	1.5	1.5	14	50	4	2
EPBRC241516U	0.75R	1.5	1.5	16	50	4	2
EPBRC241518U	0.75R	1.5	1.5	18	50	4	2
EPBRC241520U	0.75R	1.5	1.5	20	50	4	2
EPBRC241522U	0.75R	1.5	1.5	22	60	4	2
EPBRC241525U	0.75R	1.5	1.5	25	60	4	2
EPBRC241530U	0.75R	1.5	1.5	30	75	4	2
EPBRC201506U	0.75R	1.5	1.5	6	50	6	2
EPBRC201508U	0.75R	1.5	1.5	8	50	6	2
EPBRC201510U	0.75R	1.5	1.5	10	50	6	2
EPBRC201512U	0.75R	1.5	1.5	12	50	6	2
EPBRC241606U	0.80R	1.6	1.6	6	50	4	2
EPBRC241608U	0.80R	1.6	1.6	8	50	4	2
EPBRC241612U	0.80R	1.6	1.6	12	50	4	2
EPBRC241616U	0.80R	1.6	1.6	16	50	4	2
EPBRC241620U	0.80R	1.6	1.6	20	50	4	2
EPBRC241806U	0.90R	1.8	1.8	6	50	4	2
EPBRC241808U	0.90R	1.8	1.8	8	50	4	2
EPBRC241812U	0.90R	1.8	1.8	12	50	4	2
EPBRC241816U	0.90R	1.8	1.8	16	50	4	2
EPBRC241820U	0.90R	1.8	1.8	20	50	4	2
EPBRC242004U	1.00R	2.0	2.0	4	50	4	2
EPBRC242006U	1.00R	2.0	2.0	6	50	4	2
EPBRC242008U	1.00R	2.0	2.0	8	50	4	2
EPBRC242010U	1.00R	2.0	2.0	10	50	4	2
EPBRC242012U	1.00R	2.0	2.0	12	50	4	2
EPBRC242014U	1.00R	2.0	2.0	14	50	4	2
EPBRC242016U	1.00R	2.0	2.0	16	50	4	2
EPBRC242018U	1.00R	2.0	2.0	18	50	4	2
EPBRC242020U	1.00R	2.0	2.0	20	50	4	2
EPBRC242022U	1.00R	2.0	2.0	22	60	4	2
EPBRC242025U	1.00R	2.0	2.0	25	60	4	2

(continued)

G55C - Ball Nose · Long Neck · Helix 30 · 2F

長頸型・球型銑刀・2 刃

- Reduce vibration and more toughness.
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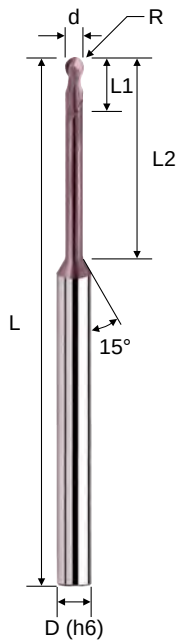
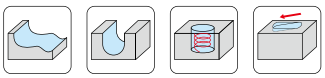
ASIA (Metric)

EPBRC

P	M	K	N	S	H
●	○	●			○





2 | MG | UNICO | R | 30° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC202006U	1.00R	2.0	2.0	6	50	6	2
EPBRC202008U	1.00R	2.0	2.0	8	50	6	2
EPBRC202010U	1.00R	2.0	2.0	10	50	6	2
EPBRC202016U	1.00R	2.0	2.0	16	50	6	2
EPBRC242508U	1.25R	2.5	2.5	8	50	4	2
EPBRC242510U	1.25R	2.5	2.5	10	50	4	2
EPBRC242516U	1.25R	2.5	2.5	16	50	4	2
EPBRC242520U	1.25R	2.5	2.5	20	60	4	2
EPBRC242525U	1.25R	2.5	2.5	25	60	4	2
EPBRC242530U	1.25R	2.5	2.5	30	75	4	2
EPBRC202506U	1.25R	2.5	2.5	6	50	6	2
EPBRC202510U	1.25R	2.5	2.5	10	50	6	2
EPBRC203006U	1.50R	3.0	3.0	6	50	6	2
EPBRC203008U	1.50R	3.0	3.0	8	50	6	2
EPBRC203012U	1.50R	3.0	3.0	12	50	6	2
EPBRC203016U	1.50R	3.0	3.0	16	60	6	2
EPBRC203020U	1.50R	3.0	3.0	20	60	6	2
EPBRC203025U	1.50R	3.0	3.0	25	60	6	2
EPBRC203030U	1.50R	3.0	3.0	30	75	6	2
EPBRC203035U	1.50R	3.0	3.0	35	75	6	2
EPBRC204008U	2.00R	4.0	4.0	8	50	6	2
EPBRC204010U	2.00R	4.0	4.0	10	50	6	2
EPBRC204012U	2.00R	4.0	4.0	12	50	6	2
EPBRC204016U	2.00R	4.0	4.0	16	60	6	2
EPBRC204020U	2.00R	4.0	4.0	20	60	6	2
EPBRC204025U	2.00R	4.0	4.0	25	60	6	2
EPBRC204030U	2.00R	4.0	4.0	30	75	6	2
EPBRC204035U	2.00R	4.0	4.0	35	75	6	2
EPBRC205015U	2.50R	5.0	5.0	15	60	6	2
EPBRC205020U	2.50R	5.0	5.0	20	60	6	2
EPBRC205025U	2.50R	5.0	5.0	25	60	6	2
EPBRC205030U	2.50R	5.0	5.0	30	75	6	2

(continued)

G55C - Ball Nose · Long Neck · Helix 30 · 2F 長頸型・球型銑刀・2 刃

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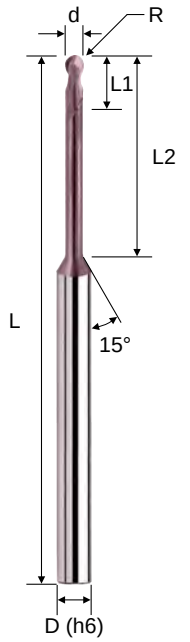
ASIA (Metric)

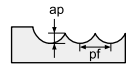
EPBRC

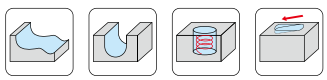
P	M	K	N	S	H
●	○	●			○



Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPBRC206015U	3.00R	6.0	10.0	15	50	6	2
EPBRC208025U	4.00R	8.0	12.0	25	60	8	2
EPBRC210030U	5.00R	10.0	16.0	30	75	10	2
EPBRC212030U	6.00R	12.0	18.0	30	75	12	2

Material		PREHARDENED STEELS NAK80 CENA1				HARDENED STEELS SKD61,SKD11				Copper			
Hardness		HRC 35~45				HRC 40~55				–			
Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.15R	1.5	48000	480	0.010	0.010	41000	370	0.009	0.010	54000	640	0.014	0.015
	2	43000	370	0.008	0.008	37000	270	0.008	0.008	49000	530	0.011	0.011
	3	38000	320	0.007	0.006	32000	240	0.006	0.006	43000	460	0.009	0.010
	4	28000	200	0.003	0.004	24000	160	0.003	0.004	37000	300	0.004	0.006
	5	26000	125	0.001	0.003	18000	110	0.002	0.003	31000	200	0.002	0.004
0.2R	2	48000	590	0.018	0.024	37000	400	0.015	0.020	54000	790	0.022	0.036
	4	38000	400	0.009	0.012	30000	270	0.009	0.012	50000	640	0.012	0.018
	6	29000	260	0.005	0.006	26000	200	0.004	0.006	37000	360	0.006	0.010
	8	27000	170	0.003	0.003	23000	150	0.002	0.003	27000	200	0.003	0.006
0.25R	2	42000	750	0.022	0.036	32000	500	0.018	0.036	57000	1250	0.028	0.054
	4	38000	580	0.017	0.024	31000	400	0.014	0.024	55000	1010	0.021	0.036
	6	28000	400	0.008	0.012	27000	330	0.005	0.012	36000	610	0.009	0.018
	10	28000	400	0.008	0.012	27000	330	0.005	0.012	36000	460	0.009	0.018
0.3R	2	37000	770	0.027	0.144	37000	770	0.027	0.096	57000	1540	0.034	0.144
	4	35000	600	0.020	0.108	35000	600	0.020	0.072	54000	1130	0.026	0.108
	6	28000	460	0.016	0.072	28000	460	0.016	0.048	46000	960	0.019	0.072
	8	24000	400	0.009	0.054	24000	400	0.009	0.036	30000	570	0.010	0.054
	10	24000	330	0.006	0.036	24000	330	0.006	0.024	30000	490	0.007	0.036
	12	24000	330	0.006	0.036	24000	330	0.006	0.024	30000	490	0.007	0.036
0.35R	4	33000	600	0.035	0.042	26500	410	0.029	0.096	54500	1500	0.045	0.063
	8	12215	420	0.020	0.048	22500	355	0.012	0.048	32000	800	0.019	0.072
	10	22500	380	0.014	0.042	21500	330	0.011	0.042	26500	540	0.017	0.063
	12	21500	380	0.012	0.032	21500	320	0.010	0.042	23000	420	0.017	0.063
0.4R	4	31000	600	0.050	0.012	27000	440	0.041	0.120	55000	1860	0.063	0.018
	8	21000	430	0.021	0.060	22000	390	0.018	0.060	34000	1040	0.027	0.090
	12	19000	430	0.018	0.040	20000	350	0.016	0.060	16000	350	0.027	0.090
	16	16000	430	0.013	0.018	20000	310	0.014	0.060	7600	115	0.027	0.090
0.45R	4	32000	685	0.054	0.130	24500	460	0.043	0.180	50500	1900	0.067	0.190





2 | MG | UNICO | R

30° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

(continued)

G55C - Ball Nose · Long Neck · Helix 30 · 2F 長頸型・球型銑刀・2 刃

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EPBRC

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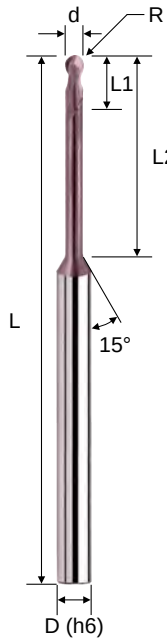
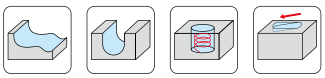
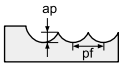




2 | MG | UNICO | R | 30° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	PREHARDENED STEELS NAK80 CENA1					HARDENED STEELS SKD61,SKD11				Copper			
Hardness	HRC 35~45					HRC 40~55				–			
Radius	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.5R	4	32000	770	0.057	0.240	22000	480	0.045	0.240	46000	2000	0.071	0.360
	6	26000	760	0.055	0.120	17600	480	0.009	0.120	39000	1500	0.071	0.180
	8	26000	760	0.034	0.120	17600	480	0.027	0.120	39000	1500	0.043	0.180
	12	17600	530	0.024	0.060	16500	420	0.018	0.060	18700	660	0.027	0.090
	16	15400	440	0.018	0.060	14300	360	0.014	0.060	18700	640	0.022	0.090
	22	14300	360	0.013	0.036	13200	300	0.009	0.036	18700	540	0.017	0.054
0.6R	6	26000	770	0.068	0.240	18200	480	0.054	0.240	38000	2000	0.085	0.360
	10	16400	530	0.027	0.120	15100	420	0.022	0.120	24000	1080	0.036	0.180
	12	15300	530	0.027	0.120	14100	420	0.022	0.120	24000	1080	0.036	0.180
	16	13100	460	0.019	0.096	11900	380	0.016	0.096	15400	580	0.024	0.144
	20	12100	380	0.013	0.060	11000	320	0.009	0.096	15400	580	0.017	0.090
	24	11100	320	0.009	0.040	9800	290	0.070	0.040	15400	580	0.010	0.060
0.7R	6	17600	680	0.076	0.180	13600	440	0.063	0.180	28000	1470	0.099	0.270
	8	17600	680	0.079	0.180	13600	440	0.063	0.180	28000	1470	0.099	0.270
	12	13800	530	0.033	0.180	13600	420	0.027	0.180	19800	1080	0.042	0.270
	16	13100	480	0.027	0.120	11900	390	0.021	0.120	13200	620	0.033	0.180
0.75R	4	21000	1060	0.137	0.216	14800	660	0.110	0.216	30000	2200	0.171	0.324
	8	16300	700	0.084	0.180	12100	450	0.069	0.180	26000	1500	0.106	0.270
	12	16300	700	0.084	0.180	12100	450	0.069	0.180	26000	1500	0.106	0.270
	16	12400	480	0.027	0.120	11600	390	0.022	0.120	12100	620	0.036	0.180
	20	12400	480	0.016	0.060	11600	390	0.012	0.060	12100	620	0.019	0.090
	25	12400	440	0.016	0.060	11000	390	0.012	0.060	11000	500	0.019	0.090
	30	10900	400	0.016	0.060	11000	390	0.012	0.060	10700	450	0.019	0.090
0.8R	8	18900	940	0.126	0.216	13800	580	0.102	0.216	26000	1970	0.157	0.324
	12	15100	700	0.09	0.120	11500	440	0.072	0.120	25000	1490	0.112	0.180
	16	12300	530	0.036	0.096	11400	440	0.030	0.096	17600	110	0.046	0.144
	20	11500	480	0.030	0.060	10900	400	0.024	0.060	11000	630	0.036	0.090
0.9R	6	18400	1200	0.185	0.320	18400	738	0.150	0.320	32000	2600	0.230	0.021
	12	13800	700	0.094	0.180	10300	440	0.077	0.180	21000	1480	0.120	0.270
	16	10800	530	0.039	0.120	9900	420	0.031	0.120	15400	1080	0.048	0.180
	20	10200	480	0.031	0.060	9700	400	0.025	0.060	10500	630	0.039	0.090
1.0R	6	18500	1260	0.185	0.360	13200	960	0.150	0.360	22000	2140	0.232	0.540
	10	18500	1120	0.147	0.240	13200	870	0.120	0.240	22000	1920	0.185	0.360
	12	16000	990	0.133	0.240	11700	780	0.107	0.240	18700	1470	0.166	0.360
	16	16000	990	0.118	0.240	11700	780	0.090	0.240	18700	1470	0.148	0.360
	18	14700	580	0.074	0.120	11600	580	0.061	0.120	14300	1070	0.093	0.180
	20	14700	580	0.074	0.120	11600	580	0.061	0.120	14300	1070	0.093	0.180
	25	10600	450	0.058	0.120	10200	450	0.045	0.120	9500	630	0.074	0.180



(continued)

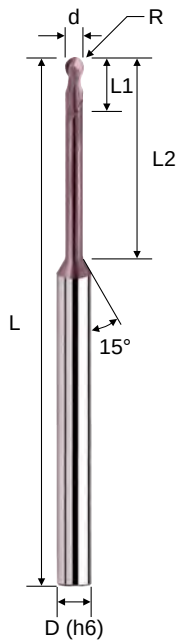
G55C - Ball Nose · Long Neck · Helix 30 · 2F 長頸型・球型銑刀・2 刃

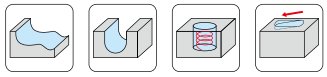
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.
- UNICO (Ti, Al, N) coating provides superior wear resistance and reduces the coefficient of friction.

ASIA (Metric)

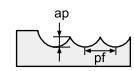
EPBRC

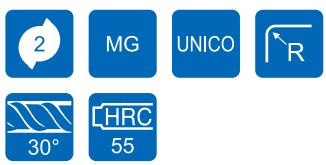
P	M	K	N	S	H
●	○	●			○





Material	PREHARDENED STEELS NAK80 CENA1					HARDENED STEELS SKD61,SKD11				Copper			
Hardness	HRC 35~45					HRC 40~55				–			
Radius	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
1.25R	8	14500	1400	0.185	0.240	9700	1080	0.150	0.240	18400	2400	0.232	0.360
	10	14500	1400	0.185	0.240	9700	1080	0.150	0.240	18400	2400	0.232	0.360
	16	13500	1230	0.166	0.240	8400	980	0.135	0.240	16100	1810	0.208	0.360
	20	10200	950	0.093	0.120	8400	980	0.074	0.120	11500	1330	0.116	0.180
	25	8400	540	0.074	0.120	8400	560	0.061	0.120	6900	770	0.093	0.180
	30	8400	540	0.033	0.060	8400	560	0.026	0.060	6900	770	0.040	0.090
1.5R	8	12900	1680	0.222	0.360	9200	1300	0.180	0.360	15000	2890	0.278	0.540
	12	12900	1510	0.222	0.360	9200	1170	0.180	0.360	15000	2600	0.278	0.540
	16	11300	1330	0.166	0.360	8100	1040	0.135	0.360	12700	1970	0.029	0.504
	20	11300	1330	0.166	0.360	8100	1040	0.135	0.360	12700	1970	0.029	0.504
	25	8800	1040	0.111	0.180	8100	1040	0.090	0.180	10100	1450	0.139	0.270
	30	8800	780	0.111	0.180	8100	780	0.090	0.180	10100	1450	0.139	0.270
	35	7900	62	0.055	0.180	7500	650	0.045	0.180	6600	840	0.073	0.270
2.0R	8	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.370	0.900
	12	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.390	0.900
	16	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.390	0.900
	20	9700	1560	0.297	0.600	6800	1210	0.241	0.600	11500	2710	0.390	0.900
	25	8400	1250	0.223	0.360	6000	980	0.180	0.36	10300	1850	0.279	0.540
	30	8400	1250	0.223	0.360	6000	980	0.180	0.361	10300	1850	0.279	0.540
	35	6600	950	0.148	0.360	6000	700	0.120	0.360	7500	1360	0.185	0.540
2.5R	15	7800	1350	0.324	0.800	5600	1050	0.252	0.800	9600	2590	0.406	0.900
	20	7800	1240	0.324	0.600	5600	950	0.252	0.600	9600	2100	0.406	0.900
	25	7800	1240	0.324	0.600	5600	950	0.252	0.600	9600	2100	0.406	0.900
	30	7800	760	0.243	0.600	4800	600	0.197	0.600	8200	1320	0.305	0.900
3.0R	15	7400	1670	0.443	1.200	5200	1300	0.360	1.200	8000	2530	0.555	1.800
4.0R	25	7200	1200	0.5	1.000	5200	920	0.350	1.000	9000	2400	0.600	1.500
5.0R	30	6800	720	0.23	0.600	4600	570	0.190	0.570	7800	1300	0.300	0.900
6.0R	30	6350	684	0.210	0.570	4370	541.5	0.181	0.550	7410	1235	0.285	0.855





R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

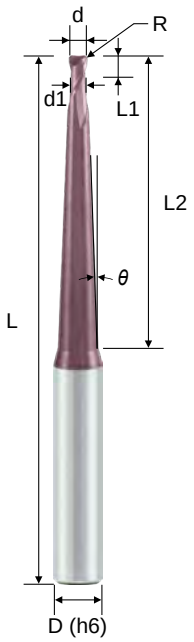
G55C - Corner Radius · Short Flute · Taper Neck · Helix 30 · 2F 圓鼻銑刀・短刃斜頸型・2 刃

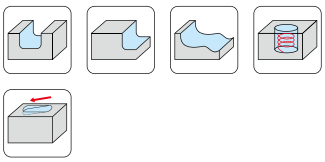
- Short flute design to increase tool rigidity.
- Suitable for steel, alloy steel and cast iron deep milling.
- Small corner radius applied protect chipping of cutting edges.
- UNICO (TiAlN) coating provides superior wear resistance.

ASIA (Metric)

EPCRT

P	M	K	N	S	H
●	●	●			○





2 | MG | UNICO | R | 30° | HRC 50

d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.	Dia. (d)	Radius (R)	θ	CL (L1)	EFF-L (L2)	Neck dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPCRT2010020510U	1	0.2R	1.0°	1.2	5	0.94	60	6	2
EPCRT2010020515U	1	0.2R	1.5°	1.2	5	0.94	60	6	2
EPCRT2010021005U	1	0.2R	0.5°	1.2	10	0.94	60	6	2
EPCRT2010021010U	1	0.2R	1.0°	1.2	10	0.94	60	6	2
EPCRT2010021015U	1	0.2R	1.5°	1.2	10	0.94	60	6	2
EPCRT2010021505U	1	0.2R	0.5°	1.2	15	0.94	60	6	2
EPCRT2010021510U	1	0.2R	1.0°	1.2	15	0.94	60	6	2
EPCRT2010021515U	1	0.2R	1.5°	1.2	15	0.94	60	6	2
EPCRT2010022005U	1	0.2R	0.5°	1.2	20	0.94	75	6	2
EPCRT2010022010U	1	0.2R	1.0°	1.2	20	0.94	75	6	2
EPCRT2010022015U	1	0.2R	1.5°	1.2	20	0.94	75	6	2
EPCRT2010022505U	1	0.2R	0.5°	1.2	25	0.94	75	6	2
EPCRT2010022510U	1	0.2R	1.0°	1.2	25	0.94	75	6	2
EPCRT2010022515U	1	0.2R	1.5°	1.2	25	0.94	75	6	2
EPCRT2010023005U	1	0.2R	0.5°	1.2	30	0.94	75	6	2
EPCRT2010023010U	1	0.2R	1.0°	1.2	30	0.94	75	6	2
EPCRT2010023015U	1	0.2R	1.5°	1.2	30	0.94	75	6	2
EPCRT2010023505U	1	0.2R	0.5°	1.2	35	0.94	100	6	2
EPCRT2010023510U	1	0.2R	1.0°	1.2	35	0.94	100	6	2
EPCRT2010023515U	1	0.2R	1.5°	1.2	35	0.94	75	6	2
EPCRT2020031010U	2	0.3R	1.0°	2.3	10	1.94	60	6	2
EPCRT2020031015U	2	0.3R	1.5°	2.3	10	1.94	60	6	2
EPCRT2020031505U	2	0.3R	0.5°	2.3	15	1.94	60	6	2
EPCRT2020031510U	2	0.3R	1.0°	2.3	15	1.94	60	6	2
EPCRT2020031515U	2	0.3R	1.5°	2.3	15	1.94	60	6	2
EPCRT2020032005U	2	0.3R	0.5°	2.3	20	1.94	60	6	2
EPCRT2020032010U	2	0.3R	1.0°	2.3	20	1.94	60	6	2
EPCRT2020032015U	2	0.3R	1.5°	2.3	20	1.94	60	6	2
EPCRT2020032505U	2	0.3R	0.5°	2.3	25	1.94	75	6	2
EPCRT2020032510U	2	0.3R	1.0°	2.3	25	1.94	75	6	2
EPCRT2020032515U	2	0.3R	1.5°	2.3	25	1.94	75	6	2
EPCRT2020033005U	2	0.3R	0.5°	2.3	30	1.94	75	6	2
EPCRT2020033010U	2	0.3R	1.0°	2.3	30	1.94	75	6	2
EPCRT2020033015U	2	0.3R	1.5°	2.3	30	1.94	75	6	2
EPCRT2020033505U	2	0.3R	0.5°	2.3	35	1.94	75	6	2
EPCRT2020033510U	2	0.3R	1.0°	2.3	35	1.94	75	6	2
EPCRT2020033515U	2	0.3R	1.5°	2.3	35	1.94	75	6	2
EPCRT2020051005U	2	0.5R	0.5°	2.3	10	1.94	60	6	2
EPCRT2020051010U	2	0.5R	1.0°	2.3	10	1.94	60	6	2
EPCRT2020051015U	2	0.5R	1.5°	2.3	10	1.94	60	6	2

(continued)

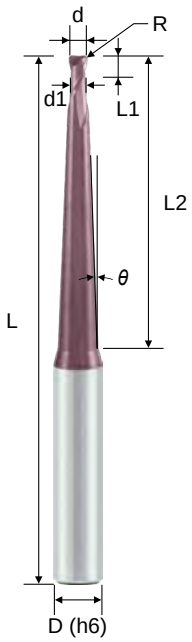
G55C - Corner Radius · Short Flute · Taper Neck · Helix 30 · 2F 圓鼻銑刀・短刃斜頸型・2 刃

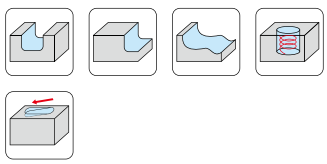
- Short flute design to increase tool rigidity.
- Suitable for steel, alloy steel and cast iron deep milling.
- Small corner radius applied protect chipping of cutting edges.
- UNICO (TiAlN) coating provides superior wear resistance.

ASIA (Metric)

EPCRT

P	M	K	N	S	H
●	●	●			○





2 | MG | UNICO | R | 30° | HRC 50

d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.	Dia. (d)	Radius (R)	θ	CL (L1)	EFF-L (L2)	Neck dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPCRT2020051505U	2	0.5R	0.5°	2.3	15	1.94	60	6	2
EPCRT2020051510U	2	0.5R	1.0°	2.3	15	1.94	60	6	2
EPCRT2020051515U	2	0.5R	1.5°	2.3	15	1.94	60	6	2
EPCRT2020052005U	2	0.5R	0.5°	2.3	20	1.94	60	6	2
EPCRT2020052010U	2	0.5R	1.0°	2.3	20	1.94	60	6	2
EPCRT2020052015U	2	0.5R	1.5°	2.3	20	1.94	60	6	2
EPCRT2020052505U	2	0.5R	0.5°	2.3	25	1.94	75	6	2
EPCRT2020052510U	2	0.5R	1.0°	2.3	25	1.94	75	6	2
EPCRT2020052515U	2	0.5R	1.5°	2.3	25	1.94	75	6	2
EPCRT2020053005U	2	0.5R	0.5°	2.3	30	1.94	75	6	2
EPCRT2020053010U	2	0.5R	1.0°	2.3	30	1.94	75	6	2
EPCRT2020053015U	2	0.5R	1.5°	2.3	30	1.94	75	6	2
EPCRT2020053505U	2	0.5R	0.5°	2.3	35	1.94	75	6	2
EPCRT2020053510U	2	0.5R	1.0°	2.3	35	1.94	75	6	2
EPCRT2020053515U	2	0.5R	1.5°	2.3	35	1.94	75	6	2
EPCRT2030031510U	3	0.3R	1.0°	3.5	15	2.94	60	6	2
EPCRT2030031515U	3	0.3R	1.5°	3.5	15	2.94	60	6	2
EPCRT2030032005U	3	0.3R	0.5°	3.5	20	2.94	60	6	2
EPCRT2030032010U	3	0.3R	1.0°	3.5	20	2.94	60	6	2
EPCRT2030032015U	3	0.3R	1.5°	3.5	20	2.94	60	6	2
EPCRT2030032505U	3	0.3R	0.5°	3.5	25	2.94	75	6	2
EPCRT2030032510U	3	0.3R	1.0°	3.5	25	2.94	75	6	2
EPCRT2030032515U	3	0.3R	1.5°	3.5	25	2.94	75	6	2
EPCRT2030033005U	3	0.3R	0.5°	3.5	30	2.94	75	6	2
EPCRT2030033010U	3	0.3R	1.0°	3.5	30	2.94	75	6	2
EPCRT2030033015U	3	0.3R	1.5°	3.5	30	2.94	75	6	2
EPCRT2030033505U	3	0.3R	0.5°	3.5	35	2.94	75	6	2
EPCRT2030033510U	3	0.3R	1.0°	3.5	35	2.94	75	6	2
EPCRT2030033515U	3	0.3R	1.5°	3.5	35	2.94	75	6	2
EPCRT2030034005U	3	0.3R	0.5°	3.5	40	2.94	100	6	2
EPCRT2030034010U	3	0.3R	1.0°	3.5	40	2.94	100	6	2
EPCRT2030034015U	3	0.3R	1.5°	3.5	40	2.94	75	6	2
EPCRT2030051505U	3	0.5R	0.5°	3.5	15	2.94	60	6	2
EPCRT2030051510U	3	0.5R	1.0°	3.5	15	2.94	60	6	2
EPCRT2030051515U	3	0.5R	1.5°	3.5	15	2.94	60	6	2
EPCRT2030052005U	3	0.5R	0.5°	3.5	20	2.94	60	6	2
EPCRT2030052010U	3	0.5R	1.0°	3.5	20	2.94	60	6	2
EPCRT2030052015U	3	0.5R	1.5°	3.5	20	2.94	60	6	2
EPCRT2030052505U	3	0.5R	0.5°	3.5	25	2.94	75	6	2
EPCRT2030052510U	3	0.5R	1.0°	3.5	25	2.94	75	6	2

(continued)

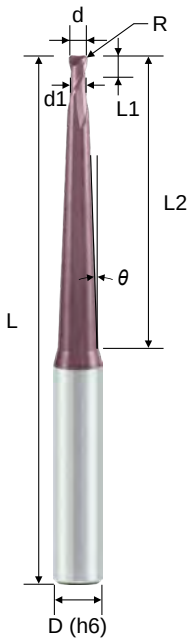
G55C - Corner Radius · Short Flute · Taper Neck · Helix 30 · 2F 圓鼻銑刀・短刃斜頸型・2 刃

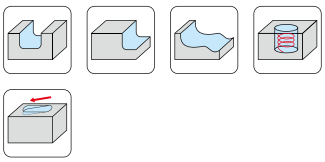
- Short flute design to increase tool rigidity.
- Suitable for steel, alloy steel and cast iron deep milling.
- Small corner radius applied protect chipping of cutting edges.
- UNICO (TiAlN) coating provides superior wear resistance.

ASIA (Metric)

EPCRT

P	M	K	N	S	H
●	●	●			○





2 | MG | UNICO | R | 30° | HRC 50

d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.	Dia. (d)	Radius (R)	θ	CL (L1)	EFF-L (L2)	Neck dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPCRT2030052515U	3	0.5R	1.5°	3.5	25	2.94	75	6	2
EPCRT2030053005U	3	0.5R	0.5°	3.5	30	2.94	75	6	2
EPCRT2030053010U	3	0.5R	1.0°	3.5	30	2.94	75	6	2
EPCRT2030053015U	3	0.5R	1.5°	3.5	30	2.94	75	6	2
EPCRT2030053505U	3	0.5R	0.5°	3.5	35	2.94	75	6	2
EPCRT2030053510U	3	0.5R	1.0°	3.5	35	2.94	75	6	2
EPCRT2030053515U	3	0.5R	1.5°	3.5	35	2.94	75	6	2
EPCRT2030054005U	3	0.5R	0.5°	3.5	40	2.94	100	6	2
EPCRT2030054010U	3	0.5R	1.0°	3.5	40	2.94	100	6	2
EPCRT2030054015U	3	0.5R	1.5°	3.5	40	2.94	75	6	2
EPCRT2040032005U	4	0.3R	0.5°	4.6	20	3.94	60	6	2
EPCRT2040032010U	4	0.3R	1.0°	4.6	20	3.94	60	6	2
EPCRT2040032015U	4	0.3R	1.5°	4.6	20	3.94	60	6	2
EPCRT2040032505U	4	0.3R	0.5°	4.6	25	3.94	75	6	2
EPCRT2040032510U	4	0.3R	1.0°	4.6	25	3.94	60	6	2
EPCRT2040032515U	4	0.3R	1.5°	4.6	25	3.94	60	6	2
EPCRT2040033005U	4	0.3R	0.5°	4.6	30	3.94	75	6	2
EPCRT2040033010U	4	0.3R	1.0°	4.6	30	3.94	75	6	2
EPCRT2040033015U	4	0.3R	1.5°	4.6	30	3.94	75	8	2
EPCRT2040033505U	4	0.3R	0.5°	4.6	35	3.94	75	6	2
EPCRT2040033510U	4	0.3R	1.0°	4.6	35	3.94	75	6	2
EPCRT2040033515U	4	0.3R	1.5°	4.6	35	3.94	75	8	2
EPCRT2040034005U	4	0.3R	0.5°	4.6	40	3.94	75	6	2
EPCRT2040034010U	4	0.3R	1.0°	4.6	40	3.94	75	6	2
EPCRT2040034015U	4	0.3R	1.5°	4.6	40	3.94	100	8	2
EPCRT2040034505U	4	0.3R	0.5°	4.6	45	3.94	100	6	2
EPCRT2040034510U	4	0.3R	1.0°	4.6	45	3.94	100	8	2
EPCRT2040034515U	4	0.3R	1.5°	4.6	45	3.94	100	8	2
EPCRT2040035005U	4	0.3R	0.5°	4.6	50	3.94	100	6	2
EPCRT2040035010U	4	0.3R	1.0°	4.6	50	3.94	100	8	2
EPCRT2040035015U	4	0.3R	1.5°	4.6	50	3.94	100	8	2
EPCRT2040052005U	4	0.5R	0.5°	4.6	20	3.94	60	6	2
EPCRT2040052010U	4	0.5R	1.0°	4.6	20	3.94	60	6	2
EPCRT2040052015U	4	0.5R	1.5°	4.6	20	3.94	60	6	2
EPCRT2040052505U	4	0.5R	0.5°	4.6	25	3.94	75	6	2
EPCRT2040052510U	4	0.5R	1.0°	4.6	25	3.94	60	6	2
EPCRT2040052515U	4	0.5R	1.5°	4.6	25	3.94	60	6	2
EPCRT2040053005U	4	0.5R	0.5°	4.6	30	3.94	75	6	2
EPCRT2040053010U	4	0.5R	1.0°	4.6	30	3.94	75	6	2
EPCRT2040053015U	4	0.5R	1.5°	4.6	30	3.94	75	8	2

(continued)

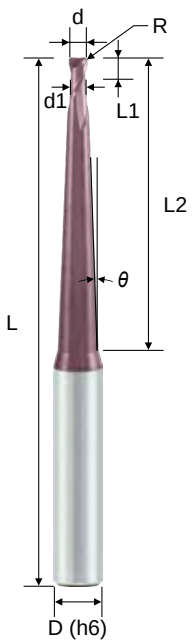
G55C - Corner Radius · Short Flute · Taper Neck · Helix 30 · 2F 圓鼻銑刀・短刃斜頸型・2 刃

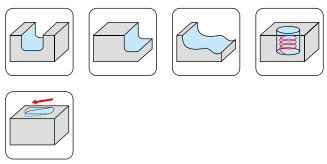
- Short flute design to increase tool rigidity.
- Suitable for steel, alloy steel and cast iron deep milling.
- Small corner radius applied protect chipping of cutting edges.
- UNICO (TiAlN) coating provides superior wear resistance.

ASIA (Metric)

EPCRT

P	M	K	N	S	H
●	●	●			○





2 | MG | UNICO | R | 30° | HRC 50

d Tolerance	
d ≤ 6	0 ~ -0.015

R Tolerance	
R	±0.01

Order No.	Dia. (d)	Radius (R)	θ	CL (L1)	EFF-L (L2)	Neck dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPCRT2040053505U	4	0.5R	0.5°	4.6	35	3.94	75	6	2
EPCRT2040053510U	4	0.5R	1.0°	4.6	35	3.94	75	6	2
EPCRT2040053515U	4	0.5R	1.5°	4.6	35	3.94	75	8	2
EPCRT2040054005U	4	0.5R	0.5°	4.6	40	3.94	75	6	2
EPCRT2040054010U	4	0.5R	1.0°	4.6	40	3.94	100	8	2
EPCRT2040054015U	4	0.5R	1.5°	4.6	40	3.94	100	8	2
EPCRT2040054505U	4	0.5R	0.5°	4.6	45	3.94	100	6	2
EPCRT2040054510U	4	0.5R	1.0°	4.6	45	3.94	100	8	2
EPCRT2040054515U	4	0.5R	1.5°	4.6	45	3.94	100	8	2
EPCRT2040055005U	4	0.5R	0.5°	4.6	50	3.94	100	6	2
EPCRT2040055010U	4	0.5R	1.0°	4.6	50	3.94	100	8	2
EPCRT2040055015U	4	0.5R	1.5°	4.6	50	3.94	100	8	2
EPCRT2050053010U	5	0.5R	1.0°	5.8	30	4.9	75	8	2
EPCRT2050053015U	5	0.5R	1.5°	5.8	30	4.9	75	8	2
EPCRT2050055010U	5	0.5R	1.0°	5.8	50	4.9	100	8	2
EPCRT2060053510U	6	0.5R	1.0°	6.9	35	5.9	75	8	2
EPCRT2060053515U	6	0.5R	1.5°	6.9	35	5.9	100	10	2
EPCRT2060054010U	6	0.5R	1.0°	6.9	40	5.9	75	8	2
EPCRT2060054015U	6	0.5R	1.5°	6.9	40	5.9	100	10	2
EPCRT2060055010U	6	0.5R	1.0°	6.9	50	5.9	100	10	2
EPCRT2060056010U	6	0.5R	1.0°	6.9	60	5.9	110	10	2
EPCRT2060103510U	6	1.0R	1.0°	6.9	35	5.9	75	8	2
EPCRT2060103515U	6	1.0R	1.5°	6.9	35	5.9	100	10	2
EPCRT2060104010U	6	1.0R	1.0°	6.9	40	5.9	75	8	2
EPCRT2060104015U	6	1.0R	1.5°	6.9	40	5.9	100	10	2
EPCRT2060105010U	6	1.0R	1.0°	6.9	50	5.9	100	10	2
EPCRT2060106010U	6	1.0R	1.0°	6.9	60	5.9	110	10	2

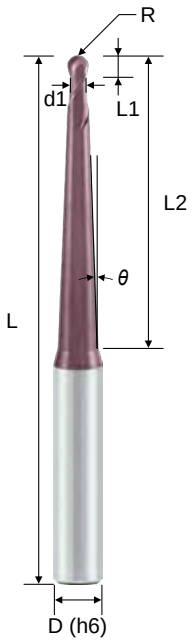
G55C - Ball Nose · Short Flute · Taper Neck · Helix 30 · 2F 球型銑刀・短刃斜頸型・2 刃

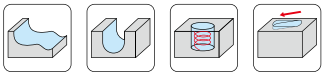
- Short flute design to increase tool rigidity.
- Suitable for steel, alloy steel and cast iron deep milling.
- UNICO (TiAlN) coating provides superior wear resistance.

ASIA (Metric)

EPBRT

P	M	K	N	S	H
●	●	●			○





2 | MG | UNICO | R | 30° | HRC 50

R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.	Radius (R)	Dia. (d)	θ	CL (L1)	EFF-L (L2)	Neck dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPBRT20100510U	0.5R	1	1.0°	1.2	5	0.94	60	6	2
EPBRT20100515U	0.5R	1	1.5°	1.2	5	0.94	60	6	2
EPBRT20101005U	0.5R	1	0.5°	1.2	10	0.94	60	6	2
EPBRT20101010U	0.5R	1	1.0°	1.2	10	0.94	60	6	2
EPBRT20101015U	0.5R	1	1.5°	1.2	10	0.94	60	6	2
EPBRT20101505U	0.5R	1	0.5°	1.2	15	0.94	60	6	2
EPBRT20101510U	0.5R	1	1.0°	1.2	15	0.94	60	6	2
EPBRT20101515U	0.5R	1	1.5°	1.2	15	0.94	60	6	2
EPBRT20102005U	0.5R	1	0.5°	1.2	20	0.94	75	6	2
EPBRT20102010U	0.5R	1	1.0°	1.2	20	0.94	75	6	2
EPBRT20102015U	0.5R	1	1.5°	1.2	20	0.94	75	6	2
EPBRT20102505U	0.5R	1	0.5°	1.2	25	0.94	75	6	2
EPBRT20102510U	0.5R	1	1.0°	1.2	25	0.94	75	6	2
EPBRT20102515U	0.5R	1	1.5°	1.2	25	0.94	75	6	2
EPBRT20103005U	0.5R	1	0.5°	1.2	30	0.94	75	6	2
EPBRT20103010U	0.5R	1	1.0°	1.2	30	0.94	75	6	2
EPBRT20103015U	0.5R	1	1.5°	1.2	30	0.94	75	6	2
EPBRT20103505U	0.5R	1	0.5°	1.2	35	0.94	100	6	2
EPBRT20103510U	0.5R	1	1.0°	1.2	35	0.94	100	6	2
EPBRT20103515U	0.5R	1	1.5°	1.2	35	0.94	75	6	2
EPBRT20201010U	1.0R	2	1.0°	2.3	10	1.94	60	6	2
EPBRT20201015U	1.0R	2	1.5°	2.3	10	1.94	60	6	2
EPBRT20201505U	1.0R	2	0.5°	2.3	15	1.94	60	6	2
EPBRT20201510U	1.0R	2	1.0°	2.3	15	1.94	60	6	2
EPBRT20201515U	1.0R	2	1.5°	2.3	15	1.94	60	6	2
EPBRT20202005U	1.0R	2	0.5°	2.3	20	1.94	60	6	2
EPBRT20202010U	1.0R	2	1.0°	2.3	20	1.94	60	6	2
EPBRT20202015U	1.0R	2	1.5°	2.3	20	1.94	60	6	2
EPBRT20202505U	1.0R	2	0.5°	2.3	25	1.94	75	6	2
EPBRT20202510U	1.0R	2	1.0°	2.3	25	1.94	75	6	2
EPBRT20202515U	1.0R	2	1.5°	2.3	25	1.94	75	6	2
EPBRT20203005U	1.0R	2	0.5°	2.3	30	1.94	75	6	2
EPBRT20203010U	1.0R	2	1.0°	2.3	30	1.94	75	6	2
EPBRT20203015U	1.0R	2	1.5°	2.3	30	1.94	75	6	2
EPBRT20203505U	1.0R	2	0.5°	2.3	35	1.94	75	6	2
EPBRT20203510U	1.0R	2	1.0°	2.3	35	1.94	75	6	2
EPBRT20203515U	1.0R	2	1.5°	2.3	35	1.94	75	6	2
EPBRT20203530U	1.0R	2	3.0°	2.3	35	1.94	75	8	2
EPBRT20301505U	1.5R	3	0.5°	3.5	15	2.94	60	6	2
EPBRT20301510U	1.5R	3	1.0°	3.5	15	2.94	60	6	2

(continued)

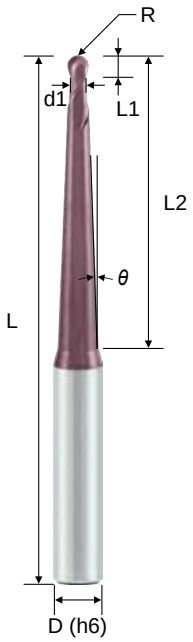
G55C - Ball Nose · Short Flute · Taper Neck · Helix 30 · 2F 球型銑刀・短刃斜頸型・2 刃

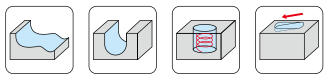
- Short flute design to increase tool rigidity.
- Suitable for steel, alloy steel and cast iron deep milling.
- UNICO (TiAlN) coating provides superior wear resistance.

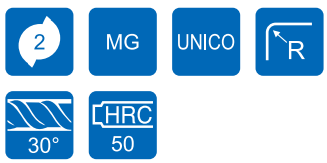
ASIA (Metric)

EPBRT

P	M	K	N	S	H
●	●	●			○







R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

Order No.	Radius (R)	Dia. (d)	θ	CL (L1)	EFF-L (L2)	Neck dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPBRT20301515U	1.5R	3	1.5°	3.5	15	2.94	60	6	2
EPBRT20302005U	1.5R	3	0.5°	3.5	20	2.94	60	6	2
EPBRT20302010U	1.5R	3	1.0°	3.5	20	2.94	60	6	2
EPBRT20302015U	1.5R	3	1.5°	3.5	20	2.94	60	6	2
EPBRT20302505U	1.5R	3	0.5°	3.5	25	2.94	75	6	2
EPBRT20302510U	1.5R	3	1.0°	3.5	25	2.94	75	6	2
EPBRT20302515U	1.5R	3	1.5°	3.5	25	2.94	75	6	2
EPBRT20303005U	1.5R	3	0.5°	3.5	30	2.94	75	6	2
EPBRT20303010U	1.5R	3	1.0°	3.5	30	2.94	75	6	2
EPBRT20303015U	1.5R	3	1.5°	3.5	30	2.94	75	6	2
EPBRT20303505U	1.5R	3	0.5°	3.5	35	2.94	75	6	2
EPBRT20303510U	1.5R	3	1.0°	3.5	35	2.94	75	6	2
EPBRT20303515U	1.5R	3	1.5°	3.5	35	2.94	75	6	2
EPBRT20304005U	1.5R	3	0.5°	3.5	40	2.94	100	6	2
EPBRT20304010U	1.5R	3	1.0°	3.5	40	2.94	100	6	2
EPBRT20304015U	1.5R	3	1.5°	3.5	40	2.94	75	6	2
EPBRT20402005U	2.0R	4	0.5°	4.6	20	3.94	60	6	2
EPBRT20402010U	2.0R	4	1.0°	4.6	20	3.94	60	6	2
EPBRT20402015U	2.0R	4	1.5°	4.6	20	3.94	60	6	2
EPBRT20402505U	2.0R	4	0.5°	4.6	25	3.94	75	6	2
EPBRT20402510U	2.0R	4	1.0°	4.6	25	3.94	60	6	2
EPBRT20402515U	2.0R	4	1.5°	4.6	25	3.94	60	6	2
EPBRT20403005U	2.0R	4	0.5°	4.6	30	3.94	75	6	2
EPBRT20403010U	2.0R	4	1.0°	4.6	30	3.94	75	6	2
EPBRT20403015U	2.0R	4	1.5°	4.6	30	3.94	75	8	2
EPBRT20403505U	2.0R	4	0.5°	4.6	35	3.94	75	6	2
EPBRT20403510U	2.0R	4	1.0°	4.6	35	3.94	75	6	2
EPBRT20403515U	2.0R	4	1.5°	4.6	35	3.94	75	8	2
EPBRT20404005U	2.0R	4	0.5°	4.6	40	3.94	75	6	2
EPBRT20404010U	2.0R	4	1.0°	4.6	40	3.94	75	6	2
EPBRT20404015U	2.0R	4	1.5°	4.6	40	3.94	100	8	2
EPBRT20404505U	2.0R	4	0.5°	4.6	45	3.94	100	6	2
EPBRT20404510U	2.0R	4	1.0°	4.6	45	3.94	100	8	2
EPBRT20404515U	2.0R	4	1.5°	4.6	45	3.94	100	8	2
EPBRT20405005U	2.0R	4	0.5°	4.6	50	3.94	100	6	2
EPBRT20405010U	2.0R	4	1.0°	4.6	50	3.94	100	8	2
EPBRT20405015U	2.0R	4	1.5°	4.6	50	3.94	100	8	2
EPBRT20405030U	2.0R	4	3.0°	4.6	50	3.94	100	10	2
EPBRT20503010U	2.5R	5	1.0°	5.8	30	4.9	75	8	2
EPBRT20503015U	2.5R	5	1.5°	5.8	30	4.9	75	8	2

(continued)

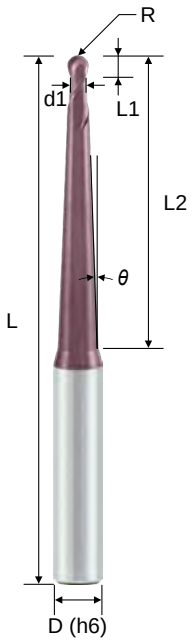
G55C - Ball Nose · Short Flute · Taper Neck · Helix 30 · 2F 球型銑刀・短刃斜頸型・2 刃

- Short flute design to increase tool rigidity.
- Suitable for steel, alloy steel and cast iron deep milling.
- UNICO (TiAlN) coating provides superior wear resistance.

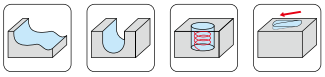
ASIA (Metric)

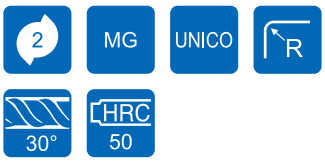
EPBRT

P	M	K	N	S	H
●	●	●			○



Order No.	Radius (R)	Dia. (d)	θ	CL (L1)	EFF-L (L2)	Neck dia. (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPBRT20505010U	2.5R	5	1.0°	5.8	50	4.9	100	8	2
EPBRT20505030U	2.5R	5	3.0°	5.8	34	4.9	100	8	2
EPBRT20603510U	3.0R	6	1.0°	6.9	35	5.9	75	8	2
EPBRT20603515U	3.0R	6	1.5°	6.9	35	5.9	100	10	2
EPBRT20604010U	3.0R	6	1.0°	6.9	40	5.9	75	8	2
EPBRT20604015U	3.0R	6	1.5°	6.9	40	5.9	100	10	2
EPBRT20605010U	3.0R	6	1.0°	6.9	50	5.9	100	10	2
EPBRT20805010U	4.0R	8	1.0°	9.2	50	7.8	100	12	2
EPBRT20805030U	4.0R	8	3.0°	9.2	50	7.8	100	12	2





R Tolerance	
R ≤ 3	±0.010
R > 3	±0.015

G55C - Square · Standard · Helix 30 · 2F

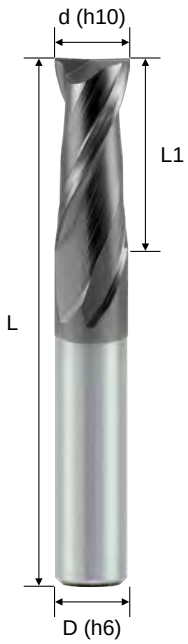
平銑刀・標準型・2 刃

- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and low friction cutting.

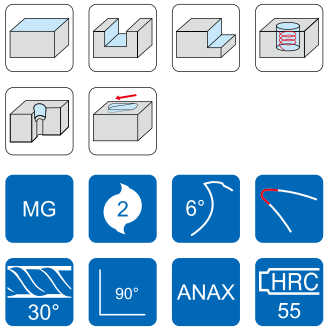
DIN (Metric)

E113C

P	M	K	N	S	H
●	●	●			○



Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
E111C201000A	-	1	3	38	3	2
E111C201500A	-	1.5	3	38	3	2
E111C202000A	-	2	3	38	3	2
E113C202500A	-	2.5	7	57	6	2
E113C203000A	-	3	7	57	6	2
E113C204000A	-	4	8	57	6	2
E113C204500A	-	4.5	8	57	6	2
E113C205000A	-	5	10	57	6	2
E113C206000A	E113C206000AW	6	10	57	6	2
E113C207000A	E113C207000AW	7	13	63	8	2
E113C208000A	E113C208000AW	8	16	63	8	2
E113C209000A	E113C209000AW	9	16	72	10	2
E113C210000A	E113C210000AW	10	19	72	10	2
E113C212000A	E113C212000AW	12	22	83	12	2
E113C214000A	E113C214000AW	14	22	83	14	2
E113C216000A	E113C216000AW	16	26	92	16	2
E113C218000A	E113C218000AW	18	26	92	18	2
E113C220000A	E113C220000AW	20	32	104	20	2



Material	CARBON STEEL / CAST IRON		ALLOY STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	12700	380	10000	300	8386	251	5095	152	8386	251
4mm	9550	382	7560	302	6290	251	3820	152	6290	251
6mm	6370	445	5040	352	4200	294	2548	178	4200	294
8mm	4770	333	3780	264	3140	220	1910	133	3140	220
10mm	3820	230	3020	181	2515	150	1528	92	2515	150
12mm	3180	190	2520	151	2100	126	1274	76	2100	126
	ap = 0.5d ae = 1d		ap = 0.3d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d		ap = 0.5d ae = 1d	

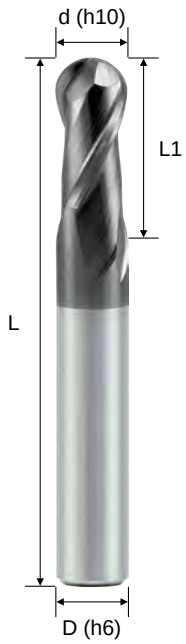
G55C - Ball Nose · Standard · Helix 30 · 2F 球型銑刀・標準型・2 刃

- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and low friction cutting.

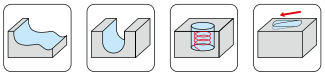
DIN (Metric)

E123C

P	M	K	N	S	H
●	●	●			○



Order No. Cylindrical	Order No. Weldon	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
E123C202000A	-	1R	2	6	57	6	2
E123C203000A	-	1.5R	3	7	57	6	2
E123C204000A	-	2R	4	8	57	6	2
E123C205000A	-	2.5R	5	10	57	6	2
E123C206000A	E123C206000AW	3R	6	10	57	6	2
E123C207000A	E123C207000AW	3.5R	7	13	63	8	2
E123C208000A	E123C208000AW	4R	8	16	63	8	2
E123C210000A	E123C210000AW	5R	10	19	72	10	2
E123C212000A	E123C212000AW	6R	12	22	83	12	2
E123C214000A	E123C214000AW	7R	14	22	83	14	2
E123C216000A	E123C216000AW	8R	16	26	92	16	2
E123C220000A	E123C220000AW	10R	20	32	104	20	2



Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
Vc	120 m/min		95 m/min		79 m/min		48 m/min		79 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
2mm	37470	936	29660	740	24660	616	14990	374	24660	616
4mm	18730	1120	14830	890	12330	740	7490	450	12330	740
6mm	12490	936	9890	740	8220	616	4995	374	8220	616
8mm	9366	750	7415	593	6170	494	3750	300	6170	494
10mm	7490	636	5930	504	4930	420	3000	255	4930	420
12mm	6244	560	4940	444	4110	370	2500	225	4110	370
	ap = 0.07d pf = 0.1d									

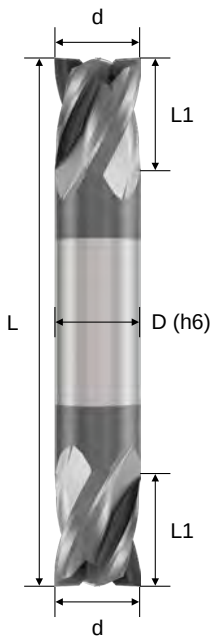
G55C - Double-End · Square · Standard · 4F (Inch) 雙頭平銑刀・標準型・4 刃 (英吋)

- Double-End endmills have two cutting ends instead of single end and give double tool life.
- A cost saving is obvious as compared to using Single-End endmills.
- Positive rake angle and high rigidity design is suitable for CNC or manual machining.
- TACO (Al, Ti, Cr, N) coating provides superior wear resistance.

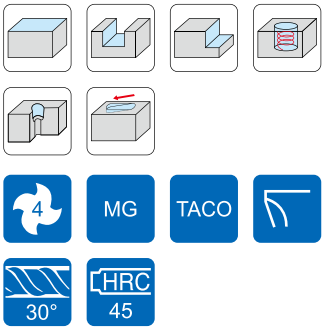
ANSI (Inch)

EPS8A

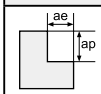
P	M	K	N	S	H
●	●	●			○



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EPS8A40060100T	1/16	1/8	1 1/2	1/8	4
EPS8A40090100T	3/32	3/16	1 1/2	1/8	4
EPS8A40120200T	1/8	1/4	1 1/2	1/8	4
EPS8A40150300T	5/32	5/16	2	3/16	4
EPS8A40180300T	3/16	5/16	2	3/16	4
EPS8A40210500T	7/32	1/2	2 1/2	1/4	4
EPS8A40250500T	1/4	1/2	2 1/2	1/4	4
EPS8A40280500T	9/32	1/2	2 1/2	5/16	4
EPS8A40310500T	5/16	1/2	2 1/2	5/16	4
EPS8A40370500T	3/8	9/16	2 1/2	3/8	4
EPS8A40500600T	1/2	5/8	3	1/2	4



d Tolerance	
d	.000" ~ -.002"

Material	CARBON STEEL / CAST IRON		ALLOY STEEL / TOOL STEEL SCM, SKT, SKD		PREHARDENED STEEL NAK80 CENA1		HARDENED STEEL SKD61, SKD11		STAINLESS STEEL SUS304 316	
Hardness	HB 180~250		HRC 25~35		HRC 35~45		HRC 40~55		–	
SFM	390 ft/min		310 ft/min		260 ft/min		-		260 ft/min	
Dia. (d)	RPM	Feed (in/min)	RPM	Feed (in/min)	RPM	Feed (in/min)	RPM	Feed (in/min)	RPM	Feed (in/min)
1/8	12700	30	10000	24	8386	20	-	-	8386	20
5/32	9550	30	7560	24	6290	20	-	-	6290	20
1/4	6370	35	5040	28	4200	23	-	-	4200	23
5/16	4770	26	3780	21	3140	17	-	-	3140	17
3/8	3820	18	3020	14	2515	12	-	-	2515	12
1/2	3180	15	2520	12	2100	10	-	-	2100	10
	ap = 1d ae = 0.05d									

A100 - Square · Standard · 1F 平銑刀・標準型・1刃

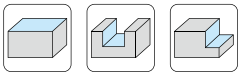
- 30° helix design for general milling.
- Single flute endmill has large chip evacuation.
- Sharp and polishing cutting edge produces an excellent surface finish.
- Suitable for aluminum, copper and plastic material.

ASIA (Metric)

ENSSC

P	M	K	N	S	H
			●		

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSC141000	1	3	50	4	1
ENSSC142000	2	6	50	4	1
ENSSC143000	3	9	50	4	1
ENSSC144000	4	12	50	4	1
ENSSC104000	4	12	50	6	1
ENSSC105000	5	13	50	6	1
ENSSC106000	6	15	50	6	1
ENSSC108000	8	20	60	8	1
ENSSC110000	10	30	75	10	1
ENSSC112000	12	30	75	12	1



d Tolerance	
d ≤ 10	0 ~ -0.03
d > 10	0 ~ -0.04

Material	Aluminum		
Vc	150 ~ 250 m/min		
Dia. (d)	RPM	Feed (mm/min)	fz (mm/tooth)
4	15000	5000	0.33
6	10000	5000	0.50
8	8400	4000	0.48
10	6700	4000	0.60
12	5000	4000	0.80
	ap = 0.5d ae = 1d		

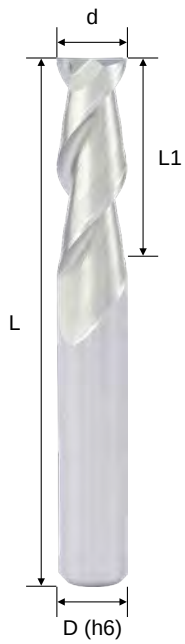
A100 - Square · Standard · 2F 平銑刀・標準型・2 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing increase cutting surface and feed rate.

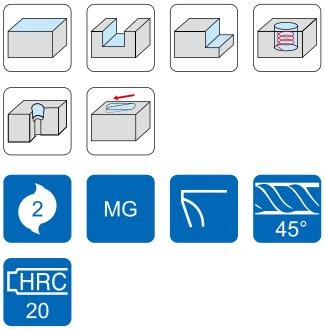
ASIA (Metric)

ENSSS

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSS241000	1	3	50	4	2
ENSSS242000	2	6	50	4	2
ENSSS233000	3	9	50	3	2
ENSSS243000	3	9	50	4	2
ENSSS244000	4	12	50	4	2
ENSSS204000	4	12	50	6	2
ENSSS205000	5	15	50	6	2
ENSSS206000	6	15	50	6	2
ENSSS208000	8	20	60	8	2
ENSSS210000	10	30	75	10	2
ENSSS212000	12	30	75	12	2
ENSSS216000	16	40	100	16	2
ENSSS220000	20	45	100	20	2



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum Alloy			
Vc	55 ~ 225 m/min		45 ~ 185 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1	17800	590	17800	470
2	17800	620	17800	500
3	15000	650	15000	520
4	13000	685	13000	550
5	12000	720	12000	580
6	10000	760	10000	610
8	8500	840	8500	670
10	7000	920	7000	740
12	6000	1010	6000	810
	ap = 1 ~ 2d ae = 0.05 ~ 0.15d		ap = 0.2~0.5d ae = 1d	

A100 - Square · Standard · 3F

平銑刀・標準型・3 刃

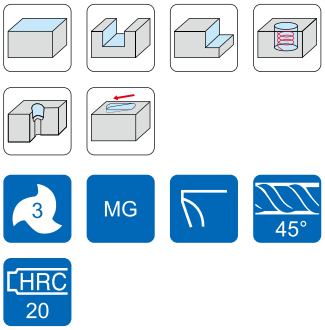
- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing get good cutting surface and high feed rate.

ASIA (Metric)

ENSSS

P	M	K	N	S	H
			●		

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSS342000	2	6	50	4	3
ENSSS333000	3	9	50	3	3
ENSSS343000	3	9	50	4	3
ENSSS344000	4	12	50	4	3
ENSSS304000	4	12	50	6	3
ENSSS305000	5	15	50	6	3
ENSSS306000	6	15	50	6	3
ENSSS308000	8	20	60	8	3
ENSSS310000	10	30	75	10	3
ENSSS312000	12	30	75	12	3
ENSSS316000	16	40	100	16	3
ENSSS320000	20	45	100	20	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum Alloy			
Vc	55 ~ 225 m/min		45 ~ 185 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1	17800	590	17800	470
2	17800	620	17800	500
3	15000	650	15000	520
4	13000	685	13000	550
5	12000	720	12000	580
6	10000	760	10000	610
8	8500	840	8500	670
10	7000	920	7000	740
12	6000	1010	6000	810
	ap = 1 ~ 2d ae = 0.05 ~ 0.15d		ap = 0.2~0.5d ae = 1d	

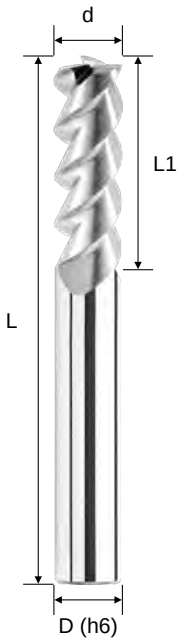
A100 - Square · High Helix · Finishing · 3F 平銑刀・高導精銑型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- 55° degree Helix offers excellent and stable finished surfaces in high speed side milling.
- Flute polishing gives a very good cutting surface and high feed rate.

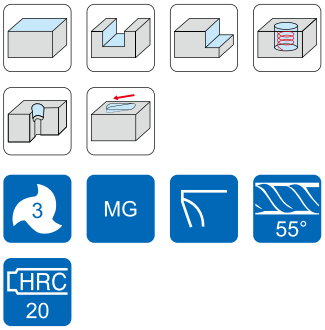
ASIA (Metric)

ENSSH

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSH304000	4	12	50	6	3
ENSSH305000	5	15	50	6	3
ENSSH306000	6	15	50	6	3
ENSSH308000	8	20	60	8	3
ENSSH310000	10	30	75	10	3
ENSSH312000	12	30	75	12	3
ENSSH316000	16	40	100	16	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum Alloy			
Vc	55 ~ 225 m/min		45 ~ 185 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1	17800	590	17800	470
2	17800	620	17800	500
3	15000	650	15000	520
4	13000	685	13000	550
5	12000	720	12000	580
6	10000	760	10000	610
8	8500	840	8500	670
10	7000	920	7000	740
12	6000	1010	6000	810
	ap = 1 ~ 2d ae = 0.05 ~ 0.15d		ap = 0.2~0.5d ae = 1d	

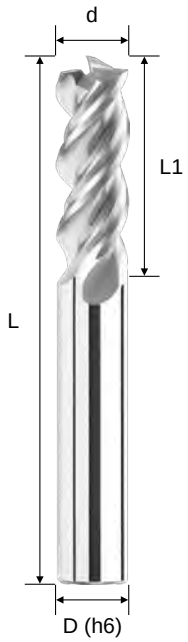
A100 - Square · High Performance Roughing · 3F 平銑刀・高效能粗銑型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- **Polished and U flute designs** provide excellent chip evacuation.
- Excellent for high feed rough milling.
- Also suitable for surface finish in high speed milling.

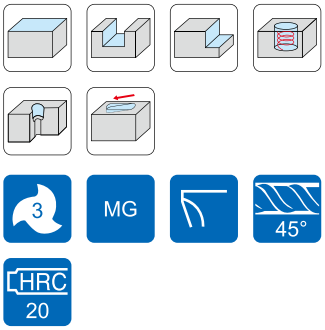
ASIA (Metric)

ENSSB

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSB343000	3	9	50	4	3
ENSSB344000	4	12	50	4	3
ENSSB304000	4	12	50	6	3
ENSSB305000	5	13	50	6	3
ENSSB306000	6	15	50	6	3
ENSSB308000	8	20	60	8	3
ENSSB310000	10	30	75	10	3
ENSSB312000	12	30	75	12	3
ENSSB316000	16	40	100	16	3
ENSSB320000	20	45	100	20	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum Alloy			
Vc	200 ~ 400 m/min		150 ~ 300 m/min	
Dia. (d)	RPM	fz (mm/z)	RPM	fz (mm/z)
4	23870	0.0200	17900	0.030
5	10900	0.0250	14320	0.040
6	15910	0.0350	11930	0.057
8	11930	0.0450	8950	0.075
10	9550	0.0570	7160	0.096
12	7960	0.0670	5970	0.110
16	5970	0.0880	4480	0.145
20	4770	0.1200	3580	0.180
	ap ≤ 1.5d ae ≤ 0.3d		ap ≤ 1d ae = 1d	

A100 - Square · Finishing · 3F

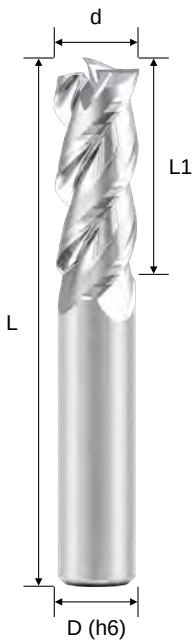
平銑刀・精銑型・3 刃

- Mirror-like flute surface design.
- For finishing cutting of aluminum alloys.
- Medium to high speed cutting.

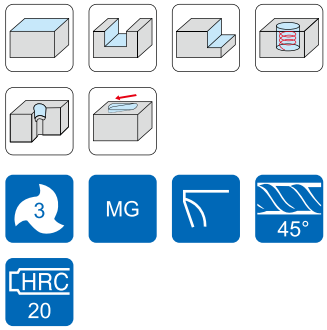
ASIA (Metric)

ENSSF

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSF301000	1	3	50	6	3
ENSSF302000	2	6	50	6	3
ENSSF303000	3	11	60	6	3
ENSSF304000	4	13	60	6	3
ENSSF305000	5	17	60	6	3
ENSSF306000	6	17	60	6	3
ENSSF308000	8	22	75	8	3
ENSSF310000	10	27	75	10	3
ENSSF312000	12	32	75	12	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum Alloy			
Vc	55 ~ 225 m/min		45 ~ 185 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1	17800	590	17800	470
2	17800	620	17800	500
3	15000	650	15000	520
4	13000	685	13000	550
5	12000	720	12000	580
6	10000	760	10000	610
8	8500	840	8500	670
10	7000	920	7000	740
12	6000	1010	6000	810
	ap = 1 ~ 2d ae = 0.05 ~ 0.15d		ap = 0.2~0.5d ae = 1d	

A100 - Square · Finishing & Roughing · 3F

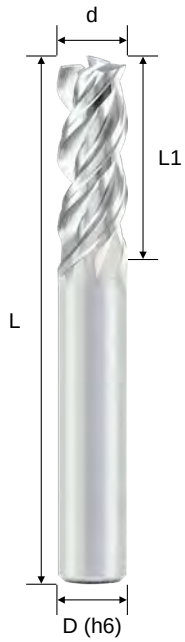
平銑刀・精銑 & 粗銑型・3 刃

- U-flute and Mirror-like flute surface design.
- For medium to finishing cutting of aluminum alloys.
- High speed cutting.
- Is better for Aluminum alloy with Si ≥ 8%.

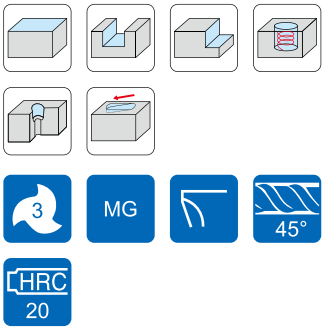
ASIA (Metric)

ENSSP

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSP303000	3	9	50	6	3
ENSSP304000	4	12	50	6	3
ENSSP305000	5	15	50	6	3
ENSSP306000	6	15	50	6	3
ENSSP307000	7	18	60	8	3
ENSSP308000	8	20	60	8	3
ENSSP309000	9	23	75	10	3
ENSSP310000	10	30	75	10	3
ENSSP312000	12	30	75	12	3
ENSSP316000	16	40	100	16	3
ENSSP318000	18	40	100	20	3
ENSSP320000	20	45	100	20	3
ENSSP325000	25	45	100	25	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum Alloy			
Vc	150 ~ 350 m/min		120 ~ 300 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6	16000	1280	13000	880
8	12000	1520	9500	960
10	9500	1520	7600	960
12	8000	1520	6400	960
16	6000	1520	4800	960
	ap = 1 ~ 2d ae = 0.05 ~ 0.15d		ap = 0.2d ae = 1d	

A100 - Square · Fine Finishing · 3F

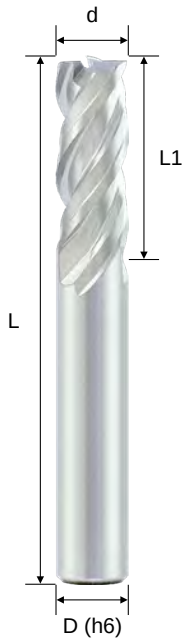
平銑刀・超精銑型・3 刃

- U-flute and Mirror-like flute surface design.
- For medium to finishing cutting of aluminum alloys.
- High speed cutting.
- Is better for Aluminum alloy with Si ≥ 8%.

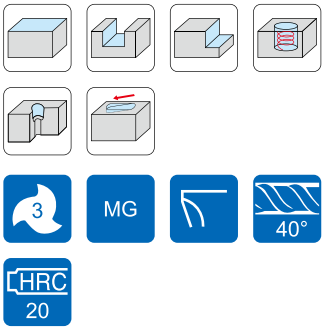
ASIA (Metric)

ENSSA

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSA303000	3	8	50	6	3
ENSSA304000	4	10	50	6	3
ENSSA305000	5	13	50	6	3
ENSSA306000	6	15	50	6	3
ENSSA307000	7	18	60	8	3
ENSSA308000	8	20	60	8	3
ENSSA309000	9	22	75	10	3
ENSSA310000	10	25	75	10	3
ENSSA312000	12	30	75	12	3
ENSSA316000	16	40	100	16	3
ENSSA318000	18	40	100	20	3
ENSSA320000	20	45	100	20	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum Alloy			
Vc	180 ~ 380 m/min		150 ~ 350 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6	20000	930	16000	640
8	15000	1100	12000	690
10	12000	1100	9600	690
12	10000	1100	8000	690
16	7500	1100	6000	690
	ap = 1 ~ 2d ae = 0.02 ~ 0.15d		ap = 0.2d ae = 1d	

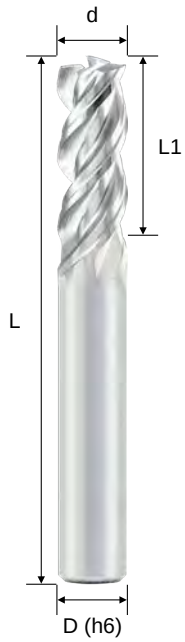
A100 - Square · Virable Pitch · Standard · 3F 不等分割平銑刀・標準型・3 刃

- Variable pitch is unequal flute spacing, good for high performance machining.
- No chattering surface due to anti-vibration design.
- **Polished and U flute designs** provide excellent chip evacuation.
- Good for semi-fininshing and roughing of aluminum parts(5052/6061/7075).

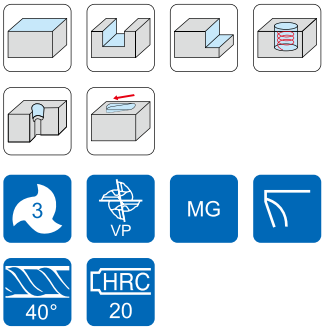
ASIA (Metric)

ENSSV

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSV303000	3	9	50	6	3
ENSSV304000	4	12	50	6	3
ENSSV305000	5	15	50	6	3
ENSSV306000	6	18	50	6	3
ENSSV308000	8	24	60	8	3
ENSSV310000	10	30	75	10	3
ENSSV312000	12	35	75	12	3
ENSSV316000	16	40	100	16	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum alloy (AL5052 / 6061 / 7075)			
Vc	200 ~ 400 m/min		150 ~ 300 m/min	
Dia. (d)	RPM	fz (mm/z)	RPM	fz (mm/z)
3	31820	0.02	23870	0.01
4	23870	0.03	17900	0.02
5	19090	0.03	14320	0.02
6	15910	0.05	11930	0.03
8	11930	0.07	8950	0.04
10	9550	0.09	7160	0.06
12	7960	0.11	5970	0.08
16	5970	0.15	4480	0.10
	ap = 1.5d ae = 0.1 ~ 0.5d		ap = 0.5 ~ 1d ae = 1d	
※When machining Aluminum alloy with Si ≥ 8% , reduce RPM 30% and Feed 30%.				

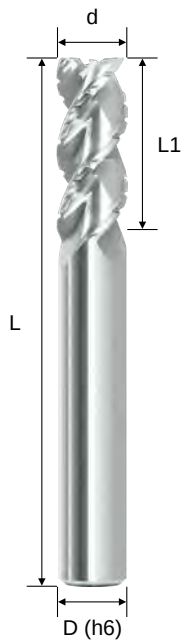
A100 - Square · Virable Pitch · Chip Breaker · 3F 不等分割平銑刀・斷屑型・3 刃

- The cutting edges incorporate chip breakers design.
- Variable pitch is unequal flute spacing designed for anti-vibration machining.
- **Polished and U flute designs** provide excellent chip evacuation.
- Good for semi-fininshing and roughing of aluminum parts(5052/6061/7075).

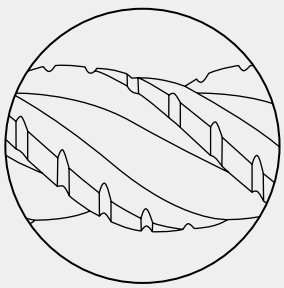
ASIA (Metric)

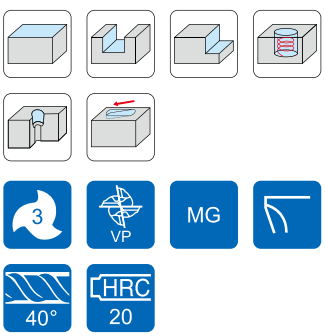
ENSSVG

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSVG306000	6	18	50	6	3
ENSSVG308000	8	24	60	8	3
ENSSVG310000	10	30	75	10	3
ENSSVG312000	12	35	75	12	3
ENSSVG316000	16	40	100	16	3





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Aluminum alloy (AL5052 / 6061 / 7075)			
Vc	200 ~ 400 m/min		150 ~ 300 m/min	
Dia. (d)	RPM	fz (mm/z)	RPM	fz (mm/z)
6	15910	0.05	11930	0.03
8	11930	0.07	8950	0.04
10	9550	0.09	7160	0.06
12	7960	0.11	5970	0.08
16	5970	0.15	4480	0.10
	ap = 1.5d ae = 0.1 ~ 0.5d		ap = 0.5 ~ 1d ae = 1d	

※When machining Aluminum alloy with Si ≥ 8% , reduce RPM 30% and Feed 30%.

A100 - Square · Roughing · 3F / 4F

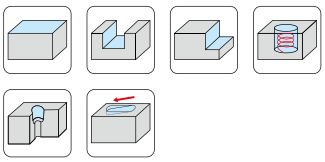
平銑刀・粗銑型・3 刃 / 4 刃

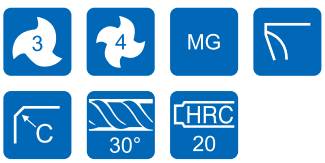
- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- Suitable for rough and high remove rate cutting environment.
- Chamfering design provides a stronger cutting edge.
- Middle coarse pitch provides hi performance and avoids tip fracture.

ASIA (Metric)

ENSSR

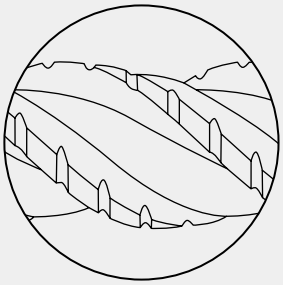
P	M	K	N	S	H
			●		





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
3 Flutes					
ENSSR306000	6	15	50	6	3
ENSSR308000	8	20	60	8	3
ENSSR310000	10	25	75	10	3
ENSSR312000	12	30	75	12	3
ENSSR316000	16	40	100	16	3
ENSSR320000	20	45	100	20	3
4 Flutes					
ENSSR406000	6	15	50	6	4
ENSSR408000	8	20	60	8	4
ENSSR410000	10	25	75	10	4
ENSSR412000	12	30	75	12	4
ENSSR416000	16	40	100	16	4
ENSSR420000	20	45	100	20	4



A100 - Square · Wave Edge · 3F

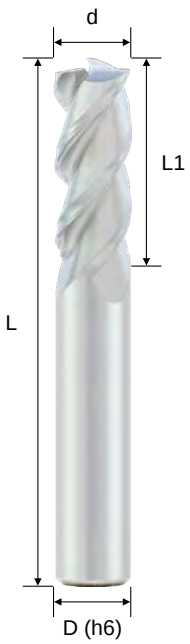
平銑刀・波浪型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- Incredible toughness and vibration reduction at high speeds.
- Wave type increases the performance.

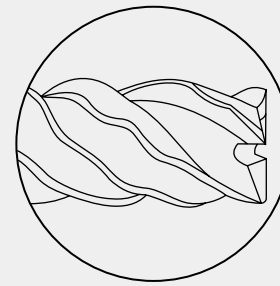
ASIA (Metric)

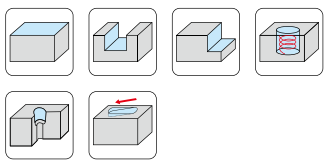
ENSSW

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSW306000	6	15	50	6	3
ENSSW308000	8	20	60	8	3
ENSSW310000	10	30	75	10	3
ENSSW312000	12	30	75	12	3





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

A100 - Square · Long Flute · 3F 平銑刀・長刃型・3 刃

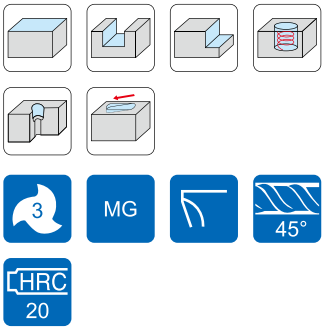
- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing get good cutting surface and high feed rate.

ASIA (Metric)

ENSCS

P	M	K	N	S	H
			●		

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSCS303000	3	15	60	6	3
ENSCS304000	4	20	60	6	3
ENSCS305000	5	25	60	6	3
ENSCS306000	6	30	75	6	3
ENSCS308000	8	45	100	8	3
ENSCS310000	10	55	100	10	3
ENSCS312000	12	55	100	12	3
ENSCS316000	16	75	150	16	3
ENSCS320000	20	90	150	20	3



d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

Material	Aluminum Alloy			
Vc	55 ~ 225 m/min		45 ~ 185 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1	17800	590	17800	470
2	17800	620	17800	500
3	15000	650	15000	520
4	13000	685	13000	550
5	12000	720	12000	580
6	10000	760	10000	610
8	8500	840	8500	670
10	7000	920	7000	740
12	6000	1010	6000	810
	ap = 1 ~ 2d ae = 0.05 ~ 0.15d		ap = 0.2~0.5d ae = 1d	

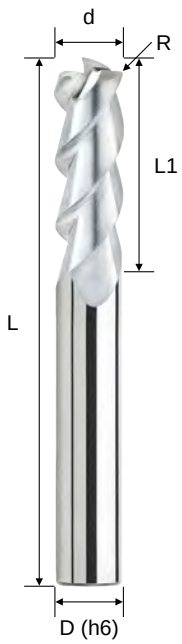
A100 - Corner Radius · Standard · 3F 圓鼻銑刀・標準型・3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing get good cutting surface and high feed rate.

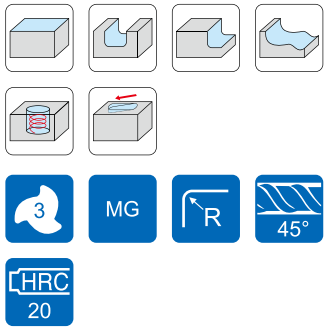
ASIA (Metric)

ENCSS

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENCSS343005	3	0.5R	9	50	4	3
ENCSS344005	4	0.5R	12	50	4	3
ENCSS306005	6	0.5R	15	50	6	3
ENCSS308005	8	0.5R	20	60	8	3
ENCSS308010	8	1.0R	20	60	8	3
ENCSS310005	10	0.5R	30	75	10	3
ENCSS310010	10	1.0R	30	75	10	3
ENCSS312010	12	1.0R	30	75	12	3
ENCSS312015	12	1.5R	30	75	12	3
ENCSS316010	16	1.0R	40	100	16	3
ENCSS316020	16	2.0R	40	100	16	3



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	Aluminum Alloy			
Vc	55 ~ 225 m/min		45 ~ 185 m/min	
Dia. (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1	17800	590	17800	470
2	17800	620	17800	500
3	15000	650	15000	520
4	13000	685	13000	550
5	12000	720	12000	580
6	10000	760	10000	610
8	8500	840	8500	670
10	7000	920	7000	740
12	6000	1010	6000	810
	ap = 1 ~ 2d ae = 0.05 ~ 0.15d		ap = 0.2~0.5d ae = 1d	

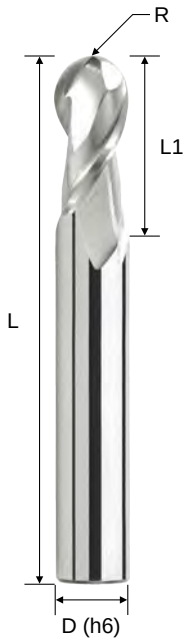
A100 - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- Great chip evacuation.
- Due to polish surface grinding of cutting it provides an excellent surface.
- New tool geometry increases wear resistance and cutting force is decreased.

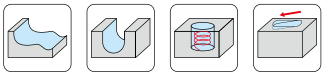
ASIA (Metric)

ENBSA

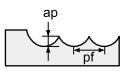
P	M	K	N	S	H
			●		



Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENBSA241000	0.5R	1	2	50	4	2
ENBSA242000	1.0R	2	4	50	4	2
ENBSA243000	1.5R	3	6	50	4	2
ENBSA244000	2.0R	4	8	50	4	2
ENBSA204000	2.0R	4	8	50	6	2
ENBSA205000	2.5R	5	10	50	6	2
ENBSA206000	3.0R	6	12	50	6	2
ENBSA208000	4.0R	8	16	60	8	2
ENBSA210000	5.0R	10	20	75	10	2
ENBSA212000	6.0R	12	24	75	12	2
ENBSA216000	8.0R	16	32	100	16	2



R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

WORKING MATERIAL	ALLUMINUM ALLOY	
CODE	A5052	
Vc	327 m/min	
Dia. (d)	RPM	Feed (mm/min)
2mm	50,700	2,000
3mm	33,800	2,000
4mm	26,000	2,000
5mm	20,800	2,000
6mm	16,900	2,000
8mm	13,000	2,000
10mm	10,400	2,000
12mm	7,800	2,000
16mm	6,500	2,000
	ap = 0.1d pf = 0.1d	

A100 - Square · Standard · 4F (for CU & AL)

平銑刀・標準型・4 刃

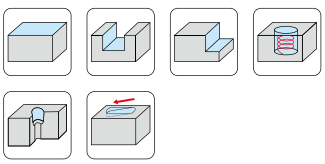
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Multiple processing efficiency, coefficient of friction <0.1μm.
- Large positive rake angle and deep flute design, improves cutting efficiency.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

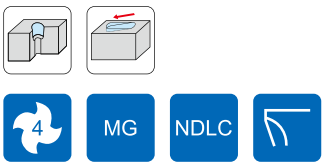
ASIA (Metric)

ENSSC

P	M	K	N	S	H
			●		

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENSSC405000L	5	13	50	6	4
ENSSC406000L	6	15	50	6	4
ENSSC408000L	8	20	60	8	4
ENSSC410000L	10	25	75	10	4
ENSSC412000L	12	30	75	12	4





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

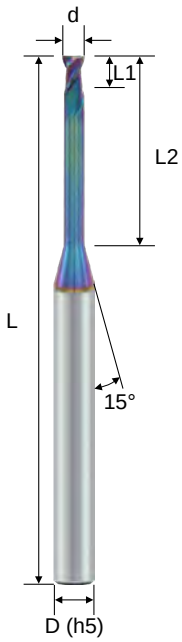
A100 - Long Neck · Square · 2F (for CU & AL) 長頸型・平銑刀・2 刃

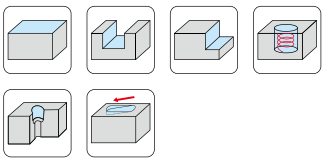
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Available in various cut lengths.
- Suitable for deep cutting application.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ASIA (Metric)

ENSRC

P	M	K	N	S	H
			●		





2 | MG | NDLC | 38° | HRC 20

d Tolerance	
d	0 ~ -0.015

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
ENSRC240501L	0.5	1	1.5	50	4	2
ENSRC240502L	0.5	1	2	50	4	2
ENSRC240503L	0.5	1	3	50	4	2
ENSRC240504L	0.5	1	4	50	4	2
ENSRC240506L	0.5	1	6	50	4	2
ENSRC241003L	1	2	3	50	4	2
ENSRC241004L	1	2	4	50	4	2
ENSRC241005L	1	2	5	50	4	2
ENSRC241006L	1	2	6	50	4	2
ENSRC241008L	1	2	8	50	4	2
ENSRC241010L	1	2	10	50	4	2
ENSRC241012L	1	2	12	50	4	2
ENSRC242006L	2	4	6	50	4	2
ENSRC242008L	2	4	8	50	4	2
ENSRC242010L	2	4	10	50	4	2
ENSRC242012L	2	4	12	50	4	2
ENSRC242014L	2	4	14	50	4	2
ENSRC242016L	2	4	16	50	4	2
ENSRC242020L	2	4	20	50	4	2
ENSRC243010L	3	6	10	50	4	2
ENSRC243016L	3	6	16	50	4	2
ENSRC243020L	3	6	20	50	4	2
ENSRC244016L	4	8	16	50	4	2
ENSRC244020L	4	8	20	50	4	2

(continued)

A100 - Long Neck · Square · 2F (for CU & AL)

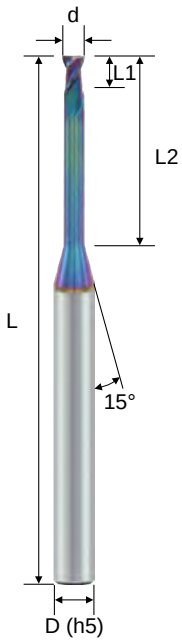
長頸型・平銑刀・2 刃

- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Available in various cut lengths.
- Suitable for deep cutting application.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

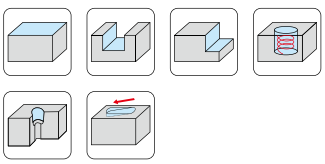
ASIA (Metric)

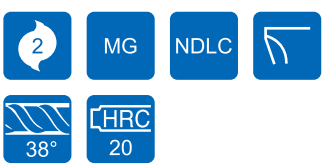
ENSRC

P	M	K	N	S	H
			●		



Material		Copper							Copper Tungsten (W70%-Cu30%)						
Application		Side Milling				Slotting			Side Milling				Slotting		
Dia. (d)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)
0.5	1.5	40000	900	0.5	0.025	40000	800	0.070	30000	650	0.3	0.02	30000	550	0.05
	2	38000	800	0.5	0.02	35000	700	0.055	28000	550	0.3	0.016	26000	450	0.04
	3	35000	700	0.5	0.015	32000	600	0.040	26000	500	0.3	0.012	25000	400	0.03
	4	28000	550	0.5	0.008	26000	500	0.030	24000	400	0.3	0.005	22000	300	0.02
	6	18000	350	0.5	0.005	18000	300	0.015	15000	220	0.3	0.003	15000	180	0.01
1	3	24000	2200	1	0.06	24000	2000	0.22	20000	1600	0.8	0.04	20000	1400	0.16
	4	24000	2000	1	0.05	22000	1800	0.20	20000	1400	0.8	0.035	18000	1100	0.14
	5	22000	1700	1	0.04	20000	1500	0.16	18000	1200	0.8	0.028	16000	950	0.12
	6	20000	1500	1	0.03	18000	1200	0.14	16000	1000	0.8	0.02	14000	800	0.10
	8	16000	1200	1	0.025	15000	1000	0.10	14000	800	0.8	0.018	12000	650	0.08
	10	14000	1000	1	0.02	12000	800	0.07	12000	650	0.8	0.014	11000	550	0.05
	12	10000	700	1	0.01	10000	650	0.05	9000	450	0.8	0.007	8000	400	0.035
2	6	18000	2500	2	0.10	16000	2200	0.45	14000	1800	1.5	0.08	12000	1500	0.30
	8	16000	2200	2	0.09	14000	1900	0.40	12000	1500	1.5	0.07	12000	1400	0.28
	10	14000	1900	2	0.08	12000	1600	0.35	10000	1200	1.5	0.06	10000	1000	0.24
	12	12000	1600	2	0.07	11000	1400	0.28	10000	1100	1.5	0.05	9000	900	0.20
	14	11000	1400	2	0.06	10000	1200	0.24	9000	950	1.5	0.04	8000	800	0.16
	16	10000	1200	2	0.045	9000	1000	0.18	8000	800	1.5	0.03	7000	650	0.12
	20	9000	1000	2	0.03	8000	850	0.12	7000	700	1.5	0.02	6000	550	0.08
3	10	16000	2400	3	0.12	14000	2000	0.7	12000	1800	2.4	0.08	11000	1500	0.5
	16	14000	2100	3	0.10	12000	1600	0.6	11000	1600	2.4	0.07	9000	1100	0.4
	20	11000	1500	3	0.07	10000	1200	0.4	9000	1100	2.4	0.05	8000	900	0.3
	25	10000	1300	3	0.05	9000	1000	0.2	8000	900	2.4	0.03	7000	700	0.15
4	16	12000	2400	4	0.20	10000	2000	0.9	9000	1600	3	0.15	8000	1400	0.7
	20	10000	2000	4	0.15	8000	1600	0.7	8000	1400	3	0.10	6000	1000	0.5
	25	9000	1700	4	0.10	8000	1500	0.5	7000	1200	3	0.07	6000	1000	0.3





d Tolerance	
d	0 ~ -0.015

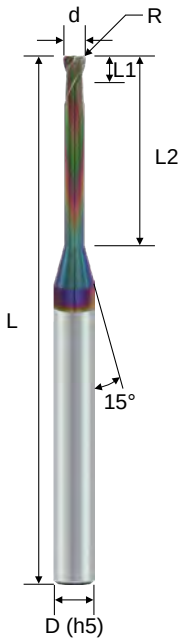
A100 - Long Neck · Corner Radius · 2F (for CU & AL) 長頸型・圓鼻銑刀・2 刃

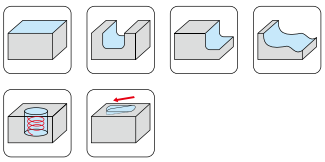
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ASIA (Metric)

ENCRC

P	M	K	N	S	H
			●		





2 | MG | NDLC | R | 38° | HRC 20

d Tolerance	
d	0 ~ -0.015

R Tolerance	
R	±0.015

Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
ENCRC24050102L	0.5	0.1R	1	2	50	4	2
ENCRC24050103L	0.5	0.1R	1	3	50	4	2
ENCRC24050104L	0.5	0.1R	1	4	50	4	2
ENCRC24050105L	0.5	0.1R	1	5	50	4	2
ENCRC24100103L	1	0.1R	2	3	50	4	2
ENCRC24100104L	1	0.1R	2	4	50	4	2
ENCRC24100105L	1	0.1R	2	5	50	4	2
ENCRC24100106L	1	0.1R	2	6	50	4	2
ENCRC24100108L	1	0.1R	2	8	50	4	2
ENCRC24100110L	1	0.1R	2	10	50	4	2
ENCRC24100203L	1	0.2R	2	3	50	4	2
ENCRC24100204L	1	0.2R	2	4	50	4	2
ENCRC24100205L	1	0.2R	2	5	50	4	2
ENCRC24100206L	1	0.2R	2	6	50	4	2
ENCRC24100208L	1	0.2R	2	8	50	4	2
ENCRC24100210L	1	0.2R	2	10	50	4	2
ENCRC24200105L	2	0.1R	4	5	50	4	2
ENCRC24200108L	2	0.1R	4	8	50	4	2
ENCRC24200110L	2	0.1R	4	10	50	4	2
ENCRC24200115L	2	0.1R	4	15	50	4	2
ENCRC24200120L	2	0.1R	4	20	50	4	2
ENCRC24200305L	2	0.3R	4	5	50	4	2
ENCRC24200308L	2	0.3R	4	8	50	4	2
ENCRC24200310L	2	0.3R	4	10	50	4	2
ENCRC24200315L	2	0.3R	4	15	50	4	2
ENCRC24200320L	2	0.3R	4	20	50	4	2
ENCRC24300212L	3	0.2R	6	12	50	4	2
ENCRC24300215L	3	0.2R	6	15	50	4	2
ENCRC24300220L	3	0.2R	6	20	50	4	2
ENCRC24300512L	3	0.5R	6	12	50	4	2
ENCRC24300515L	3	0.5R	6	15	50	4	2
ENCRC24300520L	3	0.5R	6	20	50	4	2
ENCRC24400216L	4	0.2R	8	16	50	4	2
ENCRC24400220L	4	0.2R	8	20	50	4	2
ENCRC24400516L	4	0.5R	8	16	50	4	2
ENCRC24400520L	4	0.5R	8	20	50	4	2

(continued)

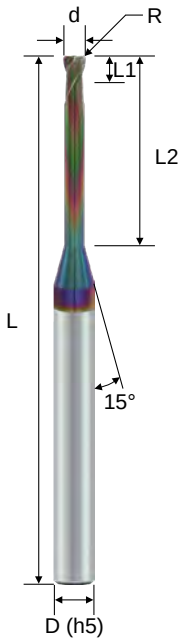
A100 - Long Neck · Corner Radius · 2F (for CU & AL) 長頸型・圓鼻銑刀・2 刃

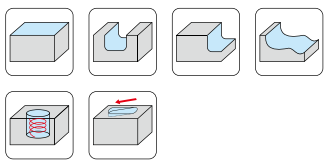
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ASIA (Metric)

ENCRC

P	M	K	N	S	H
			●		





2 | MG | NDLC | R

38° | HRC 20

d Tolerance	
d	0 ~ -0.015

R Tolerance	
R	±0.015

Material			Copper				Copper Tungsten (W70%-Cu30%)			
Dia. (d)	Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	ae (mm)	RPM	Feed (mm/min)	ap (mm)	ae (mm)
0.5	0.1R	2	40000	800	0.06	0.25	36000	720	0.054	0.23
		3	35000	640	0.05	0.25	32000	580	0.045	0.23
		4	30000	480	0.036	0.25	27000	420	0.032	0.23
		5	25000	400	0.024	0.25	23000	360	0.022	0.23
1	0.1R	3	25000	2400	0.06	0.6	23000	2200	0.054	0.55
		4	25000	2200	0.055	0.6	23000	2000	0.05	0.55
		5	22000	2000	0.05	0.6	20000	1800	0.045	0.55
		6	20000	1800	0.045	0.6	18000	1600	0.04	0.55
		8	16000	1400	0.04	0.6	14000	1200	0.036	0.55
		10	12000	1000	0.03	0.6	11000	900	0.027	0.55
	0.2R	3	25000	2400	0.12	0.6	23000	2200	0.11	0.55
		4	25000	2200	0.11	0.6	23000	2000	0.10	0.55
		5	22000	2000	0.10	0.6	20000	1800	0.09	0.55
		6	20000	1800	0.09	0.6	18000	1600	0.08	0.55
		8	16000	1400	0.08	0.6	14000	1200	0.07	0.55
		10	12000	1000	0.06	0.6	11000	900	0.054	0.55
2	0.1R	5	16000	3000	0.06	1.2	14000	2700	0.054	1.1
		8	14000	2600	0.06	1.2	13000	2400	0.054	1.1
		10	12000	2000	0.06	1.2	11000	1800	0.054	1.1
		15	10000	1600	0.05	1.2	9000	1400	0.045	1.1
		20	8000	1200	0.04	1.2	7000	1100	0.036	1.1
	0.3R	5	16000	3000	0.18	1.2	14000	2700	0.16	1.1
		8	14000	2600	0.18	1.2	13000	2400	0.16	1.1
		10	12000	2000	0.18	1.2	11000	1800	0.16	1.1
		15	10000	1600	0.14	1.2	9000	1400	0.13	1.1
		20	8000	1200	0.10	1.2	7000	1100	0.09	1.1
3	0.2R	12	14000	3000	0.12	1.8	13000	2700	0.11	1.6
		15	13000	2600	0.12	1.8	12000	2400	0.11	1.6
		18	12000	2400	0.10	1.8	11000	2200	0.09	1.6
		24	10000	1800	0.08	1.8	9000	1600	0.07	1.6
		30	8000	1400	0.07	1.8	7000	1200	0.06	1.6
	0.5R	12	14000	3000	0.30	1.8	13000	2700	0.27	1.6
		15	13000	2600	0.30	1.8	12000	2400	0.27	1.6
		18	12000	2400	0.25	1.8	11000	2200	0.23	1.6
		24	10000	1800	0.20	1.8	9000	1600	0.18	1.6
		30	8000	1400	0.16	1.8	7000	1200	0.14	1.6
4	0.2R	16	10000	2800	0.14	2.8	9000	2500	0.13	2.5
		24	8000	2200	0.12	2.8	7000	1900	0.11	2.5
		32	6000	1600	0.10	2.8	5500	1400	0.09	2.5
	0.5R	16	10000	2800	0.30	2.4	9000	2500	0.27	2.2
		24	8000	2200	0.24	2.4	7000	1900	0.22	2.2
		32	6000	1600	0.18	2.4	5500	1400	0.16	2.2

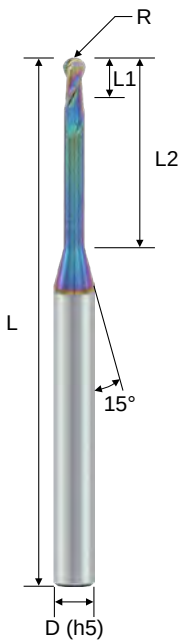
A100 - Long Neck · Ball Nose · 2F (for CU & AL) 長頸型・球型銑刀・2 刃

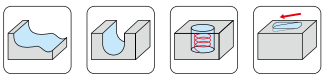
- Suitable for copper alloy, copper electrodes, aluminum processing special.
- Sharp cutting edge and flute polished.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

ASIA (Metric)

ENBRC

P	M	K	N	S	H
			●		





2 | MG | NDLC | R

30° | HRC 20

R Tolerance	
R	±0.01

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
ENBRC240502L	0.25R	0.5	0.35	2	50	4	2
ENBRC240503L	0.25R	0.5	0.35	3	50	4	2
ENBRC240504L	0.25R	0.5	0.35	4	50	4	2
ENBRC240505L	0.25R	0.5	0.35	5	50	4	2
ENBRC241003L	0.5R	1	0.75	3	50	4	2
ENBRC241004L	0.5R	1	0.75	4	50	4	2
ENBRC241005L	0.5R	1	0.75	5	50	4	2
ENBRC241006L	0.5R	1	0.75	6	50	4	2
ENBRC241008L	0.5R	1	0.75	8	50	4	2
ENBRC241010L	0.5R	1	0.75	10	50	4	2
ENBRC241012L	0.5R	1	0.75	12	50	4	2
ENBRC242004L	1.0R	2	1.5	4	50	4	2
ENBRC242006L	1.0R	2	1.5	6	50	4	2
ENBRC242008L	1.0R	2	1.5	8	50	4	2
ENBRC242010L	1.0R	2	1.5	10	50	4	2
ENBRC242012L	1.0R	2	1.5	12	50	4	2
ENBRC242016L	1.0R	2	1.5	16	50	4	2
ENBRC242020L	1.0R	2	1.5	20	50	4	2
ENBRC243008L	1.5R	3	2.5	8	50	4	2
ENBRC243010L	1.5R	3	2.5	10	50	4	2
ENBRC243016L	1.5R	3	2.5	16	50	4	2
ENBRC243020L	1.5R	3	2.5	20	50	4	2
ENBRC244012L	2.0R	4	3	12	50	4	2
ENBRC244016L	2.0R	4	3	16	50	4	2
ENBRC244020L	2.0R	4	3	20	50	4	2

(continued)

A100 - Long Neck · Ball Nose · 2F (for CU & AL)

長頸型・球型銑刀・2 刃

- Suitable for copper alloy, copper electrodes, aluminum processing special.
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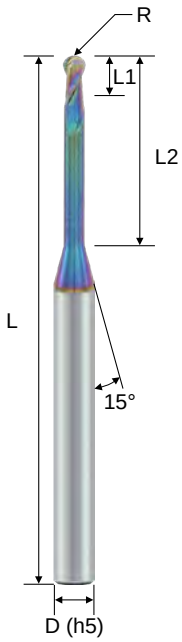
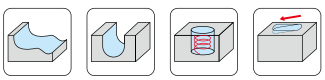
ASIA (Metric)

ENBRC

P	M	K	N	S	H
			●		



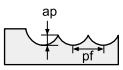


2 | MG | NDLC | R

30° | HRC 20

R Tolerance	
R	±0.01

Material		Copper				Copper Tungsten (W70%-Cu30%)			
Radius (R)	EFF-L	RPM	Feed (mm/min)	ap (mm)	pf (mm)	RPM	Feed (mm/min)	ap (mm)	pf (mm)
0.25R	2	40000	800	0.08	0.15	30000	500	0.08	0.15
	3	35000	600	0.06	0.1	27000	400	0.06	0.08
	4	30000	400	0.04	0.08	22000	200	0.025	0.05
	5	25000	300	0.02	0.04	18000	150	0.01	0.02
0.5R	3	40000	2800	0.25	0.4	30000	2000	0.25	0.4
	4	40000	2400	0.2	0.4	30000	1600	0.2	0.4
	5	35000	2000	0.16	0.3	27000	1400	0.12	0.25
	6	30000	1600	0.14	0.3	25000	1000	0.1	0.25
	8	25000	1000	0.12	0.2	18000	500	0.06	0.1
	10	20000	800	0.08	0.15	16000	300	0.03	0.05
	12	16000	600	0.06	0.1	12000	200	0.015	0.04
1.0R	4	30000	4000	0.45	0.8	22000	2400	0.45	0.8
	6	27000	3000	0.45	0.8	20000	1800	0.45	0.8
	8	25000	2400	0.4	0.8	18000	1600	0.4	0.8
	10	22000	2000	0.3	0.6	16000	1400	0.25	0.5
	12	16000	1400	0.3	0.6	12000	900	0.25	0.5
	16	12000	1000	0.25	0.5	9000	500	0.12	0.25
	20	10000	800	0.15	0.3	8000	350	0.06	0.1
	25	8000	600	0.08	0.15	6000	200	0.03	0.05
1.5R	8	22000	3800	0.8	1.95	18000	2800	0.7	1.3
	10	20000	3400	0.7	1.5	16000	2400	0.6	1.2
	16	18000	3000	0.6	1.0	14000	2000	0.6	1.2
	20	16000	2400	0.5	0.8	12000	1400	0.4	0.6
	25	12000	1800	0.4	0.6	10000	900	0.2	0.3
	30	8000	1200	0.2	0.4	6000	500	0.08	0.15
2.0R	12	16000	4000	1.0	1.6	12000	2800	0.8	1.6
	16	16000	3400	0.8	1.6	12000	2400	0.8	1.6
	20	14000	3000	0.8	1.6	10000	2000	0.8	1.6
	25	14000	3000	0.6	1.2	10000	2000	0.5	1.0
	30	12000	2400	0.5	1.0	7000	1200	0.3	0.5
	40	8000	1200	0.4	0.8	5000	500	0.15	0.3



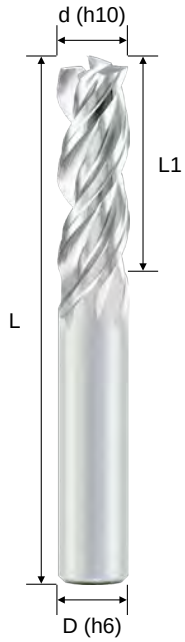
A100 - Square · Variable Pitch · 3F 不等分割平銑刀・3 刃

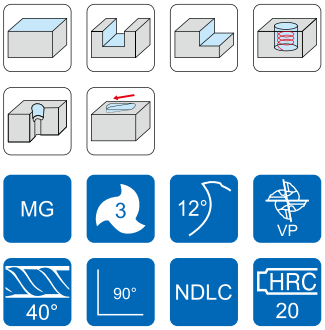
- Variable pitch design for anti-vibration machining.
- Good for semi-fininshing and roughing of aluminum parts(5052/6061/7075).
- Neck design increases depth of cut.
- Manufactured according to DIN 6527.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

DIN (Metric)

E 4 1 3 V

P	M	K	N	S	H
			●		





Order No. (Cylindrical)	Order No. (Weldon)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
Uncoated						
E413V302000	-	2	7	57	6	3
E413V303000	-	3	8	57	6	3
E413V304000	-	4	11	57	6	3
E413V305000	-	5	13	57	6	3
E413V306000	E413V306000W	6	13	57	6	3
E413V308000	E413V308000W	8	19	63	8	3
E413V310000	E413V310000W	10	22	72	10	3
E413V312000	E413V312000W	12	26	83	12	3
E413V314000	E413V314000W	14	26	83	14	3
E413V316000	E413V316000W	16	32	92	16	3
E413V318000	E413V318000W	18	32	92	18	3
E413V320000	E413V320000W	20	38	104	20	3
NDLC Coating						
E413V302000L	-	2	7	57	6	3
E413V303000L	-	3	8	57	6	3
E413V304000L	-	4	11	57	6	3
E413V305000L	-	5	13	57	6	3
E413V306000L	E413V306000LW	6	13	57	6	3
E413V308000L	E413V308000LW	8	19	63	8	3
E413V310000L	E413V310000LW	10	22	72	10	3
E413V312000L	E413V312000LW	12	26	83	12	3
E413V314000L	E413V314000LW	14	26	83	14	3
E413V316000L	E413V316000LW	16	32	92	16	3
E413V318000L	E413V318000LW	18	32	92	18	3
E413V320000L	E413V320000LW	20	38	104	20	3

Material	**Aluminum alloy (AL5052 / 6061 / 7075)**			
Vc	200 ~ 400 m/min		150 ~ 300 m/min	
Dia. (d)	RPM	fz (mm/z)	RPM	fz (mm/z)
3mm	31820	0.02	23870	0.01
4mm	23870	0.03	17900	0.02
5mm	19090	0.03	14320	0.02
6mm	15910	0.05	11930	0.03
8mm	11930	0.07	8950	0.04
10mm	9550	0.09	7160	0.06
12mm	7960	0.11	5970	0.08
16mm	5970	0.15	4480	0.10
	ap = 1.5d ae = 0.1 ~ 0.5d		ap = 0.5 ~ 1d ae = 1d	

※When machining Aluminum alloy with Si ≥ 8% , reduce RPM 30% and Feed 30%.

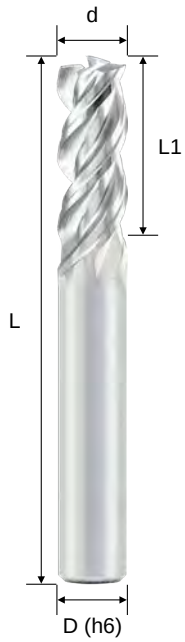
A100 - Square · Virable Pitch · Standard · 3F (Inch) 不等分割平銑刀・3 刃 (英吋)

- Variable pitch is unequal flute spacing, good for high performance machining.
- No chattering surface due to anti-vibration design.
- **Polished and U flute designs** provide excellent chip evacuation.
- Good for semi-fininshing and roughing of aluminum parts(5052/6061/7075).

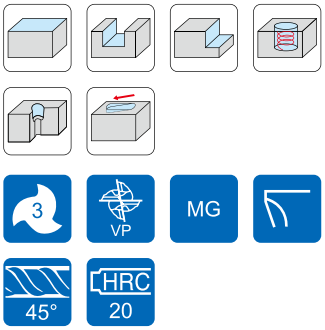
ANSI (Inch)

ENS□V

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
ENS2V30120500	1/8	1/2	2	1/8	3
ENS2V30250300	1/4	3/8	2	1/4	3
ENS2V30310500	5/16	1/2	2	5/16	3
ENS2V30370600	3/8	5/8	3	3/8	3
ENS3V30371000	3/8	1	3	3/8	3
ENS2V30501000	1/2	1	3	1/2	3
ENS3V30621600	5/8	1 5/8	3 1/2	5/8	3



d Tolerance	
d	.000 ~ -.002"

Material	Aluminum alloy (AL5052 / 6061 / 7075)			
Vc	650 ~ 1300 SFM		490 ~ 980 SFM	
Dia. (d)	RPM	fz (inch/z)	RPM	fz (inch/z)
1/8	31820	.0008	23870	.0004
1/4	15910	.0020	11930	.0012
5/16	11930	.0028	8950	.0016
3/8	9550	.0035	7160	.0024
1/2	7960	.0043	5970	.0031
5/8	5970	.0059	4480	.0039
	ap = 1.5d ae = 0.1 ~ 0.5d		ap = 0.5 ~ 1d ae = 1d	
※When machining Aluminum alloy with Si ≥ 8% , reduce RPM 30% and Feed 30%.				

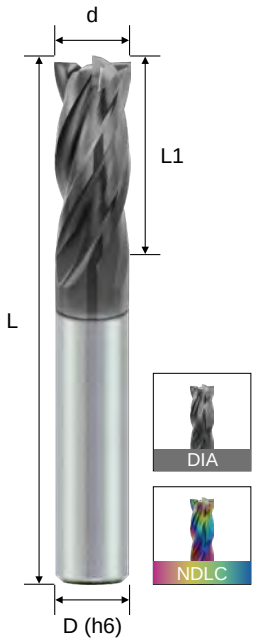
A200 - Square · Standard · 4F 平銑刀・標準型・4 刃

- Suitable for Graphite.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.
- High precision cutting for side milling.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

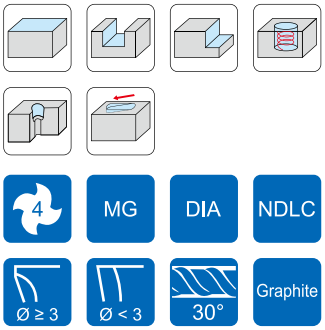
ASIA (Metric)

EGSSC

P	M	K	N	S	H
			●		



Order No.		Dia.	CL	OAL	Shank	Flutes
DIA	NDLC	(d)	(L1)	(L)	(D)	(Z)
EGSSC443000D	EGSSC443000L	3	8	50	4	4
EGSSC444000D	EGSSC444000L	4	10	50	4	4
EGSSC404000D	EGSSC404000L	4	10	50	6	4
EGSSC405000D	EGSSC405000L	5	13	50	6	4
EGSSC406000D	EGSSC406000L	6	15	50	6	4
EGSSC408000D	EGSSC408000L	8	20	60	8	4
EGSSC410000D	EGSSC410000L	10	25	75	10	4
EGSSC412000D	EGSSC412000L	12	30	75	12	4



d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Graphite					
Dia (mm)	RPM	fz (mm/z)	Side Milling		Slot Milling	
			ap (mm)	ae (mm)	ap (mm)	ae (mm)
3	10000 ~ Max.	0.012 ~ 0.018	1×d	0.1×d	0.25×d	1×d
4	10000 ~ Max.	0.016 ~ 0.024	1×d	0.1×d	0.25×d	1×d
5	10000 ~ Max.	0.020 ~ 0.030	1×d	0.1×d	0.25×d	1×d
6	10000 ~ Max.	0.024 ~ 0.036	1×d	0.1×d	0.25×d	1×d
8	10000 ~ Max.	0.026 ~ 0.038	1×d	0.1×d	0.25×d	1×d
10	10000 ~ Max.	0.032 ~ 0.048	1×d	0.1×d	0.25×d	1×d
12	10000 ~ Max.	0.038 ~ 0.058	1×d	0.1×d	0.25×d	1×d

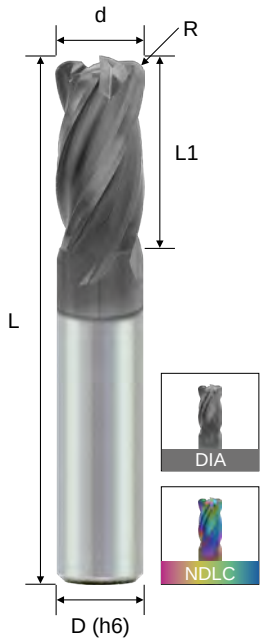
A200 - Corner Radius · Standard · 4F 圓鼻銑刀・標準型・4 刃

- Suitable for Graphite.
- Corner radius with multiple design increases the finish milling surface.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

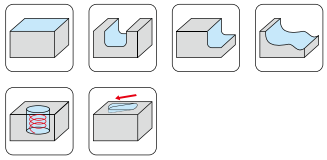
ASIA (Metric)

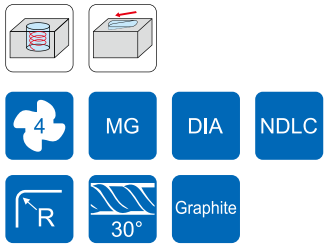
EGCSC

P	M	K	N	S	H
			●		



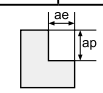
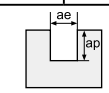
Order No.		Dia.	Radius	CL	OAL	Shank	Flutes
DIA	NDLC	(d)	(R)	(L1)	(L)	(D)	(Z)
EGCSC443003D	EGCSC443003L	3	0.3R	6	50	4	4
EGCSC443005D	EGCSC443005L	3	0.5R	6	50	4	4
EGCSC443010D	EGCSC443010L	3	1.0R	6	50	4	4
EGCSC403003D	EGCSC403003L	3	0.3R	6	50	6	4
EGCSC403005D	EGCSC403005L	3	0.5R	6	50	6	4
EGCSC403010D	EGCSC403010L	3	1.0R	6	50	6	4
EGCSC444003D	EGCSC444003L	4	0.3R	8	50	4	4
EGCSC444005D	EGCSC444005L	4	0.5R	8	50	4	4
EGCSC444010D	EGCSC444010L	4	1.0R	8	50	4	4
EGCSC404003D	EGCSC404003L	4	0.3R	8	50	6	4
EGCSC404005D	EGCSC404005L	4	0.5R	8	50	6	4
EGCSC404010D	EGCSC404010L	4	1.0R	8	50	6	4
EGCSC405005D	EGCSC405005L	5	0.5R	10	50	6	4
EGCSC405010D	EGCSC405010L	5	1.0R	10	50	6	4
EGCSC406003D	EGCSC406003L	6	0.3R	12	50	6	4
EGCSC406005D	EGCSC406005L	6	0.5R	12	50	6	4
EGCSC406010D	EGCSC406010L	6	1.0R	12	50	6	4
EGCSC408005D	EGCSC408005L	8	0.5R	16	60	8	4
EGCSC408010D	EGCSC408010L	8	1.0R	16	60	8	4
EGCSC408015D	EGCSC408015L	8	1.5R	16	60	8	4
EGCSC410005D	EGCSC410005L	10	0.5R	20	75	10	4
EGCSC410010D	EGCSC410010L	10	1.0R	20	75	10	4
EGCSC410015D	EGCSC410015L	10	1.5R	20	75	10	4
EGCSC410020D	EGCSC410020L	10	2.0R	20	75	10	4
EGCSC412005D	EGCSC412005L	12	0.5R	24	75	12	4
EGCSC412010D	EGCSC412010L	12	1.0R	24	75	12	4
EGCSC412015D	EGCSC412015L	12	1.5R	24	75	12	4
EGCSC412020D	EGCSC412020L	12	2.0R	24	75	12	4
EGCSC412030D	EGCSC412030L	12	3.0R	24	75	12	4





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	Graphite					
Dia (mm)	RPM	fz (mm/z)	Side Milling		Slot Milling	
			ap (mm)	ae (mm)	ap (mm)	ae (mm)
3	10000 ~ Max.	0.012 ~ 0.018	1×d	0.1×d	0.25×d	1×d
4	10000 ~ Max.	0.016 ~ 0.024	1×d	0.1×d	0.25×d	1×d
5	10000 ~ Max.	0.020 ~ 0.030	1×d	0.1×d	0.25×d	1×d
6	10000 ~ Max.	0.024 ~ 0.036	1×d	0.1×d	0.25×d	1×d
8	10000 ~ Max.	0.026 ~ 0.038	1×d	0.1×d	0.25×d	1×d
10	10000 ~ Max.	0.032 ~ 0.048	1×d	0.1×d	0.25×d	1×d
12	10000 ~ Max.	0.038 ~ 0.058	1×d	0.1×d	0.25×d	1×d
						

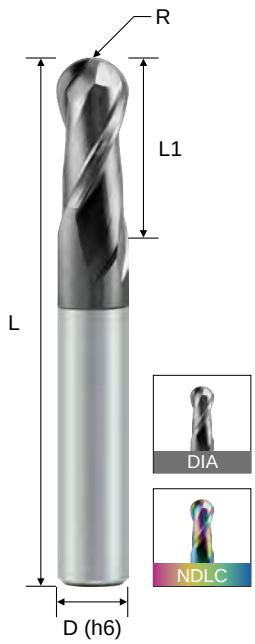
A200 - Ball Nose · Standard · 2F 球型銑刀・標準型・2 刃

- Suitable for Graphite.
- New tool geometry increases wear resistance and cutting force is decreased.
- Suitable for high speed profile surface milling.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

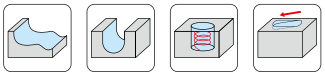
ASIA (Metric)

EGBSC

P	M	K	N	S	H
			●		



Order No.		Radius	Dia.	CL	OAL	Shank	Flutes
DIA	NDLC	(R)	(d)	(L1)	(L)	(D)	(Z)
EGBSC240200D	EGBSC240200L	0.10R	0.2	0.4	50	4	2
EGBSC240300D	EGBSC240300L	0.15R	0.3	0.6	50	4	2
EGBSC240400D	EGBSC240400L	0.20R	0.4	0.8	50	4	2
EGBSC240500D	EGBSC240500L	0.25R	0.5	1.0	50	4	2
EGBSC240600D	EGBSC240600L	0.30R	0.6	1.2	50	4	2
EGBSC240700D	EGBSC240700L	0.35R	0.7	1.4	50	4	2
EGBSC240800D	EGBSC240800L	0.40R	0.8	1.6	50	4	2
EGBSC240900D	EGBSC240900L	0.45R	0.9	1.8	50	4	2
EGBSC241000D	EGBSC241000L	0.50R	1.0	2.0	50	4	2
EGBSC241500D	EGBSC241500L	0.75R	1.5	3.0	50	4	2
EGBSC242000D	EGBSC242000L	1.00R	2.0	4.0	50	4	2
EGBSC243000D	EGBSC243000L	1.50R	3.0	6.0	50	4	2
EGBSC244000D	EGBSC244000L	2.00R	4.0	8.0	50	4	2
EGBSC204000D	EGBSC204000L	2.00R	4.0	8.0	50	6	2
EGBSC205000D	EGBSC205000L	2.50R	5.0	10.0	50	6	2
EGBSC206000D	EGBSC206000L	3.00R	6.0	12.0	50	6	2
EGBSC208000D	EGBSC208000L	4.00R	8.0	16.0	60	8	2
EGBSC210000D	EGBSC210000L	5.00R	10.0	20.0	75	10	2
EGBSC212000D	EGBSC212000L	6.00R	12.0	24.0	75	12	2

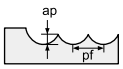


2 | MG | DIA | NDLC

R | 30° | Graphite

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	Graphite		
Dia (mm)	RPM	ap (mm)	ae (mm)
2	10000 ~ Max.	0.1	0.1
3	10000 ~ Max.	0.1	0.15
4	10000 ~ Max.	0.2	0.2
6	10000 ~ Max.	0.2	0.3
8	10000 ~ Max.	0.25	0.3
10	10000 ~ Max.	0.3	0.4
12	10000 ~ Max.	0.3	0.4



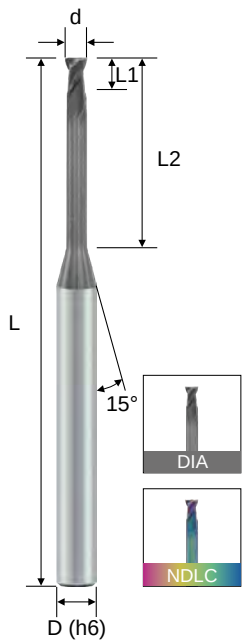
A200 - Long Neck · Square · 2F 長頸型・平銑刀・2 刃

- Suitable for Graphite.
- Available in various effective length.
- Suitable for deep cutting application.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

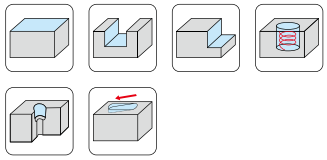
ASIA (Metric)

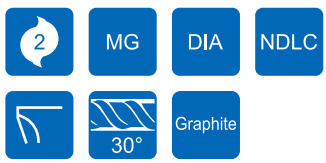
EGSRC

P	M	K	N	S	H
			●		



Order No.		Dia.	CL	EFF-L	OAL	Shank	Flutes
DIA	NDLC	(d)	(L1)	(L2)	(L)	(D)	(Z)
EGSRC240504D	EGSRC240504L	0.5	0.6	4	50	4	2
EGSRC240506D	EGSRC240506L	0.5	0.6	6	50	4	2
EGSRC240508D	EGSRC240508L	0.5	0.6	8	50	4	2
EGSRC241006D	EGSRC241006L	1.0	1.2	6	50	4	2
EGSRC241008D	EGSRC241008L	1.0	1.2	8	50	4	2
EGSRC241012D	EGSRC241012L	1.0	1.2	12	50	4	2
EGSRC241016D	EGSRC241016L	1.0	1.2	16	50	4	2
EGSRC241020D	EGSRC241020L	1.0	1.2	20	50	4	2
EGSRC241508D	EGSRC241508L	1.5	1.8	8	50	4	2
EGSRC241512D	EGSRC241512L	1.5	1.8	12	50	4	2
EGSRC241516D	EGSRC241516L	1.5	1.8	16	50	4	2
EGSRC241520D	EGSRC241520L	1.5	1.8	20	50	4	2
EGSRC242010D	EGSRC242010L	2.0	2.5	10	50	4	2
EGSRC242016D	EGSRC242016L	2.0	2.5	16	50	4	2
EGSRC242020D	EGSRC242020L	2.0	2.5	20	50	4	2
EGSRC242025D	EGSRC242025L	2.0	2.5	25	60	4	2
EGSRC203012D	EGSRC203012L	3.0	3.5	12	50	6	2
EGSRC203020D	EGSRC203020L	3.0	3.5	20	60	6	2
EGSRC203025D	EGSRC203025L	3.0	3.5	25	60	6	2
EGSRC203030D	EGSRC203030L	3.0	3.5	30	75	6	2
EGSRC204016D	EGSRC204016L	4.0	4.5	16	50	6	2
EGSRC204020D	EGSRC204020L	4.0	4.5	20	60	6	2
EGSRC204025D	EGSRC204025L	4.0	4.5	25	60	6	2
EGSRC204030D	EGSRC204030L	4.0	4.5	30	75	6	2
EGSRC204035D	EGSRC204035L	4.0	4.5	35	75	6	2
EGSRC205020D	EGSRC205020L	5.0	7.0	20	60	6	2
EGSRC205025D	EGSRC205025L	5.0	7.0	25	60	6	2
EGSRC205030D	EGSRC205030L	5.0	7.0	30	75	6	2
EGSRC205035D	EGSRC205035L	5.0	7.0	35	75	6	2
EGSRC206020D	EGSRC206020L	6.0	10.0	20	60	6	2
EGSRC206030D	EGSRC206030L	6.0	10.0	30	75	6	2





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Graphite					
Dia (mm)	RPM	fz (mm/z)	Side Milling		Slot Milling	
			ap (mm)	ae (mm)	ap (mm)	ae (mm)
3	10000 ~ Max.	0.008 ~ 0.013	1×d	0.1×d	0.25×d	1×d
4	10000 ~ Max.	0.011 ~ 0.017	1×d	0.1×d	0.25×d	1×d
5	10000 ~ Max.	0.014 ~ 0.021	1×d	0.1×d	0.25×d	1×d
6	10000 ~ Max.	0.017 ~ 0.025	1×d	0.1×d	0.25×d	1×d
8	10000 ~ Max.	0.018 ~ 0.027	1×d	0.1×d	0.25×d	1×d
10	10000 ~ Max.	0.022 ~ 0.034	1×d	0.1×d	0.25×d	1×d
12	10000 ~ Max.	0.027 ~ 0.041	1×d	0.1×d	0.25×d	1×d

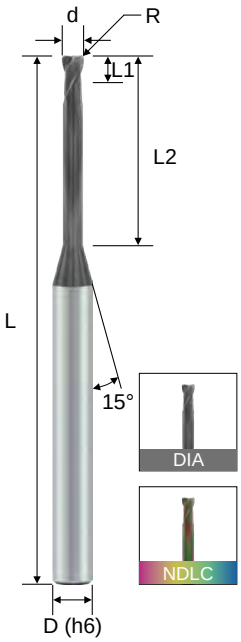
A200 - Long Neck · Corner Radius · 2F 長頸型・圓鼻銑刀・2 刃

- Suitable for Graphite.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

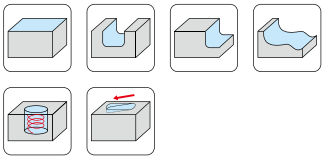
ASIA (Metric)

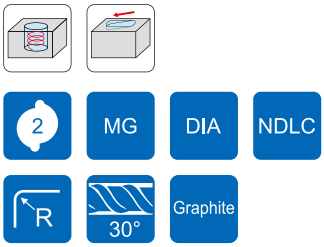
EGCRC

P	M	K	N	S	H
			●		



Order No.		Dia.	Radius	CL	EFF-L	OAL	Shank	Flutes
DIA	NDLC	(d)	(R)	(L1)	(L2)	(L)	(D)	(Z)
EGCRC24100106D	EGCRC24100106L	1	0.1R	1	6	50	4	2
EGCRC24100108D	EGCRC24100108L	1	0.1R	1	8	50	4	2
EGCRC24100110D	EGCRC24100110L	1	0.1R	1	10	50	4	2
EGCRC24100112D	EGCRC24100112L	1	0.1R	1	12	50	4	2
EGCRC24200210D	EGCRC24200210L	2	0.2R	2	10	50	4	2
EGCRC24200216D	EGCRC24200216L	2	0.2R	2	16	50	4	2
EGCRC24200220D	EGCRC24200220L	2	0.2R	2	20	50	4	2
EGCRC24200225D	EGCRC24200225L	2	0.2R	2	25	60	4	2
EGCRC24200510D	EGCRC24200510L	2	0.5R	2	10	50	4	2
EGCRC24200516D	EGCRC24200516L	2	0.5R	2	16	50	4	2
EGCRC24200520D	EGCRC24200520L	2	0.5R	2	20	50	4	2
EGCRC24200525D	EGCRC24200525L	2	0.5R	2	25	60	4	2
EGCRC20300210D	EGCRC20300210L	3	0.2R	3	10	50	6	2
EGCRC20300220D	EGCRC20300220L	3	0.2R	3	20	60	6	2
EGCRC20300230D	EGCRC20300230L	3	0.2R	3	30	75	6	2
EGCRC20300510D	EGCRC20300510L	3	0.5R	3	10	50	6	2
EGCRC20300520D	EGCRC20300520L	3	0.5R	3	20	60	6	2
EGCRC20300530D	EGCRC20300530L	3	0.5R	3	30	75	6	2
EGCRC20400516D	EGCRC20400516L	4	0.5R	4	16	60	6	2
EGCRC20400525D	EGCRC20400525L	4	0.5R	4	25	60	6	2
EGCRC20400535D	EGCRC20400535L	4	0.5R	4	35	75	6	2
EGCRC20401016D	EGCRC20401016L	4	1.0R	4	16	60	6	2
EGCRC20401025D	EGCRC20401025L	4	1.0R	4	25	60	6	2
EGCRC20401035D	EGCRC20401035L	4	1.0R	4	35	75	6	2
EGCRC20500520D	EGCRC20500520L	5	0.5R	5	20	60	6	2
EGCRC20500530D	EGCRC20500530L	5	0.5R	5	30	75	6	2
EGCRC20600520D	EGCRC20600520L	6	0.5R	7	20	60	6	2
EGCRC20600530D	EGCRC20600530L	6	0.5R	7	30	75	6	2
EGCRC20601020D	EGCRC20601020L	6	1.0R	7	20	60	6	2
EGCRC20601030D	EGCRC20601030L	6	1.0R	7	30	75	6	2





d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

R Tolerance	
R < 2	±0.015
R ≥ 2	±0.020

Material	Graphite					
Dia (mm)	RPM	fz (mm/z)	Side Milling		Slot Milling	
			ap (mm)	ae (mm)	ap (mm)	ae (mm)
3	10000 ~ Max.	0.008 ~ 0.013	1×d	0.1×d	0.25×d	1×d
4	10000 ~ Max.	0.011 ~ 0.017	1×d	0.1×d	0.25×d	1×d
5	10000 ~ Max.	0.014 ~ 0.021	1×d	0.1×d	0.25×d	1×d
6	10000 ~ Max.	0.017 ~ 0.025	1×d	0.1×d	0.25×d	1×d
8	10000 ~ Max.	0.018 ~ 0.027	1×d	0.1×d	0.25×d	1×d
10	10000 ~ Max.	0.022 ~ 0.034	1×d	0.1×d	0.25×d	1×d
12	10000 ~ Max.	0.027 ~ 0.041	1×d	0.1×d	0.25×d	1×d

A200 - Long Neck · Ball Nose · 2F

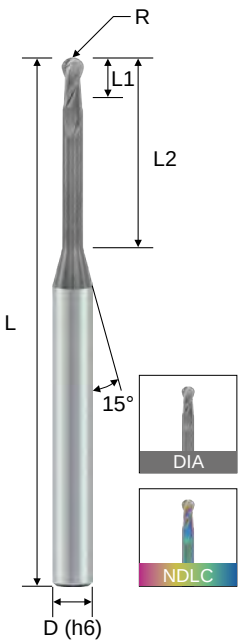
長頸型・球型銑刀・2 刃

- Suitable for Graphite.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.

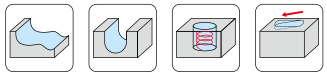
ASIA (Metric)

EGBRC

P	M	K	N	S	H
			●		



Order No.		Radius	Dia.	CL	EFF-L	OAL	Shank	Flutes
DIA	NDLC	(R)	(d)	(L1)	(L2)	(L)	(D)	(Z)
EGBRC240504D	EGBRC240504L	0.25R	0.5	0.5	4	50	4	2
EGBRC240506D	EGBRC240506L	0.25R	0.5	0.5	6	50	4	2
EGBRC240508D	EGBRC240508L	0.25R	0.5	0.5	8	50	4	2
EGBRC241006D	EGBRC241006L	0.50R	1.0	1.0	6	50	4	2
EGBRC241008D	EGBRC241008L	0.50R	1.0	1.0	8	50	4	2
EGBRC241012D	EGBRC241012L	0.50R	1.0	1.0	12	50	4	2
EGBRC241016D	EGBRC241016L	0.50R	1.0	1.0	16	50	4	2
EGBRC241020D	EGBRC241020L	0.50R	1.0	1.0	20	50	4	2
EGBRC241508D	EGBRC241508L	0.75R	1.5	1.5	8	50	4	2
EGBRC241512D	EGBRC241512L	0.75R	1.5	1.5	12	50	4	2
EGBRC241516D	EGBRC241516L	0.75R	1.5	1.5	16	50	4	2
EGBRC241520D	EGBRC241520L	0.75R	1.5	1.5	20	50	4	2
EGBRC242010D	EGBRC242010L	1.00R	2.0	2.0	10	50	4	2
EGBRC242016D	EGBRC242016L	1.00R	2.0	2.0	16	50	4	2
EGBRC242020D	EGBRC242020L	1.00R	2.0	2.0	20	50	4	2
EGBRC242025D	EGBRC242025L	1.00R	2.0	2.0	25	60	4	2
EGBRC203012D	EGBRC203012L	1.50R	3.0	3.0	12	50	6	2
EGBRC203016D	EGBRC203016L	1.50R	3.0	3.0	16	60	6	2
EGBRC203020D	EGBRC203020L	1.50R	3.0	3.0	20	60	6	2
EGBRC203025D	EGBRC203025L	1.50R	3.0	3.0	25	60	6	2
EGBRC203030D	EGBRC203030L	1.50R	3.0	3.0	30	75	6	2
EGBRC204016D	EGBRC204016L	2.00R	4.0	4.0	16	60	6	2
EGBRC204020D	EGBRC204020L	2.00R	4.0	4.0	20	60	6	2
EGBRC204025D	EGBRC204025L	2.00R	4.0	4.0	25	60	6	2
EGBRC204030D	EGBRC204030L	2.00R	4.0	4.0	30	75	6	2
EGBRC205020D	EGBRC205020L	2.50R	5.0	5.0	20	60	6	2
EGBRC205025D	EGBRC205025L	2.50R	5.0	5.0	25	60	6	2
EGBRC205030D	EGBRC205030L	2.50R	5.0	5.0	30	75	6	2
EGBRC206020D	EGBRC206020L	3.00R	6.0	10.0	20	60	6	2
EGBRC206030D	EGBRC206030L	3.00R	6.0	10.0	30	75	6	2

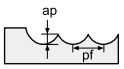


2 | MG | DIA | NDLC

R | 30° | Graphite

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020

Material	Graphite		
Dia (mm)	RPM	ap (mm)	ae (mm)
2	10000 ~ Max.	0.1	0.1
3	10000 ~ Max.	0.1	0.15
4	10000 ~ Max.	0.2	0.2
6	10000 ~ Max.	0.2	0.3
8	10000 ~ Max.	0.25	0.3
10	10000 ~ Max.	0.3	0.4
12	10000 ~ Max.	0.3	0.4



A300 - Square · CFRP Roughing · 7~17F

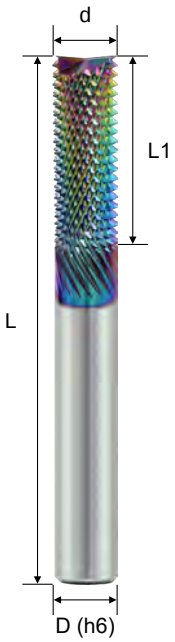
平銑刀 - CFRP 粗銑用・7~17 刃

- For CFRP/Kevlar rough milling.
- Right helix and left helix design.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

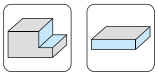
ASIA (Metric)

ECSSR

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
NDLC Nano DLC coating					
ECSSR703000L	3	9	60	6	7
ECSSR804000L	4	12	60	6	8
ECSSR106000L	6	18	60	6	11
ECSSR408000L	8	24	60	8	14
ECSSR610000L	10	30	75	10	16
ECSSR712000L	12	36	100	12	17
DIA Diamond Coating					
ECSSR703000D	3	9	60	6	7
ECSSR804000D	4	12	60	6	8
ECSSR106000D	6	18	60	6	11
ECSSR408000D	8	24	60	8	14
ECSSR610000D	10	30	75	10	16
ECSSR712000D	12	36	100	12	17



MG | NDLC | DIA | ±25°

Material	CFRP		GFRP	
Vc	140 ~ 200 m/min		90 ~ 140 m/min	
Dia. (d)	RPM	fz (mm/tooth)	RPM	fz (mm/tooth)
6	9020	0.020	6100	0.020
8	6760	0.030	4570	0.030
10	5410	0.030	3660	0.030
12	4510	0.035	3050	0.035
	ap = 2d ae ≤ 0.35d			

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

A300 - Square · Kevlar · 4F

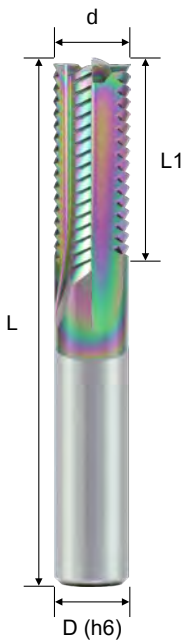
平銑刀 - 克維拉纖維材料用・4 刃

- For Kevlar/CFRP general milling.
- Up & Down chip breaker and center cutting design.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

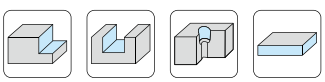
ASIA (Metric)

ECSSK

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
	NDLC Nano DLC coating				
ECSSK404000L	4	12	60	6	4
ECSSK406000L	6	20	60	6	4
ECSSK408000L	8	25	75	8	4
ECSSK410000L	10	30	75	10	4
ECSSK412000L	12	35	100	12	4
	DIA Diamond Coating				
ECSSK404000D	4	12	60	6	4
ECSSK406000D	6	20	60	6	4
ECSSK408000D	8	25	75	8	4
ECSSK410000D	10	30	75	10	4
ECSSK412000D	12	35	100	12	4



4 | MG | NDLC | DIA

0°

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	Kevlar / CFRP			
Vc	150 ~ 450 m/min		125 ~ 150 m/min	
Dia. (d)	RPM	fz (mm/tooth)	RPM	fr (mm/rev.)
4	23800	0.03	11000	0.05
6	16000	0.05	7400	0.07
8	12000	0.07	5500	0.10
10	9600	0.10	4400	0.15
12	8000	0.12	3700	0.20
	ap ≤ 2.5d ae ≤ 0.35d		Drilling	

A300 - Square · CFRP Finishing · 6F / 8F

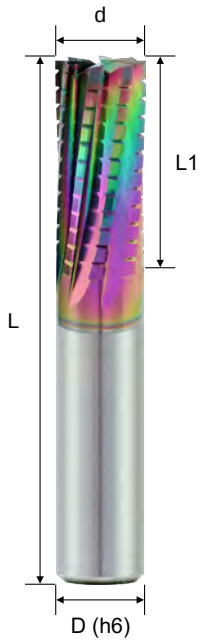
平銑刀 - CFRP 精銑用・6 刃 / 8 刃

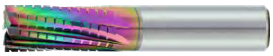
- For CFRP/GFRP multi-purpose finish milling.
- Multi flutes and fine pitch nick geometry design.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

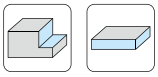
ASIA (Metric)

ECSSF

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
 NDLC Nano DLC coating					
ECSSF606000L	6	15	60	6	6
ECSSF608000L	8	20	75	8	6
ECSSF810000L	10	25	75	10	8
ECSSF812000L	12	30	100	12	8
DIA Diamond Coating					
ECSSF606000D	6	15	60	6	6
ECSSF608000D	8	20	75	8	6
ECSSF810000D	10	25	75	10	8
ECSSF812000D	12	30	100	12	8



6 | 8 | MG | NDLC | DIA | 8°

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

Material	CFRP		GFRP	
Vc	160 ~ 220 m/min		100 ~ 160 m/min	
Dia. (d)	RPM	fz (mm/tooth)	RPM	fz (mm/tooth)
6	10080	0.020	6900	0.020
8	7560	0.030	5170	0.030
10	6050	0.030	4140	0.030
12	5040	0.035	3450	0.035
	ap = 1.5d ae ≤ 0.35d			

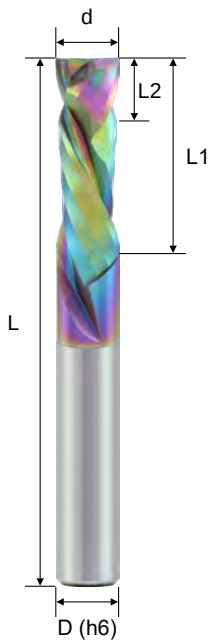
A300 - Square · Compression · Standard · 2F / 3F 複合平銑刀・標準型・2 刃 / 3 刃

- Suitable for CFRP/GFRP.
- Up and down cut design counteracts cutting forces to avoid burrs, tears and delamination.
- NDLC - Nano DLC coating provides exceptional wear resistance and good tool life.
- DIA - Diamond coating provides exceptional wear resistance and good tool life.

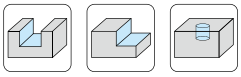
ASIA (Metric)

ECSSD

P	M	K	N	S	H
			●		



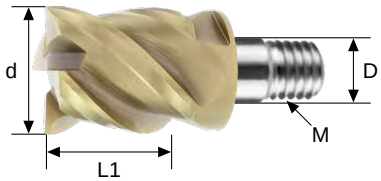
Order No.	Dia. (d)	CL (L1)	Overlap Center (L2)	OAL (L)	Shank (D)	Flutes (Z)
NDLC Nano DLC coating						
Unit : Metric						
ECSSD206180L	6	18	6	60	6	2
ECSSD208240L	8	24	8	75	8	2
ECSSD210300L	10	30	10	75	10	2
ECSSD310300L	10	30	10	75	10	3
ECSSD212360L	12	36	12	75	12	2
ECSSD312360L	12	36	12	75	12	3
Unit : Inch						
ECS3D20250700L	1/4	3/4	1/4	2 1/2	1/4	2
ECS3D20311000L	5/16	1	5/16	3	5/16	2
ECS3D20371100L	3/8	1 1/8	3/8	3	3/8	2
ECS3D30371100L	3/8	1 1/8	3/8	3	3/8	3
ECS3D20501500L	1/2	1 1/2	1/2	3	1/2	2
ECS3D30501500L	1/2	1 1/2	1/2	3	1/2	3
DIA Diamond Coating						
Unit : Metric						
ECSSD206180D	6	18	6	60	6	2
ECSSD208240D	8	24	8	75	8	2
ECSSD210300D	10	30	10	75	10	2
ECSSD310300D	10	30	10	75	10	3
ECSSD212360D	12	36	12	75	12	2
ECSSD312360D	12	36	12	75	12	3
Unit : Inch						
ECS3D20250700D	1/4	3/4	1/4	2 1/2	1/4	2
ECS3D20311000D	5/16	1	5/16	3	5/16	2
ECS3D20371100D	3/8	1 1/8	3/8	3	3/8	2
ECS3D30371100D	3/8	1 1/8	3/8	3	3/8	3
ECS3D20501500D	1/2	1 1/2	1/2	3	1/2	2
ECS3D30501500D	1/2	1 1/2	1/2	3	1/2	3

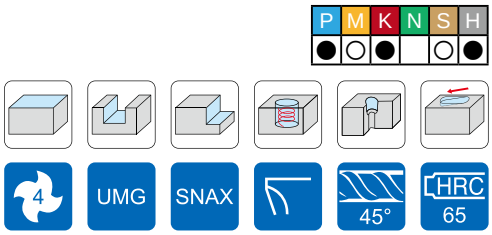


2 | 3 | MG | NDLC | DIA

d Tolerance	
d ≤ 6	0 ~ -0.03
6 < d ≤ 12	0 ~ -0.04
d > 12	0 ~ -0.05

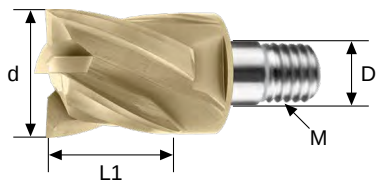
EHSWH Square Solid Head (for hardened steel) 全鎢鋼平銑刀頭 (高硬鋼用)

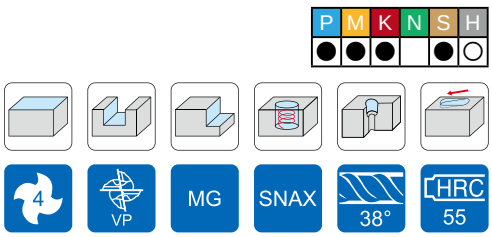




Order No.	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHSWH410000S	10	10	6.5	M6	4
EHSWH412000S	12	12	6.5	M6	4
EHSWH416000S	16	16	8.5	M8	4
EHSWH420000S	20	20	10.5	M10	4

EPSWV Square Solid Head, Unequal spacing (for Exotic) 全鎢鋼平銑刀頭 , 不等分割 (難切削材用)

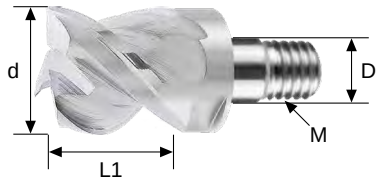


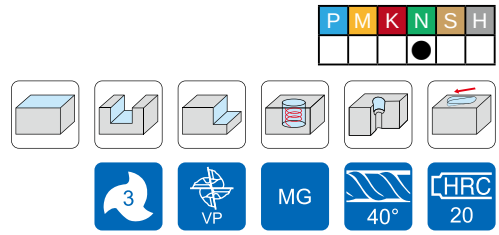


Order No.	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EPSWV410000S	10	10	6.5	M6	4
EPSWV412000S	12	12	6.5	M6	4
EPSWV416000S	16	16	8.5	M8	4
EPSWV420000S	20	20	10.5	M10	4

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

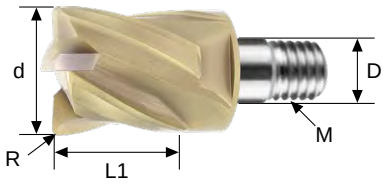
ENSWV Square Solid Head, Unequal spacing (for non-ferrous) 全鎢鋼平銑刀頭 , 不等分割 (非鐵金屬用)

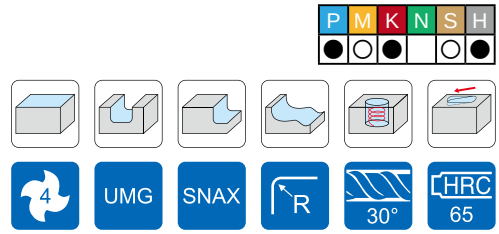




Order No.	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
ENSWV310000	10	10	6.5	M6	3
ENSWV312000	12	12	6.5	M6	3
ENSWV316000	16	16	8.5	M8	3
ENSWV320000	20	20	10.5	M10	3

EHCWH Corner Radius Solid Head (for hardened steel) 全鎢鋼圓鼻銑刀頭 (高硬鋼用)

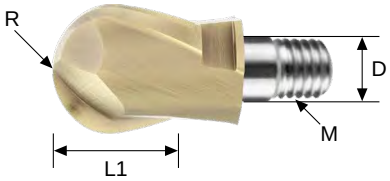


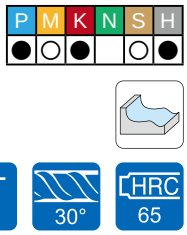


Order No.	Dia. (d)	Radius (R)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHCWH410005S	10	0.5R	10	6.5	M6	4
EHCWH410010S	10	1.0R	10	6.5	M6	4
EHCWH412005S	12	0.5R	12	6.5	M6	4
EHCWH412010S	12	1.0R	12	6.5	M6	4
EHCWH412020S	12	2.0R	12	6.5	M6	4
EHCWH412030S	12	3.0R	12	6.5	M6	4
EHCWH416010S	16	1.0R	16	8.5	M8	4
EHCWH416020S	16	2.0R	16	8.5	M8	4
EHCWH416030S	16	3.0R	16	8.5	M8	4
EHCWH416040S	16	4.0R	16	8.5	M8	4
EHCWH416050S	16	5.0R	16	8.5	M8	4
EHCWH420010S	20	1.0R	20	10.5	M10	4
EHCWH420020S	20	2.0R	20	10.5	M10	4
EHCWH420030S	20	3.0R	20	10.5	M10	4

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

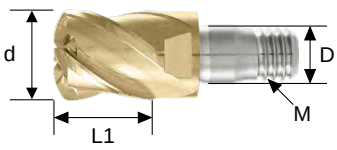
EHBWH Ball Nose Solid Head (for hardened steel) 全鎢鋼球形銑刀頭 (高硬鋼用)

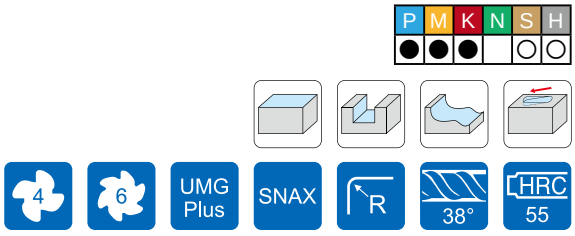




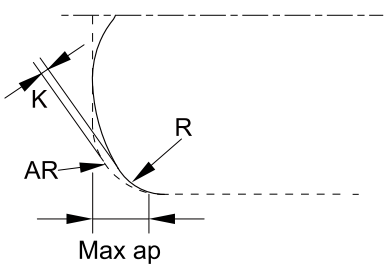
Order No.	Radius (R)	Dia. (d)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHBWH210000S	5R	10	10	6.5	M6	2
EHBWH212000S	6R	12	12	6.5	M6	2
EHBWH216000S	8R	16	16	8.5	M8	2
EHBWH220000S	10R	20	20	10.5	M10	2

EHWWA High Feed Solid Head 全鎢鋼高進給銑刀頭



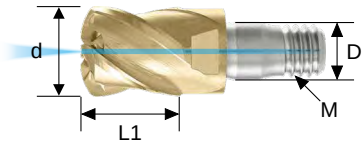


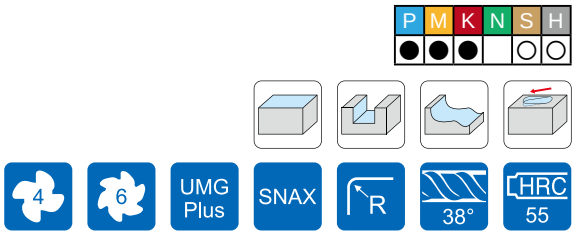
Order No.	Dia. (d)	Max ap	Radius (R)	Approx Radius (AR)	Uncut (K)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHWWA410001S	10	0.55	1.0	1.47	0.28	10	6.5	M6	4
EHWWA412001S	12	0.70	1.2	1.77	0.34	12	6.5	M6	4
EHWWA616001S	16	0.90	1.6	2.35	0.43	16	8.5	M8	6



※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

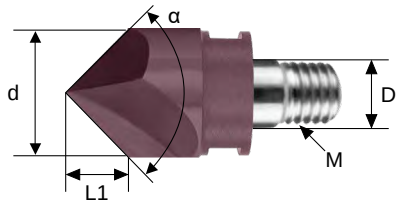
EHWWC High Feed Solid Head with Internal Coolant 全鎢鋼內冷高進給銑刀頭

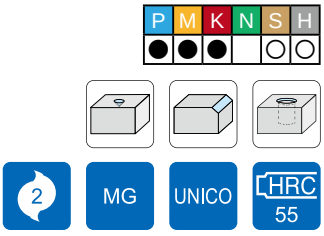




Order No.	Dia. (d)	Max ap	Radius (R)	Approx Radius (AR)	Uncut (K)	CL (L1)	ND (D)	M (M)	Flutes (Z)
EHWWC410001S	10	0.55	1.0	1.47	0.28	10	6.5	M6	4
EHWWC412001S	12	0.70	1.2	1.77	0.34	12	6.5	M6	4
EHWWC616001S	16	0.90	1.6	2.35	0.43	16	8.5	M8	6

EPFWA Chamfer & Spotting Solid Head (for universal) 全鎢鋼倒角＆定位刀頭(泛用)

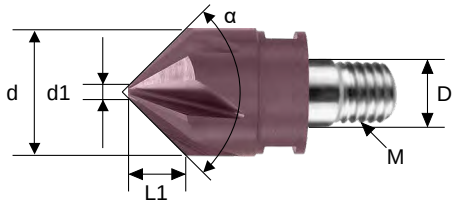


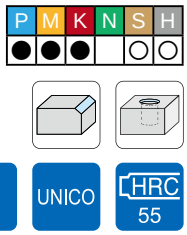


Order No.	Dia. (d)	CL (L1)	Tip Angle (α)	ND (D)	M (M)	Flutes (Z)
EPFWA210090U	10	5	90°	6.5	M6	2
EPFWA212090U	12	6	90°	6.5	M6	2
EPFWA216090U	16	8	90°	8.5	M8	2
EPFWA220090U	20	10	90°	10.5	M10	2

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

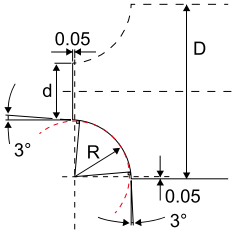
EPFWA Chamfer Solid Head (for universal) 全鎢鋼倒角刀頭 (泛用)

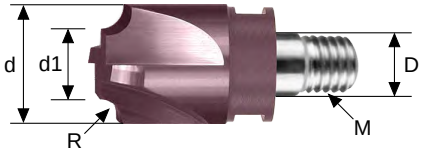




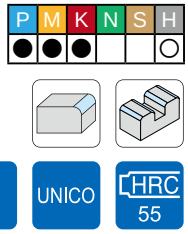
Order No.	Dia. (d)	Tip Dia. (d1)	CL (L1)	Tip Angle (α)	ND (D)	M (M)	Flutes (Z)
EPFWA410090U	10	1.5	4.25	90°	6.5	M6	4
EPFWA610090U	10	1.5	4.25	90°	6.5	M6	6
EPFWA412090U	12	2.0	5.00	90°	6.5	M6	4
EPFWA612090U	12	2.0	5.00	90°	6.5	M6	6
EPFWA616090U	16	2.5	6.75	90°	8.5	M8	6
EPFWA620090U	20	3.0	8.50	90°	10.5	M10	6

EPIWA Inner Radius Solid Head (for universal) 全鎢鋼內 R 角刀頭 (泛用)





R	Tolerance
R	±0.02

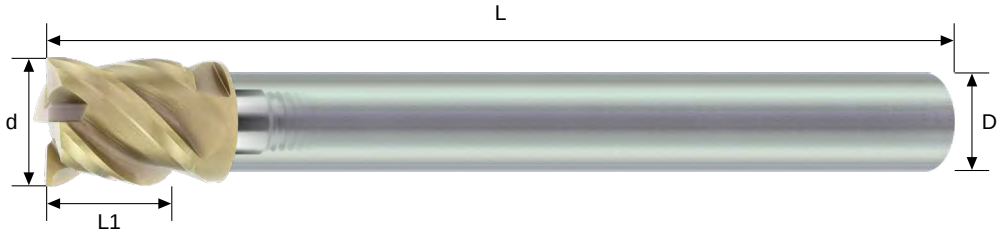


Order No.	Corner Radius (R)	Front Dia. (d1)	Dia. (d)	ND (D)	M (M)	Flutes (Z)
EPIWA405920U	2.0R	5.9	10	6.5	M6	4
EPIWA404925U	2.5R	4.9	10	6.5	M6	4
EPIWA405930U	3.0R	5.9	12	6.5	M6	4
EPIWA405531U	3.175R	5.55	12	6.5	M6	4
EPIWA403940U	4.0R	3.9	12	6.5	M6	4
EPIWA405950U	5.0R	5.9	16	8.5	M8	4
EPIWA403960U	6.0R	3.9	16	8.5	M8	4
EPIWA403263U	6.35R	3.2	16	8.5	M8	4

※ For screw-in type adapter, please refer to Tooling System 搭配鎖牙式刀桿，請參考刀具系統

EHSMH

P	M	K	N	S	H
●	○	●		○	●

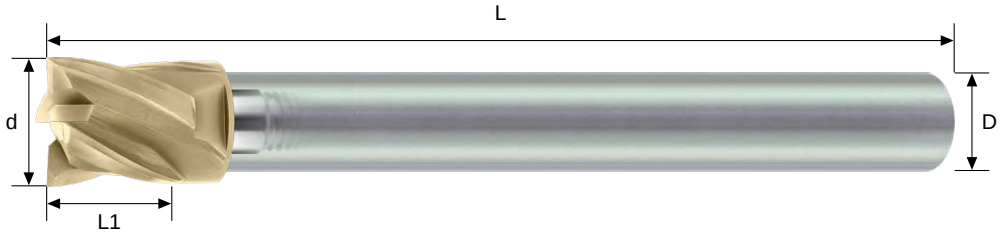


4 | UMG | SNAX | 45° | HRC 65

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
						Endmill Head	Adapter
EHSMH412000100S	12	12	117	10	4	EHSWH412000S	ISWMEA10100060
EHSMH412000150S	12	12	167	10	4	EHSWH412000S	ISWMEA10150060
EHSMH416000100S	16	16	122	14	4	EHSWH416000S	ISWMEA14100080
EHSMH416000150S	16	16	172	14	4	EHSWH416000S	ISWMEA14150080
EHSMH416000200S	16	16	222	14	4	EHSWH416000S	ISWMEA14200080
EHSMH420000150S	20	20	177	18	4	EHSWH420000S	ISWMEA18150100
EHSMH420000200S	20	20	227	18	4	EHSWH420000S	ISWMEA18200100

EPSMV

P	M	K	N	S	H
●	●	●		●	○

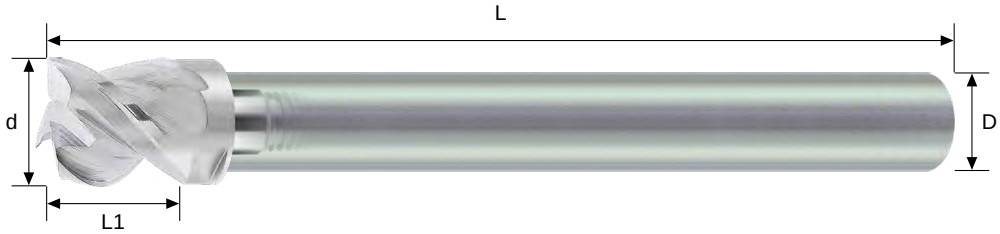


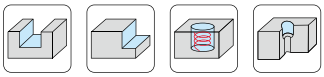
4 | VP | MG | SNAX | 38° | HRC 55

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
						Endmill Head	Adapter
EPSMV412000100S	12	12	117	10	4	EPSWV412000S	ISWMEA10100060
EPSMV412000150S	12	12	167	10	4	EPSWV412000S	ISWMEA10150060
EPSMV416000100S	16	16	122	14	4	EPSWV416000S	ISWMEA14100080
EPSMV416000150S	16	16	172	14	4	EPSWV416000S	ISWMEA14150080
EPSMV416000200S	16	16	222	14	4	EPSWV416000S	ISWMEA14200080
EPSMV420000150S	20	20	177	18	4	EPSWV420000S	ISWMEA18150100
EPSMV420000200S	20	20	227	18	4	EPSWV420000S	ISWMEA18200100

ENSMV

P	M	K	N	S	H
			●		

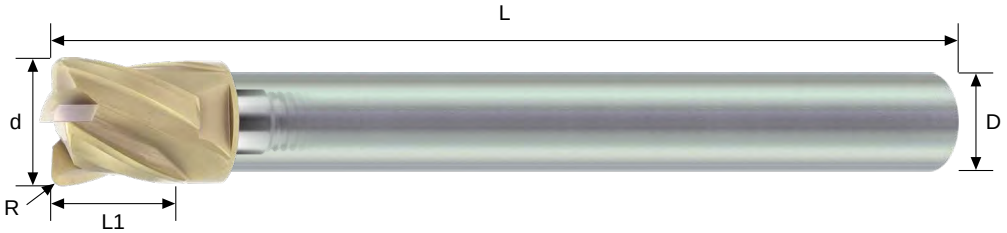




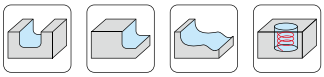
Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
						Endmill Head	Adapter
ENSMV312000100	12	12	117	10	3	ENSWV312000	ISWMEA10100060
ENSMV312000150	12	12	167	10	3	ENSWV312000	ISWMEA10150060
ENSMV316000100	16	16	122	14	3	ENSWV316000	ISWMEA14100080
ENSMV316000150	16	16	172	14	3	ENSWV316000	ISWMEA14150080
ENSMV316000200	16	16	222	14	3	ENSWV316000	ISWMEA14200080
ENSMV320000150	20	20	177	18	3	ENSWV320000	ISWMEA18150100
ENSMV320000200	20	20	227	18	3	ENSWV320000	ISWMEA18200100

EHCMH

P	M	K	N	S	H
●	○	●		○	●



4 | UMG | SNAX | R | 30° | HRC 65



Order No.	Dia. (d)	Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
							Endmill Head	Adapter
EHCMH412005100S	12	0.5R	12	117	10	4	EHCWH412005S	ISWMEA10100060
EHCMH412005150S	12	0.5R	12	167	10	4	EHCWH412005S	ISWMEA10150060
EHCMH412010100S	12	1.0R	12	117	10	4	EHCWH412010S	ISWMEA10100060
EHCMH412010150S	12	1.0R	12	167	10	4	EHCWH412010S	ISWMEA10150060
EHCMH412020100S	12	2.0R	12	117	10	4	EHCWH412020S	ISWMEA10100060
EHCMH412020150S	12	2.0R	12	167	10	4	EHCWH412020S	ISWMEA10150060
EHCMH412030100S	12	3.0R	12	117	10	4	EHCWH412030S	ISWMEA10100060
EHCMH412030150S	12	3.0R	12	167	10	4	EHCWH412030S	ISWMEA10150060
EHCMH416010100S	16	1.0R	16	122	14	4	EHCWH416010S	ISWMEA14100080
EHCMH416010150S	16	1.0R	16	172	14	4	EHCWH416010S	ISWMEA14150080
EHCMH416010200S	16	1.0R	16	222	14	4	EHCWH416010S	ISWMEA14200080
EHCMH416020100S	16	2.0R	16	122	14	4	EHCWH416020S	ISWMEA14100080
EHCMH416020150S	16	2.0R	16	172	14	4	EHCWH416020S	ISWMEA14150080
EHCMH416020200S	16	2.0R	16	222	14	4	EHCWH416020S	ISWMEA14200080
EHCMH416030100S	16	3.0R	16	122	14	4	EHCWH416030S	ISWMEA14100080
EHCMH416030150S	16	3.0R	16	172	14	4	EHCWH416030S	ISWMEA14150080
EHCMH416030200S	16	3.0R	16	222	14	4	EHCWH416030S	ISWMEA14200080
EHCMH416040100S	16	4.0R	16	122	14	4	EHCWH416040S	ISWMEA14100080
EHCMH416040150S	16	4.0R	16	172	14	4	EHCWH416040S	ISWMEA14150080
EHCMH416040200S	16	4.0R	16	222	14	4	EHCWH416040S	ISWMEA14200080
EHCMH416050100S	16	5.0R	16	122	14	4	EHCWH416050S	ISWMEA14100080
EHCMH416050150S	16	5.0R	16	172	14	4	EHCWH416050S	ISWMEA14150080
EHCMH416050200S	16	5.0R	16	222	14	4	EHCWH416050S	ISWMEA14200080
EHCMH420010150S	20	1.0R	20	177	18	4	EHCWH420010S	ISWMEA18150100
EHCMH420010200S	20	1.0R	20	227	18	4	EHCWH420010S	ISWMEA18200100
EHCMH420020150S	20	2.0R	20	177	18	4	EHCWH420020S	ISWMEA18150100
EHCMH420020200S	20	2.0R	20	227	18	4	EHCWH420020S	ISWMEA18200100
EHCMH420030150S	20	3.0R	20	177	18	4	EHCWH420030S	ISWMEA18150100
EHCMH420030200S	20	3.0R	20	227	18	4	EHCWH420030S	ISWMEA18200100

EHBMH

P	M	K	N	S	H
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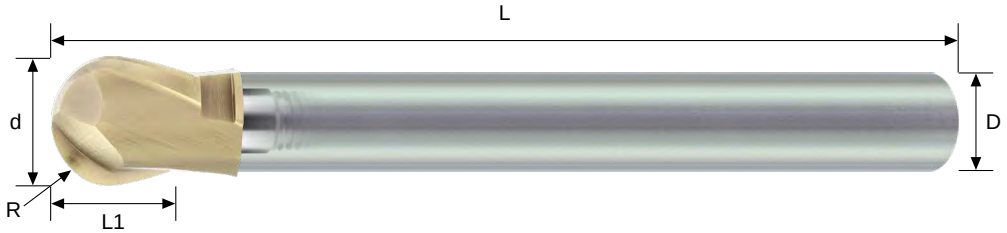
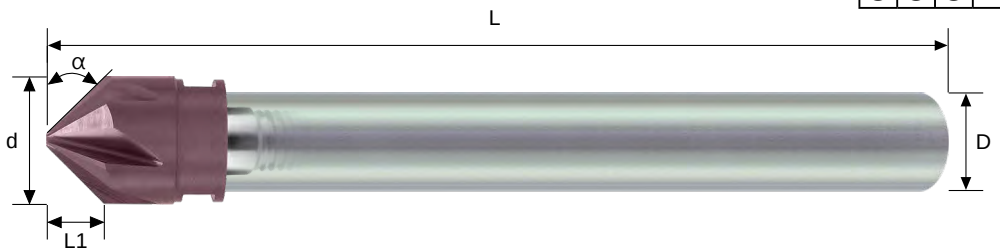


2 | UMG | SNAX | 45° | HRC 65

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
							Endmill Head	Adapter
EHBMH212000100S	6R	12	12	117	10	2	EHBWH212000S	ISWMEA10100060
EHBMH212000150S	6R	12	12	167	10	2	EHBWH212000S	ISWMEA10150060
EHBMH216000100S	8R	16	16	122	14	2	EHBWH216000S	ISWMEA14100080
EHBMH216000150S	8R	16	16	172	14	2	EHBWH216000S	ISWMEA14150080
EHBMH216000200S	8R	16	16	222	14	2	EHBWH216000S	ISWMEA14200080
EHBMH220000150S	10R	20	20	177	18	2	EHBWH220000S	ISWMEA18150100
EHBMH220000200S	10R	20	20	227	18	2	EHBWH220000S	ISWMEA18200100

EPFMA

P	M	K	N	S	H
●	○	●		○	●



4 | 6 | MG | SNAX | HRC 55

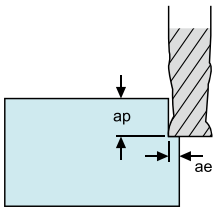
Order No.	Dia. (d)	CL (L1)	α	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
							Endmill Head	Adapter
EPFMA412090100S	12	6	45°	117	10	4	EPFWA412090S	ISWMEA10100060
EPFMA412090150S	12	6	45°	167	10	4	EPFWA412090S	ISWMEA10150060
EPFMA612090100S	12	6	45°	117	10	6	EPFWA612090S	ISWMEA10100060
EPFMA612090150S	12	6	45°	167	10	6	EPFWA612090S	ISWMEA10150060
EPFMA616090100S	16	8	45°	122	14	6	EPFWA616090S	ISWMEA14100080
EPFMA616090150S	16	8	45°	172	14	6	EPFWA616090S	ISWMEA14150080
EPFMA616090200S	16	8	45°	222	14	6	EPFWA616090S	ISWMEA14200080

Recommended Cutting Conditions 建議切削數據

EHSWH4, EHCWH4 (Square Head - 4F, Corner Radius Head - 4F)

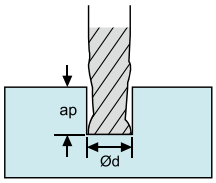
Shoulder Milling L/D ≤ 3 (Reference L/D ratio table, reduce vc, fz and ae value)

Material	Pre-Hardened Steels NAK80 CENA1				Hardened Steels SKD61,SKD11				Hardened Steels SKD11,SKH51			
Hardness	HRC 35~45				HRC 40~55				HRC 55~65			
VC	90 ~ 150(m/min)				80 ~ 120 (m/min)				70 ~ 100 (m/min)			
Dia	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)
10mm	3820	0.05	8.0	2.0	3190	0.05	8.0	1.5	2390	0.05	8.0	1.0
12mm	3190	0.05	9.6	2.4	2650	0.05	9.6	1.8	2000	0.05	9.6	1.2
16mm	2390	0.06	12.8	3.2	2000	0.06	12.8	2.4	1500	0.06	12.8	1.6
20mm	1910	0.06	16.0	4.0	1600	0.06	16.0	3.0	1190	0.06	16.0	2.0



Slot Milling L/D ≤ 3 (Reference L/D ratio table, reduce vc and fz value)

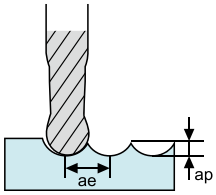
Material	Pre-Hardened Steels NAK80 CENA1			Hardened Steels SKD61,SKD11			Hardened Steels SKD11,SKH51		
Hardness	HRC 35~45			HRC 40~55			HRC 55~65		
VC	60 ~ 100(m/min)			50 ~ 90 (m/min)			40 ~ 80 (m/min)		
Dia	RPM	fz (mm/tooth)	ap (mm)	RPM	fz (mm/tooth)	ap (mm)	RPM	fz (mm/tooth)	ap (mm)
10mm	2550	0.02	4.0	2390	0.02	4.0	1900	0.02	4.0
12mm	2120	0.02	4.8	2000	0.02	4.8	1590	0.02	4.8
16mm	1590	0.03	6.4	1490	0.03	6.4	1190	0.03	6.4
20mm	1275	0.03	8.0	1190	0.03	8.0	950	0.03	8.0



EHBWH2 (Ball Nose Head - 2F)

L/D ≤ 3 (Reference L/D ratio table, reduce vc and fz value)

Material	Pre-Hardened Steels NAK80 CENA1				Hardened Steels SKD61,SKD11				Hardened Steels SKD11,SKH51			
Hardness	HRC 35~45				HRC 40~55				HRC 55~65			
VC	100 ~ 190(m/min)				90 ~ 160 (m/min)				70 ~ 140 (m/min)			
Dia	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)	RPM	fz (mm/tooth)	ap (mm)	ae (mm)
10mm	4620	0.1	0.7	2	3980	0.05	0.4	1.5	3345	0.02	0.2	1.0
12mm	3850	0.1	0.84	2.4	3320	0.05	0.5	1.8	2790	0.02	0.2	1.2
16mm	2885	0.15	1.12	3.2	2485	0.075	0.64	2.4	2090	0.03	0.3	1.6
20mm	2300	0.2	1.4	4.0	2000	0.1	0.8	3.0	1670	0.04	0.4	2.0



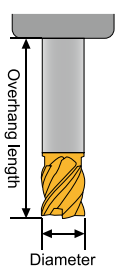
How to set cutting conditions on different overhang length

如何設置不同懸伸長度的切削參數

The recommended cutting condition is depended by the L/D factor.

L/D ratio table :

L/D	VC (m/min)	fz (mm/t)	ae (mm)
2 ~ 3	100%	100%	100%
4 ~ 5	70%	80%	50%
6 ~ 7	50%	70%	30%
8 ~ 9	40%	60%	20%



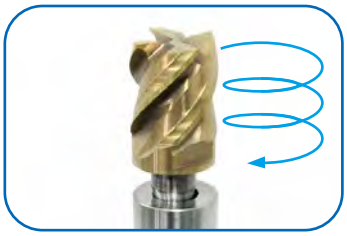
EX :
Tool : Ød=12mm Square Head
Overhang length : 50mm
L/D : 50/12 = 4.16
Material HRC : 35 ~ 45
Application : Shoulder Milling

Cutting condition is recommended as :
*Vc = 120*70% = 84 m/min*
*fz = 0.05*80% = 0.04 mm/t*
ap = 9.6 mm
*max ae = 2.4*50% = 1.2 mm*

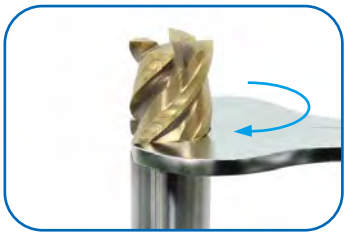
S910 - Modular Endmills Installation 安裝模組化銑刀

How to install the Modular Solid Head 如何安裝全鎢鋼銑刀頭至抗震刀桿

1. Screw the adapter to the holder and clean.
將抗震刀桿鎖在刀把上



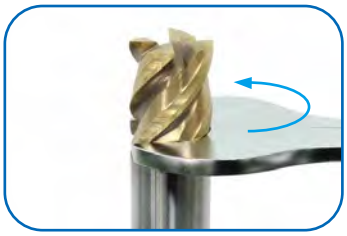
2. Screw the Solid Head to the adapter.
將全鎢鋼銑刀頭鎖在抗震刀桿上



3. Use the spanner to screw the Solid Head.
使用板手鎖緊全鎢鋼銑刀頭

4. Complete installation.
完成安裝

How to uninstall the Modular Solid Head 如何拆卸全鎢鋼銑刀頭



When uninstall the Solid head, please push the spanner lightly for avoiding the neck broken.
拆卸全鎢鋼銑刀頭時，請輕輕推動板手，避免刀頭頸部斷裂

Recommended Torque 建議板手扭力值

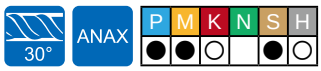
Suitable Modular Solid Head Diameter	Recommended Clamping Torque (N・m)
10mm	10
12mm	10
16mm	12
20mm	12

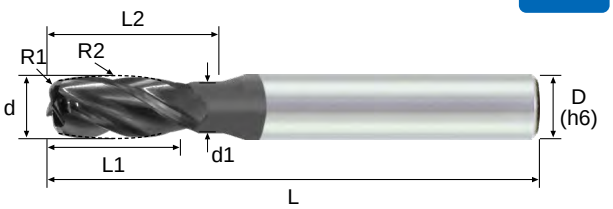
EBASB Series

ASIA (Metric)

・For alloy steel, stainless steel, and high temperature alloy milling.

・適用於合金鋼 , 不鏽鋼以及高溫合金加工



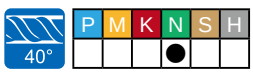


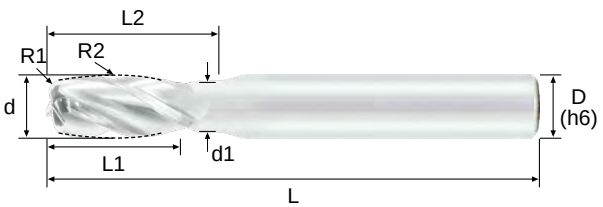
Order No.	d	R1	R2	L1	L2	d1	L	D	Flutes (z)
EBASB41010600A	10	1R	60R	21.5	30	8	75	10	4
EBASB41210700A	12	1R	70R	23	36	10	75	12	4

EBNSB Series

・For aluminum alloy milling.

・適用於鋁合金加工





Order No.	d	R1	R2	L1	L2	d1	L	D	Flutes (z)
EBNSB41010600	10	1R	60R	21.5	30	8	75	10	4
EBNSB41210700	12	1R	70R	23	36	10	75	12	4

Barrel shape has a continuous double radii along the length of cut and a reduced neck, suitable for side profile milling.

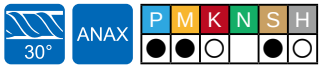
酒桶形酒桶銑刀沿著刃長具有 2 個 R 角和頸部 , 適用側邊曲面成形加工

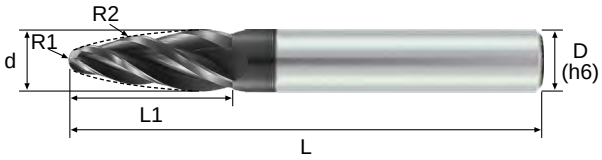
EBASO Series

ASIA (Metric)

・For alloy steel, stainless steel, and high temperature alloy milling.

・適用於合金鋼 , 不鏽鋼以及高溫合金加工



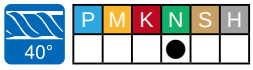


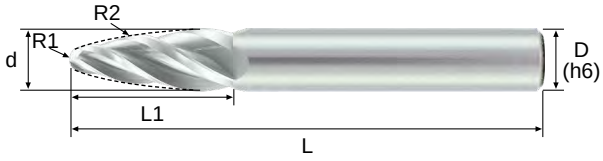
Order No.	d	R1	R2	L1	L	D	Flutes (z)
EBASO30610950A	6	1R	95R	22	60	6	3
EBASO30810900A	8	1R	90R	25	75	8	3
EBASO41020850A	10	2R	85R	26	75	10	4
EBASO41220800A	12	2R	80R	28	75	12	4

EBNSO Series

・For aluminum alloy milling.

・適用於鋁合金加工

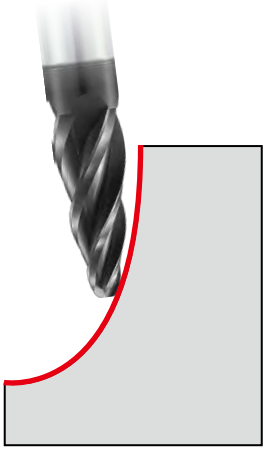




Order No.	d	R1	R2	L1	L	D	Flutes (z)
EBNSO30610950	6	1R	95R	22	60	6	3
EBNSO30810900	8	1R	90R	25	75	8	3
EBNSO41020850	10	2R	85R	26	75	10	4
EBNSO41220800	12	2R	80R	28	75	12	4

Oval shape has a side cutting geometry with a continuous radius ending at the cutting diameter, suitable for bevel face profile milling.

橢圓形酒桶銑刀具有側邊加工幾何設計，適用斜面成形加工



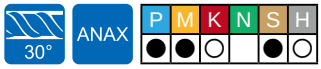
S930 Barrel Endmills - Lens Shape · 3F 酒桶銑刀 - 透鏡形・3 刃

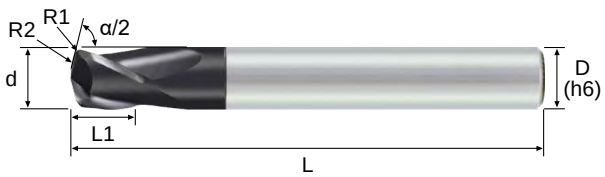
EBASL Series

ASIA (Metric)

・For alloy steel, stainless steel, and high temperature alloy milling.

・適用於合金鋼 , 不鏽鋼以及高溫合金加工



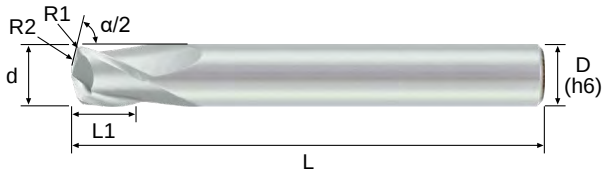


Order No.	α/2	d	R1	R2	L1	L	D	Flutes (z)
EBASL30605100A	70°	6	0.50R	10R	6	60	6	3
EBASL30807150A	70°	8	0.75R	15R	8	75	8	3
EBASL31010200A	70°	10	1.00R	20R	10	75	10	3
EBASL31212250A	70°	12	1.25R	25R	12	75	12	3

EBNSL Series

・For aluminum alloy milling.

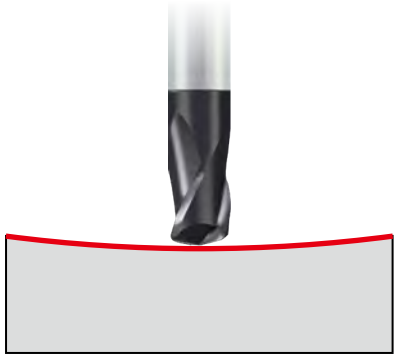
・適用於鋁合金加工



Order No.	α/2	d	R1	R2	L1	L	D	Flutes (z)
EBNSL30605100	70°	6	0.50R	10R	6	60	6	3
EBNSL30807150	70°	8	0.75R	15R	8	75	8	3
EBNSL31010200	70°	10	1.00R	20R	10	75	10	3
EBNSL31212250	70°	12	1.25R	25R	12	75	12	3

Lens shape has a convex face cutting geometry, for contoured floor milling.

透鏡形酒桶銑刀具有凸面切削幾何形狀，可用於輪廓地板加工

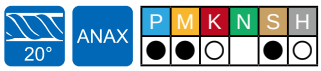


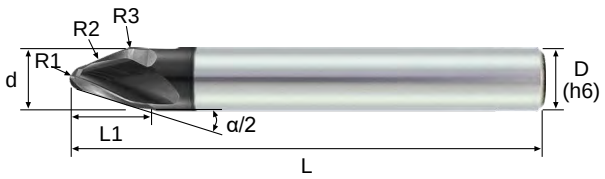
EBAST Series

ASIA (Metric)

・For alloy steel, stainless steel, and high temperature alloy milling.

・適用於合金鋼 , 不鏽鋼以及高溫合金加工



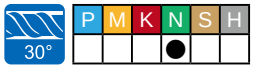


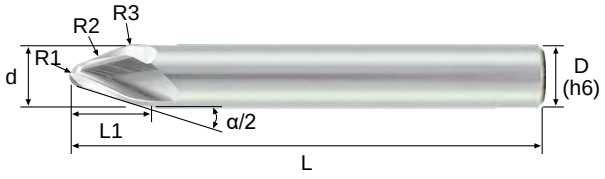
Order No.	α/2	d	R1	R2	R3	L1	L	D	Flutes (z)
EBAST30610251A	17.5°	6	1.0R	250R	3.0R	9.5	60	6	3
EBAST30815252A	20°	8	1.5R	250R	4.0R	10.5	75	8	3
EBAST31020252A	20°	10	2.0R	250R	5.0R	12.5	75	10	3
EBAST31230252A	20°	12	3.0R	250R	6.0R	13.5	75	12	3

EBNST Series

・For aluminum alloy milling.

・適用於鋁合金加工

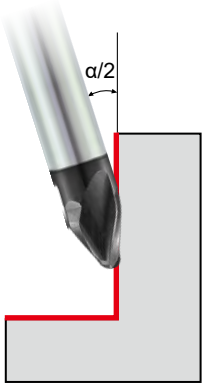




Order No.	α/2	d	R1	R2	R3	L1	L	D	Flutes (z)
EBNST30610251	17.5°	6	1.0R	250R	3.0R	9.5	60	6	3
EBNST30815252	20°	8	1.5R	250R	4.0R	10.5	75	8	3
EBNST31020252	20°	10	2.0R	250R	5.0R	12.5	75	10	3
EBNST31230252	20°	12	3.0R	250R	6.0R	13.5	75	12	3

ST Taper shape has α/2 < 45° geometry design for steep walls milling.

圓錐形酒桶銑刀具有 α/2 < 45° 的端部幾何設計，適用於陡壁加工



S930 Barrel Endmills - HT Taper Shape · 2F 酒桶銑刀 - HT 短錐形・2 刃

EBAHT Series

ASIA (Metric)

・For alloy steel, stainless steel, and high temperature alloy milling.

・適用於合金鋼 , 不鏽鋼以及高溫合金加工

20° ANAX P M K N S H

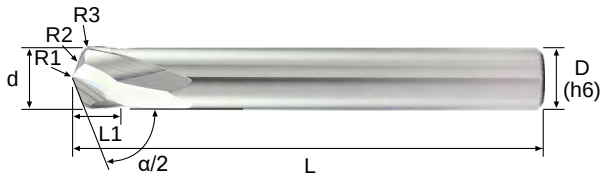
Order No.	α/2	d	R1	R2	R3	L1	L	D	Flutes (z)
EBAHT21010206A	60°	10	1.0R	200R	1.5R	6.0	75	10	2

EBNHT Series

・For aluminum alloy milling.

・適用於鋁合金加工

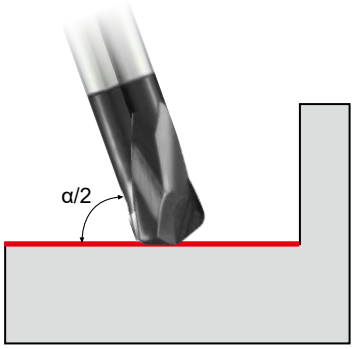
30° P M K N S H



Order No.	α/2	d	R1	R2	R3	L1	L	D	Flutes (z)
EBNHT21010206	60°	10	1.0R	200R	1.5R	6.0	75	10	2

HT Taper shape has α/2 > 45° end cutting geometry design for workpiece floors milling.

短錐形酒桶銑刀具有 α/2 > 45° 的端部幾何設計，適用於工件底板加工

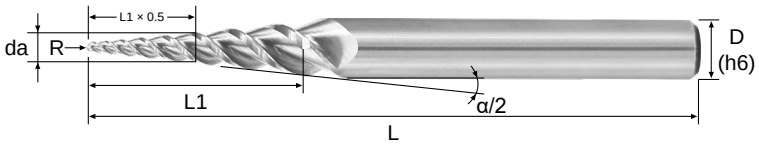


EBNFT Series

ASIA (Metric)

・For aluminum alloy milling.

・適用於鋁合金加工

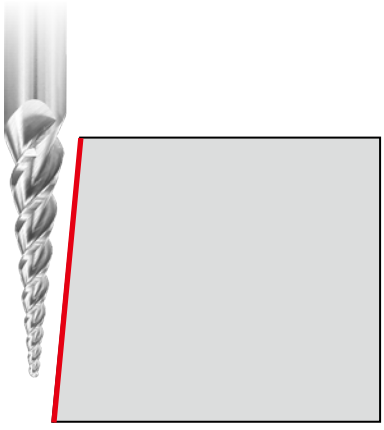


Order No.	R	α/2	L1	L	da	D	Flutes (z)
EBNFT30605006	0.5R	6°	20	60	3.00	6	3
EBNFT30610006	1.0R	6°	19	60	3.80	6	3
EBNFT30605008	0.5R	8°	18	60	3.40	6	3
EBNFT30610008	1.0R	8°	15	60	3.85	6	3

※ The da value is average diameter at 0.5*L1

FT Taper shape has long cutting length design, for deep cavity milling.

斜度球形銑刀具有較長的切削刃設計，可用於深腔加工



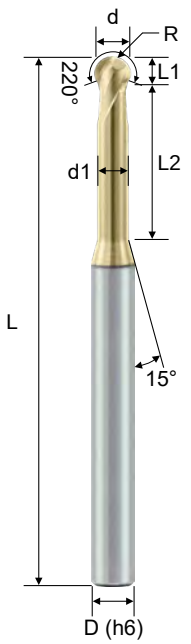
S950 - Spherical Ball 220° · 2F 球型銑刀・220°全球頭球型・2 刃

- 220° spherical ball design.
- Suitable for undercutting, deburring and complex geometries machining in multi-axis machine.
- Excellent surface finishing of vertical machining.
- SNAX (Al, Ti, Si, N) smooth coating provides excellent wear resistance and low friction.

ASIA (Metric)

EHRRC

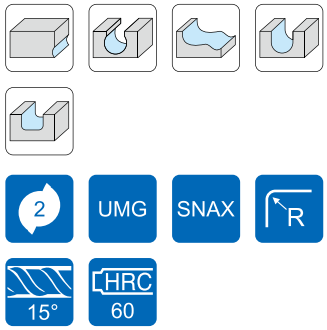
P	M	K	N	S	H
●	●	●	●	○	●



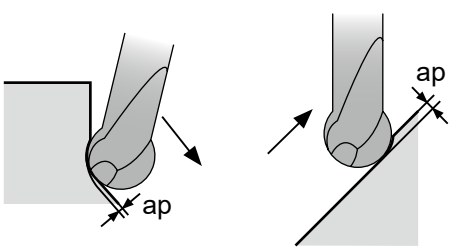
Order No.	Radius (R)	Dia. (d)	CL (L1)	ND (d1)	NL (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHRRC2010221S	0.5R	1	0.65	0.9	3.35	50	6	2
EHRRC2020221S	1.0R	2	1.4	1.7	3.6	60	6	2
EHRRC2020222S	1.0R	2	1.4	1.7	8.6	60	6	2
EHRRC2030221S	1.5R	3	2.0	2.6	6	75	6	2
EHRRC2030222S	1.5R	3	2.0	2.6	13	75	6	2
EHRRC2040221S	2.0R	4	2.7	3.4	7.3	75	6	2
EHRRC2040222S	2.0R	4	2.7	3.4	17.3	75	6	2
EHRRC2050221S	2.5R	5	3.4	4.3	8.6	75	6	2
EHRRC2050222S	2.5R	5	3.4	4.3	21.6	75	6	2
EHRRC2060221S	3.0R	6	4.3	5.1	10.7	75	6	2
EHRRC2060222S	3.0R	6	4.3	5.1	25.7	75	6	2
EHRRC2080221S	4.0R	8	5.6	6.8	14.4	75	8	2
EHRRC2100221S	5.0R	10	7.0	8.5	18	75	10	2
EHRRC2120221S	6.0R	12	8.4	10.2	21.6	75	12	2

※To choose uncoated tools for aluminum alloy machining.

Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Aluminum Alloy			Hardened Steel		
Hardness	HRC < 30			HRC 30 ~ 45			-			-			HRC 45 ~ 60		
VC	220 ~ 300 m/min			150 ~ 220 m/min			70 ~ 150 m/min			280 ~ 360 m/min			130 ~ 150 m/min		
R (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)
1.0R	40,000	1,600	0.04	30,000	1,200	0.04	24,000	960	0.04	51,000	2,400	0.04	24,000	960	0.04
1.5R	32,000	1,920	0.06	23,000	1,380	0.06	16,000	960	0.06	34,000	2,880	0.06	16,000	960	0.06
2.0R	24,000	1,920	0.08	17,000	1,360	0.08	12,000	960	0.08	25,500	2,880	0.08	12,000	960	0.08
2.5R	19,200	1,920	0.10	14,000	1,400	0.10	9,600	960	0.10	20,400	2,880	0.10	9,600	960	0.10
3.0R	16,000	1,920	0.12	12,000	1,440	0.12	8,000	960	0.12	17,000	2,880	0.12	8,000	960	0.12



R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020



$$ap < \frac{(d\text{-}ND)}{2} - 0.1$$

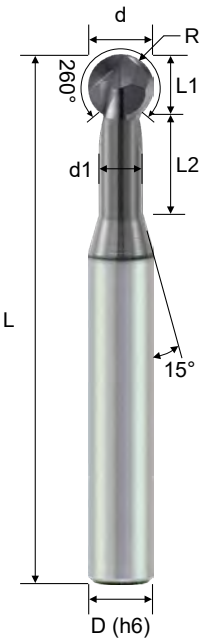
S950 - Spherical Ball 260° · 2F 球型銑刀・260°全球頭球型・2 刃

- 260° spherical ball design.
- Suitable for undercutting, deburring and complex geometries machining in multi-axis machine.
- Excellent surface finishing of vertical machining.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

ASIA (Metric)

EPRRC

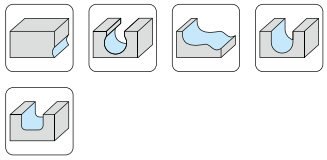
P	M	K	N	S	H
●	●	●	●	○	○



Order No.	Radius (R)	Dia. (d)	CL (L1)	ND (d1)	NL (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPRRC2420261A	1.0R	2	1.63	1.53	3	50	4	2
EPRRC2430261A	1.5R	3	2.46	2.3	3	50	4	2
EPRRC2440261A	2.0R	4	3.3	3.06	5	50	4	2
EPRRC2050261A	2.5R	5	4.1	3.83	5	50	6	2
EPRRC2060261A	3.0R	6	4.93	4.6	5	50	6	2
EPRRC2080261A	4.0R	8	6.58	6.11	6	60	8	2
EPRRC2100261A	5.0R	10	8.22	7.65	8	75	10	2
EPRRC2120261A	6.0R	12	9.86	9.2	10	75	12	2
EPRRC2160261A	8.0R	16	13.37	11.86	10	100	16	2

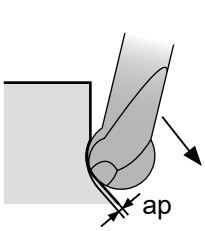
※To choose uncoated tools for aluminum alloy machining.

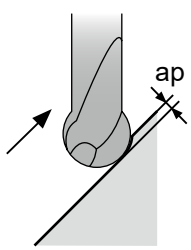
Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Aluminum Alloy			Hardened Steel		
Hardness	HRC < 30			HRC 30 ~ 45			-			-			HRC 45 ~ 60		
VC	220 ~ 300 m/min			150 ~ 220 m/min			70 ~ 150 m/min			280 ~ 360 m/min			130 ~ 150 m/min		
R (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)
1.0R	40,000	1,200	0.04	30,000	900	0.04	24,000	720	0.04	51,000	1,800	0.04	24,000	720	0.04
1.5R	32,000	1,440	0.06	23,000	1,035	0.06	16,000	720	0.06	34,000	2,160	0.06	16,000	720	0.06
2.0R	24,000	1,440	0.08	17,000	1,020	0.08	12,000	720	0.08	25,500	2,160	0.08	12,000	720	0.08
2.5R	19,200	1,440	0.10	14,000	1,050	0.10	9,600	720	0.10	20,400	2,160	0.10	9,600	720	0.10
3.0R	16,000	1,440	0.12	12,000	1,080	0.12	8,000	720	0.12	17,000	2,160	0.12	8,000	720	0.12

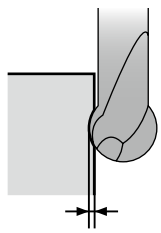


2 | UMG | ANAX | R | 15° | HRC 55

R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020







$$ap < \frac{(d\text{-}ND)}{2} - 0.1$$

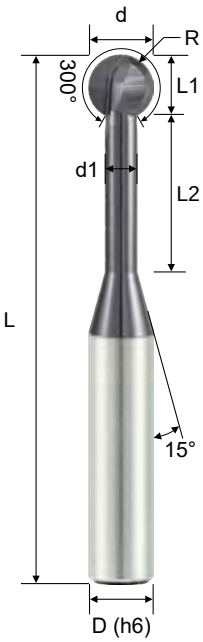
S950 - Spherical Ball 300° · 2F 球型銑刀・300°全球頭球型・2 刃

- 300˚ spherical ball design.
- Suitable for undercutting, deburring and complex geometries machining in multi-axis machine.
- Excellent surface finishing of vertical machining.
- ANAX (Al, Ti, Cr, N) smooth coating provides a superior wear resistance and extend tool life.

ASIA (Metric)

EPRRC

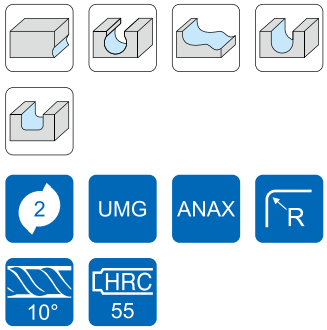
P	M	K	N	S	H
●	●	●	●	○	○



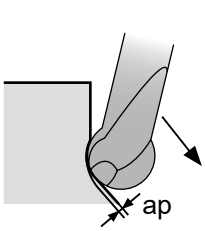
Order No.	Radius (R)	Dia. (d)	CL (L1)	ND (d1)	NL (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPRRC2420301A	1.0R	2	1.9	0.95	3	50	4	2
EPRRC2440301A	2.0R	4	3.7	1.9	6	50	4	2
EPRRC2060301A	3.0R	6	5.56	2.85	9	50	6	2
EPRRC2080301A	4.0R	8	7.4	3.8	12	100	8	2
EPRRC2100301A	5.0R	10	9.3	4.75	15	100	10	2
EPRRC2120301A	6.0R	12	11.1	5.7	18	100	12	2

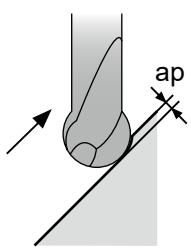
※To choose uncoated tools for aluminum alloy machining.

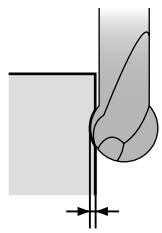
Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Aluminum Alloy			Hardened Steel		
Hardness	HRC < 30			HRC 30 ~ 45			-			-			HRC 45 ~ 60		
VC	220 ~ 300 m/min			150 ~ 220 m/min			70 ~ 150 m/min			280 ~ 360 m/min			130 ~ 150 m/min		
R (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)	RPM	Feed (mm/min)	ap (mm)
1.0R	40,000	780	0.04	30,000	585	0.04	24,000	470	0.04	51,000	1170	0.04	24,000	470	0.04
1.5R	32,000	936	0.06	23,000	675	0.06	16,000	470	0.06	34,000	1400	0.06	16,000	470	0.06
2.0R	24,000	936	0.08	17,000	665	0.08	12,000	470	0.08	25,500	1400	0.08	12,000	470	0.08
2.5R	19,200	936	0.10	14,000	685	0.10	9,600	470	0.10	20,400	1400	0.10	9,600	470	0.10
3.0R	16,000	936	0.12	12,000	705	0.12	8,000	470	0.12	17,000	1400	0.12	8,000	470	0.12



R Tolerance	
R ≤ 3	±0.015
R > 3	±0.020







$$ap < \frac{(d\text{-}ND)}{2} - 0.1$$

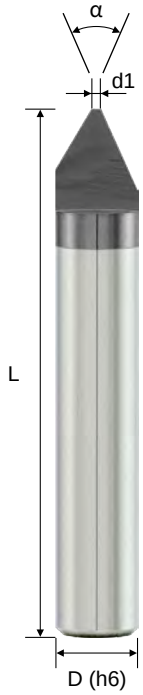
S960 - Engraving 雕刻銑刀

- Flat tipped engraving end mill with 30°, 60° or 90° angle.
- For steel, stainless steel, cast iron, aluminum alloy, titanium alloy and non-ferrous materials machining.
- TACO (Al, Ti, N) coating provide superior wear resistance.

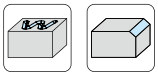
ASIA (Metric)

EPESF

P	M	K	N	S	H
●	●	●	●	●	○



Order No.	Tip Dia. (d1)	Angle (α)	OAL (L)	Shank (D)	Flutes (Z)
(Uncoating for N material machining)					
EPESF1401030	0.1	30°	50	4	1
EPESF1402030	0.2	30°	50	4	1
EPESF1403030	0.3	30°	50	4	1
EPESF1405030	0.5	30°	50	4	1
EPESF1407030	0.7	30°	50	4	1
EPESF1403060	0.3	60°	50	4	1
EPESF1405060	0.5	60°	50	4	1
EPESF1407060	0.7	60°	50	4	1
EPESF1405090	0.5	90°	50	4	1
EPESF1407090	0.7	90°	50	4	1
EPESF1410090	1.0	90°	50	4	1
EPESF1415090	1.5	90°	50	4	1
(TACO coating)					
EPESF1401030T	0.1	30°	50	4	1
EPESF1402030T	0.2	30°	50	4	1
EPESF1403030T	0.3	30°	50	4	1
EPESF1405030T	0.5	30°	50	4	1
EPESF1407030T	0.7	30°	50	4	1
EPESF1403060T	0.3	60°	50	4	1
EPESF1405060T	0.5	60°	50	4	1
EPESF1407060T	0.7	60°	50	4	1
EPESF1405090T	0.5	90°	50	4	1
EPESF1407090T	0.7	90°	50	4	1
EPESF1410090T	1.0	90°	50	4	1
EPESF1415090T	1.5	90°	50	4	1



1 MG TACO

Material		Carbon Steel		Stainless Steel		Cast Iron		Aluminum Alloys		Titanium Alloys		Plastic	
Vc		≥ 75 m/min											
Angle (α°)	Tip Dia. (d1)	RPM	F (mm/min)	RPM	F (mm/min)	RPM	F (mm/min)	RPM	F (mm/min)	RPM	F (mm/min)	RPM	F (mm/min)
30°	0.1~0.7	≥ 6000	60~90	≥ 6000	45~70	≥ 6000	100~150	≥ 6000	100~150	≥ 6000	45~70	≥ 6000	145~220
60°	0.3~0.7	≥ 6000	70~100	≥ 6000	60~90	≥ 6000	120~170	≥ 6000	120~170	≥ 6000	60~90	≥ 6000	180~260
90°	0.5~1.5	≥ 6000	90~120	≥ 6000	75~100	≥ 6000	150~200	≥ 6000	150~200	≥ 6000	75~100	≥ 6000	225~300
		ap ≤ 0.25											

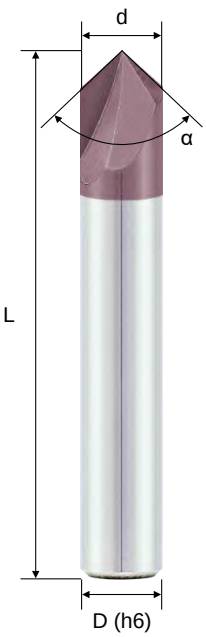
S960 - Chamfer Endmill · 2F 倒角銑刀・2 刃

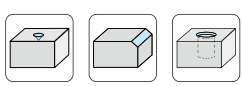
- Sharp cutting edge design for milling machine or lathe chamfering.
- Chamfering angle is 45°.
- Suitable for alloy steel, stainless steel, cast iron, hardened steel & aluminum alloy.
- UNICO (Ti, Al, N) coating provides excellent wear resistance.

ASIA (Metric)

EPFSA

P	M	K	N	S	H
●	●	●	○	○	○

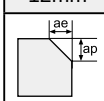




2 | MG | UNICO | HRC 55

α° Tolerance	
α°	±1°

Order No.	Dia. (d)	OAL (L)	Shank (D)	Tip Angle (α)	Flutes (Z)
(UNICO coating)					
EPFSA233090U	3	50	3	90°	2
EPFSA244090U	4	50	4	90°	2
EPFSA206090U	6	50	6	90°	2
EPFSA208090U	8	60	8	90°	2
EPFSA210090U	10	75	10	90°	2
EPFSA212090U	12	75	12	90°	2
(Uncoating for N material machining)					
EPFSA233090	3	50	3	90°	2
EPFSA244090	4	50	4	90°	2
EPFSA206090	6	50	6	90°	2
EPFSA208090	8	60	8	90°	2
EPFSA210090	10	75	10	90°	2
EPFSA212090	12	75	12	90°	2

Material	Carbon Steel / Alloy Steel / Cast iron			Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)			Stainless Steel (SUS304, SUS316)			Hardened Steel			Aluminum Alloys		
Hardness	HRC < 30			HRC 30 ~ 40			–			HRC 40 ~ 55			–		
Vc	80 ~ 230 m/min			60 ~ 180 m/min			45 ~ 140 m/min			25 ~ 30 m/min			100 ~ 200 m/min		
Dia. (d)	fz (mm)	α = 90° ap (mm)	α = 90° ae (mm)	fz (mm)	α = 90° ap (mm)	α = 90° ae (mm)	fz (mm)	α = 90° ap (mm)	α = 90° ae (mm)	fz (mm)	α = 90° ap (mm)	α = 90° ae (mm)	fz (mm)	α = 90° ap (mm)	α = 90° ae (mm)
3mm	0.04	0.2	0.2	0.04	0.2	0.2	0.04	0.2	0.2	0.04	0.2	0.2	0.04	0.2	0.2
4mm	0.04	0.2	0.2	0.04	0.2	0.2	0.04	0.2	0.2	0.04	0.2	0.2	0.04	0.2	0.2
6mm	0.04	0.3	0.3	0.04	0.3	0.3	0.04	0.3	0.3	0.04	0.3	0.3	0.04	0.3	0.3
8mm	0.05	0.4	0.4	0.05	0.4	0.4	0.05	0.4	0.4	0.05	0.4	0.4	0.05	0.4	0.4
10mm	0.06	0.5	0.5	0.06	0.5	0.5	0.06	0.5	0.5	0.06	0.5	0.5	0.06	0.5	0.5
12mm	0.07	0.6	0.6	0.07	0.6	0.6	0.07	0.6	0.6	0.07	0.6	0.6	0.07	0.6	0.6
	※ For machining on two sides, Feed rate reduce 20~30%. For vertical plunging, Feed rate reduce 30~40%.														

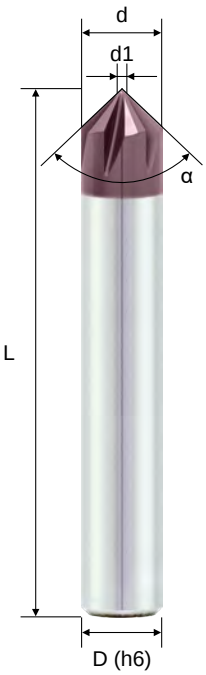
S960 - Chamfer Endmill · 4F / 5F /6F 倒角銑刀・4 刃 / 5 刃 / 6 刃

- Designed for chamfer milling.
- Chamfering angle can be divided into 30° or 45°.
- Suitable for alloy steel, stainless steel, cast iron & hardened steel.
- UNICO (Ti, Al, N) coating provides excellent wear resistance.

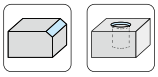
ASIA (Metric)

EPFSA

P	M	K	N	S	H
●	●	●		●	●



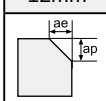
Order No.	Dia. (d)	Tip Dia. (d1)	OAL (L)	Shank (D)	Tip Angle (α)	Flutes (Z)
α = 60°						
EPFSA444060U	4	0.5	50	4	60°	4
EPFSA406060U	6	1.0	60	6	60°	4
EPFSA508060U	8	1.5	60	8	60°	5
EPFSA610060U	10	1.5	75	10	60°	6
EPFSA612060U	12	2.0	75	12	60°	6
α = 90°						
EPFSA444090U	4	0.5	50	4	90°	4
EPFSA406090U	6	1.0	60	6	90°	4
EPFSA508090U	8	1.5	60	8	90°	5
EPFSA610090U	10	1.5	75	10	90°	6
EPFSA612090U	12	2.0	75	12	90°	6
EPFSA616090U	16	2.0	100	16	90°	6
EPFSA620090U	20	2.0	100	20	90°	6



4 5 6 MG

UNICO HRC 55

α° Tolerance	
α°	±1°

Material	Carbon Steel / Alloy Steel / Cast iron					Alloy Steel / Tool Steel / Pre-Hardened Steel (SCM, SKT, SKD)					Stainless Steel (SUS304, SUS316)					Hardened Steel				
Hardness	HRC < 30					HRC 30 ~ 40					–					HRC 40 ~ 55				
Vc	80 ~ 230 m/min					60 ~ 180 m/min					45 ~ 140 m/min					25 ~ 30 m/min				
Dia. (d)	fz (mm)	α = 60°		α = 90°		fz (mm)	α = 60°		α = 90°		fz (mm)	α = 60°		α = 90°		fz (mm)	α = 60°		α = 90°	
		ap (mm)	ae (mm)	ap (mm)	ae (mm)		ap (mm)	ae (mm)	ap (mm)	ae (mm)		ap (mm)	ae (mm)	ap (mm)	ae (mm)		ap (mm)	ae (mm)	ap (mm)	ae (mm)
4mm	0.04	0.30	0.2	0.2	0.2	0.04	0.30	0.2	0.2	0.2	0.04	0.30	0.2	0.2	0.2	0.04	0.30	0.2	0.2	0.2
6mm	0.04	0.45	0.3	0.3	0.3	0.04	0.45	0.3	0.3	0.3	0.04	0.45	0.3	0.3	0.3	0.04	0.45	0.3	0.3	0.3
8mm	0.05	0.60	0.4	0.4	0.4	0.05	0.60	0.4	0.4	0.4	0.05	0.60	0.4	0.4	0.4	0.05	0.60	0.4	0.4	0.4
10mm	0.06	0.75	0.5	0.5	0.5	0.06	0.75	0.5	0.5	0.5	0.06	0.75	0.5	0.5	0.5	0.06	0.75	0.5	0.5	0.5
12mm	0.07	0.90	0.6	0.6	0.6	0.07	0.90	0.6	0.6	0.6	0.07	0.90	0.6	0.6	0.6	0.07	0.90	0.6	0.6	0.6
	※ Effective Cutter Diameter = (d + d1)/2 For machining on two sides, Feed rate reduce 20~30%. For vertical plunging, Feed rate reduce 30~40%.																			

S960 - Drill Mills · 2F 倒角兼用銑刀・2 刃

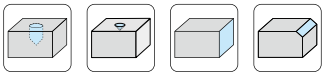
- Multiple application : drilling, chamfering, spotting, side milling, countersinking.
- Chamfering angle can be divided into 30° ,45° or 60°.
- Suitable for alloy steel, stainless steel and aluminum alloy.
- UNICO (Ti, Al, N) coating provides excellent wear resistance.

ASIA (Metric)

EPFSC

P	M	K	N	S	H
●	●	●	○		

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	α	Flutes (Z)
α = 60°						
EPFSC203060U	3	6	50	6	60°	2
EPFSC204060U	4	8	50	6	60°	2
EPFSC205060U	5	10	50	6	60°	2
EPFSC206060U	6	12	50	6	60°	2
EPFSC208060U	8	16	60	8	60°	2
EPFSC210060U	10	20	75	10	60°	2
EPFSC212060U	12	24	75	12	60°	2
α = 90°						
EPFSC203090U	3	6	50	6	90°	2
EPFSC204090U	4	8	50	6	90°	2
EPFSC205090U	5	10	50	6	90°	2
EPFSC206090U	6	12	50	6	90°	2
EPFSC208090U	8	16	60	8	90°	2
EPFSC210090U	10	20	75	10	90°	2
EPFSC212090U	12	24	75	12	90°	2
α = 120°						
EPFSC203012U	3	6	50	6	120°	2
EPFSC204012U	4	8	50	6	120°	2
EPFSC205012U	5	10	50	6	120°	2
EPFSC206012U	6	12	50	6	120°	2
EPFSC208012U	8	16	60	8	120°	2
EPFSC210012U	10	20	75	10	120°	2
EPFSC212012U	12	24	75	12	120°	2



2 | MG | UNICO | 30° | HRC 45

Tolerance	
Ød ≤ 6	0 ~ -0.02
6 < Ød ≤ 12	0 ~ -0.03
Ød > 12	0 ~ -0.04

Working Material	Normal Steel (S45C)			Alloy Steel / Tool Steel (SCM, SKT, SKD)			Stainless Steel (SUS304)			Aluminum Alloy		
Hardness	HRC < 20			HRC < 30~40			–			-		
Vc	60 m/min			50 m/min			40 m/min			100 m/min		
Dia. (d)	RPM	Feed (mm/min)		RPM	Feed (mm/min)		RPM	Feed (mm/min)		RPM	Feed (mm/min)	
		Vertical	Horizontal		Vertical	Horizontal		Vertical	Horizontal		Vertical	Horizontal
3 mm	6400	25	50	5300	20	40	4200	20	40	10600	40	80
4 mm	4800	25	55	4000	20	45	3200	20	45	8000	40	85
6 mm	3200	25	60	2650	20	50	2100	20	50	5300	40	90
8 mm	2400	25	65	2000	20	55	1600	20	55	4000	40	110
10 mm	1900	25	70	1600	20	60	1300	20	60	3200	40	110
12 mm	1600	25	70	1350	20	60	1050	20	60	2700	40	120

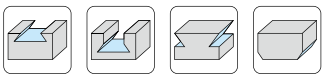
S960 - Dovetail Endmill · 4F 鳩尾槽銑刀・4 刃

- For dovetail slotting and side milling.
- Suitable for chamfering the bottom edge of the workpiece.
- Neck grinding is suitable for deep machining.
- Provide 30°, 60°, 90° and 120° included angle.
- UNICO (Ti, Al, N) coating provides excellent wear resistance.

ASIA (Metric)

EPSDT

P	M	K	N	S	H
●	●	●	●		



α < 90°, helix angle = 15° ; α ≥ 90°, helix angle = 0°.

Order No.	Dia. (d)	α	CL (L1)	NL (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
EPSDT40330030U	3	30°	2.0	3	2.0	50	6	4
EPSDT40360030U	3	60°	0.9	3	2.0	50	6	4
EPSDT40390030U	3	90°	0.8	3	1.5	50	6	4
EPSDT40312030U	3	120°	0.4	3	1.5	50	6	4
EPSDT40430040U	4	30°	2.6	4	2.6	50	6	4
EPSDT40460040U	4	60°	1.2	4	2.6	50	6	4
EPSDT40490040U	4	90°	1.0	4	2.0	50	6	4
EPSDT40412040U	4	120°	0.6	4	2.0	50	6	4
EPSDT40530050U	5	30°	3.3	5	3.3	50	6	4
EPSDT40560050U	5	60°	1.5	5	3.3	50	6	4
EPSDT40590050U	5	90°	1.3	5	2.5	50	6	4
EPSDT40512050U	5	120°	0.7	5	2.5	50	6	4
EPSDT40630060U	6	30°	3.9	6	3.9	50	6	4
EPSDT40660060U	6	60°	1.8	6	3.9	50	6	4
EPSDT40690060U	6	90°	1.5	6	3.0	50	6	4
EPSDT40612060U	6	120°	0.9	6	3.0	50	6	4
EPSDT40830080U	8	30°	5.2	8	5.2	60	8	4
EPSDT40860080U	8	60°	2.4	8	5.2	60	8	4
EPSDT40890080U	8	90°	2.0	8	4.0	60	8	4
EPSDT40812080U	8	120°	1.2	8	4.0	60	8	4
EPSDT41030100U	10	30°	6.5	10	6.5	75	10	4
EPSDT41060100U	10	60°	3.0	10	6.5	75	10	4
EPSDT41090100U	10	90°	2.5	10	5.0	75	10	4
EPSDT41012100U	10	120°	1.4	10	5.0	75	10	4
EPSDT41230120U	12	30°	7.8	12	7.8	75	12	4
EPSDT41260120U	12	60°	3.6	12	7.8	75	12	4
EPSDT41290120U	12	90°	3.0	12	6.0	75	12	4
EPSDT41212120U	12	120°	1.7	12	6.0	75	12	4

※ Customized available.
Please provide the following values: d, α°, L1, L2, d1, L, D and Z.

Working Material	Carbon / Alloy steel (< HRC 30)		Stainless Steel		Aluminum Alloys	
Vc	25 - 30 - 35 m/min		20 - 25 - 30 m/min		50 - 60 - 70 m/min	
Diameter (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	2400	96	2000	77	4800	125
6mm	1600	96	1350	77	3200	125
8mm	1200	90	1000	72	2400	117
10mm	960	85	800	68	2000	111
12mm	800	85	670	68	1600	111

※If α° ≤ 90°, increase Vc and feed 30%.

d Tolerance	
d ≤ 6	0 ~ -0.02
6 < d ≤ 12	0 ~ -0.03
d > 12	0 ~ -0.04

α° Tolerance	
α°	±1°

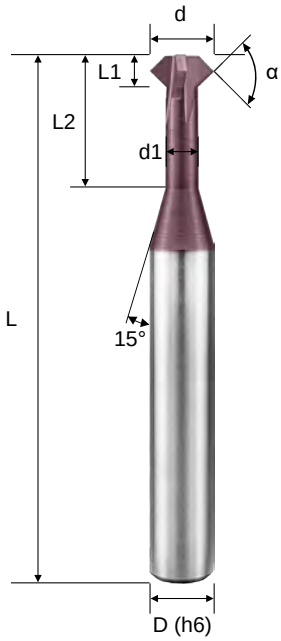
S960 - Front Back Chamfer Endmill · 4F 上下倒角銑刀・4 刃

- For front / back chamfering.
- Suitable for alloy steel, stainless steel and aluminum alloy.
- UNICO (Ti, Al, N) coating provides excellent wear resistance.

ASIA (Metric)

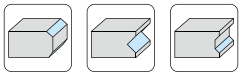
EPTSV

P	M	K	N	S	H
●	●	●	○		



Order No.	Dia. (d)	Nd (d1)	Angle (α)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EPTSV404090U	4	2.0	90°	2.0	8	50	6	4
EPTSV405090U	5	2.5	90°	2.4	10	50	6	4
EPTSV406090U	6	3.0	90°	2.8	12	60	6	4
EPTSV408090U	8	4.0	90°	3.8	16	60	8	4
EPTSV410090U	10	5.0	90°	4.8	20	75	10	4

※ Customized available.
Please provide the following values: d, d1, α°, L1, L2, L, D and Z.



4 | MG | HRC 55 | UNICO

α° Tolerance	
α°	±1°

Working Material	Carbon / Alloy steel (< HRC 30)		Stainless Steel		Aluminum Alloys	
Vc	25 - 30 - 35 m/min		20 - 25 - 30 m/min		50 - 60 - 70 m/min	
Diameter (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
4mm	2400	96	2000	77	4800	125
6mm	1600	96	1350	77	3200	125
8mm	1200	90	1000	72	2400	117
10mm	960	85	800	68	2000	111
12mm	800	85	670	68	1600	111

※If α° ≤ 90°, increase Vc and feed 30%.

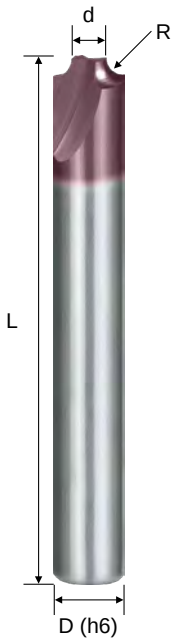
S960 - Inner Radius Endmill · 2F 內 R 角銑刀・2 刃

- Inner radius tools are suitable for chamfering with round corner application.
- Suitable for alloy steel, stainless steel, cast iron & hardened steel.
- UNICO (Ti, Al, N) coating provides excellent wear resistance.

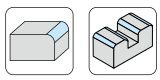
ASIA (Metric)

EPISA

P	M	K	N	S	H
●	●	●			○

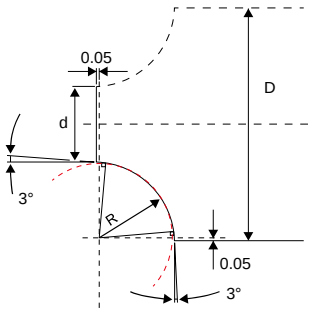


Order No.	Corner Radius (R)	Front Dia. (d)	OAL (L)	Shank (D)	Flutes (Z)
EPISA242905U	0.5R	2.9	50	4	2
EPISA204905U	0.5R	4.9	50	6	2
EPISA241910U	1.0R	1.9	50	4	2
EPISA203910U	1.0R	3.9	50	6	2
EPISA205910U	1.0R	5.9	60	8	2
EPISA204915U	1.5R	4.9	60	8	2
EPISA205920U	2.0R	5.9	75	10	2
EPISA204925U	2.5R	4.9	75	10	2
EPISA205930U	3.0R	5.9	75	12	2
EPISA203940U	4.0R	3.9	75	12	2
EPISA205950U	5.0R	5.9	75	16	2
EPISA203960U	6.0R	3.9	75	16	2

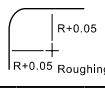


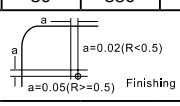
2 | MG | UNICO | R

0° | HRC 48



Woking Material	CARBON STEEL			ALLOY STEEL / TOOL STEEL			HARDENED STEEL		
Hardness	HRC < 20			HRC 30 ~ 40			HRC 40~50		
Vc	30~40 m/min			20~30 m/min			15~25 m/min		
Diameter (d)	R.P.M	Roughing Feed (mm/min)	Finishing Feed (mm/min)	R.P.M	Roughing Feed (mm/min)	Finishing Feed (mm/min)	R.P.M	Roughing Feed (mm/min)	Finishing Feed (mm/min)
0.50R	8,800	50	80	6,400	40	55	5,100	30	50
0.75R	7,200	50	80	5,100	40	55	4,100	30	50
1.00R	5,000	50	80	3,500	40	55	3,400	30	50
1.25R	4,300	50	80	3,100	40	55	2,900	30	50
1.50R	3,000	50	80	2,200	40	55	2,600	30	50
2.00R	2,600	50	80	1,900	40	55	2,200	30	50
2.50R	2,200	50	80	1,800	40	55	2,000	30	50
3.00R	2,000	50	80	1,600	40	55	1,700	30	50
4.00R	1,500	50	80	1,200	40	55	1,300	30	50
5.00R	1,300	50	80	960	40	55	1,000	30	50
6.00R	1,200	50	80	880	40	55	900	30	50





· Divide the cutting depth into several time paths.
· Use cutting fluid.

S960 - Inner Radius Endmill · 4F

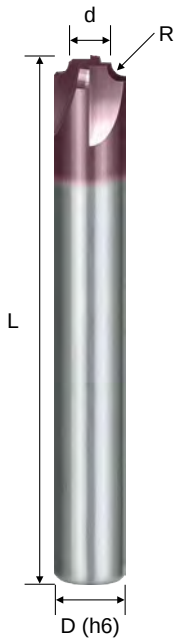
內 R 角銑刀・4 刃

- Inner radius tools are suitable for chamfering with round corner application.
- Suitable for alloy steel, stainless steel, cast iron & hardened steel.
- UNICO (Ti, Al, N) coating provides excellent wear resistance.

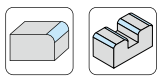
ASIA (Metric)

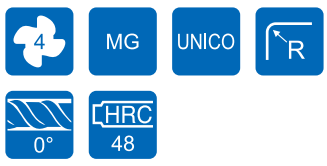
EPISA

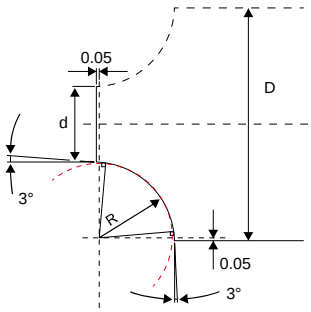
P	M	K	N	S	H
●	●	●			○



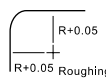
Order No.	Corner Radius (R)	Front Dia. (d)	OAL (L)	Shank (D)	Flutes (Z)
EPISA442905U	0.5R	2.9	50	4	4
EPISA404905U	0.5R	4.9	50	6	4
EPISA441910U	1.0R	1.9	50	4	4
EPISA403910U	1.0R	3.9	50	6	4
EPISA405910U	1.0R	5.9	60	8	4
EPISA404915U	1.5R	4.9	60	8	4
EPISA405920U	2.0R	5.9	75	10	4
EPISA404925U	2.5R	4.9	75	10	4
EPISA405930U	3.0R	5.9	75	12	4
EPISA403940U	4.0R	3.9	75	12	4
EPISA405950U	5.0R	5.9	75	16	4
EPISA403960U	6.0R	3.9	75	16	4

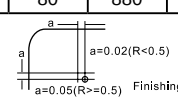






Woking Material	CARBON STEEL			ALLOY STEEL / TOOL STEEL			HARDENED STEEL		
Hardness	HRC < 20			HRC 30 ~ 40			HRC 40~50		
Vc	30~40 m/min			20~30 m/min			15~25 m/min		
Diameter (d)	R.P.M	Roughing Feed (mm/min)	Finishing Feed (mm/min)	R.P.M	Roughing Feed (mm/min)	Finishing Feed (mm/min)	R.P.M	Roughing Feed (mm/min)	Finishing Feed (mm/min)
0.50R	8,800	50	80	6,400	40	55	5,100	30	50
0.75R	7,200	50	80	5,100	40	55	4,100	30	50
1.00R	5,000	50	80	3,500	40	55	3,400	30	50
1.25R	4,300	50	80	3,100	40	55	2,900	30	50
1.50R	3,000	50	80	2,200	40	55	2,600	30	50
2.00R	2,600	50	80	1,900	40	55	2,200	30	50
2.50R	2,200	50	80	1,800	40	55	2,000	30	50
3.00R	2,000	50	80	1,600	40	55	1,700	30	50
4.00R	1,500	50	80	1,200	40	55	1,300	30	50
5.00R	1,300	50	80	960	40	55	1,000	30	50
6.00R	1,200	50	80	880	40	55	900	30	50





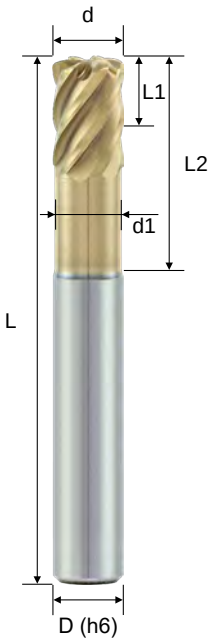
· Divide the cutting depth into several time paths.
· Use cutting fluid.

S970 - High Feed EndMill · 4F / 6F 高進給銑刀・4 刃 / 6 刃

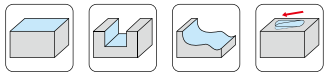
- Suitable for P, M and K materials (HRC < 55).
- Duotec and multi-flutes design.
- High feed and high metal removal rate in face milling.
- SNAX (AlTiSiN) coating provides excellent wear resistance and low friction.

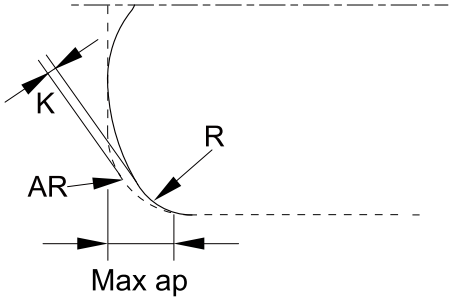
EHWSA

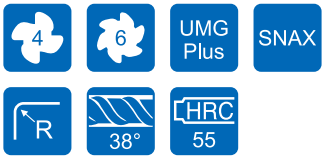
P	M	K	N	S	H
●	●	●		○	○



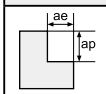
Order No.	Dia. (d)	ND (d1)	Max ap	Radius (R)	Approx Radius (AR)	Uncut (K)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
(with Neck)											
EHWSA406000S	6	5.6	0.35	0.6	0.92	0.21	9	18	60	6	4
EHWSA608000S	8	7.6	0.40	0.8	1.16	0.22	12	24	75	8	6
EHWSA610000S	10	9.4	0.55	1.0	1.47	0.28	15	30	75	10	6
EHWSA612000S	12	11.4	0.70	1.2	1.77	0.34	18	36	75	12	6
(without Neck)											
EHWSA403101S	3.175(1/8")	-	0.18	0.3	0.64	0.08	3.175	-	63.5	6.35	4
EHWSA404701S	4.763(3/16")	-	0.30	0.5	0.815	0.17	4.763	-	63.5	6.35	4
EHWSA406001S	6	-	0.35	0.6	0.92	0.21	6	-	60	6	4
EHWSA406301S	6.35(1/4")	-	0.35	0.6	0.92	0.21	6.35	-	63.5	6.35	4
EHWSA408001S	8	-	0.40	0.8	1.16	0.22	8	-	75	8	4
EHWSA409501S	9.525(3/8")	-	0.55	1.0	1.47	0.28	9.525	-	76.2	9.52	4
EHWSA410001S	10	-	0.55	1.0	1.47	0.28	10	-	75	10	4
EHWSA412001S	12	-	0.70	1.2	1.77	0.34	12	-	75	12	4
EHWSA412701S	12.7(1/2")	-	0.70	1.2	1.77	0.34	12.7	-	76.2	12.7	4
EHWSA616001S	16	-	0.90	1.6	2.35	0.43	16	-	100	16	6







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

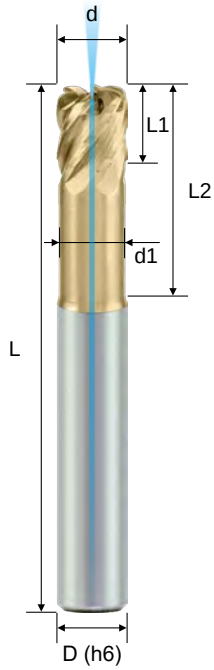
Working Material	Carbon / Alloy steel (< HRC 30)		Carbon / Alloy steel (HRC 35~45)		Stainless steel (< HRC 30)		High temperature alloy / Hardened steel (HRC 40~55)	
Vc	90~150 m/min		80~135 m/min		70~120 m/min		50~80 m/min	
Diameter (d)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)
4mm	7200~12000	0.20	6400~10700	0.18	5600~9600	0.16	4000~6400	0.14
6mm	4800~8000	0.30	4200~7200	0.27	3700~6400	0.24	2700~4200	0.21
8mm	3600~6000	0.35	3200~5400	0.32	2800~4800	0.28	2000~3200	0.25
10mm	2900~4800	0.40	2500~4300	0.36	2200~3800	0.32	1600~2500	0.28
12mm	2400~4000	0.45	2100~3600	0.41	1900~3200	0.36	1300~2100	0.32
16mm	1800~3000	0.55	1600~2700	0.50	1400~2400	0.44	1000~1600	0.39
	ap = 0.03d ~ 0.05d ae ≥ 0.5d							

S970 - High Feed EndMill · Internal Coolant · 4F / 6F 高進給銑刀・中心出水型・4 刃 / 6 刃

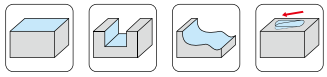
- Suitable for P, M, K and S materials (HRC < 55).
- Duotec and multi-flutes design.
- High feed and high metal removal rate in face milling.
- SNAX (AlTiSiN) coating provides excellent wear resistance and low friction.
- With center internal coolant hole improve tool life.

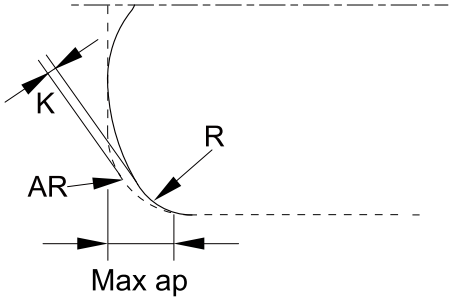
EHWCA

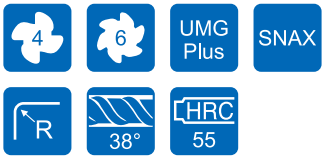
P	M	K	N	S	H
●	●	●		●	○



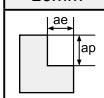
Order No.	Dia. (d)	ND (d1)	Max ap	Radius (R)	Approx Radius (AR)	Uncut (K)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHWSC406000S	6	5.6	0.35	0.6	0.92	0.21	9	18	60	6	4
EHWSC608000S	8	7.6	0.40	0.8	1.16	0.22	12	24	75	8	6
EHWSC610000S	10	9.4	0.55	1.0	1.47	0.28	15	30	75	10	6
EHWSC612000S	12	11.4	0.70	1.2	1.77	0.34	18	36	75	12	6







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

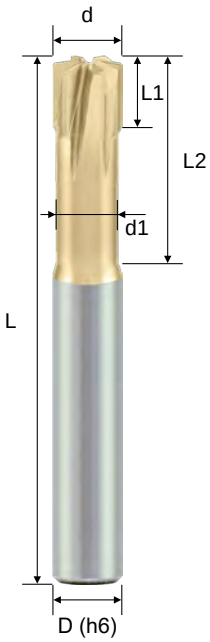
Working Material	Carbon / Alloy steel (< HRC 30)		Carbon / Alloy steel (HRC 35~45)		Stainless steel (< HRC 30)		High temperature alloy / Hardened steel (HRC 40~55)	
Vc	90~150 m/min		80~135 m/min		70~120 m/min		50~80 m/min	
Diameter (d)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)
4mm	7200~12000	0.20	6400~10700	0.18	5600~9600	0.16	4000~6400	0.14
6mm	4800~8000	0.30	4200~7200	0.27	3700~6400	0.24	2700~4200	0.21
8mm	3600~6000	0.35	3200~5400	0.32	2800~4800	0.28	2000~3200	0.25
10mm	2900~4800	0.40	2500~4300	0.36	2200~3800	0.32	1600~2500	0.28
12mm	2400~4000	0.45	2100~3600	0.41	1900~3200	0.36	1300~2100	0.32
16mm	1800~3000	0.55	1600~2700	0.50	1400~2400	0.44	1000~1600	0.39
	ap = 0.03d ~ 0.05d ae ≥ 0.5d							

S970 - DouFeed EndMill · Straight Flute · 4F / 6F 高進給銑刀・直刃型・4 刃 / 6 刃

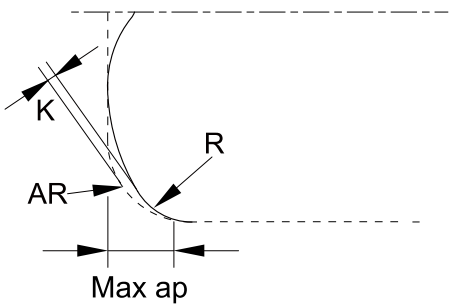
- Multi-flute and 0° helix geometry design.
- High feed and high metal removal rate in surface milling.
- Suitable for hardened steel HRC 48~70.
- SNAX smooth coating (Al, Ti, Si, N) provides excellent wear resistance and low friction.

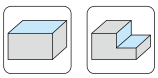
EHWUS

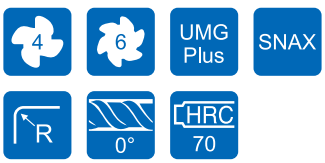
P	M	K	N	S	H
●	○	●			●



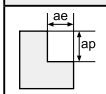
Order No.	Dia. (d)	ND (d1)	Max ap	Radius (R)	Approx Radius (AR)	Uncut (K)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHWUS404000S	4	3.8	0.25	0.5	0.71	0.13	4	12	60	6	4
EHWUS406000S	6	5.6	0.35	0.6	0.92	0.21	6	18	60	6	4
EHWUS408000S	8	7.6	0.40	0.8	1.16	0.22	8	24	60	8	4
EHWUS610000S	10	9.4	0.55	1.0	1.47	0.28	10	30	75	10	6
EHWUS612000S	12	11.4	0.70	1.2	1.77	0.34	12	36	75	12	6
EHWUS616000S	16	15.2	0.90	1.6	2.35	0.43	16	48	100	16	6







d Tolerance	
d ≤ 12	0 ~ -0.02
d > 12	0 ~ -0.03

Working Material	Hardened steel (HRC 35~45)		Hardened steel (HRC 40~55)		Hardened steel (HRC 55~65)	
Vc	90~140 m/min		50~90 m/min		40~70 m/min	
Diameter (d)	RPM	fz (mm/z)	RPM	fz (mm/z)	RPM	fz (mm/z)
4mm	7200~11100	0.18	4000~7200	0.14	3200~5600	0.12
6mm	4800~7400	0.27	2700~4800	0.21	2100~3700	0.18
8mm	3600~5600	0.32	2000~3600	0.25	1600~2800	0.21
10mm	2900~4500	0.36	1600~2900	0.28	2300~2200	0.24
12mm	2400~3700	0.41	1300~2400	0.32	1100~1900	0.27
16mm	1800~2800	0.50	1000~1800	0.39	800~1400	0.33
	ap = 0.03d ~ 0.05d ae ≥ 0.5d					

H800 - CBN · Corner Radius · 4F

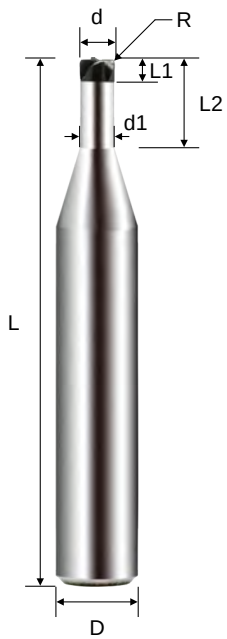
CBN 圓鼻銑刀・4 刃

- Finishing for hardened steel (HRC ≤ 65).

ASIA (Metric)

EBCUA

P	M	K	N	S	H
					●



Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
4 Flutes								
EBCUA441001	1	0.1	0.7	2.5	0.96	50	4	4
EBCUA441501	1.5	0.1	1	3.75	1.44	50	4	4
EBCUA442001	2	0.1	1.2	5	1.96	50	4	4
EBCUA443001	3	0.1	1.8	7.5	2.92	50	4	4
EBCUA443002	3	0.2	1.8	7.5	2.92	50	4	4

※Customized is available

4 | 6 | R | HRC 65

R Tolerance	
R	±0.005

H800 - CBN · Ball Nose · 2F

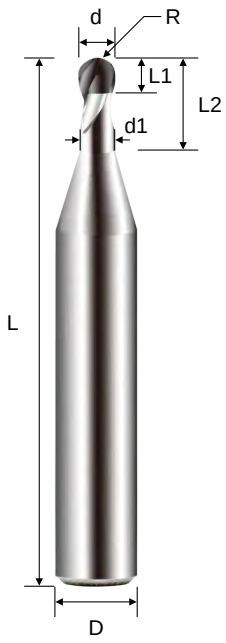
CBN 球型銑刀・2 刃

- Finishing for hardened steel (HRC ≤ 65).
- Low helix design

ASIA (Metric)

EBBUA

P	M	K	N	S	H
					●



Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
EBBUA240200	0.1R	0.2	0.15	0.4	0.17	50	4	2
EBBUA240400	0.2R	0.4	0.3	0.8	0.37	50	4	2
EBBUA240600	0.3R	0.6	0.5	1.2	0.57	50	4	2
EBBUA240800	0.4R	0.8	0.6	1.6	0.77	50	4	2
EBBUA241000	0.5R	1	0.7	2	0.96	50	4	2
EBBUA241500	0.75R	1.5	1	3	1.44	50	4	2
EBBUA242000	1.0R	2	1.2	4	1.96	50	4	2
EBBUA203000	1.5R	3	1.8	6	2.92	50	6	2

※Customized is available

2 R HRC 65

R Tolerance	
R	±0.005

A830 - PCD · Corner Radius

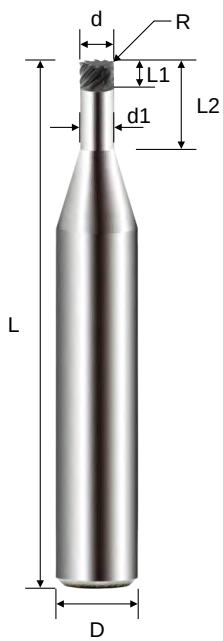
PCD 圓鼻型銑刀

- Suitable for ceramics, carbide and glass machining.

ASIA (Metric)

EDCUD

P	M	K	N	S	H
			●		



Order No.	Dia. (d)	Radius (R)	CL (L1)	EFF-L (L2)	ND (d1)	OAL (L)	Shank (D)	Flutes (Z)
EDCUD0741001	1	0.1R	1.5	3	0.9	50	4	6~7
EDCUD1141501	1.5	0.1R	1.5	3	1.4	50	4	9~11
EDCUD1502001	2	0.1R	1.5	3	1.9	50	6	12~15
EDCUD2503001	3	0.1R	1.5	3	2.9	50	6	20~25

※Customized is available

R | 45° | HRC 20

Troubleshooting 銑削加工異常原因及對策

Trouble 情況	Occurrences 原因	Countermeasures 對策
Chipping 崩刃	Too high feed 進給量太大	Reduce feed 降低進給量
	Up milling 逆銑（向上切削）	Change down milling 順銑（向下切削）
	Sharp cutting edge 切削刃太鋒利	Honing at the cutting edge-chamfering or rounding if needed 修磨切削刃 - 必要時倒角或倒圓
	Chattering 震動	Check spindle speed down 向下調整主軸轉速
	Too much overhang 刀具突出量太長	Adjust to minimize overhang 將刀具突出量調整為最小
	Unfixed chucking of Endmill 銑刀未牢固夾緊	Check the precision of chuck and collet 調整夾治具精度
Wear 磨損	High Cutting speed 切削速度過高	Decrease cutting speed 減低切削速度
	Low feed 進給量太小	Increase feed 增加進給量
	Up milling 逆銑（向上切削）	Down milling 順銑（向下切削）
	High-hardened work piece 材質硬度過高	Choosing special coating endmill 選用特殊鍍膜的銑刀
Tool Breakage 刀具折斷	Too much cutting amount 切削量太大	Decrease cutting amount 減少切削量
	High cutting force 切削力過大	Feed down; spindle speed up 降低進給；提高轉速
	Too much overhang 刀具突出量太長	Adjust to minimize overhang 將刀具突出量調整為最小
Surface Roughness 表面粗糙度	Chattering 震動	Change the cutting condition 改變切削條件
	Generation of built-up edge 排屑不良	Increasing cutting speed & Feed rate or down milling 提昇切削速度 & 進給率或順銑
	high feed, low speed 高進給，低切削速度	Reduce feed & Increase speed 降低進給提高切削速度
Accuracy of finished work piece 加工精度	Incorrect Numbers of flute 刃數不夠	Replace more flutes Endmill 更換多刃銑刀
	Deflection of Tool 刀具偏差	Using big diameter tool & Minimize the overhang 使用大刃徑和突出量減至最小

WINSTAR

Holemaking

孔加工刀具

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DP Series High Performance Drills for Universal 高效能內冷及外冷全鎢鋼鑽頭 (泛用)												
	Universal · Internal Coolant · 3D 高效能內冷鑽頭 · 3D	DPC3	Ø0.65~Ø20	140°	UNIX	●	●	●		●	○	C010
	High Feed · 3F · Internal Coolant · 3D 高進給 3 刃內冷鑽頭 · 3D	DPTC3	Ø6~Ø16	140°	UNIX	●	○	●	○	○	○	C012
	Universal · External Coolant · 3D 高效能外冷鑽頭 · 3D	DPN3	Ø0.1~Ø20	130° / 140°	UNIX	●	●	●		●	○	C013
	High Feed · 3F · External Coolant · 3D 高進給 3 刃外冷鑽頭 · 3D	DPTN3	Ø4~Ø16	140°	UNIX	●		●	○			C016
	Universal · Internal Coolant · 5D 高效能內冷鑽頭 · 5D	DPC5	Ø0.65~Ø20	140°	UNIX	●	●	●		●	○	C017
	Universal · External Coolant · 5D 高效能外冷鑽頭 · 5D	DPN5	Ø3~Ø20	140°	UNIX	●	●	●		●	○	C019
	High Feed · 3F · Internal Coolant · 5D 高進給 3 刃內冷鑽頭 · 5D	DPTC5	Ø6~Ø16	140°	UNIX	●	○	●	○	○	○	C012
	Universal · Internal Coolant · 7D 高效能內冷鑽頭 · 7D	DPC7	Ø4~Ø16	140°	UNIX	●	●	●		●	○	C021
	Universal · Internal Coolant · 10D 高效能內冷鑽頭 · 10D	DPC9	Ø1~Ø16	135°	UNIX	●	●	●		●	○	C022
	Universal · Internal Coolant · 15D 高效能內冷鑽頭 · 15D	DPC9	Ø1~Ø12	135°	UNIX	●	●	●		●	○	C022
	Universal · Internal Coolant · 20D 高效能內冷鑽頭 · 20D	DPC9	Ø1~Ø10	135°	UNIX	●	●	●		●	○	C023
	Universal · Internal Coolant · 30D 高效能內冷鑽頭 · 30D	DPC9	Ø3~Ø6	135°	UNIX	●	●	●		●	○	C023
	Universal · Micro · External Coolant · 10D/30D/50D 外冷微小徑深孔鑽 · 10/30/50 倍深 (啄鑽專用)	DPN9	Ø0.1~Ø1.5	130°	UNIX	●	●	●	●	○	○	C025
DM Series High Performance Drills for Stainless Steel 高效能內冷及外冷全鎢鋼鑽頭 (不鏽鋼用)												
	Exotic Material · Internal Coolant · 3D 高效能內冷鑽頭 (鈦及不鏽鋼用) · 3D	DMC3	Ø3.9~Ø20	140°	SINIX	●	●	●		●	○	C026
	Exotic Material · External Coolant · 3D 高效能外冷鑽頭 (鈦及不鏽鋼用) · 3D	DMN3	Ø4~Ø18	140°	SINIX	●	●	●		●		C027
	Exotic Material · Internal Coolant · 5D 高效能內冷鑽頭 (鈦及不鏽鋼用) · 5D	DMC5	Ø3.4~Ø20	140°	SINIX	●	●	●		●	○	C028
DH Series High Performance Drills for Hardened Steel 高效能外冷全鎢鋼鑽頭 (高硬用)												
	Hardened Steel · External Coolant · 3D 高效能外冷鑽頭 (高硬用) · 3D	DHN3	Ø0.9~Ø12	140°	SINIX	●				●	●	C029
DG Series General Purpose Drills 泛用外冷全鎢鋼鑽頭												
	General Purpose · External Coolant · 3D 泛用外冷鑽頭 · 3D	DGN3	Ø3.1~Ø13	130°	UNICO	●	●	●	○	○	○	C030
DA Series Straight Flute Drills 直刃外冷全鎢鋼鑽鉸刀												
	Straight flute · External Coolant · 3D 直刃外冷鑽鉸刀 · 3D	DAN	Ø4~Ø16	130°	UNIX	○		●	●			C031
	Straight flute · External Coolant · 5D 直刃外冷鑽鉸刀 · 5D	DAN	Ø4~Ø16	130°	UNIX	○		●	●			C032

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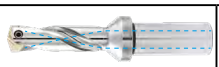
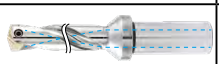
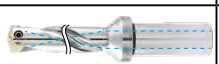
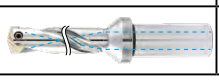
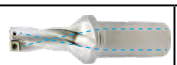
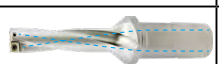
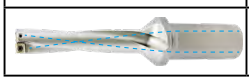
DF Series Flat Drills 平底外冷鑽頭												
	Flat Point · External Coolant · 3D 平底外冷鑽頭・3D	DFN3	Ø2.2~Ø20	180°	UNIX	●	○	●	○			C033
DT Series Spotting Drills 定位外冷全鎢鋼鑽頭												
	Spotting · External Coolant · Tip angle 90°&120° 定位外冷鑽頭・鑽尖 90°＆120°	DTN	Ø0.3~Ø16	90° & 120°	UNICO	●	●	●		●	●	C035
	Spotting · External Coolant · Tip angle 90° 定位外冷鑽頭・鑽尖 90°	DTN	Ø1.3~Ø16	90°	UNICO	●	●	●	●	○	○	C035
	Spotting · External Coolant · Tip angle 120° 定位外冷鑽頭・鑽尖 120°	DTN	Ø3~Ø16	120°	UNICO	●	●	●	○	●	●	C036
	Spotting · External Coolant · Tip angle 142° 定位外冷鑽頭・鑽尖 142°	DTN	Ø3~Ø16	142°	UNICO	●	●	●	○	●	●	C036
DC Series Center Drills 中心外冷全鎢鋼鑽頭												
	Centering · External Coolant · Countersink angle 60° 中心外冷鑽頭・錐孔 60°	DCN	Ø1~Ø6.3	120°	UNICO	●	○	●				C037
	Centering · External Coolant · Countersink angle 90° 中心外冷鑽頭・錐孔 90°	DCN	Ø1~Ø5	120°	UNICO	●	○	●				C037
DZ Series Step Drills 階梯外冷全鎢鋼鑽頭												
	Step · External Coolant 階梯外冷鑽頭	DZN	Ø3.3~Ø8.5	140°	UNIX	●	○	●				C038

Appearance 外觀	Name 名稱	Diameter 外徑	Inserts 刀片	Page 頁碼
DMU Series Modular Drills 模組化鑽頭				
	Modular Drills· 3D 模組化鑽頭・3D	Ø12~Ø25.4	DMUA..	C043
	Modular Drills · 5D 模組化鑽頭・5D	Ø12~Ø25.4	DMUA..	C043
	Modular Drills· 7D 模組化鑽頭・7D	Ø12~Ø25.4	DMUA..	C044
	Modular Drills · 10D 模組化鑽頭・10D	Ø12~Ø25.4	DMUA..	C044
	Modular Drills · 12D 模組化鑽頭・12D	Ø12~Ø25.4	DMUA..	C045
DSP Series Indexable Drilling Tools 捨棄式鑽頭				
	Indexable Drills · 2D 捨棄式鑽頭・2D	Ø12.5~Ø41	SPGG.. / SPMG..	C049
	Indexable Drills · 3D 捨棄式鑽頭・3D	Ø12.5~Ø41	SPGG.. / SPMG..	C051
	Indexable Drills · 4D 捨棄式鑽頭・4D	Ø12.5~Ø41	SPGG.. / SPMG..	C053
	Indexable Drills · 5D 捨棄式鑽頭・5D	Ø13~Ø36	SPGG.. / SPMG..	C055

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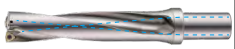
	Indexable Drills · 3D 捨棄式鑽頭・3D	Ø14~Ø60	WCMT..	C060
	Indexable Drills · 4D 捨棄式鑽頭・4D	Ø14~Ø60	WCMT..	C062
	Indexable Drills · 5D 捨棄式鑽頭・5D	Ø16~Ø44	WCMT..	C064
DWD Series Indexable Drilling Tools 捨棄式鑽頭				
	Indexable Drills · 3D (Single Flute) 捨棄式鑽頭・3D (單刃)	Ø10~Ø12	WDXT..	C067
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	Indexable Drills · 4D 捨棄式鑽頭・4D	Ø13~Ø25	WDXT..	C068
	Indexable Drills · 5D 捨棄式鑽頭・5D	Ø13~Ø25	WDXT..	C069

Appearance 外觀	Name 名稱	Spotting Range 定位外徑範圍	Inserts 刀片	Page 頁碼
DTS Series Indexable Spotting Drills 捨棄式定位鑽頭				
	DTS60 Indexable Spotting Drills 60° 定位鑽	Ø0.2~Ø3	DCEX11T3	C072
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø1~Ø5	SDMX05T1	C073
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø2~Ø11	SCGX09T3 / SCMX09T3	C073
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø3~Ø14	SDMX11T3	C073
	DTS90 Modular Spotting Drill Heads 90° 定位鑽刀頭	Ø2~Ø11	SCGX09T3 / SCMX09T3	C073
	DTS90 Indexable Spotting Drills 90° 定位鑽	Ø3~Ø20	TCMX16T3	C074

Index 索引

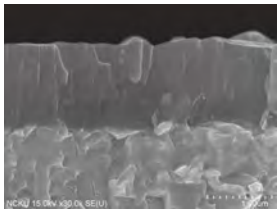
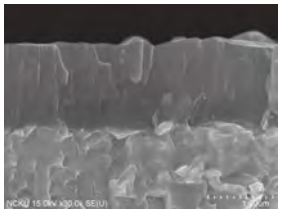
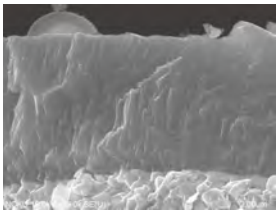
Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Tip Angle 鑽尖	Coating 塗層	P	M	K	N	S	H	Page 頁碼
DR Series Solid Carbide Reamers 全鎢鋼鉸刀												
	Left spiral flute · External Coolant 螺旋機械外冷鉸刀	DRMN	Ø2.99~Ø12.02	–	UNIX	●		●	●			C077
	Straight flute · Internal Coolant 直刃內冷鉸刀	DRSC	Ø3~Ø12	–	UNIX	●	○	●	●	○		C078
	Straight flute · External Coolant 直刃外冷鉸刀	DRSN	Ø2.99~Ø20	–	UNIX	●	○	●	●	○		C079

Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Coating 塗層	P	M	K	N	S	H	Page 頁碼
DR□M Series Modular Reamers 模組化鉸刀											
	Left spiral flute · Internal Coolant 內冷模組化螺旋機械鉸刀	DRMMC	Ø12.99~Ø20.01	UNIX	●	●	●	○	●		C081
	Left spiral flute · External Coolant 外冷模組化螺旋機械鉸刀	DRMMN	Ø12.99~Ø20.01	UNIX	●		●				C084
	Straight flute · Internal Coolant 內冷模組化直刃鉸刀	DRSMC	Ø12.99~Ø20.01	UNIX	●	●	●	○	●		C087
	Straight flute · External Coolant 外冷模組化直刃鉸刀	DRSMN	Ø12.99~Ø20.01	UNIX	●		●				C090

Appearance 外觀	Name 名稱	Boring Range 搪孔範圍	Inserts 刀片	Page 頁碼
DB Series Indexable Boring Tools 捨棄式搪孔刀				
	DBP - Finsih Boring Head · Internal Coolant 捨棄式內冷單刃精搪刀	Ø20~Ø202	TC..09 / TC..11	C093
	DBR - Rough Boring Head · Internal Coolant 捨棄式內冷雙刃粗搪刀	Ø25~Ø204	CC..06 / CC..09 / SC..09 TC..11 / TC..16	C094
	DBEXC - Constant Diameter Extension 等徑搪刀延長桿	–	–	C095
	DBBT - Boring Taper Shank 捨棄式搪刀刀柄	–	–	C096

Coating and Grade Introduction 塗層與材質介紹

Coating 塗層

Coating Type 塗層類型	UNICO	UNIX	SINIX
			
Hardness(HV 0.05) 硬度	HV2800 ~ 3100	HV2800 ~ 3100	HV3500 ~ 3800
Friction Coefficient 摩擦系數	0.4 ~ 0.5	0.3 ~ 0.4	0.3 ~ 0.4
Working Temperature 加工溫度	800 ~ 900°C	800 ~ 900°C	1100 ~ 1200°C
Coating Structure 塗層結構	Multi-layer	Multi-layer	Nano Multi-layer
Coating Elements 塗層元素	TiAlN	TiAlN	AlTiSiN

Grade 材質

Grade Type 刀片材質	Color 刀片顏色	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍	Previous Grade 以前的材質
CX32HS		• PVD (AlTiSiN) • Wear resistance • Anti-corrosion • 耐磨性 • 抗腐蝕	• Medium to roughing • General machining • For carbon steel & alloy steel is 1st recommended • 適合中至粗加工 • 適合泛用加工 • 加工碳鋼 & 合金鋼為第一建議	●	○	●				• Mold & Die • Automotive • Machinery • Aerospace • 模具產業 • 汽車零件 • 機械零件 • 航太零件	–
CX33TX				●	○	●		○	●		
CX43TX		• PVD (AlTiSiN) • High impact resistance • Anti-corrosion • 高抗衝擊性 • 抗腐蝕	• Medium to roughing • Interrupted machining • For exotic materials is 1st recommended • 適合中至粗加工 • 適合斷續加工 • 加工高溫合金為第一建議	●	●			●		• Electronics • Medical • Aerospace • 電子零件 • 醫療產業 • 航太零件	–

Selection Guide 選擇指南

P *Steel* 鋼

Application 應用	1st Recommendation 第一推薦	2nd Recommendation 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DSP・SPMG-MG・CX33TX	DWC・WCMT-MG・CX33TX
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU・DMUA-SX・CX33TX	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DPC / DPN・UNIX	DMC / DMN・SINIX

M *Stainless Steel* 不鏽鋼

Application 應用	1st Recommendation 第一推薦	2nd Recommendation 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DWC・WCMT-SG・CX43TX	DSP・SPMG-SG・CX33TX
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU・DMUA-SX・CX33TX	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DMC / DMN・SINIX	DPC / DPN・UNIX

Selection Guide 選擇指南

K *Cast Iron* 鑄鐵

Application 應用	**1st Recommendation** 第一推薦	**2nd Recommendation** 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DSP・SPMG-MG・CX33TX	DWC・WCMT-MG・CX33TX
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU・DMUA-SX・CX33TX	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DPC / DPN・UNIX	DMC / DMN・SINIX

N *Aluminum alloy & Brass* 鋁合金與銅

Application 應用	**1st Recommendation** 第一推薦	**2nd Recommendation** 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DSP・SPGG-SG・CX33TX	–
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	–	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DGN・UNICO	–

Selection Guide 選擇指南

S *Super Alloy* 高溫合金

Application 應用	**1st Recommendation** 第一推薦	**2nd Recommendation** 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DWC・WCMT-SG・CX43TX	DSP・SPMG-MG・CX43TX
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU・DMUA-SX・CX33TX	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DMC / DMN・SINIX	DHN・SINIX

H *Hardened Steel* 高硬度鋼

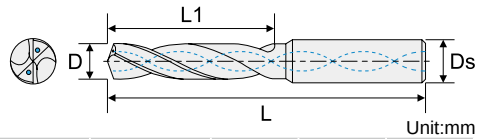
Application 應用	**1st Recommendation** 第一推薦	**2nd Recommendation** 第二推薦
Large Hole Drilling (Indexable) (Hole Tolerance : -0.1~+0.4) 大孔 (中至大孔 , 捨棄式鑽頭)	DSP・SPMG-MG・CX33TX	DWC・WCMT-MG・CX33TX
Medium Hole Drilling (Modular) (Hole Tolerance : 0~+0.2) 中孔 (中至中大孔 , 模組化鑽頭)	DMU・DMUA-SX・CX33TX	–
Small Hole Drilling (Solid) (Hole Tolerance : 0~+0.1) 小孔 (小至中孔 , 全鎢鋼鑽頭)	DHN・SINIX	–

DPC - for Universal · Internal Coolant · 3D

高效能內冷鑽頭・3 倍深

P	M	K	N	S	H
●	●	●		●	○

- 3×D Cutting Depth
- UNIX Smooth Coating
- Similar DIN6537
- 140° SX Tip
- D tolerance : h8
- Double Margin
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DPC30065033UX	0.65	3.5	50	3
DPC30070033UX	0.70	4	50	3
DPC30075033UX	0.75	4	50	3
DPC30080033UX	0.80	4.5	50	3
DPC30085033UX	0.85	4.5	50	3
DPC30090033UX	0.90	5	50	3
DPC30095033UX	0.95	5	50	3
DPC30100033UX	1.00	6	50	3
DPC30110033UX	1.10	6	50	3
DPC30120033UX	1.20	7	50	3
DPC30130033UX	1.30	7	50	3
DPC30140033UX	1.40	8	50	3
DPC30150033UX	1.50	10	50	3
DPC30160033UX	1.60	10	50	3
DPC30170033UX	1.70	10	50	3
DPC30180033UX	1.80	12	50	3
DPC30190033UX	1.90	12	50	3
DPC30200033UX	2.00	12	50	3
DPC30210033UX	2.10	12	50	3
DPC30220033UX	2.20	12	50	3
DPC30230033UX	2.30	14	50	3
DPC30240033UX	2.40	14	50	3
DPC30250033UX	2.50	16	50	3
DPC30260033UX	2.60	16	50	3
DPC30270033UX	2.70	16	50	3
DPC30280033UX	2.80	16	50	3
DPC30290033UX	2.90	16	50	3
DPC30300033UX	3.00	16	50	3
DPC30300034UX	3.00	20	60	4
DPC30310034UX	3.10	20	60	4
DPC30317034UX	3.17(1/8")	20	60	4
DPC30320034UX	3.20	20	60	4
DPC30330034UX	3.30	20	60	4
DPC30340034UX	3.40	20	60	4
DPC30350034UX	3.50	20	60	4
DPC30360034UX	3.60	20	60	4
DPC30370034UX	3.70	20	60	4
DPC30380034UX	3.80	24	60	4
DPC30390034UX	3.90	24	60	4
DPC30400030UX	4.00	24	66	6
DPC30410030UX	4.10	24	66	6
DPC30420030UX	4.20	24	66	6
DPC30430030UX	4.30	24	66	6
DPC30440030UX	4.40	24	66	6
DPC30450030UX	4.50	24	66	6
DPC30460030UX	4.60	24	66	6
DPC30465030UX	4.65(13/71")	24	66	6
DPC30470030UX	4.70	24	66	6

Order No.	D	L1	L	Ds
DPC30476030UX	4.76(3/16")	28	66	6
DPC30480030UX	4.80	28	66	6
DPC30490030UX	4.90	28	66	6
DPC30500030UX	5.00	28	66	6
DPC30510030UX	5.10	28	66	6
DPC30520030UX	5.20	28	66	6
DPC30530030UX	5.30	28	66	6
DPC30540030UX	5.40	28	66	6
DPC30550030UX	5.50	28	66	6
DPC30556030UX	5.56	28	66	6
DPC30560030UX	5.60	28	66	6
DPC30570030UX	5.70	28	66	6
DPC30580030UX	5.80	28	66	6
DPC30590030UX	5.90	28	66	6
DPC30600030UX	6.00	28	66	6
DPC30610030UX	6.10	34	79	8
DPC30620030UX	6.20	34	79	8
DPC30630030UX	6.30	34	79	8
DPC30635030UX	6.35(1/4")	34	79	8
DPC30640030UX	6.40	34	79	8
DPC30650030UX	6.50	34	79	8
DPC30660030UX	6.60	34	79	8
DPC30670030UX	6.70	34	79	8
DPC30680030UX	6.80	34	79	8
DPC30690030UX	6.90	34	79	8
DPC30700030UX	7.00	34	79	8
DPC30710030UX	7.10	41	79	8
DPC30720030UX	7.20	41	79	8
DPC30730030UX	7.30	41	79	8
DPC30740030UX	7.40	41	79	8
DPC30750030UX	7.50	41	79	8
DPC30760030UX	7.60	41	79	8
DPC30770030UX	7.70	41	79	8
DPC30780030UX	7.80	41	79	8
DPC30790030UX	7.90	41	79	8
DPC30794030UX	7.94(5/16)	41	79	8
DPC30800030UX	8.00	41	79	8
DPC30810030UX	8.10	47	89	10
DPC30820030UX	8.20	47	89	10
DPC30830030UX	8.30	47	89	10
DPC30840030UX	8.40	47	89	10
DPC30850030UX	8.50	47	89	10
DPC30860030UX	8.60	47	89	10
DPC30870030UX	8.70	47	89	10
DPC30880030UX	8.80	47	89	10
DPC30890030UX	8.90	47	89	10
DPC30900030UX	9.00	47	89	10
DPC30910030UX	9.10	47	89	10

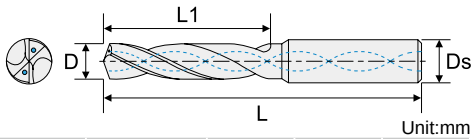
Cutting conditions : Page C039

DPC - for Universal · Internal Coolant · 3D

高效能內冷鑽頭・3 倍深

P	M	K	N	S	H
●	●	●		●	○

- 3×D Cutting Depth
- UNIX Smooth Coating
- Similar DIN6537
- 140° SX Tip
- D tolerance : h8
- Double Margin
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DPC30920030UX	9.20	47	89	10
DPC30925030UX	9.25(23/64")	47	89	10
DPC30930030UX	9.30	47	89	10
DPC30940030UX	9.40	47	89	10
DPC30950030UX	9.50	47	89	10
DPC30952030UX	9.52(3/8")	47	89	10
DPC30960030UX	9.60	47	89	10
DPC30970030UX	9.70	47	89	10
DPC30980030UX	9.80	47	89	10
DPC30990030UX	9.90	47	89	10
DPC31000030UX	10.00	47	89	10
DPC31010030UX	10.10	55	102	12
DPC31020030UX	10.20	55	102	12
DPC31030030UX	10.30	55	102	12
DPC31040030UX	10.40	55	102	12
DPC31050030UX	10.50	55	102	12
DPC31060030UX	10.60	55	102	12
DPC31070030UX	10.70	55	102	12
DPC31080030UX	10.80	55	102	12
DPC31090030UX	10.90	55	102	12
DPC31100030UX	11.00	55	102	12
DPC31110030UX	11.10	55	102	12
DPC31111030UX	11.11(7/16")	55	102	12
DPC31120030UX	11.20	55	102	12
DPC31130030UX	11.30	55	102	12
DPC31140030UX	11.40	55	102	12
DPC31150030UX	11.50	55	102	12
DPC31160030UX	11.60	55	102	12
DPC31170030UX	11.70	55	102	12
DPC31180030UX	11.80	55	102	12
DPC31190030UX	11.90	55	102	12
DPC31200030UX	12.00	55	102	12
DPC31210030UX	12.10	60	107	14
DPC31220030UX	12.20	60	107	14
DPC31230030UX	12.30	60	107	14
DPC31240030UX	12.40	60	107	14
DPC31250030UX	12.50	60	107	14
DPC31260030UX	12.60	60	107	14
DPC31270030UX	12.70(1/2")	60	107	14
DPC31280030UX	12.80	60	107	14
DPC31290030UX	12.90	60	107	14
DPC31300030UX	13.00	60	107	14
DPC31320030UX	13.20	60	107	14
DPC31330030UX	13.30	60	107	14
DPC31350030UX	13.50	60	107	14
DPC31370030UX	13.70	60	107	14
DPC31380030UX	13.80	60	107	14
DPC31400030UX	14.00	60	107	14

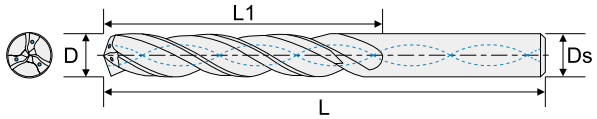
Order No.	D	L1	L	Ds
DPC31420030UX	14.20	65	115	16
DPC31429030UX	14.29(9/16")	65	115	16
DPC31430030UX	14.30	65	115	16
DPC31440030UX	14.40	65	115	16
DPC31450030UX	14.50	65	115	16
DPC31470030UX	14.70	65	115	16
DPC31500030UX	15.00	65	115	16
DPC31520030UX	15.20	65	115	16
DPC31550030UX	15.50	65	115	16
DPC31560030UX	15.60	65	115	16
DPC31570030UX	15.70	65	115	16
DPC31580030UX	15.80	65	115	16
DPC31587030UX	15.87(5/8")	65	115	16
DPC31600030UX	16.00	65	115	16
DPC31650030UX	16.50	73	123	18
DPC31700030UX	17.00	73	123	18
DPC31750030UX	17.50	73	123	18
DPC31800030UX	18.00	73	123	18
DPC31850030UX	18.50	79	131	20
DPC31900030UX	19.00	79	131	20
DPC31905030UX	19.05(3/4")	79	131	20
DPC31950030UX	19.50	79	131	20
DPC32000030UX	20.00	79	131	20

Cutting conditions : Page C039

DPTC - High Feed · 3F · Internal Coolant · 3D / 5D 高進給 3 刃內冷鑽頭・3 倍 / 5 倍深

P	M	K	N	S	H
●	○	●	○	○	○

- 3 Flute Design
- 140° SU Tip
- Single Margin
- UNIX Smooth Coating
- D tolerance : h8
- Ds tolerance : h6



3D

Unit:mm

Order No.	D	L1	L	Ds
DPTC30600030UX	6.00	28	66	6
DPTC30635030UX	6.35(1/4")	34	79	8
DPTC30650030UX	6.50	34	79	8
DPTC30680030UX	6.80	34	79	8
DPTC30700030UX	7.00	34	79	8
DPTC30794030UX	7.94(5/16)	41	79	8
DPTC30800030UX	8.00	41	79	8
DPTC30850030UX	8.50	47	89	10
DPTC30860030UX	8.60	47	89	10
DPTC30880030UX	8.80	47	89	10
DPTC30900030UX	9.00	47	89	10
DPTC30950030UX	9.50	47	89	10
DPTC30952030UX	9.52(3/8")	47	89	10
DPTC31000030UX	10.00	47	89	10
DPTC31020030UX	10.20	55	102	12
DPTC31030030UX	10.30	55	102	12
DPTC31100030UX	11.00	55	102	12
DPTC31140030UX	11.40	55	102	12
DPTC31150030UX	11.50	55	102	12
DPTC31200030UX	12.00	55	102	12
DPTC31250030UX	12.50	60	107	14
DPTC31270030UX	12.70(1/2")	60	107	14
DPTC31300030UX	13.00	60	107	14
DPTC31400030UX	14.00	60	107	14
DPTC31587030UX	15.87(5/8")	65	115	16
DPTC31600030UX	16.00	65	115	16

5D

Order No.	D	L1	L	Ds
DPTC50600050UX	6.00	44	82	6
DPTC50635050UX	6.35(1/4")	53	91	8
DPTC50650050UX	6.50	53	91	8
DPTC50680050UX	6.80	53	91	8
DPTC50700050UX	7.00	53	91	8
DPTC50794050UX	7.94(5/16")	53	91	8
DPTC50800050UX	8.00	53	91	8
DPTC50850050UX	8.50	61	103	10
DPTC50860050UX	8.60	61	103	10
DPTC50880050UX	8.80	61	103	10
DPTC50900050UX	9.00	61	103	10
DPTC50950050UX	9.50	61	103	10
DPTC50952050UX	9.52(3/8")	61	103	10
DPTC51000050UX	10.00	61	103	10
DPTC51020050UX	10.20	71	118	12
DPTC51030050UX	10.30	71	118	12
DPTC51100050UX	11.00	71	118	12
DPTC51140050UX	11.40	71	118	12
DPTC51150050UX	11.50	71	118	12
DPTC51200050UX	12.00	71	118	12
DPTC51270050UX	12.70(1/2")	77	124	14
DPTC51250050UX	12.50	77	124	14
DPTC51300050UX	13.00	77	124	14
DPTC51400050UX	14.00	77	124	14
DPTC51587050UX	15.87(5/8")	83	133	16
DPTC51600050UX	16.00	83	133	16

Recommended Cutting Conditions

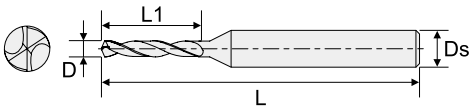
Min. - Suggestion - Max.

Work Material		Vc (m/min)	fr (mm/rev)		Vc (m/min)	fr (mm/rev)		Vc (m/min)	fr (mm/rev)	
			Ø6mm	Ø8mm		Ø10mm	Ø12mm		Ø14mm	Ø16mm
P	Carbon Steel (180 ~ 280HB)	70-90-110	0.18-0.24-0.30	0.24-0.32-0.40	80-100-120	0.30-0.40-0.50	0.36-0.48-0.60	90-110-130	0.42-0.56-0.70	0.48-0.64-0.80
P	Alloy Steel (280 ~ 350HB)	60-80-100	0.16-0.22-0.27	0.22-0.29-0.36	70-90-110	0.27-0.36-0.45	0.32-0.43-0.54	80-100-120	0.38-0.50-0.63	0.43-0.58-0.72
M	Stainless Steel	35-45-55	0.06-0.12-0.18	0.08-0.16-0.24	40-50-60	0.10-0.20-0.30	0.12-0.24-0.36	45-55-65	0.14-0.28-0.42	0.16-0.32-0.48
K	Cast Iron (< 350Mpa)	70-90-110	0.18-0.24-0.30	0.24-0.32-0.40	80-100-120	0.30-0.40-0.50	0.36-0.48-0.60	90-110-130	0.42-0.56-0.70	0.48-0.64-0.80
K	Ductile Cast Iron (< 450Mpa)	60-80-100	0.16-0.22-0.27	0.22-0.29-0.36	70-90-110	0.27-0.36-0.45	0.32-0.43-0.54	80-100-120	0.38-0.50-0.63	0.43-0.58-0.72

DPN - for Universal · External Coolant · Micro · 3D 高效能微小徑外冷鑽頭・3 倍深

P	M	K	N	S	H
●	●	●	○	○	○

- 3×D Cutting Depth
- 130° NX Tip
- UNIX Smooth Coating
- D tolerance : h8
- Ds tolerance : h6



Unit:mm

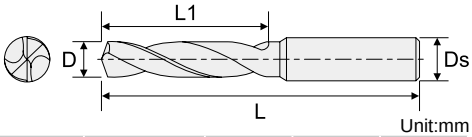
Order No.	D	L1	L	Ds
DPN300100330	0.10	0.6	38	3
DPN300150330	0.15	1	38	3
DPN300200330	0.20	1.5	38	3
DPN300250330	0.25	1.5	38	3
DPN300300330	0.30	2	38	3
DPN30035033UX	0.35	2	38	3
DPN30040033UX	0.40	2.5	38	3
DPN30045033UX	0.45	2.8	38	3
DPN30050033UX	0.50	3	38	3
DPN30055033UX	0.55	3.5	38	3
DPN30060033UX	0.60	3	38	3
DPN30065033UX	0.65	3	38	3
DPN30070033UX	0.70	3	38	3
DPN30075033UX	0.75	4	38	3
DPN30080033UX	0.80	4	38	3
DPN30085033UX	0.85	4	38	3
DPN30090033UX	0.90	4	38	3
DPN30095033UX	0.95	4	38	3
DPN30100033UX	1.00	4	38	3
DPN30105033UX	1.05	6	38	3
DPN30110033UX	1.10	6	38	3
DPN30115033UX	1.15	6	38	3
DPN30120033UX	1.20	6	38	3
DPN30125033UX	1.25	6	38	3
DPN30130033UX	1.30	6	38	3
DPN30135033UX	1.35	6	38	3
DPN30140033UX	1.40	6	38	3
DPN30145033UX	1.45	6	38	3
DPN30150033UX	1.50	6	38	3
DPN30155033UX	1.55	8	38	3
DPN30160033UX	1.60	8	38	3
DPN30165033UX	1.65	8	38	3
DPN30170033UX	1.70	8	38	3
DPN30175033UX	1.75	10	50	3
DPN30180033UX	1.80	10	50	3
DPN30185033UX	1.85	10	50	3
DPN30190033UX	1.90	10	50	3
DPN30195033UX	1.95	12	50	3
DPN30200033UX	2.00	12	50	3
DPN30205033UX	2.05	12	50	3
DPN30210033UX	2.10	12	50	3
DPN30215033UX	2.15	13	50	3
DPN30220033UX	2.20	13	50	3
DPN30225033UX	2.25	13	50	3
DPN30230033UX	2.30	13	50	3
DPN30235033UX	2.35	14	50	3
DPN30240033UX	2.40	14	50	3
DPN30245033UX	2.45	14	50	3

Order No.	D	L1	L	Ds
DPN30250033UX	2.50	14	50	3
DPN30255033UX	2.55	14	50	3
DPN30260033UX	2.60	14	50	3
DPN30265033UX	2.65	16	50	3
DPN30270033UX	2.70	16	50	3
DPN30275033UX	2.75	16	50	3
DPN30280033UX	2.80	16	50	3
DPN30285033UX	2.85	16	50	3
DPN30290033UX	2.90	16	50	3
DPN30295033UX	2.95	16	50	3
DPN30300033UX	3.00	16	50	3

DPN - for Universal · External Coolant · 3D 高效能外冷鑽頭・3 倍深

P	M	K	N	S	H
●	●	●		○	○

- 3×D Cutting Depth
- D tolerance : h8
- 140° SX Tip
- Ds tolerance : h6
- UNIX Smooth Coating
- Similar DIN6537



Unit:mm

Order No.	D	L1	L	Ds
DPN30300034UX	3.00	20	60	4
DPN30310034UX	3.10	20	60	4
DPN30317034UX	3.17(1/8")	20	60	4
DPN30320034UX	3.20	20	60	4
DPN30325034UX	3.25(5/39")	20	60	4
DPN30330034UX	3.30	20	60	4
DPN30340034UX	3.40	20	60	4
DPN30350034UX	3.50	20	60	4
DPN30360034UX	3.60	20	60	4
DPN30370034UX	3.70	20	60	4
DPN30380034UX	3.80	24	60	4
DPN30390034UX	3.90	24	60	4
DPN30397034UX	3.97(5/32")	24	60	4
DPN30400034UX	4.00	24	60	4
DPN30300030UX	3.00	20	62	6
DPN30310030UX	3.10	20	62	6
DPN30317030UX	3.17(1/8")	20	62	6
DPN30320030UX	3.20	20	62	6
DPN30323030UX	3.23	20	62	6
DPN30325030UX	3.25(5/39")	20	62	6
DPN30330030UX	3.30	20	62	6
DPN30340030UX	3.40	20	62	6
DPN30350030UX	3.50	20	62	6
DPN30360030UX	3.60	20	62	6
DPN30370030UX	3.70	20	62	6
DPN30380030UX	3.80	24	66	6
DPN30390030UX	3.90	24	66	6
DPN30397030UX	3.97(5/32")	24	66	6
DPN30400030UX	4.00	24	66	6
DPN30410030UX	4.10	24	66	6
DPN30420030UX	4.20	24	66	6
DPN30430030UX	4.30	24	66	6
DPN30440030UX	4.40	24	66	6
DPN30450030UX	4.50	24	66	6
DPN30460030UX	4.60	24	66	6
DPN30465030UX	4.65(13/71")	24	66	6
DPN30470030UX	4.70	24	66	6
DPN30476030UX	4.76(3/16")	28	66	6
DPN30480030UX	4.80	28	66	6
DPN30490030UX	4.90	28	66	6
DPN30500030UX	5.00	28	66	6
DPN30510030UX	5.10	28	66	6
DPN30520030UX	5.20	28	66	6
DPN30530030UX	5.30	28	66	6
DPN30540030UX	5.40	28	66	6
DPN30550030UX	5.50	28	66	6
DPN30556030UX	5.56(7/32")	28	66	6
DPN30560030UX	5.60	28	66	6

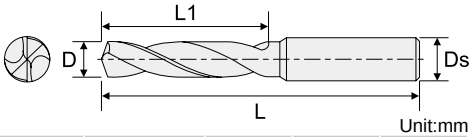
Order No.	D	L1	L	Ds
DPN30570030UX	5.70	28	66	6
DPN30580030UX	5.80	28	66	6
DPN30590030UX	5.90	28	66	6
DPN30600030UX	6.00	28	66	6
DPN30610030UX	6.10	34	79	8
DPN30620030UX	6.20	34	79	8
DPN30630030UX	6.30	34	79	8
DPN30635030UX	6.35(1/4")	34	79	8
DPN30640030UX	6.40	34	79	8
DPN30650030UX	6.50	34	79	8
DPN30660030UX	6.60	34	79	8
DPN30670030UX	6.70	34	79	8
DPN30680030UX	6.80	34	79	8
DPN30690030UX	6.90	34	79	8
DPN30700030UX	7.00	34	79	8
DPN30710030UX	7.10	41	79	8
DPN30720030UX	7.20	41	79	8
DPN30730030UX	7.30	41	79	8
DPN30740030UX	7.40	41	79	8
DPN30750030UX	7.50	41	79	8
DPN30760030UX	7.60	41	79	8
DPN30770030UX	7.70	41	79	8
DPN30780030UX	7.80	41	79	8
DPN30790030UX	7.90	41	79	8
DPN30794030UX	7.94(5/16")	41	79	8
DPN30800030UX	8.00	41	79	8
DPN30810030UX	8.10	47	89	10
DPN30820030UX	8.20	47	89	10
DPN30830030UX	8.30	47	89	10
DPN30840030UX	8.40	47	89	10
DPN30850030UX	8.50	47	89	10
DPN30860030UX	8.60	47	89	10
DPN30870030UX	8.70	47	89	10
DPN30880030UX	8.80	47	89	10
DPN30890030UX	8.90	47	89	10
DPN30900030UX	9.00	47	89	10
DPN30910030UX	9.10	47	89	10
DPN30920030UX	9.20	47	89	10
DPN30925030UX	9.25(23/64")	47	89	10
DPN30930030UX	9.30	47	89	10
DPN30940030UX	9.40	47	89	10
DPN30950030UX	9.50	47	89	10
DPN30952030UX	9.52(3/8")	47	89	10
DPN30960030UX	9.60	47	89	10
DPN30970030UX	9.70	47	89	10
DPN30980030UX	9.80	47	89	10
DPN30990030UX	9.90	47	89	10
DPN31000030UX	10.00	47	89	10

Cutting conditions : Page C039

DPN - for Universal · External Coolant · 3D 高效能外冷鑽頭・3 倍深

P	M	K	N	S	H
●	●	●		○	○

- 3×D Cutting Depth
- D tolerance : h8
- 140° SX Tip
- Ds tolerance : h6
- UNIX Smooth Coating
- Similar DIN6537



Unit:mm

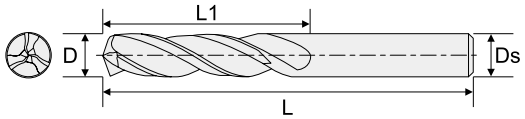
Order No.	D	L1	L	Ds
DPN31010030UX	10.10	55	102	12
DPN31020030UX	10.20	55	102	12
DPN31030030UX	10.30	55	102	12
DPN31040030UX	10.40	55	102	12
DPN31050030UX	10.50	55	102	12
DPN31060030UX	10.60	55	102	12
DPN31070030UX	10.70	55	102	12
DPN31080030UX	10.80	55	102	12
DPN31090030UX	10.90	55	102	12
DPN31100030UX	11.00	55	102	12
DPN31110030UX	11.10	55	102	12
DPN31111030UX	11.11(7/16")	55	102	12
DPN31120030UX	11.20	55	102	12
DPN31130030UX	11.30	55	102	12
DPN31140030UX	11.40	55	102	12
DPN31150030UX	11.50	55	102	12
DPN31160030UX	11.60	55	102	12
DPN31170030UX	11.70	55	102	12
DPN31180030UX	11.80	55	102	12
DPN31190030UX	11.90	55	102	12
DPN31200030UX	12.00	55	102	12
DPN31210030UX	12.10	60	107	14
DPN31220030UX	12.20	60	107	14
DPN31230030UX	12.30	60	107	14
DPN31240030UX	12.40	60	107	14
DPN31250030UX	12.50	60	107	14
DPN31260030UX	12.60	60	107	14
DPN31270030UX	12.70(1/2")	60	107	14
DPN31280030UX	12.80	60	107	14
DPN31290030UX	12.90	60	107	14
DPN31300030UX	13.00	60	107	14
DPN31320030UX	13.20	60	107	14
DPN31330030UX	13.30	60	107	14
DPN31350030UX	13.50	60	107	14
DPN31370030UX	13.70	60	107	14
DPN31380030UX	13.80	60	107	14
DPN31400030UX	14.00	60	107	14
DPN31420030UX	14.20	65	115	16
DPN31429030UX	14.29(9/16")	65	115	16
DPN31430030UX	14.30	65	115	16
DPN31440030UX	14.40	65	115	16
DPN31450030UX	14.50	65	115	16
DPN31470030UX	14.70	65	115	16
DPN31500030UX	15.00	65	115	16
DPN31520030UX	15.20	65	115	16
DPN31550030UX	15.50	65	115	16
DPN31560030UX	15.60	65	115	16
DPN31570030UX	15.70	65	115	16
DPN31580030UX	15.80	65	115	16
DPN31587030UX	15.87(5/8")	65	115	16
DPN31600030UX	16.00	65	115	16
DPN31650030UX	16.50	73	123	18
DPN31700030UX	17.00	73	123	18
DPN31750030UX	17.50	73	123	18
DPN31800030UX	18.00	73	123	18
DPN31850030UX	18.50	79	131	20
DPN31900030UX	19.00	79	131	20
DPN31905030UX	19.05(3/4")	79	131	20
DPN31950030UX	19.50	79	131	20
DPN32000030UX	20.00	79	131	20

Cutting conditions : Page C039

DPTN - High Feed · 3F · External Coolant · 3D 高進給 3 刃外冷鑽頭・3 倍

P	M	K	N	S	H
●		●	○		

- 3 Flute Design
- 140° SU Tip
- Single Margin
- UNIX Smooth Coating
- D tolerance : h8
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DPTN30400030UX	4.00	24	66	6
DPTN30600030UX	6.00	28	66	6
DPTN30635030UX	6.35(1/4")	34	79	8
DPTN30650030UX	6.50	34	79	8
DPTN30680030UX	6.80	34	79	8
DPTN30700030UX	7.00	34	79	8
DPTN30794030UX	7.94(5/16)	41	79	8
DPTN30800030UX	8.00	41	79	8
DPTN30850030UX	8.50	47	89	10
DPTN30860030UX	8.60	47	89	10
DPTN30880030UX	8.80	47	89	10
DPTN30900030UX	9.00	47	89	10
DPTN30950030UX	9.50	47	89	10
DPTN30952030UX	9.52(3/8")	47	89	10
DPTN31000030UX	10.00	47	89	10
DPTN31020030UX	10.20	55	102	12
DPTN31030030UX	10.30	55	102	12
DPTN31100030UX	11.00	55	102	12
DPTN31140030UX	11.40	55	102	12
DPTN31150030UX	11.50	55	102	12
DPTN31200030UX	12.00	55	102	12
DPTN31250030UX	12.50	60	107	14
DPTN31270030UX	12.70(1/2")	60	107	14
DPTN31300030UX	13.00	60	107	14
DPTN31400030UX	14.00	60	107	14
DPTN31587030UX	15.87(5/8")	65	115	16
DPTN31600030UX	16.00	65	115	16

Recommended Cutting Conditions

Min. - Suggestion - Max.

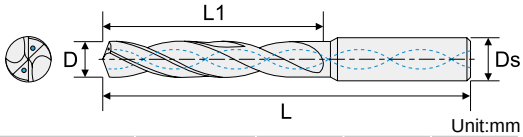
	Work Material	Vc (m/min)	fr (mm/rev)		Vc (m/min)	fr (mm/rev)		Vc (m/min)	fr (mm/rev)	
			Ø6mm	Ø8mm		Ø10mm	Ø12mm		Ø14mm	Ø16mm
P	Carbon Steel (180 ~ 280HB)	45-58-70	0.12-0.18-0.24	0.16-0.24-0.32	50-65-80	0.20-0.30-0.40	0.24-0.36-0.48	60-73-85	0.28-0.42-0.56	0.32-0.48-0.64
P	Alloy Steel (280 ~ 350HB)	40-52-65	0.11-0.16-0.22	0.14-0.22-0.29	45-52-65	0.18-0.27-0.36	0.22-0.32-0.43	50-65-80	0.25-0.38-0.50	0.29-0.43-0.58
K	Cast Iron (< 350Mpa)	45-60-70	0.12-0.18-0.24	0.16-0.24-0.32	50-65-80	0.20-0.30-0.40	0.24-0.36-0.48	60-73-85	0.28-0.42-0.56	0.32-0.48-0.64
K	Ductile Cast Iron (< 450Mpa)	40-52-65	0.11-0.16-0.22	0.14-0.22-0.29	45-52-65	0.18-0.27-0.36	0.22-0.32-0.43	50-65-80	0.25-0.38-0.50	0.29-0.43-0.58

DPC - for Universal · Internal Coolant · 5D

高效能內冷鑽頭・5 倍深

P	M	K	N	S	H
●	●	●		●	○

- 5×D Cutting Depth
- UNIX Smooth Coating
- Similar DIN6537
- 140° SX Tip
- D tolerance : h8
- Double Margin
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DPC50065053UX	0.65	5	50	3
DPC50070053UX	0.70	5	50	3
DPC50075053UX	0.75	5.5	50	3
DPC50080053UX	0.80	6	50	3
DPC50085053UX	0.85	6	50	3
DPC50090053UX	0.90	7	50	3
DPC50095053UX	0.95	7	50	3
DPC50100053UX	1.00	8	50	3
DPC50110053UX	1.10	9	50	3
DPC50120053UX	1.20	9	50	3
DPC50130053UX	1.30	10	50	3
DPC50140053UX	1.40	10	50	3
DPC50150053UX	1.50	12	50	3
DPC50160053UX	1.60	12	50	3
DPC50170053UX	1.70	12	50	3
DPC50180053UX	1.80	14	50	3
DPC50190053UX	1.90	14	50	3
DPC50200053UX	2.00	14	50	3
DPC50210053UX	2.10	16	50	3
DPC50220053UX	2.20	16	50	3
DPC50230053UX	2.30	18	50	3
DPC50240053UX	2.40	18	50	3
DPC50250053UX	2.50	20	60	3
DPC50260053UX	2.60	20	60	3
DPC50270053UX	2.70	20	60	3
DPC50280053UX	2.80	20	60	3
DPC50290053UX	2.90	22	60	3
DPC50300053UX	3.00	22	60	3
DPC50300054UX	3.00	28	60	4
DPC50310054UX	3.10	28	60	4
DPC50317054UX	3.17(1/8")	28	60	4
DPC50325054UX	3.25	28	60	4
DPC50330054UX	3.30	28	60	4
DPC50340054UX	3.40	28	60	4
DPC50350054UX	3.50	28	60	4
DPC50360054UX	3.60	28	60	4
DPC50370054UX	3.70	28	60	4
DPC50380054UX	3.80	36	74	4
DPC50397054UX	3.97(5/32")	36	74	4
DPC50400050UX	4.00	36	74	6
DPC50410050UX	4.10	36	74	6
DPC50420050UX	4.20	36	74	6
DPC50430050UX	4.30	36	74	6
DPC50440050UX	4.40	36	74	6
DPC50450050UX	4.50	36	74	6
DPC50460050UX	4.60	36	74	6
DPC50465050UX	4.65(13/71")	36	74	6
DPC50470050UX	4.70	36	74	6

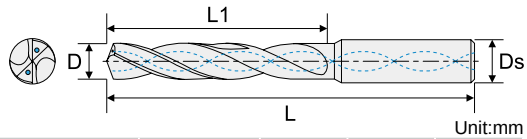
Order No.	D	L1	L	Ds
DPC50476050UX	4.76(3/16")	44	82	6
DPC50480050UX	4.80	44	82	6
DPC50490050UX	4.90	44	82	6
DPC50500050UX	5.00	44	82	6
DPC50510050UX	5.10	44	82	6
DPC50520050UX	5.20	44	82	6
DPC50530050UX	5.30	44	82	6
DPC50540050UX	5.40	44	82	6
DPC50550050UX	5.50	44	82	6
DPC50555050UX	5.55(7/32")	44	82	6
DPC50560050UX	5.60	44	82	6
DPC50570050UX	5.70	44	82	6
DPC50580050UX	5.80	44	82	6
DPC50590050UX	5.90	44	82	6
DPC50600050UX	6.00	44	82	6
DPC50610050UX	6.10	53	91	8
DPC50620050UX	6.20	53	91	8
DPC50630050UX	6.30	53	91	8
DPC50635050UX	6.35(1/4")	53	91	8
DPC50640050UX	6.40	53	91	8
DPC50650050UX	6.50	53	91	8
DPC50660050UX	6.60	53	91	8
DPC50670050UX	6.70	53	91	8
DPC50680050UX	6.80	53	91	8
DPC50690050UX	6.90	53	91	8
DPC50700050UX	7.00	53	91	8
DPC50710050UX	7.10	53	91	8
DPC50720050UX	7.20	53	91	8
DPC50730050UX	7.30	53	91	8
DPC50740050UX	7.40	53	91	8
DPC50750050UX	7.50	53	91	8
DPC50760050UX	7.60	53	91	8
DPC50770050UX	7.70	53	91	8
DPC50780050UX	7.80	53	91	8
DPC50790050UX	7.90	53	91	8
DPC50794050UX	7.94(5/16")	53	91	8
DPC50800050UX	8.00	53	91	8
DPC50810050UX	8.10	61	103	10
DPC50820050UX	8.20	61	103	10
DPC50830050UX	8.30	61	103	10
DPC50840050UX	8.40	61	103	10
DPC50850050UX	8.50	61	103	10
DPC50860050UX	8.60	61	103	10
DPC50870050UX	8.70	61	103	10
DPC50880050UX	8.80	61	103	10
DPC50890050UX	8.90	61	103	10
DPC50900050UX	9.00	61	103	10
DPC50910050UX	9.10	61	103	10

Cutting conditions : Page C039

DPC - for Universal · Internal Coolant · 5D 高效能內冷鑽頭・5 倍深

P	M	K	N	S	H
●	●	●		●	○

- 5×D Cutting Depth
- UNIX Smooth Coating
- Similar DIN6537
- 140° SX Tip
- D tolerance : h8
- Double Margin
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DPC50920050UX	9.20	61	103	10
DPC50925050UX	9.25(23/64")	61	103	10
DPC50930050UX	9.30	61	103	10
DPC50940050UX	9.40	61	103	10
DPC50950050UX	9.50	61	103	10
DPC50952050UX	9.52(3/8")	61	103	10
DPC50960050UX	9.60	61	103	10
DPC50970050UX	9.70	61	103	10
DPC50980050UX	9.80	61	103	10
DPC50990050UX	9.90	61	103	10
DPC51000050UX	10.00	61	103	10
DPC51010050UX	10.10	71	118	12
DPC51020050UX	10.20	71	118	12
DPC51030050UX	10.30	71	118	12
DPC51040050UX	10.40	71	118	12
DPC51050050UX	10.50	71	118	12
DPC51060050UX	10.60	71	118	12
DPC51070050UX	10.70	71	118	12
DPC51080050UX	10.80	71	118	12
DPC51090050UX	10.90	71	118	12
DPC51100050UX	11.00	71	118	12
DPC51110050UX	11.10	71	118	12
DPC51111050UX	11.11(7/16")	71	118	12
DPC51120050UX	11.20	71	118	12
DPC51130050UX	11.30	71	118	12
DPC51140050UX	11.40	71	118	12
DPC51150050UX	11.50	71	118	12
DPC51160050UX	11.60	71	118	12
DPC51170050UX	11.70	71	118	12
DPC51180050UX	11.80	71	118	12
DPC51190050UX	11.90	71	118	12
DPC51200050UX	12.00	71	118	12
DPC51210050UX	12.10	77	124	14
DPC51220050UX	12.20	77	124	14
DPC51230050UX	12.30	77	124	14
DPC51240050UX	12.40	77	124	14
DPC51250050UX	12.50	77	124	14
DPC51260050UX	12.60	77	124	14
DPC51270050UX	12.70(1/2")	77	124	14
DPC51280050UX	12.80	77	124	14
DPC51290050UX	12.90	77	124	14
DPC51300050UX	13.00	77	124	14
DPC51310050UX	13.10	77	124	14
DPC51330050UX	13.30	77	124	14
DPC51340050UX	13.40	77	124	14
DPC51350050UX	13.50	77	124	14
DPC51360050UX	13.60	77	124	14
DPC51370050UX	13.70	77	124	14

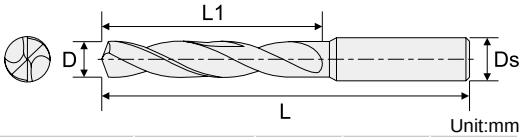
Order No.	D	L1	L	Ds
DPC51380050UX	13.80	77	124	14
DPC51390050UX	13.90	77	124	14
DPC51400050UX	14.00	77	124	14
DPC51410050UX	14.10	83	133	16
DPC51420050UX	14.20	83	133	16
DPC51429050UX	14.29(9/16")	83	133	16
DPC51430050UX	14.30	83	133	16
DPC51440050UX	14.40	83	133	16
DPC51450050UX	14.50	83	133	16
DPC51460050UX	14.60	83	133	16
DPC51470050UX	14.70	83	133	16
DPC51480050UX	14.80	83	133	16
DPC51490050UX	14.90	83	133	16
DPC51500050UX	15.00	83	133	16
DPC51510050UX	15.10	83	133	16
DPC51520050UX	15.20	83	133	16
DPC51530050UX	15.30	83	133	16
DPC51540050UX	15.40	83	133	16
DPC51550050UX	15.50	83	133	16
DPC51560050UX	15.60	83	133	16
DPC51570050UX	15.70	83	133	16
DPC51580050UX	15.80	83	133	16
DPC51587050UX	15.87(5/8")	83	133	16
DPC51590050UX	15.90	83	133	16
DPC51600050UX	16.00	83	133	16
DPC51650050UX	16.50	93	143	18
DPC51700050UX	17.00	93	143	18
DPC51750050UX	17.50	93	143	18
DPC51800050UX	18.00	93	143	18
DPC52000050UX	20.00	101	153	20

Cutting conditions : Page C039

DPN - for Universal · External Coolant · 5D 高效能外冷鑽頭・5 倍深

P	M	K	N	S	H
●	●	●		○	○

- 5×D Cutting Depth
- D tolerance : h8
- 140° SX Tip
- Ds tolerance : h6
- UNIX Smooth Coating
- Similar DIN6537



Unit:mm

Order No.	D	L1	L	Ds
DPN50300050UX	3.00	28	66	6
DPN50317050UX	3.17(1/8")	28	66	6
DPN50325050UX	3.25	28	66	6
DPN50330050UX	3.30	28	66	6
DPN50340050UX	3.40	28	66	6
DPN50350050UX	3.50	28	66	6
DPN50357050UX	3.57	28	66	6
DPN50360050UX	3.60	28	66	6
DPN50370050UX	3.70	28	66	6
DPN50380050UX	3.80	36	74	6
DPN50390050UX	3.90	36	74	6
DPN50397050UX	3.97(5/32")	36	74	6
DPN50400050UX	4.00	36	74	6
DPN50410050UX	4.10	36	74	6
DPN50420050UX	4.20	36	74	6
DPN50430050UX	4.30	36	74	6
DPN50440050UX	4.40	36	74	6
DPN50450050UX	4.50	36	74	6
DPN50460050UX	4.60	36	74	6
DPN50465050UX	4.65(13/71")	36	74	6
DPN50470050UX	4.70	36	74	6
DPN50476050UX	4.76(3/16")	44	82	6
DPN50480050UX	4.80	44	82	6
DPN50490050UX	4.90	44	82	6
DPN50500050UX	5.00	44	82	6
DPN50510050UX	5.10	44	82	6
DPN50520050UX	5.20	44	82	6
DPN50530050UX	5.30	44	82	6
DPN50540050UX	5.40	44	82	6
DPN50550050UX	5.50	44	82	6
DPN50555050UX	5.55	44	82	6
DPN50556050UX	5.56(7/32")	44	82	6
DPN50560050UX	5.60	44	82	6
DPN50570050UX	5.70	44	82	6
DPN50580050UX	5.80	44	82	6
DPN50590050UX	5.90	44	82	6
DPN50600050UX	6.00	44	82	6
DPN50610050UX	6.10	53	91	8
DPN50620050UX	6.20	53	91	8
DPN50630050UX	6.30	53	91	8
DPN50635050UX	6.35(1/4")	53	91	8
DPN50640050UX	6.40	53	91	8
DPN50650050UX	6.50	53	91	8
DPN50660050UX	6.60	53	91	8
DPN50670050UX	6.70	53	91	8
DPN50680050UX	6.80	53	91	8
DPN50690050UX	6.90	53	91	8
DPN50700050UX	7.00	53	91	8

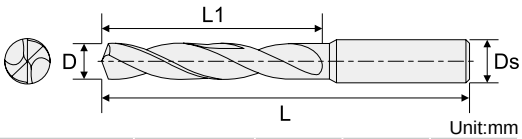
Order No.	D	L1	L	Ds
DPN50710050UX	7.10	53	91	8
DPN50720050UX	7.20	53	91	8
DPN50730050UX	7.30	53	91	8
DPN50740050UX	7.40	53	91	8
DPN50750050UX	7.50	53	91	8
DPN50760050UX	7.60	53	91	8
DPN50770050UX	7.70	53	91	8
DPN50780050UX	7.80	53	91	8
DPN50790050UX	7.90	53	91	8
DPN50794050UX	7.94(5/16")	53	91	8
DPN50800050UX	8.00	53	91	8
DPN50810050UX	8.10	61	103	10
DPN50820050UX	8.20	61	103	10
DPN50830050UX	8.30	61	103	10
DPN50840050UX	8.40	61	103	10
DPN50850050UX	8.50	61	103	10
DPN50860050UX	8.60	61	103	10
DPN50870050UX	8.70	61	103	10
DPN50880050UX	8.80	61	103	10
DPN50890050UX	8.90	61	103	10
DPN50900050UX	9.00	61	103	10
DPN50910050UX	9.10	61	103	10
DPN50920050UX	9.20	61	103	10
DPN50925050UX	9.25(23/64")	61	103	10
DPN50930050UX	9.30	61	103	10
DPN50940050UX	9.40	61	103	10
DPN50950050UX	9.50	61	103	10
DPN50952050UX	9.52(3/8")	61	103	10
DPN50960050UX	9.60	61	103	10
DPN50970050UX	9.70	61	103	10
DPN50980050UX	9.80	61	103	10
DPN50990050UX	9.90	61	103	10
DPN51000050UX	10.00	61	103	10
DPN51010050UX	10.10	71	118	12
DPN51020050UX	10.20	71	118	12
DPN51030050UX	10.30	71	118	12
DPN51040050UX	10.40	71	118	12
DPN51050050UX	10.50	71	118	12
DPN51060050UX	10.60	71	118	12
DPN51070050UX	10.70	71	118	12
DPN51080050UX	10.80	71	118	12
DPN51090050UX	10.90	71	118	12
DPN51100050UX	11.00	71	118	12
DPN51110050UX	11.10	71	118	12
DPN51111050UX	11.11(7/16")	71	118	12
DPN51120050UX	11.20	71	118	12
DPN51130050UX	11.30	71	118	12
DPN51140050UX	11.40	71	118	12

Cutting conditions : Page C039

DPN - for Universal · External Coolant · 5D 高效能外冷鑽頭・5 倍深

P	M	K	N	S	H
●	●	●		○	○

- 5×D Cutting Depth
- D tolerance : h8
- 140° SX Tip
- Ds tolerance : h6
- UNIX Smooth Coating
- Similar DIN6537



Unit:mm

Order No.	D	L1	L	Ds
DPN51150050UX	11.50	71	118	12
DPN51160050UX	11.60	71	118	12
DPN51170050UX	11.70	71	118	12
DPN51180050UX	11.80	71	118	12
DPN51190050UX	11.90	71	118	12
DPN51200050UX	12.00	71	118	12
DPN51210050UX	12.10	77	124	14
DPN51220050UX	12.20	77	124	14
DPN51230050UX	12.30	77	124	14
DPN51240050UX	12.40	77	124	14
DPN51250050UX	12.50	77	124	14
DPN51260050UX	12.60	77	124	14
DPN51270050UX	12.70(1/2")	77	124	14
DPN51280050UX	12.80	77	124	14
DPN51290050UX	12.90	77	124	14
DPN51300050UX	13.00	77	124	14
DPN51310050UX	13.10	77	124	14
DPN51330050UX	13.30	77	124	14
DPN51340050UX	13.40	77	124	14
DPN51350050UX	13.50	77	124	14
DPN51360050UX	13.60	77	124	14
DPN51370050UX	13.70	77	124	14
DPN51380050UX	13.80	77	124	14
DPN51390050UX	13.90	77	124	14
DPN51400050UX	14.00	77	124	14
DPN51410050UX	14.10	83	133	16
DPN51420050UX	14.20	83	133	16
DPN51429050UX	14.29(9/16")	83	133	16
DPN51430050UX	14.30	83	133	16
DPN51440050UX	14.40	83	133	16
DPN51450050UX	14.50	83	133	16
DPN51460050UX	14.60	83	133	16
DPN51470050UX	14.70	83	133	16
DPN51480050UX	14.80	83	133	16
DPN51490050UX	14.90	83	133	16
DPN51500050UX	15.00	83	133	16
DPN51510050UX	15.10	83	133	16
DPN51520050UX	15.20	83	133	16
DPN51530050UX	15.30	83	133	16
DPN51540050UX	15.40	83	133	16
DPN51550050UX	15.50	83	133	16
DPN51560050UX	15.60	83	133	16
DPN51570050UX	15.70	83	133	16
DPN51580050UX	15.80	83	133	16
DPN51587050UX	15.87(5/8")	83	133	16
DPN51590050UX	15.90	83	133	16
DPN51600050UX	16.00	83	133	16
DPN51650050UX	16.50	93	143	18

Order No.	D	L1	L	Ds
DPN51700050UX	17.00	93	143	18
DPN51750050UX	17.50	93	143	18
DPN51800050UX	18.00	93	143	18
DPN52000050UX	20.00	101	153	20

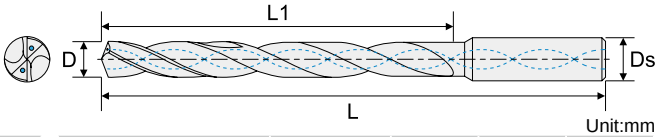
Cutting conditions : Page C039

DPC - for Universal · Internal Coolant · 7D 高效能內冷鑽頭・7 倍深

P	M	K	N	S	H
●	●	●		●	○

- 7×D Cutting Depth
- UNIX Smooth Coating
- Similar DIN6537
- 140° SX Tip
- D tolerance : h8
- Double Margin
- Ds tolerance : h6

∗ Made to order



Unit:mm

Order No.	D	L1	L	Ds
DPC70400070UX	4.00	40	80	6
DPC70410070UX	4.10	40	80	6
DPC70420070UX	4.20	40	80	6
DPC70430070UX	4.30	45	80	6
DPC70440070UX	4.40	45	80	6
DPC70450070UX	4.50	45	80	6
DPC70460070UX	4.60	45	80	6
DPC70465070UX	4.65(13/71")	45	80	6
DPC70470070UX	4.70	45	80	6
DPC70480070UX	4.80	50	97	6
DPC70490070UX	4.90	50	97	6
DPC70500070UX	5.00	50	97	6
DPC70510070UX	5.10	50	97	6
DPC70520070UX	5.20	50	97	6
DPC70530070UX	5.30	50	97	6
DPC70540070UX	5.40	57	97	6
DPC70550070UX	5.50	57	97	6
DPC70570070UX	5.70	57	97	6
DPC70580070UX	5.80	57	97	6
DPC70590070UX	5.90	57	97	6
DPC70600070UX	6.00	57	97	6
DPC70620070UX	6.20	66	106	8
DPC70630070UX	6.30	66	106	8
DPC70635070UX	6.35(1/4")	66	106	8
DPC70650070UX	6.50	66	106	8
DPC70660070UX	6.60	66	106	8
DPC70670070UX	6.70	66	106	8
DPC70680070UX	6.80	66	106	8
DPC70690070UX	6.90	76	116	8
DPC70700070UX	7.00	76	116	8
DPC70710070UX	7.10	76	116	8
DPC70720070UX	7.20	76	116	8
DPC70750070UX	7.50	76	116	8
DPC70760070UX	7.60	76	116	8
DPC70770070UX	7.70	76	116	8
DPC70780070UX	7.80	76	116	8
DPC70800070UX	8.00	76	116	8
DPC70810070UX	8.10	87	131	10
DPC70820070UX	8.20	87	131	10
DPC70840070UX	8.40	87	131	10
* DPC70850070UX	8.50	87	131	10
* DPC70860070UX	8.60	87	131	10
DPC70870070UX	8.70	87	131	10
DPC70880070UX	8.80	87	131	10
DPC70890070UX	8.90	87	131	10
DPC70900070UX	9.00	95	139	10
DPC70910070UX	9.10	95	139	10
DPC70920070UX	9.20	95	139	10

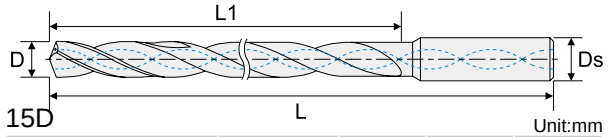
Order No.	D	L1	L	Ds
DPC70930070UX	9.30	95	139	10
DPC70940070UX	9.40	95	139	10
DPC70950070UX	9.50	95	139	10
DPC70952070UX	9.52	95	139	10
DPC70970070UX	9.70	95	139	10
* DPC70980070UX	9.80	95	139	10
DPC71000070UX	10.00	95	139	10
DPC71020070UX	10.20	106	155	12
* DPC71030070UX	10.30	106	155	12
* DPC71050070UX	10.50	106	155	12
DPC71072070UX	10.72(27/64")	106	155	12
DPC71080070UX	10.80	106	155	12
DPC71100070UX	11.00	106	155	12
DPC71120070UX	11.20	114	155	12
* DPC71150070UX	11.50	114	155	12
DPC71180070UX	11.80	114	155	12
* DPC71200070UX	12.00	114	155	12
DPC71210070UX	12.10	133	182	14
* DPC71220070UX	12.20	133	182	14
DPC71230070UX	12.30	133	182	14
DPC71250070UX	12.50	133	182	14
DPC71270070UX	12.70	133	182	14
DPC71300070UX	13.00	133	182	14
DPC71350070UX	13.50	133	182	14
* DPC71400070UX	14.00	133	182	14
DPC71410070UX	14.10	152	200	16
* DPC71420070UX	14.20	152	200	16
* DPC71450070UX	14.50	152	200	16
DPC71500070UX	15.00	152	200	16
* DPC71550070UX	15.50	152	200	16
DPC71587070UX	15.87	152	200	16
* DPC71600070UX	16.00	152	200	16

Cutting conditions : Page C039

DPC - for Universal · Internal Coolant · 10D / 15D 高效能內冷鑽頭・10 倍 / 15 倍深

P	M	K	N	S	H
●	●	●		●	○

- 10D / 15D Cutting Depth
- 135° SX Tip
- UNIX Smooth Coating
- D tolerance : h8
- D < 1.5mm is Single Margin, D ≥ 1.5mm is Double Margin
- Ds tolerance : h6
- Require an initial pilot hole to guide the drill.



＊ Made to order

10D

Unit:mm

Order No.	D	L1	L	Ds
DPC90100101UX	1.00	13	50	3
* DPC90110101UX	1.10	14	50	3
DPC90120101UX	1.20	15.5	50	3
* DPC90130101UX	1.30	16	50	3
* DPC90140101UX	1.40	18	50	3
DPC90150101UX	1.50	18	50	3
* DPC90158101UX	1.587 (1/16")	20.5	60	3
* DPC90160101UX	1.60	20.5	60	3
* DPC90170101UX	1.70	22	60	3
* DPC90180101UX	1.80	23	60	3
* DPC90190101UX	1.90	24.5	60	3
* DPC90200101UX	2.00	26	60	3
* DPC90210101UX	2.10	27	75	3
* DPC90220101UX	2.20	28.5	75	3
* DPC90230101UX	2.30	30	75	3
* DPC90238101UX	2.381 (3/32")	30.5	75	3
* DPC90240101UX	2.40	31	75	3
* DPC90250101UX	2.50	34	75	3
* DPC90260101UX	2.60	34	75	3
* DPC90270101UX	2.70	35	75	3
* DPC90280101UX	2.80	36	75	3
* DPC90290101UX	2.90	37.5	75	3
DPC90300100UX	3.00	48	100	4
* DPC90317100UX	3.17(1/8")	48	100	4
DPC90350100UX	3.50	48	100	4
* DPC90397100UX	3.97(5/32")	48	100	4
DPC90400100UX	4.00	48	100	4
DPC90450100UX	4.50	72	125	6
* DPC90476100UX	4.76(3/16")	72	125	6
DPC90500100UX	5.00	72	125	6
DPC90550100UX	5.50	72	125	6
* DPC90556100UX	5.56(7/32")	72	125	6
DPC90600100UX	6.00	72	125	6
* DPC90635100UX	6.35(1/4")	96	150	8
* DPC90650100UX	6.50	96	150	8
* DPC90700100UX	7.00	96	150	8
* DPC90750100UX	7.50	96	150	8
* DPC90794100UX	7.94(5/16")	96	150	8
DPC90800100UX	8.00	96	150	8
DPC90850100UX	8.50	120	175	10
DPC90900100UX	9.00	120	175	10
DPC90950100UX	9.50	120	175	10
* DPC90952100UX	9.52(3/8")	120	175	10
DPC91000100UX	10.00	120	175	10
DPC91100100UX	11.00	132	200	12
* DPC91111100UX	11.11(7/16")	144	200	12
DPC91200100UX	12.00	144	200	12
* DPC91270100UX	12.70(1/2")	152	200	14
* DPC91400100UX	14.00	168	230	14
* DPC91587100UX	15.87(5/8")	192	260	16
* DPC91600100UX	16.00	192	260	16

15D

Unit:mm

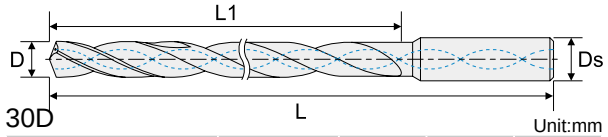
Order No.	D	L1	L	Ds
DPC90100151UX	1.00	18	60	3
* DPC90110151UX	1.10	19.5	60	3
DPC90120151UX	1.20	21.5	60	3
* DPC90130151UX	1.30	23	60	3
* DPC90140151UX	1.40	25	60	3
DPC90150151UX	1.50	27	75	3
* DPC90158151UX	1.587 (1/16")	28.5	75	3
* DPC90160151UX	1.60	28.5	75	3
* DPC90170151UX	1.70	30.5	75	3
* DPC90180151UX	1.80	32	75	3
* DPC90190151UX	1.90	34	75	3
* DPC90200151UX	2.00	36	75	3
* DPC90210151UX	2.10	37.5	75	3
* DPC90220151UX	2.20	39.5	75	3
* DPC90230151UX	2.30	41	100	3
* DPC90238151UX	2.381 (3/32")	42.5	100	3
* DPC90240151UX	2.40	43	100	3
* DPC90250151UX	2.50	45	100	3
* DPC90260151UX	2.60	46.5	100	3
* DPC90270151UX	2.70	48.5	100	3
* DPC90280151UX	2.80	50	100	3
* DPC90290151UX	2.90	52	100	3
DPC90300150UX	3.00	55	100	4
* DPC90317150UX	3.17(1/8")	67	106	4
DPC90350150UX	3.50	76	116	4
* DPC90397150UX	3.97(5/32")	76	116	4
DPC90400150UX	4.00	76	116	4
DPC90450150UX	4.50	93	133	6
* DPC90476150UX	4.76(3/16")	93	133	6
DPC90500150UX	5.00	93	133	6
DPC90550150UX	5.50	110	150	6
* DPC90556150UX	5.56(7/32")	110	150	6
DPC90600150UX	6.00	110	150	6
* DPC90635150UX	6.35(1/4")	127	167	8
DPC90650150UX	6.50	127	167	8
DPC90700150UX	7.00	127	167	8
* DPC90750150UX	7.50	143	183	8
* DPC90794150UX	7.94(5/16")	143	183	8
DPC90800150UX	8.00	143	183	8
DPC90850150UX	8.50	160	204	10
DPC90900150UX	9.00	160	204	10
DPC90950150UX	9.50	177	221	10
* DPC90952150UX	9.52(3/8")	177	221	10
DPC91000150UX	10.00	177	221	10
DPC91100150UX	11.00	198	247	12
* DPC91111150UX	11.11(7/16")	214	263	12
DPC91200150UX	12.00	214	263	12

Cutting conditions : Page C039

DPC - for Universal · Internal Coolant · 20D / 30D 高效能內冷鑽頭・20 倍 / 30 倍深

P	M	K	N	S	H
●	●	●		●	○

- 20D / 30D Cutting Depth
- 135° SX Tip
- UNIX Smooth Coating
- D tolerance : h8
- D < 1.5mm is Single Margin, D ≥ 1.5mm is Double Margin
- Ds tolerance : h6
- Require an initial pilot hole to guide the drill.



＊ Made to order

20D

Unit:mm

Order No.	D	L1	L	Ds
DPC90100201UX	1.00	23	60	3
* DPC90110201UX	1.10	25	60	3
DPC90120201UX	1.20	27.5	75	3
* DPC90130201UX	1.30	29.5	75	3
* DPC90140201UX	1.40	32	75	3
DPC90150201UX	1.50	34.5	75	3
* DPC90158201UX	1.587 (1/16")	36.5	75	3
* DPC90160201UX	1.60	36.5	75	3
* DPC90170201UX	1.70	39	75	3
* DPC90180201UX	1.80	41	100	3
* DPC90190201UX	1.90	43.5	100	3
* DPC90200201UX	2.00	46	100	3
* DPC90210201UX	2.10	48	100	3
* DPC90220201UX	2.20	50.5	100	3
* DPC90230201UX	2.30	52.5	100	3
* DPC90238201UX	2.381 (3/32")	54.5	100	3
* DPC90240201UX	2.40	55	100	3
* DPC90250201UX	2.50	57.5	100	3
* DPC90260201UX	2.60	59.5	100	3
* DPC90270201UX	2.70	62	100	3
* DPC90280201UX	2.80	64	100	3
* DPC90290201UX	2.90	66.5	100	3
DPC90300200UX	3.00	70	110	4
* DPC90317200UX	3.17(1/8")	83	123	4
DPC90350200UX	3.50	83	123	4
* DPC90397200UX	3.97(5/32")	96	136	4
DPC90400200UX	4.00	96	136	4
DPC90450200UX	4.50	118	158	6
* DPC90476200UX	4.76(3/16")	118	158	6
DPC90500200UX	5.00	118	158	6
DPC90550200UX	5.50	140	180	6
* DPC90556200UX	5.56(7/32")	140	180	6
DPC90600200UX	6.00	140	180	6
* DPC90635200UX	6.35(1/4")	162	202	8
DPC90650200UX	6.50	162	202	8
DPC90700200UX	7.00	162	202	8
DPC90750200UX	7.50	183	223	8
* DPC90794200UX	7.94(5/16")	183	223	8
DPC90800200UX	8.00	183	223	8
DPC90850200UX	8.50	205	249	10
DPC90900200UX	9.00	205	249	10
DPC90950200UX	9.50	227	271	10
* DPC90952200UX	9.52(3/8")	227	271	10
DPC91000200UX	10.00	227	271	10

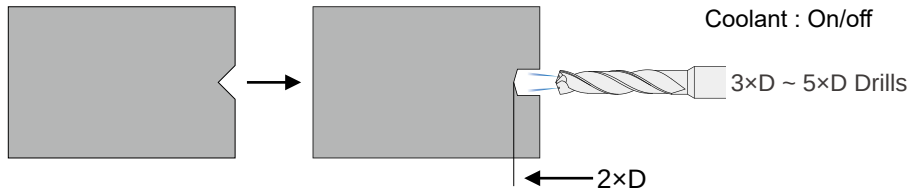
30D

Unit:mm

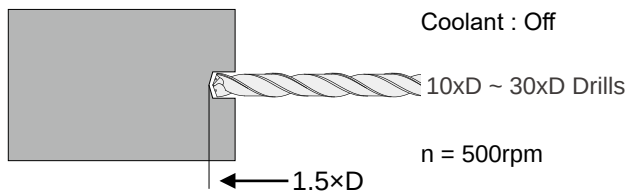
Order No.	D	L1	L	Ds
* DPC90300300UX	3.00	100	140	4
* DPC90317300UX	3.17(1/8")	118	158	4
* DPC90350300UX	3.50	136	176	4
* DPC90397300UX	3.97(5/32")	136	176	4
* DPC90400300UX	4.00	136	176	4
* DPC90450300UX	4.50	168	208	6
* DPC90476300UX	4.76(3/16")	168	208	6
* DPC90500300UX	5.00	168	208	6
* DPC90550300UX	5.50	200	240	6
* DPC90556300UX	5.56(7/32")	200	240	6
* DPC90600300UX	6.00	200	240	6

Cutting conditions : Page C039

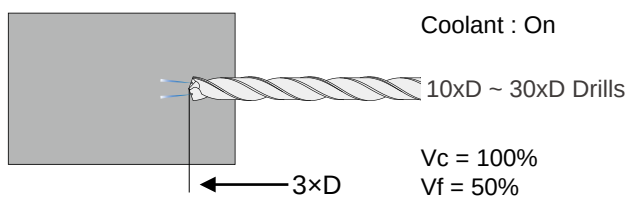
1 Spotting & piloting 定位及導引孔加工



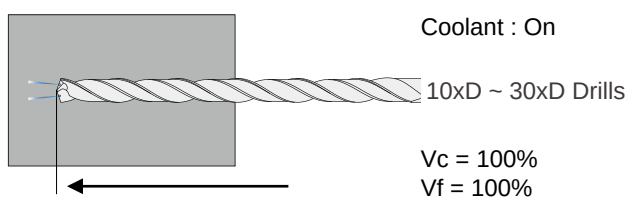
2 Long drill into pilot hole 深孔鑽頭進入導引孔



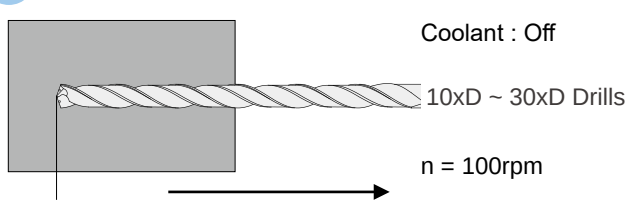
3 Spotting 深孔定位加工



4 Deep Hole drilling 深孔加工



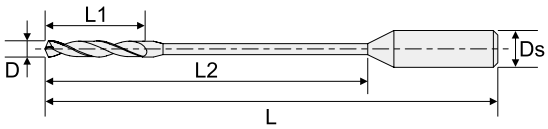
5 Retracting 鑽頭退出



DPN9 - Micro · External Coolant · 10D/30D/50D 外冷微小徑深孔鑽 · 10/30/50 倍深 (啄鑽專用)

P	M	K	N	S	H
●	●	●	●	○	○

- 10D/30D/50D for Peck drilling
- 130° Tip Angle
- UNICO Coating
- D tolerance : h8
- Ds tolerance : h6



* Made to order

LD = L2 / D

Unit:mm

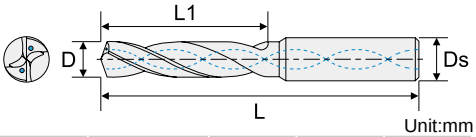
Order No.	D	L1	L2	LD	L	Ds
* DPN90010104U	0.10	0.5	1	10	50	4
* DPN90010304U	0.10	0.5	3	30	50	4
* DPN90010504U	0.10	0.5	5	50	50	4
* DPN90015104U	0.15	0.75	1.5	10	50	4
* DPN90015304U	0.15	0.75	4.5	30	50	4
* DPN90015504U	0.15	0.75	7.5	50	50	4
* DPN90020104U	0.20	1	2	10	50	4
* DPN90020304U	0.20	1	6	30	50	4
* DPN90020504U	0.20	1	10	50	50	4
* DPN90030104U	0.30	1.5	3	10	50	4
* DPN90030304U	0.30	1.5	9	30	50	4
* DPN90030504U	0.30	1.5	15	50	50	4
* DPN90040104U	0.40	2	4	10	50	4
* DPN90040304U	0.40	2	12	30	50	4
* DPN90040504U	0.40	2	20	50	50	4
* DPN90050104U	0.50	2.5	5	10	50	4
* DPN90050304U	0.50	2.5	15	30	50	4
* DPN90050504U	0.50	2.5	25	50	60	4
* DPN90060104U	0.60	3	6	10	60	4
* DPN90060304U	0.60	3	18	30	60	4
* DPN90060504U	0.60	3	30	50	75	4
* DPN90070104U	0.70	3.5	7	10	60	4
* DPN90070304U	0.70	3.5	21	30	60	4
* DPN90070504U	0.70	3.5	35	50	75	4
* DPN90080104U	0.80	4	8	10	60	4
* DPN90080304U	0.80	4	24	30	75	4
* DPN90080504U	0.80	4	40	50	75	4
* DPN90090104U	0.90	4.5	9	10	60	4
* DPN90090304U	0.90	4.5	27	30	60	4
* DPN90090504U	0.90	4.5	45	50	75	4
* DPN90100104U	1.00	5	10	10	75	4
* DPN90100304U	1.00	5	30	30	75	4
* DPN90100504U	1.00	5	50	50	100	4
* DPN90110104U	1.10	5.5	11	10	75	4
* DPN90110304U	1.10	5.5	33	30	75	4
* DPN90110504U	1.10	5.5	55	50	100	4
* DPN90120104U	1.20	6	12	10	75	4
* DPN90120304U	1.20	6	36	30	75	4
* DPN90120504U	1.20	6	60	50	100	4
* DPN90130104U	1.30	6.5	13	10	75	4
* DPN90130304U	1.30	6.5	39	30	75	4
* DPN90130504U	1.30	6.5	65	50	100	4
* DPN90150104U	1.50	7.5	15	10	75	4
* DPN90150304U	1.50	7.5	45	30	100	4

Cutting conditions : Page C040

DMC - for Exotic Material · Internal Coolant · 3D 高效能內冷鑽頭 (鈦及不鏽鋼用) · 3 倍深

P	M	K	N	S	H
●	●	●		●	○

- 3×D Cutting Depth
- SINIX Smooth Coating
- Similar DIN6537
- 140° NR Tip
- D tolerance : h8
- Double Margin
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DMC30390034SX	3.90	24	66	4
DMC30400030SX	4.00	24	66	6
DMC30410030SX	4.10	24	66	6
DMC30420030SX	4.20	24	66	6
DMC30430030SX	4.30	24	66	6
DMC30440030SX	4.40	24	66	6
DMC30450030SX	4.50	24	66	6
DMC30460030SX	4.60	24	66	6
DMC30465030SX	4.65	24	66	6
DMC30470030SX	4.70	24	66	6
DMC30476030SX	4.76(3/16")	24	66	6
DMC30480030SX	4.80	28	66	6
DMC30490030SX	4.90	28	66	6
DMC30500030SX	5.00	28	66	6
DMC30510030SX	5.10	28	66	6
DMC30520030SX	5.20	28	66	6
DMC30530030SX	5.30	28	66	6
DMC30540030SX	5.40	28	66	6
DMC30550030SX	5.50	28	66	6
DMC30556030SX	5.56(7/32")	28	66	6
DMC30560030SX	5.60	28	66	6
DMC30570030SX	5.70	28	66	6
DMC30580030SX	5.80	28	66	6
DMC30590030SX	5.90	28	66	6
DMC30600030SX	6.00	28	66	6
DMC30610030SX	6.10	34	79	8
DMC30620030SX	6.20	34	79	8
DMC30630030SX	6.30	34	79	8
DMC30635030SX	6.35(1/4")	34	79	8
DMC30640030SX	6.40	34	79	8
DMC30650030SX	6.50	34	79	8
DMC30660030SX	6.60	34	79	8
DMC30670030SX	6.70	34	79	8
DMC30680030SX	6.80	34	79	8
DMC30690030SX	6.90	34	79	8
DMC30700030SX	7.00	34	79	8
DMC30710030SX	7.10	41	79	8
DMC30714030SX	7.14(9/32")	41	79	8
DMC30720030SX	7.20	41	79	8
DMC30730030SX	7.30	41	79	8
DMC30740030SX	7.40	41	79	8
DMC30750030SX	7.50	41	79	8
DMC30760030SX	7.60	41	79	8
DMC30770030SX	7.70	41	79	8
DMC30780030SX	7.80	41	79	8
DMC30790030SX	7.90	41	79	8
DMC30794030SX	7.94(5/16")	41	79	8
DMC30800030SX	8.00	41	79	8

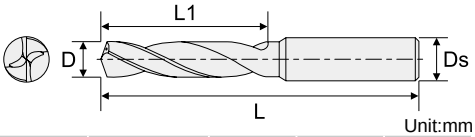
Order No.	D	L1	L	Ds
DMC30810030SX	8.10	47	89	10
DMC30820030SX	8.20	47	89	10
DMC30830030SX	8.30	47	89	10
DMC30840030SX	8.40	47	89	10
DMC30850030SX	8.50	47	89	10
DMC30860030SX	8.60	47	89	10
DMC30870030SX	8.70	47	89	10
DMC30880030SX	8.80	47	89	10
DMC30890030SX	8.90	47	89	10
DMC30900030SX	9.00	47	89	10
DMC30910030SX	9.10	47	89	10
DMC30920030SX	9.20	47	89	10
DMC30925030SX	9.25	47	89	10
DMC30930030SX	9.30	47	89	10
DMC30940030SX	9.40	47	89	10
DMC30950030SX	9.50	47	89	10
DMC30952030SX	9.52(3/8")	47	89	10
DMC30960030SX	9.60	47	89	10
DMC30970030SX	9.70	47	89	10
DMC30980030SX	9.80	47	89	10
DMC30990030SX	9.90	47	89	10
DMC31000030SX	10.00	47	89	10
DMC31020030SX	10.20	55	102	12
DMC31050030SX	10.50	55	102	12
DMC31070030SX	10.70	55	102	12
DMC31100030SX	11.00	55	102	12
DMC31120030SX	11.20	55	102	12
DMC31150030SX	11.50	55	102	12
DMC31170030SX	11.70	55	102	12
DMC31200030SX	12.00	55	102	12
DMC31250030SX	12.50	60	107	14
DMC31270030SX	12.70(1/2")	60	107	14
DMC31300030SX	13.00	60	107	14
DMC31350030SX	13.50	60	107	14
DMC31370030SX	13.70	60	107	14
DMC31400030SX	14.00	60	107	14
DMC31450030SX	14.50	65	115	16
DMC31470030SX	14.70	65	115	16
DMC31500030SX	15.00	65	115	16
DMC31550030SX	15.50	65	115	16
DMC31570030SX	15.70	65	115	16
DMC31600030SX	16.00	65	115	16
DMC31800030SX	18.00	73	123	18
DMC31900030SX	19.00	79	131	20
DMC32000030SX	20.00	79	131	20

Cutting conditions : Page C041

DMN - for Exotic Material · External Coolant · 3D 高效能外冷鑽頭 (鈦及不鏽鋼用) · 3 倍深

P	M	K	N	S	H
●	●	●		●	

- 3×D Cutting Depth
- 140° NR Tip
- Double Margin
- SINIX Smooth Coating
- D tolerance : h8
- Ds tolerance : h6
- Similar DIN6537



Unit:mm

Order No.	D	L1	L	Ds
DMN30400030SX	4.00	24	66	6
DMN30410030SX	4.10	24	66	6
DMN30420030SX	4.20	24	66	6
DMN30430030SX	4.30	24	66	6
DMN30440030SX	4.40	24	66	6
DMN30450030SX	4.50	24	66	6
DMN30460030SX	4.60	24	66	6
DMN30465030SX	4.65	24	66	6
DMN30470030SX	4.70	24	66	6
DMN30476030SX	4.76(3/16")	24	66	6
DMN30480030SX	4.80	28	66	6
DMN30490030SX	4.90	28	66	6
DMN30500030SX	5.00	28	66	6
DMN30510030SX	5.10	28	66	6
DMN30520030SX	5.20	28	66	6
DMN30530030SX	5.30	28	66	6
DMN30540030SX	5.40	28	66	6
DMN30550030SX	5.50	28	66	6
DMN30556030SX	5.56(7/32")	28	66	6
DMN30560030SX	5.60	28	66	6
DMN30570030SX	5.70	28	66	6
DMN30580030SX	5.80	28	66	6
DMN30590030SX	5.90	28	66	6
DMN30600030SX	6.00	28	66	6
DMN30610030SX	6.10	34	79	8
DMN30620030SX	6.20	34	79	8
DMN30630030SX	6.30	34	79	8
DMN30635030SX	6.35(1/4")	34	79	8
DMN30640030SX	6.40	34	79	8
DMN30650030SX	6.50	34	79	8
DMN30660030SX	6.60	34	79	8
DMN30670030SX	6.70	34	79	8
DMN30680030SX	6.80	34	79	8
DMN30690030SX	6.90	34	79	8
DMN30700030SX	7.00	34	79	8
DMN30710030SX	7.10	41	79	8
DMN30714030SX	7.14(9/32")	41	79	8
DMN30720030SX	7.20	41	79	8
DMN30730030SX	7.30	41	79	8
DMN30740030SX	7.40	41	79	8
DMN30750030SX	7.50	41	79	8
DMN30760030SX	7.60	41	79	8
DMN30770030SX	7.70	41	79	8
DMN30780030SX	7.80	41	79	8
DMN30790030SX	7.90	41	79	8
DMN30794030SX	7.94(5/16")	41	79	8
DMN30800030SX	8.00	41	79	8
DMN30810030SX	8.10	47	89	10

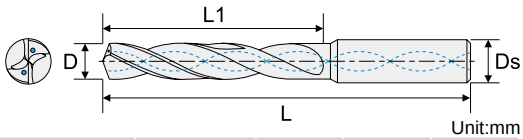
Order No.	D	L1	L	Ds
DMN30820030SX	8.20	47	89	10
DMN30830030SX	8.30	47	89	10
DMN30840030SX	8.40	47	89	10
DMN30850030SX	8.50	47	89	10
DMN30860030SX	8.60	47	89	10
DMN30870030SX	8.70	47	89	10
DMN30880030SX	8.80	47	89	10
DMN30890030SX	8.90	47	89	10
DMN30900030SX	9.00	47	89	10
DMN30910030SX	9.10	47	89	10
DMN30920030SX	9.20	47	89	10
DMN30925030SX	9.25	47	89	10
DMN30930030SX	9.30	47	89	10
DMN30940030SX	9.40	47	89	10
DMN30950030SX	9.50	47	89	10
DMN30952030SX	9.52(3/8")	47	89	10
DMN30960030SX	9.60	47	89	10
DMN30970030SX	9.70	47	89	10
DMN30980030SX	9.80	47	89	10
DMN30990030SX	9.90	47	89	10
DMN31000030SX	10.00	47	89	10
DMN31020030SX	10.20	55	102	12
DMN31050030SX	10.50	55	102	12
DMN31070030SX	10.70	55	102	12
DMN31100030SX	11.00	55	102	12
DMN31110030SX	11.10	55	102	12
DMN31120030SX	11.20	55	102	12
DMN31150030SX	11.50	55	102	12
DMN31170030SX	11.70	55	102	12
DMN31190030SX	11.90	55	102	12
DMN31200030SX	12.00	55	102	12
DMN31250030SX	12.50	60	107	14
DMN31270030SX	12.70(1/2)	60	107	14
DMN31300030SX	13.00	60	107	14
DMN31400030SX	14.00	60	107	14
DMN31600030SX	16.00	65	115	16
DMN31800030SX	18.00	73	123	18

Cutting conditions : Page C041

DMC - for Exotic Material · Internal Coolant · 5D 高效能內冷鑽頭 (鈦及不鏽鋼用) · 5 倍深

P	M	K	N	S	H
●	●	●		●	○

- 5×D Cutting Depth
- SINIX Smooth Coating
- Similar DIN6537
- 140° NR Tip
- D tolerance : h8
- Double Margin
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DMC50340054SX	3.40	28	60	4
DMC50350054SX	3.50	28	60	4
DMC50370054SX	3.70	28	60	4
DMC50380054SX	3.80	36	74	4
DMC50400050SX	4.00	36	74	6
DMC50410050SX	4.10	36	74	6
DMC50420050SX	4.20	36	74	6
DMC50430050SX	4.30	36	74	6
DMC50440050SX	4.40	36	74	6
DMC50450050SX	4.50	36	74	6
DMC50460050SX	4.60	36	74	6
DMC50465050SX	4.65	36	74	6
DMC50470050SX	4.70	36	74	6
DMC50476050SX	4.76(3/16")	36	74	6
DMC50480050SX	4.80	44	82	6
DMC50490050SX	4.90	44	82	6
DMC50500050SX	5.00	44	82	6
DMC50510050SX	5.10	44	82	6
DMC50520050SX	5.20	44	82	6
DMC50530050SX	5.30	44	82	6
DMC50540050SX	5.40	44	82	6
DMC50550050SX	5.50	44	82	6
DMC50555050SX	5.55(7/32")	44	82	6
DMC50560050SX	5.60	44	82	6
DMC50570050SX	5.70	44	82	6
DMC50580050SX	5.80	44	82	6
DMC50590050SX	5.90	44	82	6
DMC50600050SX	6.00	44	82	6
DMC50610050SX	6.10	53	91	8
DMC50620050SX	6.20	53	91	8
DMC50630050SX	6.30	53	91	8
DMC50635050SX	6.35(1/4")	53	91	8
DMC50640050SX	6.40	53	91	8
DMC50650050SX	6.50	53	91	8
DMC50660050SX	6.60	53	91	8
DMC50670050SX	6.70	53	91	8
DMC50680050SX	6.80	53	91	8
DMC50690050SX	6.90	53	91	8
DMC50700050SX	7.00	53	91	8
DMC50710050SX	7.10	53	91	8
DMC50714050SX	7.14(9/32")	53	91	8
DMC50720050SX	7.20	53	91	8
DMC50730050SX	7.30	53	91	8
DMC50740050SX	7.40	53	91	8
DMC50750050SX	7.50	53	91	8
DMC50760050SX	7.60	53	91	8
DMC50770050SX	7.70	53	91	8
DMC50780050SX	7.80	53	91	8

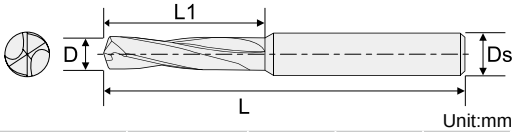
Order No.	D	L1	L	Ds
DMC50790050SX	7.90	53	91	8
DMC50794050SX	7.94(5/16")	53	91	8
DMC50800050SX	8.00	53	91	8
DMC50810050SX	8.10	61	103	10
DMC50820050SX	8.20	61	103	10
DMC50830050SX	8.30	61	103	10
DMC50840050SX	8.40	61	103	10
DMC50850050SX	8.50	61	103	10
DMC50860050SX	8.60	61	103	10
DMC50870050SX	8.70	61	103	10
DMC50880050SX	8.80	61	103	10
DMC50890050SX	8.90	61	103	10
DMC50900050SX	9.00	61	103	10
DMC50910050SX	9.10	61	103	10
DMC50920050SX	9.20	61	103	10
DMC50925050SX	9.25	61	103	10
DMC50930050SX	9.30	61	103	10
DMC50940050SX	9.40	61	103	10
DMC50950050SX	9.50	61	103	10
DMC50952050SX	9.52(3/8")	61	103	10
DMC50960050SX	9.60	61	103	10
DMC50970050SX	9.70	61	103	10
DMC50980050SX	9.80	61	103	10
DMC50990050SX	9.90	61	103	10
DMC51000050SX	10.00	61	103	10
DMC51020050SX	10.20	71	118	12
DMC51050050SX	10.50	71	118	12
DMC51070050SX	10.70	71	118	12
DMC51100050SX	11.00	71	118	12
DMC51120050SX	11.20	71	118	12
DMC51150050SX	11.50	71	118	12
DMC51170050SX	11.70	71	118	12
DMC51200050SX	12.00	71	118	12
DMC51250050SX	12.50	77	124	14
DMC51270050SX	12.70(1/2")	77	124	14
DMC51300050SX	13.00	77	124	14
DMC51350050SX	13.50	77	124	14
DMC51370050SX	13.70	77	124	14
DMC51400050SX	14.00	77	124	14
DMC51450050SX	14.50	83	133	16
DMC51470050SX	14.70	83	133	16
DMC51500050SX	15.00	83	133	16
DMC51550050SX	15.50	83	133	16
DMC51570050SX	15.70	83	133	16
DMC51600050SX	16.00	83	133	16
DMC51800050SX	18.00	93	143	18
DMC51900050SX	19.00	101	153	20
DMC52000050SX	20.00	101	153	20

Cutting conditions : Page C041

DHN - for Hardened Steel · External Coolant · 3D 高效能外冷鑽頭 (高硬用) · 3 倍深

P	M	K	N	S	H
●				●	●

- 3×D Cutting Depth
- SINIX Smooth Coating
- Similar DIN6537
- 140° NX Tip
- D tolerance : h8
- Helix : 12° ~ 20°
- Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DHN30090030SX	0.90	8	50	3
DHN30095030SX	0.95	8	50	3
DHN30100030SX	1.00	8	50	3
DHN30110030SX	1.10	8	50	3
DHN30120030SX	1.20	8	50	3
DHN30125030SX	1.25	8	50	3
DHN30130030SX	1.30	10	50	3
DHN30132030SX	1.32	10	50	3
DHN30140030SX	1.40	10	50	3
DHN30145030SX	1.45	10	50	3
DHN30150030SX	1.50	10	50	3
DHN30160030SX	1.60	10	50	3
DHN30165030SX	1.65	10	50	3
DHN30170030SX	1.70	10	50	3
DHN30175030SX	1.75	10	50	3
DHN30185030SX	1.85	10	50	3
DHN30190030SX	1.90	10	50	3
DHN30200030SX	2.00	12	50	3
DHN30205030SX	2.05	12	50	3
DHN30210030SX	2.10	12	50	3
DHN30220030SX	2.20	12	50	3
DHN30230030SX	2.30	12	50	3
DHN30240030SX	2.40	12	50	3
DHN30250030SX	2.50	12	50	3
DHN30260030SX	2.60	16	60	3
DHN30270030SX	2.70	16	60	3
DHN30280030SX	2.80	16	60	3
DHN30290030SX	2.90	16	60	3
DHN30300030SX	3.00	16	60	3
DHN30310030SX	3.10	20	62	6
DHN30320030SX	3.20	20	62	6
DHN30330030SX	3.30	20	62	6
DHN30340030SX	3.40	20	62	6
DHN30350030SX	3.50	20	62	6
DHN30360030SX	3.60	20	62	6
DHN30370030SX	3.70	20	62	6
DHN30380030SX	3.80	20	62	6
DHN30390030SX	3.90	20	62	6
DHN30400030SX	4.00	24	66	6
DHN30420030SX	4.20	24	66	6
DHN30450030SX	4.50	24	66	6
DHN30460030SX	4.60	24	66	6
DHN30465030SX	4.65	24	66	6
DHN30480030SX	4.80	28	66	6
DHN30500030SX	5.00	28	66	6
DHN30550030SX	5.50	28	66	6
DHN30556030SX	5.56(7/32")	28	66	6
DHN30570030SX	5.70	28	66	6

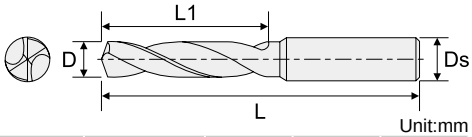
Order No.	D	L1	L	Ds
DHN30580030SX	5.80	28	66	6
DHN30600030SX	6.00	28	66	6
DHN30635030SX	6.35(1/4")	34	79	8
DHN30640030SX	6.40	34	79	8
DHN30650030SX	6.50	34	79	8
DHN30680030SX	6.80	34	79	8
DHN30700030SX	7.00	34	79	8
DHN30740030SX	7.40	41	79	8
DHN30750030SX	7.50	41	79	8
DHN30780030SX	7.80	41	79	8
DHN30800030SX	8.00	41	79	8
DHN30850030SX	8.50	47	89	10
DHN30880030SX	8.80	47	89	10
DHN30900030SX	9.00	47	89	10
DHN30925030SX	9.25	47	89	10
DHN30930030SX	9.30	47	89	10
DHN30950030SX	9.50	47	89	10
DHN30980030SX	9.80	47	89	10
DHN31000030SX	10.00	47	89	10
DHN31020030SX	10.20	55	102	12
DHN31050030SX	10.50	55	102	12
DHN31070030SX	10.70	55	102	12
DHN31100030SX	11.00	55	102	12
DHN31120030SX	11.20	55	102	12
DHN31150030SX	11.50	55	102	12
DHN31170030SX	11.70	55	102	12
DHN31200030SX	12.00	55	102	12

Cutting conditions : Page C042

DGN3 - General Purpose · External Coolant · 3D 泛用外冷鑽頭・3 倍深

P	M	K	N	S	H
●	●	●	○	○	○

- 3×D Cutting Depth
- D tolerance : h8
- 130° NX Tip
- Ds tolerance : h6
- UNICO Coating



Unit:mm

Order No.	D	L1	L	Ds
DGN30200031U	2.00	12	38	3
DGN30210031U	2.10	12	38	3
DGN30220031U	2.20	13	40	3
DGN30230031U	2.30	13	40	3
DGN30238031U	2.38(3/32")	14	43	3
DGN30240031U	2.40	14	43	3
DGN30250031U	2.50	14	43	3
DGN30260031U	2.60	14	43	3
DGN30270031U	2.70	16	46	3
DGN30278031U	2.78(7/64")	16	46	3
DGN30280031U	2.80	16	46	3
DGN30290031U	2.90	16	46	3
DGN30300031U	3.00	16	46	3
DGN30310031U	3.10	18	49	4
DGN30317031U	3.17(1/8")	18	49	4
DGN30320031U	3.20	18	49	4
DGN30330031U	3.30	18	49	4
DGN30340031U	3.40	20	52	4
DGN30350031U	3.50	20	52	4
DGN30357031U	3.57(9/64")	20	52	4
DGN30360031U	3.60	20	52	4
DGN30370031U	3.70	20	52	4
DGN30380031U	3.80	22	55	4
DGN30390031U	3.90	22	55	4
DGN30397031U	3.97(5/32")	22	55	4
DGN30400031U	4.00	22	55	4
DGN30410031U	4.10	22	55	5
DGN30420031U	4.20	24	58	5
DGN30430031U	4.30	24	58	5
DGN30437031U	4.37(11/64")	24	58	5
DGN30440031U	4.40	24	58	5
DGN30450031U	4.50	24	58	5
DGN30460031U	4.60	24	58	5
DGN30470031U	4.70	24	58	5
DGN30476031U	4.76(3/16")	26	62	5
DGN30480031U	4.80	26	62	5
DGN30490031U	4.90	26	62	5
DGN30500031U	5.00	26	62	5
DGN30510031U	5.10	26	62	6
DGN30520031U	5.20	26	62	6
DGN30530031U	5.30	26	62	6
DGN30540031U	5.40	28	66	6
DGN30550031U	5.50	28	66	6
DGN30560031U	5.60	28	66	6
DGN30570031U	5.70	28	66	6
DGN30580031U	5.80	28	66	6
DGN30590031U	5.90	28	66	6
DGN30600031U	6.00	28	66	6

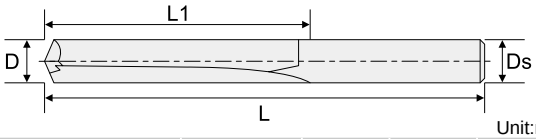
Order No.	D	L1	L	Ds
DGN30610031U	6.10	31	70	7
DGN30620031U	6.20	31	70	7
DGN30630031U	6.30	31	70	7
DGN30635031U	6.35(1/4")	31	70	7
DGN30640031U	6.40	31	70	7
DGN30650031U	6.50	31	70	7
DGN30660031U	6.60	31	70	7
DGN30670031U	6.70	31	70	7
DGN30680031U	6.80	34	74	7
DGN30690031U	6.90	34	74	7
DGN30700031U	7.00	34	74	7
DGN30710031U	7.10	34	74	8
DGN30714031U	7.14(9/32")	34	74	8
DGN30720031U	7.20	34	74	8
DGN30730031U	7.30	34	74	8
DGN30740031U	7.40	34	74	8
DGN30750031U	7.50	34	74	8
DGN30760031U	7.60	37	79	8
DGN30770031U	7.70	37	79	8
DGN30780031U	7.80	37	79	8
DGN30790031U	7.90	37	79	8
DGN30794031U	7.94(5/16")	37	79	8
DGN30800031U	8.00	37	79	8
DGN30810031U	8.10	37	79	9
DGN30820031U	8.20	37	79	9
DGN30830031U	8.30	37	79	9
DGN30840031U	8.40	37	79	9
DGN30850031U	8.50	37	79	9
DGN30860031U	8.60	37	79	9
DGN30870031U	8.70	37	79	9
DGN30873031U	8.73(11/32")	40	84	9
DGN30880031U	8.80	40	84	9
DGN30890031U	8.90	40	84	9
DGN30900031U	9.00	40	84	9
DGN30910031U	9.10	40	84	10
DGN30920031U	9.20	40	84	10
DGN30930031U	9.30	40	84	10
DGN30940031U	9.40	40	84	10
DGN30960031U	9.60	43	89	10
DGN30950031U	9.50	40	84	10
DGN30970031U	9.70	43	89	10
DGN30980031U	9.80	43	89	10
DGN30990031U	9.90	43	89	10
DGN31000031U	10.00	43	89	10
DGN31100031U	11.00	47	95	11
DGN31200031U	12.00	51	102	12
DGN31250031U	12.50	51	102	13
DGN31300031U	13.00	51	102	13

Cutting conditions : Page C041

DAN - Straight Flute · External Coolant · 3D 直刃外冷鑽鉸刀・3 倍深

P	M	K	N	S	H
○		●	●		

- 3×D Cutting Depth
- 130° Tip
- UNIX Smooth Coating
- D tolerance : h8
- Ds tolerance : h6



Unit:mm

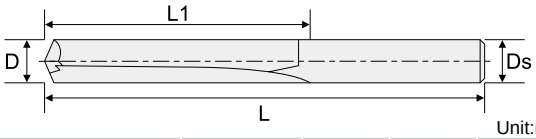
Order No.	D	L1	L	Ds
DAN30400034UX	4.00	24	75	4
DAN30450030UX	4.50	24	75	6
DAN30500030UX	5.00	28	75	6
DAN30550030UX	5.50	28	75	6
DAN30600030UX	6.00	28	75	6
DAN30650030UX	6.50	34	100	8
DAN30700030UX	7.00	34	100	8
DAN30750030UX	7.50	41	100	8
DAN30800030UX	8.00	41	100	8
DAN30850030UX	8.50	47	100	10
DAN30900030UX	9.00	47	100	10
DAN30950030UX	9.50	47	100	10
DAN31000030UX	10.00	47	100	10
DAN31200030UX	12.00	55	100	12
DAN31400030UX	14.00	60	100	14
DAN31600030UX	16.00	65	107	16

Order No.	D	L1	L	Ds

DAN - Straight Flute · External Coolant · 5D 直刃外冷鑽鉸刀・5 倍深

P	M	K	N	S	H
○		●	●		

- 5×D Cutting Depth
- 130° Tip
- UNIX Smooth Coating
- D tolerance : h8
- Ds tolerance : h6



Unit:mm

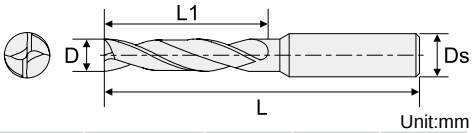
Order No.	D	L1	L	Ds
DAN50400054UX	4.00	36	100	4
DAN50450050UX	4.50	36	100	6
DAN50500050UX	5.00	44	100	6
DAN50550050UX	5.50	44	100	6
DAN50600050UX	6.00	44	100	6
DAN50650050UX	6.50	53	100	8
DAN50700050UX	7.00	53	100	8
DAN50750050UX	7.50	53	100	8
DAN50800050UX	8.00	53	100	8
DAN50850050UX	8.50	61	107	10
DAN50900050UX	9.00	61	107	10
DAN50950050UX	9.50	61	107	10
DAN51000050UX	10.00	61	107	10
DAN51200050UX	12.00	71	125	12
DAN51400050UX	14.00	77	150	14
DAN51600050UX	16.00	83	150	16

Order No.	D	L1	L	Ds

DFN - Flat Point · External Coolant · 3D 平底外冷鑽頭・3 倍深

P	M	K	N	S	H
●	○	●	○		

- 3×D Cutting Depth
- D tolerance : h8
- FX Flat Tip
- Ds tolerance : h6
- UNIX Smooth Coating
- Similar DIN6537



Unit:mm

Order No.	D	L1	L	Ds
DFN30220034UX	2.20	13	60	4
DFN30250034UX	2.50	15	60	4
DFN30260034UX	2.60	15	60	4
DFN30270034UX	2.70	15	60	4
DFN30300034UX	3.00	20	60	4
DFN30310034UX	3.10	20	60	4
DFN30317034UX	3.17(1/8")	20	60	4
DFN30320034UX	3.20	20	60	4
DFN30325034UX	3.25(5/39")	20	60	4
DFN30330034UX	3.30	20	60	4
DFN30340034UX	3.40	20	60	4
DFN30350034UX	3.50	20	60	4
DFN30360034UX	3.60	20	60	4
DFN30370034UX	3.70	20	60	4
DFN30380034UX	3.80	24	60	4
DFN30390034UX	3.90	24	60	4
DFN30397034UX	3.97(5/32")	24	60	4
DFN30300030UX	3.00	20	62	6
DFN30310030UX	3.10	20	62	6
DFN30320030UX	3.20	20	62	6
DFN30325030UX	3.25(5/39")	20	62	6
DFN30330030UX	3.30	20	62	6
DFN30340030UX	3.40	20	62	6
DFN30350030UX	3.50	20	62	6
DFN30360030UX	3.60	20	62	6
DFN30370030UX	3.70	20	62	6
DFN30380030UX	3.80	24	66	6
DFN30390030UX	3.90	24	66	6
DFN30397030UX	3.97(5/32")	24	66	6
DFN30400030UX	4.00	24	66	6
DFN30410030UX	4.10	24	66	6
DFN30420030UX	4.20	24	66	6
DFN30430030UX	4.30	24	66	6
DFN30440030UX	4.40	24	66	6
DFN30450030UX	4.50	24	66	6
DFN30460030UX	4.60	24	66	6
DFN30465030UX	4.65(13/71")	24	66	6
DFN30470030UX	4.70	24	66	6
DFN30480030UX	4.80	28	66	6
DFN30490030UX	4.90	28	66	6
DFN30500030UX	5.00	28	66	6
DFN30510030UX	5.10	28	66	6
DFN30520030UX	5.20	28	66	6
DFN30530030UX	5.30	28	66	6
DFN30540030UX	5.40	28	66	6
DFN30550030UX	5.50	28	66	6
DFN30556030UX	5.56(7/32")	28	66	6
DFN30560030UX	5.60	28	66	6

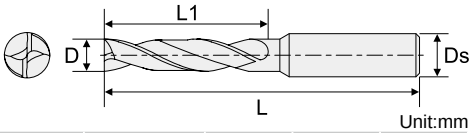
Order No.	D	L1	L	Ds
DFN30570030UX	5.70	28	66	6
DFN30580030UX	5.80	28	66	6
DFN30590030UX	5.90	28	66	6
DFN30600030UX	6.00	28	66	6
DFN30610030UX	6.10	34	79	8
DFN30620030UX	6.20	34	79	8
DFN30630030UX	6.30	34	79	8
DFN30635030UX	6.35	34	79	8
DFN30640030UX	6.40	34	79	8
DFN30650030UX	6.50	34	79	8
DFN30660030UX	6.60	34	79	8
DFN30670030UX	6.70	34	79	8
DFN30680030UX	6.80	34	79	8
DFN30690030UX	6.90	34	79	8
DFN30700030UX	7.00	34	79	8
DFN30710030UX	7.10	41	79	8
DFN30720030UX	7.20	41	79	8
DFN30730030UX	7.30	41	79	8
DFN30740030UX	7.40	41	79	8
DFN30750030UX	7.50	41	79	8
DFN30760030UX	7.60	41	79	8
DFN30770030UX	7.70	41	79	8
DFN30780030UX	7.80	41	79	8
DFN30790030UX	7.90	41	79	8
DFN30800030UX	8.00	41	79	8
DFN30810030UX	8.10	47	89	10
DFN30820030UX	8.20	47	89	10
DFN30830030UX	8.30	47	89	10
DFN30840030UX	8.40	47	89	10
DFN30850030UX	8.50	47	89	10
DFN30860030UX	8.60	47	89	10
DFN30870030UX	8.70	47	89	10
DFN30880030UX	8.80	47	89	10
DFN30890030UX	8.90	47	89	10
DFN30900030UX	9.00	47	89	10
DFN30910030UX	9.10	47	89	10
DFN30920030UX	9.20	47	89	10
DFN30925030UX	9.25(23/64")	47	89	10
DFN30930030UX	9.30	47	89	10
DFN30940030UX	9.40	47	89	10
DFN30950030UX	9.50	47	89	10
DFN30960030UX	9.60	47	89	10
DFN30970030UX	9.70	47	89	10
DFN30980030UX	9.80	47	89	10
DFN30990030UX	9.90	47	89	10
DFN31000030UX	10.00	47	89	10
DFN31010030UX	10.10	55	102	12
DFN31020030UX	10.20	55	102	12

Cutting conditions : Page C041

DFN - Flat Point · External Coolant · 3D 平底外冷鑽頭・3 倍深

P	M	K	N	S	H
●	○	●	○		

- 3×D Cutting Depth
- D tolerance : h8
- FX Flat Tip
- Ds tolerance : h6
- UNIX Smooth Coating
- Similar DIN6537



Unit:mm

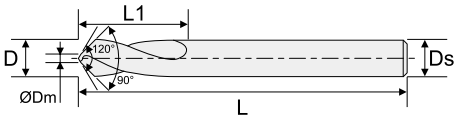
Order No.	D	L1	L	Ds
DFN31030030UX	10.30	55	102	12
DFN31040030UX	10.40	55	102	12
DFN31050030UX	10.50	55	102	12
DFN31060030UX	10.60	55	102	12
DFN31070030UX	10.70	55	102	12
DFN31080030UX	10.80	55	102	12
DFN31090030UX	10.90	55	102	12
DFN31100030UX	11.00	55	102	12
DFN31110030UX	11.10	55	102	12
DFN31120030UX	11.20	55	102	12
DFN31130030UX	11.30	55	102	12
DFN31140030UX	11.40	55	102	12
DFN31150030UX	11.50	55	102	12
DFN31160030UX	11.60	55	102	12
DFN31170030UX	11.70	55	102	12
DFN31180030UX	11.80	55	102	12
DFN31190030UX	11.90	55	102	12
DFN31200030UX	12.00	55	102	12
DFN31210030UX	12.10	60	107	14
DFN31220030UX	12.20	60	107	14
DFN31230030UX	12.30	60	107	14
DFN31240030UX	12.40	60	107	14
DFN31250030UX	12.50	60	107	14
DFN31260030UX	12.60	60	107	14
DFN31270030UX	12.70(1/2")	60	107	14
DFN31280030UX	12.80	60	107	14
DFN31290030UX	12.90	60	107	14
DFN31300030UX	13.00	60	107	14
DFN31320030UX	13.20	60	107	14
DFN31330030UX	13.30	60	107	14
DFN31350030UX	13.50	60	107	14
DFN31370030UX	13.70	60	107	14
DFN31380030UX	13.80	60	107	14
DFN31400030UX	14.00	60	107	14
DFN31420030UX	14.20	65	115	16
DFN31430030UX	14.30	65	115	16
DFN31440030UX	14.40	65	115	16
DFN31450030UX	14.50	65	115	16
DFN31470030UX	14.70	65	115	16
DFN31500030UX	15.00	65	115	16
DFN31520030UX	15.20	65	115	16
DFN31550030UX	15.50	65	115	16
DFN31560030UX	15.60	65	115	16
DFN31570030UX	15.70	65	115	16
DFN31580030UX	15.80	65	115	16
DFN31600030UX	16.00	65	115	16
DFN31650030UX	16.50	73	123	18
DFN31700030UX	17.00	73	123	18
DFN31750030UX	17.50	73	123	18
DFN31800030UX	18.00	73	123	18
DFN31850030UX	18.50	79	131	20
DFN31900030UX	19.00	79	131	20
DFN31950030UX	19.50	79	131	20
DFN32000030UX	20.00	79	131	20

Cutting conditions : Page C041

DTN - Spotting · External Coolant · Tip angle 90° 定位外冷鑽頭・鑽尖 90°

P	M	K	N	S	H
●	●	●		●	●

・90° & 120° Tip Angle ・45° Chamfer Angle ・UNICO Coating
・Ds tolerance : h6
・Double angle tip design reduces drill tip cracking.



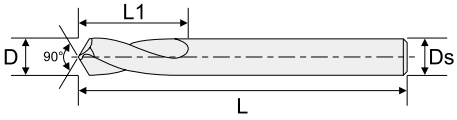
Unit:mm

Order No.	ØDm	D	L1	L	Ds
DTN0130090U	0.3	1.30	4	50	3
DTN0170090U	0.4	1.70	5	50	3
DTN0300090U	0.8	3.00	8	50	3
DTN0400090U	1.0	4.00	10	50	4
DTN0500090U	1.3	5.00	13	50	5
DTN0600090U	1.5	6.00	15	50	6
DTN0800090U	2.0	8.00	20	60	8
DTN1000090U	2.5	10.00	25	75	10
DTN1200090U	3.0	12.00	30	75	12
DTN1600090U	4.0	16.00	35	100	16

Order No.	ØDm	D	L1	L	Ds
＊ Long Shank Type					
DTN0400091U	1.0	4.00	10	75	4
DTN0500091U	1.3	5.00	13	75	5
DTN0600091U	1.5	6.00	15	100	6
DTN0800091U	2.0	8.00	20	100	8
DTN1000091U	2.5	10.00	25	150	10
DTN1200091U	3.0	12.00	30	150	12
DTN1600091U	4.0	16.00	35	150	16

P	M	K	N	S	H
●	●	●	●	○	○

・90° Tip Angle ・45° Chamfer Angle ・UNICO Coating
・Ds tolerance : h6
・Single angle tip design.



Unit:mm

Order No.	D	L1	L	Ds
DTN0130095U	1.30	4	50	3
DTN0170095U	1.70	5	50	3
DTN0300095U	3.00	8	50	3
DTN0400095U	4.00	10	50	4
DTN0500095U	5.00	13	50	5
DTN0600095U	6.00	15	50	6
DTN0800095U	8.00	20	60	8
DTN1000095U	10.00	25	75	10
DTN1200095U	12.00	30	75	12
DTN1600095U	16.00	35	100	16

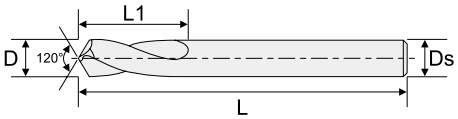
Order No.	D	L1	L	Ds
＊ Long Shank Type				
DTN0400096U	4.00	10	75	4
DTN0500096U	5.00	13	75	5
DTN0600096U	6.00	15	100	6
DTN0800096U	8.00	20	100	8
DTN1000096U	10.00	25	150	10
DTN1200096U	12.00	30	150	12
DTN1600096U	16.00	35	150	16

Cutting conditions : Page C042

DTN - Spotting · External Coolant · Tip angle 120° / 142° 定位外冷鑽頭・鑽尖 120° / 142°

P	M	K	N	S	H
●	●	●	○	●	●

・120° Tip Angle
・Ds tolerance : h6
・60° Chamfer Angle
・UNICO Coating



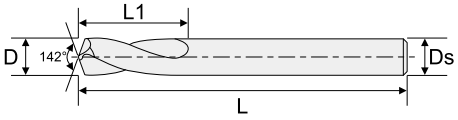
Unit:mm

Order No.	D	L1	L	Ds
DTN0300120U	3.00	8	50	3
DTN0400120U	4.00	10	50	4
DTN0500120U	5.00	13	50	5
DTN0600120U	6.00	15	50	6
DTN0800120U	8.00	20	60	8
DTN1000120U	10.00	25	75	10
DTN1200120U	12.00	30	75	12
DTN1600120U	16.00	35	100	16

Order No.	D	L1	L	Ds
＊ Long Shank Type				
DTN0400121U	4.00	10	75	4
DTN0500121U	5.00	13	75	5
DTN0600121U	6.00	15	100	6
DTN0800121U	8.00	20	100	8
DTN1000121U	10.00	25	150	10
DTN1200121U	12.00	30	150	12
DTN1600121U	16.00	35	150	16

P	M	K	N	S	H
●	●	●	○	●	●

・142° Tip Angle
・Ds tolerance : h6
・UNICO Coating
・Ds tolerance : h6



Unit:mm

Order No.	D	L1	L	Ds
DTN0300140U	3.00	8	50	3
DTN0400140U	4.00	10	50	4
DTN0500140U	5.00	13	50	5
DTN0600140U	6.00	15	50	6
DTN0800140U	8.00	20	60	8
DTN1000140U	10.00	25	75	10
DTN1200140U	12.00	30	75	12
DTN1600140U	16.00	35	100	16

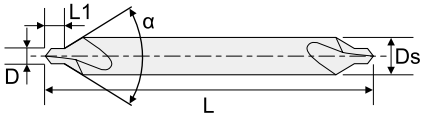
Order No.	D	L1	L	Ds
＊ Long Shank Type				
DTN0400141U	4.00	10	75	4
DTN0500141U	5.00	13	75	5
DTN0600141U	6.00	15	100	6
DTN0800141U	8.00	20	100	8
DTN1000141U	10.00	25	150	10
DTN1200141U	12.00	30	150	12
DTN1600141U	16.00	35	150	16

Cutting conditions : Page C042

DCN - Centering · External Coolant 中心外冷鑽頭

P	M	K	N	S	H
●	○	●			

- 120° Tip Angle
- D tolerance : h8
- UNICO Coating
- Ds tolerance : h6



Unit:mm

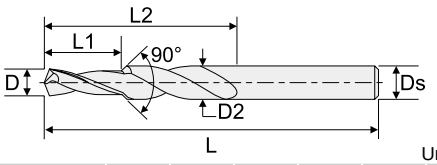
Order No.	D	L1	L	Ds
60° Countersink Angle (α)				
DCN0100060U	1.00	1.6	38	3
DCN0125060U	1.25	1.9	38	3
DCN0160060U	1.60	2.4	42	4
DCN0200060U	2.00	2.9	50	5
DCN0250060U	2.50	3.6	50	6
DCN0250061U	2.50	3.6	50	6.3
DCN0300060U	3.00	3.9	60	8
DCN0315060U	3.15	3.9	60	8
DCN0400060U	4.00	5.0	75	10
DCN0500060U	5.00	6.3	75	12
DCN0500061U	5.00	6.3	75	12.5
DCN0630060U	6.30	8.0	75	16.0

Order No.	D	L1	L	Ds
90° Countersink Angle (α)				
DCN0100090U	1.00	1.6	38	3
DCN0125090U	1.25	1.9	38	3
DCN0160090U	1.60	2.4	42	4
DCN0200090U	2.00	2.9	50	5
DCN0250090U	2.50	3.6	50	6
DCN0300090U	3.00	3.9	60	8
DCN0315090U	3.15	3.9	60	8
DCN0400090U	4.00	5.0	75	10
DCN0500090U	5.00	6.3	75	12

DZN - Step · External Coolant 階梯外冷鑽頭

P	M	K	N	S	H
●	○	●			

- For drill with a counterbore, countersink, or chamfer.
- UNIX Smooth Coating
- D tolerance : h8
- Ds tolerance : h6
- Customizable

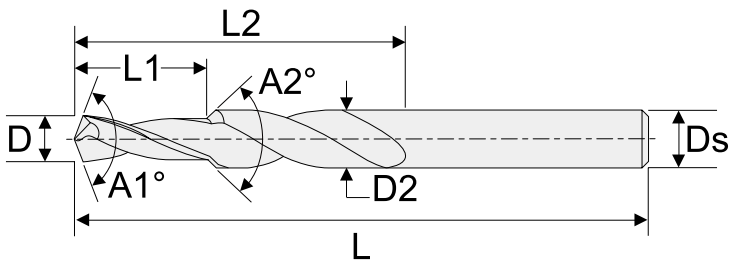


Unit:mm

Order No.	D	L1	D2	L2	L	Ds
DZN03300301	3.30	12	6	26	62	6
DZN04200301	4.20	15	6	28	66	6
DZN05000301	5.00	18	8	36	79	8
DZN06800301	6.80	24	10	48	90	10
DZN08500301	8.50	30	12	55	102	12

Order No.	D	L1	D2	L2	L	Ds

Custom Form



Drill Specifications				
D : _____ (Tolerance :_____)		L1 : _____ (Tolerance :_____)		D2 : _____
L2 : _____	L : _____	Ds : _____	A1 : _____	A2 : _____
Helix Type : ☐ Left ☐ Right		Coolant Supply : ☐ Internal ☐ External		
Coating : ☐ UNICO ☐ UNIX ☐ SINIX ☐ Uncoated ☐ Other_____				

Working Application	
Working Piece Material : _____	Hardness : _____
Drilling Depth : _____	Hole Type : ☐ Blind Hole ☐ Through Hole

Comment

Recommended Cutting Conditions 建議切削數據

DPC Series (Internal Coolant 內冷)

Work Material		Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-16mm	
		Hardness	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	70~120	0.06~0.2	90~130	0.12~0.3	110~150	0.2~0.4
	Cabon Steel	(180~280HB)	70~110	0.06~0.2	90~120	0.12~0.3	110~140	0.2~0.4
	Alloy Steel	(280~350HB)	60~100	0.06~0.18	65~110	0.12~0.27	80~120	0.2~0.35
M	Stainless Steel	(<200HB)	35~60	0.05~0.15	45~80	0.1~0.25	55~100	0.15~0.3
K	Cast Iron	(<350Mpa)	70~100	0.06~0.2	80~120	0.12~0.3	90~140	0.2~0.4
	Ductile Cast Iron	(<450Mpa)	50~80	0.06~0.2	60~90	0.12~0.3	70~110	0.2~0.4
N	Aluminum <12% Si	-	80~140	0.1~0.25	100~160	0.15~0.35	110~180	0.3~0.45
	Aluminum >12% Si	-	70~120	0.1~0.25	90~130	0.15~0.35	100~150	0.3~0.45
S	Heat Resistant Alloy	-	15~30	0.02~0.08	20~40	0.04~0.1	25~45	0.06~0.12
H	Hardened Material	40~60HRC	10~25	0.02~0.08	15~35	0.04~0.1	20~40	0.06~0.12

Warning :
For deep hole drills(10xD~30xD), need reduce the Vc to 90% and require an initial pilot hole to help guide the drill.

DPN, DGN, DFN Series (External Coolant 外冷)

Work Material		Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-16mm	
		Hardness	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)	Cutting Speed (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	45~75	0.06~0.2	55~85	0.12~0.3	60~100	0.2~0.4
	Cabon Steel	(180~280HB)	40~70	0.06~0.2	50~80	0.12~0.3	55~90	0.2~0.4
	Alloy Steel	(280~350HB)	35~65	0.06~0.18	40~75	0.12~0.27	50~85	0.2~0.35
M	Stainless Steel	(<200HB)	25~45	0.05~0.15	25~50	0.1~0.25	30~60	0.15~0.3
K	Cast Iron	(<350Mpa)	45~65	0.06~0.2	50~75	0.12~0.3	55~85	0.2~0.4
	Ductile Cast Iron	(<450Mpa)	40~60	0.06~0.2	45~70	0.12~0.3	50~80	0.2~0.4
N	Aluminum <12% Si	-	65~105	0.1~0.25	65~115	0.15~0.35	70~130	0.3~0.45
	Aluminum >12% Si	-	55~95	0.1~0.25	60~110	0.15~0.35	65~120	0.3~0.45
S	Heat Resistant Alloy	-	15~30	0.02~0.08	20~40	0.04~0.1	25~45	0.06~0.12
H	Hardened Material	40~60HRC	10~25	0.02~0.08	15~35	0.04~0.1	20~40	0.06~0.12

Warning :For slope drilling, please adjust cutting data acording to inclined angle
1. For inclined angle under 20 degree, reduce the feed to 50%
2. For inclined angle between 20 to 50 degree, reduce the feed to 40%, and reduce rotation to 70%
3. For inclined angle between 50 to 65 degree, reduce the feed to 30%, and reduce rotation to 70%
4. Not recommend to side milling

Recommended Cutting Conditions 建議切削數據

DPN Series for 10D~50D (External Coolant 外冷)

Dia. (D)	EFF-L (L2)	LD	Carbon steels (180~250HB)			Pre-hardened steels (35~45HRC)			Stainless steels (25~35HRC)			Aluminum			Hardened steels (45~55HRC)		
			RPM	Feed (mm/rev)	Step Feed (mm)	RPM	Feed (mm/rev)	Step Feed (mm)	RPM	Feed (mm/rev)	Step Feed (mm)	RPM	Feed (mm/rev)	Step Feed (mm)	RPM	Feed (mm/rev)	Step Feed (mm)
0.1	1	10	25,465	76	0.01	22,282	67	0.007	23,873	72	0.01	35,014	105	0.01	20,690	41	0.005
0.1	3	30	25,465	76	0.01	22,282	67	0.007	23,873	72	0.01	35,014	105	0.01	20,690	41	0.005
0.1	5	50	20,372	61	0.01	17,825	53	0.007	19,099	57	0.01	28,011	84	0.01	16,552	33	0.005
0.15	1.5	10	23,343	70	0.015	20,160	60	0.0105	21,221	64	0.015	25,465	76	0.015	19,099	38	0.0075
0.15	4.5	30	23,343	70	0.015	20,160	60	0.0105	21,221	64	0.015	25,465	76	0.015	19,099	38	0.0075
0.15	7.5	50	18,674	56	0.015	16,128	48	0.0105	16,977	51	0.015	20,372	61	0.015	15,279	31	0.0075
0.2	2	10	20,690	83	0.02	17,507	70	0.014	19,099	76	0.02	23,873	95	0.02	16,711	50	0.01
0.2	6	30	20,690	83	0.02	17,507	70	0.014	19,099	76	0.02	23,873	95	0.02	16,711	50	0.01
0.2	10	50	16,552	66	0.02	14,006	56	0.014	15,279	61	0.02	19,099	76	0.02	13,369	40	0.01
0.3	3	10	14,854	59	0.03	12,732	51	0.021	13,793	55	0.03	15,915	64	0.03	12,202	37	0.015
0.3	9	30	14,854	59	0.03	12,732	51	0.021	13,793	55	0.03	15,915	64	0.03	12,202	37	0.015
0.3	15	50	11,884	48	0.03	10,186	41	0.021	11,035	44	0.03	12,732	51	0.03	9,762	29	0.015
0.4	4	10	12,335	49	0.04	11,539	46	0.028	11,937	48	0.04	13,528	54	0.04	10,743	43	0.02
0.4	12	30	12,335	49	0.04	11,539	46	0.028	11,937	48	0.04	13,528	54	0.04	10,743	43	0.02
0.4	20	50	9,868	39	0.04	9,231	37	0.028	9,549	38	0.04	10,823	43	0.04	8,594	34	0.02
0.5	5	10	9,868	49	0.05	9,231	46	0.035	9,549	48	0.05	10,823	54	0.05	8,594	43	0.025
0.5	15	30	9,868	49	0.05	9,231	46	0.035	9,549	48	0.05	10,823	54	0.05	8,594	43	0.025
0.5	25	50	7,894	39	0.05	7,385	37	0.035	7,639	38	0.05	8,658	43	0.05	6,875	34	0.025
0.6	6	10	8,223	49	0.06	7,692	46	0.042	7,958	48	0.06	9,019	54	0.06	7,162	43	0.03
0.6	18	30	8,223	49	0.06	7,692	46	0.042	7,958	48	0.06	9,019	54	0.06	7,162	43	0.03
0.6	30	50	6,578	39	0.06	6,154	37	0.042	6,366	38	0.06	7,215	43	0.06	5,730	34	0.03
0.7	7	10	7,048	49	0.07	6,594	46	0.049	6,821	48	0.07	7,730	54	0.07	6,139	43	0.035
0.7	21	30	7,048	49	0.07	6,594	46	0.049	6,821	48	0.07	7,730	54	0.07	6,139	43	0.035
0.7	35	50	5,639	39	0.07	5,275	37	0.049	5,457	38	0.07	6,184	43	0.07	4,911	34	0.035
0.8	8	10	6,167	49	0.08	5,769	46	0.056	5,968	48	0.08	6,764	54	0.08	5,371	43	0.04
0.8	24	30	6,167	49	0.08	5,769	46	0.056	5,968	48	0.08	6,764	54	0.08	5,371	43	0.04
0.8	40	50	4,934	39	0.08	4,615	37	0.056	4,775	38	0.08	5,411	43	0.08	4,297	34	0.04
0.9	9	10	5,482	49	0.09	5,128	46	0.063	5,305	48	0.09	6,013	54	0.09	4,775	43	0.045
0.9	27	30	5,482	49	0.09	5,128	46	0.063	5,305	48	0.09	6,013	54	0.09	4,775	43	0.045
0.9	45	50	4,386	39	0.09	4,103	37	0.063	4,244	38	0.09	4,810	43	0.09	3,820	34	0.045
1	10	10	4,934	49	0.1	4,615	46	0.07	4,775	48	0.1	5,411	54	0.1	4,297	43	0.05
1	30	30	4,934	49	0.1	4,615	46	0.07	4,775	48	0.1	5,411	54	0.1	4,297	43	0.05
1	50	50	3,947	39	0.1	3,692	37	0.07	3,820	38	0.1	4,329	43	0.1	3,438	34	0.05

Warning :
1. Always use Peck drilling (G83 program).
2. Use water-soluble or oil-based coolant should be to ensure chip removal.

注意 :
1. 使用啄鑽方式鑽孔（G83 程序）
2. 請使用水溶性或油性冷卻液以確保排屑

Recommended Cutting Conditions 建議切削數據

DMC Series (Internal Coolant 內冷)

Material	Stainless Steel				Titanium Alloy		Nickel Alloy		Carbon Steel / Alloy Steel	
Hardness	< HRC 20		≥ HRC 20		HRC 33 ~ 45		HRC 33 ~ 45		< HRC 35	
Vc	50 ~ 90 m/min		40 ~ 80 m/min		20 ~ 40 m/min		18 ~ 30 m/min		60 ~ 100 m/min	
Dia (mm)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)
4	4000 ~ 7200	0.04 ~ 0.11	3200 ~ 6400	0.04 ~ 0.11	1600 ~ 3200	0.04 ~ 0.08	1400 ~ 2400	0.04 ~ 0.08	4800 ~ 8000	0.04 ~ 0.12
6	2700 ~ 4800	0.06 ~ 0.17	2100 ~ 4200	0.06 ~ 0.17	1000 ~ 2100	0.06 ~ 0.12	1000 ~ 1600	0.06 ~ 0.12	3200 ~ 5300	0.06 ~ 0.18
8	2000 ~ 3600	0.08 ~ 0.22	1600 ~ 3200	0.08 ~ 0.22	800 ~ 1600	0.08 ~ 0.16	700 ~ 1200	0.08 ~ 0.16	2400 ~ 4000	0.08 ~ 0.24
10	1600 ~ 2900	0.10 ~ 0.28	1300 ~ 2500	0.10 ~ 0.28	600 ~ 1300	0.10 ~ 0.20	600 ~ 1000	0.10 ~ 0.20	1900 ~ 3200	0.10 ~ 0.30
12	1300 ~ 2400	0.12 ~ 0.33	1000 ~ 2100	0.12 ~ 0.33	500 ~ 1100	0.12 ~ 0.24	500 ~ 800	0.12 ~ 0.24	1600 ~ 2700	0.12 ~ 0.36
16	1000 ~ 1800	0.16 ~ 0.32	800 ~ 1600	0.16 ~ 0.32	400 ~ 800	0.16 ~ 0.32	400 ~ 600	0.16 ~ 0.32	1200 ~ 2000	0.16 ~ 0.40
20	800 ~ 1400	0.20 ~ 0.40	600 ~ 1300	0.20 ~ 0.40	300 ~ 600	0.20 ~ 0.40	300 ~ 500	0.20 ~ 0.40	1000 ~ 1600	0.20 ~ 0.50

DMN Series (External Coolant 外冷)

Material	Stainless Steel				Titanium Alloy		Nickel Alloy		Carbon Steel / Alloy Steel	
Hardness	< HRC 20		≥ HRC 20		HRC 33 ~ 45		HRC 33 ~ 45		< HRC 35	
Vc	50 ~ 90 m/min		40 ~ 80 m/min		20 ~ 40 m/min		18 ~ 30 m/min		60 ~ 100 m/min	
Dia (mm)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)	RPM	fr (mm/rev)
4	4000 ~ 7200	0.04 ~ 0.08	3200 ~ 6400	0.04 ~ 0.08	1600 ~ 3200	0.04 ~ 0.07	1400 ~ 2400	0.04 ~ 0.07	4800 ~ 8000	0.04 ~ 0.10
6	2700 ~ 4800	0.06 ~ 0.12	2100 ~ 4200	0.06 ~ 0.12	1000 ~ 2100	0.06 ~ 0.11	1000 ~ 1600	0.06 ~ 0.11	3200 ~ 5300	0.06 ~ 0.15
8	2000 ~ 3600	0.08 ~ 0.16	1600 ~ 3200	0.08 ~ 0.16	800 ~ 1600	0.08 ~ 0.14	700 ~ 1200	0.08 ~ 0.14	2400 ~ 4000	0.08 ~ 0.20
10	1600 ~ 2900	0.10 ~ 0.20	1300 ~ 2500	0.10 ~ 0.20	600 ~ 1300	0.10 ~ 0.18	600 ~ 1000	0.10 ~ 0.18	1900 ~ 3200	0.10 ~ 0.25
12	1300 ~ 2400	0.12 ~ 0.24	1000 ~ 2100	0.12 ~ 0.24	500 ~ 1100	0.12 ~ 0.22	500 ~ 800	0.12 ~ 0.22	1600 ~ 2700	0.12 ~ 0.30
16	1000 ~ 1800	0.16 ~ 0.32	800 ~ 1600	0.16 ~ 0.32	400 ~ 800	0.16 ~ 0.29	400 ~ 600	0.16 ~ 0.29	1200 ~ 2000	0.16 ~ 0.40
20	800 ~ 1400	0.20 ~ 0.40	600 ~ 1300	0.20 ~ 0.40	300 ~ 600	0.20 ~ 0.36	300 ~ 500	0.20 ~ 0.36	1000 ~ 1600	0.20 ~ 0.50

Recommended Cutting Conditions 建議切削數據

DHN Series (External Coolant 外冷)

Material	Hardened Steel / Pre-Hardened Steel						Nickel Alloy	
Hardness	HRC 40 ~ 45		HRC 45 ~ 50		HRC 50 ~ 60		HRC 33 ~ 45	
Vc	30 ~ 50 m/min		20 ~ 30 m/min		20 ~ 30 m/min		15 ~ 30 m/min	
Dia (mm)	RPM	Feed(mm/rev)	RPM	Feed(mm/rev)	RPM	Feed(mm/rev)	RPM	Feed(mm/rev)
4	3200	0.04 ~ 0.08	2000	0.04 ~ 0.08	2000	0.03 ~ 0.06	1600	0.04 ~ 0.08
5	2500	0.05 ~ 0.10	1600	0.05 ~ 0.10	1600	0.04 ~ 0.08	1300	0.05 ~ 0.10
6	2100	0.06 ~ 0.12	1300	0.06 ~ 0.12	1300	0.05 ~ 0.09	1100	0.06 ~ 0.12
7	1800	0.07 ~ 0.14	1100	0.07 ~ 0.14	1100	0.06 ~ 0.11	900	0.07 ~ 0.14
8	1600	0.08 ~ 0.16	1000	0.08 ~ 0.16	1000	0.06 ~ 0.12	800	0.08 ~ 0.16
9	1400	0.09 ~ 0.18	900	0.09 ~ 0.18	900	0.07 ~ 0.14	700	0.09 ~ 0.18
10	1300	0.10 ~ 0.20	800	0.10 ~ 0.20	800	0.08 ~ 0.15	600	0.10 ~ 0.20
11	1150	0.11 ~ 0.22	720	0.11 ~ 0.22	720	0.09 ~ 0.17	600	0.11 ~ 0.22
12	1100	0.12 ~ 0.24	700	0.12 ~ 0.24	700	0.10 ~ 0.18	500	0.12 ~ 0.24

DTN Series (External Coolant 外冷)

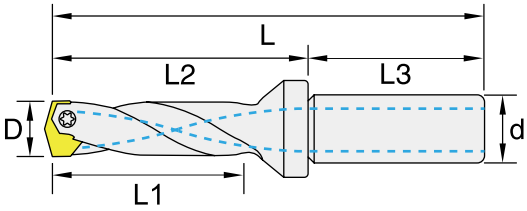
Work Material		VC (m/min)		Fr (mm/rev)
		DTN 90° & DTN 120°	DTN 140°	
P	Carbon steel	55 ~ 75	60 ~ 90	0.04 ~ 0.14
P	Alloy steel	50 ~ 70	55 ~ 85	0.03 ~ 0.10
M	Stainless steel	20 ~ 40	22 ~ 50	0.02 ~ 0.10
K	Cast iron	50 ~ 80	55 ~ 95	0.04 ~ 0.13
H	Hardened steel	20 ~ 40	22 ~ 50	0.02 ~ 0.06

DMU - Internal Coolant · 3D / 5D

模組化內冷鑽頭 · 3 倍深 / 5 倍深

P	M	K	N	S	H
●	●	●		○	○

- 3×D / 5×D Cutting Depth
- Internal Coolant
- High durable SKD holder body
- Use DMUA series inserts



3D

Insert Brand : Winstar

Order No.	Dimensions, mm						Insert	Screw	Wrench	Stock
	D (Applicable Insert Dia.)	L1	L2	L3	L	d				
IDMU3120016	12.0 ~ 12.99	43	60	48	108	16	DMUA12□□	IWCS2510	IPL20	○
IDMU3130016	13.0 ~ 13.99	46	63	48	111	16	DMUA13□□			○
IDMU3140020	14.0 ~ 14.99	49	70	50	120	20	DMUA14□□	IWCS3013	IPL25	○
IDMU3150020	15.0 ~ 15.99	52	73	50	123	20	DMUA15□□			○
IDMU3160020	16.0 ~ 16.99	56	77	50	127	20	DMUA16□□	IWCS3014	IPL25	○
IDMU3170020	17.0 ~ 17.99	60	81	50	131	20	DMUA17□□			○
IDMU3180020	18.0 ~ 18.99	63	86	50	136	20	DMUA18□□	IWCS4016	IPL30	○
IDMU3190020	19.0 ~ 19.99	67	90	50	140	20	DMUA19□□			○
IDMU3200025	20.0 ~ 20.99	72	98	56	154	25	DMUA20□□	IWCS4018	IPL30	○
IDMU3210025	21.0 ~ 21.99	75	101	56	157	25	DMUA21□□			○
IDMU3220025	22.0 ~ 22.99	79	105	56	161	25	DMUA22□□			○
IDMU3240025	24.0 ~ 25.40	86	116	56	172	25	DMUA2□□□	IWCS5020	IPL35	○

5D

Order No.	Dimensions, mm						Insert	Screw	Wrench	Stock
	D (Applicable Insert Dia.)	L1	L2	L3	L	d				
IDMU5120016	12.0 ~ 12.99	67	65	48	132	16	DMUA12□□	IWCS2510	IPL20	○
IDMU5130016	13.0 ~ 13.99	72	65	48	137	16	DMUA13□□			○
IDMU5140020	14.0 ~ 14.99	77	71	50	148	20	DMUA14□□	IWCS3013	IPL25	○
IDMU5150020	15.0 ~ 15.99	82	71	50	153	20	DMUA15□□			○
IDMU5160020	16.0 ~ 16.99	88	71	50	159	20	DMUA16□□	IWCS3014	IPL25	○
IDMU5170020	17.0 ~ 17.99	94	71	50	165	20	DMUA17□□			○
IDMU5180020	18.0 ~ 18.99	99	73	50	172	20	DMUA18□□	IWCS4016	IPL30	○
IDMU5190020	19.0 ~ 19.99	105	73	50	178	20	DMUA19□□			○
IDMU5200025	20.0 ~ 20.99	112	82	56	194	25	DMUA20□□	IWCS4018	IPL30	○
IDMU5210025	21.0 ~ 21.99	117	82	56	199	25	DMUA21□□			○
IDMU5220025	22.0 ~ 22.99	123	82	56	205	25	DMUA22□□			○
IDMU5240025	24.0 ~ 25.40	134	86	56	220	25	DMUA2□□□	IWCS5020	IPL35	○

● stock ○ by inquiry

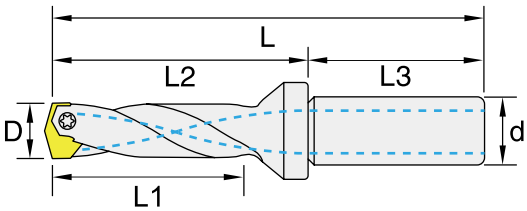
Customize available.

DMU - Internal Coolant · 7D / 10D 模組化內冷鑽頭・7 倍深 / 10 倍深

P	M	K	N	S	H
●	●	●		○	○

- 7×D / 10×D Cutting Depth
- Internal Coolant
- High durable SKD holder body
- Use DMUA series inserts

※10D drilling requires an initial pilot hole to guide the drill.



7D

Insert Brand : Winstar

Order No.	Dimensions, mm						Insert	Screw	Wrench	Stock
	D (Applicable Insert Dia.)	L1	L2	L3	L	d				
IDMU7120016	12.0 ~ 12.99	91	65	48	156	16	DMUA12□□	IWCS2510	IPL20	○
IDMU7130016	13.0 ~ 13.99	98	65	48	163	16	DMUA13□□			○
IDMU7140020	14.0 ~ 14.99	105	71	50	176	20	DMUA14□□	IWCS3013	IPL25	○
IDMU7150020	15.0 ~ 15.99	112	71	50	183	20	DMUA15□□			○
IDMU7160020	16.0 ~ 16.99	120	71	50	191	20	DMUA16□□	IWCS3014	IPL25	○
IDMU7170020	17.0 ~ 17.99	128	71	50	199	20	DMUA17□□			○
IDMU7180020	18.0 ~ 18.99	135	73	50	208	20	DMUA18□□	IWCS4016	IPL30	○
IDMU7190020	19.0 ~ 19.99	143	73	50	216	20	DMUA19□□			○
IDMU7200025	20.0 ~ 20.99	152	82	56	234	25	DMUA20□□	IWCS4018	IPL30	○
IDMU7210025	21.0 ~ 21.99	159	82	56	241	25	DMUA21□□			○
IDMU7220025	22.0 ~ 22.99	167	82	56	249	25	DMUA22□□			○
IDMU7240025	24.0 ~ 25.40	182	86	56	268	25	DMUA2□□□	IWCS5020	IPL35	○

10D

Order No.	Dimensions, mm						Insert	Screw	Wrench	Stock
	D (Applicable Insert Dia.)	L1	L2	L3	L	d				
IDMU9120016	12.0 ~ 12.99	127	144	48	192	16	DMUA12□□	IWCS2510	IPL20	○
IDMU9130016	13.0 ~ 13.99	137	154	48	202	16	DMUA13□□			○
IDMU9140020	14.0 ~ 14.99	147	168	50	218	20	DMUA14□□	IWCS3013	IPL25	○
IDMU9150020	15.0 ~ 15.99	157	178	50	228	20	DMUA15□□			○
IDMU9160020	16.0 ~ 16.99	168	189	50	239	20	DMUA16□□	IWCS3014	IPL25	○
IDMU9170020	17.0 ~ 17.99	179	200	50	250	20	DMUA17□□			○
IDMU9180020	18.0 ~ 18.99	189	212	50	262	20	DMUA18□□	IWCS4016	IPL30	○
IDMU9190020	19.0 ~ 19.99	200	223	50	273	20	DMUA19□□			○
IDMU9200025	20.0 ~ 20.99	212	238	56	294	25	DMUA20□□	IWCS4018	IPL30	○
IDMU9210025	21.0 ~ 21.99	222	248	56	304	25	DMUA21□□			○
IDMU9220025	22.0 ~ 22.99	233	259	56	315	25	DMUA22□□			○
IDMU9240025	24.0 ~ 25.40	254	284	56	340	25	DMUA2□□□	IWCS5020	IPL35	○

● stock ○ by inquiry

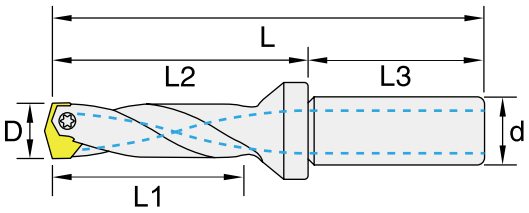
Customize available.

DMU - Internal Coolant · 12D 模組化內冷鑽頭 · 12 倍深

P	M	K	N	S	H
●	●	●		○	○

- 12×D Cutting Depth
- Internal Coolant
- High durable SKD holder body
- Use DMUA series inserts

※Require an initial pilot hole to guide the drill.



Insert Brand : Winstar

Order No.	Dimensions, mm						Insert	Screw	Wrench	Stock
	D (Applicable Insert Dia.)	L1	L2	L3	L	d				
IDMU12120016	12.0 ~ 12.99	151	168	48	216	16	DMUA12□□	IWCS2510	IPL20	○
IDMU12130016	13.0 ~ 13.99	163	180	48	228	16	DMUA13□□			○
IDMU12140020	14.0 ~ 14.99	175	196	50	246	20	DMUA14□□	IWCS3013	IPL25	○
IDMU12150020	15.0 ~ 15.99	187	208	50	258	20	DMUA15□□			○
IDMU12160020	16.0 ~ 16.99	200	221	50	271	20	DMUA16□□	IWCS3014	IPL25	○
IDMU12170020	17.0 ~ 17.99	213	234	50	284	20	DMUA17□□			○
IDMU12180020	18.0 ~ 18.99	225	248	50	298	20	DMUA18□□	IWCS4016	IPL30	○
IDMU12190020	19.0 ~ 19.99	238	261	50	311	20	DMUA19□□			○
IDMU12200025	20.0 ~ 20.99	252	278	56	334	25	DMUA20□□	IWCS4018	IPL30	○
IDMU12210025	21.0 ~ 21.99	264	290	56	346	25	DMUA21□□			○
IDMU12220025	22.0 ~ 22.99	277	303	56	359	25	DMUA22□□			○
IDMU12240025	24.0 ~ 25.40	302	332	56	388	25	DMUA2□□□	IWCS5020	IPL35	○

● stock ○ by inquiry

Customize available.

DMU - Modular Drill Inserts 模組化鑽頭刀片

Recommended Cutting Conditions 建議切削數據

Work Material		Vc (m/min)	fr (mm/rev)		
			12.0 ≤ ØD ≤ 15.9	16.0 ≤ ØD ≤ 19.9	20.0 ≤ ØD ≤ 25.4
P	Carbon Steel	70 - 95 - 120	0.15 - 0.24 - 0.32	0.18 - 0.27 - 0.35	0.20 - 0.29 - 0.38
	Alloy Steel	60 - 85 - 110	0.15 - 0.23 - 0.30	0.17 - 0.25 - 0.32	0.20 - 0.28 - 0.35
M	Stainless Steel	55 - 68 - 80	0.11 - 0.17 - 0.23	0.13 - 0.19 - 0.25	0.15 - 0.23 - 0.30
K	Cast Iron	70 - 95 - 120	0.15 - 0.24 - 0.32	0.18 - 0.27 - 0.35	0.20 - 0.29 - 0.38
S	High Temperature Alloy	35 - 50 - 65	0.08 - 0.13 - 0.18	0.10 - 0.15 - 0.20	0.12 - 0.17 - 0.22

※For deep drilling(10D, 12D), 50% feed rate for touching workpiece

Insert Chipbreaker 刀片斷屑槽

Shape 形狀	**Tip Design** 鑽尖設計	**Application** 加工特性
	SX	● Tip Angle : 140°, Universal ● Low cutting force for steel, stainless steel, cast iron and high temperature alloy. ● 鑽尖：140°, 泛用 ● 低切削阻力的刀口設計，適用於鋼件、不鏽鋼、鑄鐵和高溫合金加工

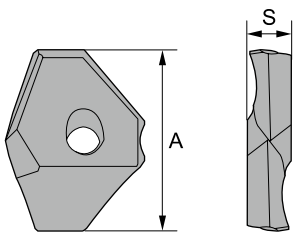
Insert Grade 刀片材質

Grade Type 刀片材質	**Color** 刀片顏色	**Properties** 屬性	**Application** 加工特性	**Working Material** 加工材質						**Industry Area** 產業應用範圍
				P	M	K	N	S	H	
CX33TX		● PVD (TiSiN) ● Wear resistance ● Anti-corrosion ● 耐磨性 ● 抗腐蝕	● General machining ● For carbon steel & alloy steel is 1st recommended ● 適合泛用加工 ● 加工碳鋼 & 合金鋼為第一建議	●	○	●		○	●	● Mold & Die ● Automotive ● Machinery ● Aerospace ● 模具產業 ● 汽車零件 ● 機械零件 ● 航太零件

DMU - Modular Drill Inserts 模組化鑽頭刀片

Insert Specifications 刀片規格

Insert	Dimensions (mm)	
	A	S
DMUA1200	12.00	3.6
DMUA1270	12.70	3.6
DMUA1300	13.00	3.6
DMUA1350	13.50	3.6
DMUA1400	14.00	4.0
DMUA1450	14.50	4.0
DMUA1500	15.00	4.0
DMUA1550	15.50	4.0
DMUA1587	15.875 (5/8")	4.0
DMUA1600	16.00	4.0
DMUA1630	16.30	4.0
DMUA1650	16.50	4.0
DMUA1700	17.00	4.0
DMUA1750	17.50	4.0
DMUA1800	18.00	5.0
DMUA1900	19.00	5.0
DMUA1905	19.05 (3/4")	5.0
DMUA2000	20.00	5.0
DUMA2100	21.00	6.0
DMUA2200	22.00	6.0
DMUA2222	22.225 (7/8")	6.0
DMUA2400	24.00	7.0
DMUA2500	25.00	7.0
DMUA2540	25.40 (1")	7.0



※ Customized sizes (two decimal places) are acceptable. 客製化尺寸可至小數點後 2 位

DMU - Modular Drill Inserts 模組化鑽頭刀片

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Tip Design-Grade	Working Material					
			P	M	K	N	S	H
	IDMUA1200SX33TX	DMUA-1200-SX-CX33TX	●	●	●		○	○
	IDMUA1270SX33TX	DMUA-1270-SX-CX33TX	●	●	●		○	○
	IDMUA1300SX33TX	DMUA-1300-SX-CX33TX	●	●	●		○	○
	IDMUA1350SX33TX	DMUA-1350-SX-CX33TX	●	●	●		○	○
	IDMUA1400SX33TX	DMUA-1400-SX-CX33TX	●	●	●		○	○
	IDMUA1450SX33TX	DMUA-1450-SX-CX33TX	●	●	●		○	○
	IDMUA1500SX33TX	DMUA-1500-SX-CX33TX	●	●	●		○	○
	IDMUA1550SX33TX	DMUA-1550-SX-CX33TX	●	●	●		○	○
	IDMUA1587SX33TX	DMUA-1587-SX-CX33TX	●	●	●		○	○
	IDMUA1600SX33TX	DMUA-1600-SX-CX33TX	●	●	●		○	○
	IDMUA1630SX33TX	DMUA-1630-SX-CX33TX	●	●	●		○	○
	IDMUA1650SX33TX	DMUA-1650-SX-CX33TX	●	●	●		○	○
	IDMUA1700SX33TX	DMUA-1700-SX-CX33TX	●	●	●		○	○
	IDMUA1750SX33TX	DMUA-1750-SX-CX33TX	●	●	●		○	○
	IDMUA1800SX33TX	DMUA-1800-SX-CX33TX	●	●	●		○	○
	IDMUA1900SX33TX	DMUA-1900-SX-CX33TX	●	●	●		○	○
	IDMUA1905SX33TX	DMUA-1905-SX-CX33TX	●	●	●		○	○
	IDMUA2000SX33TX	DMUA-2000-SX-CX33TX	●	●	●		○	○
	IDUMA2100SX33TX	DUMA-2100-SX-CX33TX	●	●	●		○	○
	IDMUA2200SX33TX	DMUA-2200-SX-CX33TX	●	●	●		○	○
	IDMUA2222SX33TX	DMUA-2222-SX-CX33TX	●	●	●		○	○
	IDMUA2400SX33TX	DMUA-2400-SX-CX33TX	●	●	●		○	○
	IDMUA2500SX33TX	DMUA-2500-SX-CX33TX	●	●	●		○	○
	IDMUA2540SX33TX	DMUA-2540-SX-CX33TX	●	●	●		○	○

Special Insert Order No. 刀片特殊規格訂購碼

Order No. 訂購編碼

IDMUA □□□□ SX33TX ⟶ IDMUA1510SX33TX

EX: Insert Dia. = 15.1mm

刀片直徑 = 15.1mm

DSP - Indexable Drills · 2D

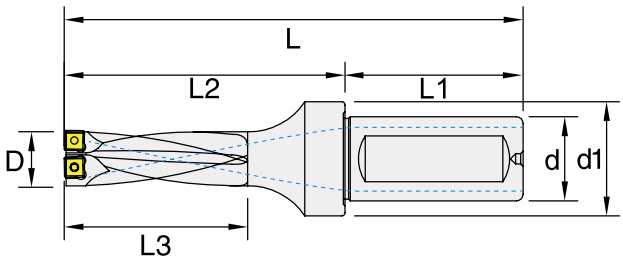
捨棄式鑽頭 · 2 倍深

Specification

- 2×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use SPMG series inserts

規 格

- 2 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 SPMG 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP125220T205	12.5	20	27	94	26	44	50	2	SPGG0502 SPMG0502	ITS2003	ITK06	○
IDSP130220T205	13							2				●
IDSP135220T205	13.5			96	28	46		2				○
IDSP140220T205	14							2				●
IDSP145220T205	14.5			99	30	49		2				○
IDSP150220T205	15							2				●
IDSP155225T206	15.5	25	33	108	32	52	56	2	SPGG0602 SPMG0602	ITS2205	ITK06	○
IDSP160225T206	16							2				●
IDSP165225T206	16.5			110	34	54		2				○
IDSP170225T206	17							2				●
IDSP175225T206	17.5			113	36	57		2				○
IDSP180225T206	18							2				●
IDSP185225T206	18.5			115	38	59		2				○
IDSP190225T206	19							2				●
IDSP195225T206	19.5			119	40	63		2				○
IDSP200225T206	20							2				●
IDSP205225T206	20.5			121	42	65		2				○
IDSP210225T206	21							2				●
IDSP215225T206	21.5			123	44	67		2				○
IDSP220225T207	22							2	SPGG07T308 SPMG07T308	ITS2511	ITK08	●
IDSP225232T207	22.5	32	43	131	46	71	60	2				○
IDSP230232T207	23							2				●
IDSP235232T207	23.5			134	48	74		2				○
IDSP240232T207	24							2				●
IDSP245232T207	24.5			137	50	77		2				○
IDSP250232T207	25							2				●
IDSP255232T207	25.5			139	52	79		2				○
IDSP260232T207	26							2				●
IDSP265232T207	26.5			142	54	81		2				○
IDSP270232T207	27							2				●
IDSP275232T207	27.5			144	56	84		2				○

● stock ○ by inquiry

DSP - Indexable Drills · 2D

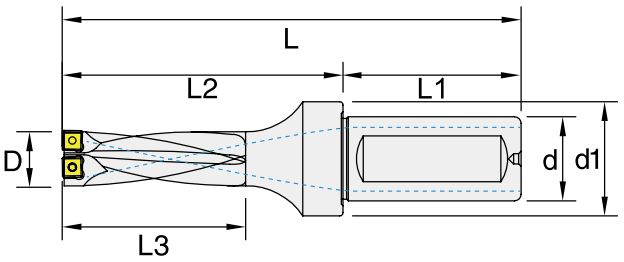
捨棄式鑽頭・2 倍深

Specification

- 2×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use SPMG series inserts

規　格

- 2 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 SPMG 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP280232T209	28	32	43	144	56	84	60	2	SPGG090408 SPMG090408	ITS3504	ITK15	●
IDSP285232T209	28.5			146	58	86		2				○
IDSP290232T209	29							2				●
IDSP295232T209	29.5			148	60	88		2				○
IDSP300232T209	30							2				●
IDSP305232T209	30.5			150	62	90		2				○
IDSP310232T209	31							2				●
IDSP315232T209	31.5			152	64	92		2				○
IDSP320232T209	32							2				●
IDSP325232T209	32.5			154	66	94		2				○
IDSP330232T209	33							2				●
IDSP340232T211	34			156	68	96		2	SPGG110408 SPMG110408	ITS4006	ITK15	●
IDSP350232T211	35			158	70	98		2				●
IDSP360232T211	36			160	72	100		2				●
IDSP370232T211	37			162	74	102		2				●
IDSP380232T211	38			164	76	104		2				●
IDSP390232T211	39			166	78	106		2				●
IDSP400240T211	40	40	53	185	80	115		2				●
IDSP410240T211	41			187	82	117		2				○

● stock　○ by inquiry

DSP - Indexable Drills · 3D

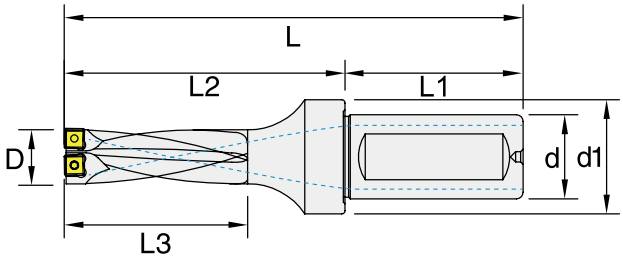
捨棄式鑽頭・3 倍深

Specification

- 3×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use SPMG series inserts

規　格

- 3 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 SPMG 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP125320T205	12.5	20	25	107	39	57	50	2	SPGG0502 SPMG0502	ITS2003	ITK06	○
IDSP130320T205	13							2				●
IDSP135320T205	13.5			110	42	60		2				○
IDSP140320T205	14							2				●
IDSP145320T205	14.5			114	45	64		2				○
IDSP150320T205	15							2				●
IDSP155325T206	15.5	25	33	124	48	68	56	2	SPGG0602 SPMG0602	ITS2205	ITK06	○
IDSP160325T206	16							2				●
IDSP165325T206	16.5			127	51	71		2				○
IDSP170325T206	17							2				●
IDSP175325T206	17.5			131	54	75		2				○
IDSP180325T206	18							2				●
IDSP185325T206	18.5			134	57	78		2				○
IDSP190325T206	19							2				●
IDSP195325T206	19.5			139	60	83		2				○
IDSP200325T206	20							2				●
IDSP205325T206	20.5			142	63	86		2				○
IDSP210325T206	21							2				●
IDSP215325T206	21.5			145	66	89		2				○
IDSP220325T207	22							2	SPGG07T3 SPMG07T3	ITS2511	ITK08	●
IDSP225332T207	22.5	32	43	154	69	94	60	2				○
IDSP230332T207	23							2				●
IDSP235332T207	23.5			158	72	98		2				○
IDSP240332T207	24							2				●
IDSP245332T207	24.5			162	75	102		2				○
IDSP250332T207	25							2				●
IDSP255332T207	25.5			165	78	105		2				○
IDSP260332T207	26							2				●
IDSP265332T207	26.5			169	81	108		2				○
IDSP270332T207	27							2				●
IDSP275332T207	27.5			172	84	112		2				○

● stock　○ by inquiry

DSP - Indexable Drills · 3D

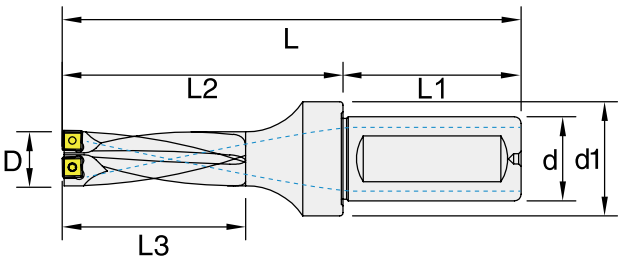
捨棄式鑽頭・3 倍深

Specification

- 3×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use SPMG series inserts

規　格

- 3 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 SPMG 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP280332T209	28	32	43	172	84	112	60	2	SPGG0904 SPMG0904	ITS3504	ITK15	●
IDSP285332T209	28.5			175	87	115		2				○
IDSP290332T209	29							2				●
IDSP295332T209	29.5			178	90	118		2				○
IDSP300332T209	30							2				●
IDSP305332T209	30.5			181	93	121		2				○
IDSP310332T209	31							2				●
IDSP315332T209	31.5			184	96	124		2				○
IDSP320332T209	32							2				●
IDSP325332T209	32.5			187	99	127		2				○
IDSP330332T209	33							2				●
IDSP340332T211	34			190	102	130		2	SPGG1104 SPMG1104	ITS4006	ITK15	●
IDSP350332T211	35			193	105	133		2				●
IDSP360332T211	36			196	108	136		2				●
IDSP370332T211	37			199	111	139		2				●
IDSP380332T211	38			202	114	142		2				●
IDSP390332T211	39			205	117	145		2				●
IDSP400340T211	40	40	53	225	120	155		2				●
IDSP410340T211	41			228	123	158		2				○

● stock　○ by inquiry

DSP - Indexable Drills · 4D

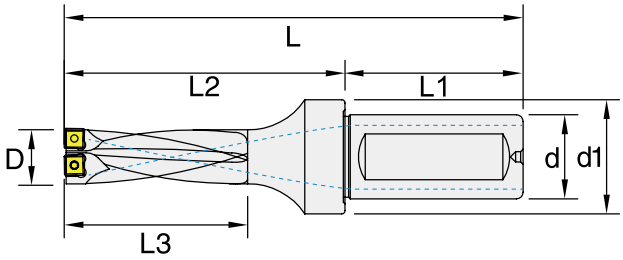
捨棄式鑽頭・4 倍深

Specification

- 4×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use SPMG series inserts

規　格

- 4 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 SPMG 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP125420T205	12.5	20	27	120	52	70	50	2	SPGG0502 SPMG0502	ITS2003	ITK06	○
IDSP130420T205	13							2				●
IDSP135420T205	13.5			124	56	74		2				○
IDSP140420T205	14							2				●
IDSP145420T205	14.5			129	60	79		2				○
IDSP150420T205	15							2				●
IDSP155425T206	15.5	25	33	140	64	84	56	2	SPGG0602 SPMG0602	ITS2205	ITK06	○
IDSP160425T206	16							2				●
IDSP165425T206	16.5			144	68	88		2				○
IDSP170425T206	17							2				●
IDSP175425T206	17.5			148	72	92		2				○
IDSP180425T206	18							2				●
IDSP185425T206	18.5			152	76	96		2				○
IDSP190425T206	19							2				●
IDSP195425T206	19.5			156	80	100		2				○
IDSP200425T206	20							2				●
IDSP205425T206	20.5			160	84	104		2				○
IDSP210425T206	21							2				●
IDSP215425T206	21.5			164	88	108		2				○
IDSP220425T207	22							2				●
IDSP225432T207	22.5	32	43	177	92	117	60	2	SPGG07T3 SPMG07T3	ITS2511	ITK08	○
IDSP230432T207	23							2				●
IDSP235432T207	23.5			181	96	121		2				○
IDSP240432T207	24							2				●
IDSP245432T207	24.5			185	100	125		2				○
IDSP250432T207	25							2				●
IDSP255432T207	25.5			189	104	129		2				○
IDSP260432T207	26							2				●
IDSP265432T207	26.5			196	108	136		2				○
IDSP270432T207	27							2				●
IDSP275432T207	27.5			200	112	140		2				○

● stock　○ by inquiry

DSP - Indexable Drills · 4D

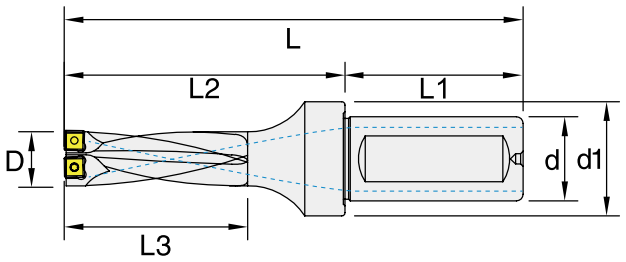
捨棄式鑽頭・4 倍深

Specification

- 4×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use SPMG series inserts

規　格

- 4 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 SPMG 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP280432T209	28	32	43	200	112	140	60	2	SPGG0904 SPMG0904	TS3504	TK15	●
IDSP285432T209	28.5			204	116	144		2				○
IDSP290432T209	29							2				●
IDSP295432T209	29.5			208	120	148		2				○
IDSP300432T209	30							2				●
IDSP305432T209	30.5			212	124	152		2				○
IDSP310432T209	31							2				●
IDSP315432T209	31.5			216	128	156		2				○
IDSP320432T209	32							2				●
IDSP325432T209	32.5			220	132	160		2				○
IDSP330432T209	33							2				●
IDSP340432T211	34			224	136	164		2	SPGG1104 SPMG1104	TS4006	TK15	●
IDSP350432T211	35			228	140	168		2				●
IDSP360432T211	36			232	144	172		2				●
IDSP370432T211	37			236	148	176		2				●
IDSP380432T211	38			240	152	180		2				●
IDSP390432T211	39			244	156	184		2				●
IDSP400440T211	40	40	53	265	160	195		2				●
IDSP410440T211	41			269	164	199		2				○

● stock　○ by inquiry

DSP - Indexable Drills · 5D

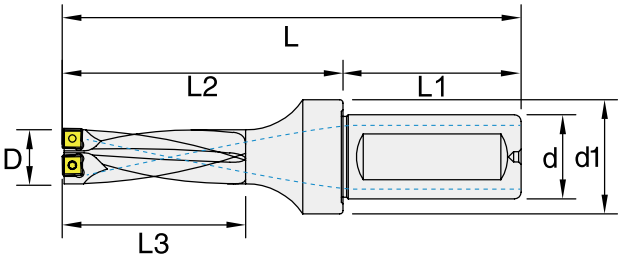
捨棄式鑽頭 · 5 倍深

Specification

- 5×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use SPMG series inserts

規　格

- 5 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 SPMG 刀片



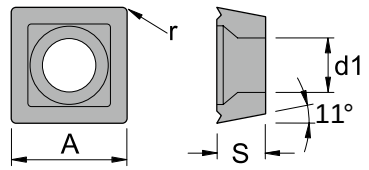
Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDSP130520T205	13	20	27	133	65	83	50	2	SPGG0502 SPMG0502	ITS2003	ITK06	○
IDSP140520T205	14			138	70	88		2				○
IDSP150520T205	15			144	75	94		2				○
IDSP160525T206	16	25	33	156	80	100	56	2	SPGG0602 SPMG0602	ITS2205	ITK06	○
IDSP170525T206	17			161	85	105		2				○
IDSP180525T206	18			166	90	110		2				○
IDSP190525T206	19			171	95	115		2				○
IDSP200525T206	20			176	100	120		2				○
IDSP210525T206	21			181	105	125		2				○
IDSP220525T207	22			186	110	130		2	SPGG07T3 SPMG07T3	ITS2511	ITK08	○
IDSP230532T207	23	32	43	200	115	140	60	2				○
IDSP240532T207	24			205	120	145		2				○
IDSP250532T207	25			210	125	150		2				○
IDSP260532T207	26			215	130	155		2				○
IDSP270532T207	27			223	135	163		2				○
IDSP280532T209	28			228	140	168		2	SPGG0904 SPMG0904	ITS3504	ITK15	○
IDSP290532T209	29			233	145	173		2				○
IDSP300532T209	30			238	150	178		2				○
IDSP310532T209	31			243	155	183		2				○
IDSP320532T209	32			248	160	188		2				○
IDSP330532T209	33			253	165	193		2				○
IDSP340532T211	34			258	170	198		2	SPGG1104 SPMG1104	ITS4006	ITK15	○
IDSP350532T211	35			263	175	203		2				○
IDSP360532T211	36			268	180	208		2				○

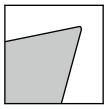
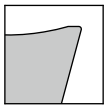
● stock　○ by inquiry

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	S	r	d1	
SP□G050204	5.00	2.38	0.4	2.30	SG, MG
SP□G060204	6.00	2.38	0.4	2.65	SG, MG
SP□G07T308	7.94	3.97	0.8	2.85	SG, MG
SP□G090408	9.80	4.3	0.8	4.05	SG, MG
SP□G110408	11.50	4.8	0.8	4.45	SG, MG



Insert Geometry 刀片幾何

Shape 形狀	Chipbreaker 斷屑槽	Application 應 用
	 **SG**	Sharp geometry design for semi-finishing cutting in stainless steel and non-ferrous materials. 鋒利的刀口設計，適用於不鏽鋼及非鐵金屬的半精加工應用
	 **MG**	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用

Recommended Cutting Conditions 建議切削數據

DSP Series (2×D, 3×D)

Work Material		Hardness	Vc (m/min)	Feed Rate (mm/rev)				
				SPMG05 Ø13-Ø15	SPMG06 Ø16-Ø21	SPMG07 Ø22-Ø27	SPMG09 Ø28-Ø33	SPMG11 Ø34-Ø41
P	Mild Steel	(<180HB)	120~250	0.04~0.08	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
P	Cabon Steel	(180~280HB)	100~150	0.04~0.08	0.05~0.09	0.06~0.12	0.07~0.13	0.08~0.15
P	Alloy Steel	(280~350HB)	80~140	0.04~0.07	0.05~0.08	0.05~0.09	0.06~0.12	0.07~0.14
M	Stainless Steel	(<200HB)	80~180	0.04~0.08	0.05~0.09	0.05~0.10	0.06~0.12	0.07~0.14
K	Cast Iron	(<350Mpa)	110~190	0.05~0.09	0.07~0.12	0.08~0.15	0.09~0.17	0.12~0.20
K	Ductile Cast Iron	(<450Mpa)	100~160	0.05~0.08	0.06~0.11	0.07~0.13	0.08~0.15	0.10~0.18
N	Aluminum <12% Si	-	300~400	0.05~0.11	0.07~0.13	0.08~0.15	0.09~0.20	0.12~0.25
N	Aluminum >12% Si	-	200~330	0.04~0.08	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
S	Super Alloy	-	30~60	0.02~0.04	0.03~0.05	0.03~0.05	0.04~0.06	0.05~0.08
H	Hardened Material	40~60HRC	30~60	0.02~0.04	0.03~0.05	0.03~0.05	0.04~0.06	0.05~0.08

Apply for 4×D reduce 10%, 5×D reduce 15%.

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	ISPGG050204SG33TX	SPGG-050204-SG-CX33TX	○	●	○	●	○	
	ISPGG060204SG33TX	SPGG-060204-SG-CX33TX	○	●	○	●	○	
	ISPGG07T304SG33TX	SPGG-070304-SG-CX33TX	○	●	○	●	○	
	ISPGG090408SG33TX	SPGG-090408-SG-CX33TX	○	●	○	●	○	
	ISPGG110408SG33TX	SPGG-110408-SG-CX33TX	○	●	○	●	○	
	ISPMG050204MG32HS	SPMG-050204-MG-CX32HS	●	○	●			
	ISPMG050204MG33TX	SPMG-050204-MG-CX33TX	●	○	●		○	●
	ISPMG050204MG43TX	SPMG-050204-MG-CX43TX	●	●	○		●	
	ISPMG060204MG32HS	SPMG-060204-MG-CX32HS	●	○	●			
	ISPMG060204MG33TX	SPMG-060204-MG-CX33TX	●	○	●		○	●
	ISPMG060204MG43TX	SPMG-060204-MG-CX43TX	●	●	○		●	
	ISPMG07T308MG32HS	SPMG-07T308-MG-CX32HS	●	○	●			
	ISPMG07T308MG33TX	SPMG-07T308-MG-CX33TX	●	○	●		○	●
	ISPMG07T308MG43TX	SPMG-07T308-MG-CX43TX	●	●	○		●	
	ISPMG090408MG32HS	SPMG-090408-MG-CX32HS	●	○	●			
	ISPMG090408MG33TX	SPMG-090408-MG-CX33TX	●	○	●		○	●
	ISPMG090408MG43TX	SPMG-090408-MG-CX43TX	●	●	○		●	
	ISPMG110408MG32HS	SPMG-110408-MG-CX32HS	●	○	●			
	ISPMG110408MG33TX	SPMG-110408-MG-CX33TX	●	○	●		○	●
	ISPMG110408MG43TX	SPMG-110408-MG-CX43TX	●	●	○		●	

DWC - Indexable Drills · 2D

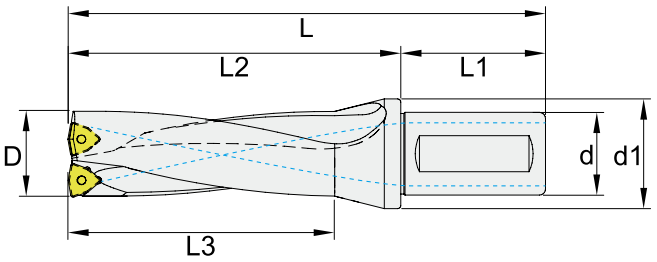
捨棄式鑽頭・2 倍深

Specification

- 2×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 2 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC140225T203	14	25	38	114	28	58	56	2	WCMT0302	ITS2502	ITK08	●
IDWC145225T203	14.5							2				○
IDWC150225T203	15			116	30	60		2		ITS2507		●
IDWC155225T203	15.5							2				○
IDWC160225T203	16			119	32	63		2				●
IDWC165225T203	16.5							2				○
IDWC170225T203	17			120	34	64		2				●
IDWC175225T203	17.5							2				○
IDWC180225T203	18			122	36	66		2				●
IDWC185225T203	18.5							2				○
IDWC190225T203	19			124	38	68		2				●
IDWC195225T203	19.5							2				○
IDWC200225T203	20			126	40	70		2				●
IDWC205225T203	20.5							2				○
IDWC210225T204	21			128	42	72		2	WCMT0402			●
IDWC215225T204	21.5							2				○
IDWC220232T204	22	32	43	136	44	76	60	2				●
IDWC225232T204	22.5							2				○
IDWC230232T204	23			138	46	78		2				●
IDWC235232T204	23.5							2				○
IDWC240232T204	24			141	48	81		2				●
IDWC245232T204	24.5							2				○
IDWC250232T204	25			142	50	82		2				●
IDWC255232T204	25.5							2				○
IDWC260232T205	26			144	52	84		2	WCMT0503	ITS3007	ITK10	●
IDWC270232T205	27			146	54	86		2				●
IDWC280232T205	28			148	56	88		2				●
IDWC290232T205	29			150	58	90		2				●
IDWC300232T205	30			152	60	92		2				●

● stock　○ by inquiry

DWC - Indexable Drills · 2D

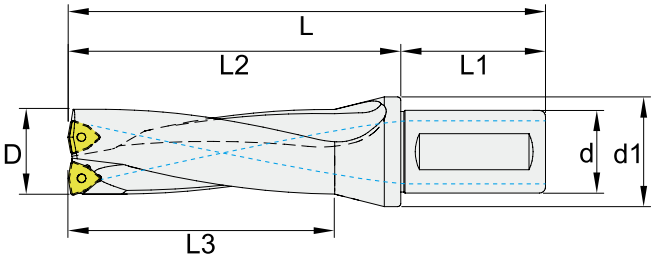
捨棄式鑽頭・2 倍深

Specification

- 2×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 2 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC310232T206	31	32	43	154	62	94	60	2	WCMT06T3	ITS3504	ITK15	●
IDWC320232T206	32			156	64	96		2				●
IDWC330232T206	33			159	66	99		2				●
IDWC340232T206	34			160	68	100		2				●
IDWC350232T206	35			162	70	102		2				●
IDWC360232T206	36			164	72	104		2				●
IDWC370232T206	37			166	74	106		2				●
IDWC380232T206	38			168	76	106		2				●
IDWC390232T206	39			170	78	110		2				●
IDWC400240T206	40	40	54	185	80	115	70	2				●
IDWC410240T206	41			187	82	117		2				○
IDWC420240T208	42			189	84	119		2	WCMT0804	ITS4004		○
IDWC430240T208	43			191	86	121		2				○
IDWC440240T208	44			194	88	124		2				○
IDWC450240T208	45			195	90	125		2				○
IDWC460240T208	46			197	92	127		2				○
IDWC470240T208	47			199	94	129		2				○
IDWC480240T208	48			201	96	131		2				○
IDWC490240T208	49			202	98	132		2				○
IDWC500240T208	50			204	100	134		2				○
IDWC510240T208	51			206	102	136		2				○
IDWC520240T208	52			208	104	138		2				○
IDWC530240T208	53			210	106	140		2				○
IDWC540240T208	54			212	108	142		2				○
IDWC550240T208	55		58	215	110	145		2				○
IDWC560240T208	56			217	112	147		2				○
IDWC570240T208	57			219	114	149		2				○
IDWC580240T208	58		59	221	116	151		2				○
IDWC590240T208	59			223	118	153		2				○
IDWC600240T208	60		63	225	120	155		2				○

● stock　○ by inquiry

DWC - Indexable Drills · 3D

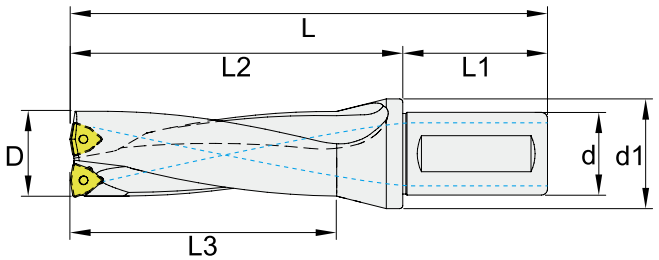
捨棄式鑽頭・3 倍深

Specification

- 3×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 3 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC140325T203	14	25	38	128	42	72	56	2	WCMT0302	ITS2502	ITK08	●
IDWC145325T203	14.5							2				○
IDWC150325T203	15			131	45	75		2		ITS2507		●
IDWC155325T203	15.5							2				○
IDWC160325T203	16			134	48	78		2				●
IDWC165325T203	16.5							2				○
IDWC170325T203	17			137	51	81		2				●
IDWC175325T203	17.5							2				○
IDWC180325T203	18			140	54	84		2				●
IDWC185325T203	18.5							2				○
IDWC190325T203	19			143	57	87		2				●
IDWC195325T203	19.5							2				○
IDWC200325T203	20			146	60	90		2				●
IDWC205325T203	20.5							2				○
IDWC210325T204	21			149	63	93		2	WCMT0402			●
IDWC215325T204	21.5			151	64	95		2				○
IDWC220332T204	22	32	43	158	66	98	60	2				●
IDWC225332T204	22.5							2				○
IDWC230332T204	23			161	69	101		2				●
IDWC235332T204	23.5							2				○
IDWC240332T204	24			164	72	104		2				●
IDWC245332T204	24.5							2				○
IDWC250332T204	25			167	75	107		2				●
IDWC255332T204	25.5							2				○
IDWC260332T205	26			170	78	110		2	WCMT0503	ITS3007	ITK10	●
IDWC270332T205	27			173	81	113		2				●
IDWC280332T205	28			176	84	116		2				●
IDWC290332T205	29			179	87	119		2				●
IDWC300332T205	30			182	90	122		2				●
IDWC305332T206	30.5			182	93	125		2	WCMT06T3	ITS3504	ITK15	○
IDWC310332T206	31			185	93	125		2				●

● stock　○ by inquiry

DWC - Indexable Drills · 3D

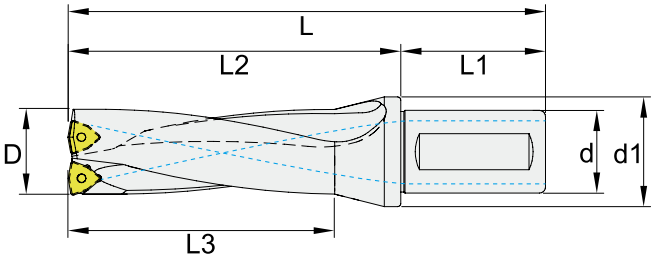
捨棄式鑽頭・3 倍深

Specification

- 3×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 3 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC315332T206	31.5	32	43	185	93	125	60	2	WCMT06T3	ITS3504	ITK15	○
IDWC320332T206	32			188	96	128		2				●
IDWC325332T206	32.5			188	96	128		2				○
IDWC330332T206	33			191	99	131		2				●
IDWC340332T206	34			194	102	134		2				●
IDWC350332T206	35			197	105	137		2				●
IDWC360332T206	36			200	108	140		2				●
IDWC370332T206	37			203	111	143		2				●
IDWC380332T206	38			206	114	146		2				●
IDWC390332T206	39			209	117	149	70	2				●
IDWC400340T206	40	40	54	225	120	155		2				●
IDWC410340T206	41			228	123	158		2				○
IDWC420340T208	42			231	126	161		2	WCMT0804	ITS4004		○
IDWC430340T208	43			234	129	164		2				○
IDWC440340T208	44			238	132	168		2				○
IDWC450340T208	45			240	135	170		2				○
IDWC460340T208	46			243	138	173		2				○
IDWC470340T208	47			246	141	176		2				○
IDWC480340T208	48			249	144	179		2				○
IDWC490340T208	49			253	147	182		2				○
IDWC500340T208	50			254	150	184		2				○
IDWC510340T208	51			257	153	187		2				○
IDWC520340T208	52			260	156	190		2				○
IDWC530340T208	53			263	159	193		2				○
IDWC540340T208	54			266	162	196		2				○
IDWC550340T208	55		58	270	165	200		2				○
IDWC560340T208	56			273	168	203		2				○
IDWC570340T208	57			276	171	205		2				○
IDWC580340T208	58		59	279	174	209		2				○
IDWC590340T208	59			282	177	212		2				○
IDWC600340T208	60		63	285	180	215		2				○

● stock　○ by inquiry

DWC - Indexable Drills · 4D

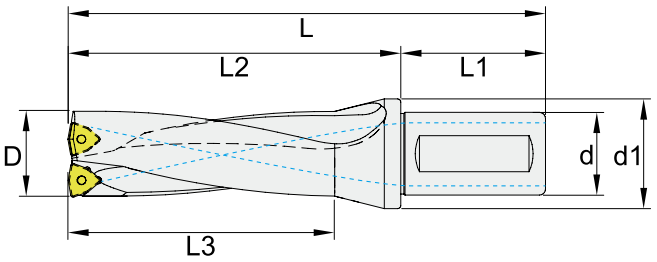
捨棄式鑽頭・4 倍深

Specification

- 4×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 4 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC140425T203	14	25	38	142	56	86	56	2	WCMT0302	ITS2502	ITK08	●
IDWC150425T203	15			146	60	90		2		ITS2507		●
IDWC160425T203	16			150	64	94		2				●
IDWC170425T203	17			154	68	98		2				●
IDWC180425T203	18			158	72	102		2				●
IDWC190425T203	19			162	76	106		2				●
IDWC200425T203	20			166	80	110		2				●
IDWC210425T204	21			170	84	114		2	WCMT0402	ITS2507		●
IDWC220432T204	22	32	43	180	88	120	60	2				●
IDWC230432T204	23			184	92	124		2				●
IDWC240432T204	24			188	96	128		2				●
IDWC250432T204	25			192	100	132		2				●
IDWC260432T205	26			196	104	136		2	WCMT0503	ITS3007	ITK10	●
IDWC270432T205	27			200	108	140		2				●
IDWC280432T205	28			204	112	144		2				●
IDWC290432T205	29			208	116	148		2				●
IDWC300432T205	30			212	120	152		2				●
IDWC310432T206	31			216	124	156		2	WCMT06T3	ITS3504	ITK15	●
IDWC320432T206	32			220	128	160		2				●
IDWC330432T206	33			224	132	164		2				●
IDWC340432T206	34			228	136	168		2				●
IDWC350432T206	35			232	140	172		2				●
IDWC360432T206	36			236	144	176		2				●
IDWC370432T206	37			240	148	180		2				●
IDWC380432T206	38			244	152	184		2				●
IDWC390432T206	39			248	156	188		2				●
IDWC400440T206	40	40	54	265	160	195	70	2				●
IDWC410440T206	41			269	164	199		2				○

● stock　○ by inquiry

DWC - Indexable Drills · 4D

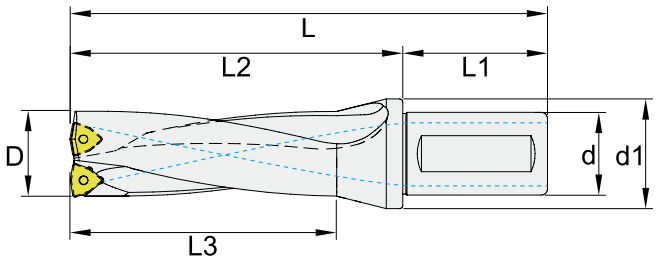
捨棄式鑽頭・4 倍深

Specification

- 4×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 4 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC420440T208	42	40	54	273	168	203	70	2	WCMT0804	ITS4004	ITK15	○
IDWC430440T208	43			277	172	207		2				○
IDWC440440T208	44			282	176	212		2				○
IDWC450440T208	45			285	180	215		2				○
IDWC460440T208	46			289	184	219		2				○
IDWC470440T208	47			293	188	223		2				○
IDWC480440T208	48			297	192	227		2				○
IDWC490440T208	49			301	196	231		2				○
IDWC500440T208	50			305	200	235		2				○
IDWC510440T208	51			309	204	239		2				○
IDWC520440T208	52			313	208	243		2				○
IDWC530440T208	53			317	212	247		2				○
IDWC540440T208	54			320	216	250		2				○
IDWC550440T208	55			325	220	255		2				○
IDWC560440T208	56		58	329	224	259		2				○
IDWC570440T208	57			333	228	263		2				○
IDWC580440T208	58		59	337	232	267		2				○
IDWC590440T208	59			341	236	271		2				○
IDWC600440T208	60		63	345	240	275		2				○

● stock　○ by inquiry

DWC - Indexable Drills · 5D

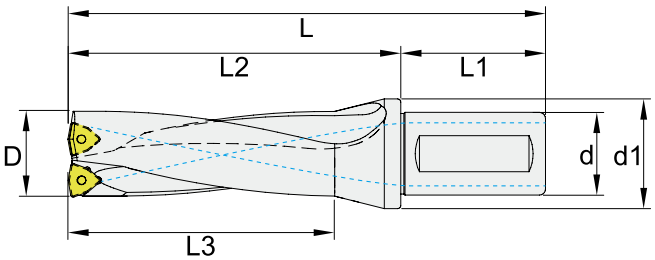
捨棄式鑽頭・5 倍深

Specification

- 5×D Cutting depth
- Internal Coolant
- Indexable Insert with 3 sides cutting edge
- High durable SKD holder body
- Use WCMT series inserts

規　格

- 5 倍深
- 內冷卻孔
- 刀片含有 3 個切削角
- SKD 高耐久性刀體
- 使用 WCMT 刀片



Insert Brand : Winstar

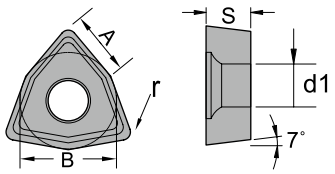
Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWC160525T203	16	25	38	166	80	110	56	2	WCMT0302	ITS2507	ITK08	○
IDWC170525T203	17	25	38	171	85	115	56	2				○
IDWC180525T203	18	25	38	176	90	120	56	2				○
IDWC190525T203	19	25	38	181	95	125	56	2				○
IDWC200525T203	20	25	38	186	100	130	56	2				○
IDWC210525T203	21	25	38	191	105	135	56	2				○
IDWC220525T203	22	25	38	196	110	140	56	2				○
IDWC230532T204	23	32	43	207	115	147	60	2	WCMT0402	ITS2507	ITK08	○
IDWC240532T204	24	32	43	212	120	152	60	2				○
IDWC250532T204	25	32	43	217	125	157	60	2				○
IDWC260532T205	26	32	43	222	130	162	60	2	WCMT0503	ITS3007	ITK10	○
IDWC270532T205	27	32	43	227	135	167	60	2				○
IDWC280532T205	28	32	43	232	140	172	60	2				○
IDWC290532T205	29	32	43	237	145	177	60	2				○
IDWC300532T205	30	32	43	242	150	182	60	2				○
IDWC310532T206	31	32	43	247	155	187	60	2	WCMT06T3	ITS3504	ITK15	○
IDWC320532T206	32	32	43	252	160	192	60	2				○
IDWC330532T206	33	32	43	257	165	197	60	2				○
IDWC340532T206	34	32	43	262	170	202	60	2				○
IDWC350532T206	35	32	43	267	175	207	60	2				○
IDWC360532T206	36	32	43	272	180	212	60	2				○
IDWC440540T208	44	40	54	326	220	256	70	2	WCMT0804	ITS4004	ITK15	○

● stock　○ by inquiry

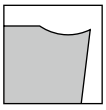
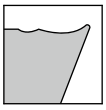
DWC - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Specifications 刀片規格

Insert	Dimensions (mm)					Chipbreaker
	A	B	S	r	d1	
WCMT030208	3.8	5.56	2.38	0.8	2.8	SG, MG
WCMT040208	4.3	6.35	2.38	0.8	3.0	SG, MG
WCMT050308	5.4	7.94	3.18	0.8	3.4	SG, MG
WCMT06T308	6.5	9.53	3.97	0.8	4.0	SG, MG
WCMT080412	8.7	12.7	4.76	1.2	4.3	SG, MG



Insert Geometry 刀片幾何

Shape 形狀	Chipbreaker 斷屑槽	Application 應　用
	 **SG**	Sharp geometric design, easy to chip breaking, for steel, stainless steel and cast iron. 鋒利的刀口設計，易於斷屑，適用於鋼件、不鏽鋼和鑄鐵加工
	 **MG**	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用

Recommended Cutting Conditions 建議切削數據

DWC Series (2×D, 3×D)

Work Material		Hardness	Vc (m/min)	Feed Rate (mm/rev)				
				WCMT03 Ø14-Ø20.5	WCMT04 Ø22-Ø25.5	WCMT05 Ø26-Ø30	WCMT06 Ø31-Ø39	WCMT08 Ø40-Ø60
P	Mild Steel	(<180HB)	110~220	0.06~0.09	0.06~0.11	0.07~0.13	0.08~0.18	0.10~0.25
	Cabon Steel	(180~280HB)	90~140	0.06~0.09	0.06~0.11	0.07~0.13	0.08~0.18	0.10~0.25
	Alloy Steel	(280~350HB)	70~120	0.05~0.07	0.05~0.09	0.06~0.11	0.07~0.14	0.08~0.17
M	Stainless Steel	(<200HB)	60~140	0.05~0.09	0.05~0.10	0.06~0.13	0.07~0.15	0.08~0.18
K	Cast Iron	(<350Mpa)	100~160	0.07~0.11	0.07~0.13	0.08~0.15	0.09~0.18	0.11~0.22
	Ductile Cast Iron	(<450Mpa)	90~120	0.06~0.10	0.06~0.12	0.07~0.14	0.08~0.16	0.10~0.20
N	Aluminum <12% Si	-	200~360	0.06~0.11	0.08~0.13	0.09~0.15	0.11~0.18	0.12~0.25
	Aluminum >12% Si	-	150~250	0.06~0.11	0.08~0.13	0.09~0.15	0.11~0.18	0.12~0.25
S	Super Alloy	-	25~50	0.03~0.05	0.03~0.06	0.04~0.08	0.05~0.10	0.06~0.12
H	Hardened Material	-	-	-	-	-	-	-

Apply for 4×D reduce 10%, 5×D reduce 15%.

DWC - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWCMT030208SG32HS	WCMT-030208-SG-CX32HS	●	●	●		○	○
	IWCMT030208SG33TX	WCMT-030208-SG-CX33TX	●	●	●		●	●
	IWCMT030208SG43TX	WCMT-030208-SG-CX43TX	●	●	●		●	
	IWCMT030208MG32HS	WCMT-030208-MG-CX32HS	●	●	●		○	○
	IWCMT030208MG33TX	WCMT-030208-MG-CX33TX	●	●	●		●	●
	IWCMT030208MG43TX	WCMT-030208-MG-CX43TX	●	●	●		●	
	IWCMT040208SG32HS	WCMT-040208-SG-CX32HS	●	●	●		○	○
	IWCMT040208SG33TX	WCMT-040208-SG-CX33TX	●	●	●		●	●
	IWCMT040208SG43TX	WCMT-040208-SG-CX43TX	●	●	●		●	
	IWCMT040208MG32HS	WCMT-040208-MG-CX32HS	●	●	●		○	○
	IWCMT040208MG33TX	WCMT-040208-MG-CX33TX	●	●	●		●	●
	IWCMT040208MG43TX	WCMT-040208-MG-CX43TX	●	●	●		●	
	IWCMT050308SG32HS	WCMT-050308-SG-CX32HS	●	●	●		○	○
	IWCMT050308SG33TX	WCMT-050308-SG-CX33TX	●	●	●		●	●
	IWCMT050308SG43TX	WCMT-050308-SG-CX43TX	●	●	●		●	
	IWCMT050308MG32HS	WCMT-050308-MG-CX32HS	●	●	●		○	○
	IWCMT050308MG33TX	WCMT-050308-MG-CX33TX	●	●	●		●	●
	IWCMT050308MG43TX	WCMT-050308-MG-CX43TX	●	●	●		●	
	IWCMT06T308SG32HS	WCMT-06T308-SG-CX32HS	●	●	●		○	○
	IWCMT06T308SG33TX	WCMT-06T308-SG-CX33TX	●	●	●		●	●
	IWCMT06T308SG43TX	WCMT-06T308-SG-CX43TX	●	●	●		●	
	IWCMT06T308MG32HS	WCMT-06T308-MG-CX32HS	●	●	●		○	○
	IWCMT06T308MG33TX	WCMT-06T308-MG-CX33TX	●	●	●		●	●
	IWCMT06T308MG43TX	WCMT-06T308-MG-CX43TX	●	●	●		●	
	IWCMT080412SG32HS	WCMT-080412-SG-CX32HS	●	●	●		○	○
	IWCMT080412SG33TX	WCMT-080412-SG-CX33TX	●	●	●		●	●
	IWCMT080412SG43TX	WCMT-080412-SG-CX43TX	●	●	●		●	
	IWCMT080412MG32HS	WCMT-080412-MG-CX32HS	●	●	●		○	○
	IWCMT080412MG33TX	WCMT-080412-MG-CX33TX	●	●	●		●	●
	IWCMT080412MG43TX	WCMT-080412-MG-CX43TX	●	●	●		●	

DWD - Indexable Drills · 3D

捨棄式鑽頭・3 倍深

Specification

- 3×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use WDXT series inserts

規 格

- 3 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 WDXT 刀片

Fig. 1

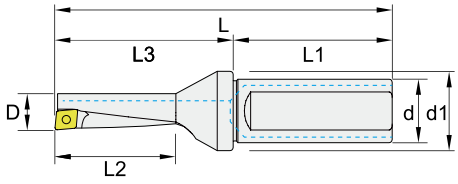
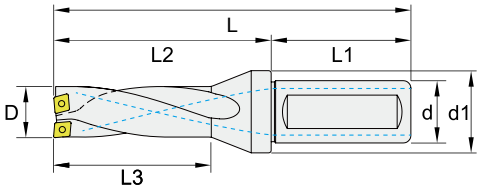


Fig. 2



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Fig	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1						
IDWD100320T105	10	20	27	101	51	30	50	1	1	WDXT0525	ITS2003	ITK06	●
IDWD120320T106	12			107	57	36				WDXT0630	ITS2205	ITK07	●
IDWD130320T204	13	20	27	107	39	57	50	2	2	WDXT0420	ITS1801	ITK06	●
IDWD135320T204	13.5			110	42	60							○
IDWD140320T204	14												●
IDWD145320T204	14.5			114	45	64							○
IDWD150320T204	15												●
IDWD155320T205	15.5			117	48	67				WDXT0525	ITS2003	ITK06	○
IDWD160320T205	16												●
IDWD165320T205	16.5			120	51	70							○
IDWD170320T205	17												●
IDWD175320T205	17.5			123	54	73							○
IDWD180320T205	18												●
IDWD185320T206	18.5			126	57	76				WDXT0630	ITS2203	ITK07	○
IDWD190320T206	19												●
IDWD195320T206	19.5			129	60	79							○
IDWD200320T206	20												●
IDWD205325T206	20.5	25	33	143	63	87	56						○
IDWD210325T206	21												●
IDWD215325T206	21.5			146	66	90							○
IDWD220325T206	22												●
IDWD225332T206	22.5	32	43	149	69	93							○
IDWD230332T207	23									WDXT0735	ITS2511	ITK08	●
IDWD235332T207	23.5			152	72	96							○
IDWD240332T207	24												●
IDWD245332T207	24.5			155	75	99							○
IDWD250332T207	25												●

● stock ○ by inquiry

DWD - Indexable Drills · 4D

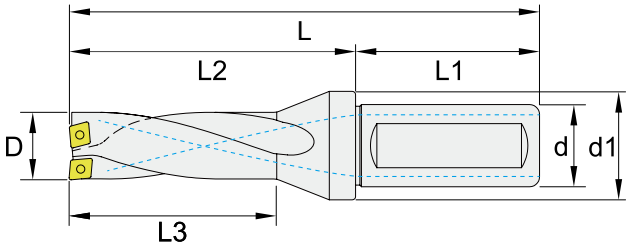
捨棄式鑽頭・4 倍深

Specification

- 4×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use WDXT series inserts

規　格

- 4 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 WDXT 刀片



Insert Brand : Winstar

Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWD130420T204	13	20	27	120	52	70	50	2	WDXT0420	ITS1801	ITK06	●
IDWD135420T204	13.5			124	56	74						○
IDWD140420T204	14											●
IDWD145420T204	14.5			129	60	79						○
IDWD150420T204	15											●
IDWD155420T205	15.5			133	64	83			WDXT0525	ITS2003	ITK06	○
IDWD160420T205	16											●
IDWD165420T205	16.5			137	68	87						○
IDWD170420T205	17											●
IDWD175420T205	17.5			141	72	91						○
IDWD180420T205	18											●
IDWD185420T206	18.5			145	76	95			WDXT0630	ITS2203	ITK07	○
IDWD190420T206	19											●
IDWD195420T206	19.5			149	80	99						○
IDWD200420T206	20											●
IDWD205425T206	20.5	25	33	164	84	108	56					○
IDWD210425T206	21											●
IDWD215425T206	21.5			168	88	112						○
IDWD220425T206	22											●
IDWD225425T206	22.5			172	92	116						○
IDWD230425T207	23								WDXT0735	ITS2511	ITK08	●
IDWD235425T207	23.5			176	96	120						○
IDWD240425T207	24											●
IDWD245425T207	24.5			180	100	124						○
IDWD250425T207	25											●

● stock　○ by inquiry

DWD - Indexable Drills · 5D

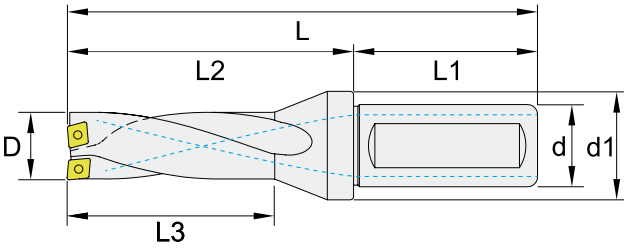
捨棄式鑽頭・5 倍深

Specification

- 5×D Cutting depth
- Internal Coolant
- Indexable Insert with 4 sides cutting edge
- High durable SKD holder body
- Use WDXT series inserts

規　格

- 5 倍深
- 內冷卻孔
- 刀片含有 4 個切削角
- SKD 高耐久性刀體
- 使用 WDXT 刀片



Insert Brand : Winstar

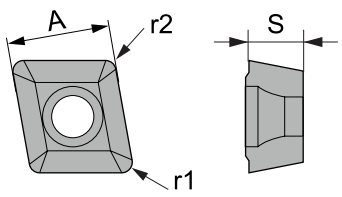
Order No.	Dimensions, mm							T	Insert	Screw	Wrench	Stock
	D	d	d1	L	L3	L2	L1					
IDWD130520T204	13	20	25	133	65	83	50	2	WDXT0420	ITS1801	ITK06	●
IDWD140520T204	14			138	70	88						●
IDWD150520T204	15			144	75	94						●
IDWD160520T205	16			149	80	100			WDXT0525	ITS2003	ITK06	●
IDWD170520T205	17			154	85	105						●
IDWD180520T205	18			159	90	110						●
IDWD190520T206	19			164	95	115			WDXT0630	ITS2203	ITK07	●
IDWD200520T206	20			169	100	120						●
IDWD210525T206	21	25	33	185	105	125	56					●
IDWD220525T206	22			190	110	130						●
IDWD230525T207	23			195	115	140			WDXT0735	ITS2511	ITK08	●
IDWD240525T207	24			200	120	145						●
IDWD250525T207	25			205	125	150						●

● stock　○ by inquiry

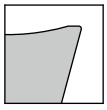
DWD - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Specifications 刀片規格

Insert	Dimensions (mm)				Chipbreaker
	A	r1	r2	S	
WDXT042004	4.2	0.4	0.4	2.0	MG
WDXT052504	5.0	0.4	0.4	2.5	MG
WDXT063006	6.0	0.6	0.6	3.0	MG
WDXT073506	7.5	0.6	0.6	3.5	MG



Insert Geometry 刀片幾何

Shape 形狀	Chipbreaker 斷屑槽	Application 應　用
	 MG	Low cutting force for medium cutting in steel, stainless steel and cast iron. 低切削阻力的刀口設計，適用於鋼件、不鏽鋼和鑄鐵的中加工應用

Recommended Cutting Conditions 建議切削數據

DWD Series (3×D)

Work Material		Hardness	Vc (m/min)	Feed Rate (mm/rev)	
				Ø13-Ø18	Ø18.5-Ø25
P	Mild Steel	(<180HB)	100~200	0.08~0.20	0.08~0.20
P	Cabon Steel	(180~280HB)	120~240	0.06~0.14	0.06~0.14
P	Alloy Steel	(280~350HB)	85~210	0.05~0.11	0.05~0.11
M	Stainless Steel	(<200HB)	120~180	0.06~0.15	0.06~0.15
K	Cast Iron	(<350Mpa)	120~200	0.09~0.27	0.10~0.30
K	Ductile Cast Iron	(<450Mpa)	90~150	0.09~0.27	0.10~0.30
N	Aluminum <12% Si	-	200~320	0.06~0.17	0.06~0.17
N	Aluminum >12% Si	-	180~280	0.06~0.17	0.06~0.17
S	Super Alloy	-	25~70	0.06~0.15	0.06~0.15

Apply for 4×D reduce 10%, 5×D reduce 15%.

DWD - Indexable Drill Inserts 捨棄式鑽頭刀片

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IWDXT042004MG33TX	WDXT-042004-MG-CX33TX	●	●	●		●	●
	IWDXT042004MG43TX	WDXT-042004-MG-CX43TX	●	●	●		●	
	IWDXT052504MG33TX	WDXT-052504-MG-CX33TX	●	●	●		●	●
	IWDXT052504MG43TX	WDXT-052504-MG-CX43TX	●	●	●		●	
	IWDXT063006MG33TX	WDXT-063006-MG-CX33TX	●	●	●		●	●
	IWDXT073506MG33TX	WDXT-073506-MG-CX33TX	●	●	●		●	●

DTS60 - Indexable Spotting Drills 60° 捨棄式定位鑽頭

DTS60 - Spotting Drills 定位鑽頭

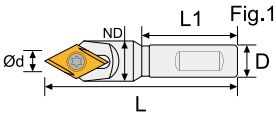


Fig.1

Fig.2

DTS 60 - DCEX11T3

Insert Brand : Winstar

Order No.	D	ND	L	L1	Fig	Insert	Screw	Wrench	Stock
IDTS1006006011	10	12	60	30	1	DCEX11T3	ITS3520	ITK15	●
IDTS1210006011	12	12	100	-	2				●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 60 Chamfering / Countersinking

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	12 ~ 180	0.05 ~ 0.15
Alloy steel	12 ~ 180	0.05 ~ 0.15
Stainless steel	12 ~ 180	0.05 ~ 0.15
Cast iron	12 ~ 180	0.05 ~ 0.15
Aluminum	12 ~ 180	0.10 ~ 0.20
Hardened steel	12 ~ 180	0.03 ~ 0.10

DTS 60 Grooving / Engraving

Material	Vc (m/min)	fr (mm/rev)
Carbon steel	10 ~ 170	0.005 ~ 0.05
Alloy steel	10 ~ 170	0.005 ~ 0.03
Stainless steel	10 ~ 170	0.005 ~ 0.05
Cast iron	10 ~ 170	0.005 ~ 0.03
Aluminum	10 ~ 170	0.005 ~ 0.08
Hardened steel	10 ~ 170	0.005 ~ 0.02

DTS 60 Cutting Depth of Passes

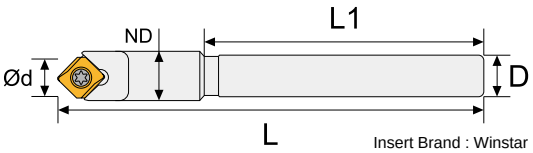
No. of Passes	ap of one pass (mm)					
	Aluminum	Cast iron	Carbon steel	Alloy steel	Stainless steel	Hardened steel
1	1.0	0.8	0.8	0.6	0.5	0.2
2	0.8	0.7	0.6	0.5	0.4	0.2
3	0.2	0.3	0.3	0.3	0.3	0.15
4		0.2	0.2	0.3	0.3	0.15
5			0.1	0.2	0.2	0.1
6				0.1	0.2	0.1
7					0.1	0.1

※ Max ap is 2mm

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	r	Engraving Ød	P	M	K	N	S	H
	IDCEX11T301SG32HS	DCEX-11T301-SG-CX32HS	0.1	0.2 ~ 1	●	●	●	●	●	
	IDCEX11T302SG32HS	DCEX-11T302-SG-CX32HS	0.2	0.4 ~ 2	●	●	●	●	●	
	IDCEX11T304SG32HS	DCEX-11T304-SG-CX32HS	0.4	0.8 ~ 3	●	●	●	●	●	
	IDCEX11T30132HS	DCEX-11T301-CX32HS	0.1	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30232HS	DCEX-11T302-CX32HS	0.2	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30432HS	DCEX-11T304-CX32HS	0.4	0.8 ~ 3	●	●	●		●	●
	IDCEX11T30832HS	DCEX-11T308-CX32HS	0.8	0.8 ~ 3	●	●	●		●	●

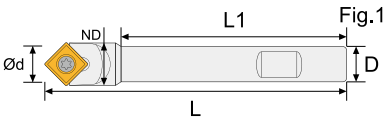
DTS90 - Spotting Drills 定位鑽頭

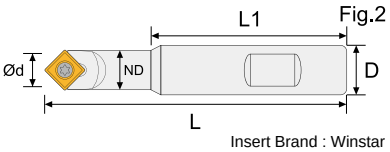


DTS90 - SDMX05T1 (for small lathe 適用於小型車床)

Insert Brand : Winstar

Order No.	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS0604009005	6	40	7	20	1 ~ 5	0.8 ~ 1.5	SDMX05T1	ITS1801	ITK06	●
IDTS0606009005	6	60	7	40						●

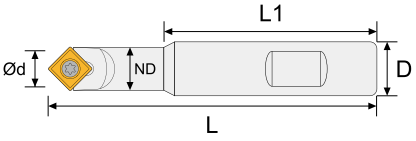




DTS90 - SCGX09T3, SCMX09T3

Insert Brand : Winstar

Order No.	D	L	ND	L1	Fig	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1010009009	10	100	12.2	71	1	2 ~ 11	0.8 ~ 2.5	SCGX09T3 SCMX09T3	ITS3520	ITK15	●
IDTS1210009009	12	100	12.2	71							●
IDTS1610009009	16	100	12.2	71	2						●
IDTS1613009009	16	130	12.2	101							●

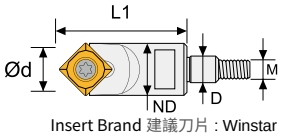


DTS90 - SDMX11T3

Insert Brand : Winstar

Order No.	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS1610009011	16	100	14.1	71	3 ~ 14	1.6 ~ 4.0	SDMX11T3	ITS3521	ITK15	●

DTS90 - Modular Spotting Drill Heads 定位鑽刀頭

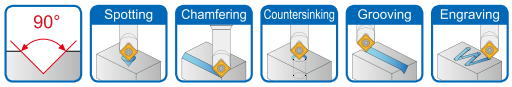


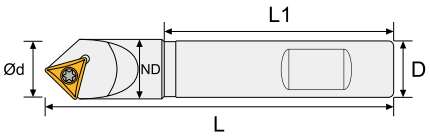
Insert Brand 建議刀片 : Winstar

Order No.	L1	ND	D	M	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTSM603009009	30	12.4	6.5	M6	2 ~ 11	0.8 ~ 2.5	SCMX09T3	ITS3520	ITK15	○

● stock ○ by inquiry

DTS90 - Spotting Drills 定位鑽頭





DTS90 - TCMX16T3

Insert Brand : Winstar

Order No.	D	L	ND	L1	Spotting Ød	Engraving Ød	Insert	Screw	Wrench	Stock
IDTS2012009016	20	120	21.2	78	3 ~ 20	1.6 ~ 4.0	TCMX16T3	ITS3521	ITK15	●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

DTS 90 Spotting

Material	Vc (m/min)		Fr (mm/rev)	
	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm	Ød = 2 ~ 4.9 mm	Ød ≥ 5 mm
Carbon steel	60 ~ 120	90 ~ 220	0.04 ~ 0.08	0.06 ~ 0.10
Alloy steel	50 ~ 100	75 ~ 180	0.03 ~ 0.06	0.05 ~ 0.08
Stainless steel	30 ~ 60	45 ~ 120	0.02 ~ 0.04	0.04 ~ 0.06
Cast iron	40 ~ 80	60 ~ 130	0.04 ~ 0.08	0.06 ~ 0.10
Hardened steel	20 ~ 40	30 ~ 60	0.02 ~ 0.04	0.04 ~ 0.08

DTS 90 Chamfering / Countersinking

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	60 ~ 270	0.15 ~ 0.24
Alloy steel	50 ~ 220	0.12 ~ 0.20
Stainless steel	35 ~ 120	0.10 ~ 0.20
Cast iron	60 ~ 220	0.15 ~ 0.25
Hardened steel	20 ~ 60	0.03 ~ 0.08

DTS 90 Grooving / Engraving

Material	Vc (m/min)	Fr (mm/rev)
Carbon steel	40 ~ 140	0.12 ~ 0.18
Alloy steel	35 ~ 120	0.10 ~ 0.14
Stainless steel	25 ~ 70	0.08 ~ 0.12
Cast iron	30 ~ 100	0.12 ~ 0.18
Hardened steel	20 ~ 50	0.02 ~ 0.04

DTS90 - Indexable Spotting Drills 90° 捨棄式定位鑽頭

Insert Designation 刀片型號

Insert	Order No.	Series-Size-Chipbreaker-Grade	r	Spotting Ød	Engraving Ød	P	M	K	N	S	H
	ISCGX09T304AG10	SCGX-09T304-AG-CX10	0.4	2 ~ 11	0.8 ~ 2.5				●		
	ISCGX09T304FG13TX	SCGX-09T304-FG-CX13TX	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	●
	ISCMX09T304SM32HS	SCMX-09T304-SM-CX32HS	0.4	2 ~ 11	0.8 ~ 2.5	●	●	●	○	●	○
	ISDMX05T104FG13TX	SDMX-05T104-FG-CX13TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX05T104FG33TX	SDMX-05T104-FG-CX33TX	0.4	1 ~ 5	0.8 ~ 1.5	●	●	●	○	●	●
	ISDMX11T308SG33TX	SDMX-11T308-SG-CX33TX	0.8	3 ~ 14	1.6 ~ 4.0	●	●	●		●	●
	ITCMX16T308SM32HS	TCMX-16T308-SM-CX32HS	0.8	3 ~ 20	1.6 ~ 4.0	●	●	●	○	●	●

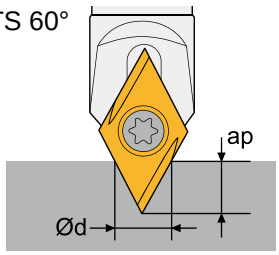
How to calculate Ød ,RPM and Feed 如何計算 Ød ,RPM 和 Feed

Formula :

$$RPM = \frac{Vc \times 1000}{Ød \times \pi}$$

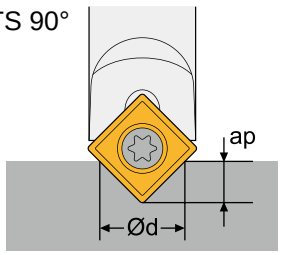
Feed = RPM × fr

DTS 60°



Ød ≒ (0.577 × (ap + r) + 0.05) × 2

DTS 90°



Ød ≒ (0.4r + ap + 0.05) × 2

EX :

Working Material : Cast iron
Insert : SCGX09T304
Application : 90° Spotting
ap : 2.5mm

Ød = (0.4r + ap + 0.05) × 2 = (0.4 × 0.4 + 2.5 + 0.05) × 2 = 5.42 mm
Reference conditions table get Vc ≒ 85 m/min and fr ≒ 0.075 mm/rev
RPM = (Vc × 1000) / (Ød × π) = (85 × 1000) / (5.42 × π) ≒ 5000
Feed = RPM × fr = 5000 × 0.075 = 375 mm/min

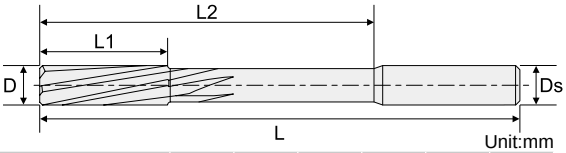
Working Demonstration 加工實例

Cutting parameter	
Tools	DTS 90° with SCMX09T304-SP CX32HS
Material	Cast Iron
Coolant	Dry
Application	Spotting
Vc	85 m/min
S	4800 rpm
Feed	360 mm/min
ap	2.5 mm

DRMN - Left spiral flute · External Coolant 螺旋機械外冷鉸刀

P	M	K	N	S	H
●	●	●	○	●	●

- External coolant
- Left spiral flute
- Right hand cutting
- UNIX smooth coating
- D tolerance : H7
- Ds tolerance : h6
- For through hole
- Hole tolerance : H7



Unit:mm

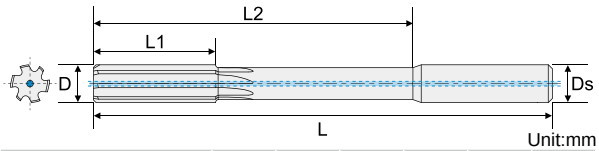
Order No.	D	L1	L2	L	Ds	F
DRMN0299090UX	2.99	15	35	60	4	4
DRMN0300090UX	3.00	15	35	60	4	4
DRMN0301090UX	3.01	15	35	60	4	4
DRMN0302090UX	3.02	15	35	60	4	4
DRMN0310090UX	3.10	15	35	60	4	4
DRMN0320090UX	3.20	15	35	60	4	4
DRMN0330090UX	3.30	15	35	60	4	4
DRMN0340090UX	3.40	15	35	60	4	4
DRMN0350090UX	3.50	18	35	60	4	4
DRMN0360090UX	3.60	18	35	60	4	4
DRMN0370090UX	3.70	18	35	60	4	4
DRMN0380090UX	3.80	18	35	60	4	4
DRMN0390090UX	3.90	18	35	60	4	4
DRMN0399090UX	3.99	19	50	75	4	4
DRMN0400090UX	4.00	19	50	75	4	4
DRMN0401090UX	4.01	19	50	75	4	4
DRMN0402090UX	4.02	19	50	75	4	4
DRMN0410090UX	4.10	19	50	75	6	4
DRMN0420090UX	4.20	19	50	75	6	4
DRMN0430090UX	4.30	19	50	75	6	4
DRMN0440090UX	4.40	19	50	75	6	4
DRMN0450090UX	4.50	21	50	75	6	4
DRMN0460090UX	4.60	21	50	75	6	4
DRMN0470090UX	4.70	21	50	75	6	4
DRMN0480090UX	4.80	21	50	75	6	4
DRMN0490090UX	4.90	21	50	75	6	4
DRMN0499090UX	4.99	23	50	75	6	6
DRMN0500090UX	5.00	23	50	75	6	6
DRMN0501090UX	5.01	23	50	75	6	6
DRMN0502090UX	5.02	23	50	75	6	6
DRMN0510090UX	5.10	23	50	75	6	6
DRMN0520090UX	5.20	23	50	75	6	6
DRMN0530090UX	5.30	23	50	75	6	6
DRMN0540090UX	5.40	23	50	75	6	6
DRMN0550090UX	5.50	26	50	75	6	6
DRMN0560090UX	5.60	26	50	75	6	6
DRMN0570090UX	5.70	26	50	75	6	6
DRMN0580090UX	5.80	26	50	75	6	6
DRMN0590090UX	5.90	26	50	75	6	6
DRMN0599090UX	5.99	26	65	100	6	6
DRMN0600090UX	6.00	26	65	100	6	6
DRMN0601090UX	6.01	26	65	100	6	6
DRMN0602090UX	6.02	26	65	100	6	6
DRMN0650090UX	6.50	28	65	100	8	6
DRMN0699090UX	6.99	31	70	109	8	6
DRMN0700090UX	7.00	31	70	109	8	6
DRMN0701090UX	7.01	31	70	109	8	6
DRMN0702090UX	7.02	31	70	109	8	6

Order No.	D	L1	L2	L	Ds	F
DRMN0750090UX	7.50	31	70	109	8	6
DRMN0799090UX	7.99	33	80	109	8	6
DRMN0800090UX	8.00	33	80	109	8	6
DRMN0801090UX	8.01	33	80	109	8	6
DRMN0802090UX	8.02	33	80	109	8	6
DRMN0850090UX	8.50	33	80	125	10	6
DRMN0899090UX	8.99	36	85	125	10	6
DRMN0900090UX	9.00	36	85	125	10	6
DRMN0901090UX	9.01	36	85	125	10	6
DRMN0902090UX	9.02	36	85	125	10	6
DRMN0950090UX	9.50	36	85	125	10	6
DRMN0999090UX	9.99	38	85	125	10	6
DRMN1000090UX	10.00	38	85	125	10	6
DRMN1001090UX	10.01	38	85	125	10	6
DRMN1002090UX	10.02	38	85	125	10	6
DRMN1050090UX	10.50	38	85	125	12	6
DRMN1099090UX	10.99	41	100	150	12	6
DRMN1100090UX	11.00	41	100	150	12	6
DRMN1101090UX	11.01	41	100	150	12	6
DRMN1102090UX	11.02	41	100	150	12	6
DRMN1150090UX	11.50	41	100	150	12	6
DRMN1199090UX	11.99	44	100	150	12	6
DRMN1200090UX	12.00	44	100	150	12	6
DRMN1201090UX	12.01	44	100	150	12	6
DRMN1202090UX	12.02	44	100	150	12	6

DRSC - Straight flute · Internal Coolant 直刃內冷鉸刀

P	M	K	N	S	H
●	●	●	○	●	●

- Internal coolant
- Straight flute
- Right hand cutting
- UNIX smooth coating
- D tolerance : H7
- Ds tolerance : h6
- Unequal flute spacing
- For blind hole / through hole
- Hole tolerance : H7



Unit:mm

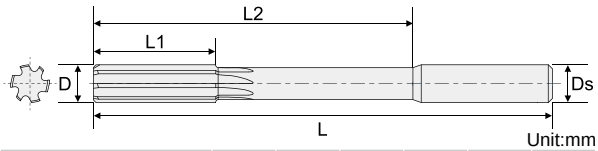
Order No.	D	L1	L2	L	Ds	F
DRSC0300090UX	3.00	15	35	60	4	4
DRSC0310090UX	3.10	15	35	60	4	4
DRSC0320090UX	3.20	15	35	60	4	4
DRSC0330090UX	3.30	15	35	60	4	4
DRSC0340090UX	3.40	15	35	60	4	4
DRSC0350090UX	3.50	18	35	60	4	4
DRSC0360090UX	3.60	18	35	60	4	4
DRSC0370090UX	3.70	18	35	60	4	4
DRSC0380090UX	3.80	18	35	60	4	4
DRSC0390090UX	3.90	18	35	60	4	4
DRSC0400090UX	4.00	19	50	75	4	4
DRSC0410090UX	4.10	19	50	75	6	4
DRSC0420090UX	4.20	19	50	75	6	4
DRSC0430090UX	4.30	19	50	75	6	4
DRSC0440090UX	4.40	19	50	75	6	4
DRSC0450090UX	4.50	21	50	75	6	4
DRSC0460090UX	4.60	21	50	75	6	4
DRSC0470090UX	4.70	21	50	75	6	4
DRSC0480090UX	4.80	21	50	75	6	4
DRSC0490090UX	4.90	21	50	75	6	4
DRSC0500090UX	5.00	23	50	75	6	6
DRSC0510090UX	5.10	23	50	75	6	6
DRSC0520090UX	5.20	23	50	75	6	6
DRSC0530090UX	5.30	23	50	75	6	6
DRSC0540090UX	5.40	23	50	75	6	6
DRSC0550090UX	5.50	26	50	75	6	6
DRSC0560090UX	5.60	26	50	75	6	6
DRSC0570090UX	5.70	26	50	75	6	6
DRSC0580090UX	5.80	26	50	75	6	6
DRSC0590090UX	5.90	26	50	75	6	6
DRSC0600090UX	6.00	26	65	100	6	6
DRSC0650090UX	6.50	28	65	100	8	6
DRSC0700090UX	7.00	31	70	109	8	6
DRSC0750090UX	7.50	31	70	109	8	6
DRSC0800090UX	8.00	33	80	109	8	6
DRSC0850090UX	8.50	33	80	125	10	6
DRSC0900090UX	9.00	36	85	125	10	6
DRSC0950090UX	9.50	36	85	125	10	6
DRSC1000090UX	10.00	38	85	125	10	6
DRSC1050090UX	10.50	38	85	125	12	6
DRSC1100090UX	11.00	41	100	150	12	6
DRSC1150090UX	11.50	41	100	150	12	6
DRSC1200090UX	12.00	44	100	150	12	6

Order No.	D	L1	L2	L	Ds	F

DRSN - Straight flute · External Coolant 直刃外冷鉸刀

P	M	K	N	S	H
●	●	●	○	●	●

- External coolant
- Straight flute
- Right hand cutting
- UNIX smooth coating
- D tolerance : H7
- Ds tolerance : h6
- Unequal flute spacing
- For blind hole / through hole
- Hole tolerance : H7



Unit:mm

Order No.	D	L1	L2	L	Ds	F
DRSN0299090UX	2.99	15	35	60	4	4
DRSN0300090UX	3.00	15	35	60	4	4
DRSN0301090UX	3.01	15	35	60	4	4
DRSN0302090UX	3.02	15	35	60	4	4
DRSN0310090UX	3.10	15	35	60	4	4
DRSN0320090UX	3.20	15	35	60	4	4
DRSN0330090UX	3.30	15	35	60	4	4
DRSN0340090UX	3.40	15	35	60	4	4
DRSN0350090UX	3.50	18	35	60	4	4
DRSN0360090UX	3.60	18	35	60	4	4
DRSN0370090UX	3.70	18	35	60	4	4
DRSN0380090UX	3.80	18	35	60	4	4
DRSN0390090UX	3.90	18	35	60	4	4
DRSN0399090UX	3.99	19	50	75	4	4
DRSN0400090UX	4.00	19	50	75	4	4
DRSN0401090UX	4.01	19	50	75	4	4
DRSN0402090UX	4.02	19	50	75	4	4
DRSN0410090UX	4.10	19	50	75	6	4
DRSN0420090UX	4.20	19	50	75	6	4
DRSN0430090UX	4.30	19	50	75	6	4
DRSN0440090UX	4.40	19	50	75	6	4
DRSN0450090UX	4.50	21	50	75	6	4
DRSN0460090UX	4.60	21	50	75	6	4
DRSN0470090UX	4.70	21	50	75	6	4
DRSN0480090UX	4.80	21	50	75	6	4
DRSN0490090UX	4.90	21	50	75	6	4
DRSN0499090UX	4.99	23	50	75	6	6
DRSN0500090UX	5.00	23	50	75	6	6
DRSN0501090UX	5.01	23	50	75	6	6
DRSN0502090UX	5.02	23	50	75	6	6
DRSN0510090UX	5.10	23	50	75	6	6
DRSN0520090UX	5.20	23	50	75	6	6
DRSN0530090UX	5.30	23	50	75	6	6
DRSN0540090UX	5.40	23	50	75	6	6
DRSN0550090UX	5.50	26	50	75	6	6
DRSN0560090UX	5.60	26	50	75	6	6
DRSN0570090UX	5.70	26	50	75	6	6
DRSN0580090UX	5.80	26	50	75	6	6
DRSN0590090UX	5.90	26	50	75	6	6
DRSN0599090UX	5.99	26	65	100	6	6
DRSN0600090UX	6.00	26	65	100	6	6
DRSN0601090UX	6.01	26	65	100	6	6
DRSN0602090UX	6.02	26	65	100	6	6
DRSN0650090UX	6.50	28	65	100	8	6
DRSN0699090UX	6.99	31	70	109	8	6
DRSN0700090UX	7.00	31	70	109	8	6
DRSN0701090UX	7.01	31	70	109	8	6
DRSN0702090UX	7.02	31	70	109	8	6

Order No.	D	L1	L2	L	Ds	F
DRSN0750090UX	7.50	31	70	109	8	6
DRSN0799090UX	7.99	33	80	109	8	6
DRSN0800090UX	8.00	33	80	109	8	6
DRSN0801090UX	8.01	33	80	109	8	6
DRSN0802090UX	8.02	33	80	109	8	6
DRSN0850090UX	8.50	33	80	125	10	6
DRSN0899090UX	8.99	36	85	125	10	6
DRSN0900090UX	9.00	36	85	125	10	6
DRSN0901090UX	9.01	36	85	125	10	6
DRSN0902090UX	9.02	36	85	125	10	6
DRSN0950090UX	9.50	36	85	125	10	6
DRSN0999090UX	9.99	38	85	125	10	6
DRSN1000090UX	10.00	38	85	125	10	6
DRSN1001090UX	10.01	38	85	125	10	6
DRSN1002090UX	10.02	38	85	125	10	6
DRSN1050090UX	10.50	38	85	125	12	6
DRSN1099090UX	10.99	41	100	150	12	6
DRSN1100090UX	11.00	41	100	150	12	6
DRSN1101090UX	11.01	41	100	150	12	6
DRSN1102090UX	11.02	41	100	150	12	6
DRSN1150090UX	11.50	41	100	150	12	6
DRSN1199090UX	11.99	44	100	150	12	6
DRSN1200090UX	12.00	44	100	150	12	6
DRSN1201090UX	12.01	44	100	150	12	6
DRSN1202090UX	12.02	44	100	150	12	6
DRSN1300090UX	13.00	44	100	150	14	6
DRSN1400090UX	14.00	44	100	150	14	6
DRSN1600090UX	16.00	44	100	150	16	6
DRSN1800090UX	18.00	44	100	150	18	6
DRSN2000090UX	20.00	44	100	150	20	8

Recommended Cutting Conditions 建議切削數據

DRMN, DRSN Series (External Coolant 外冷)

Work Material		Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-12mm	
		Hardness	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	10~20	0.03~0.12	10~20	0.06~0.2	10~20	0.1~0.22
	Cabon Steel	(180~280HB)	10~16	0.03~0.12	10~16	0.06~0.2	10~16	0.1~0.22
	Alloy Steel	(280~350HB)	8~12	0.03~0.12	8~12	0.06~0.2	8~12	0.1~0.22
M	Stainless Steel	-	-	-	-	-	-	-
K	Cast Iron	(<350Mpa)	8~16	0.03~0.12	8~16	0.06~0.02	8~16	0.1~0.22
	Ductile Cast Iron	(<450Mpa)	8~16	0.03~0.12	8~16	0.06~0.02	8~16	0.1~0.22
N	Aluminum <12% Si	-	20~30	0.03~0.13	20~30	0.07~0.23	20~30	0.1~0.28
	Aluminum >12% Si	-	20~30	0.03~0.13	20~30	0.07~0.23	20~30	0.1~0.28
S	Heat Resistant Alloy	-	-	-	-	-	-	-
H	Hardened Material	-	-	-	-	-	-	-

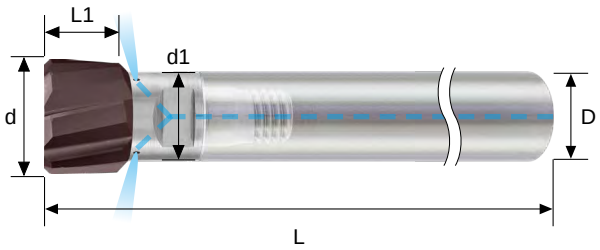
DRSC Series (Internal Coolant 內冷)

Work Material		Drill Diameter	Ø3-6mm		Ø6.1~10mm		Ø10.1-12mm	
		Hardness	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)	Vc (m/min)	Feed (mm/rev)
P	Mild Steel	(<180HB)	40~70	0.1~0.2	40~70	0.1~0.24	40~70	0.1~0.3
	Cabon Steel	(180~280HB)	25~50	0.1~0.2	25~50	0.1~0.24	25~50	0.1~0.3
	Alloy Steel	(280~350HB)	15~25	0.08~0.16	15~25	0.08~0.2	15~25	0.08~0.24
M	Stainless Steel	(<200HB)	8~15	0.08~0.16	8~15	0.08~0.18	8~15	0.08~0.2
K	Cast Iron	(<350Mpa)	35~60	0.1~0.32	35~60	0.1~0.36	35~60	0.1~0.4
	Ductile Cast Iron	(<450Mpa)	20~45	0.1~0.24	20~45	0.1~0.28	20~45	0.1~0.32
N	Aluminum <12% Si	-	110~195	0.12~0.32	110~195	0.12~0.36	110~195	0.12~0.4
	Aluminum >12% Si	-	105~180	0.12~0.32	105~180	0.12~0.36	105~180	0.12~0.4
S	Heat Resistant Alloy	-	8~15	0.08~0.16	8~15	0.08~0.18	8~15	0.08~0.2
H	Hardened Material	-	-	-	-	-	-	-

DRMMC - Left spiral flute · Internal Coolant 內冷模組化螺旋機械鉸刀

P	M	K	N	S	H
●	●	●	○	●	

- Internal coolant
- Left spiral flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For through hole
- Hole tolerance : H8



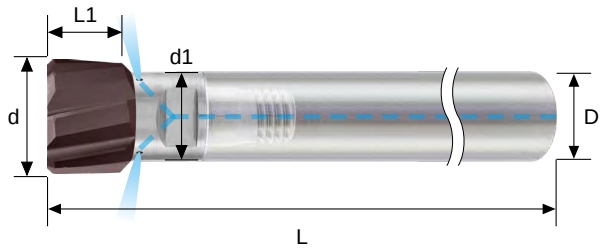
Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRMMC8129910UX	12.99	8	11.7	–	119	10	8	DRMWC812990UX	ISWMEA10100060
DRMMC8129915UX	12.99	8	11.7	–	169	10	8	DRMWC812990UX	ISWMEA10150060
DRMMC8130010UX	13	8	11.7	–	119	10	8	DRMWC813000UX	ISWMEA10100060
DRMMC8130015UX	13	8	11.7	–	169	10	8	DRMWC813000UX	ISWMEA10150060
DRMMC8130110UX	13.01	8	11.7	–	119	10	8	DRMWC813010UX	ISWMEA10100060
DRMMC8130115UX	13.01	8	11.7	–	169	10	8	DRMWC813010UX	ISWMEA10150060
DRMMC8139910UX	13.99	8	12.6	–	119	11	8	DRMWC813990UX	ISWMEA11100060
DRMMC8139915UX	13.99	8	12.6	–	169	11	8	DRMWC813990UX	ISWMEA11150060
DRMMC8140010UX	14	8	12.6	–	119	11	8	DRMWC814000UX	ISWMEA11100060
DRMMC8140015UX	14	8	12.6	–	169	11	8	DRMWC814000UX	ISWMEA11150060
DRMMC8140110UX	14.01	8	12.6	–	119	11	8	DRMWC814010UX	ISWMEA11100060
DRMMC8140115UX	14.01	8	12.6	–	169	11	8	DRMWC814010UX	ISWMEA11150060
DRMMC8149907UX	14.99	10	13.5	–	97	12	8	DRMWC814990UX	ISWMEA12075060
DRMMC8149910UX	14.99	10	13.5	–	122	12	8	DRMWC814990UX	ISWMEA12100060
DRMMC8149915UX	14.99	10	13.5	–	172	12	8	DRMWC814990UX	ISWMEA12150060
DRMMC8149920UX	14.99	10	13.5	–	222	12	8	DRMWC814990UX	ISWMEA12200060
DRMMC8150007UX	15	10	13.5	–	97	12	8	DRMWC815000UX	ISWMEA12075060
DRMMC8150010UX	15	10	13.5	–	122	12	8	DRMWC815000UX	ISWMEA12100060
DRMMC8150015UX	15	10	13.5	–	172	12	8	DRMWC815000UX	ISWMEA12150060
DRMMC8150020UX	15	10	13.5	–	222	12	8	DRMWC815000UX	ISWMEA12200060
DRMMC8150107UX	15.01	10	13.5	–	97	12	8	DRMWC815010UX	ISWMEA12075060
DRMMC8150110UX	15.01	10	13.5	–	122	12	8	DRMWC815010UX	ISWMEA12100060
DRMMC8150115UX	15.01	10	13.5	–	172	12	8	DRMWC815010UX	ISWMEA12150060
DRMMC8150120UX	15.01	10	13.5	–	222	12	8	DRMWC815010UX	ISWMEA12200060
DRMMC8158707UX	15.875	10	14.3	–	97	12	8	DRMWC815870UX	ISWMEA12075060
DRMMC8158710UX	15.875	10	14.3	–	122	12	8	DRMWC815870UX	ISWMEA12100060
DRMMC8158715UX	15.875	10	14.3	–	172	12	8	DRMWC815870UX	ISWMEA12150060
DRMMC8158720UX	15.875	10	14.3	–	222	12	8	DRMWC815870UX	ISWMEA12200060

(continued)

DRMMC - Left spiral flute · Internal Coolant 內冷模組化螺旋機械鉸刀

P	M	K	N	S	H
●	●	●	○	●	

- Internal coolant
- Left spiral flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For through hole
- Hole tolerance : H8



Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRMMC8159907UX	15.99	10	14.4	–	97	12	8	DRMWC815990UX	ISWMEA12075060
DRMMC8159910UX	15.99	10	14.4	–	122	12	8	DRMWC815990UX	ISWMEA12100060
DRMMC8159915UX	15.99	10	14.4	–	172	12	8	DRMWC815990UX	ISWMEA12150060
DRMMC8159920UX	15.99	10	14.4	–	222	12	8	DRMWC815990UX	ISWMEA12200060
DRMMC8160007UX	16	10	14.4	–	97	12	8	DRMWC816000UX	ISWMEA12075060
DRMMC8160010UX	16	10	14.4	–	122	12	8	DRMWC816000UX	ISWMEA12100060
DRMMC8160015UX	16	10	14.4	–	172	12	8	DRMWC816000UX	ISWMEA12150060
DRMMC8160020UX	16	10	14.4	–	222	12	8	DRMWC816000UX	ISWMEA12200060
DRMMC8160107UX	16.01	10	14.4	–	97	12	8	DRMWC816010UX	ISWMEA12075060
DRMMC8160110UX	16.01	10	14.4	–	122	12	8	DRMWC816010UX	ISWMEA12100060
DRMMC8160115UX	16.01	10	14.4	–	172	12	8	DRMWC816010UX	ISWMEA12150060
DRMMC8160120UX	16.01	10	14.4	–	222	12	8	DRMWC816010UX	ISWMEA12200060
DRMMC8169910UX	16.99	10	15.3	–	124	14	8	DRMWC816990UX	ISWMEA14100080
DRMMC8169915UX	16.99	10	15.3	–	174	14	8	DRMWC816990UX	ISWMEA14150080
DRMMC8169920UX	16.99	10	15.3	–	224	14	8	DRMWC816990UX	ISWMEA14200080
DRMMC8170010UX	17	10	15.3	–	124	14	8	DRMWC817000UX	ISWMEA14100080
DRMMC8170015UX	17	10	15.3	–	174	14	8	DRMWC817000UX	ISWMEA14150080
DRMMC8170020UX	17	10	15.3	–	224	14	8	DRMWC817000UX	ISWMEA14200080
DRMMC8170110UX	17.01	10	15.3	–	124	14	8	DRMWC817010UX	ISWMEA14100080
DRMMC8170115UX	17.01	10	15.3	–	174	14	8	DRMWC817010UX	ISWMEA14150080
DRMMC8170120UX	17.01	10	15.3	–	224	14	8	DRMWC817010UX	ISWMEA14200080
DRMMC8179910UX	17.99	10	16.2	–	124	15	8	DRMWC817990UX	ISWMEA15100080
DRMMC8179915UX	17.99	10	16.2	–	174	15	8	DRMWC817990UX	ISWMEA15150080
DRMMC8179920UX	17.99	10	16.2	–	224	15	8	DRMWC817990UX	ISWMEA15200080
DRMMC8180010UX	18	10	16.2	–	124	15	8	DRMWC818000UX	ISWMEA15100080
DRMMC8180015UX	18	10	16.2	–	174	15	8	DRMWC818000UX	ISWMEA15150080
DRMMC8180020UX	18	10	16.2	–	224	15	8	DRMWC818000UX	ISWMEA15200080
DRMMC8180110UX	18.01	10	16.2	–	124	15	8	DRMWC818010UX	ISWMEA15100080
DRMMC8180115UX	18.01	10	16.2	–	174	15	8	DRMWC818010UX	ISWMEA15150080
DRMMC8180120UX	18.01	10	16.2	–	224	15	8	DRMWC818010UX	ISWMEA15200080

(continued)

DRMMC - Left spiral flute · Internal Coolant 內冷模組化螺旋機械鉸刀

P	M	K	N	S	H
●	●	●	○	●	

- Internal coolant
- Left spiral flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For through hole
- Hole tolerance : H8

Fig. 1

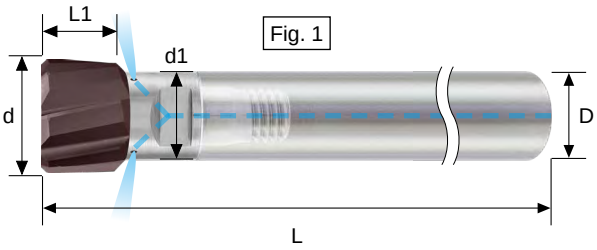
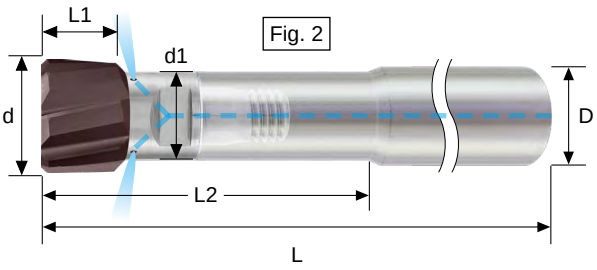


Fig. 2

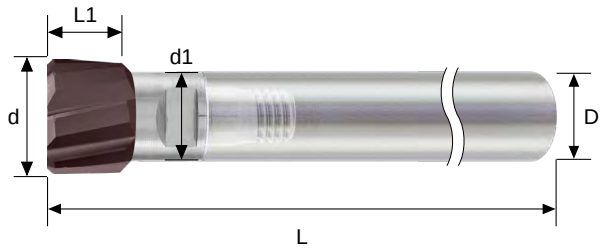


Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Fig.	Specifications	
									Reaming Head	Adapter
DRMMC8189910UX	18.99	10	17.1	–	127	16	8	1	DRMWC818990UX	ISWMEA16100080
DRMMC8189915UX	18.99	10	17.1	–	177	16	8	1	DRMWC818990UX	ISWMEA16150080
DRMMC8189920UX	18.99	10	17.1	–	227	16	8	1	DRMWC818990UX	ISWMEA16200080
DRMMC8189925UX	18.99	10	17.1	–	277	16	8	1	DRMWC818990UX	ISWMEA16250080
DRMMC8190010UX	19	10	17.1	–	127	16	8	1	DRMWC819000UX	ISWMEA16100080
DRMMC8190015UX	19	10	17.1	–	177	16	8	1	DRMWC819000UX	ISWMEA16150080
DRMMC8190020UX	19	10	17.1	–	227	16	8	1	DRMWC819000UX	ISWMEA16200080
DRMMC8190025UX	19	10	17.1	–	277	16	8	1	DRMWC819000UX	ISWMEA16250080
DRMMC8190110UX	19.01	10	17.1	–	127	16	8	1	DRMWC819010UX	ISWMEA16100080
DRMMC8190115UX	19.01	10	17.1	–	177	16	8	1	DRMWC819010UX	ISWMEA16150080
DRMMC8190120UX	19.01	10	17.1	–	227	16	8	1	DRMWC819010UX	ISWMEA16200080
DRMMC8190125UX	19.01	10	17.1	–	277	16	8	1	DRMWC819010UX	ISWMEA16250080
DRMMC8190510UX	19.05	10	17.1	–	127	16	8	1	DRMWC819050UX	ISWMEA16100080
DRMMC8190515UX	19.05	10	17.1	–	177	16	8	1	DRMWC819050UX	ISWMEA16150080
DRMMC8190520UX	19.05	10	17.1	–	227	16	8	1	DRMWC819050UX	ISWMEA16200080
DRMMC8190525UX	19.05	10	17.1	–	277	16	8	1	DRMWC819050UX	ISWMEA16250080
DRMMC8199915UX	19.99	12	18.0	77	177	17	8	2	DRMWC819990UX	ISWMEB20150102
DRMMC8199920UX	19.99	12	18.0	67	227	17	8	2	DRMWC819990UX	ISWMEB20150103
DRMMC8200015UX	20	12	18.0	77	177	17	8	2	DRMWC820000UX	ISWMEB20150102
DRMMC8200020UX	20	12	18.0	67	227	17	8	2	DRMWC820000UX	ISWMEB20150103
DRMMC8200115UX	20.01	12	18.0	77	177	17	8	2	DRMWC820010UX	ISWMEB20150102
DRMMC8200120UX	20.01	12	18.0	67	227	17	8	2	DRMWC820010UX	ISWMEB20150103

DRMMN - Left spiral flute · External Coolant 外冷模組化螺旋機械鉸刀

P	M	K	N	S	H
●		●			

- External coolant
- Left spiral flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For through hole
- Hole tolerance : H8



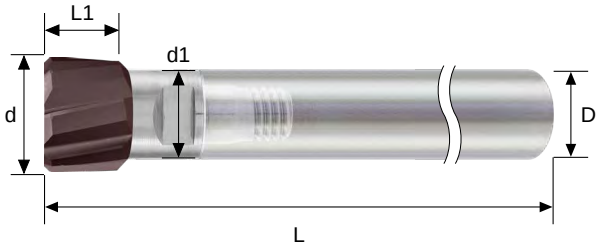
Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRMMN8129910UX	12.99	8	11.7	–	119	10	8	DRMWN812990UX	ISWMEA10100060
DRMMN8129915UX	12.99	8	11.7	–	169	10	8	DRMWN812990UX	ISWMEA10150060
DRMMN8130010UX	13	8	11.7	–	119	10	8	DRMWN813000UX	ISWMEA10100060
DRMMN8130015UX	13	8	11.7	–	169	10	8	DRMWN813000UX	ISWMEA10150060
DRMMN8130110UX	13.01	8	11.7	–	119	10	8	DRMWN813010UX	ISWMEA10100060
DRMMN8130115UX	13.01	8	11.7	–	169	10	8	DRMWN813010UX	ISWMEA10150060
DRMMN8139910UX	13.99	8	12.6	–	119	11	8	DRMWN813990UX	ISWMEA11100060
DRMMN8139915UX	13.99	8	12.6	–	169	11	8	DRMWN813990UX	ISWMEA11150060
DRMMN8140010UX	14	8	12.6	–	119	11	8	DRMWN814000UX	ISWMEA11100060
DRMMN8140015UX	14	8	12.6	–	169	11	8	DRMWN814000UX	ISWMEA11150060
DRMMN8140110UX	14.01	8	12.6	–	119	11	8	DRMWN814010UX	ISWMEA11100060
DRMMN8140115UX	14.01	8	12.6	–	169	11	8	DRMWN814010UX	ISWMEA11150060
DRMMN8149907UX	14.99	10	13.5	–	97	12	8	DRMWN814990UX	ISWMEA12075060
DRMMN8149910UX	14.99	10	13.5	–	122	12	8	DRMWN814990UX	ISWMEA12100060
DRMMN8149915UX	14.99	10	13.5	–	172	12	8	DRMWN814990UX	ISWMEA12150060
DRMMN8149920UX	14.99	10	13.5	–	222	12	8	DRMWN814990UX	ISWMEA12200060
DRMMN8150007UX	15	10	13.5	–	97	12	8	DRMWN815000UX	ISWMEA12075060
DRMMN8150010UX	15	10	13.5	–	122	12	8	DRMWN815000UX	ISWMEA12100060
DRMMN8150015UX	15	10	13.5	–	172	12	8	DRMWN815000UX	ISWMEA12150060
DRMMN8150020UX	15	10	13.5	–	222	12	8	DRMWN815000UX	ISWMEA12200060
DRMMN8150107UX	15.01	10	13.5	–	97	12	8	DRMWN815010UX	ISWMEA12075060
DRMMN8150110UX	15.01	10	13.5	–	122	12	8	DRMWN815010UX	ISWMEA12100060
DRMMN8150115UX	15.01	10	13.5	–	172	12	8	DRMWN815010UX	ISWMEA12150060
DRMMN8150120UX	15.01	10	13.5	–	222	12	8	DRMWN815010UX	ISWMEA12200060
DRMMN8158707UX	15.875	10	14.3	–	97	12	8	DRMWN815870UX	ISWMEA12075060
DRMMN8158710UX	15.875	10	14.3	–	122	12	8	DRMWN815870UX	ISWMEA12100060
DRMMN8158715UX	15.875	10	14.3	–	172	12	8	DRMWN815870UX	ISWMEA12150060
DRMMN8158720UX	15.875	10	14.3	–	222	12	8	DRMWN815870UX	ISWMEA12200060

(continued)

DRMMN - Left spiral flute · External Coolant 外冷模組化螺旋機械鉸刀

P	M	K	N	S	H
●		●			

- External coolant
- Left spiral flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For through hole
- Hole tolerance : H8



Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRMMN8159907UX	15.99	10	14.4	–	97	12	8	DRMWN815990UX	ISWMEA12075060
DRMMN8159910UX	15.99	10	14.4	–	122	12	8	DRMWN815990UX	ISWMEA12100060
DRMMN8159915UX	15.99	10	14.4	–	172	12	8	DRMWN815990UX	ISWMEA12150060
DRMMN8159920UX	15.99	10	14.4	–	222	12	8	DRMWN815990UX	ISWMEA12200060
DRMMN8160007UX	16	10	14.4	–	97	12	8	DRMWN816000UX	ISWMEA12075060
DRMMN8160010UX	16	10	14.4	–	122	12	8	DRMWN816000UX	ISWMEA12100060
DRMMN8160015UX	16	10	14.4	–	172	12	8	DRMWN816000UX	ISWMEA12150060
DRMMN8160020UX	16	10	14.4	–	222	12	8	DRMWN816000UX	ISWMEA12200060
DRMMN8160107UX	16.01	10	14.4	–	97	12	8	DRMWN816010UX	ISWMEA12075060
DRMMN8160110UX	16.01	10	14.4	–	122	12	8	DRMWN816010UX	ISWMEA12100060
DRMMN8160115UX	16.01	10	14.4	–	172	12	8	DRMWN816010UX	ISWMEA12150060
DRMMN8160120UX	16.01	10	14.4	–	222	12	8	DRMWN816010UX	ISWMEA12200060
DRMMN8169910UX	16.99	10	15.3	–	124	14	8	DRMWN816990UX	ISWMEA14100080
DRMMN8169915UX	16.99	10	15.3	–	174	14	8	DRMWN816990UX	ISWMEA14150080
DRMMN8169920UX	16.99	10	15.3	–	224	14	8	DRMWN816990UX	ISWMEA14200080
DRMMN8170010UX	17	10	15.3	–	124	14	8	DRMWN817000UX	ISWMEA14100080
DRMMN8170015UX	17	10	15.3	–	174	14	8	DRMWN817000UX	ISWMEA14150080
DRMMN8170020UX	17	10	15.3	–	224	14	8	DRMWN817000UX	ISWMEA14200080
DRMMN8170110UX	17.01	10	15.3	–	124	14	8	DRMWN817010UX	ISWMEA14100080
DRMMN8170115UX	17.01	10	15.3	–	174	14	8	DRMWN817010UX	ISWMEA14150080
DRMMN8170120UX	17.01	10	15.3	–	224	14	8	DRMWN817010UX	ISWMEA14200080
DRMMN8179910UX	17.99	10	16.2	–	124	15	8	DRMWN817990UX	ISWMEA15100080
DRMMN8179915UX	17.99	10	16.2	–	174	15	8	DRMWN817990UX	ISWMEA15150080
DRMMN8179920UX	17.99	10	16.2	–	224	15	8	DRMWN817990UX	ISWMEA15200080
DRMMN8180010UX	18	10	16.2	–	124	15	8	DRMWN818000UX	ISWMEA15100080
DRMMN8180015UX	18	10	16.2	–	174	15	8	DRMWN818000UX	ISWMEA15150080
DRMMN8180020UX	18	10	16.2	–	224	15	8	DRMWN818000UX	ISWMEA15200080
DRMMN8180110UX	18.01	10	16.2	–	124	15	8	DRMWN818010UX	ISWMEA15100080
DRMMN8180115UX	18.01	10	16.2	–	174	15	8	DRMWN818010UX	ISWMEA15150080
DRMMN8180120UX	18.01	10	16.2	–	224	15	8	DRMWN818010UX	ISWMEA15200080

(continued)

DRMMN - Left spiral flute · External Coolant 外冷模組化螺旋機械鉸刀

P	M	K	N	S	H
●		●			

- External coolant
- Left spiral flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For through hole
- Hole tolerance : H8

Fig. 1

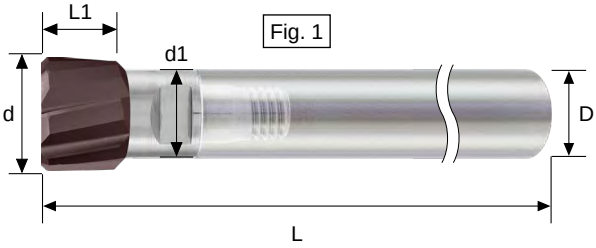
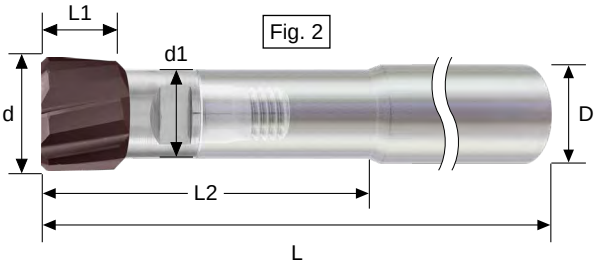


Fig. 2

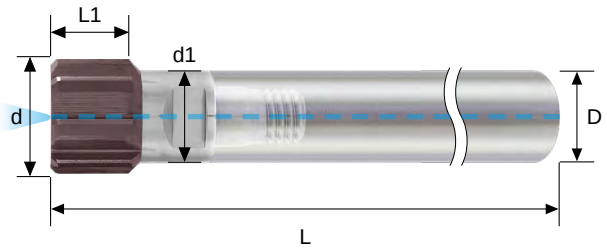


Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Fig.	Specifications	
									Reaming Head	Adapter
DRMMN8189910UX	18.99	10	17.1	–	127	16	8	1	DRMWN818990UX	ISWMEA16100080
DRMMN8189915UX	18.99	10	17.1	–	177	16	8	1	DRMWN818990UX	ISWMEA16150080
DRMMN8189920UX	18.99	10	17.1	–	227	16	8	1	DRMWN818990UX	ISWMEA16200080
DRMMN8189925UX	18.99	10	17.1	–	277	16	8	1	DRMWN818990UX	ISWMEA16250080
DRMMN8190010UX	19	10	17.1	–	127	16	8	1	DRMWN819000UX	ISWMEA16100080
DRMMN8190015UX	19	10	17.1	–	177	16	8	1	DRMWN819000UX	ISWMEA16150080
DRMMN8190020UX	19	10	17.1	–	227	16	8	1	DRMWN819000UX	ISWMEA16200080
DRMMN8190025UX	19	10	17.1	–	277	16	8	1	DRMWN819000UX	ISWMEA16250080
DRMMN8190110UX	19.01	10	17.1	–	127	16	8	1	DRMWN819010UX	ISWMEA16100080
DRMMN8190115UX	19.01	10	17.1	–	177	16	8	1	DRMWN819010UX	ISWMEA16150080
DRMMN8190120UX	19.01	10	17.1	–	227	16	8	1	DRMWN819010UX	ISWMEA16200080
DRMMN8190125UX	19.01	10	17.1	–	277	16	8	1	DRMWN819010UX	ISWMEA16250080
DRMMN8190510UX	19.05	10	17.1	–	127	16	8	1	DRMWN819050UX	ISWMEA16100080
DRMMN8190515UX	19.05	10	17.1	–	177	16	8	1	DRMWN819050UX	ISWMEA16150080
DRMMN8190520UX	19.05	10	17.1	–	227	16	8	1	DRMWN819050UX	ISWMEA16200080
DRMMN8190525UX	19.05	10	17.1	–	277	16	8	1	DRMWN819050UX	ISWMEA16250080
DRMMN8199915UX	19.99	12	18.0	77	177	17	8	2	DRMWN819990UX	ISWMEB20150102
DRMMN8199920UX	19.99	12	18.0	67	227	17	8	2	DRMWN819990UX	ISWMEB20150103
DRMMN8200015UX	20	12	18.0	77	177	17	8	2	DRMWN820000UX	ISWMEB20150102
DRMMN8200020UX	20	12	18.0	67	227	17	8	2	DRMWN820000UX	ISWMEB20150103
DRMMN8200115UX	20.01	12	18.0	77	177	17	8	2	DRMWN820010UX	ISWMEB20150102
DRMMN8200120UX	20.01	12	18.0	67	227	17	8	2	DRMWN820010UX	ISWMEB20150103

DRSMC - Straight flute · Internal Coolant 內冷模組化直刃鉸刀

P	M	K	N	S	H
●	●	●	○	●	

- Internal coolant
- Straight flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For blind hole / through hole
- Hole tolerance : H8



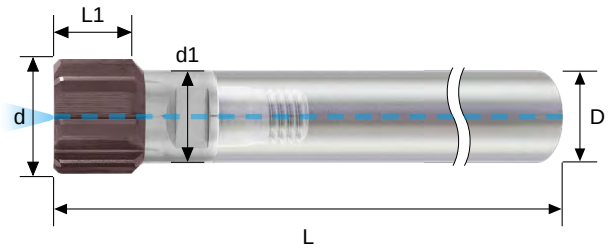
Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRSMC8129910UX	12.99	8	11.7	–	119	10	8	DRSWC812990UX	ISWMEA10100060
DRSMC8129915UX	12.99	8	11.7	–	169	10	8	DRSWC812990UX	ISWMEA10150060
DRSMC8130010UX	13	8	11.7	–	119	10	8	DRSWC813000UX	ISWMEA10100060
DRSMC8130015UX	13	8	11.7	–	169	10	8	DRSWC813000UX	ISWMEA10150060
DRSMC8130110UX	13.01	8	11.7	–	119	10	8	DRSWC813010UX	ISWMEA10100060
DRSMC8130115UX	13.01	8	11.7	–	169	10	8	DRSWC813010UX	ISWMEA10150060
DRSMC8139910UX	13.99	8	12.6	–	119	11	8	DRSWC813990UX	ISWMEA11100060
DRSMC8139915UX	13.99	8	12.6	–	169	11	8	DRSWC813990UX	ISWMEA11150060
DRSMC8140010UX	14	8	12.6	–	119	11	8	DRSWC814000UX	ISWMEA11100060
DRSMC8140015UX	14	8	12.6	–	169	11	8	DRSWC814000UX	ISWMEA11150060
DRSMC8140110UX	14.01	8	12.6	–	119	11	8	DRSWC814010UX	ISWMEA11100060
DRSMC8140115UX	14.01	8	12.6	–	169	11	8	DRSWC814010UX	ISWMEA11150060
DRSMC8149907UX	14.99	10	13.5	–	97	12	8	DRSWC814990UX	ISWMEA12075060
DRSMC8149910UX	14.99	10	13.5	–	122	12	8	DRSWC814990UX	ISWMEA12100060
DRSMC8149915UX	14.99	10	13.5	–	172	12	8	DRSWC814990UX	ISWMEA12150060
DRSMC8149920UX	14.99	10	13.5	–	222	12	8	DRSWC814990UX	ISWMEA12200060
DRSMC8150007UX	15	10	13.5	–	97	12	8	DRSWC815000UX	ISWMEA12075060
DRSMC8150010UX	15	10	13.5	–	122	12	8	DRSWC815000UX	ISWMEA12100060
DRSMC8150015UX	15	10	13.5	–	172	12	8	DRSWC815000UX	ISWMEA12150060
DRSMC8150020UX	15	10	13.5	–	222	12	8	DRSWC815000UX	ISWMEA12200060
DRSMC8150107UX	15.01	10	13.5	–	97	12	8	DRSWC815010UX	ISWMEA12075060
DRSMC8150110UX	15.01	10	13.5	–	122	12	8	DRSWC815010UX	ISWMEA12100060
DRSMC8150115UX	15.01	10	13.5	–	172	12	8	DRSWC815010UX	ISWMEA12150060
DRSMC8150120UX	15.01	10	13.5	–	222	12	8	DRSWC815010UX	ISWMEA12200060
DRSMC8158707UX	15.875	10	14.3	–	97	12	8	DRSWC815870UX	ISWMEA12075060
DRSMC8158710UX	15.875	10	14.3	–	122	12	8	DRSWC815870UX	ISWMEA12100060
DRSMC8158715UX	15.875	10	14.3	–	172	12	8	DRSWC815870UX	ISWMEA12150060
DRSMC8158720UX	15.875	10	14.3	–	222	12	8	DRSWC815870UX	ISWMEA12200060

(continued)

DRSMC - Straight flute · Internal Coolant 內冷模組化直刃鉸刀

P	M	K	N	S	H
●	●	●	○	●	

- Internal coolant
- Straight flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For blind hole / through hole
- Hole tolerance : H8



Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRSMC8159907UX	15.99	10	14.4	–	97	12	8	DRSWC815990UX	ISWMEA12075060
DRSMC8159910UX	15.99	10	14.4	–	122	12	8	DRSWC815990UX	ISWMEA12100060
DRSMC8159915UX	15.99	10	14.4	–	172	12	8	DRSWC815990UX	ISWMEA12150060
DRSMC8159920UX	15.99	10	14.4	–	222	12	8	DRSWC815990UX	ISWMEA12200060
DRSMC8160007UX	16	10	14.4	–	97	12	8	DRSWC816000UX	ISWMEA12075060
DRSMC8160010UX	16	10	14.4	–	122	12	8	DRSWC816000UX	ISWMEA12100060
DRSMC8160015UX	16	10	14.4	–	172	12	8	DRSWC816000UX	ISWMEA12150060
DRSMC8160020UX	16	10	14.4	–	222	12	8	DRSWC816000UX	ISWMEA12200060
DRSMC8160107UX	16.01	10	14.4	–	97	12	8	DRSWC816010UX	ISWMEA12075060
DRSMC8160110UX	16.01	10	14.4	–	122	12	8	DRSWC816010UX	ISWMEA12100060
DRSMC8160115UX	16.01	10	14.4	–	172	12	8	DRSWC816010UX	ISWMEA12150060
DRSMC8160120UX	16.01	10	14.4	–	222	12	8	DRSWC816010UX	ISWMEA12200060
DRSMC8169910UX	16.99	10	15.3	–	124	14	8	DRSWC816990UX	ISWMEA14100080
DRSMC8169915UX	16.99	10	15.3	–	174	14	8	DRSWC816990UX	ISWMEA14150080
DRSMC8169920UX	16.99	10	15.3	–	224	14	8	DRSWC816990UX	ISWMEA14200080
DRSMC8170010UX	17	10	15.3	–	124	14	8	DRSWC817000UX	ISWMEA14100080
DRSMC8170015UX	17	10	15.3	–	174	14	8	DRSWC817000UX	ISWMEA14150080
DRSMC8170020UX	17	10	15.3	–	224	14	8	DRSWC817000UX	ISWMEA14200080
DRSMC8170110UX	17.01	10	15.3	–	124	14	8	DRSWC817010UX	ISWMEA14100080
DRSMC8170115UX	17.01	10	15.3	–	174	14	8	DRSWC817010UX	ISWMEA14150080
DRSMC8170120UX	17.01	10	15.3	–	224	14	8	DRSWC817010UX	ISWMEA14200080
DRSMC8179910UX	17.99	10	16.2	–	124	15	8	DRSWC817990UX	ISWMEA15100080
DRSMC8179915UX	17.99	10	16.2	–	174	15	8	DRSWC817990UX	ISWMEA15150080
DRSMC8179920UX	17.99	10	16.2	–	224	15	8	DRSWC817990UX	ISWMEA15200080
DRSMC8180010UX	18	10	16.2	–	124	15	8	DRSWC818000UX	ISWMEA15100080
DRSMC8180015UX	18	10	16.2	–	174	15	8	DRSWC818000UX	ISWMEA15150080
DRSMC8180020UX	18	10	16.2	–	224	15	8	DRSWC818000UX	ISWMEA15200080
DRSMC8180110UX	18.01	10	16.2	–	124	15	8	DRSWC818010UX	ISWMEA15100080
DRSMC8180115UX	18.01	10	16.2	–	174	15	8	DRSWC818010UX	ISWMEA15150080
DRSMC8180120UX	18.01	10	16.2	–	224	15	8	DRSWC818010UX	ISWMEA15200080

(continued)

DRSMC - Straight flute · Internal Coolant 內冷模組化直刃鉸刀

P	M	K	N	S	H
●	●	●	○	●	

- Internal coolant
- Straight flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For blind hole / through hole
- Hole tolerance : H8

Fig. 1

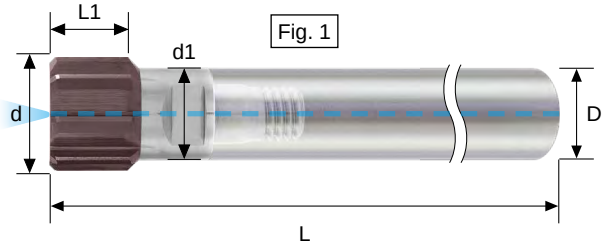
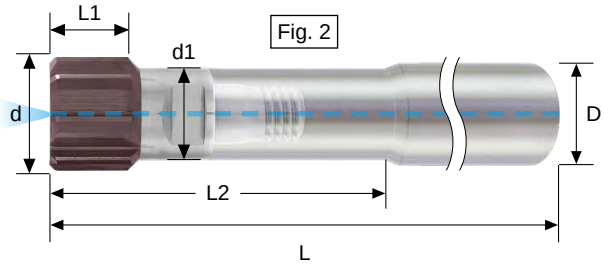


Fig. 2

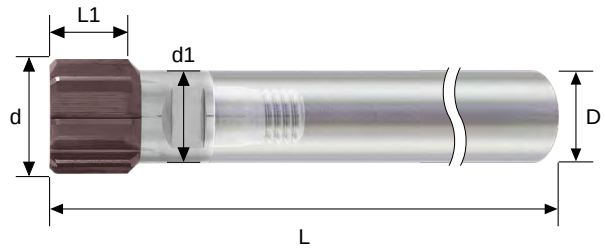


Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Fig.	Specifications	
									Reaming Head	Adapter
DRSMC8189910UX	18.99	10	17.1	–	127	16	8	1	DRSWC818990UX	ISWMEA16100080
DRSMC8189915UX	18.99	10	17.1	–	177	16	8	1	DRSWC818990UX	ISWMEA16150080
DRSMC8189920UX	18.99	10	17.1	–	227	16	8	1	DRSWC818990UX	ISWMEA16200080
DRSMC8189925UX	18.99	10	17.1	–	277	16	8	1	DRSWC818990UX	ISWMEA16250080
DRSMC8190010UX	19	10	17.1	–	127	16	8	1	DRSWC819000UX	ISWMEA16100080
DRSMC8190015UX	19	10	17.1	–	177	16	8	1	DRSWC819000UX	ISWMEA16150080
DRSMC8190020UX	19	10	17.1	–	227	16	8	1	DRSWC819000UX	ISWMEA16200080
DRSMC8190025UX	19	10	17.1	–	277	16	8	1	DRSWC819000UX	ISWMEA16250080
DRSMC8190110UX	19.01	10	17.1	–	127	16	8	1	DRSWC819010UX	ISWMEA16100080
DRSMC8190115UX	19.01	10	17.1	–	177	16	8	1	DRSWC819010UX	ISWMEA16150080
DRSMC8190120UX	19.01	10	17.1	–	227	16	8	1	DRSWC819010UX	ISWMEA16200080
DRSMC8190125UX	19.01	10	17.1	–	277	16	8	1	DRSWC819010UX	ISWMEA16250080
DRSMC8190510UX	19.05	10	17.1	–	127	16	8	1	DRSWC819050UX	ISWMEA16100080
DRSMC8190515UX	19.05	10	17.1	–	177	16	8	1	DRSWC819050UX	ISWMEA16150080
DRSMC8190520UX	19.05	10	17.1	–	227	16	8	1	DRSWC819050UX	ISWMEA16200080
DRSMC8190525UX	19.05	10	17.1	–	277	16	8	1	DRSWC819050UX	ISWMEA16250080
DRSMC8199915UX	19.99	12	18.0	77	177	17	8	2	DRSWC819990UX	ISWMEB20150102
DRSMC8199920UX	19.99	12	18.0	67	227	17	8	2	DRSWC819990UX	ISWMEB20150103
DRSMC8200015UX	20	12	18.0	77	177	17	8	2	DRSWC820000UX	ISWMEB20150102
DRSMC8200020UX	20	12	18.0	67	227	17	8	2	DRSWC820000UX	ISWMEB20150103
DRSMC8200115UX	20.01	12	18.0	77	177	17	8	2	DRSWC820010UX	ISWMEB20150102
DRSMC8200120UX	20.01	12	18.0	67	227	17	8	2	DRSWC820010UX	ISWMEB20150103

DRSMN - Straight flute · External Coolant 外冷模組化直刃鉸刀

P	M	K	N	S	H
●		●			

- External coolant
- Straight flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For blind hole / through hole
- Hole tolerance : H8



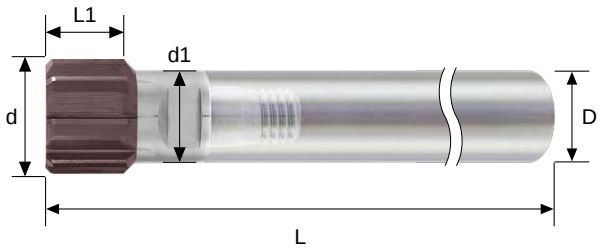
Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRSMN8129910UX	12.99	8	11.7	–	119	10	8	DRSWN812990UX	ISWMEA10100060
DRSMN8129915UX	12.99	8	11.7	–	169	10	8	DRSWN812990UX	ISWMEA10150060
DRSMN8130010UX	13	8	11.7	–	119	10	8	DRSWN813000UX	ISWMEA10100060
DRSMN8130015UX	13	8	11.7	–	169	10	8	DRSWN813000UX	ISWMEA10150060
DRSMN8130110UX	13.01	8	11.7	–	119	10	8	DRSWN813010UX	ISWMEA10100060
DRSMN8130115UX	13.01	8	11.7	–	169	10	8	DRSWN813010UX	ISWMEA10150060
DRSMN8139910UX	13.99	8	12.6	–	119	11	8	DRSWN813990UX	ISWMEA11100060
DRSMN8139915UX	13.99	8	12.6	–	169	11	8	DRSWN813990UX	ISWMEA11150060
DRSMN8140010UX	14	8	12.6	–	119	11	8	DRSWN814000UX	ISWMEA11100060
DRSMN8140015UX	14	8	12.6	–	169	11	8	DRSWN814000UX	ISWMEA11150060
DRSMN8140110UX	14.01	8	12.6	–	119	11	8	DRSWN814010UX	ISWMEA11100060
DRSMN8140115UX	14.01	8	12.6	–	169	11	8	DRSWN814010UX	ISWMEA11150060
DRSMN8149907UX	14.99	10	13.5	–	97	12	8	DRSWN814990UX	ISWMEA12075060
DRSMN8149910UX	14.99	10	13.5	–	122	12	8	DRSWN814990UX	ISWMEA12100060
DRSMN8149915UX	14.99	10	13.5	–	172	12	8	DRSWN814990UX	ISWMEA12150060
DRSMN8149920UX	14.99	10	13.5	–	222	12	8	DRSWN814990UX	ISWMEA12200060
DRSMN8150007UX	15	10	13.5	–	97	12	8	DRSWN815000UX	ISWMEA12075060
DRSMN8150010UX	15	10	13.5	–	122	12	8	DRSWN815000UX	ISWMEA12100060
DRSMN8150015UX	15	10	13.5	–	172	12	8	DRSWN815000UX	ISWMEA12150060
DRSMN8150020UX	15	10	13.5	–	222	12	8	DRSWN815000UX	ISWMEA12200060
DRSMN8150107UX	15.01	10	13.5	–	97	12	8	DRSWN815010UX	ISWMEA12075060
DRSMN8150110UX	15.01	10	13.5	–	122	12	8	DRSWN815010UX	ISWMEA12100060
DRSMN8150115UX	15.01	10	13.5	–	172	12	8	DRSWN815010UX	ISWMEA12150060
DRSMN8150120UX	15.01	10	13.5	–	222	12	8	DRSWN815010UX	ISWMEA12200060
DRSMN8158707UX	15.875	10	14.3	–	97	12	8	DRSWN815870UX	ISWMEA12075060
DRSMN8158710UX	15.875	10	14.3	–	122	12	8	DRSWN815870UX	ISWMEA12100060
DRSMN8158715UX	15.875	10	14.3	–	172	12	8	DRSWN815870UX	ISWMEA12150060
DRSMN8158720UX	15.875	10	14.3	–	222	12	8	DRSWN815870UX	ISWMEA12200060

(continued)

DRSMN - Straight flute · External Coolant 外冷模組化直刃鉸刀

P	M	K	N	S	H
●		●			

- External coolant
- Straight flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For blind hole / through hole
- Hole tolerance : H8



Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Specifications	
								Reaming Head	Adapter
DRSMN8159907UX	15.99	10	14.4	–	97	12	8	DRSWN815990UX	ISWMEA12075060
DRSMN8159910UX	15.99	10	14.4	–	122	12	8	DRSWN815990UX	ISWMEA12100060
DRSMN8159915UX	15.99	10	14.4	–	172	12	8	DRSWN815990UX	ISWMEA12150060
DRSMN8159920UX	15.99	10	14.4	–	222	12	8	DRSWN815990UX	ISWMEA12200060
DRSMN8160007UX	16	10	14.4	–	97	12	8	DRSWN816000UX	ISWMEA12075060
DRSMN8160010UX	16	10	14.4	–	122	12	8	DRSWN816000UX	ISWMEA12100060
DRSMN8160015UX	16	10	14.4	–	172	12	8	DRSWN816000UX	ISWMEA12150060
DRSMN8160020UX	16	10	14.4	–	222	12	8	DRSWN816000UX	ISWMEA12200060
DRSMN8160107UX	16.01	10	14.4	–	97	12	8	DRSWN816010UX	ISWMEA12075060
DRSMN8160110UX	16.01	10	14.4	–	122	12	8	DRSWN816010UX	ISWMEA12100060
DRSMN8160115UX	16.01	10	14.4	–	172	12	8	DRSWN816010UX	ISWMEA12150060
DRSMN8160120UX	16.01	10	14.4	–	222	12	8	DRSWN816010UX	ISWMEA12200060
DRSMN8169910UX	16.99	10	15.3	–	124	14	8	DRSWN816990UX	ISWMEA14100080
DRSMN8169915UX	16.99	10	15.3	–	174	14	8	DRSWN816990UX	ISWMEA14150080
DRSMN8169920UX	16.99	10	15.3	–	224	14	8	DRSWN816990UX	ISWMEA14200080
DRSMN8170010UX	17	10	15.3	–	124	14	8	DRSWN817000UX	ISWMEA14100080
DRSMN8170015UX	17	10	15.3	–	174	14	8	DRSWN817000UX	ISWMEA14150080
DRSMN8170020UX	17	10	15.3	–	224	14	8	DRSWN817000UX	ISWMEA14200080
DRSMN8170110UX	17.01	10	15.3	–	124	14	8	DRSWN817010UX	ISWMEA14100080
DRSMN8170115UX	17.01	10	15.3	–	174	14	8	DRSWN817010UX	ISWMEA14150080
DRSMN8170120UX	17.01	10	15.3	–	224	14	8	DRSWN817010UX	ISWMEA14200080
DRSMN8179910UX	17.99	10	16.2	–	124	15	8	DRSWN817990UX	ISWMEA15100080
DRSMN8179915UX	17.99	10	16.2	–	174	15	8	DRSWN817990UX	ISWMEA15150080
DRSMN8179920UX	17.99	10	16.2	–	224	15	8	DRSWN817990UX	ISWMEA15200080
DRSMN8180010UX	18	10	16.2	–	124	15	8	DRSWN818000UX	ISWMEA15100080
DRSMN8180015UX	18	10	16.2	–	174	15	8	DRSWN818000UX	ISWMEA15150080
DRSMN8180020UX	18	10	16.2	–	224	15	8	DRSWN818000UX	ISWMEA15200080
DRSMN8180110UX	18.01	10	16.2	–	124	15	8	DRSWN818010UX	ISWMEA15100080
DRSMN8180115UX	18.01	10	16.2	–	174	15	8	DRSWN818010UX	ISWMEA15150080
DRSMN8180120UX	18.01	10	16.2	–	224	15	8	DRSWN818010UX	ISWMEA15200080

(continued)

DRSMN - Straight flute · External Coolant 外冷模組化直刃鉸刀

P	M	K	N	S	H
●		●			

- External coolant
- Straight flute
- Right hand cutting
- UNIX coating
- d tolerance : H7
- For blind hole / through hole
- Hole tolerance : H8

Fig. 1

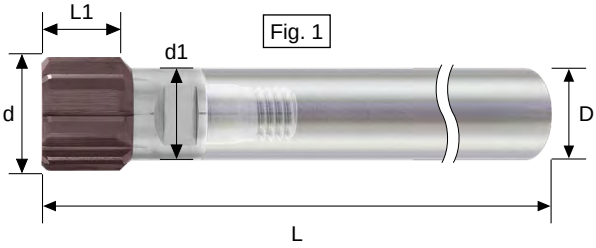
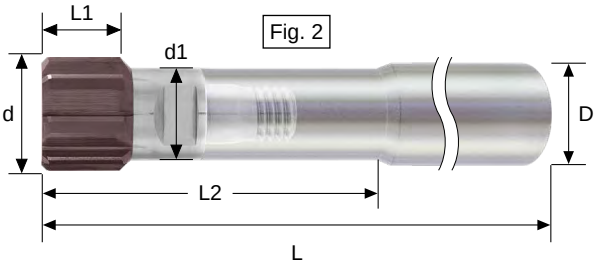


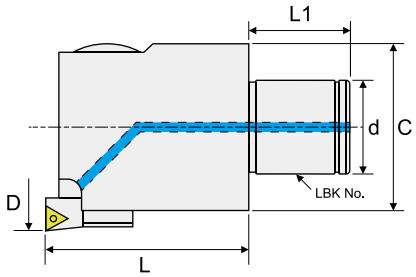
Fig. 2



Order No.	Dia. (d)	CL (L1)	Neck Dia. (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Fig.	Specifications	
									Reaming Head	Adapter
DRSMN8189910UX	18.99	10	17.1	–	127	16	8	1	DRSWN818990UX	ISWMEA16100080
DRSMN8189915UX	18.99	10	17.1	–	177	16	8	1	DRSWN818990UX	ISWMEA16150080
DRSMN8189920UX	18.99	10	17.1	–	227	16	8	1	DRSWN818990UX	ISWMEA16200080
DRSMN8189925UX	18.99	10	17.1	–	277	16	8	1	DRSWN818990UX	ISWMEA16250080
DRSMN8190010UX	19	10	17.1	–	127	16	8	1	DRSWN819000UX	ISWMEA16100080
DRSMN8190015UX	19	10	17.1	–	177	16	8	1	DRSWN819000UX	ISWMEA16150080
DRSMN8190020UX	19	10	17.1	–	227	16	8	1	DRSWN819000UX	ISWMEA16200080
DRSMN8190025UX	19	10	17.1	–	277	16	8	1	DRSWN819000UX	ISWMEA16250080
DRSMN8190110UX	19.01	10	17.1	–	127	16	8	1	DRSWN819010UX	ISWMEA16100080
DRSMN8190115UX	19.01	10	17.1	–	177	16	8	1	DRSWN819010UX	ISWMEA16150080
DRSMN8190120UX	19.01	10	17.1	–	227	16	8	1	DRSWN819010UX	ISWMEA16200080
DRSMN8190125UX	19.01	10	17.1	–	277	16	8	1	DRSWN819010UX	ISWMEA16250080
DRSMN8190510UX	19.05	10	17.1	–	127	16	8	1	DRSWN819050UX	ISWMEA16100080
DRSMN8190515UX	19.05	10	17.1	–	177	16	8	1	DRSWN819050UX	ISWMEA16150080
DRSMN8190520UX	19.05	10	17.1	–	227	16	8	1	DRSWN819050UX	ISWMEA16200080
DRSMN8190525UX	19.05	10	17.1	–	277	16	8	1	DRSWN819050UX	ISWMEA16250080
DRSMN8199915UX	19.99	12	18.0	77	177	17	8	2	DRSWN819990UX	ISWMEB20150102
DRSMN8199920UX	19.99	12	18.0	67	227	17	8	2	DRSWN819990UX	ISWMEB20150103
DRSMN8200015UX	20	12	18.0	77	177	17	8	2	DRSWN820000UX	ISWMEB20150102
DRSMN8200020UX	20	12	18.0	67	227	17	8	2	DRSWN820000UX	ISWMEB20150103
DRSMN8200115UX	20.01	12	18.0	77	177	17	8	2	DRSWN820010UX	ISWMEB20150102
DRSMN8200120UX	20.01	12	18.0	67	227	17	8	2	DRSWN820010UX	ISWMEB20150103

DBP Finsih Boring Head · Internal Coolant 捨棄式單刃精搪刀

- Finish boring head is suitable for finish boring
- Coolant nozzle easily cools the insert, elongating its working life.
- Boring diameter from 20mm to 202mm.

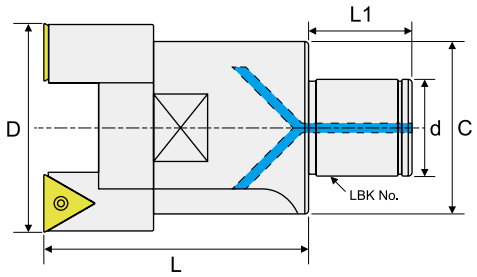


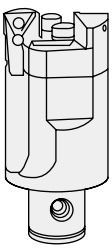
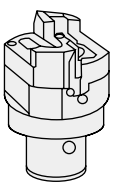
Order No.	LBK No.	D (Boring Range)	C	d	L1	L	Insert
IDBCBH20TC09	LBK1	20~26	19	11	13	35	TC..0902
IDBCBH25TC09	LBK2	25~33	24	14	16	40	
IDBCBH32TC09	LBK3	32~42	31	18	20	40	
IDBCBH40TC09	LBK4	40~55	39	22	24	50	
IDBCBH52TC11	LBK5	52~75	50	28	30	60	TC..1102
IDBCBH68TC11	LBK6	68~102	64	36	40	70	
IDBCBH100TC11	LBK6	100~152	90	36	40	70	
IDBCBH150TC11	LBK6	150~202	140	36	40	70	
IDBCBH100ATC11	LBK7	100~152	90	58	50	70	
IDBCBH150ATC11	LBK7	150~202	140	58	50	70	

※ For inserts, please refer to turning inserts 搭配刀片，請參考車刀片

DBR Rough Boring Head · Internal Coolant 捨棄式雙刃粗搪刀

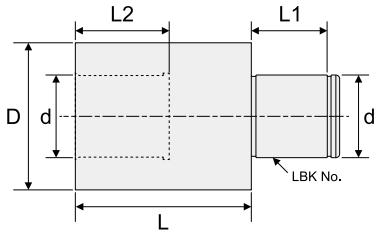
- Thickened cartridge with higher rigidity.
- Coolant nozzle easily cools the insert, elongating its working life.
- The design of chip pocket, improving chip flow of deep boring.
- Clamp plate solidifies cartridges and head, upgrading cutting rigidity.
- Patented step boring design; suitable for both level boring and step boring.



	Order No.	LBK No.	D (Boring Range)	C	d	L1	L	Insert
	IDBRBH25LACC06	LBK2	25~35	24	14	16	50	CC..06
	IDBRBH32LACC06	LBK3	32~45	31	18	20	60	CC..06
	IDBRBH32LATC11	LBK3	32~45	31	18	20	60	TC..11
	IDBRBH40LACC09	LBK4	40~55	39	22	24	74	CC..09
	IDBRBH40LATC16	LBK4	40~55	39	22	24	74	TC..16
	IDBRBH40LASC09	LBK4	40~55	39	22	24	74	SC..09
	IDBRBH52LACC09	LBK5	52~75	50	28	30	80	CC..09
	IDBRBH52LATC16	LBK5	52~75	50	28	30	80	TC..16
	IDBRBH52LASC09	LBK5	52~75	50	28	30	80	SC..09
	IDBRBH68LACC12	LBK6	68~100	66	36	40	90	CC..12
	IDBRBH68LATC16	LBK6	68~100	66	36	40	90	TC..16
	IDBRBH90LACC12	LBK6	90~130	88	36	40	100	CC..12
	IDBRBH90LATC16	LBK6	90~130	88	36	40	100	TC..16
	IDBRBH90ALACC12	LBK7	90~130	88	58	50	100	CC..12
	IDBRBH90ALATC16	LBK7	90~130	88	58	50	100	TC..16
	IDBRBH120ALACC12	LBK7	120~164	100	58	50	95	CC..12
	IDBRBH160ALACC12	LBK7	160~204	130	58	50	95	CC..12

※ For inserts, please refer to turning inserts 搭配刀片，請參考車刀片

DBE Constant Diameter Extension 等徑搪刀延長桿



Order No.	LBK No.	d	D	L	L1	L2	Applicable Boring Heads
IDBELBK1130L	LBK1	11	19	30	13	15	IDBCBH20
IDBELBK2230L	LBK2	18	24	30	16	18	IDBCBH25; IDBRBH25
IDBELBK3330L	LBK3	22	31	30	20	22	IDBCBH32; IDBRBH32
IDBELBK4445L	LBK4	28	39	45	24	32	IDBCBH40; IDBRBH40
IDBELBK5560L	LBK5	36	50	60	30	42	IDBCBH52; IDBRBH52
IDBELBK6660L	LBK6	58	64	60	40	52	IDBCBH68; IDBCBH100; IDBCBH150; IDBRBH68; IDBRBH90
IDBELBK77105L	LBK7	14	88	105	50	26	IDBCBH100; IDBCBH150; IDBRBH90; IDBRBH120; IDBRBH160

Recommended Cutting Conditions 建議切削數據

Work Material		Hardness	Vc (m/min)	fr (mm/rev)
P	Mild Steel	(<180HB)	90~200	0.04~0.14
	Cabon Steel	(180~280HB)	60~180	0.04~0.15
	Alloy Steel	(280~350HB)	50~150	0.04~0.15
M	Stainless Steel	(<200HB)	60~230	0.07~0.12
K	Cast Iron	(<350Mpa)	120~230	0.04~0.13
	Ductile Cast Iron	(<450Mpa)	120~230	0.04~0.13
N	Aluminum <12% Si	-	120~700	0.04~0.25
	Aluminum >12% Si	-	120~700	0.04~0.25
S	Heat Resistant Alloy	-	20~80	0.04~0.05
H	Hardened Material	-	20~70	0.04~0.05

DBBT Boring Taper Shank for DBP, DB Heads 捨棄式搪刀刀柄

Fig. 1

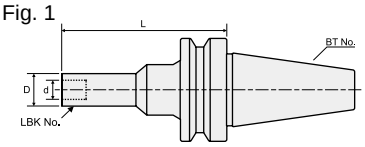
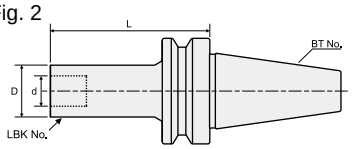


Fig. 2



Order No.	Fig	LBK No.	L	D	d	Applicable Boring Heads
IDBBT30LBK1070L		LBK1	70	19	11	IDBCBH20
IDBBT30LBK2080L		LBK2	80	24	14	IDBCBH25; IDBRBH25
IDBBT30LBK3080L		LBK3	80	31	18	IDBCBH32; IDBRBH32
IDBBT30LBK4070L		LBK4	70	39	22	IDBCBH40; IDBRBH40
IDBBT30LBK5060L		LBK5	60	50	28	IDBCBH52; IDBRBH52
IDBBT30LBK6060L		LBK6	60	64	36	IDBCBH68; IDBRBH68; IDBRBH90
IDBBT40LBK1075L		LBK1	75	19	11	IDBCHB20
IDBBT40LBK1090L		LBK1	90			
IDBBT40LBK1105L		LBK1	105			
IDBBT40LBK2085L		LBK2	85	24	14	IDBCBH25; IDBRBH25
IDBBT40LBK2100L		LBK2	100			
IDBBT40LBK2115L		LBK2	115			
IDBBT40LBK3095L	2	LBK3	95	31	18	IDBCBH32; IDBRBH32
IDBBT40LBK3125L		LBK3	125			
IDBBT40LBK3155L		LBK3	155			
IDBBT40LBK4085L		LBK4	85	39	22	IDBCBH40; IDBRBH40
IDBBT40LBK4130L		LBK4	130			
IDBBT40LBK4175L		LBK4	175			
IDBBT40LBK5075L		LBK5	75	50	28	IDBCBH52; IDBRBH52
IDBBT40LBK5125L		LBK5	125			
IDBBT40LBK5175L		LBK5	175			
IDBBT40LBK6065L		LBK6	65	64	36	IDBCBH68; IDBCBH100; IDBCBH150; IDBRBH68; IDBRBH90
IDBBT40LBK6115L		LBK6	115			
IDBBT40LBK6165L		LBK6	165			
IDBBT40LBK7100L		LBK7	100	88	58	IDBCBH100; IDBCBH150; IDBRBH90; IDBRBH120; IDBRBH160
IDBBT50LBK1115L	1	LBK1	115	Ø31(L30) / Ø19	11	IDBCBH20
IDBBT50LBK1145L		LBK1	145			
IDBBT50LBK2125L		LBK2	125	Ø39(L15) / Ø24	14	IDBCBH25; RBH25
IDBBT50LBK2155L		LBK2	155			
IDBBT50LBK3125L	2	LBK3	125	31	18	IDBCBH32; RBH32
IDBBT50LBK3155L		LBK3	155			
IDBBT50LBK4115L		LBK4	115	39	22	IDBCBH40; RBH40
IDBBT50LBK4145L		LBK4	145			
IDBBT50LBK4175L		LBK4	175			
IDBBT50LBK4215L	1	LBK4	215	Ø50(L10) / Ø39		
IDBBT50LBK5105L	2	LBK5	105	50	28	IDBCBH52; RBH52
IDBBT50LBK5180L		LBK5	180			
IDBBT50LBK5240L		LBK5	240			
IDBBT50LBK5300L	1	LBK5	300	Ø64(L60) / Ø50		
IDBBT50LBK6095L	2	LBK6	95	64	36	IDBCBH68; IDBCBH100; IDBCBH150; IDBRBH68; IDBRBH90
IDBBT50LBK6170L		LBK6	170			
IDBBT50LBK6230L		LBK6	230			
IDBBT50LBK6290L		LBK6	290			
IDBBT50LBK6350L	1	LBK6	350	Ø90(L120) / Ø64		
IDBBT50LBK7100L	2	LBK7	100	88	58	IDBCBH100; IDBCBH150; IDBRBH90; IDBRBH120; IDBRBH160
IDBBT50LBK7150L		LBK7	150			
IDBBT50LBK7200L		LBK7	200			
IDBBT50LBK7250L		LBK7	250			
IDBBT50LBK7300L		LBK7	300			
IDBBT50LBK7350L		LBK7	350			
IDBBT50LBK7400L		LBK7	400			
IDBBT50LBK7450L		LBK7	450			
IDBBT50LBK7500L		LBK7	500			
IDBBT50LBK7550L		LBK7	550			

Drilling Troubleshooting 鑽孔加工異常原因及對策

Trouble 情況	Occurrences 原因	Countermeasures 對策
Deformation of hole 鑽孔成橢圓	Becoming thread scratch in the hole 形成螺紋刮痕	1.Check for suitable guide-bush 使用適合之鑽套 2.Reduce relief angle 減少間隙角度 3.Check for proper point angle & length of lips 檢查鑽頭尖端角度及兩邊長度是否對稱
	Generation of chattering & vibration 產生顫動、振動	1.Reduce relief angle 減少間隙角度 2.Grind web thinning 腹板削薄 3.Shortening length of drill 縮短鑽頭長度，增加剛性 4.Check for proper drill 檢查鑽頭角度研磨是否正確 5.Check for chuck & collet & socket 檢查夾具與鑽頭接觸情形 6.Pre-centering 預先鑽好中心孔 7.Inspect rigidity of the drill machine 提高工作機械的剛性
	Poor chip evacuation 切屑排出不易	1.Increase feed 加大每週進給量 2.Check for proper helix angle 選擇正確螺旋角 3.Check for proper chip space 加大槽寬比 4.Using step feed 採用間歇式進給
Deflection of hole 鑽孔傾斜	Drill won't enter work 剛切入時不良	1.Check for suitable guide-bush 使用適合之鑽套 2.Reduce feed 減少切入時之每週進給量 3.Pre-centering 預先鑽好中心孔
	Insufficient rigidity of drill 鑽頭剛性不良	Shortening length of drill 縮短鑽頭長度，增加剛性
	Unsuitable angle 鑽頭角度不對	Regrinding 再研磨
Excessive wear of cutting edge 外角磨損	Cutting speed too high 切削速度太快	1.Reduce cutting speed 降低切削速度 2.Check lip relief 加大間隙角 3.Increase coolant flow 充分供給切削液 4.Check for proper material 提高鑽頭之材質

Drilling Troubleshooting 鑽孔加工異常原因及對策

Trouble 情況	Occurrences 原因	Countermeasures 對策
Poor surface conditions of work piece 孔壁粗糙	Excessive wear of cutting edge 刀刃磨損太大	Regrinding 再研磨
	Too much feed 進刀速度太大	Decrease feed 降低進刀速度
	Chips clog in hole 切削阻塞	Add number of exit 增加退刀次數
	The others 其他	1.Thin web 腹板削薄 2.Check for proper guide-bush 使用適合導套 3.Use the highly rigid spindle 採用高剛性主軸
Breakage 切削中鑽頭折斷	Feed too heavy 進給量太大	Decrease feed rate 減少每週進給量
	Chips clog in hole 切削阻塞	1.Check for proper chip space 加大槽寬比 2.Check for proper helix angle 選擇適當之螺旋角度
	Insufficient rigidity of drill 鑽頭剛性不足	1.Reduce feed 減少每週進告量 2.Shortening length of drill 縮短鑽頭長度，增加剛性 3.Increasing web thickness 腹板厚度加大
	Unstable in throughout hole drilling 貫穿時安定性不夠 (工件不完全被夾住)	1.Reduce feed while throughout drilling 降低貫穿時的每週進給量 2.Check set up rigidity 工作保持固定 3.Use the highly rigid spindle 採用高剛性主軸
Chipping 切唇崩刃	Feed speed too high 進給速度太快	Decrease feed rate 減少每週進給量
	Tool high lip relief angle 切刃強度不足 (過度的間隙角度)	1.Reduce lip relief angle 減少間隙角度 2.Reduce feed in drilling 降低貫空時的每週進給量 3.Check set up rigidity 工作保持固定
	During oversize operation 使用在擴孔作業時	1.Properly grind point angle 加大尖端角度 2.Reduce cutting speed 降低切削速度
Hole oversize 孔徑擴大	Point angle is not properly, large chip of one flute; small chip of other flute 尖端角度未對稱或刃大小不一	1.Regrinding 再研磨 2.Thin web 腹板削薄 3.Properly grind point angle 減少尖端角度 4.Guide-bush 使用鑽套

Reamering Troubleshooting 鉸孔加工異常原因及對策

Trouble 情況	Occurrences 原因	Countermeasures 對策
Hole size gets larger 孔太大	Run out at machine spindle, sleeve and reamer. 筒夾與刀具偏擺過大	Check for any run out of reamer diameter and biting section. 縮小筒夾與刀具偏擺
	Cutting speed or feed rate too high. 切削速度或進刀率太高	Reduce cutting speed or feed rate. 降低切削速度或進刀率
	Bevel lead angle too big. 刀具前端夾角太大	Reduce bevel lead angle. 減少刀具前端夾角
Hole size gets smaller 孔太小	The outer diameter of the reamer is seriously worn. 鉸刀磨損以致外徑變小	Use a new reamer 更換新鉸刀
	Cutting speed or feed rate too low. 切削速度或進刀率太慢	Increase cutting speed or feed rate. 提高切削速度或進刀率
	Heat expansion ratio of workpiece is too high. 鉸孔時溫度過高 , 導致孔彭脹後又收縮	Use cutting oil to reduce heat expansion. 使用冷卻液降低鉸孔時的溫度
Surface roughness of a hole is not sufficient 孔表面光潔度不佳	Cutting edge is worn 鉸刀變鈍	Use a new reamer 更換新鉸刀
	Cutting condition too high. 切削速度太快	Reduce cutting condition. 降低切削速度
	Stock amount is too large. 預鑽孔直徑太大	Reduce stock amount. 調整適合的預鑽孔直徑

Cutting stock amount 加工預留量

Working diameter 加工孔徑	Stock amount 預留量 (mm)
Ø < 6	0.1 ~ 0.2
6 ≤ Ø ≤ 16	0.2 ~ 0.3
Ø > 16	0.3 ~ 0.4

WINSTAR

Turning

車削刀具

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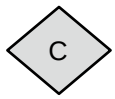
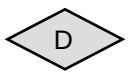
Carbide Turning Inserts 鎢鋼車刀片

Insert Shape	Insert Type	Inserts	Chipbreaker	Page
 80°	Negative	CN☐☐ 120404 120408 120412	FP, SM, SP, MP, MK, RP, RK, RK1, RK2, Flat	D027
	Positive	CC☐☐ 060202 060204 09T304 09T308 120404 120408	FA, FB, MP, MK	D033
		CP☐☐ 05T104	SG	D034
 55°	Negative	DN☐☐ 110401 110402 110408 150404 150408 150604 150608	FP, SP, MP, RK	D028
	Positive	DC☐☐ 070201 070202 070204 11T301 11T302 11T304 11T308	FX, FY, FA, FB, MP, MK, Flat	D035
	Positive	RC☐☐ 1204	FB	D036
90°	Negative	SN☐☐ 120404 120408 120412	SM, MP, RK, Flat	D029
	Positive	SC☐☐ 09T304 09T308	FA, FB, SP, MP, MK	D037
60°	Negative	TN☐☐ 160404 160408 160412 220408	FP, SM, SP, ME, MP, RK, RK1, Flat	D030
	Positive	TB☐☐ 060101 060102 060104	FY	D038
		TC☐☐ 090204 110204 16T304 16T308	FA, FB, SP, MP, MK	D039
		TP☐☐ 160304	MP	D040

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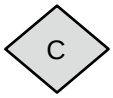
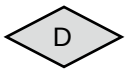
Carbide Turning Inserts 鎢鋼車刀片

Insert Shape	Insert Type	Inserts	Chipbreaker	Page
 V 35°	Negative	VN☐☐ 12T304 160404 160408	FP, MP, RK	D031
	Positive	VB☐☐ 110301 110302 110304 160404 160408	FX, FY, MK, Flat	D041
		VC☐☐ 110301 110302 110304 160402 160404 160408	FX, FY, FA, FB, SP, Flat	D042
 W 80°	Negative	WN☐☐ 080404 080408 080412	FP, SP, MP, RK, RK2, Flat	D032

CBN Turning Inserts 立方氮化硼車刀片

Insert Shape	Insert Type	Inserts	Edge Specification	Page
 C 80°	Positive	CC☐☐ 060202 09T302 09T304 09T308	SM, MM	D047
	Negative	CN☐☐ 120404 120408 120412	SM, MM, RM	D048
 D 55°	Positive	DC☐☐ 070202 070204 11T302 11T304 11T308	SM, MM	D047
	Negative	DN☐☐ 150404 150408 150412	SM, MM, RM	D048

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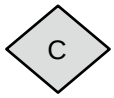
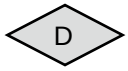
CBN Turning Inserts 立方氮化硼車刀片

Insert Shape	Insert Type	Inserts	Edge Specification	Page
60°	Positive	TP□□ 090202 090204 110304 110308	SM	D047
	Negative	TN□□ 160404 160408 160412	SM, MM, RM	D048
35°	Positive	VB□□ 110304 110308 160404 160408	SM	D047
	Negative	VN□□ 160404 160408	SM	D048
80°	Negative	WN□□ 080408	SM, MM, RM	D048

PCD Turning Inserts 聚晶鑽石車刀片

Insert Shape	Insert Type	Inserts	Edge Specification	Page
 80°	Positive	CC□□ 060201 060202 060204 09T301 09T302 09T304 09T308	Standard	D049
 55°	Positive	DC□□ 070201 070202 070204 11T301 11T302 11T304 11T308	Standard	D049
35°	Positive	VC□□ 110301 110302 110304 160404 160408	Standard	D049

External Turning Holders 外徑車刀桿

Insert Shape	Insert Type	Holders				
C 80°	Negative	**MCBN** 75° ►D052	MCKN 75° ►D052	MCLN 95° ►D052	MCNN 50° ►D053	
	Positive	**SCBC** 75° ►D053	SCKC 75° ►D053	SCLC 95° ►D054	SCL2C 95° ►D054	SCNC 50° ►D055
D 55°	Negative	**MDJN** 93° ►D055				
	Positive	**SDJC** 93° ►D056	SDJ2C 93° ►D056	SDNC 62.5° ►D057	SDQC 107.5° ►D057	SDFC 91° ►D057
S 90°	Negative	**MSDN** 45° ►D058	MSSN 45° ►D058			
	Positive	**SSAC** 90° ►D058	SSBC 75° ►D059	SSDC 45° ►D059	SSEC 60° ►D059	SSXC 85° ►D060
T 60°	Negative	**MTQN** 105° ►D060	MTJN 93° ►D060	MTEN 60° ►D061	DTFN 91° ►D061	MTFN 91° ►D061
	Positive	**STAC** 90° ►D062	STFC 90° ►D062	STGC 90° ►D062	CTYC 85° ►D063	
V 35°	Negative	**MVJN** 93° ►D063	MVQN 117.5° ►D063	MVVN 72.5° ►D064		
	Positive	**SVJB** 93° ►D064	SVJ2B 93° ►D064	SVQB 117.5° ►D065	SVVB 72.5° ►D065	
W 80°	Negative	WWLN 95° ►D066	MWLN 95° ►D066	MWLN-L 95° ►D066		

Internal Turning Holders 內徑車刀桿

Insert Shape	Insert Type	Holders				
C 80°	Negative	**MCKN** 75° ►D067	MCLN 95° ►D067	DCLN 95° ►D068		
	Positive	**SCKC** 75° ►D068	SCLC 95° ►D069			
D 55°	Negative	**MDUN** 93° ►D071				
	Positive	**SDJC** 95° ►D071	SDNC 62.5° ►D072	SDZC 93° ►D072	SDQC 107.5° ►D73	SDUC 93° ►D074
S 90°	Negative	**MSKN** 75° ►D075				
T 60°	Negative	**MTUN** 93° ►D075	WTUN 93° ►D076	DTUN 93° ►D076	MTWN 60° ►D077	
	Positive	**STUC** 93° ►D077	STWC 60° ►D078	STUP 93° ►D078		
V 35°	Negative	**MVUN** 93° ►D079				
	Positive	**SVJB** 95° ►D079	SVQB 117.5° ►D080	SVUB 93° ►D080	SVJC 95° ►D081	SVVB 72.5° ►D081
W 80°	Negative	MWLN 95° ►D082	DWLN 95° ►D082			

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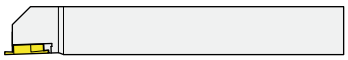
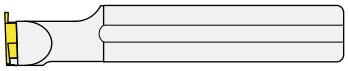
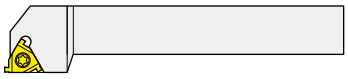
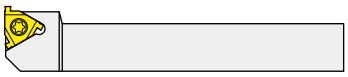
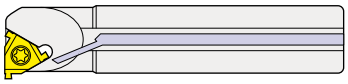
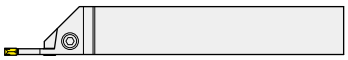
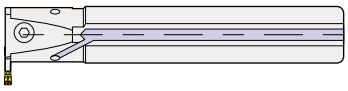
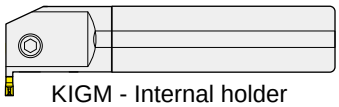
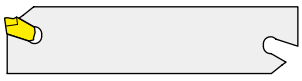
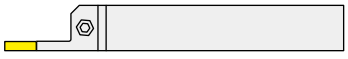
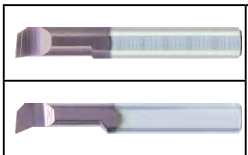
Grooving & Parting Tools 切槽及切斷刀具

Product Series	Cutting Depth	Holders	Inserts	Page
TGF	< 2.5mm	 KTGF - External holder	TGF32R TGF32L	D083
		KTGF - External holder		D083
		 KTGF - Internal holder		D084
TGL	< 2.5mm	 SE - External holder	TGL16ER TGL16EL	D087
		 SKE - External holder		D088
		 SN - Internal holder	TGL11IR TGL11IL TGL16IR TGL16IL	D089
MGEH	< 20mm	 MGEH - External holder	MGMN200 MRMN200 MGMN300 MRMG300 MGMN400 MRMN400	D092
	< 15mm	 MGIV - Internal holder		D093
KGM	< 20mm	KGM - External holder	GMM2020 GMM2520 GMM3020	D095
	< 9mm	 KIGM - Internal holder	GMM3020	D096
SGIH	< 40mm	 SGIH - External holder	TGTN0220 TGTN0310 TGTN0410	D098
	< 40mm	 SGTHR - External holder		D098

Index 索引

Solid Carbide Boring Bars 鎢鋼搪孔刀

Appearance	Name	Code No.	Min. Bore Dia.	Page
DL Series Solid Carbide Boring Bars 鎢鋼搪孔刀				
	Carbide Internal Boring Bars (7°) 鎢鋼內徑搪刀 (7°)	DLBSR	2.4 ~ 6.1	D100
	Carbide Internal Boring Bars (22°) 鎢鋼內徑搪刀 (22°)	DLBSR	1.0 ~ 6.0	D101
	Carbide Internal Grooving Bars 鎢鋼內徑開槽刀	DLGSR	4.1 ~ 8.1	D102
	Carbide Internal Grooving R Bars 鎢鋼內徑 R 開槽刀	DLGBR	4.1 ~ 6.1	D103
	Carbide Internal Face Grooving Bars 鎢鋼內徑端面開槽刀	DLFSR	4.0 ~ 6.0	D104
	Carbide Internal Face R Grooving Bars 鎢鋼內徑端面 R 開槽刀	DLFBR	4.0 ~ 6.0	D105
	Carbide Internal Thread (ISO Metric 60°) 鎢鋼內徑螺紋搪刀 (ISO Metric 60°)	DLTSR	3.2 ~ 6.1	D106
	Carbide Internal Thread (Partial Profile 60°) 鎢鋼內徑螺紋搪刀 (泛用牙 60°)	DLTMR	2.6 ~ 10.0	D107
	Sleeves 內徑搪刀套筒	DLS	–	D108
DE Series Solid Carbide Modular Boring Bars 模組化鎢鋼搪孔刀				
	Carbide Modular Internal Boring Bars (7°) 模組化鎢鋼內徑搪刀 (7°)	DEBSR	2.4 ~ 6.1	D109
	Carbide Modular Internal Boring Bars (22°) 模組化鎢鋼內徑搪刀 (22°)	DEBSR	1.0 ~ 6.0	D110
	Carbide Modular Internal Grooving Bars 模組化鎢鋼內徑開槽刀	DEGSR	4.1 ~ 6.1	D111
	Carbide Modular Internal Grooving R Bars 模組化鎢鋼內徑 R 開槽刀	DEGBR	4.1 ~ 6.1	D112
	Carbide Modular Internal Face Grooving Bars 模組化鎢鋼內徑端面開槽刀	DEFSR	4.0 ~ 6.0	D113
	Carbide Modular Internal Face R Grooving Bars 模組化鎢鋼內徑端面 R 開槽刀	DEFBR	4.0 ~ 6.0	D114
	Carbide Modular Internal Thread (ISO Metric 60°) 模組化鎢鋼內徑螺紋搪刀 (ISO Metric 60°)	DETSR	3.2 ~ 6.1	D115
	Carbide Modular Internal Thread (Partial Profile 60°) 模組化鎢鋼內徑螺紋搪刀 (泛用牙 60°)	DETMR	2.6 ~ 6.0	D116
	Double Sizes Sleeves 內徑搪刀雙柄套筒	DES	–	D117

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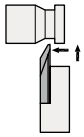
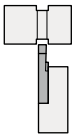
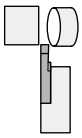
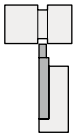
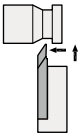
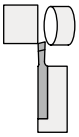
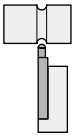
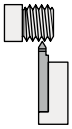
Auto Lathe Tools 自動車床刀具

Product Series	Application	Inserts	Page
BTAH	 Back Turning	BTAT...R/L	D118
CTAH	 Grooving  Parting off	CTAT...R/L	D119
SAKG	 Grooving  Back Turning  Parting off  Profiling  Threading	SAK...R/L	D122

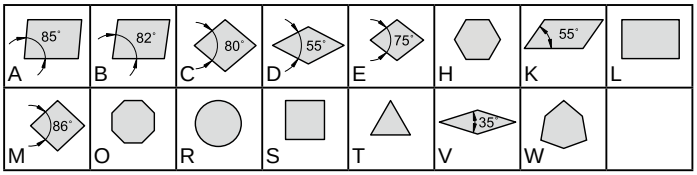
Product Series	Appearance	Name	Code No.	Cutting Dia.	Shank Dia.	Page
ETU		Carbide Endmills (Short Total Length) 全鎢鋼銑刀 (短全長)	ETSSC	Ø1~Ø3	Ø6	D126
			ETSSC	Ø4~Ø12	Ø6	

Product Series	Appearance	Name	Code No.	Size	Teeth	Inner Dia.	Page
ETW		Carbide Slitting Saws 全鎢鋼小徑鋸片	ETWSF	Ø15	40	Ø5	D127
				Ø20	56	5Ø	
				Ø25	40	Ø6	
				Ø25	72	Ø6	
			ETWLF	Ø30	56	Ø8	
		Arbors 鋸片柄	ETWSA	–	–	–	D130

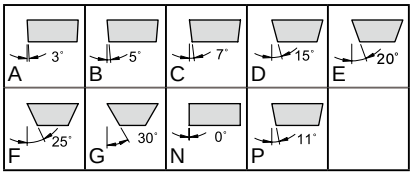
Designations for Turning Insert 車刀片型號編碼

C	N	M	G	12	04	08	(L)	-	MG
①	②	③	④	⑤	⑥	⑦	⑧		⑨

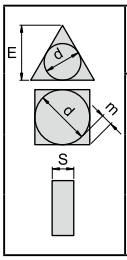
① Insert Shape



② Relief Angle



③ Tolerance Class



Tolerance		A	F	C	H	E	G	J	K	L	M	N	U
Range of tolerance	d±	0.025	0.013	0.025	0.013	0.025	0.025	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.05~0.15	0.08~0.25
	m±	0.005	0.005	0.013	0.013	0.025	0.025	0.005	0.013	0.025	0.08~0.2	0.08~0.2	0.13~0.38
	s±	0.025	0.025	0.025	0.025	0.025	0.05~0.13	0.025	0.025	0.025	0.05~0.13	0.025	0.13

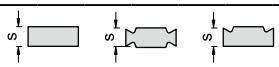
④ Insert Features

A	C	F	G	H	J	M	N	Q	R	T	U	W	X
													Special shape

⑤ Edge Length

C	D	S	T	R	V	W	I.C.
Metric							mm
03	04	03	06	03	-	02	3.97
04	05	04	08	04	08	S3	4.76
05	06	05	09	05	09	03	5.56
-	-	-	-	06	-	-	6.00
06	07	06	11	06	11	04	6.35
08	09	07	13	07	13	05	7.94
-	-	-	-	08	-	-	8.00
09	11	09	16	09	16	06	9.525
-	-	-	-	10	-	-	10.00
11	13	11	19	11	19	07	11.11
-	-	-	-	12	-	-	12.00
12	15	12	22	12	22	08	12.70
14	17	14	24	14	24	09	14.29
16	19	15	27	15	27	10	15.875
-	-	-	-	16	-	-	16.00
17	21	17	30	17	30	11	17.46
19	23	19	33	19	33	13	19.05
-	-	-	-	20	-	-	20.00
22	27	22	38	22	38	15	22.225
-	-	-	-	25	-	-	25.00
25	31	25	44	25	44	17	25.40
32	38	31	54	31	54	21	31.75
-	-	-	-	32	-	-	32.00

⑥ Thickness

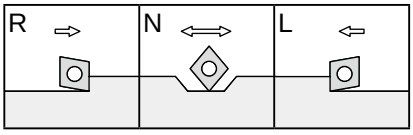


Symbol	01	T1	02	03	T3	04	05	06	07	09
S(mm)	1.59	1.98	2.38	3.18	3.97	4.76	5.56	6.35	7.94	9.52

⑦ Corner Radius

Symbol	01	02	04	08	12	16	20	24	28	32
r(mm)	0.1	0.2	0.4	0.8	1.2	1.6	2.0	2.4	2.8	3.2

⑧ Cutting Direction

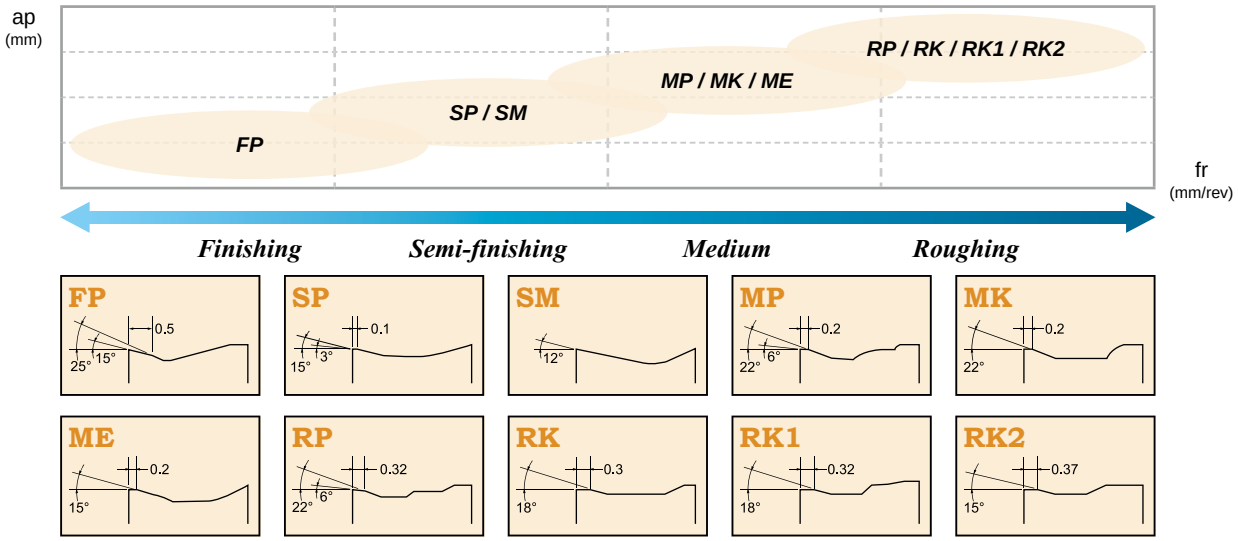


⑨ Chipbreaker Geometry

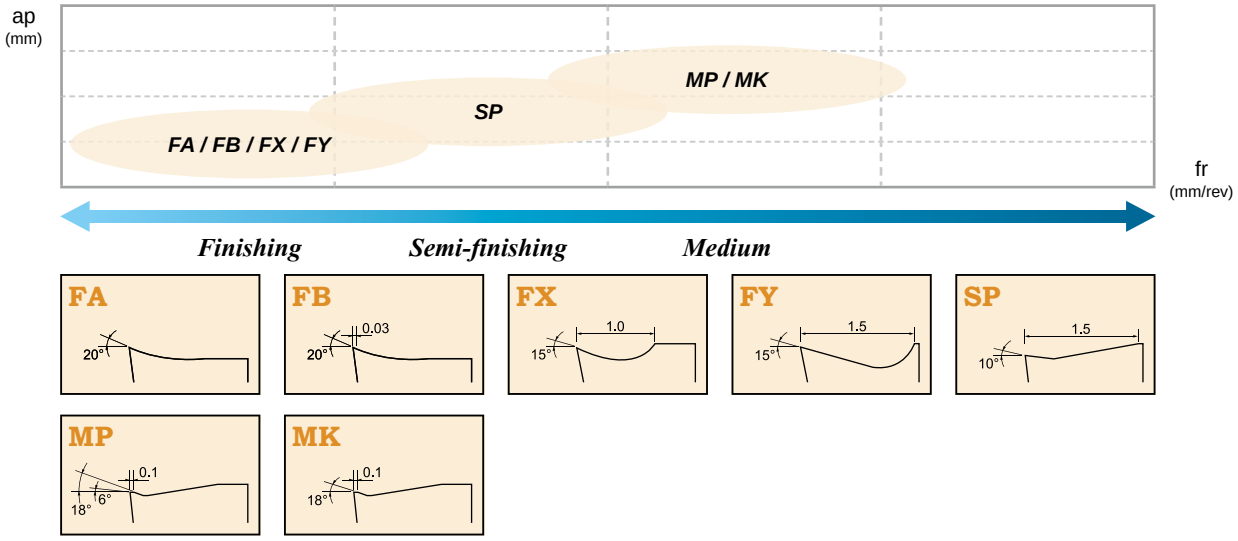
Positive Type	Negative Type
FA, FB, FX, FY, SP, MP, MK	FP, SP, SM, MP, MK, ME, RP, RK, RK1, RK2

Turning Insert Chipbreakers 車刀片斷屑槽介紹

Negative Insert



Positive Insert

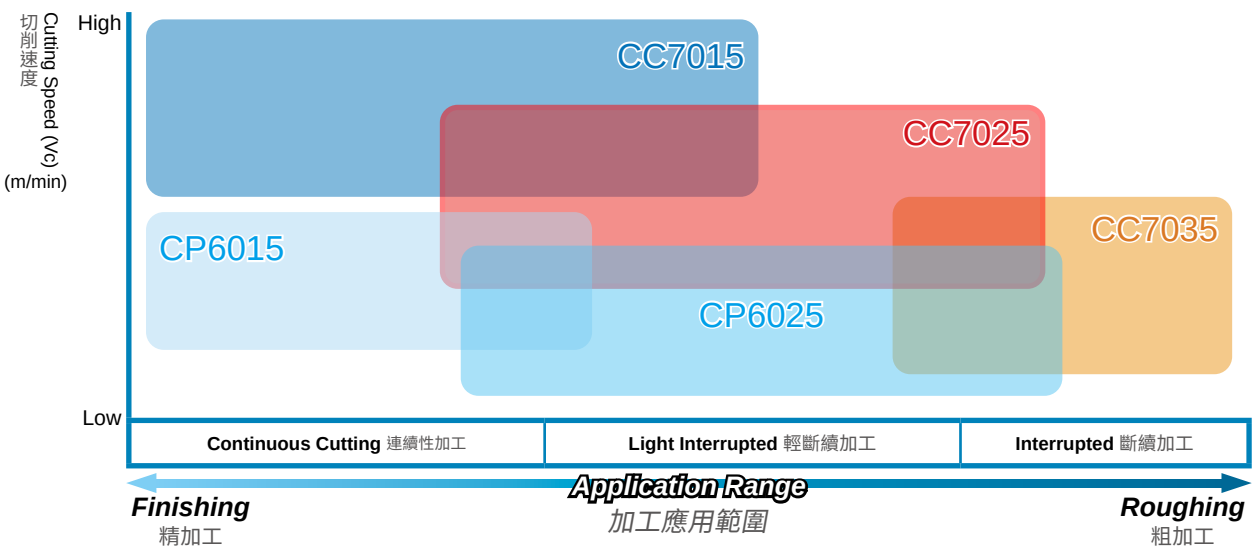


Turning Insert Grades 車刀片材質介紹

Grade Type 刀片材質	Color 刀片顏色	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍	Previous Grade 以前的材質
CC7015		• CVD (TiCN-Al_2O_3-TiN) • High wear resistance • Heat resistance • 高耐磨性 • 耐熱性	• Finishing and semi-finishing dry or wet machining • Continuous cutting • Wear resistance grade for cast iron is 1st recommended • 適用於乾式及濕式精加工和半精加工 • 適用連續加工 • 適合鑄鐵的第一推薦耐磨材質	○	○	●			○	• Auto parts • Machinery • 汽車零件 • 機械零件	***CX2565*** ***CX2575***
CC7025		• CVD (TiCN-Al_2O_3-TiN) • Wear resistance • Heat resistance • Impact resistance • 耐磨性 • 耐熱性 • 抗衝擊性	• Semi-finishing and medium dry or wet machining • Light interrupted cutting • General purpose grade for alloy steel is 1st recommended • 適用於乾式及濕式半精加工和中加工 • 適用輕斷續加工 • 適合合金鋼的第一推薦泛用材質	●	●	●				• Auto parts • Machinery • 汽車零件 • 機械零件	***CX3565*** ***CX3575***
CC7035		• CVD (TiCN-Al_2O_3-TiN) • High impact resistance • Heat resistance • High toughness • 高抗衝擊性 • 耐熱性 • 高韌性	• Medium and roughing dry or wet machining • Interrupted cutting • Tough grade for stainless steel is 1st recommended • 適用於乾式及濕式中加工和粗加工 • 適用斷續加工 • 適合不鏽鋼的第一推薦韌性材質	●	●	○				• Energy • Oil & Gas • Medical • 能源產業 • 石化產業 • 醫療產業	–
CP6015		• PVD (AlTiSiN) • High wear resistance • Anti-corrosion • 高耐磨性 • 抗腐蝕	• Finishing cutting • Continuous cutting • Wear resistance grade for metal working • 適用於精加工 • 適用連續加工 • 適合大部份金屬加工的耐磨材質	●	○	●		●	○	• Auto small parts • Machinery parts • Aircraft parts • 汽車小零件 • 機械零件 • 航太零件	***CX1060***
CP6025		• PVD (AlTiSiN) • Wear resistance • Anti-corrosion • 耐磨性 • 抗腐蝕	• Semi-finishing and medium • Light interrupted cutting • General purpose grade for carbon steel and alloy steel • 適用於半精加工和中加工 • 適用輕斷續加工 • 適合碳鋼及合金鋼的泛用材質	●	●	●		●		• Auto small parts • Machinery parts • Aircraft parts • 汽車小零件 • 機械零件 • 航太零件	***CX2561***
CP6035		• PVD (AlTiSiN) • High impact resistance • Anti-corrosion • 高抗衝擊性 • 抗腐蝕	• Medium to roughing • Interrupted cutting • General purpose grade for alloy steel and stainless steel • 適用於中加工和粗加工 • 適用斷續加工 • 適合合金鋼及不鏽鋼的泛用材質	●	●	●		●		• Auto small parts • Machinery parts • Aircraft parts • 汽車小零件 • 機械零件 • 航太零件	–

Turning Insert Grades 車刀片材質介紹

Grade Type 刀片材質	Color 刀片顏色	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍	Previous Grade 以前的材質
CP4025		• PVD (AlTiXN+ZrN) • Wear resistance • Anti-corrosion • Anti-sticky • 耐磨性 • 抗腐蝕 • 抗沾黏	• Semi-finishing and medium wet machining • Light interrupted cutting • General purpose grade for exotic materials. • 適用於溼式半精加工和中加工 • 適用輕斷續加工 • 適合不鏽鋼及高溫和金的泛用材質	○	●	○		●		• Auto small parts • Machinery parts • Aircraft parts • 汽車小零件 • 機械零件 • 航太零件	***CX2545***
CC1010		• CVD (Diamond-like) • Wear resistance • 耐磨性	• Finishing and medium cutting • Continuous cutting • For aluminum alloy • 適用於精加工和中加工 • 適用連續加工 • 適合鋁合金				●			• Bike parts • Auto small parts • Aluminum wheel • 自行車小零件 • 汽車小零件 • 鋁合金鋼圈	***CX1010***
CU1000	–	• Uncoated • Wear resistance • 耐磨性	• Finishing and medium cutting • Continuous cutting • For non-ferrous materials • 適用於精加工和中加工 • 適用連續加工 • 適合非鐵金屬				●			• Bike parts • Auto small parts • Electronic parts • 自行車小零件 • 汽車小零件 • 電子零件	***CX10***



Carbide Turning Inserts Chipbreaker Comparison Chart 鎢鋼車刀片斷屑槽比較表

Negative Inserts 負角車刀片

Work Material	Applications	WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	TaeguTec 特固克
P Steel	Fine Cutting		FH, FP, FS, FY	FE	FA, FL, FB	GP, XP, XF, VF, VC, SK	TF, NS, ZF	FA
	Finishing	FP	SA, SY, SH	BE, CE, B, BH	LU, FE, SU	PP, XQ, CQ, HQ	MM, TS, TSF	FG, FC
	Finishing to Light	SP, SM	LP	AB, CT	SE, SX	CJ, XS	AS, ZM	
	Medium	MP, MK, ME	MA, MV, MH, MP	AH, AE, AY	GU, GE, UX	HS, PS, PQ, GS, PT, PG	TM, TQ, DM, AM	ML, MP, MC, PC, MT
	Roughing	RP, RK, RK1	RP, GH, HAS, MT	RE, AR	MU, ME, MX, MP	HT, GT, PH	TH, S, CH	RT
	Heavy Cutting	RK2	HZ, HX, HL, HH, HXD, HR, HV, HCS	TE, UE, H, HX, HE	HG, HP, HU, HW, HF	PX, Standard	THS, TRS, 65, TUS	RX, RH, HT, HD, HY, HZ
M Stainless Steel	Finishing	FP	LM, SH	SE, MP, AB	SU, EF	MQ, GU	SS	EA, SF
	Light to Medium	SP, SM	GM, MS	PV	EX, EG	MS, MU	SF, SA	EM
	Medium	MP, MK, ME	MM	DE	GU		SM	ET
	Roughing	RP, RK, RK1	ES, 1M, 2M, HL, RM, GH, HM	AE	HM, EM, MU	TK	S, SH	VF, SU
K Cast Iron	Light Cutting	SP, SM	LK, MA, MK	V, VA	UZ	Standard, C, KQ	CM, CF	MT
	Medium	MP, MK, ME	GK, RK ,GH	Y, RE	GZ, ME	ZS, GC, KG, KH	Standard, CH 33	RT
N Non-Ferrous Metal	Finishing	FP		AH	AX	AH	P	
S Superalloys	Finishing	SP, SM	LS, FJ		EF		HRF	
	Medium	MP, MK, ME	MS, MJ	VI	EG, EX	SQ	HMM, SA, HRM	
	Roughing	RP, RK, RK1	RS, GJ		MU, EM	SG, SX		
H Hardened Steel	Finishing				GH, FV		HP	
	Light Cutting		BF		LV	HH, HL	HF	
	Carburised Layer Removal		BM		SV	HD	HM	

The above table is selected from a publication for reference only, which is not obtained approval from each brand. 此斷屑槽比照表僅供參考

Carbide Turning Inserts Chipbreaker Comparison Chart 鎢鋼車刀片斷屑槽比較表

Negative Inserts 負角車刀片

Work Material	Applications	WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	Fine Cutting		QF	SF	FF	FF1, FF2	FP5
	Finishing	FP	LC, XF, MF		FN, CT	MF2	NF3
	Finishing to Light	SP, SM	PF, KF	F3P, TF	LF, 33		MP3, NS6
	Medium	MP, MK, ME	XM, QM, PMC, PM, SM, KM ,HM	GN, RF, LF	P, MG, MN, MP1	M3	MU5, MP5, NM4, NM6
	Roughing	RP, RK, RK1	PR, XMR, KR	M3P, NR	RP, RN	M5, MR7, R4, R5, M6	RP5, NM9, RP7
	Heavy Cutting	RK2	HR, SR, MR	NM, TNM, R3P	RM, MR, RH	R7, MR7, RR9	NR6, NRF, NR8, NRR
M Stainless Steel	Finishing	FP	MF	F3M	FP, FS, LF	MF2	NF4, FM5
	Light to Medium	SP, SM	23	TF, VL	MS	MF1, M1	MM5
	Medium	MP, MK, ME	MM, MMC, SMR	M3M, PP	MP	MF3, M3	NM4, MS3, MU5
	Roughing	RP, RK, RK1	MR, MRR	MR, R3M, M4MW	UP	MF4, MF5, M5, MR3, MR4	NR4, RM5, HU5
K Cast Iron	Light Cutting	SP, SM	KF	GN	UN	M4	NM5
	Medium	MP, MK, ME	KM, KR, KRR			MR7	RK5, RK7
N Non-Ferrous Metal	Finishing	FP			MS		
S Superalloys	Finishing	SP, SM	SF, SGF	F3S			NFT
	Medium	MP, MK, ME	SM, SMC	VL		M1	NMT, NMS
	Roughing	RP, RK, RK1	SMR			MR3, MR4	NRT, HU5, NRS
H Hardened Steel	Finishing						
	Light Cutting						
	Carburised Layer Removal						

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Carbide Turning Inserts Chipbreaker Comparison Chart 鎢鋼車刀片斷屑槽比較表

Positive Inserts 正角車刀片

Work Material	Applications	WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	TaeguTec 特固克
P Steel	Finishing	FB, FX, FY	FJ, AM, FP, FM, FV, SQ	JQ, MP	FC, FB, LU, FP, FK	CF, GF, VF, P, PF, GP, XP, PP, MQ, DP	01, JRP, JTS, PSF, PF, 23, SS, JSS	FA, FX
	Finishing to Light	SP	SMG, LP, LM		SI, LB	CK, SKS, XQ	JS, CM ,PSS	SA
	Light to Medium		SV, MQ	JE	SC, SU, GU, SK, SF	GQ, SK, Standard, HQ, XQ, GK	PS, TSF, TM	FG, PC
	Medium	MP, MK	MP, MM, MK, MV		MU		PM	MT, PMR
M Stainless Steel	Finishing	FB, FX, FY	FM, FV		FC		PSF, PF, SS, JSS	FA, FX
	Finishing to Light	SP, SM	SMG, LM		SI, LB	MQ		FG
	Light to Medium		SV		SU, GU	HG		PC
	Medium	MP, MK	MM, MV, Blank		MU		PM	MT, PMR
K Cast Iron	Finishing	FB			FC		CF	
	Light to Medium	MP, MK	MK		MU			MT
N Non-Ferrous Metal	Finishing	FA	AZ		AG, AW, AY	AH, AP	AL, PP	FL
	Finishing to Light	FB			LD, GD			SA
S Superalloys	Finishing	FB, FX, FY	FS		FC, SI	PP, MQ	PSS	
	Light to Medium		LS, MS		SU, GU	HQ, GK	PS, PM	
H Hardened Steel	Finishing				FV		HP	
	Light Cutting		BF		LV			

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Carbide Turning Inserts Chipbreaker Comparison Chart 鎢鋼車刀片斷屑槽比較表

Positive Inserts 正角車刀片

Work Material	Applications	WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	Finishing	FB, FX, FY	UM, PF, UF, MF, XF	PF	11, UF, MF, KF, XF	GT-F1, FF1	FM4, FP4
	Finishing to Light	SP			LF		
	Light to Medium		PM, UM, XM	SM, 14	MP	MF2, F1	MP4, MM4, FP6, PM5
	Medium	MP, MK	PR, UR, MMC, MPC, XR	19	MF	F2, M3, M5	RP4, RM4
M Stainless Steel	Finishing	FB, FX, FY	MF, XF	PF	11, UF	FF1	FM4
	Finishing to Light	SP, SM	UF		LF, FP	F1	
	Light to Medium		MM	SM	MP	MF2	MM4, PS5
	Medium	MP, MK	UM, MR, XR, UR		MF	F2, M3, M5	PM5, RM4
K Cast Iron	Finishing	FB	KF, XF		11, UF		FK6
	Light to Medium	MP, MK	KM, UM, XR		FP, LF, MF, MP	M5	MK4, RK4
N Non-Ferrous Metal	Finishing	FA	AL	AS, AF	HP	AL	PM2
	Finishing to Light	FB					
S Superalloys	Finishing	FB, FX, FY	WF, MF				
	Light to Medium		UM, PM			MF2, R2, R3	FV4, MV4
H Hardened Steel	Finishing						
	Light Cutting						

The above table is selected from a publication for reference only, which is not obtained approval from each brand. 此斷屑槽比照表僅供參考

Carbide Turning Inserts Grade Comparison - CVD 鎢鋼車刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10	CC7015	MC6015 UE6105 UE6110 UE6005 UE6010 UE6020	GM10 GM20 GM8015 HG8010	AC8020P AC8015P AC810P	CA510 CA515 CA5505 CA5515	T9005 T9105 T9015 T9115 T9215	NC3215	TT8105B
	P20	CC7025	MC6025 UC6010 UE6110 UE6020	GM20 GM8020 HG8025	AC8020P AC8025P AC820P	CA025P CA525 CA5515 CA5525 CR9025	T9015 T9115 T9025 T9125 T9225	NC3225	TT5100 TT8115B TT8125B
	P30	CC7035	MC6025 UE6020 MC6035 UE6035 UH6400	GM25 GM8035 HG8025	AC8035P AC830P AC6030M AC630M	CA025P CA525 CA5525 CA530 CA5535 CR9025	T9125 T9035 T9135 T3130	NC3120 NC3030 NC5330	TT5100 TT7100 TT8125B
	P40	CC7035	MC6035 UE6035 UH6400	GX30	AC8035P AC830P AC6030M AC630M	CA530 CA5535	T9035 T3130		TT5100 TT7100 TT8135B
M Stainless Steel S Super Alloy	M10 S10	CC7015	MC7015 US7020	GM10 HS9105	AC6020M AC610M	CA6515	T9015 T9115	NC9115	TT9215
	M20 S20	CC7025 CC7035	US7020 MC7025	GM8020 HG8025 HS9115	AC6020M AC6030M AC610M AC630M	CA6525	T6020 T6120 T9115 T9125	NC9115 NC9125	TT5100 TT9215
	M30	CC7035	MC7025 US735	GM25 GM8035	AC6030M AC630M AC8035P AC830P		T6030 T6130 T9125	NC9125 NC9135	TT5100 TT9235
	M40	CC7035	US735	GX30	AC6030M AC630M			NC9135	TT5100 TT9235
K Cast Iron	K01	CC7015	MC5005 UC5105 UC5015	HG3305 HG3315 HX3505 HX3515	AC405K AC410K AC300G AC4010K	CA310 CA4505 CA5505	T5105 T5010		TT7005
	K10	CC7015	UC5015 UC5105 UC5115 UE6010 MC5015	GM8015 HX3515 HG8010 HG3315	AC4010K AC4015K AC405K AC415K	CA310 CA315 CA4505 CA4515 CA5505	T515 T5105 T5115 T5010	NC6310	TT7005 TT7015
	K20	CC7015	MC5015 MY5015 UE6010 UC5115 UE6110	GM8020 HG8025	AC4015K AC415K AC420K AC425K AC8025P	CA315 CA320 CA4515	T515 T5115 T5125 T5020	NC6315	TT7015 TT7025
	K30		UE6110	GM25		CA320	T5125 T9125	NC5330	TT7025

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此材質比照表僅供參考

Carbide Turning Inserts Grade Comparison - CVD 鎢鋼車刀片材質比較表 - CVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10	CC7015	GC4205 GC4015 GC3115 GC4215 GC4315	IC8150 IC9150 IC9250	KCK05 KCP10B KCP10 KC9010 KC9110	TP1501 TP1000 TP1500 TP100	WPP01 WPP05
	P20	CC7025	GC4025 GC4215 GC4220 GC4225 GC4325	IC8250 IC9125 IC9250 IC9350	KCP25B KCP25 KC9125 KC9225 KC9325	TP2501 TP2000 TP2500 TP200	WPP10S WPP20S
	P30	CC7035	GC4225 GC4230 GC4235 GC2135 GC4335	IC635 IC8350 IC9350	KCP30B KCP30 KC9040 KC9140	TP2501 TP3501 TP2500 TP2000 TP3500 TP200	WPP30S
	P40	CC7035	GC4035 GC4235 GC4240 GC4335	IC635	KCP40B KCP40 KC9140 KC9240	TP40	
M Stainless Steel S Super Alloy	M10 S10	CC7015	GC2015 GC2220	IC8250 IC9250 IC9350 IC6015	KCM15B KCM15 KC9010 KC9110 KC9210	TP1500 TP100	WAM20
	M20 S20	CC7025 CC7035	GC1515 GC2015 GC2025 GC2220	IC8350 IC9250 IC9350 IC6025	KCM25B KCM25 KC9025 KC9125 KC9225	TM2000 TP200	
	M30	CC7035	GC2040 GC235	IC8350 IC9350 IC4050	KCM35B KCM35 KC9240	TM4000 TP3501 TP300	
	M40	CC7035		IC635	KC9045 KC9245	TP40	
K Cast Iron	K01	CC7015	GC3205 GC3210	IC5005 IC428 IC9007 IC9150	KCPK05 KC9315 KCK05B KCK05	TK0501 TK1000 TK1001	WAK10
	K10	CC7015	GC3205 GC3210 GC3215 GC3115	IC5010 IC418 IC428 IC9015 IC9007	KC9110 KC9120 KC9315 KCK15B KCK15	TK1000 TK2000 TK2001 MK1500	WAK20
	K20	CC7015	GC4225 GC3215 GC3220 GC3225	IC418 IC9015	KC9125 KC9320 KC9325 KCK20B KCK20	TK2000 TX150 TP200	WAK30
	K30		GC3040 GC4335		KCP25B KC9320	TP2500 TP200	

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Carbide Turning Inserts Grade Comparison - PVD 鎢鋼車刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	Hitachi 日立	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
P Steel	P10	CP6015	MS6015 VP10MF	CY15 CY150 IP2000	AC1030U ACZ150 AC5005S AC5015S AC5025S AC520U	PR1705 PR930 PR1025 PR1115 PR1215 PR1225 PR1725	AH710		TT4410
	P20	CP6015 CP6025	MS6015 VP10RT VP15TF VP20MF UP20M VP20RT	CY150 IP2000	AC1030U AC5025S AC520U AC530U	PR930 PR1025 PR1115 PR1215 PR1225 PR1625 PR1725	AH7025 AH710 AH725 AH730 SH725 SH730		TT4410 TT4430 TT9020 TT9080
	P30	CP6025	VP10RT VP15TF VP20MF UP20M	CY250 CY9020 HC844 IP3000	AC1030U AC530U	PR1025 PR1225 PR1535	GH330 AH120 AH740 AH9030	PC5300	TT4410 TT4430 TT8020 TT8080 TT9020 TT9080
	P40	CP6025		CY250 HC844	AC1030U	PR1535	AH140 AH740 J740	PC5300 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
M Stainless Steel	M10	CP6015	VP10MF VP10RT	IP050S JP9105	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR1025 PR1215 PR1225	AH710	PC8110	TT4410 TT5080
	M20	CP4025 CP6025	VP10RT VP15TF VP20MF UP20M VP20RT	IP100S GX30 JP9115	AC5015S AC5025S AC1030U AC520U	PR930 PR1025 PR1125 PR1215 PR1725 PR1225 PR1515	AH630 AH725 AH730 GH330 GH730 SH75 SH730	PC8115	TT4410 TT4430 TT5080 TT9020 TT9080
	M30	CP4025 CP6025	VP15TF VP20MF UP20M MP7035	CY250 CY9020	AC5025S AC6040M AC1030U AC520U AC530U	PR1125 PR1535	AH6030 AH120 AH725	PC5300	TT4410 TT4430 TT5080 TT8020 TT8080 TT9020 TT9080
	M40	CP4025 CP6025	MP7035		AC6040M AC1030U AC530U	PR1535	J740 AH140 AH645	PC9030 PC5400	TT4430 TT8020 TT8080 TT9020 TT9080
K Cast Iron	K01						AH110		
	K10	CP6015	VP05RT	CY100H CY10H	AC1030U AC510U ACZ150 AC5015S	PR905 PR1215	GH110 AH110	PC8110	
	K20	CP6025	VP10RT VP15TF VP20RT	IP2000 CY9020	AC1030U AC510U ACZ150 AC5015S AC5025S	PR905 PR1215	AH120 AH725	PC8110	
	K30	CP6025	VP15TF VP20RT		AC1030U AC530U			PC5300 PC5400	
S Super Alloy	S01		MP9005 VP05RT			PR005S	AH8005 AH905	PC8105	
	S10	CP4025 CP6015 CP6025	MP9005 MP9015 VP10RT	JP9105	AC5005S AC5015S AC5025S AC510U AC520U ACZ150	PR005S PR015S	AH8015 AH905 SH730 AH110	PC8110	TT3010 TT3020 TT4410 TT5080
	S20	CP4025 CP6025	MP9015 MT9015 VP20RT MP9025	JP9115	AC5015S AC5025S AC1030U AC520U	PR015S PR1535	AH8015 AH120 AH725	PC8115	TT3010 TT3020 TT4410 TT4430 TT5080
	S30	CP4025 CP6025	MP9025		AC5025S AC6040M AC1030U AC520U AC530U	PR1535	AH725	PC5300 PC5400	TT8020 TT8080 TT3010 TT3020 TT4410 TT4430 TT5080

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此材質比照表僅供參考

Carbide Turning Inserts Grade Comparison - PVD 鎢鋼車刀片材質比較表 - PVD

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
P Steel	P10	CP6015	GC1025	IC507 IC807 IC907	KC5010 KC5510 KU10T	CP200	
	P20	CP6015 CP6025	GC1020 GC1025 GC4125 GC1125	IC507 IC907 IC908	KC5025 KC5525 KC7215 KC7315 KU25T	CP250	
	P30	CP6025	GC1125 GC1145 GC1115 GC1105	IC328 IC928 IC3028	KC7015 KC7020 KC7235 KU25T	CP500	
	P40	CP6025	GC1145 GC2145	IC328 IC3028	KC7030 KC7040 KC7140	CP600	
M Stainless Steel	M10	CP6015	GC1005 GC1025 GC1105 GC15	IC507 IC520 IC807 IC907	KC5010 KC5510 KC6005 KCU10	TS2000 CP200 CP250	WSM20
	M20	CP4025 CP6025	H5D6 GC1025 GC1115 GC4125 GC1125 GC30	IC308 IC507 IC907 IC908 IC3028	KC5025 KC5525 KC7020 KC7025 KCU25	TTP2050 TS2500 CP200 CP250 CP500	WSM30
	M30	CP4025 CP6025	GC1020 GC2035 GC2030	IC908 IC1008 IC1028 IC3028	KC7030 KC7225	CP500	
	M40	CP4025 CP6025	GC2145 GC1145	IC228 IC928 IC328		CP600	
K Cast Iron	K01			IC910	KC5515		
	K10	CP6015	GC1010	IC807 IC910 IC507 IC908	KC5010 KC7210	TS2000 CP200	
	K20	CP6025	GC1020 GC1120	IC508 IC908	KC5025 KC5525 KC7015 KC7215 KC7315	TS2500 CP200 CP250	
	K30	CP6025	GC1030	IC508 IC908	KC7225	CP500	
S Super Alloy	S01			IC804 IC806			WSM10
	S10	CP4025 CP6015 CP6025	GC1105 GC1005 GC1025	IC807 IC808 IC907 IC908	KC5010 KC5510 KCU10 KCS10	CP200 TS2000	WSM20
	S20	CP4025 CP6025	GC1025 GC1125	IC806 IC808 IC908	KC5025 KC5525 KCU25	CP250 TS2500	WSM30
	S30	CP4025 CP6025	GC1125	IC3028			

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此材質比照表僅供參考

Selection Guide & Recommended Cutting Conditions 車削選擇指南及建議切削數據

P *Steel* 鋼

For Negative Turning Insert 負角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Soft Steel / Low Carbon Steel 軟鋼 / 低碳鋼 (SS400, C15) ≤ HB180	Continuous (Finishing) 連續加工 (精)	FP, SP	CP6025	0.5-1.0-1.5	0.1-0.2-0.3	390-330-260
	General (Medium) 泛用加工 (中)	MP	CC7025	1.0-2.0-3.0	0.2-0.3-0.4	300-250-200
	Interrupted (Roughing) 斷續加工 (粗)	RP, RK, RK1, RK2	CC7035	1.5-3.0-4.5	0.3-0.4-0.5	210-180-140
Carbon Steel / Alloy Steel 碳鋼 / 合金鋼 (S45C, SCM435) HB180 ~ 350	Continuous (Finishing) 連續加工 (精)	FP, SP	CP6025	0.5-1.0-1.5	0.1-0.2-0.3	320-270-210
	General (Medium) 泛用加工 (中)	MP	CC7025	1.0-2.0-3.0	0.2-0.3-0.4	230-190-150
	Interrupted (Roughing) 斷續加工 (粗)	RP, RK, RK1, RK2	CC7035	1.5-3.0-4.5	0.3-0.4-0.5	170-140-110
Hard Steel / Alloy Steel 硬化鋼 / 合金鋼 (SCM440H) HRC35 ~ 45	Continuous (Finishing) 連續加工 (精)	FP, SP	CP6025	0.5-1.0-1.5	0.1-0.2-0.3	260-220-170
	General (Medium) 泛用加工 (中)	MP	CC7015	1.0-2.0-3.0	0.2-0.3-0.4	200-170-130
	Interrupted (Roughing) 斷續加工 (粗)	RP, RK, RK1, RK2	CC7025	1.5-3.0-4.5	0.3-0.4-0.5	140-120-90

For Positive Turning Insert 正角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Soft Steel / Low Carbon Steel 軟鋼 / 低碳鋼 (SS400, C15) ≤ HB180	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CP6015	0.5-1.0-1.5	0.08-0.16-0.24	390-330-260
	General (Medium) 泛用加工 (中)	MP, MK	CC7025	1.0-2.0-3.0	0.16-0.24-0.32	300-250-200
Carbon Steel / Alloy Steel 碳鋼 / 合金鋼 (S45C, SCM435) HB180 ~ 350	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CP6015	0.5-1.0-1.5	0.08-0.16-0.24	320-270-210
	General (Medium) 泛用加工 (中)	MP, MK	CC7025	1.0-2.0-3.0	0.16-0.24-0.32	230-190-150

※ ap & fr value : Min. - Suggestion - Max.
下限 - 推薦 - 上限

Vc : Max. - Suggestion - Min.
上限 - 推薦 - 下限

M *Stainless Steel* 不鏽鋼

For Negative Turning Insert 負角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Ferritic 鐵素體不鏽鋼 (SUS430) < HB200	Continuous (Finishing) 連續加工 (精)	FP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	260-220-170
	General (Medium) 泛用加工 (中)	SM, SP	CC7025	1.0-2.0-3.0	0.10-0.20-0.30	210-180-140
	Interrupted (Roughing) 斷續加工 (粗)	MP	CC7035	1.5-3.0-4.5	0.20-0.30-0.40	210-180-140
Martensitic / Austenitic 馬氏體 / 奧氏體不鏽鋼 (SUS410 / SUS304) ≤ HB200	Continuous (Finishing) 連續加工 (精)	FP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	180-150-120
	General (Medium) 泛用加工 (中)	SM, SP	CC7025	1.0-2.0-3.0	0.10-0.20-0.30	150-130-100
	Interrupted (Roughing) 斷續加工 (粗)	MP	CC7035	1.5-3.0-4.5	0.20-0.30-0.40	120-100-80
Duplex 雙相不鏽鋼 (SUS329) ≤ HB280	Continuous (Finishing) 連續加工 (精)	FP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	150-130-100
	General (Medium) 泛用加工 (中)	SM, SP	CC7015	1.0-2.0-3.0	0.10-0.20-0.30	120-100-80
	Interrupted (Roughing) 斷續加工 (粗)	MP	CC7025	1.5-3.0-4.5	0.20-0.30-0.40	110-90-70
Precipitation Hardening 析出硬化不鏽鋼 (SUS630) < HB450	Continuous (Finishing) 連續加工 (精)	FP	CP6025	0.5-1.0-1.5	0.05-0.10-0.15	140-120-90
	General (Medium) 泛用加工 (中)	MP	CC7025	1.0-2.0-3.0	0.10-0.20-0.30	110-90-70
	Interrupted (Roughing) 斷續加工 (粗)	RP, RK, RK1, RK2	CC7035	1.5-3.0-4.5	0.20-0.30-0.40	80-70-50

For Positive Turning Insert 正角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Ferritic 鐵素體不鏽鋼 (SUS430) < HB200	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CC6015	0.5-1.0-1.5	0.04-0.08-0.12	260-220-170
	General (Medium) 泛用加工 (中)	MP, MK	CC7025	1.0-2.0-3.0	0.08-0.16-0.24	210-180-140
Martensitic / Austenitic 馬氏體 / 奧氏體不鏽鋼 (SUS410 / SUS304) ≤ HB200	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CC6015	0.5-1.0-1.5	0.04-0.08-0.12	180-150-120
	General (Medium) 泛用加工 (中)	MP, MK	CC7025	1.0-2.0-3.0	0.08-0.16-0.24	150-130-100
Duplex 雙相不鏽鋼 (SUS329) ≤ HB280	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CC6015	0.5-1.0-1.5	0.04-0.08-0.12	150-130-100
	General (Medium) 泛用加工 (中)	MP, MK	CC7025	1.0-2.0-3.0	0.08-0.16-0.24	120-100-80
Precipitation Hardening 析出硬化不鏽鋼 (SUS630) < HB450	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CC6015	0.5-1.0-1.5	0.04-0.08-0.12	140-120-90
	General (Medium) 泛用加工 (中)	MP, MK	CC7025	1.0-2.0-3.0	0.08-0.16-0.24	110-90-70

※ ap & fr value : Min. - Suggestion - Max. 下限 - 推薦 - 上限　　Vc : Max. - Suggestion - Min. 上限 - 推薦 - 下限

K *Cast Iron* 鑄鐵

For Negative Turning Insert 負角車刀片

Work Material 加工材質	**Cutting Process** 加工方式	**Chipbreaker** 斷屑槽	**Grade** 材質	**ap (mm)**	**fr (mm/rev)**	**Vc (m/min)**
Gray Cast Iron 灰鑄鐵 (GG-25) ≤ 350Mpa	Continuous (Finishing) 連續加工 (精)	SP	CC7015	0.5-2.0-2.0	0.10-0.20-0.30	400-300-200
	General (Medium) 泛用加工 (中)	Flat, MP	CC7015	0.5-2.0-4.0	0.10-0.25-0.40	360-270-180
	Interrupted (Roughing) 斷續加工 (粗)	Flat, RP, RK, RK1, RK2	CC7025	0.5-2.0-6.0	0.10-0.30-0.50	300-230-150
Ductile Cast Iron 球墨鑄鐵 (GGG-40.3) ≤ 450Mpa	Continuous (Finishing) 連續加工 (精)	SP	CC7015	0.5-2.0-2.0	0.10-0.20-0.30	360-270-180
	General (Medium) 泛用加工 (中)	Flat, MP	CC7015	0.5-2.0-4.0	0.10-0.25-0.40	320-240-160
	Interrupted (Roughing) 斷續加工 (粗)	Flat, RP, RK, RK1, RK2	CC7025	0.5-2.0-6.0	0.10-0.30-0.50	240-180-120
High-strength Ductile Cast Iron 高強度球墨鑄鐵 (GGG-70) ≤ 800Mpa	Continuous (Finishing) 連續加工 (精)	SP	CC7015	0.5-2.0-2.0	0.10-0.20-0.30	320-240-160
	General (Medium) 泛用加工 (中)	Flat, MP	CC7015	0.5-2.0-4.0	0.10-0.25-0.40	280-210-140
	Interrupted (Roughing) 斷續加工 (粗)	Flat, RP, RK, RK1, RK2	CC7025	0.5-2.0-6.0	0.10-0.30-0.50	160-120-80

For Positive Turning Insert 正角車刀片

Work Material 加工材質	**Cutting Process** 加工方式	**Chipbreaker** 斷屑槽	**Grade** 材質	**ap (mm)**	**fr (mm/rev)**	**Vc (m/min)**
Gray Cast Iron 灰鑄鐵 (GG-25) ≤ 350Mpa	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CC6015	0.5-2.0-2.0	0.08-0.16-0.24	400-300-200
	General (Medium) 泛用加工 (中)	Flat, MP, MK	CC7025	0.5-2.0-4.0	0.08-0.20-0.32	360-270-180
Ductile Cast Iron 球墨鑄鐵 (GGG-40.3) ≤ 450Mpa	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CC6015	0.5-2.0-2.0	0.08-0.16-0.24	360-270-180
	General (Medium) 泛用加工 (中)	Flat, MP, MK	CC7025	0.5-2.0-4.0	0.08-0.20-0.32	320-240-160
High-strength Ductile Cast Iron 高強度球墨鑄鐵 (GGG-70) ≤ 800Mpa	Continuous (Finishing) 連續加工 (精)	FX, FY, FB, SP	CC6015	0.5-2.0-2.0	0.08-0.16-0.24	320-240-160
	General (Medium) 泛用加工 (中)	Flat, MP, MK	CC7025	0.5-2.0-4.0	0.08-0.20-0.32	280-210-140

※ ap & fr value : Min. - Suggestion - Max. 下限 - 推薦 - 上限　　Vc : Max. - Suggestion - Min. 上限 - 推薦 - 下限

Selection Guide & Recommended Cutting Conditions 車削選擇指南及建議切削數據

S *Super Alloy* 高溫合金

For Negative Turning Insert 負角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Nickel Alloy / PH Stainless Steel 鎳合金 / 析出硬化不鏽鋼	Continuous (Finishing) 連續加工 (精)	FP	CP6015	0.2-0.50-0.8	0.10-0.15-0.20	100-75-50
	Continuous (Semi-finishing) 連續加工 (半精)	SM, SP	CP6025	0.2-0.85-1.5	0.10-0.15-0.20	90-65-40
	General (Medium) 泛用加工 (中)	MP	CP6025	0.5-1.75-3.0	0.15-0.20-0.25	80-55-30
Titanium Alloy 鈦合金	Continuous (Finishing) 連續加工 (精)	FP	CP6015	0.2-0.50-0.8	0.10-0.15-0.20	80-60-40
	Continuous (Semi-finishing) 連續加工 (半精)	SM, SP	CP6025	0.2-0.85-1.5	0.10-0.15-0.20	70-50-30
	General (Medium) 泛用加工 (中)	MP	CP6025	0.5-1.75-3.0	0.15-0.20-0.25	70-50-30

For Positive Turning Insert 正角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Nickel Alloy / PH Stainless Steel 鎳合金 / 析出硬化不鏽鋼	Continuous (Finishing) 連續加工 (精)	FB	CP6015	0.2-0.50-0.8	0.08-0.12-0.16	100-75-50
	Continuous (Semi-finishing) 連續加工 (半精)	SP	CP6025	0.2-0.85-1.5	0.08-0.12-0.16	90-65-40
	General (Medium) 泛用加工 (中)	MP, MK	CP6025	0.5-1.75-3.0	0.12-0.16-0.20	80-55-30
Titanium Alloy 鈦合金	Continuous (Finishing) 連續加工 (精)	FB	CP6015	0.2-0.50-0.8	0.08-0.12-0.16	80-60-40
	Continuous (Semi-finishing) 連續加工 (半精)	SP	CP6025	0.2-0.85-1.5	0.08-0.12-0.16	70-50-30
	General (Medium) 泛用加工 (中)	MP, MK	CP6025	0.5-1.75-3.0	0.12-0.16-0.20	70-50-30

※ ap & fr value : Min. - Suggestion - Max.
下限 - 推薦 - 上限

Vc : Max. - Suggestion - Min.
上限 - 推薦 - 下限

N *Non-ferrous Metals* 非鐵金屬

For Positive Turning Insert 正角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Non-ferrous Metals 非鐵金屬	Finishing 精加工	FA	CU1000	0.3-2.0-4.0	0.1-0.25-0.4	1000-650-300
	Medium 中加工	FA	CC1010	0.39-2.6-5.2	0.13-0.33-0.52	1300-845-390

H *Hardened Steel* 高硬度鋼

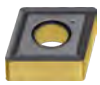
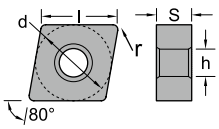
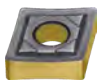
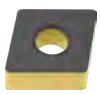
For Positive Turning Insert 正角車刀片

Work Material 加工材質	Cutting Process 加工方式	Chipbreaker 斷屑槽	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Hardened Steel 高硬度鋼 (HRC 45 ~ 65)	Finishing 精加工	FB	CP6015	0.03-0.25-0.5	0.02-0.05-0.1	80-60-40

※ ap & fr value : Min. - Suggestion - Max.
下限 - 推薦 - 上限

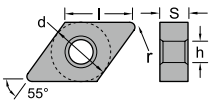
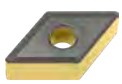
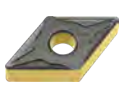
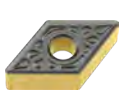
Vc : Max. - Suggestion - Min.
上限 - 推薦 - 下限

Carbide Turning Inserts · Negative - CN□□ 負角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		CNMG 120404-FP	✓	✓			✓	✓			12.7	12.9	4.76	0.4	5.16	
		120408-FP	✓	✓			✓	✓			12.7	12.9	4.76	0.8	5.16	
Semi-finishing 半精		CNMG 120404-SM	✓	✓			✓	✓			12.7	12.9	4.76	0.4	5.16	
		120408-SM	✓	✓			✓	✓			12.7	12.9	4.76	0.8	5.16	
		CNMG 120404-SP	✓	✓			✓	✓			12.7	12.9	4.76	0.4	5.16	
		120408-SP	✓	✓			✓	✓			12.7	12.9	4.76	0.8	5.16	
Medium 中		CNMA 120404	✓								12.7	12.9	4.76	0.4	5.16	
		120408	✓								12.7	12.9	4.76	0.8	5.16	
		CNMG 120404-MP	✓	✓	✓		✓	✓			12.7	12.9	4.76	0.4	5.16	
		120408-MP	✓	✓	✓		✓	✓			12.7	12.9	4.76	0.8	5.16	
		120412-MP	✓	✓	✓		✓	✓			12.7	12.9	4.76	1.2	5.16	
		CNMG 120408-MK	✓	✓			✓				12.7	12.9	4.76	0.8	5.16	
Roughing 粗		CNMG 120408-RP	△	△			✓				12.7	12.9	4.76	0.8	5.16	
		CNMG 120408-RK	✓	△	✓		✓				12.7	12.9	4.76	0.8	5.16	
		120412-RK		✓							12.7	12.9	4.76	1.2	5.16	
		CNMG 120408-RK1	✓	✓			✓				12.7	12.9	4.76	0.8	5.16	
		CNMG 120408-RK2	✓	✓			✓				12.7	12.9	4.76	0.8	5.16	

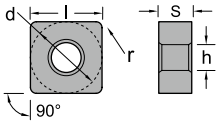
✓ stock △ by inquiry

Carbide Turning Inserts・Negative - DN□□ 負角鎢鋼車刀片

Inserts		Designation		Grade No.								Dimensions (mm)					Drawing
				CVD			PVD										
				CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		DNGX	110401-FP					✓				9.525	11.6	4.76	0.1	4.5	
			110402-FP					✓				9.525	11.6	4.76	0.2	4.5	
		DNMG	150408-FP	△	△			✓				12.7	15.5	4.76	0.8	5.16	
			150608-FP	△	△			✓				12.7	15.5	6.35	0.8	5.16	
Semi-finishing 半精		DNMG	150404-SP	✓	✓			✓				12.7	15.5	4.76	0.4	5.16	
			150408-SP	△				✓				12.7	15.5	4.76	0.8	5.16	
			150608-SP	△				✓				12.7	15.5	6.35	0.8	5.16	
Medium 中		DNMG	150404-MP	✓	✓	✓						12.7	15.5	4.76	0.4	5.16	
			150408-MP	✓	✓	✓		✓				12.7	15.5	4.76	0.8	5.16	
			150604-MP					✓	✓			12.7	15.5	6.35	0.4	5.16	
			150608-MP	✓	✓	✓		✓				12.7	15.5	6.35	0.8	5.16	
Roughing 粗		DNMG	110408-RK	△				✓				9.525	11.6	4.76	0.8	4.5	
			150408-RK	△	✓			✓				12.7	15.5	4.76	0.8	5.16	
			150608-RK	✓	✓			✓				12.7	15.5	6.35	0.8	5.16	

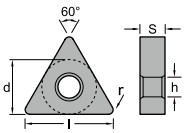
✓ stock △ by inquiry

Carbide Turning Inserts・Negative - SN□□ 負角鎢鋼車刀片

Inserts		Designation	Grade No.							Dimensions (mm)					Drawing
			CVD			PVD									
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000	d	l	S	r	h	
Semi-finishing 半精		**SNMG 120404-SM**		△			✓	✓		12.7	12.7	4.76	0.4	5.16	
Medium 中		**SNMA 120408**	✓							12.7	12.7	4.76	0.8	5.16	
		120412	✓							12.7	12.7	4.76	1.2	5.16	
		SNMG 120408-MP	✓	✓	✓					12.7	12.7	4.76	0.8	5.16	
		120412-MP		✓	✓					12.7	12.7	4.76	1.2	5.16	
Roughing 粗		**SNMG 120408-RK**	✓	✓	✓		✓			12.7	12.7	4.76	0.8	5.16	
		120412-RK	✓	✓	△		✓			12.7	12.7	4.76	1.2	5.16	

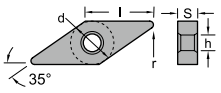
✓ stock △ by inquiry

Carbide Turning Inserts・Negative - TN□□ 負角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		TNMG 160404-FP	△				✓				9.525	16.5	4.76	0.4	3.81	
		160408-FP	✓	✓			✓	✓			9.525	16.5	4.76	0.8	3.81	
Semi-finishing 半精		TNMG 160408-SM	△	△			✓	✓			9.525	16.5	4.76	0.8	3.81	
		TNMG 160404-SP	✓	✓			✓	✓			9.525	16.5	4.76	0.4	3.81	
		160408-SP	△	✓			✓	✓			9.525	16.5	4.76	0.8	3.81	
Medium 中		TNMA 160404	✓								9.525	16.5	4.76	0.4	3.81	
		160408	✓								9.525	16.5	4.76	0.8	3.81	
		TNMG 160404R-ME	✓	✓	✓		✓	✓			9.525	16.5	4.76	0.4	3.81	
		160408R-ME	✓	✓	✓		✓	✓			9.525	16.5	4.76	0.8	3.81	
		TNMG 160404L-ME	✓	✓	✓		✓	✓			9.525	16.5	4.76	0.4	3.81	
		160408L-ME	✓	✓	✓		✓	✓			9.525	16.5	4.76	0.8	3.81	
		TNMG 160404-MP	✓	✓	✓		✓	✓			9.525	16.5	4.76	0.4	3.81	
		160408-MP	✓	✓	✓		✓	✓			9.525	16.5	4.76	0.8	3.81	
		160412-MP	✓	✓			✓				9.525	16.5	4.76	1.2	3.81	
Roughing 粗		TNMG 160408-RK	✓	✓			✓				9.525	16.5	4.76	0.8	3.81	
		160412-RK		✓							9.525	16.5	4.76	1.2	3.81	
		TNMG 220408-RK	✓	✓	✓		✓				12.7	22.0	4.76	0.8	5.16	
		TNMG 160404-RK1	△	△			✓				9.525	16.5	4.76	0.4	3.81	

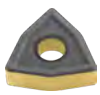
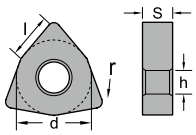
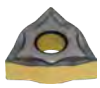
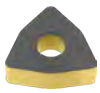
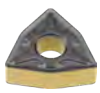
✓ stock △ by inquiry

Carbide Turning Inserts · Negative - VN□□ 負角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		**VNMG 12T304-FP**					✓				7.15	12.4	3.97	0.4	3.5	
		VNMG 160404-FP	✓				✓				9.525	16.6	4.76	0.4	3.81	
		160408-FP	✓				✓	✓			9.525	16.6	4.76	0.8	3.81	
Medium 中		**VNMG 160404-MP**	✓	✓			✓	✓			9.525	16.6	4.76	0.4	3.81	
		160408-MP		✓			✓				9.525	16.6	4.76	0.8	3.81	
Roughing 粗		**VNMG 160408-RK**	△	✓			✓				9.525	16.6	4.76	0.8	3.81	

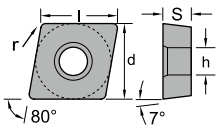
✓ stock △ by inquiry

Carbide Turning Inserts・Negative - WN□□ 負角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		WNMG 080404-FP	✓				✓				12.7	8.7	4.76	0.4	5.16	
		080408-FP	✓	✓			✓	✓			12.7	8.7	4.76	0.8	5.16	
Semi-finishing 半精		WNMG 080404-SP	✓				✓	✓			12.7	8.7	4.76	0.4	5.16	
		080408-SP	✓				✓	✓			12.7	8.7	4.76	0.8	5.16	
Medium 中		WNMA 080408	✓								12.7	8.7	4.76	0.8	5.16	
		080412	✓								12.7	8.7	4.76	1.2	5.16	
		WNMG 080404-MP	✓	✓	✓		✓	✓			12.7	8.7	4.76	0.4	5.16	
		080408-MP	✓	✓	✓		✓	✓			12.7	8.7	4.76	0.8	5.16	
		080412-MP	✓	✓			✓	✓			12.7	8.7	4.76	1.2	5.16	
Roughing 粗		WNMG 080408-RK	✓	✓	✓		✓				12.7	8.7	4.76	0.8	5.16	
		080412-RK		✓	✓		✓				12.7	8.7	4.76	1.2	5.16	
		WNMG 080408-RK2	✓	✓			✓				12.7	8.7	4.76	0.8	5.16	

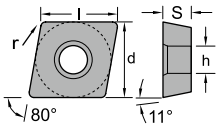
✓ stock △ by inquiry

Carbide Turning Inserts・Positive - CC□□ 正角鎢鋼車刀片

Inserts		Designation		Grade No.							Dimensions (mm)					Drawing
				CVD			PVD									
				CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000	d	l	S	r	h	
Finishing 精		**CCGT**	**060202-FA**							✓	6.35	6.4	2.38	0.2	2.8	
			060204-FA							✓	6.35	6.4	2.38	0.4	2.8	
			09T304-FA							✓	9.525	9.7	3.97	0.4	4.4	
			09T308-FA							✓	9.525	9.7	3.97	0.8	4.4	
			120404-FA							✓	12.7	12.9	4.76	0.4	5.5	
		CCGT	**060202-FB**				✓				6.35	6.4	2.38	0.2	2.8	
			060204-FB				✓				6.35	6.4	2.38	0.4	2.8	
			09T304-FB				✓				9.525	9.7	3.97	0.4	4.4	
			09T308-FB				✓				9.525	9.7	3.97	0.8	4.4	
			120404-FB				✓				12.7	12.9	4.76	0.4	5.5	
Medium 中		**CCMT**	**060204-MP**		✓			✓	✓		6.35	6.4	2.38	0.4	2.8	
			09T304-MP		✓			✓	✓		9.525	9.7	3.97	0.4	4.4	
			09T308-MP		✓			✓	✓		9.525	9.7	3.97	0.8	4.4	
		CCMT	**060204-MK**		✓			✓	✓		6.35	6.4	2.38	0.4	2.8	
			09T304-MK		✓			✓	✓		9.525	9.7	3.97	0.4	4.4	
			09T308-MK		✓			✓	✓		9.525	9.7	3.97	0.8	4.4	
			120408-MK		✓			✓	✓		12.7	12.9	4.76	0.8	5.5	

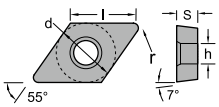
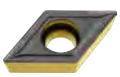
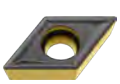
✓ stock △ by inquiry

Carbide Turning Inserts・Positive - CP□□ 正角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		**CPMT 05T104-SG**					✓				5.56	5.65	1.98	0.4	2.6	

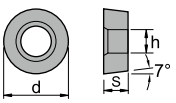
✓ stock △ by inquiry

Carbide Turning Inserts · Positive - DC□□ 正角鎢鋼車刀片

Inserts		Designation		Grade No.								Dimensions (mm)					Drawing
				CVD			PVD										
				CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		DCET	070201R-FX				✓					6.35	7.7	2.38	0.1	2.8	
			070202R-FX				✓					6.35	7.7	2.38	0.2	2.8	
		DCET	070201L-FX				✓					6.35	7.7	2.38	0.1	2.8	
			070202L-FX				✓					6.35	7.7	2.38	0.2	2.8	
		DCET	070201R-FY				✓					6.35	7.7	2.38	0.1	2.8	
			070202R-FY				✓					6.35	7.7	2.38	0.2	2.8	
			070204R-FY				✓					6.35	7.7	2.38	0.4	2.8	
		DCET	070201L-FY				✓					6.35	7.7	2.38	0.1	2.8	
			070202L-FY				✓					6.35	7.7	2.38	0.2	2.8	
			070204L-FY				✓					6.35	7.7	2.38	0.4	2.8	
		DCET	11T301R-FX				✓					9.525	11.6	3.97	0.1	4.4	
			11T302R-FX				✓					9.525	11.6	3.97	0.2	4.4	
			11T304R-FX				✓					9.525	11.6	3.97	0.4	4.4	
		DCET	11T301L-FX				✓					9.525	11.6	3.97	0.1	4.4	
			11T302L-FX				✓					9.525	11.6	3.97	0.2	4.4	
			11T304L-FX				✓					9.525	11.6	3.97	0.4	4.4	
		DCET	11T301R-FY				✓					9.525	11.6	3.97	0.1	4.4	
			11T302R-FY				✓					9.525	11.6	3.97	0.2	4.4	
			11T304R-FY				✓					9.525	11.6	3.97	0.4	4.4	
		DCET	11T301L-FY				✓					9.525	11.6	3.97	0.1	4.4	
			11T302L-FY				✓					9.525	11.6	3.97	0.2	4.4	
			11T304L-FY				✓					9.525	11.6	3.97	0.4	4.4	
		DCGT	070202-FA							✓		6.35	7.7	2.38	0.2	2.8	
			070204-FA							✓		6.35	7.7	2.38	0.4	2.8	
			11T302-FA							✓		9.53	11.6	3.97	0.2	4.4	
			11T304-FA							✓		9.525	11.6	3.97	0.4	4.4	
			11T308-FA							✓		9.525	11.6	3.97	0.8	4.4	
		DCGT	070202-FB				✓					6.35	7.7	2.38	0.2	2.8	
			070204-FB				✓					6.35	7.7	2.38	0.4	2.8	
			11T302-FB				✓					9.525	11.6	3.97	0.2	4.4	
			11T304-FB				✓					9.525	11.6	3.97	0.4	4.4	
			11T308-FB				✓					9.525	11.6	3.97	0.8	4.4	
Medium 中		DCEW	11T301				✓					9.525	11.6	3.97	0.1	4.4	
			11T302				✓					9.525	11.6	3.97	0.2	4.4	
			11T304				✓					9.525	11.6	3.97	0.4	4.4	
		DCMT	11T304-MP		✓			✓	✓			9.525	11.6	3.97	0.4	4.4	
			11T308-MP		✓			✓	✓			9.525	11.6	3.97	0.8	4.4	
		DCMT	070204-MK		✓			✓	✓			6.35	7.7	2.38	0.4	2.8	
			11T304-MK	✓	✓			✓	✓			9.525	11.6	3.97	0.4	4.4	
			11T308-MK	✓	✓			✓	✓			9.525	11.6	3.97	0.8	4.4	

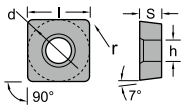
✓ stock △ by inquiry

Carbide Turning Inserts・Positive - RC□□ 正角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		**RCMT 1204MOE-FB**					✓				12	-	4.76	-	4.2	

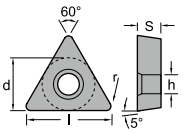
✓ stock △ by inquiry

Carbide Turning Inserts · Positive - SC□□ 正角鎢鋼車刀片

Inserts		Designation		Grade No.								Dimensions (mm)					Drawing
				CVD			PVD										
				CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		SCGT	09T304-FA							✓		9.525	9.525	3.97	0.4	4.4	
			09T308-FA							✓		9.525	9.525	3.97	0.8	4.4	
		SCGT	09T304-FB				✓					9.525	9.525	3.97	0.4	4.4	
			09T308-FB				✓					9.525	9.525	3.97	0.8	4.4	
Semi-finishing 半精		SCMT	09T304-SP		✓			✓				9.525	9.525	3.97	0.4	4.4	
			09T308-SP		△			✓				9.525	9.525	3.97	0.8	4.4	
Medium 中		SCMT	09T304-MP		✓			✓				9.525	9.525	3.97	0.4	4.4	
			09T308-MP		△			✓				9.525	9.525	3.97	0.8	4.4	
		SCMT	09T304-MK		✓			✓				9.525	9.525	3.97	0.4	4.4	
			09T308-MK		✓			✓				9.525	9.525	3.97	0.8	4.4	

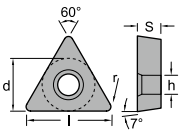
✓ stock △ by inquiry

Carbide Turning Inserts・Positive - TB□□ 正角鎢鋼車刀片

Inserts		Designation		Grade No.								Dimensions (mm)					Drawing
				CVD			PVD										
				CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		TBGT	060101R-FY					✓				3.97	6.9	1.59	0.1	2.2	
			060102R-FY					✓				3.97	6.9	1.59	0.2	2.2	
			060104R-FY					✓				3.97	6.9	1.59	0.4	2.2	
		TBGT	060101L-FY					✓				3.97	6.9	1.59	0.1	2.2	
			060102L-FY					✓				3.97	6.9	1.59	0.2	2.2	
			060104L-FY					✓				3.97	6.9	1.59	0.4	2.2	

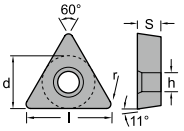
✓ stock △ by inquiry

Carbide Turning Inserts · Positive - TC□□ 正角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Finishing 精		TCGT 090204-FA							✓		5.56	9.6	2.38	0.4	2.5	
		110204-FA							✓		6.35	11.0	2.38	0.4	2.8	
		16T304-FA							✓		9.525	16.5	3.97	0.4	4.4	
		16T308-FA							✓		9.525	16.5	3.97	0.8	4.4	
		TCGT 090204-FB				✓					5.56	9.6	2.38	0.4	2.5	
		110204-FB				✓					6.35	11.0	2.38	0.4	2.8	
		16T304-FB				✓					9.525	16.5	3.97	0.4	4.4	
		16T308-FB				✓					9.525	16.5	3.97	0.8	4.4	
Semi-finishing 半精		TCMT 110204-SP		△			✓				6.35	11.0	2.38	0.4	2.8	
		16T308-SP		△			✓				9.525	16.5	3.97	0.8	4.4	
Medium 中		TCMT 110204-MP		✓			✓	✓			6.35	11.0	2.38	0.4	2.8	
		TCMT 110204-MK		✓			✓	✓			6.35	11.0	2.38	0.4	2.8	
		16T304-MK		✓			✓	✓			9.525	16.5	3.97	0.4	4.4	
		16T308-MK		✓			✓	✓			9.525	16.5	3.97	0.8	4.4	

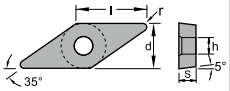
✓ stock △ by inquiry

Carbide Turning Inserts・Positive - TP□□ 正角鎢鋼車刀片

Inserts		Designation	Grade No.								Dimensions (mm)					Drawing
			CVD			PVD										
			CC7015	CC7025	CC7035	CP6015	CP6025	CP4025	CU1000		d	l	S	r	h	
Medium 中		**TPMH 160304-MP**		✓							9.525	16.5	3.18	0.4	4.4	

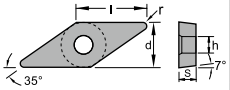
✓ stock △ by inquiry

Carbide Turning Inserts・Positive - VB□□ 正角鎢鋼車刀片

Inserts		Designation		Grade No.								Dimensions (mm)					Drawing
				CVD			PVD			CU1000							
				CC7015	CC7025	CC7035	CP6015	CP6025				d	l	S	r	h	
Finishing 精		VBET	110301R-FX				✓					6.35	11.1	3.18	0.1	2.8	
			110302R-FX				✓					6.35	11.1	3.18	0.2	2.8	
			110304R-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VBET	110301L-FX				✓					6.35	11.1	3.18	0.1	2.8	
			110302L-FX				✓					6.35	11.1	3.18	0.2	2.8	
			110304L-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VBET	110301R-FY				✓					6.35	11.1	3.18	0.1	2.8	
			110302R-FY				✓					6.35	11.1	3.18	0.2	2.8	
			110304R-FY				✓					6.35	11.1	3.18	0.4	2.8	
		VBET	110301L-FY				✓					6.35	11.1	3.18	0.1	2.8	
			110302L-FY				✓					6.35	11.1	3.18	0.2	2.8	
			110304L-FY				✓					6.35	11.1	3.18	0.4	2.8	
Medium 中		VBEW	110301				✓					6.35	11.1	3.18	0.1	2.8	
			110302				✓					6.35	11.1	3.18	0.2	2.8	
			110304				✓					6.35	11.1	3.18	0.4	2.8	
		VBMT	160404-MK		✓	✓		✓				9.525	16.6	4.76	0.4	4.4	
			160408-MK		✓	✓		✓				9.525	16.6	4.76	0.8	4.4	

✓ stock △ by inquiry

Carbide Turning Inserts · Positive - VC□□ 正角鎢鋼車刀片

Inserts		Designation		Grade No.								Dimensions (mm)					Drawing
				CVD			PVD										
				CC7015	CC7025	CC7035	CP6015	CP6025		CU1000		d	l	S	r	h	
Finishing 精		VCET	110301R-FX				✓					6.35	11.1	3.18	0.1	2.8	
			110302R-FX				✓					6.35	11.1	3.18	0.2	2.8	
			110304R-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VCET	110301L-FX				✓					6.35	11.1	3.18	0.1	2.8	
			110302L-FX				✓					6.35	11.1	3.18	0.2	2.8	
			110304L-FX				✓					6.35	11.1	3.18	0.4	2.8	
		VCET	110301R-FY				✓					6.35	11.1	3.18	0.1	2.8	
			110302R-FY				✓					6.35	11.1	3.18	0.2	2.8	
			110304R-FY				✓					6.35	11.1	3.18	0.4	2.8	
		VCET	110301L-FY				✓					6.35	11.1	3.18	0.1	2.8	
			110302L-FY				✓					6.35	11.1	3.18	0.2	2.8	
			110304L-FY				✓					6.35	11.1	3.18	0.4	2.8	
		VCGT	110302-FA							✓		6.35	11.1	3.18	0.2	2.8	
			110304-FA							✓		6.35	11.1	3.18	0.4	2.8	
			160402-FA							✓		9.525	16.6	4.76	0.2	4.4	
			160404-FA							✓		9.525	16.6	4.76	0.4	4.4	
			160408-FA							✓		9.525	16.6	4.76	0.8	4.4	
		VCGT	110302-FB				✓					6.35	11.1	3.18	0.2	2.8	
			110304-FB				✓					6.35	11.1	3.18	0.4	2.8	
			160402-FB				✓					9.525	16.6	4.76	0.2	4.4	
			160404-FB				✓					9.525	16.6	4.76	0.4	4.4	
			160408-FB				✓					9.525	16.6	4.76	0.8	4.4	
Semi-finishing 半精		VCGT	110301-SP					✓				6.35	11.1	3.18	0.1	2.8	
			110302-SP					✓				6.35	11.1	3.18	0.2	2.8	
			110304-SP					✓				6.35	11.1	3.18	0.4	2.8	
Medium 中		VCEW	110301				✓					6.35	11.1	3.18	0.1	2.8	
			110302				✓					6.35	11.1	3.18	0.2	2.8	
			110304				✓					6.35	11.1	3.18	0.4	2.8	

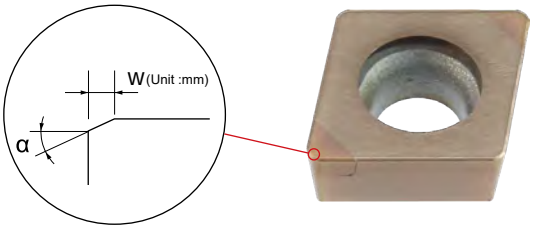
✓ stock △ by inquiry

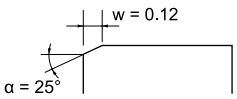
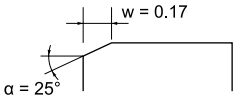
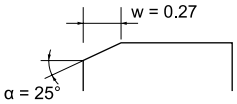
CBN Turning Insert Edge Specification CBN 車刀片刀尖規格

Edge specification code 刀尖規格碼規則

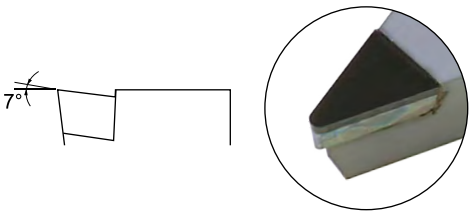
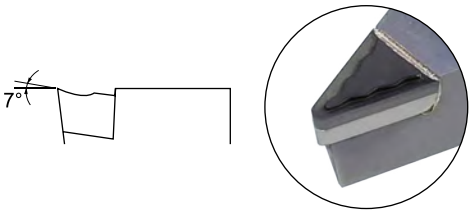
Code = 1 2 2 5

w(width)=0.12 α(angle)=25°



Edge specification code	Notation
1225	**SM** 
1725	**MM** 
2725	**RM** 

PCD Turning Insert Edge Specification PCD 車刀片刀尖規格

Edge specification	
Standard	
With Chip Breaker (※ Made to Order)	

CBN Turning Insert Grades 立方氮化硼車刀片材質介紹

Grade Type 刀片材質	Color 刀片顏色	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍
BN6020		● PVD (AlTiSiN) ● Wear resistance ● Fracture resistance ● 耐磨性 ● 抗斷裂性	● For hardened steel is 1st recommended ● Semi-finishing and rough cutting ● Continuous to medium interrupted dry cutting ● For high speed cutting ● 適合高硬度鋼加工的第一推薦 ● 適用於半精加工和粗加工 ● 適用連續至中斷續乾式加工 ● 適用高速加工			○			●	● Auto small parts ● Machinery parts ● Aircraft parts ● 汽車小零件 ● 機械零件 ● 航太零件
BN20	–	● Uncoated ● Wear resistance ● Fracture resistance ● 耐磨性 ● 抗斷裂性	● For small parts cutting ● Finishing and medium cutting ● Continuous to medium interrupted dry cutting ● For general cutting ● 適合小零件加工 ● 適用於精加工和中加工 ● 適用連續至中斷續乾式加工 ● 適用泛用加工			○			●	● Bike parts ● Auto small parts ● Electronic parts ● 自行車小零件 ● 汽車小零件 ● 電子零件

PCD Turning Insert Grades 聚晶鑽石車刀片材質介紹

Grade Type 刀片材質	Color 刀片顏色	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍
DA20	–	● Uncoated ● Wear resistance ● Fracture resistance ● 耐磨性 ● 抗斷裂性	● Finishing and semi-finishing ● General cutting ● Good wear resistance ● 適用於精加工和半精加工 ● 泛用加工 ● 優良的耐磨材質				●			● Bike parts ● Auto small parts ● Electronic parts ● 自行車小零件 ● 汽車小零件 ● 電子零件

CBN Turning Inserts Grade Comparison CBN 車刀片材質比較表

ISO Code		WINSTAR 萬事達	Mitsubishi 三菱	NTK	Sumitomo 住友	Kyocera 京瓷	Tungaloy 泰珂洛	Korloy 克勞伊	TaeguTec 特固克
H Hardened Steel	H01	BN4020 BN20	BC8105 BC8110 MBC010 MB810 MB8110	B5K B52	BNC2010 BNC2115 BN1000 BN2000	KBN05M KBN25M KBN510	BXA10 BXM10 BX310	DNC100 DB1000	TB610
	H10	BN4020 BN20	BC8110 BC8120 MBC020 MB8025 MB8110 MB825	B5K B6K B52 B36	BNC2010 BNC2020 BNC2115 BNC2125 BN2000	KBN05M KBN25M KBN525	BXA10 BXM10 BX330 BX530	DNC100 DNC250 DB1000 DB2000	TB610 TB650 TB2015
	H20	BN4020 BN20	BC8120 BC8020 MBC020 MB8025 MB8120	B36 B40 B6K	BNC2020 BNC2125 BNX20	KBN30M KBN35M KBN900	BXA20 BXM20 BX360	DNC400 DBNX20 DBN250 DBN400	TB650 TB670 TB2015
	H30	–	MB835 MB8130 BC8130	B40	BNC300 BN350 BNX25	KBN30M KBN35M KBN900	BXM20 BXA20 BXC50 BX380	DNC350	TB670 TB7015

ISO Code		WINSTAR 萬事達	Sandvik 山特維克	Iscar 伊斯卡	Kennametal 肯納	SECO 山高	Walter 瓦爾特
H Hardened Steel	H01	BN4020 BN20	CB7105	IB05H IB50 IB10HC	KB5610	CH0550 CBN10 CBN100 CBN60K	WCB30 WBH10 WBH10C
	H10	BN4020 BN20	CB7015 CB7115 CB20	IB10H IB55 IB25HA	KBH20 KB5610 KB5625	CBN10 CBN150 CBN100 CBN060K CBN160C	WCB50 WBH10
	H20	BN4020 BN20	CB7025 CB7125 CB50	IB20H IB20HC IB25H IB25HC	KBH20 KB5625 KB5630	CH2540 CBN150 CBN160C	WBH20 WBH20C
	H30	–	CB7525 CB7135	IB90	KB5630	CH3515	WBH30 WBK20 WBK30

The above table is selected from a publication for reference only, which is not obtained approval from each brand.

此材質比照表僅供參考

Recommended Cutting Conditions for CBN Turning Inserts 建議切削數據

H *Hardened Steel* 高硬度鋼

Work Material 加工材質	Cutting Process 加工方式	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Hardened Steel 高硬度鋼 (HRC 45 ~ 65)	Semi-finishing and rough cutting 半精加工和粗加工	BN6020	0.05-0.30-0.50	0.03-0.20-0.40	180-120-50
	Finishing and medium cutting 精加工和中加工	BN20	0.03-0.20-0.30	0.03-0.10-0.20	180-100-30

Recommended Cutting Conditions for PCD Turning Inserts 建議切削數據

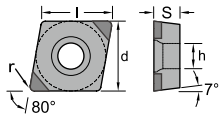
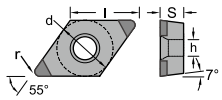
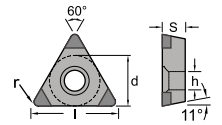
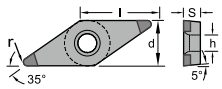
N *Non-ferrous Metals* 非鐵金屬

Work Material 加工材質	Cutting Process 加工方式	Grade 材質	ap (mm)	fr (mm/rev)	Vc (m/min)
Aluminum alloys (Si < 12%) 鋁合金	Finishing and Semi-finishing 精加工和半精加工	DA20	0.05-0.53-1.0	0.03-0.14-0.25	2700-1700-700
Aluminum alloys (Si > 12%) 鋁合金			0.05-0.53-1.0	0.03-0.11-0.18	800-540-270
Brass 黃銅			0.05-0.53-1.0	0.05-0.21-0.36	1300-950-600

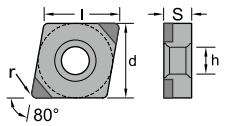
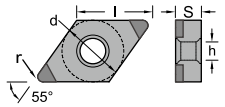
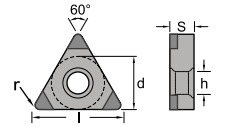
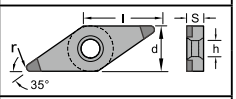
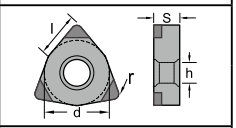
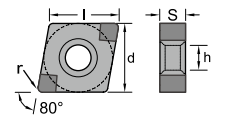
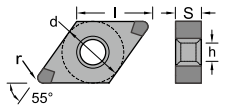
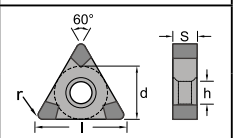
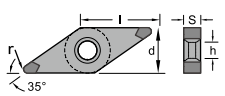
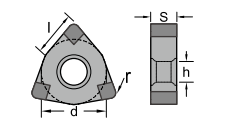
※ ap & fr value : Min. - Suggestion - Max.
下限 - 推薦 - 上限

Vc : Max. - Suggestion - Min.
上限 - 推薦 - 下限

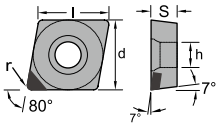
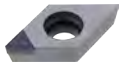
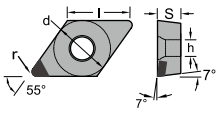
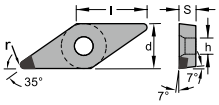
Turning Inserts · CBN · Positive 正角 CBN 車刀片

Inserts	Designation	Grade No. PVD BN6020			Grade No. Uncoated BN20			No. of Cutting Edges	Edge Spec.	Dimensions (mm) d	l	S	r	h	Drawing
	CCGW 060202C2-SM	✓			✓			2	1225	6.35	6.4	2.38	0.2	2.8	
	09T302C2-SM	✓			✓			2		9.525	9.7	3.97	0.2	4.4	
	09T304C2-SM	✓			✓			2		9.525	9.7	3.97	0.4	4.4	
	09T308C2-SM	✓			✓			2		9.525	9.7	3.97	0.8	4.4	
	CCGW 060202C2-MM	✓			✓			2	1725	6.35	6.4	2.38	0.2	2.8	
	09T308C2-MM	✓			✓			2		9.525	9.7	3.97	0.8	4.4	
	DCGW 070202C2-SM	✓			✓			2	1225	6.35	7.7	2.38	0.2	2.8	
	070204C2-SM	✓			✓			2		6.35	7.7	2.38	0.4	2.8	
	11T302C2-SM	✓			✓			2		9.525	11.6	3.97	0.2	4.4	
	11T304C2-SM	✓			✓			2		9.525	11.6	3.97	0.4	4.4	
	DCGW 11T308C2-MM	✓			✓			2	1725	9.525	11.6	3.97	0.8	4.4	
	TPGW 090202C3-SM	✓			✓			3	1225	5.56	9.6	2.38	0.2	2.8	
	090204C3-SM	✓			✓			3		5.56	9.6	2.38	0.4	2.8	
	110304C3-SM	✓			✓			3		6.35	11.0	3.18	0.4	3.4	
	110308C3-SM	✓			✓			3		6.35	11.0	3.18	0.8	3.4	
	VBGW 110304C2-SM	✓			✓			2	1225	6.35	11.1	3.18	0.4	2.8	
	110308C2-SM	✓			✓			2		6.35	11.1	3.18	0.8	2.8	
	160404C2-SM	✓			✓			2		9.525	16.6	4.76	0.4	4.4	
	160408C2-SM	✓			✓			2		9.525	16.6	4.76	0.8	4.4	
	VBGW 160408C2-MM	✓			✓			2	1725	9.525	16.6	4.76	0.8	4.4	

Turning Inserts · CBN · Negative 負角 CBN 車刀片

Inserts	Designation	Grade No. PVD BN6020			Grade No. Uncoated BN20			No. of Cutting Edges	Edge Spec.	Dimensions (mm) d	l	S	r	h	Drawing
	CNGA 120404C2-SM	✓						2		12.7	12.9	4.76	0.4	5.16	
	120408C2-SM	✓						2	1225	12.7	12.9	4.76	0.8	5.16	
	120412C2-SM	✓						2		12.7	12.9	4.76	1.2	5.16	
	DNGA 150404C2-SM	✓						2		12.7	15.5	4.76	0.4	5.16	
	150408C2-SM	✓						2	1225	12.7	15.5	4.76	0.8	5.16	
	150412C2-SM	✓						2		12.7	15.5	4.76	1.2	5.16	
	DNGA 150408C2-MM	✓						2	1725	12.7	15.5	4.76	0.8	5.16	
	TNGA 160404C3-SM	✓						3		9.525	16.5	4.76	0.4	3.81	
	160408C3-SM	✓						3	1225	9.525	16.5	4.76	0.8	3.81	
	160412C3-SM	✓						3		9.525	16.5	4.76	1.2	3.81	
	TNGA 160408C3-MM	✓						3	1725	9.525	16.5	4.76	0.8	3.81	
	VNGA 160404C2-SM	✓						2	1225	9.525	16.6	4.76	0.4	3.81	
	160408C2-SM	✓						2		9.525	16.6	4.76	0.8	3.81	
	WNGA 080408C3-SM	✓						3	1225	12.7	8.7	4.76	0.8	5.16	
	CNGA 120408C4-MM	✓						4	1725	12.7	12.9	4.76	0.8	5.16	
	CNGA 120408C4-RM	✓						4	2725	12.7	12.9	4.76	0.8	5.16	
	DNGA 150408C4-MM	✓						4	1725	12.7	15.5	4.76	0.8	5.16	
	DNGA 150408C4-RM	✓						4	2725	12.7	15.5	4.76	0.8	5.16	
	TNGA 160408C6-MM	✓						6	1725	9.525	16.5	4.76	0.8	3.81	
	TNGA 160408C6-RM	✓						6	2725	9.525	16.5	4.76	0.8	3.81	
	VNGA 160408C4-SM	✓						4	1225	9.525	16.6	4.76	0.8	3.81	
	WNGA 080408C6-MM	✓						6	1725	12.7	8.7	4.76	0.8	5.16	
	WNGA 080408C6-RM	✓						6	2725	12.7	8.7	4.76	1.2	5.16	

Turning Inserts · PCD · Positive 正角 PCD 車刀片

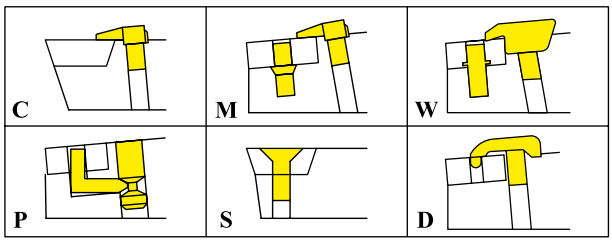
Inserts		Designation		Grade No. Uncoated DA20							Dimensions (mm) d	l	S	r	h	Drawing
Finishing to semi-finishing 精至半精		CCGT	060201	✓							6.35	6.4	2.38	0.1	2.8	
			060202	✓							6.35	6.4	2.38	0.2	2.8	
			060204	✓							6.35	6.4	2.38	0.4	2.8	
			09T301	✓							9.525	9.7	3.97	0.1	4.4	
			09T302	✓							9.525	9.7	3.97	0.2	4.4	
			09T304	✓							9.525	9.7	3.97	0.4	4.4	
			09T308	✓							9.525	9.7	3.97	0.8	4.4	
		DCGT	070201	✓							6.35	7.7	2.38	0.1	2.8	
			070202	✓							6.35	7.7	2.38	0.2	2.8	
			070204	✓							6.35	7.7	2.38	0.4	2.8	
			11T301	✓							9.525	11.6	3.97	0.1	4.4	
			11T302	✓							9.525	11.6	3.97	0.2	4.4	
			11T304	✓							9.525	11.6	3.97	0.4	4.4	
			11T308	✓							9.525	11.6	3.97	0.8	4.4	
		VCGT	110301	✓							6.35	11.1	3.18	0.1	2.8	
			110302	✓							6.35	11.1	3.18	0.2	2.8	
			110304	✓							6.35	11.1	3.18	0.4	2.8	
			160404	✓							9.525	16.6	4.76	0.4	4.4	
			160408	✓							9.525	16.6	4.76	0.8	4.4	

WINSTAR

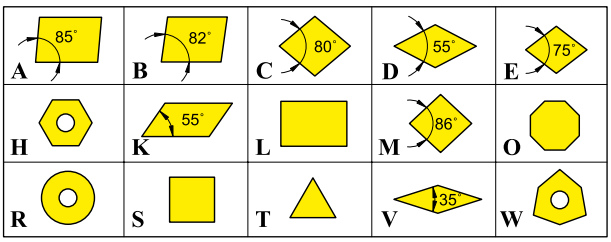
Tools Designations for External Turning 外徑車刀桿型號編碼

M	C	L	N	R	2	5	2	5	M	1	2	*
①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬

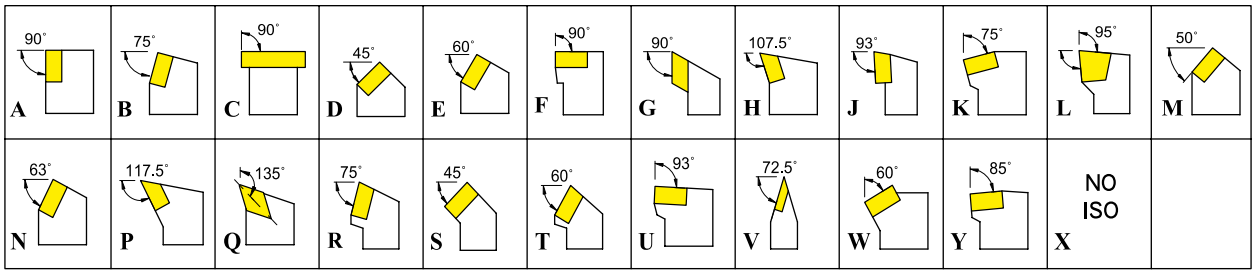
① Type of Locking



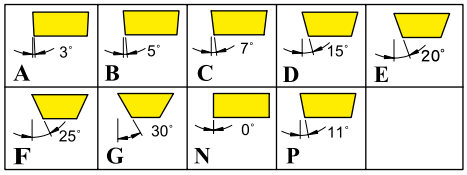
② Insert Shape



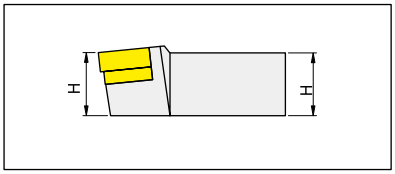
③ Type of Tool



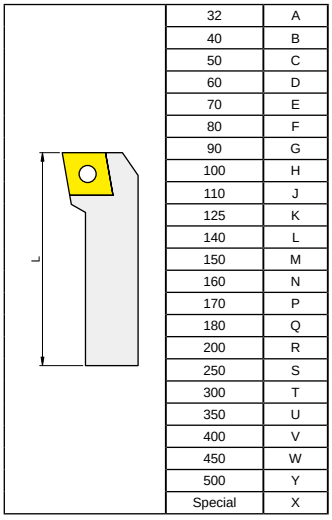
④ Rake Angle



⑥/⑦ Shank Height

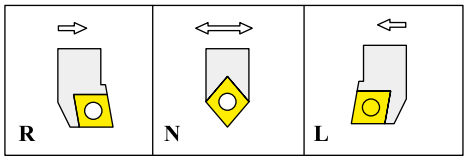


⑩ Tool Length

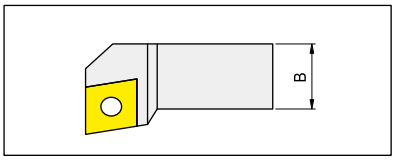


32	A
40	B
50	C
60	D
70	E
80	F
90	G
100	H
110	J
125	K
140	L
150	M
160	N
170	P
180	Q
200	R
250	S
300	T
350	U
400	V
450	W
500	Y
Special	X

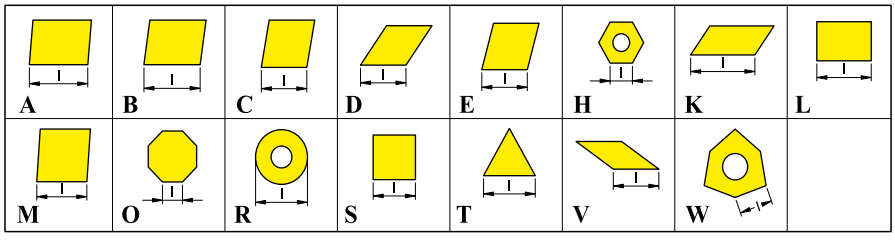
⑤ Hand of Tool



⑧/⑨ Shank Width



⑪/⑫ Edge Length



⑬ Optional Code

INSERTS	R-L

Tools Designations for Internal Turning 內徑車刀桿型號編碼

S	2	0	R		S	C	L	C	R	0	9		*
⑥	⑧	⑨	⑩		①	②	③	④	⑤	⑪	⑫		⑬

⑥ Shank

S = Steel shank

A = Steel shank + coolant hole

B = Steel shank + device anti-vibration

C = Cemented carbide shank with steel head

D = Steel shank + device anti-vibration + coolant hole

E = Cemented carbide shank with steel head + coolant hole

F = Cemented carbide shank with steel head + device anti-vibration

G = Cemented carbide shank with steel head + device anti-vibration + coolant hole

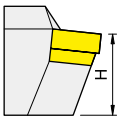
H = Heavy metal shank

J = Heavy mteal shank + coolant hole

Cartridges Designation

S	T	F	C	R	1	0	C	A		1	1
①	②	③	④	⑤	⑥	⑦	⑧	⑨		⑪	⑫

⑥/⑦ Shank Height



⑧ Type of Tool

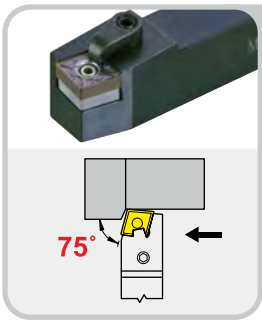
C = Cartridge

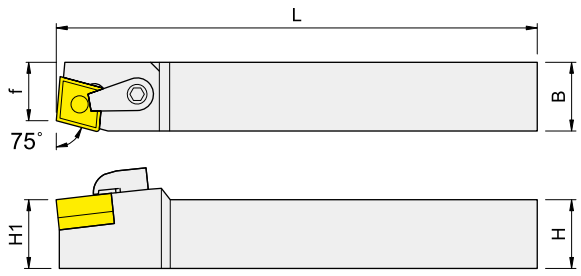
⑨ Execution

A = ISO 5611

External Turning Holders 外徑車刀桿

MCBN

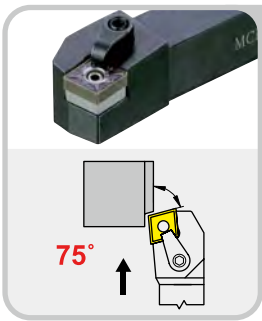


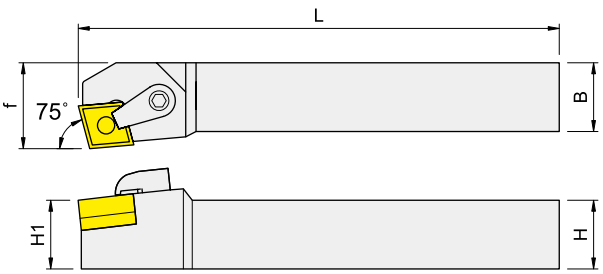


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCBN$^{R}_{L}$-2020K-12	20	20	125	20	17	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCBN$^{R}_{L}$-2525M-12	25	25	150	25	22					IMS630TX		
IMCBN$^{R}_{L}$-3232P-12	32	32	170	32	29							

MCKN

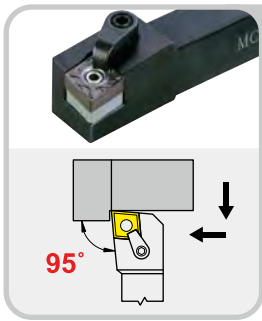


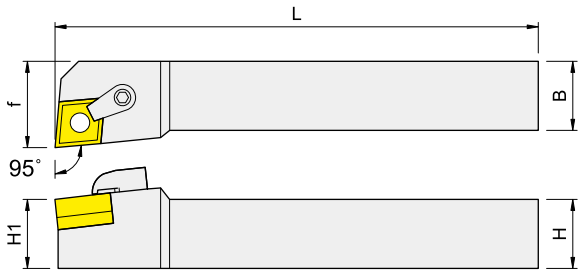


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCKN$^{R}_{L}$-1616K-12	16	16	125	16	20	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCKN$^{R}_{L}$-2020K-12	20	20	125	20	25							
IMCKN$^{R}_{L}$-2525M-12	25	25	150	25	32					IMS630TX		
IMCKN$^{R}_{L}$-3232P-12	32	32	170	32	40							

MCLN



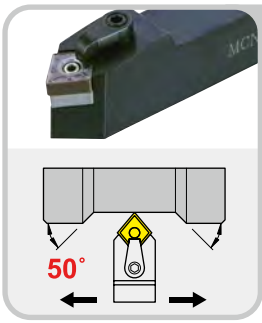


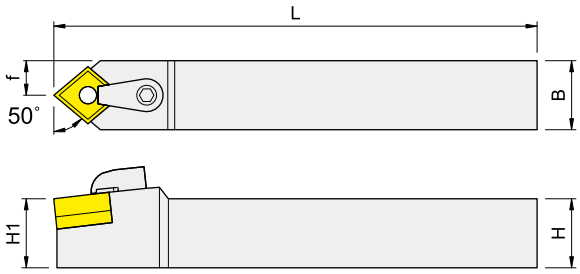
Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCLN$^{R}_{L}$-1616K-12	16	16	125	16	20	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCLN$^{R}_{L}$-2020K-12	20	20	125	20	25							
IMCLN$^{R}_{L}$-2525M-12	25	25	150	25	32					IMS630TX		
IMCLN$^{R}_{L}$-3232P-12	32	32	170	32	40							

External Turning Holders 外徑車刀桿

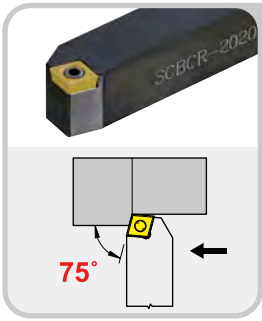
MCNN

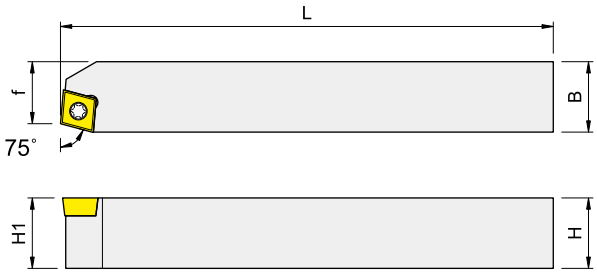




Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMCNNN-1616K-12	16	16	125	16	8	CN..1204..	IMLP46-A	ICMS432	IPL25	IMS625TX	IMC620	IETL15
IMCNNN-2020K-12	20	20	125	20	10							
IMCNNN-2525M-12	25	25	150	25	12.5					IMS630TX		
IMCNNN-3232P-12	32	32	170	32	16							

SCBC

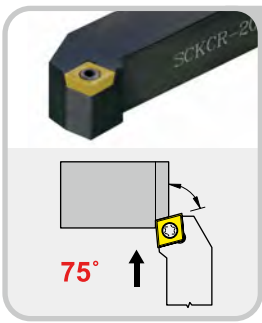


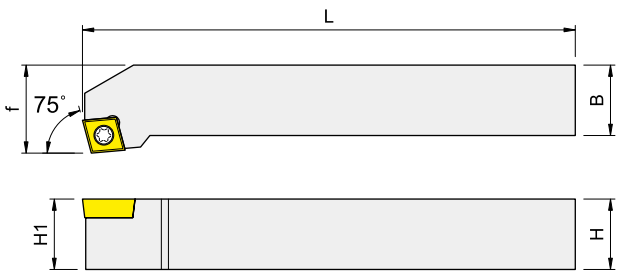


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCBC$^{R}/_{L}$-2020K-09	20	20	125	20	17.5	CC..09T3..	IMS4011A	ITK15

SCKC

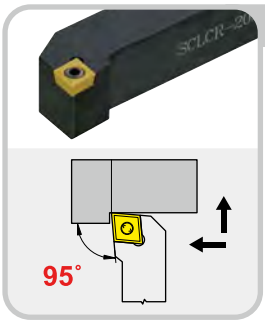




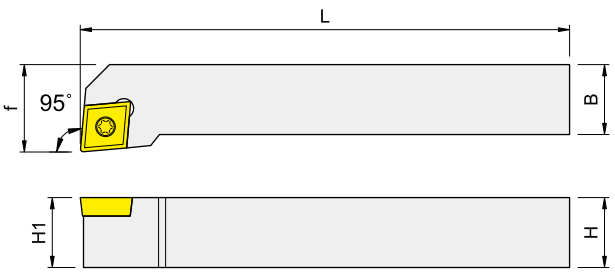
Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCKC$^{R}/_{L}$-1212K-09	12	12	125	12	16	CC..09T3..	IMS4011A	ITK15
ISCKC$^{R}/_{L}$-1616K-09	16	16	125	16	20			
ISCKC$^{R}/_{L}$-2020K-09	20	20	125	20	25			
ISCKC$^{R}/_{L}$-2525M-09	25	25	150	25	32			

External Turning Holders 外徑車刀桿

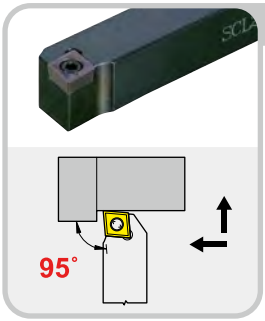


SCLC

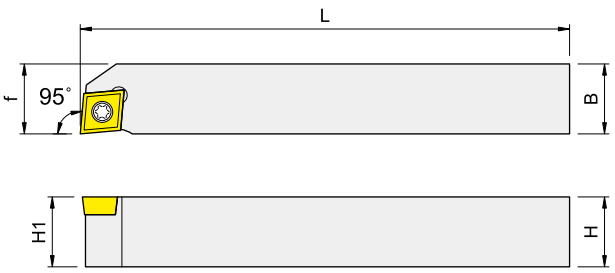


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCLC$^{R}_{L}$-1010H-06	10	10	100	10	12	CC..0602..	IMS2506A	ITK09
ISCLC$^{R}_{L}$-1010K-06	10	10	125	10	12			
ISCLC$^{R}_{L}$-1212H-09	12	12	100	12	16	CC..09T3..	IMS4011A	ITK15
ISCLC$^{R}_{L}$-1212K-09	12	12	125	12	16			
ISCLC$^{R}_{L}$-1616K-09	16	16	125	16	20			
ISCLC$^{R}_{L}$-2020K-09	20	20	125	20	25			
ISCLC$^{R}_{L}$-2525M-09	25	25	150	25	32			
ISCLC$^{R}_{L}$-2020K-12	20	20	125	20	25	CC..1204..	IMS5011A	ITK20
ISCLC$^{R}_{L}$-2525M-12	25	25	150	25	32			



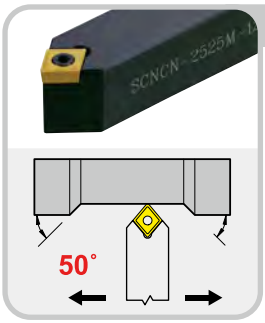
SCL2C



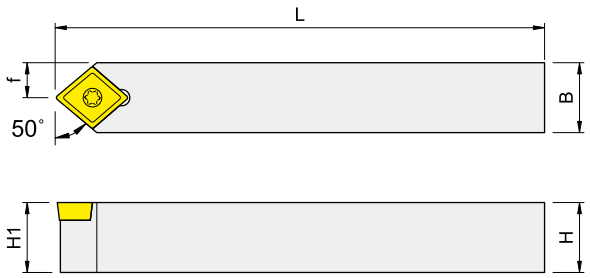
Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCL2C$^{R}_{L}$-1010H-06	10	10	100	10	10	CC..0602..	IMS2506A	ITK09
ISCL2C$^{R}_{L}$-1212H-09	12	12	100	12	12	CC..09T3..	IMS4011A	ITK15
ISCL2C$^{R}_{L}$-1616K-09	16	16	125	16	16			
ISCL2C$^{R}_{L}$-2020K-09	20	20	125	20	25			

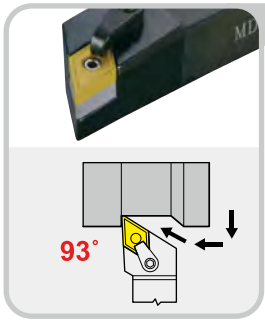
External Turning Holders 外徑車刀桿



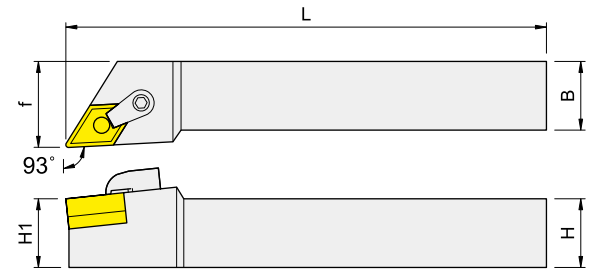
SCNC



Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISCNCN-1616K-06	16	16	125	16	8	CC..0602..	IMS2506A	ITK09
ISCNCN-1212K-09	12	12	125	12	6	CC..09T3..	IMS4011A	ITK15
ISCNCN-1616K-09	16	16	125	16	8			
ISCNCN-2020K-09	20	20	125	20	10			
ISCNCN-2525M-09	25	25	150	25	12.5			
ISCNCN-2020K-12	20	20	125	20	10	CC..1204..	IMS5011A	ITK20
ISCNCN-2525M-12	25	25	150	25	12.5			



MDJN

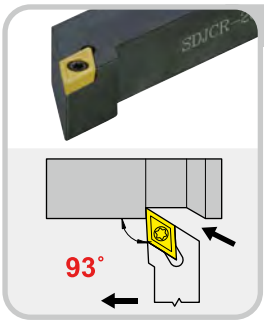


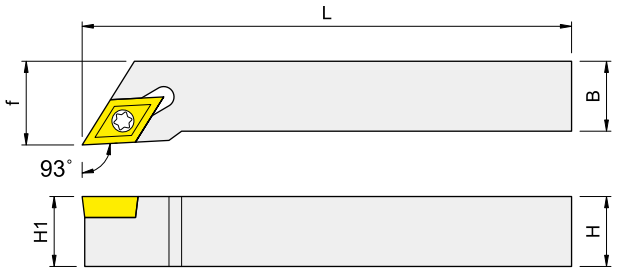
Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMDJN$^{R}/_{L}$-2020K-1504	20	20	125	20	25	DN..1504..	IMLP46L-A	IDMS442	IPL25	IMS625TX	IMC622	IETL15
IMDJN$^{R}/_{L}$-2525M-1504	25	25	150	25	32					IMS630TX		
IMDJN$^{R}/_{L}$-2020K-1506	20	20	125	20	25	DN..1506..	IMLP46L-A	IDMS432	IPL25	IMS625TX	IMC622	IETL15
IMDJN$^{R}/_{L}$-2525M-1506	25	25	150	25	32					IMS630TX		

External Turning Holders 外徑車刀桿

SDJC

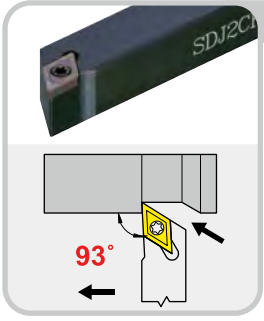




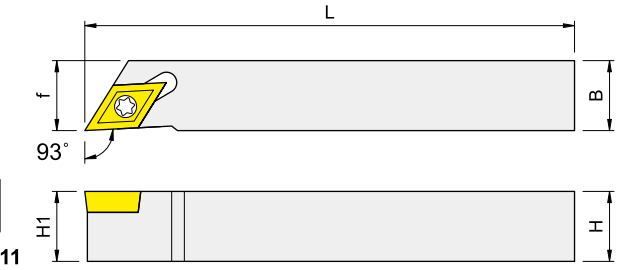
Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDJC$^{R}_{L}$-1010H-07	10	10	100	10	12	DC..0702..	IMS2506B	ITK09
ISDJC$^{R}_{L}$-1212H-07	12	12	100	12	16			
ISDJC$^{R}_{L}$-1212K-07	12	12	125	12	16			
ISDJC$^{R}_{L}$-1616K-07	16	16	125	16	20			
ISDJC$^{R}_{L}$-2020K-07	20	20	125	20	25			
ISDJC$^{R}_{L}$-1212H-11	12	12	100	12	16	DC..11T3..	IMS4009A	ITK15
ISDJC$^{R}_{L}$-1212K-11	12	12	125	12	16			
ISDJC$^{R}_{L}$-1616K-11	16	16	125	16	20			
ISDJC$^{R}_{L}$-2020K-11	20	20	125	20	25			
ISDJC$^{R}_{L}$-2525M-11	25	25	150	25	32			

SDJ2C



SDJ2CR-1010H/K-11

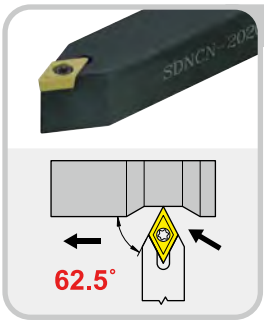


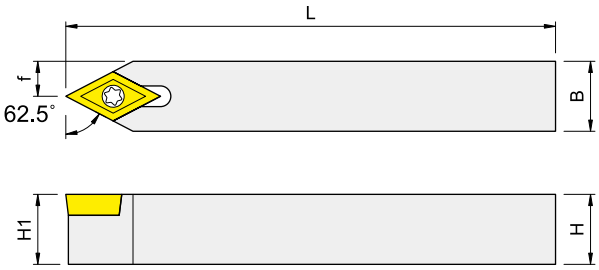
Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDJ2C$^{R}_{L}$-1010H-07	10	10	100	10	10	DC..0702..	IMS2506B	ITK09
ISDJ2C$^{R}_{L}$-1212H-07	12	12	100	12	12			
ISDJ2C$^{R}_{L}$-1212K-07	12	12	125	12	12			
ISDJ2C$^{R}_{L}$-1616K-07	16	16	125	16	16			
ISDJ2C$^{R}_{L}$-2020K-07	20	20	125	20	20			
ISDJ2C$^{R}_{L}$-2525M-07	25	25	150	25	25			
ISDJ2C$^{R}_{L}$-1010H-11	10	10	100	10	10	DC..11T3..	IMS4009A	ITK15
ISDJ2C$^{R}_{L}$-1010K-11	10	10	125	10	10			
ISDJ2C$^{R}_{L}$-1212H-11	12	12	100	12	12		IMS4011A	
ISDJ2C$^{R}_{L}$-1616K-11	16	16	125	16	16			
ISDJ2C$^{R}_{L}$-2020K-11	20	20	125	20	20			
ISDJ2C$^{R}_{L}$-2525M-11	25	25	150	25	25			
ISDJ2C$^{R}_{L}$-3232P-11	32	32	170	32	32			

External Turning Holders 外徑車刀桿

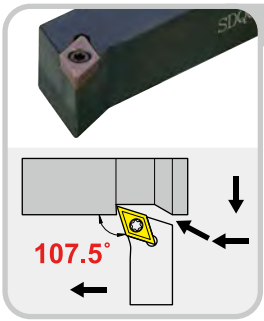
SDNC

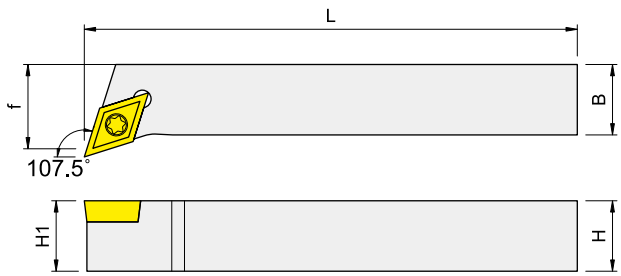




Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDNCN-1010H-07	10	10	100	10	5	DC..0702..	IMS2506B	ITK09
ISDNCN-1212H-07	12	12	100	12	6			
ISDNCN-1616K-07	16	16	125	16	8			
ISDNCN-1212H-11	12	12	100	12	6	DC..11T3..	IMS4011A	ITK15
ISDNCN-1212K-11	12	12	125	12	6			
ISDNCN-1616K-11	16	16	125	16	8			
ISDNCN-2020K-11	20	20	125	20	10			
ISDNCN-2525M-11	25	25	150	25	12.5			

SDQC

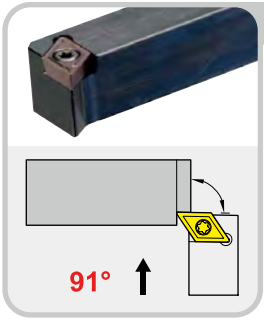


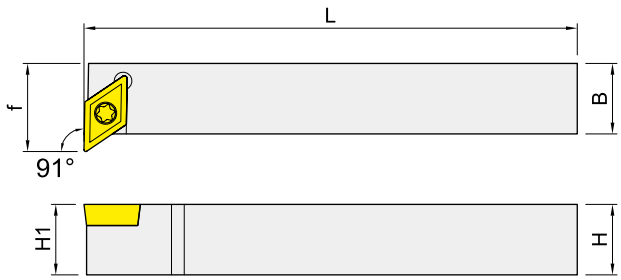


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDQC$^{R}_{L}$-1212H-11	12	12	100	12	16	DC..11T3..	IMS4011A	ITK15
ISDQC$^{R}_{L}$-1616K-11	16	16	125	16	20			
ISDQC$^{R}_{L}$-2020K-11	20	20	125	20	25			
ISDQC$^{R}_{L}$-2525M-11	25	25	150	25	32			

SDFC



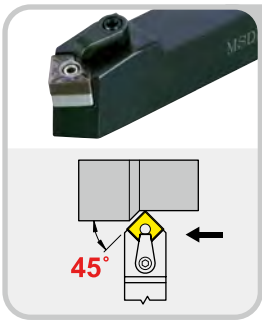


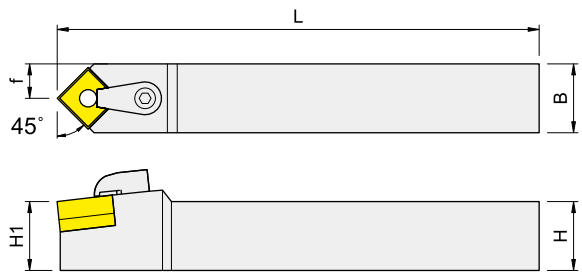
Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISDFC$^{R}_{L}$-1212K-07	12	12	125	12	16	DC..0702..	IMS2506B	ITK09
ISDFC$^{R}_{L}$-1212K-11	12	12	125	12	19	DC..11T3..	IMS4011A	ITK15
ISDFC$^{R}_{L}$-1616K-11	16	16	125	16	20			

External Turning Holders 外徑車刀桿

MSDN

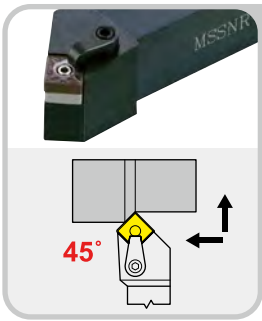


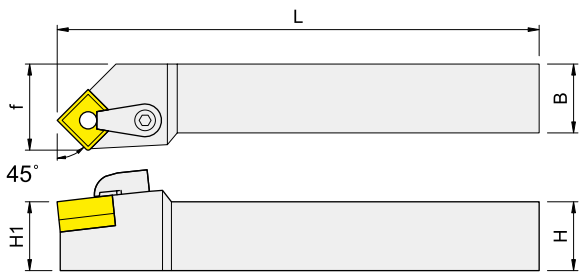


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMSDNN-2020K-12	20	20	125	20	10	SN..1204..	IMLP46-A	ISMS432	IPL25	IMS625TX	IMC620	IETL15
IMSDNN-2525M-12	25	25	150	25	12.5					IMS630TX		

MSSN

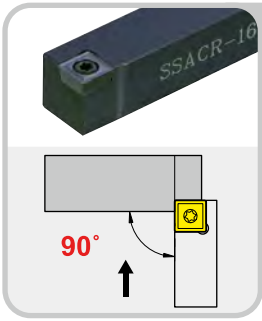


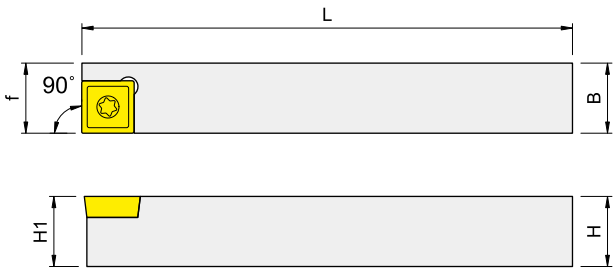


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMSSN$^{R}/_{L}$-1616K-12	16	16	125	16	20	SN..1204..	IMLP46-A	ISMS432	IPL25	IMS625TX	IMC620	IETL15
IMSSN$^{R}/_{L}$-2020K-12	20	20	125	20	25							
IMSSN$^{R}/_{L}$-2525M-12	25	25	150	25	32					IMS630TX		

SSAC



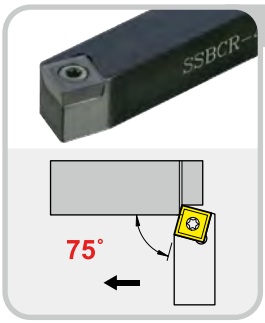


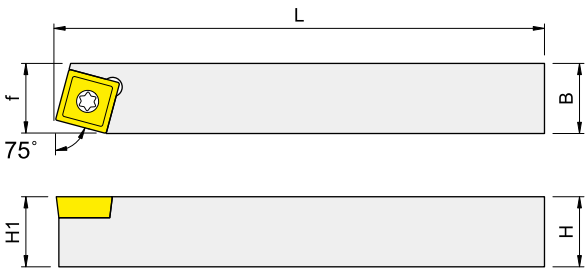
Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSAC$^{R}/_{L}$-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15
ISSAC$^{R}/_{L}$-4.4H-09	12.7	12.7	100	12.7	12.7		IMS4011A	ITK15
ISSACR-1212H-09	12	12	100	12	12			
ISSAC$^{R}/_{L}$-1616K-09	16	16	125	16	16			

External Turning Holders 外徑車刀桿

SSBC

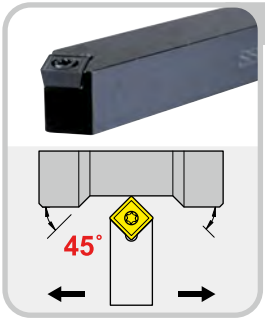


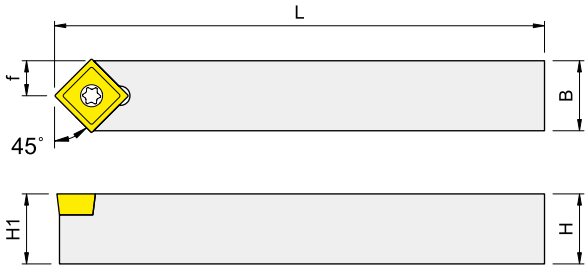


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSBC$^{R}/_{L}$-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15
ISSBC$^{R}/_{L}$-4.4H-09	12.7	12.7	100	12.7	12.7		IMS4011A	ITK15
ISSBC$^{R}/_{L}$-1212H-09	12	12	100	12	12			

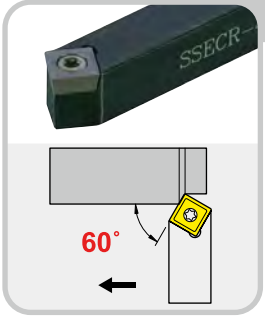
SSDC

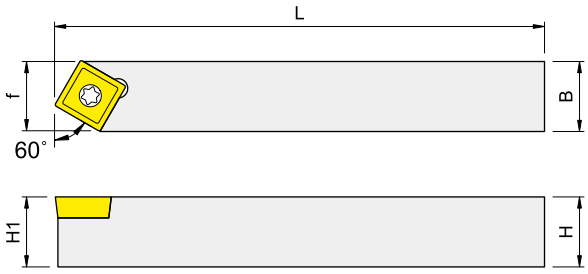




Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSDCN-3.4H-09	9.5	12.7	100	9.5	6.35	SC..09T3..	IMS4009A	ITK15
ISSDCN-4.4H-09	12.7	12.7	100	12.7	6.35	SC..09T3..	IMS4011A	ITK15
ISSDCN-1212H-09	12	12	100	12	6			
ISSDCN-1616K-09	16	16	125	16	8			
ISSDCN-2020K-09	20	20	125	20	10			
ISSDCN-2525M-09	25	25	150	25	12.5			

SSEC



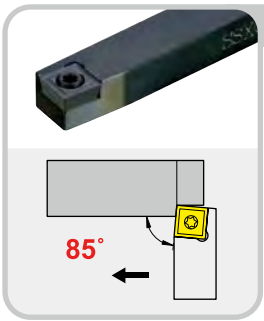


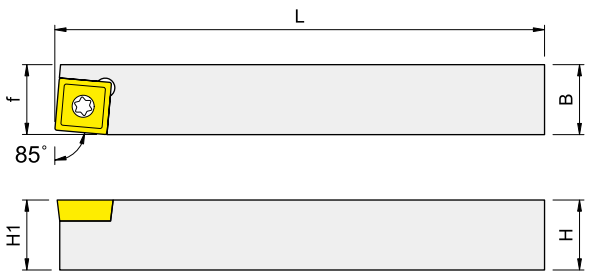
Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSEC$^{R}/_{L}$-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15
ISSEC$^{R}/_{L}$-4.4H-09	12.7	12.7	100	12.7	12.7	SC..09T3..	IMS4011A	ITK15
ISSEC$^{R}/_{L}$-1212H-09	12	12	100	12	12			

External Turning Holders 外徑車刀桿

SSXC

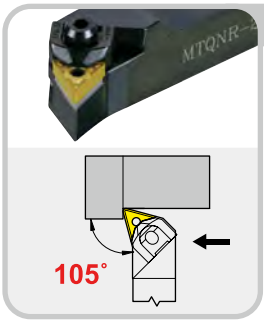


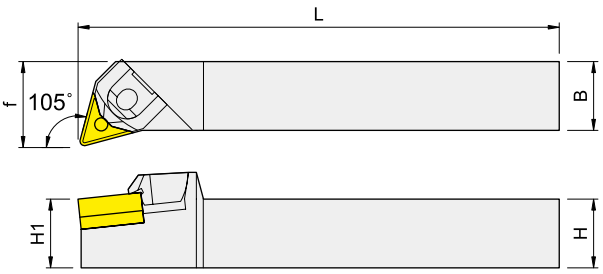


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISSXCR-3.4H-09	9.5	12.7	100	9.5	12.7	SC..09T3..	IMS4009A	ITK15

MTQN

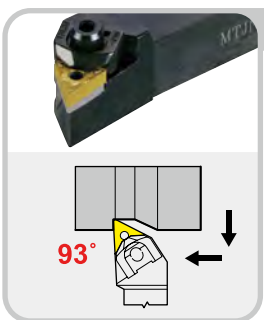


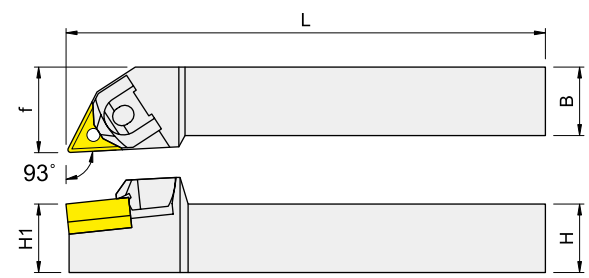


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IMTQN$^{R}_{L}$-2020K-16	20	20	125	20	25	TN..1604..	IMCP3	IMCS3S-11	IPL30	ITWS322	IMCW3-P40	IPL40
IMTQN$^{R}_{L}$-2525M-16	25	25	150	25	32							

MTJN



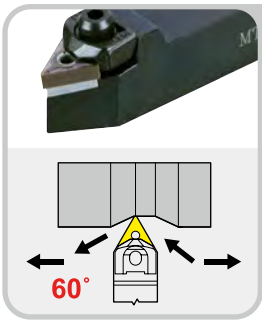


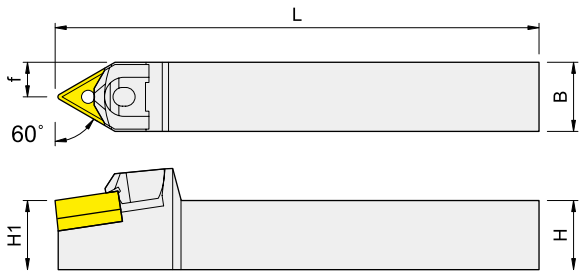
Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IMTJN$^{R}_{L}$-1216K-16	12	16	125	16	21	TN..1604..	IMCP3	IMCS3S-11	IPL30	ITWS322	IMCW3-P40	IPL40
IMTJN$^{R}_{L}$-1616K-16	16	16	125	16	21							
IMTJN$^{R}_{L}$-2020K-16	20	20	125	20	25							
IMTJN$^{R}_{L}$-2525M-16	25	25	150	25	32							
IMTJN$^{R}_{L}$-3232P-16	32	32	170	32	40							

External Turning Holders 外徑車刀桿

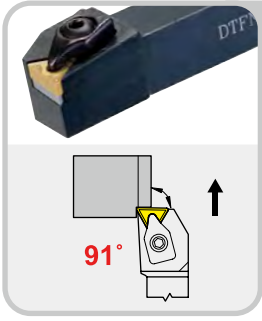
MTEN

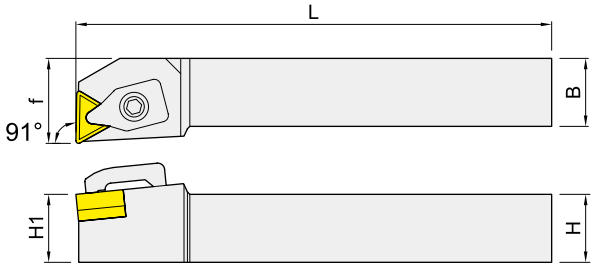




Order No.	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IMTENN-1216K-16	12	16	125	16	8	TN..1604..	IMCP3	IMCS3S-09	IPL30	ITWS322	IMCW3-P40	IPL40
IMTENN-1616K-16	16	16	125	16	8							
IMTENN-2020K-16	20	20	125	20	10							
IMTENN-2525M-16	25	25	150	25	12.5							

DTFN

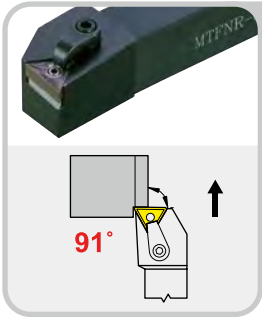


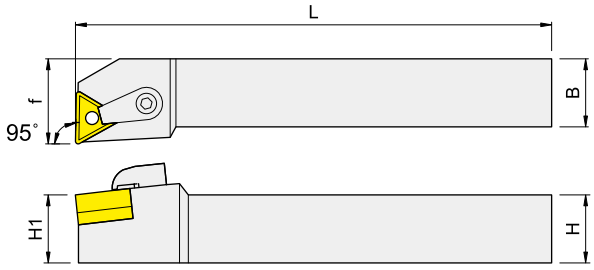


Right-hand shown

Order No.	Dimensions, mm					Insert	Shim	Screw	Wrench	Clamp	Wrench
	H	B	L	H1	f						
IDTFN$^{R}/_{L}$-1616K-16	16	16	125	16	20	TN..1604..	ITWS322	IMS4008H	IPL25	IMCD324B	IPL40
IDTFN$^{R}/_{L}$-2020K-16	20	20	125	20	25						
IDTFN$^{R}/_{L}$-2525M-16	25	25	150	25	32						

MTFN



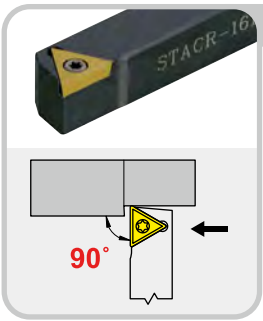


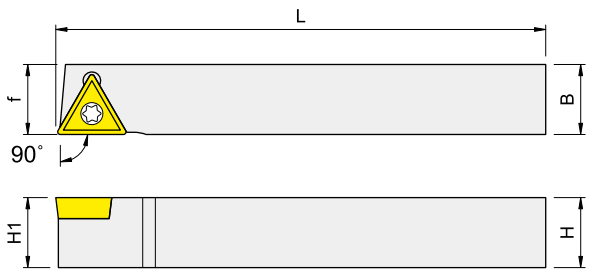
Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMTFNR-1616K-16	16	16	125	16	20	TN..1604..	IMLP34L-A	ITMS322	IPL20	IMS625TX	IMC620	IETL15
IMTFNR-2020K-16	20	20	125	20	25					IMS630TX		
IMTFNR-2525M-16	25	25	150	25	32							

External Turning Holders 外徑車刀桿

STAC

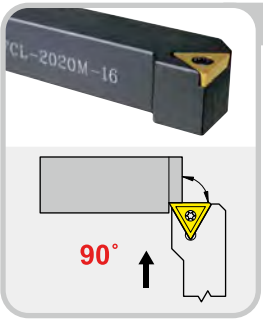


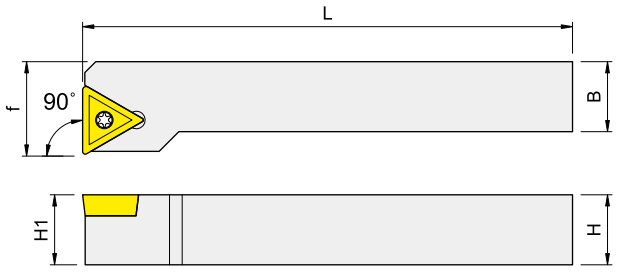


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISTACR-1010H-11	10	10	100	10	10	TC..1102..	IMS2506A	ITK09
ISTACR-1212H-11	12	12	100	12	12			
ISTACR-1616K-11	16	16	125	16	16			
ISTACR-3.4H-11	9.5	12.7	100	9.5	12.7			
ISTACR-4.4H-11	12.7	12.7	100	12.7	12.7			
ISTACR-1616K-16	16	16	125	16	16	TC..16T3..	IMS4011A	ITK15

STFC

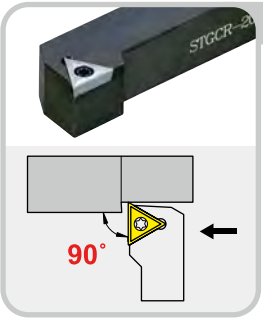


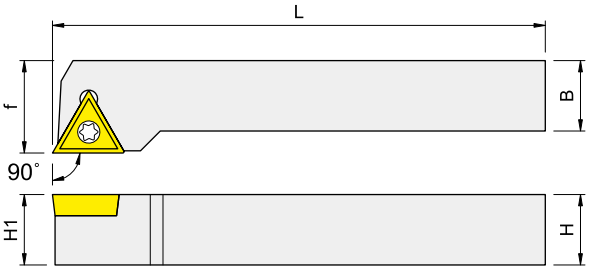


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISTFC$^{R}/_{L}$-2020K-16	20	20	125	20	25	TC..16T3..	IMS4011A	ITK15
ISTFC$^{R}/_{L}$-2525M-16	25	25	150	25	32			

STGC

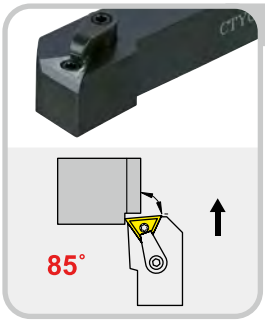


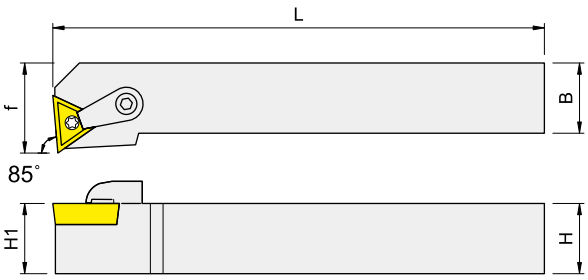


Right-hand shown

Order No.	Dimensions, mm					Insert	Clamp	Wrench
	H	B	L	H1	f			
ISTGC$^{R}/_{L}$-1212K-16	12	12	100	12	16	TC..16T3..	IMS4011A	ITK15
ISTGC$^{R}/_{L}$-1616K-16	16	16	125	16	20			
ISTGC$^{R}/_{L}$-2020K-16	20	20	125	20	25			
ISTGC$^{R}/_{L}$-2525M-16	25	25	150	25	32			

CTYC

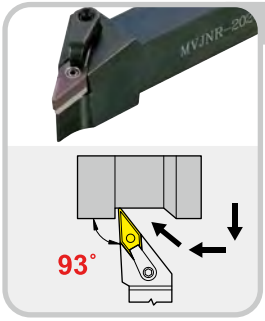


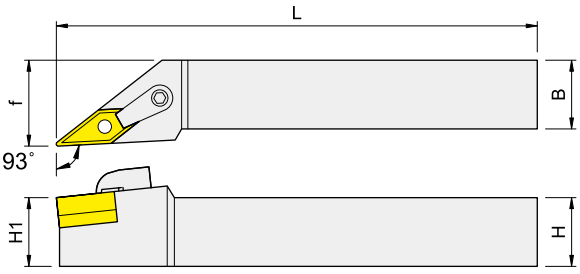


Right-hand shown

Order No.	Dimensions, mm					Insert	Screw	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f						
ICTYC$^{R}_{L}$-2020K-16	20	20	125	20	25	TC..16T3..	IMS4011A	ITK15	IMS625TX	IMC620	IETL15

MVJN

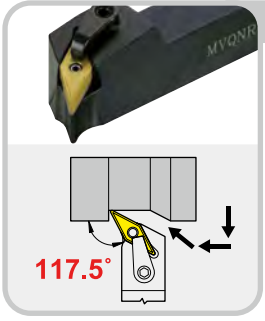


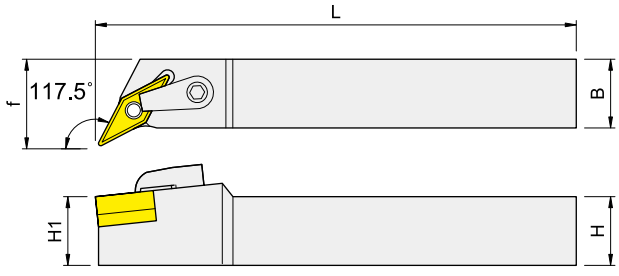


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMVJN$^{R}_{L}$-1616K-16	16	16	125	16	21	VN..1604..	IMLP34L -A	IVMS322	IPL20	IMS625TX	IMC622	IETL15
IMVJN$^{R}_{L}$-2020K-16	20	20	125	20	25							
IMVJN$^{R}_{L}$-2525M-16	25	25	150	25	32					IMS630TX		

MVQN



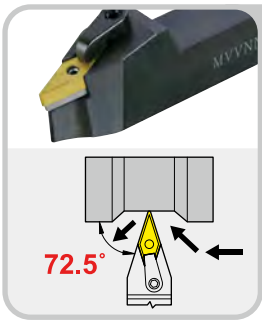


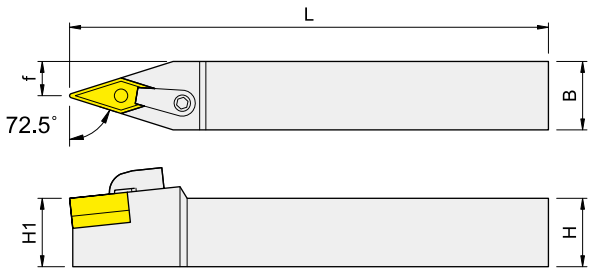
Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMVQN$^{R}_{L}$-2020K-16	20	20	125	20	25	VN..1604..	IMLP34L-A	IVMS322	IPL20	IMS625TX	IMC622	IETL15
IMVQN$^{R}_{L}$-2525M-16	25	25	150	25	32					IMS630TX		

External Turning Holders 外徑車刀桿

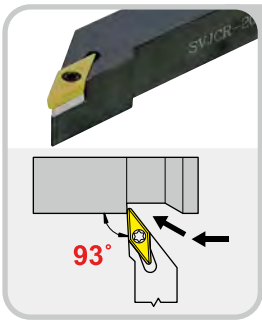
MVVN

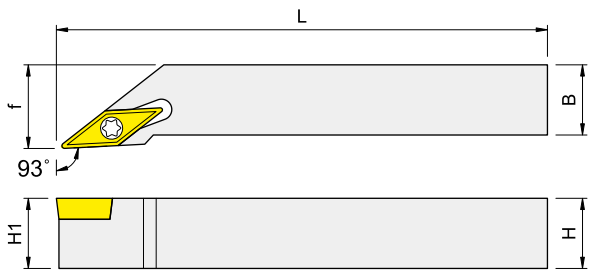




Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMVVNN-1616K-16	16	16	125	16	8	VN..1604..	IMLP34L-A	IVMS322	IPL20	IMS625TX	IMC622	IETL15
IMVVNN-2020K-16	20	20	125	20	10							
IMVVNN-2525M-16	25	25	150	25	12.5					IMS630TX		

SVJB

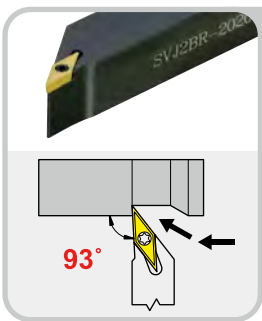


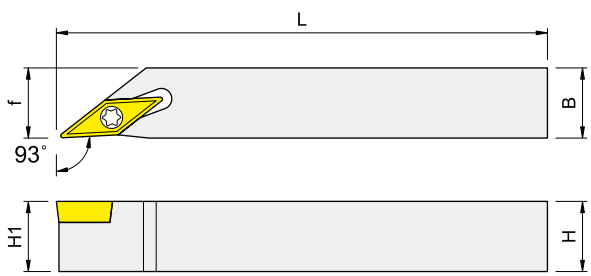


Right-hand shown

Order No.	Dimensions, mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
ISVJB$^{R}_{L}$-1616K-16	16	16	125	16	20	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15
ISVJB$^{R}_{L}$-2020K-16	20	20	125	20	25						
ISVJB$^{R}_{L}$-2525M-16	25	25	150	25	32						
ISVJC$^{R}_{L}$-1010H-11	10	10	100	10	12	VC..1103..	--	--	--	IMS2506A	ITK09
ISVJC$^{R}_{L}$-1212K-11	12	12	125	12	16						
ISVJC$^{R}_{L}$-1616K-11	16	16	125	16	20						
ISVJC$^{R}_{L}$-2020K-11	20	20	125	20	25						
ISVJC$^{R}_{L}$-2525M-11	25	25	150	25	32						

SVJ2B

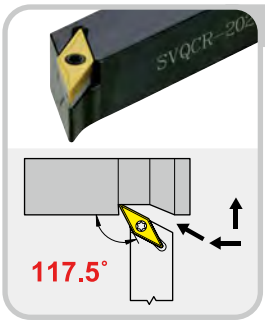




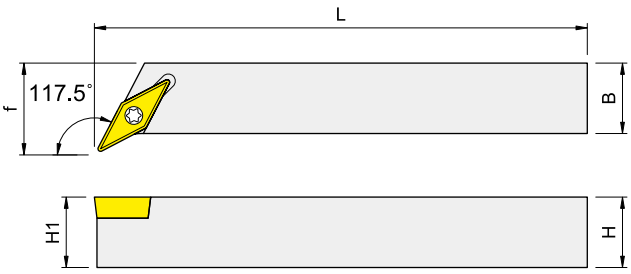
Right-hand shown

Order No.	Dimensions, mm					Insert	Screw	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f						
ISVJ2C$^{R}_{L}$-1010H-11	10	10	100	10	10	VC..1103..	--	--	--	IMS2506A	ITK09
ISVJ2C$^{R}_{L}$-1212H-11	12	12	100	12	12						
ISVJ2C$^{R}_{L}$-1616K-11	16	16	125	16	16						
ISVJ2C$^{R}_{L}$-2020K-11	20	20	125	20	20						

External Turning Holders 外徑車刀桿

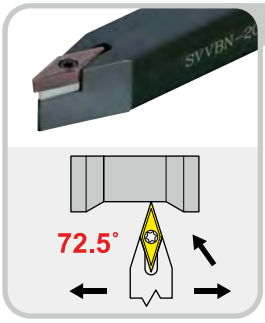


SVQB

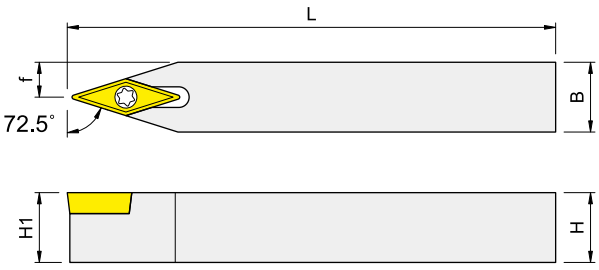


Right-hand shown

Order No.	Dimensions, mm					Insert	Shim	Screw	Wrench	Screw	Wrench
	H	B	L	H1	f						
ISVQB$^{R}_{L}$-2020K-16	20	20	125	20	25	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15
ISVQB$^{R}_{L}$-2525M-16	25	25	150	25	32						
ISVQC$^{R}_{L}$-1212H-11	12	12	100	12	16	VC..1103..	--	--	--	IMS2506A	ITK09
ISVQC$^{R}_{L}$-1616K-11	16	16	125	16	20						
ISVQC$^{R}_{L}$-2020K-11	20	20	125	20	25						



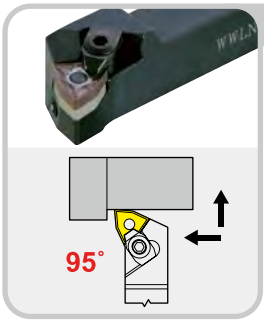
SVVB

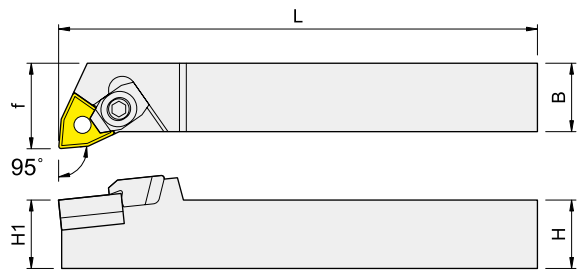


Order No.	Dimensions, mm					Insert	Screw	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f						
ISVVBN-1616K-16	16	16	125	16	8	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15
ISVVBN-2020K-16	20	20	125	20	10						
ISVVBN-2525M-16	25	25	150	25	12.5						
ISVVCN-1010H-11	10	10	100	10	5	VC..1103..	--	--	--	IMS2506A	ITK09
ISVVCN-1212K-11	12	12	125	12	6						
ISVVCN-1616K-11	16	16	125	16	8						
ISVVCN-2020K-11	20	20	125	20	10						
ISVVCN-2525M-11	25	25	150	25	12.5						

External Turning Holders 外徑車刀桿

WWLN

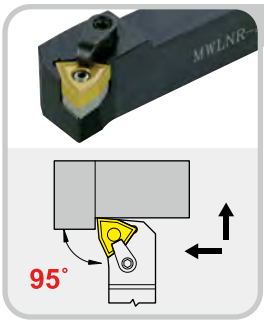


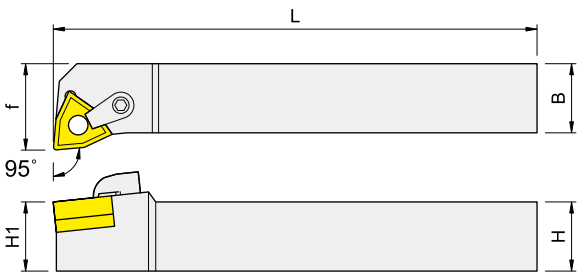


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Screw	Wrench	Shim	Clamp	Wrench
	H	B	L	H1	f							
IWWLN$^{R}/_{L}$-2020K-08	20	20	125	20	25	WN..0804..	IMCP4	IMCS3S-09	IPL30	IWMS432	IWCW6-P4	IPL40
IWWLN$^{R}/_{L}$-2525M-08	25	25	150	25	32							

MWLN

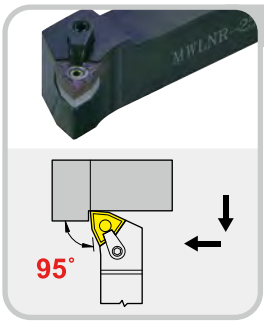


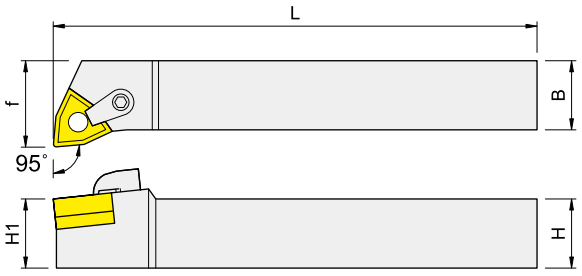


Right-hand shown

Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMWLN$^{R}/_{L}$-2020K-08	20	20	125	20	25	WN..0804..	IMLP46-A	IWMS432	IPL25	IMS625TX	IMC620	IETL15
IMWLN$^{R}/_{L}$-2525M-08	25	25	150	25	32					IMS630TX		

MWLN-N



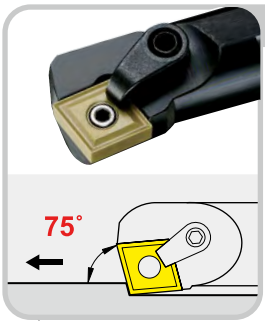


Right-hand shown

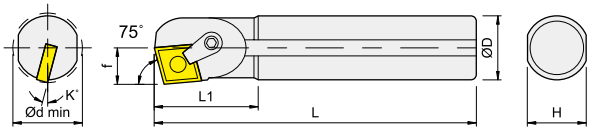
Order No.	Dimensions, mm					Insert	Pin	Shim	Wrench	Screw	Clamp	Wrench
	H	B	L	H1	f							
IMWLN$^{R}/_{L}$-2020K-08N	20	20	125	20	25	WN..0804..	IMLP46-A	IWMS432	IPL25	IMS625TX	IMC620	IETL15
IMWLN$^{R}/_{L}$-2525M-08N	25	25	150	25	32					IMS630TX		

Internal Turning Holders 內徑車刀桿

MCKN

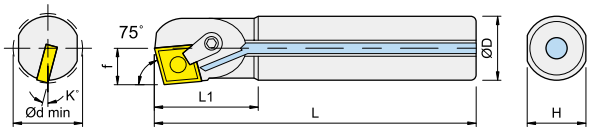


■ S..-MCKNR/L-12 Steel shank



Right-hand shown

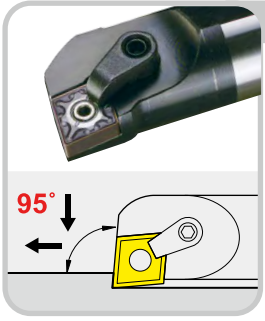
■ A..-MCKNR/L-12 Steel shank+coolant hole



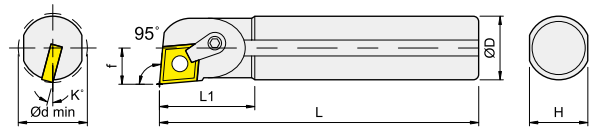
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MCKN$^{R}_{L}$-12	20	200	40	13	18	15	25	CN..1204..	--	IMLP44-A	IPL25	IMC620	IMS620TX	IETL15
IS25R-MCKN$^{R}_{L}$-12	25	200	40	15.5	23	13	30							
IS32S-MCKN$^{R}_{L}$-12	32	250	48	19.5	30	13	40		ICMS432	IMLP46-A	IPL25		IMS625TX	
IS40T-MCKN$^{R}_{L}$-12	40	300	55	25.5	37	12	50							
IS50U-MCKN$^{R}_{L}$-12	50	350	60	30.5	47	10	60							
IS60V-MCKN$^{R}_{L}$-12	60	400	60	35.5	57	9	70							
IA20R-MCKN$^{R}_{L}$-12	20	200	40	13	18	15	25		--	IMLP44-A	IPL25		IMS620TX	
IA25R-MCKN$^{R}_{L}$-12	25	200	40	15.5	23	13	30							
IA32S-MCKN$^{R}_{L}$-12	32	250	48	19.5	30	13	40		ICMS432	IMLP46-A	IPL25		IMS625TX	
IA40T-MCKN$^{R}_{L}$-12	40	300	55	25.5	37	12	50							

MCLN

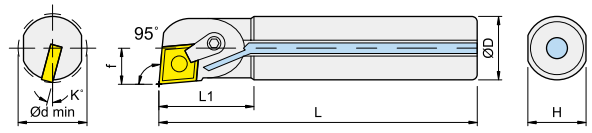


■ S..-MCKNR/L-12 Steel shank



Right-hand shown

■ A..-MCKNR/L-12 Steel shank+coolant hole

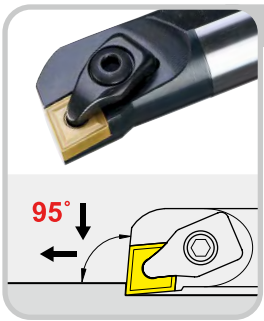


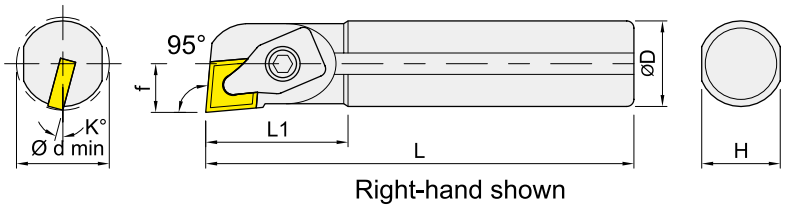
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MCLN$^{R}_{L}$-12	20	200	40	13	18	15	25	CN..1204..	--	IMLP44-A	IPL25	IMC620	IMS620TX	IETL15
IS25R-MCLN$^{R}_{L}$-12	25	200	40	15.5	23	13	30							
IS32S-MCLN$^{R}_{L}$-12	32	250	48	19.5	30	13	40		ICMS432	IMLP46-A	IPL25		IMS625TX	
IS40T-MCLN$^{R}_{L}$-12	40	300	55	25.5	37	12	50							
IS50U-MCLN$^{R}_{L}$-12	50	350	60	30.5	47	10	60							
IS60V-MCLN$^{R}_{L}$-12	60	400	60	35	57	9	70							
IA20R-MCLN$^{R}_{L}$-12	20	200	40	13	18	15	25		--	IMLP44-A	IPL25		IMS620TX	
IA25R-MCLN$^{R}_{L}$-12	25	200	40	15.5	23	13	30							
IA32S-MCLN$^{R}_{L}$-12	32	250	48	19.5	30	13	40		ICMS432	IMLP46-A	IPL25		IMS625TX	
IA40T-MCLN$^{R}_{L}$-12	40	300	55	25.5	37	12	50							

Internal Turning Holders 內徑車刀桿

DCLN

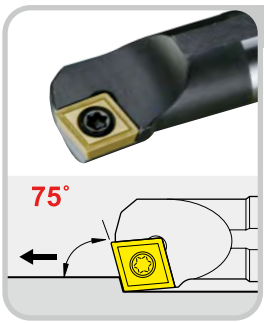




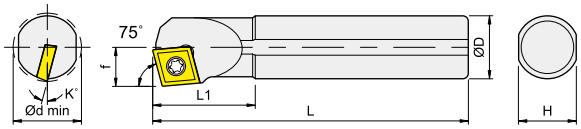
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
IS20R-DCLN$^{R}_{L}$-12	20	200	40	14	18	15	28	CN..1204..	--	--	--	IMCD425	IETL20
IS25R-DCLN$^{R}_{L}$-12	25	200	40	15	23	15	30						

SCKC

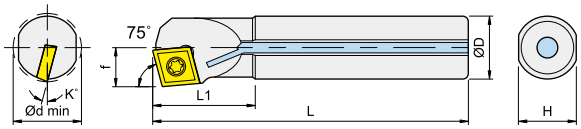


■ S..-SCKC/PR/L-.. Steel shank



Right-hand shown

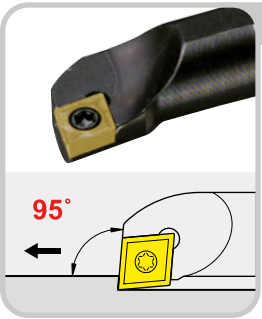
■ A..-SCKC/PR/L-.. Steel shank+coolant hole



Right-hand shown

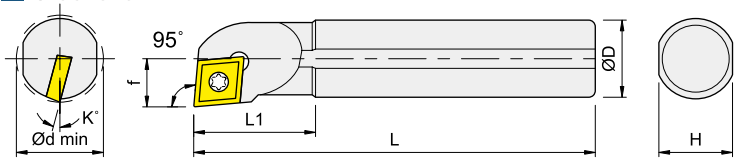
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-SCKC$^{R}_{L}$-06	8	125	20	5	7	15	10	CC..0602..	IMS2506A	ITK09
IS10K-SCKC$^{R}_{L}$-06	10	125	22	6	9	13	12			
IS12M-SCKC$^{R}_{L}$-06	12	150	26	8	11	10	16			
IS16Q-SCKC$^{R}_{L}$-06	16	180	32	10	15	7	20			
IS12M-SCKC$^{R}_{L}$-09	12	150	28	8	11	11	16	CC..09T3..	IMS4008A	ITK15
IS16Q-SCKC$^{R}_{L}$-09	16	180	32	10	15	7	20			
IS20R-SCKC$^{R}_{L}$-09	20	200	36	12.5	18	5	25		IMS4009A	
IA08K-SCKC$^{R}_{L}$-06	8	125	20	5	7	15	10	CC..0602..	IMS2506A	ITK09
IA10K-SCKC$^{R}_{L}$-06	10	125	22	6	9	13	12			
IA12M-SCKC$^{R}_{L}$-06	12	150	26	8	11	10	16			
IA16Q-SCKC$^{R}_{L}$-06	16	180	32	10	15	7	20			
IA12M-SCKC$^{R}_{L}$-09	12	150	28	8	11	11	16	CC..09T3..	IMS4008A	ITK15
IA16Q-SCKC$^{R}_{L}$-09	16	180	32	10	15	7	20			
IA20R-SCKC$^{R}_{L}$-09	20	200	36	12.5	18	5	25		IMS4009A	

Internal Turning Holders 內徑車刀桿



SCLC

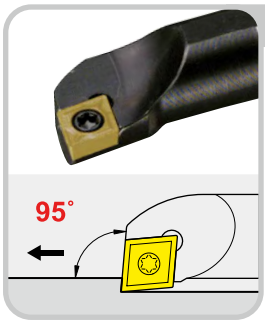
■ Steel shank



Right-hand shown

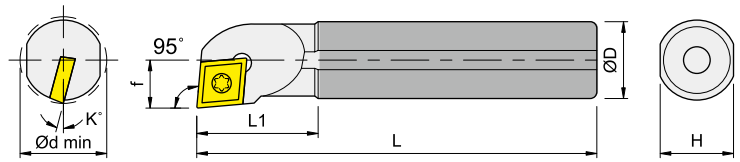
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-SCLC$^{R}_{L}$-06	8	125	20	5	7	15	10	CC..0602..	IMS2506A	ITK09
IS08K-SCLC$^{R}_{L}$-06-D09	8	125	20	4.5	7	15	9			
IS10K-SCLC$^{R}_{L}$-06	10	125	22	6	9	13	12			
IS10K-SCLC$^{R}_{L}$-06-D11	10	125	22	5.5	9	13	11			
IS12M-SCLC$^{R}_{L}$-06	12	150	26	8	11	10	16			
IS12M-SCLC$^{R}_{L}$-06-D13	12	150	26	6.5	11	10	13			
IS14Q-SCLC$^{R}_{L}$-06	14	180	26	8	13	10	16			
IS16Q-SCLC$^{R}_{L}$-06	16	180	32	10	15	7	20			
IS12M-SCLC$^{R}_{L}$-09	12	150	26	8	11	10	16	CC..09T3..	IMS4008A	ITK15
IS14Q-SCLC$^{R}_{L}$-09	14	180	26	8	13	10	16			
IS15Q-SCLC$^{R}_{L}$-09	15	180	32	8.5	14	10	17			
IS16Q-SCLC$^{R}_{L}$-09	16	180	32	10	15	7	20			
IS16Q-SCLC$^{R}_{L}$-09-D18	16	180	32	9	15	7	18			
IS18Q-SCLCR-09	18	180	32	10	17	7	20			
IS20R-SCLC$^{R}_{L}$-09	20	200	36	13	18	5	25		IMS4009A	
IS22R-SCLC$^{R}_{L}$-09	22	200	40	12.5	20	5	25			
IS25R-SCLC$^{R}_{L}$-09	25	200	40	15	23	5	30	CC..09T3..	IMS4011A	ITK15
IS32S-SCLC$^{R}_{L}$-12	32	250	48	20	30	5	38	CC..1204..	IMS5011A	ITK20
IS40T-SCLC$^{R}_{L}$-12	40	300	55	26	37	3	50			
IS40V-SCLC$^{R}_{L}$-12	40	400	55	26	37	3	50			

Steel Shank + Coolant										
IA08K-SCLC$^{R}_{L}$-06	8	125	20	5	7	15	10	CC..0602..	IMS2506A	ITK09
IA08K-SCLC$^{R}_{L}$-06-D09	8	125	20	4.5	7	15	9			
IA10K-SCLC$^{R}_{L}$-06	10	125	22	6	9	13	12			
IA10K-SCLC$^{R}_{L}$-06-D11	10	125	22	5.5	9	13	11			
IA12M-SCLC$^{R}_{L}$-06	12	150	26	8	11	10	16			
IA12M-SCLC$^{R}_{L}$-06-D13	12	150	26	6.5	11	10	13			
IA14Q-SCLC$^{R}_{L}$-06	14	180	26	8	13	10	16			
IA16Q-SCLC$^{R}_{L}$-06	16	180	32	10	15	7	20			
IA12M-SCLC$^{R}_{L}$-09	12	150	26	8	11	10	16	CC..09T3..	IMS4008A	ITK15
IA16Q-SCLC$^{R}_{L}$-09	16	180	32	10	15	7	20			
IA16Q-SCLC$^{R}_{L}$-09-D18	16	180	32	9	15	7	18			
IA20R-SCLC$^{R}_{L}$-09	20	200	40	13	18	5	25		IMS4009A	
IA25R-SCLC$^{R}_{L}$-09	25	200	40	15	23	5	30	CC..09T3..	IMS4011A	ITK15
IA32S-SCLC$^{R}_{L}$-12	32	250	48	20	30	5	38	CC..1204..	IMS5011A	ITK20



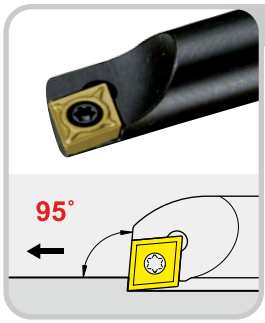
SCLC

■ Carbide shank



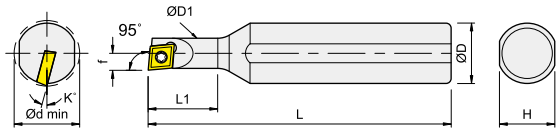
Right-hand shown

Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IC07J-SCLC$^{R}/_{L}$-06	7	110	18	4	6.7	15	8	CC..0602..	IMS2506A	ITK09
IC08K-SCLC$^{R}/_{L}$-06	8	125	20	5	7.2	15	10	CC..0602..	IMS2506A	ITK09
IC08K-SCLC$^{R}/_{L}$-06-D09	8	125	20	4.5	7.2	15	9			
IC10K-SCLC$^{R}/_{L}$-06	10	125	22	6	9.2	13	12			
IC10K-SCLC$^{R}/_{L}$-06-D11	10	125	22	5.5	9.2	13	11			
IC12M-SCLC$^{R}/_{L}$-06	12	150	26	8	11.2	10	16			
IC12M-SCLC$^{R}/_{L}$-06-D13	12	150	26	6.5	11.2	10	13			
IC12Q-SCLC$^{R}/_{L}$-09	12	150	26	8	11.2	10	16	CC..09T3..	IMS4008A	ITK15
IC16R-SCLC$^{R}/_{L}$-09	16	200	32	10	15.2	7	20			
IC16R-SCLCR-09-D18	16	200	32	9	15.2	7	18			



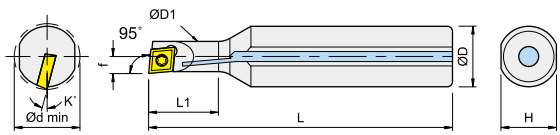
SCLC

■ S..-SCLCR/L-.. Steel shank



Right-hand shown

■ A..-SCLCR/L-.. Steel shank+coolant hole

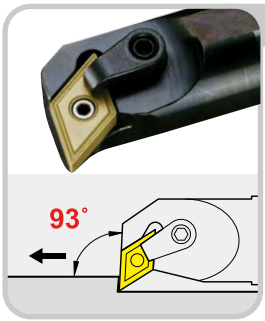


Right-hand shown

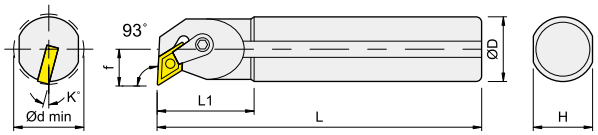
Order No.	Dimensions, mm								Insert	Screw	Wrench
	D	D1	L	L1	f	H	K	dmin			
IS1607K-SCLC$^{R}/_{L}$-06	16	7	125	20	4	15	13	8	CC..0602..	IMS2506A	ITK09
IS1608K-SCLC$^{R}/_{L}$-06A	16	8	125	20	4.5	15	11	9			
IS1608K-SCLC$^{R}/_{L}$-06	16	8	125	25	4.5	15	11	9			
IS1609K-SCLC$^{R}/_{L}$-06	16	9	125	25	5	15	11	10			
IA1607K-SCLC$^{R}/_{L}$-06	16	7	125	20	4	15	13	8	CC..0602..	IMS2506A	ITK09
IA1608K-SCLC$^{R}/_{L}$-06A	16	8	125	20	4.5	15	11	9			
IA1608K-SCLCR-06	16	8	125	25	4.5	15	11	9			
IA1609K-SCLC$^{R}/_{L}$-06	16	9	125	25	5	15	11	10			

Internal Turning Holders 內徑車刀桿

MDUN

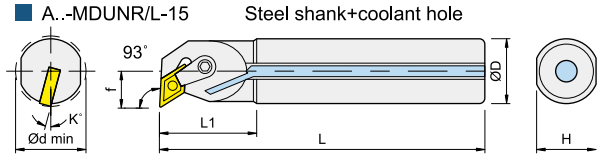


■ S..-MDUNR/L-15 Steel shank



Right-hand shown

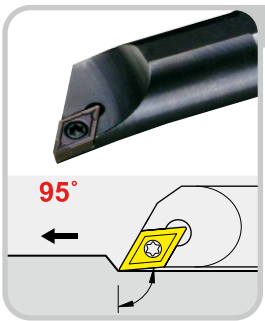
■ A..-MDUNR/L-15 Steel shank+coolant hole



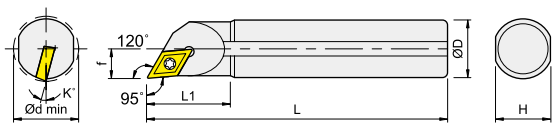
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS25R-MDUN$^{R}_{L}$-15	25	200	40	17	23	13	32	DN..1504..	--	IMLP44-A	IPL25	IMC620	IMS620TX	IETL15
IS32S-MDUN$^{R}_{L}$-15	32	250	50	21	30	13	40		IDMS432	IMLP46-A			IMS625TX	
IA25R-MDUN$^{R}_{L}$-15	25	200	40	17	23	13	32		--	IMLP44-A			IMS620TX	
IA32S-MDUN$^{R}_{L}$-15	32	250	50	21	30	13	40		IDMS432	IMLP46-A			IMS625TX	

SDJC

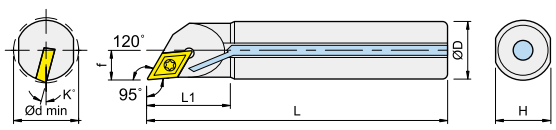


■ S..-SDJCR/L-.. Steel shank



Right-hand shown

■ A..-SDJCR/L-.. Steel shank+coolant hole

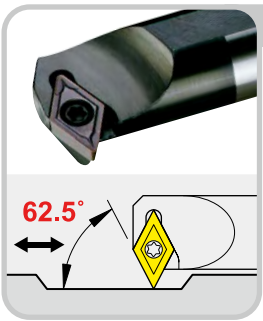


Right-hand shown

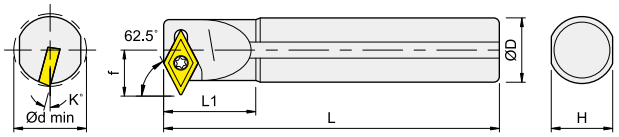
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-SDJC$^{R}_{L}$-07	8	125	22	5	7	15	10	DC..0702..	IMS2506B	ITK09
IS10K-SDJC$^{R}_{L}$-07	10	125	25	6	9	13	12			
IS12M-SDJC$^{R}_{L}$-07	12	150	30	7	11	10	14			
IS16Q-SDJC$^{R}_{L}$-07	16	180	38	9.5	15	7	19			
IS16Q-SDJC$^{R}_{L}$-11	16	180	38	9.5	15	7	19	DC..11T3..	IMS4009A	ITK15
IS20R-SDJC$^{R}_{L}$-11	20	200	42	11.5	18	7	23			
IS25R-SDJC$^{R}_{L}$-11	25	200	45	14	23	5	28			
IS32S-SDJC$^{R}_{L}$-11	32	250	48	17.5	30	5	35			
IA08K-SDJC$^{R}_{L}$-07	8	125	22	5	7	15	10	DC..0702..	IMS2506B	ITK09
IA10K-SDJC$^{R}_{L}$-07	10	125	25	6	9	13	12			
IA12M-SDJC$^{R}_{L}$-07	12	150	30	7	11	10	14			
IA16Q-SDJC$^{R}_{L}$-07	16	180	38	9.5	15	7	19			
IA16Q-SDJC$^{R}_{L}$-11	16	180	38	9.5	15	7	19	DC..11T3..	IMS4009A	ITK15
IA20R-SDJC$^{R}_{L}$-11	20	200	42	11.5	18	7	23			
IA25R-SDJC$^{R}_{L}$-11	25	200	45	14	23	5	28			

Internal Turning Holders 內徑車刀桿

SDNC

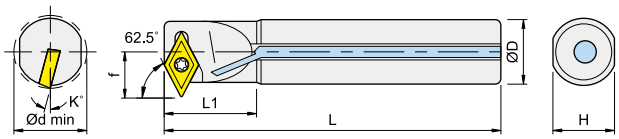


■ S..-SDNCR/L-.. Steel shank



Right-hand shown

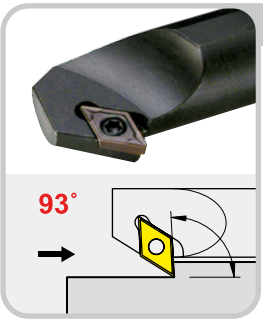
■ A..-SDNCR/L-.. Steel shank+coolant hole



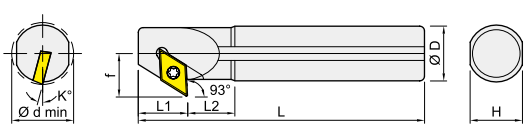
Right-hand shown

Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS12M-SDNC$^{R}_{L}$-07	12	150	25	9	11	7	16	DC..0702..	IMS2506B	ITK09
IS16Q-SDNC$^{R}_{L}$-07	16	180	30	11	15	7	20			
IS20R-SDNC$^{R}_{L}$-11	20	200	35	15	18	7	25	DC..11T3..	IMS4009A	ITK15
IS25R-SDNC$^{R}_{L}$-11	25	200	35	17	23	5	32			
IS32S-SDNC$^{R}_{L}$-11	32	250	40	20.5	30	5	40			
IA12M-SDNC$^{R}_{L}$-07	12	150	25	9	11	7	16	DC..0702..	IMS2506B	ITK09
IA16Q-SDNC$^{R}_{L}$-07	16	180	30	11	15	7	20			
IA20R-SDNC$^{R}_{L}$-11	20	200	35	15	18	7	25	DC..11T3..	IMS4009A	ITK15
IA25R-SDNC$^{R}_{L}$-11	25	200	35	17	23	5	32			

SDZC

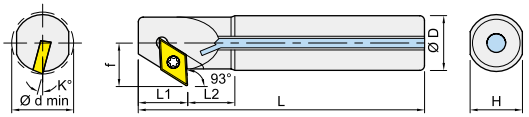


■ S..-SDZCR/L-.. Steel shank



Right-hand shown

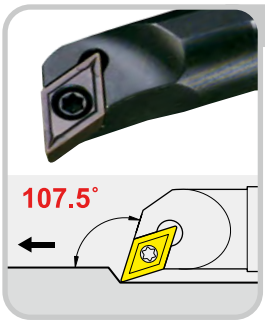
■ A..-SDZCR/L-.. Steel shank+coolant hole



Right-hand shown

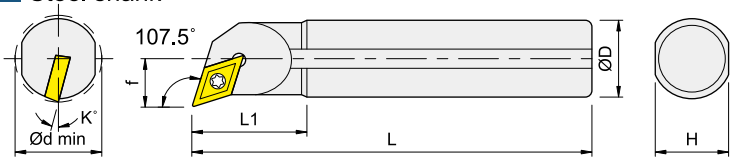
Order No.	Dimensions, mm								Insert	Screw	Wrench
	D	L	L1	L2	f	H	K	dmin			
IS10M-SDZC$^{R}_{L}$-07	10	150	12	18	8.5	9	13	14	DC..0702..	IMS2506B	ITK09
IS12M-SDZC$^{R}_{L}$-07	12	150	12	20	10.5	11	10	17			
IS16Q-SDZC$^{R}_{L}$-07	16	180	12	26	12.5	15	7	21			
IS20R-SDZC$^{R}_{L}$-11	20	200	18	27	15.5	18	7	26	DC..11T3..	IMS4009A	ITK15
IS25R-SDZC$^{R}_{L}$-11	25	200	18	32	18	23	5	33			
IS32S-SDZC$^{R}_{L}$-11	32	250	18	42	21.5	30	5	40			
IA10M-SDZC$^{R}_{L}$-07	10	150	12	18	8.5	9	13	14	DC..0702..	IMS2506B	ITK09
IA12M-SDZC$^{R}_{L}$-07	12	150	12	20	10.5	11	10	17			
IA16Q-SDZC$^{R}_{L}$-07	16	180	12	26	12.5	15	7	21			
IA20R-SDZC$^{R}_{L}$-11	20	200	18	27	15.5	18	7	26	DC..11T3..	IMS4009A	ITK15
IA25R-SDZC$^{R}_{L}$-11	25	200	18	32	18	23	5	33			
IA32S-SDZC$^{R}_{L}$-11	32	250	18	42	21.5	30	5	40			

Internal Turning Holders 內徑車刀桿



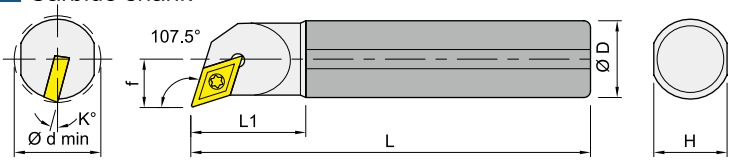
SDQC

Steel shank



Right-hand shown

Carbide shank

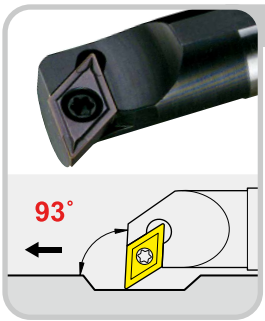


Right-hand shown

Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
Steel Shank										
IS10K-SDQC$^{R}_{L}$-07	10	125	22	6.5	9	13	13	DC..0702..	IMS2506B	ITK09
IS12M-SDQC$^{R}_{L}$-07	12	150	30	8	11	10	16			
IS16Q-SDQC$^{R}_{L}$-07	16	180	35	10.25	15	7	20			
IS20R-SDQC$^{R}_{L}$-07	20	200	40	12.5	18	7	25			
IS16Q-SDQC$^{R}_{L}$-11	16	180	35	10.5	15	7	20	DC..11T3..	IMS4009A	ITK15
IS20R-SDQC$^{R}_{L}$-11	20	200	40	13	18	7	25			
IS25R-SDQC$^{R}_{L}$-11	25	200	45	15.5	23	5	32			
IS32S-SDQC$^{R}_{L}$-11	32	250	48	19.5	30	5	40			
IS40T-SDQC$^{R}_{L}$-11	40	300	55	25	37	3	50			
IS50U-SDQC$^{R}_{L}$-11	50	350	60	30	47	2	60			
Carbide Shank										
IC10M-SDQCR-07	10	150	22	6	9.2	13	13	DC..0702..	IMS2506B	ITK09
IC12Q-SDQCR-07	12	180	30	8	11.2	10	16			
IC16R-SDQC$^{R}_{L}$-07	16	200	35	10.25	15.2	7	20			

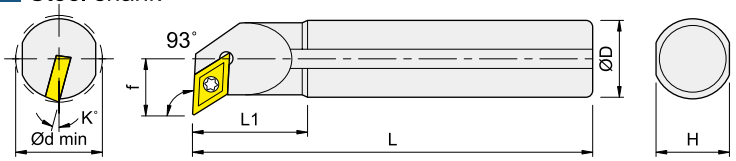
Steel Shank + Coolant										
IA10K-SDQC$^{R}_{L}$-07	10	125	22	6.5	9	13	13	DC..0702..	IMS2506B	ITK09
IA12M-SDQC$^{R}_{L}$-07	12	150	30	8	11	10	16			
IA16Q-SDQC$^{R}_{L}$-07	16	180	35	10.25	15	7	20			
IA16Q-SDQC$^{R}_{L}$-11	16	180	35	10.5	15	7	20	DC..11T3..	IMS4009A	ITK15
IA20R-SDQC$^{R}_{L}$-11	20	200	40	13	18	7	25			
IA25R-SDQC$^{R}_{L}$-11	25	200	45	15.5	23	5	32			
IA32S-SDQC$^{R}_{L}$-11	32	250	48	19.5	30	5	40			
IA40T-SDQCR/L-11	40	300	55	25	37	3	50			
IA50U-SDQCR/L-11	50	350	60	30	47	2	60			

Internal Turning Holders 內徑車刀桿



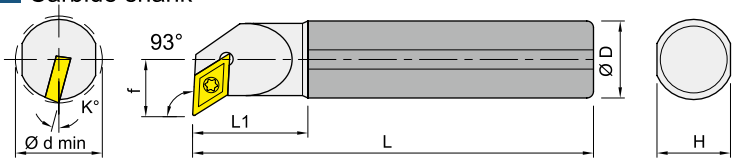
SDUC

Steel shank



Right-hand shown

Carbide shank



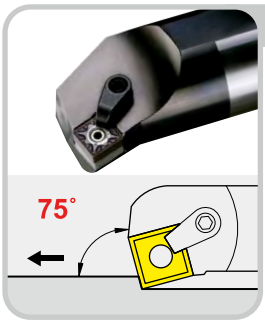
Right-hand shown

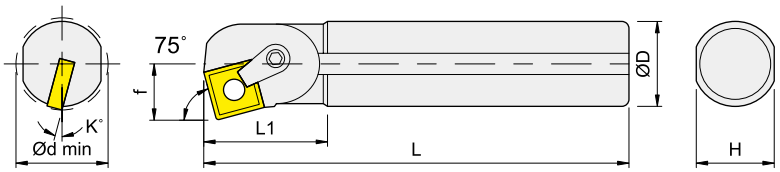
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
Steel Shank										
IS10K-SDUC$^{R}_{L}$-07	10	125	25	7	9	13	13	DC..0702..	IMS2506B	ITK09
IS12M-SDUC$^{R}_{L}$-07	12	150	30	8.5	11	10	16			
IS16Q-SDUC$^{R}_{L}$-07	16	180	30	11	15	7	20			
IS20R-SDUC$^{R}_{L}$-07	20	200	40	12.5	18	7	25			
IS16Q-SDUC$^{R}_{L}$-11	16	180	30	11	15	7	20	DC..11T3..	IMS4009A	ITK15
IS20R-SDUC$^{R}_{L}$-11	20	200	40	13	18	7	25			
IS25R-SDUC$^{R}_{L}$-11	25	200	45	17	23	5	32			
IS32S-SDUC$^{R}_{L}$-11	32	250	48	20	30	5	40			
IS40T-SDUC$^{R}_{L}$-11	40	300	55	25	37	3	50			
Carbide Shank										
IC10M-SDUCR-07	10	150	25	7	9.2	13	13	DC..0702..	IMS2506B	ITK09
IC12Q-SDUCR-07	12	180	30	8.5	11.2	10	16			
IC16R-SDUCR-11	16	200	30	11	15.2	7	20	DC..11T3..	IMS4009A	ITK15

Steel Shank + Coolant										
IA10K-SDUC$^{R}_{L}$-07	10	125	25	7	9	13	13	DC..0702..	IMS2506B	ITK09
IA12M-SDUC$^{R}_{L}$-07	12	150	30	8.5	11	10	16			
IA16Q-SDUC$^{R}_{L}$-07	16	180	30	11	15	7	20			
IA16Q-SDUC$^{R}_{L}$-11	16	180	30	11	15	7	20	DC..11T3..	IMS4009A	ITK15
IA20R-SDUC$^{R}_{L}$-11	20	200	40	12.5	18	7	25			
IA25R-SDUC$^{R}_{L}$-11	25	200	45	17	23	5	32			
IA32S-SDUC$^{R}_{L}$-11	32	250	48	20	30	5	40			
IA40T-SDUC$^{R}_{L}$-11	40	300	55	25	37	3	50			

Internal Turning Holders 內徑車刀桿

MSKN

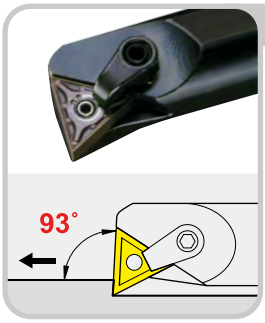




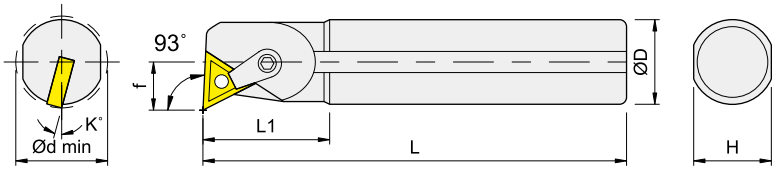
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS40T-MSKN$^{R}_{L}$-12	40	300	55	25.5	37	12	50	SN..1204..	ISMS432	IMLP46-A	IPL25	IMC620	IMS625TX	IETL15
IS50U-MSKN$^{R}_{L}$-12	50	350	60	30.5	47	10	60							
IS60V-MSKN$^{R}_{L}$-12	60	400	60	36	57	9	70							

MTUN

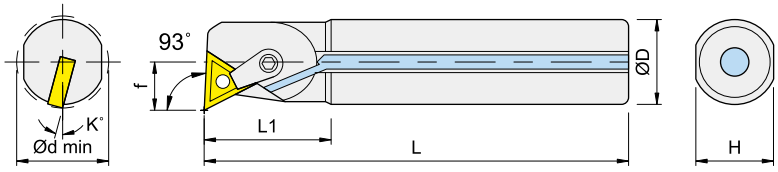


■ S..-MTUNR/L-16 Steel shank



Right-hand shown

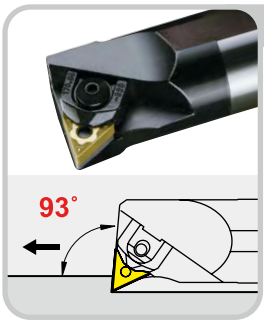
■ A..-MTUNR/L-16 Steel shank+coolant hole



Right-hand shown

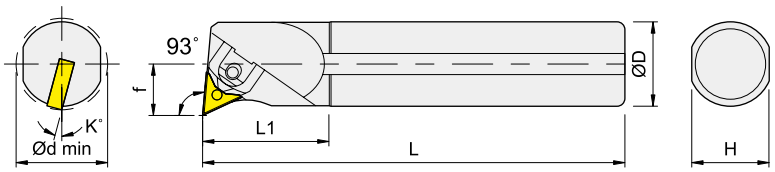
Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MTUN$^{R}_{L}$-16	20	200	36	13	18	15	25	TN..1604..	--	IMLP33L	IPL20	IMC515	IMS520TX	IETL10
IS25R-MTUN$^{R}_{L}$-16	25	200	40	15	23	13	30							
IS32S-MTUN$^{R}_{L}$-16	32	250	48	20	30	13	40		ITMS322	IMLP34L		IMC620	IMS625TX	IETL15
IS40T-MTUN$^{R}_{L}$-16	40	300	55	26	37	10	50							
IS50U-MTUN$^{R}_{L}$-16	50	350	60	31	47	9	60							
IS60V-MTUN$^{R}_{L}$-16	60	400	60	35.5	57	8	70							
IA20R-MTUN$^{R}_{L}$-16	20	200	36	13	18	15	25		--	IMLP33L		IMC515	IMS520TX	IETL10
IA25R-MTUN$^{R}_{L}$-16	25	200	40	15	23	13	30							
IA32S-MTUN$^{R}_{L}$-16	32	250	48	20	30	13	40		ITMS322	IMLP34L		IMC620	IMS625TX	IETL15
IA40T-MTUN$^{R}_{L}$-16	40	300	55	26	37	10	50							

Internal Turning Holders 內徑車刀桿



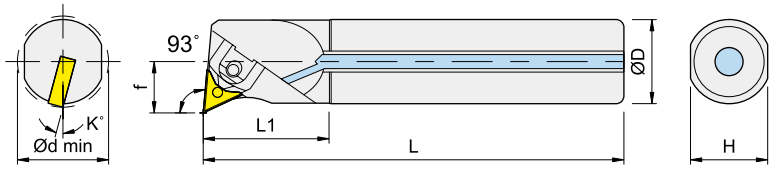
WTUN

■ S..-WTUNR/L-16 Steel shank



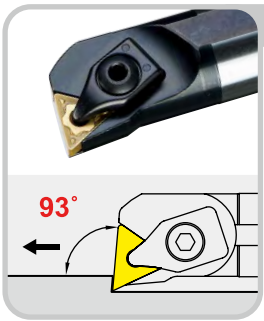
Right-hand shown

■ A..-WTUNR/L-16 Steel shank+coolant hole



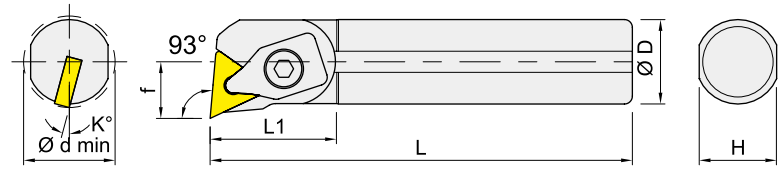
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Clamp	Wrench
	D	L	L1	f	H	K	dmin					
IS32S-WTUN$^{R}_{L}$-16	32	250	48	19.5	30	13	40	TN..1604..	ITMS322	ISCP315	IMCW3-P25	IPL25
IS40T-WTUN$^{R}_{L}$-16	40	300	55	25.5	37	10	50			ISCP318		
IS40U-WTUN$^{R}_{L}$-16	40	350	55	25.5	37	10	50					
IS50U-WTUN$^{R}_{L}$-16	50	350	60	30.5	47	9	60					
IS50V-WTUN$^{R}_{L}$-16	50	400	60	30.5	47	9	60					
IS60V-WTUN$^{R}_{L}$-16	60	400	60	35.5	57	8	70					
IA32S-WTUN$^{R}_{L}$-16	32	250	48	19.5	30	13	40			ISCP315		
IA40T-WTUN$^{R}_{L}$-16	40	300	55	25.5	37	10	50			ISCP318		
IA40U-WTUN$^{R}_{L}$-16	40	350	55	25.5	37	10	50					



DTUN

■ S..-DTUNR/L-16 Steel shank

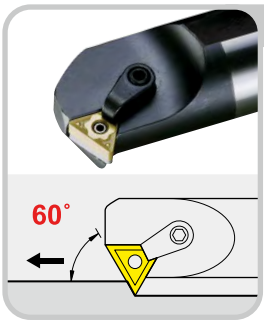


Right-hand shown

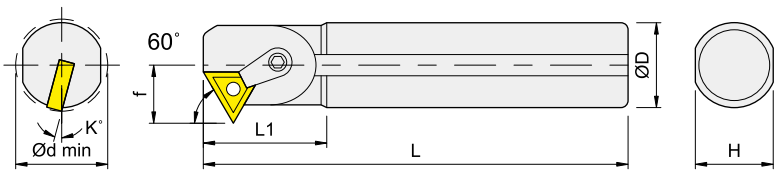
Order No.	Dimensions, mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
IS20R-DTUN$^{R}_{L}$-16	20	200	40	14	18	15	28	TN..1604..	--	--	--	IMCD324	IETL20
IS25R-DTUN$^{R}_{L}$-16	25	200	40	15.5	23	13	30						
IS32S-DTUNR-16	32	250	48	19.5	30	13	40		ITWS322	IMS4008H	IPL25	IMCD324B	

Internal Turning Holders 內徑車刀桿

MTWN



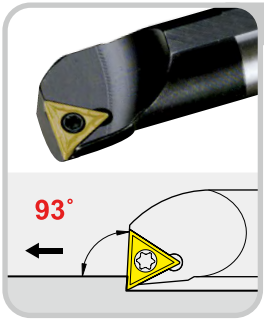
■ S..-MTWNR/L-16 Steel shank



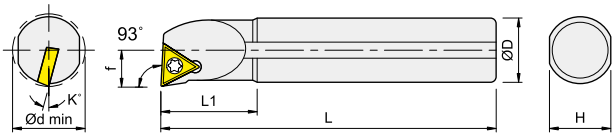
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MTWN$^{R}_{L}$-16	20	200	40	13.5	18	15	27	TN..1604..	--	IMLP33L	IPL20	IMC515	IMS520TX	IETL10
IS25R-MTWN$^{R}_{L}$-16	25	200	40	16	23	13	32							
IS32S-MTWN$^{R}_{L}$-16	32	250	48	20	30	13	40		ITWS322	IMLP34L		IMC620	IMS625TX	IETL15

STUC

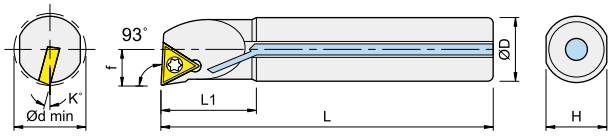


■ S..-STUCR/L-.. Steel shank



Right-hand shown

■ A..-STUCR/L-.. Steel shank+coolant hole

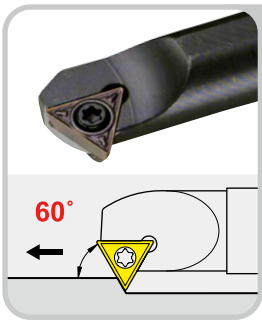


Right-hand shown

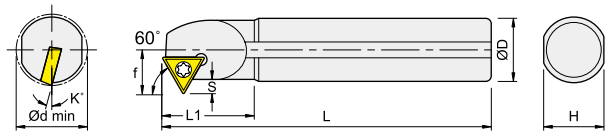
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS08K-STUC$^{R}_{L}$-09	8	125	20	5.5	7	15	10	TC..0902..	IMS2205A	ITK07
IS10K-STUC$^{R}_{L}$-09	10	125	22	6	9	13	12		IMS2206A	
IS10K-STUC$^{R}_{L}$-09-D11	10	125	22	5.5	9	13	11			
IS12M-STUCR-09	12	150	26	8	11	10	16			
IS14M-STUCR-09	14	150	26	8	13	10	16			
IS10K-STUC$^{R}_{L}$-11	10	125	22	6	9	13	12	TC..1102..	IMS2506A	ITK09
IS12M-STUC$^{R}_{L}$-11	12	150	26	8	11	10	16			
IS12M-STUC$^{R}_{L}$-11-D13	12	150	26	6.5	11	10	13			
IS16Q-STUC$^{R}_{L}$-11	16	180	32	10	15	7	20			
IS16Q-STUC$^{R}_{L}$-11-D18	16	180	32	9	15	7	18			
IS20R-STUC$^{R}_{L}$-16	20	200	40	13	18	7	25	TC..16T3..	IMS4011A	ITK15
IS25R-STUC$^{R}_{L}$-16	25	200	40	15	23	5	30			
IS32S-STUC$^{R}_{L}$-16	32	250	48	20	30	5	38			
IS32T-STUC$^{R}_{L}$-16	32	300	48	20	30	5	38			
IA08K-STUC$^{R}_{L}$-09	8	125	20	5.5	7	15	10	TC..0902..	IMS2205A	ITK07
IA10K-STUC$^{R}_{L}$-09	10	125	22	6	9	13	12		IMS2206A	
IA10K-STUC$^{R}_{L}$-11	10	125	22	6	9	13	12	TC..1102..	IMS2506A	ITK09
IA12M-STUC$^{R}_{L}$-11	12	150	26	8	11	10	16			
IA16Q-STUC$^{R}_{L}$-11	16	180	32	10	15	7	20			
IA20R-STUC$^{R}_{L}$-16	20	200	40	13	18	7	25	TC..16T3..	IMS4011A	ITK15
IA25R-STUC$^{R}_{L}$-16	25	200	40	15	23	5	30			
IA32S-STUC$^{R}_{L}$-16	32	250	48	20	30	5	38			
IA32T-STUC$^{R}_{L}$-16	32	300	48	20	30	5	38			

Internal Turning Holders 內徑車刀桿

STWC

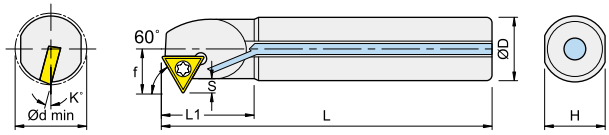


■ S..-STWCR/L-.. Steel shank



Right-hand shown

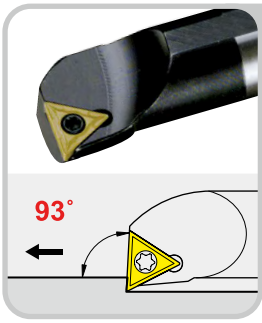
■ A..-STWCR/L-.. Steel shank+coolant hole



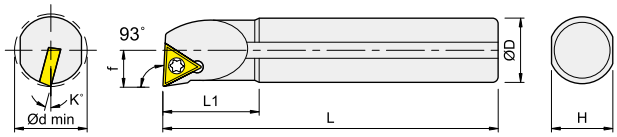
Right-hand shown

Order No.	Dimensions, mm								Insert	Screw	Wrench
	D	L	L1	f	S	H	K	dmin			
IS08K-STWC$^{R}_{L}$-09	8	125	23	6	2	7	15	11	TC..0902..	IMS2205A	ITK07
IS10K-STWC$^{R}_{L}$-11	10	125	23	7.5	2.5	9	15	13	TC..1102..	IMS2506A	ITK09
IS12M-STWC$^{R}_{L}$-11	12	150	30	8.5	2.5	11	13	16			
IS16Q-STWC$^{R}_{L}$-11	16	180	30	10.5	2.5	15	10	20			
IS20R-STWC$^{R}_{L}$-11	20	200	40	12.5	2.5	18	7	25			
IS20R-STWC$^{R}_{L}$-16	20	200	40	14.5	4.5	18	8	26	TC..16T3..	IMS4011A	ITK15
IS25R-STWC$^{R}_{L}$-16	25	200	45	17	4.5	23	6	30			
IS32S-STWC$^{R}_{L}$-16	32	250	45	20.5	4.5	30	4	40			
IA10K-STWC$^{R}_{L}$-11	10	125	23	7.5	2.5	9	15	13	TC..1102..	IMS2506A	ITK09
IA12M-STWC$^{R}_{L}$-11	12	150	30	8.5	2.5	11	13	16			
IA16Q-STWC$^{R}_{L}$-11	16	180	30	10.5	2.5	15	10	20			
IA20R-STWC$^{R}_{L}$-11	20	200	40	12.5	2.5	18	7	25			
IA20R-STWC$^{R}_{L}$-16	20	200	40	14.5	4.5	18	8	26	TC..16T3..	IMS4011A	ITK15
IA25R-STWC$^{R}_{L}$-16	25	200	45	17	4.5	23	6	30			
IA32S-STWC$^{R}_{L}$-16	32	250	45	20.5	4.5	30	4	40			

STUP

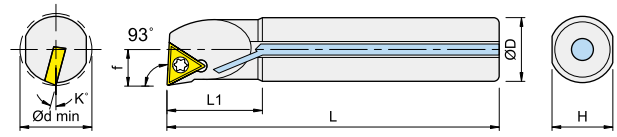


■ S..-STUPR/L-.. Steel shank



Right-hand shown

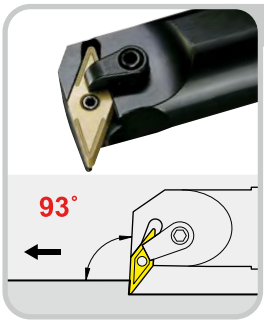
■ A..-STUPR/L-.. Steel shank+coolant hole



Right-hand shown

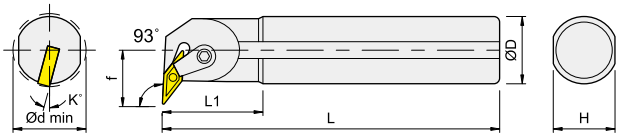
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
S20R-STUP$^{R}_{L}$-1603	20	200	40	13	18	4	25	TP..1603..	IMS4011A	ITK15
S25R-STUP$^{R}_{L}$-1603	25	200	40	16	23	0	30			
S32R-STUP$^{R}_{L}$-1603	32	250	48	20	30	0	38			
A20R-STUP$^{R}_{L}$-1603	20	200	40	13	18	4	25			
A25R-STUP$^{R}_{L}$-1603	25	200	40	16	23	0	30			
A32R-STUP$^{R}_{L}$-1603	32	250	48	20	30	0	38			

Internal Turning Holders 內徑車刀桿



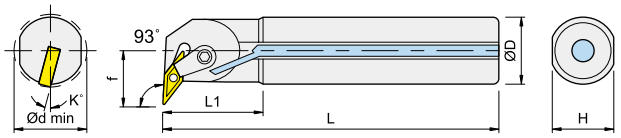
MVUN

■ S..-MVUNR/L-16 Steel shank



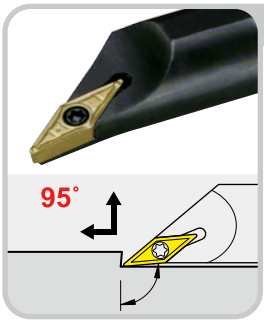
Right-hand shown

■ A..-MVUNR/L-16 Steel shank+coolant hole



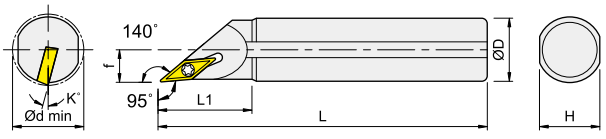
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS25R-MVUN$^{R}_{L}$-16	25	200	45	18	23	13	32	VN..1604..	--	IMLP33L	IPL20	IMC515	IMS520TX	IETL10
IS32S-MVUN$^{R}_{L}$-16	32	250	50	21	30	13	40		IVMS322	IMLP34L	IPL20	IMC620	IMS625TX	IETL15
IA25R-MVUN$^{R}_{L}$-16	25	200	45	18	23	13	32		--	IMLP33L	IPL20	IMC515	IMS520TX	IETL10
IA32S-MVUN$^{R}_{L}$-16	32	250	50	21	30	13	40		IVMS322	IMLP34L	IPL20	IMC620	IMS625TX	IETL15



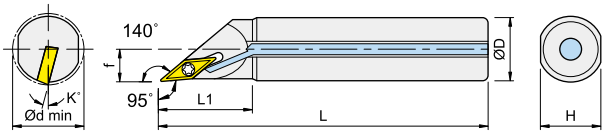
SVJB

■ S..-SVJBR/L-.. Steel shank



Right-hand shown

■ A..-SVJBR/L-.. Steel shank+coolant hole

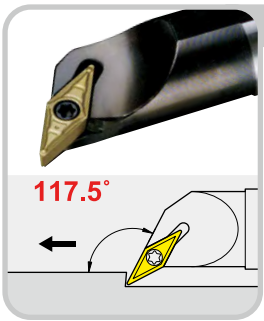


Right-hand shown

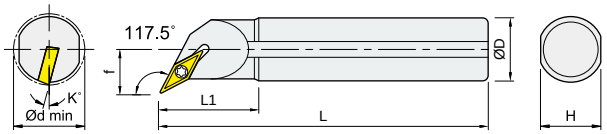
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IS16Q-SVJB$^{R}_{L}$-16	16	180	38	9.5	15	7	19	VB..1604..	IMS3509B	ITK15
IS20R-SVJB$^{R}_{L}$-16	20	200	42	11.5	18	7	23			
IS25R-SVJB$^{R}_{L}$-16	25	200	45	14	23	5	28			
IS32S-SVJB$^{R}_{L}$-16	32	250	50	17.5	30	4	35			
IA16Q-SVJB$^{R}_{L}$-16	16	180	38	9.5	15	7	19	VB..1604..	IMS3509B	ITK15
IA20R-SVJB$^{R}_{L}$-16	20	200	42	11.5	18	7	23			
IA25R-SVJB$^{R}_{L}$-16	25	200	45	14	23	5	28			
IA32S-SVJB$^{R}_{L}$-16	32	250	50	17.5	30	4	35			

Internal Turning Holders 內徑車刀桿

SVQB

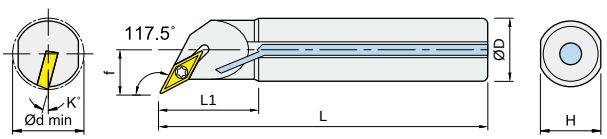


■ S..-SVQB/CR/L-.. Steel shank



Right-hand shown

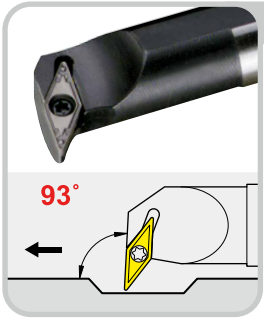
■ A..-SVQB/CR/L-.. Steel shank+coolant hole



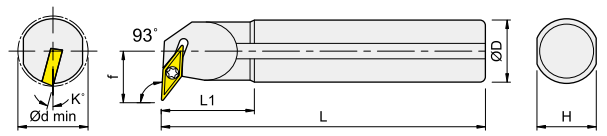
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
IS25R-SVQB$^{R}_{L}$-16	25	200	45	16	23	5	32	VB..1604..	--	--	--	IMS3509B	ITK15
IS32S-SVQB$^{R}_{L}$-16	32	250	48	20	30	5	40		IVSS322	IMDS5035S	IPL35	IMS3512B	
IS40T-SVQB$^{R}_{L}$-16	40	300	60	25.5	37	5	50						
IA25R-SVQB$^{R}_{L}$-16	25	200	45	16	23	5	32		--	--	--	IMS3509B	
IA32S-SVQB$^{R}_{L}$-16	32	250	48	20	30	5	40		IVSS322	IMDS5035S	IPL35	IMS3512B	
IS12M-SVQC$^{R}_{L}$-11	12	150	28	9	11	10	16	VC..1103..	--	--	--	IMS2506A	ITK09
IS16Q-SVQC$^{R}_{L}$-11	16	180	35	11	15	7	20						
IS20R-SVQC$^{R}_{L}$-11	20	200	40	13	18	7	25						
IA16Q-SVQC$^{R}_{L}$-11	16	180	35	11	15	7	20						
IA25R-SVQC$^{R}_{L}$-16	20	200	40	13	18	7	25						

SVUB

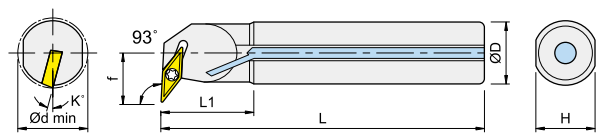


■ S..-SVUBR/L-.. Steel shank



Right-hand shown

■ A..-SVUBR/L-.. Steel shank+coolant hole

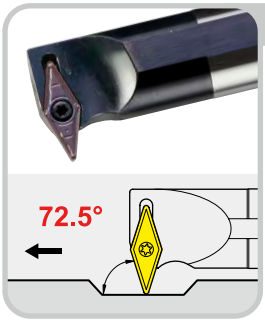


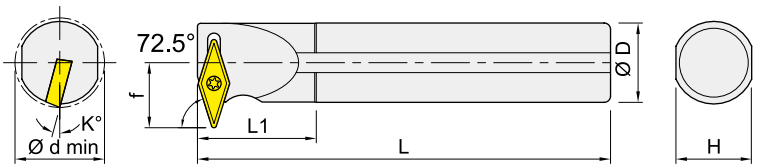
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
IS25R-SVUB$^{R}_{L}$-16	25	200	45	18	23	5	32	VB..1604..	--	--	--	IMS3509B	ITK15
IS32S-SVUB$^{R}_{L}$-16	32	250	50	22	30	5	40		IVSS322	IMDS5035S	IPL35	IMS3512B	
IS40T-SVUB$^{R}_{L}$-16	40	300	55	27	37	5	50						
IA25R-SVUB$^{R}_{L}$-16	25	200	45	18	23	5	32		--	--	--	IMS3509B	
IS16Q-SVUC$^{R}_{L}$-11	16	180	30	13	15	7	22	VC..1103..	--	--	--	IMS2506A	ITK09
IS20R-SVUC$^{R}_{L}$-11	20	200	40	15	18	7	27						
IA16Q-SVUC$^{R}_{L}$-11	16	180	30	13	15	7	22						
IA20R-SVUC$^{R}_{L}$-11	20	200	40	15	18	7	27						

Internal Turning Holders 內徑車刀桿

SVVB

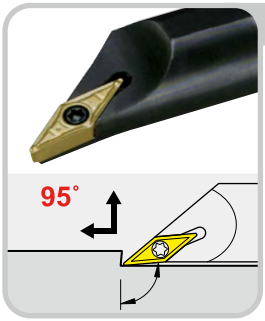




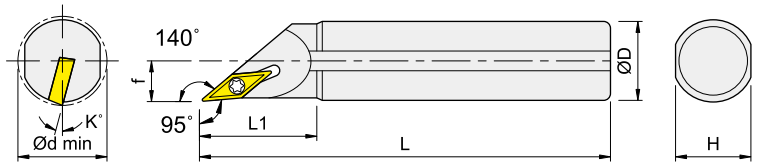
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Screw	Wrench	Screw	Wrench
	D	L	L1	f	H	K	dmin						
IS25R-SVVB$^{R}_{L}$-16	25	200	45	20.5	23	5	34	VB..1604..	--	--	--	IMS3509B	ITK15
IS25S-SVVB$^{R}_{L}$-16	25	250	45	20.5	23	5	34						
IS32S-SVVB$^{R}_{L}$-16	32	250	50	25	30	5	42	VB..1604..	IVSS322	IMDS5035S	IPL35	IMS3512B	ITK15

SVJC

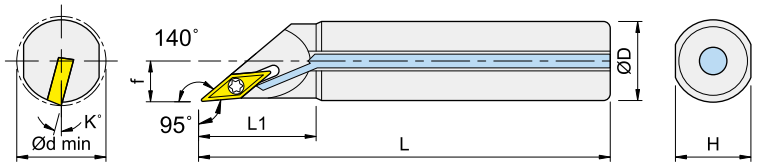


■ S..-SVJCR/L-.. Steel shank



Right-hand shown

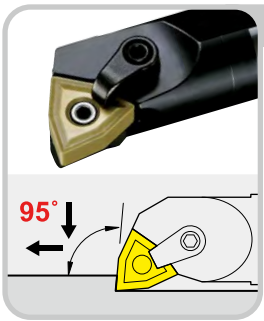
■ A..-SVJCR/L-.. Steel shank+coolant hole



Right-hand shown

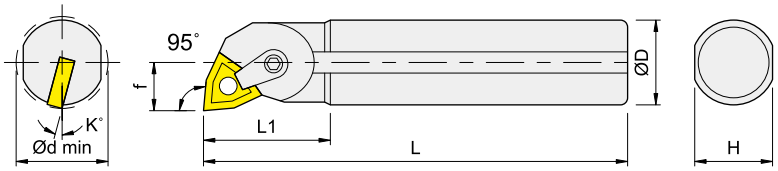
Order No.	Dimensions, mm							Insert	Screw	Wrench
	D	L	L1	f	H	K	dmin			
IC10K-SVJC$^{R}_{L}$-11	10	125	25	6	9	13	12	VC..1103..	IMS2506A	ITK09
IC12M-SVJC$^{R}_{L}$-11	12	150	30	7	11	10	14			
IC16Q-SVJC$^{R}_{L}$-11	16	180	38	9.5	15	7	19			
IC20R-SVJC$^{R}_{L}$-11	20	200	42	11.5	18	7	23			
IE10K-SVJC$^{R}_{L}$-11	10	125	25	6	9	13	12			
IE12M-SVJC$^{R}_{L}$-11	12	150	30	7	11	10	14			
IE16Q-SVJC$^{R}_{L}$-11	16	180	38	9.5	15	7	19			
IE20R-SVJC$^{R}_{L}$-11	20	200	42	11.5	18	7	23			

Internal Turning Holders 內徑車刀桿



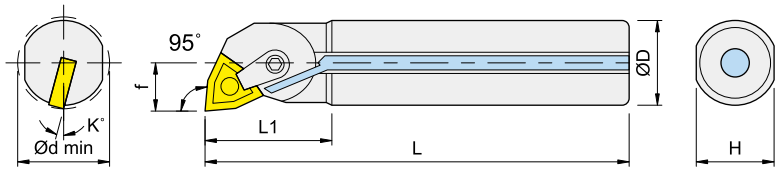
MWLN

■ S..-MWLNR/L-08 Steel shank



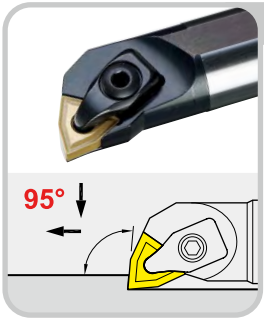
Right-hand shown

■ A..-MWLNR/L-08 Steel shank+coolant hole



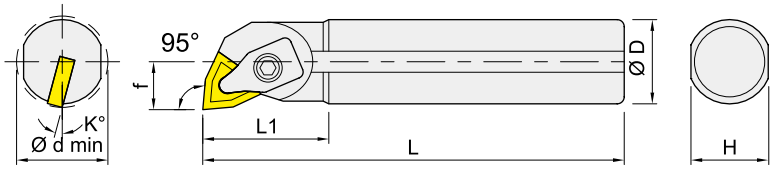
Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Pin	Wrench	Clamp	Screw	Wrench
	D	L	L1	f	H	K	dmin							
IS20R-MWLN$^{R}_{L}$-08	20	200	36	13	18	15	25	WN..0804..	--	IMLP44-A	IPL25	IMC515	IMS520TX	IETL10
IS25R-MWLN$^{R}_{L}$-08	25	200	40	15	23	13	30							
IS32S-MWLN$^{R}_{L}$-08	32	250	48	20	30	13	40		IWMS432	IMLP46-A			IMS520TX	
IS40T-MWLN$^{R}_{L}$-08	40	300	55	25.5	37	10	50					IMC620	IMS625TX	IETL15
IS50U-MWLN$^{R}_{L}$-08	50	350	60	30.5	47	9	60							
IS60V-MWLN$^{R}_{L}$-08	60	400	60	35.5	57	8	70							
IA20R-MWLN$^{R}_{L}$-08	20	200	36	13	18	15	25		--	IMLP44-A		IMC515	IMS520TX	IETL10
IA25R-MWLN$^{R}_{L}$-08	25	200	40	15	23	13	30							
IA32S-MWLN$^{R}_{L}$-08	32	250	48	20	30	13	40		IWMS432	IMLP46-A			IMS520TX	



DWLN

■ S..-DWLNR/L-.. Steel shank

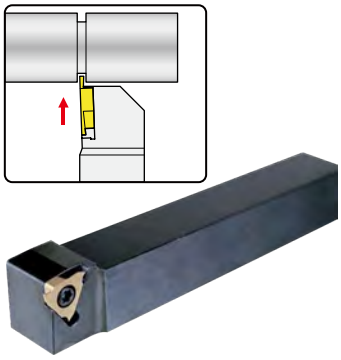


Right-hand shown

Order No.	Dimensions, mm							Insert	Shim	Screw	Wrench	Clamp	Wrench
	D	L	L1	f	H	K	dmin						
IS20R-DWLN$^{R}_{L}$-08	20	200	40	14	18	15	28	WN..0804..	--	--	--	IMCD425	IETL20
IS25R-DWLN$^{R}_{L}$-08	25	200	40	15	23	13	30						

KTGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) KTGF 外徑淺切槽刀 (立式 , 切深 < 2.5mm)

External Tool Holder Specifications 外徑刀桿規格



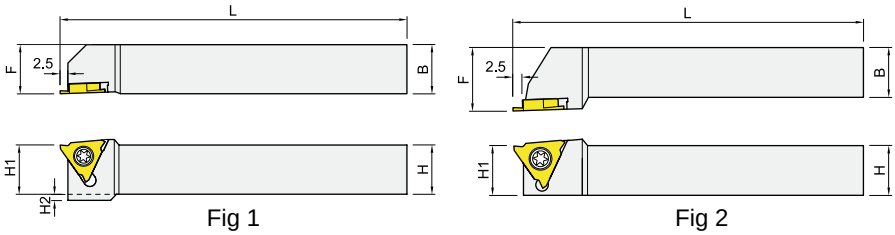
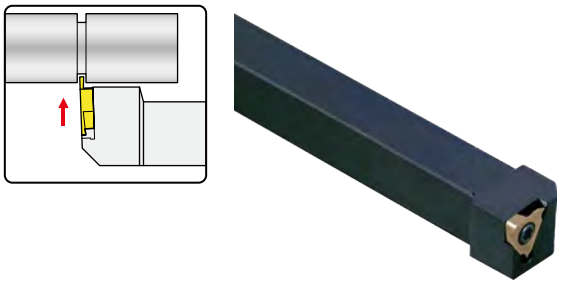


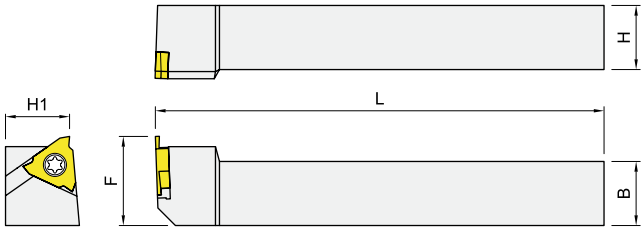
Fig 1 Fig 2

Right-hand shown

Insert Brand : Winstar

Order No.	Dimensions (mm)					Insert	Screw	Wrench	Fig
	H(H1)	B	L	H2	F				
IKTGF$^{R}_{L}$1010K16F	10	10	125	4	10	TGF32R TGF32L	IMS4009A	ITK15	1
IKTGFR1012K16F	10	12	125	2	12		IMS4011A		
IKTGF$^{R}_{L}$1212K16F	12	12	125	2	12				
IKTGF$^{R}_{L}$1616K16F	16	16	125	-	16				
IKTGFR2020K16F	20	20	125	-	20	TGF32R			
IKTGF$^{R}_{L}$1616K16	16	16	125	-	20	TGF32R TGF32L			2
IKTGF$^{R}_{L}$2020K16	20	20	125	-	25				
IKTGF$^{R}_{L}$2525M16	25	25	150	-	32				





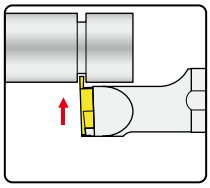
Left-hand shown

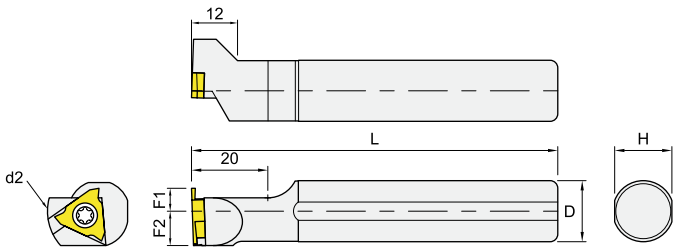
Insert Brand : Winstar

Order No.	Dimensions (mm)				Insert	Screw	Wrench
	H(H1)	B	L	F			
IKTGFSL1616K16	16	16	125	22	TGF32R	IMS4009A	ITK15
IKTGFSL2020K16	20	20	125	26			

KTGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) KTGF 外徑淺切槽刀 (立式 , 切深 < 2.5mm)

External Tool Holder Specifications 外徑刀桿規格





Left-hand shown

Insert Brand : Winstar

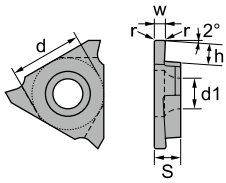
Order No.	Dimensions (mm)						Insert	Screw	Wrench
	D	L	H	F1	F2	d2			
IS16HKTGFL16	16	100	15	6	9	27	TGF32R	IMS4009A	ITK15

Recommended Cutting Conditions 建議切削數據

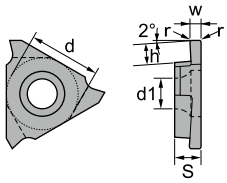
Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	50 ~ 200	0.02 ~ 0.10
Stainless Steel	50 ~ 200	0.02 ~ 0.10
Cast Iron	50 ~ 200	0.02 ~ 0.10
Aluminum Alloy	200 ~ 300	0.05 ~ 0.15
Super Alloy	80 ~ 120	0.03 ~ 0.07

TGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) TGF 淺切槽刀 (立式 , 切深 < 2.5mm)

Insert Designation 刀片型號



Right hand



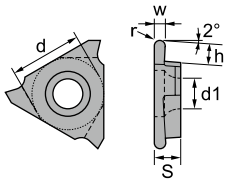
Left hand

Order No.	Designation	Dimensions (mm)						Max Depth of Cut		Working Material					
		w	h	r	S	d	d1	O.D.	I.D.	P	M	K	N	S	H
ITGF32R0336025	TGF32R033-CP6025	0.33	1.0	0.05	3.18	9.525	4.4	0.8	0.5	●	●	●		○	○
ITGF32L0336025	TGF32L033-CP6025	0.33	1.0	0.05	3.18	9.525	4.4	0.8	0.5	●	●	●		○	○
ITGF32R0506025	TGF32R050-CP6025	0.50	1.4	0.05	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32L0506025	TGF32L050-CP6025	0.50	1.4	0.05	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32R0756025	TGF32R075-CP6025	0.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L0756025	TGF32L075-CP6025	0.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R0956025	TGF32R095-CP6025	0.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L0956025	TGF32L095-CP6025	0.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1006025	TGF32R100-CP6025	1.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1006025	TGF32L100-CP6025	1.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1106025	TGF32R110-CP6025	1.10	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1106025	TGF32L110-CP6025	1.10	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1256025	TGF32R125-CP6025	1.25	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1256025	TGF32L125-CP6025	1.25	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1356025	TGF32R135-CP6025	1.35	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1356025	TGF32L135-CP6025	1.35	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1456025	TGF32R145-CP6025	1.45	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1456025	TGF32L145-CP6025	1.45	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1506025	TGF32R150-CP6025	1.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1506025	TGF32L150-CP6025	1.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1656025	TGF32R165-CP6025	1.65	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1656025	TGF32L165-CP6025	1.65	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1756025	TGF32R175-CP6025	1.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1756025	TGF32L175-CP6025	1.75	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1806025	TGF32R180-CP6025	1.80	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1806025	TGF32L180-CP6025	1.80	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1856025	TGF32R185-CP6025	1.85	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1856025	TGF32L185-CP6025	1.85	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R1956025	TGF32R195-CP6025	1.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L1956025	TGF32L195-CP6025	1.95	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R2006025	TGF32R200-CP6025	2.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L2006025	TGF32L200-CP6025	2.00	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R2506025	TGF32R250-CP6025	2.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L2506025	TGF32L250-CP6025	2.50	2.5	0.1	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○

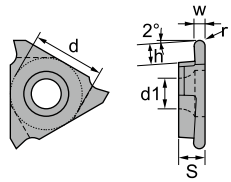
※ To choose CP10(uncoating) for N material machining.

TGF Shallow Grooving Tools (Vertical , Depth < 2.5mm) TGF 淺切槽刀 (立式 , 切深 < 2.5mm)

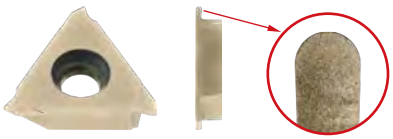
Insert Designation 刀片型號



Right hand



Left hand

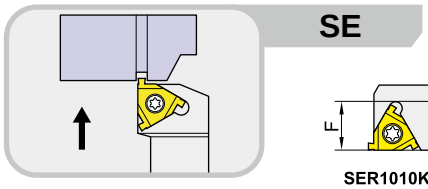


Order No.	Designation	Dimensions (mm)						Max Depth of Cut		Working Material					
		w	h	r	S	d	d1	O.D.	I.D.	P	M	K	N	S	H
ITGF32R025R6025	TGF32R025R-CP6025	0.50	1.4	0.25	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32L025R6025	TGF32L025R-CP6025	0.50	1.4	0.25	3.18	9.525	4.4	1.2	0.8	●	●	●		○	○
ITGF32R037R6025	TGF32R037R-CP6025	0.75	2.5	0.375	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L037R6025	TGF32L037R-CP6025	0.75	2.5	0.375	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R050R6025	TGF32R050R-CP6025	1.00	2.5	0.5	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L050R6025	TGF32L050R-CP6025	1.00	2.5	0.5	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R062R6025	TGF32R062R-CP6025	1.25	2.5	0.625	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L062R6025	TGF32L062R-CP6025	1.25	2.5	0.625	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32R075R6025	TGF32R075R-CP6025	1.50	2.5	0.75	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○
ITGF32L075R6025	TGF32L075R-CP6025	1.50	2.5	0.75	3.18	9.525	4.4	2.0	1.5	●	●	●		○	○

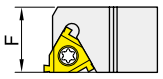
※ To choose CP10(uncoating) for N material machining.

SE Shallow Grooving Tools (Laydown, Depth < 2.5mm) SE 外徑 淺切槽刀 (臥式 , 切深 < 2.5mm)

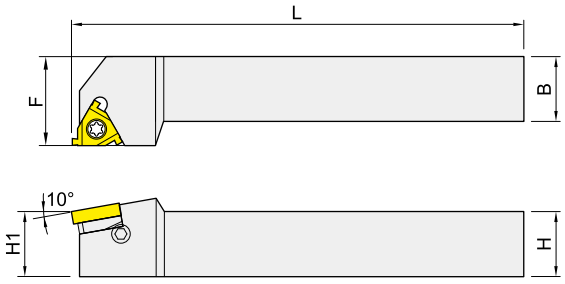
External Tool Holder Specifications 外徑刀桿規格



SER1010K16
SER1212K16



SER1216K16
SER1616K16H



Right-hand shown

Insert Brand : Winstar

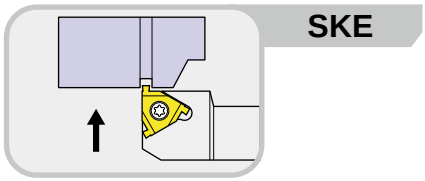
Order No.	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISE$^{R}_{L}$1216K16	12	16	125	16	TGL16ER or TGL16EL	①
ISE$^{R}_{L}$1010K16H	10	10	125	10		
ISE$^{R}_{L}$1212K16H	12	12	125	12		
ISE$^{R}_{L}$1616K16H	16	16	125	16		
ISE$^{R}_{L}$1616K16	16	16	125	20		②
ISE$^{R}_{L}$2020K16	20	20	125	25		
ISE$^{R}_{L}$2525M16	25	25	150	32		
ISE$^{R}_{L}$3232P16	32	32	170	40		

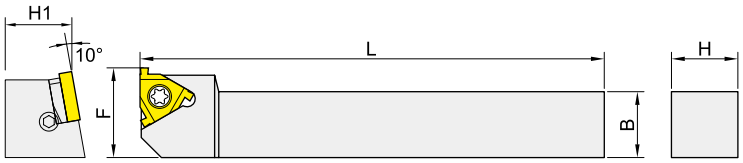
Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS3509A	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15

※ SER right hand tools shim is IGXE16, SEL left hand tools shim is IGXN16.

SKE Shallow Grooving Tools (Laydown, Depth < 2.5mm) SKE 外徑 淺切槽刀 (臥式 , 切深 < 2.5mm)

External Tool Holder Specifications 外徑刀桿規格





Right-hand shown

Insert Brand : Winstar

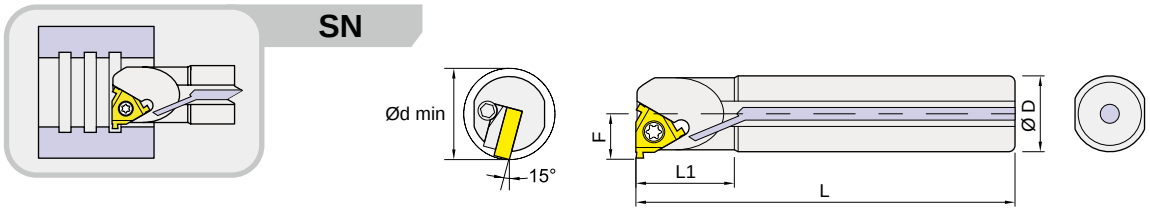
Order No.	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISKE$^{R}_{L}$1212K16	12	12	125	18	TGL16ER or TGL16EL	①
ISKE$^{R}_{L}$1616K16	16	16	125	22		②
ISKE$^{R}_{L}$2020K16	20	20	125	27		
ISKE$^{R}_{L}$2525M16	25	25	150	34		

Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS3509A	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15

※ SKER right hand tools shim is IGXE16, SKEL left hand tools shim is IGXN16.

SN Shallow Grooving Tools (Laydown, Depth < 2.5mm) SN 內徑 淺切槽刀 (臥式 , 切深 < 2.5mm)

Internal Tool Holder Specifications 內徑刀桿規格



Right-hand shown

Insert Brand : Winstar

Order No.	Dimensions (mm)					Coolant	Insert	Spare parts
	D	L	L1	F	d min			
ISN$^{R}_{L}$0010K11S10	10	125	22	6.5	13		TGL11IR or TGL11IL	①
ISN$^{R}_{L}$0012M11S12	12	150	26	8	16			
ISN$^{R}_{L}$A0010K11S10	10	125	22	6.5	13	●		
ISN$^{R}_{L}$A0012M11S12	12	150	26	8	16	●		
ISN$^{R}_{L}$0016Q16	16	180	36	10	19		TGL16IR or TGL16IL	②
ISN$^{R}_{L}$0020R16	20	200	40	12	24			③
ISN$^{R}_{L}$0025R16	25	200	45	14.5	29			
ISN$^{R}_{L}$0032S16	32	250	45	18.5	36			
ISN$^{R}_{L}$A0016Q16	16	180	36	10	19	●		②
ISN$^{R}_{L}$A0020R16	20	200	40	12	24	●		③
ISN$^{R}_{L}$A0025R16	25	200	45	14.5	29	●		
ISN$^{R}_{L}$A0032S16	32	250	45	18.5	36	●		

Spare parts	Screw	Wrench	Shim	Screw	Wrench
①	IMS2507G	ITK08	-	-	-
②	IMS3509A	ITK15	-	-	-
③	IMS3512A	ITK15	IGXN16 or IGXE16	IHTM309	IPL25

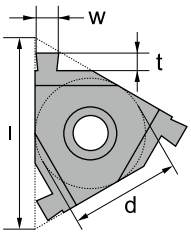
※ SNR right hand tools shim is IGXN16, SNL left hand tools shim is IGXE16.

Recommended Cutting Conditions 建議切削數據

Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	50 ~ 200	0.02 ~ 0.10
Stainless Steel	50 ~ 200	0.02 ~ 0.10
Cast Iron	50 ~ 200	0.02 ~ 0.10
Aluminum Alloy	200 ~ 300	0.05 ~ 0.15
Super Alloy	80 ~ 120	0.03 ~ 0.07

TGL Shallow Grooving Tools (Laydown, Depth < 2.5mm) TGL 淺切槽刀 (臥式 , 切深 < 2.5mm)

Insert Designation 刀片型號



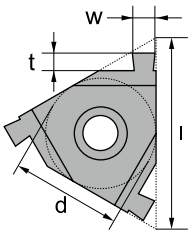
※Same insert can be used for external right hand and internal left hand.
相同的刀片可以使用在外徑右手與內徑左手加工

Order No.	Designation	Dimensions (mm)				Working Material					
		d	l	w ±0.02	t	P	M	K	N	S	H
ITGL11ER0506025	TGL11ER050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11IL0506025	TGL11IL050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11ER0606025	TGL11ER060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11IL0606025	TGL11IL060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11ER0706025	TGL11ER070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11IL0706025	TGL11IL070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11ER0806025	TGL11ER080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11IL0806025	TGL11IL080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11ER1006025	TGL11ER100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11IL1006025	TGL11IL100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11ER1206025	TGL11ER120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL11IL1206025	TGL11IL120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL16ER0506025	TGL16ER050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16IL0506025	TGL16IL050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16ER1006025	TGL16ER100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16IL1006025	TGL16IL100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16ER1206025	TGL16ER120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16IL1206025	TGL16IL120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16ER1406025	TGL16ER140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16IL1406025	TGL16IL140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16ER1706025	TGL16ER170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16IL1706025	TGL16IL170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16ER1956025	TGL16ER195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16IL1956025	TGL16IL195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16ER2256025	TGL16ER225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○
ITGL16IL2256025	TGL16IL225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○

※ To choose CP10(uncoating) for N material machining.

TGL Shallow Grooving Tools (Laydown, Depth < 2.5mm) TGL 淺切槽刀 (臥式 , 切深 < 2.5mm)

Insert Designation 刀片型號



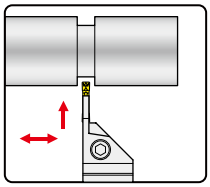
※Same insert can be used for internal right hand and external left hand.
相同的刀片可以使用在內徑右手與外徑左手加工

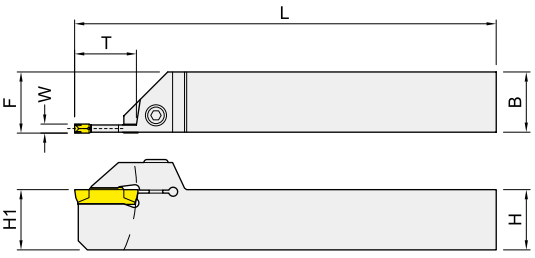
Order No.	Designation	Dimensions (mm)				Working Material					
		d	l	W ±0.02	t	P	M	K	N	S	H
ITGL11IR0506025	TGL11IR050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11EL0506025	TGL11EL050-CP6025	1/4	11	0.50	1.4	●	●	●		○	○
ITGL11IR0606025	TGL11IR060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11EL0606025	TGL11EL060-CP6025	1/4	11	0.60	1.4	●	●	●		○	○
ITGL11IR0706025	TGL11IR070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11EL0706025	TGL11EL070-CP6025	1/4	11	0.70	1.4	●	●	●		○	○
ITGL11IR0806025	TGL11IR080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11EL0806025	TGL11EL080-CP6025	1/4	11	0.80	1.4	●	●	●		○	○
ITGL11IR1006025	TGL11IR100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11EL1006025	TGL11EL100-CP6025	1/4	11	1.00	1.4	●	●	●		○	○
ITGL11IR1206025	TGL11IR120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL11EL1206025	TGL11EL120-CP6025	1/4	11	1.20	1.4	●	●	●		○	○
ITGL16IR0506025	TGL16IR050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16EL0506025	TGL16EL050-CP6025	3/8	16	0.50	1.4	●	●	●		○	○
ITGL16IR1006025	TGL16IR100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16EL1006025	TGL16EL100-CP6025	3/8	16	1.00	1.4	●	●	●		○	○
ITGL16IR1206025	TGL16IR120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16EL1206025	TGL16EL120-CP6025	3/8	16	1.20	1.6	●	●	●		○	○
ITGL16IR1406025	TGL16IR140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16EL1406025	TGL16EL140-CP6025	3/8	16	1.40	1.8	●	●	●		○	○
ITGL16IR1706025	TGL16IR170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16EL1706025	TGL16EL170-CP6025	3/8	16	1.70	2.0	●	●	●		○	○
ITGL16IR1956025	TGL16IR195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16EL1956025	TGL16EL195-CP6025	3/8	16	1.95	2.0	●	●	●		○	○
ITGL16IR2256025	TGL16IR225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○
ITGL16EL2256025	TGL16EL225-CP6025	3/8	16	2.25	2.25	●	●	●		○	○

※ To choose CP10(uncoating) for N material machining.

MGEH Grooving Tools (Depth < 20mm) MGEH 外徑切槽刀 (切深 < 20mm)

External Tool Holder Specifications 外徑刀桿規格





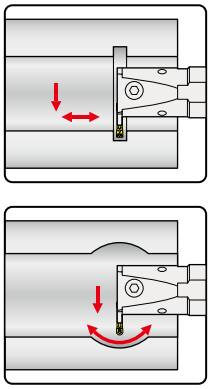
Right-hand shown

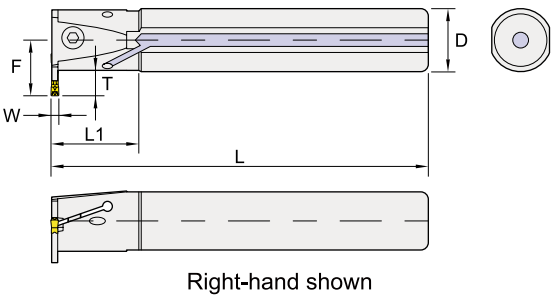
Insert Brand : Winstar

Order No.	Dimensions (mm)						Inserts	Screw	Wrench
	H (H1)	B	L	F	T	W			
IMGEH$^{R}/_{L}$1616K2T16T	16	16	125	16.25	16	2.0	MGMN200.. MRMN200..	IHTMT520	IETL25
IMGEH$^{R}/_{L}$2020K2T20T	20	20	125	20.25	20	2.0		IHTMT525	IETL25
IMGEH$^{R}/_{L}$2525M2T20T	25	25	150	25.25	20	2.0		IHTMT525	IETL25
IMGEH$^{R}/_{L}$1616K3T20T	16	16	125	16.30	20	3.0	MGMN300.. MRMG300..	IHTMT520	IETL25
IMGEH$^{R}/_{L}$2020K3T20T	20	20	125	20.30	20	3.0		IHTMT525	IETL25
IMGEHR2525M3T20T	25	25	150	25.30	20	3.0		IHTMT525	IETL25
IMGEHR2525M4T20T	25	25	150	25.35	20	4.0	MGMN400.. MRMN400..	IHTMT525	IETL25

MGIV Grooving Tools (Depth < 15mm) MGIV 內徑切槽刀 (切深 < 15mm)

Internal Tool Holder Specifications 內徑刀桿規格





Right-hand shown

Insert Brand : Winstar

Order No.	Dimensions (mm)							Insert	Screw	Wrench
	D	L	L1	F	T	W	d min			
IMGIVR2016M2	16	150	25	12	4	2	20	MGMN200.. MRMN200..	ICSH0310	IPL25
IMGIVR2520M2	20	150	25	14.5	4	2	25		ICSH0512	IPL40
IMGIVR2925R2	25	200	30	16	4	2	29		ICSH0516	IPL40
IMGIVR2620M3	20	150	25	16.5	6	3	26	MGMN300.. MRMG300..	ICSH0512	IPL40
IMGIVR3020M3	20	150	25	20	10	3	30		ICSH0512	IPL40
IMGIVR3125R3	25	200	30	18	6	3	31		ICSH0516	IPL40
IMGIVR3525R3	25	200	30	22	10	3	35		ICSH0516	IPL40
IMGIVR3832S3	32	250	40	21.5	6	3	38		ICSH0516	IPL40
IMGIVR4232S3	32	250	40	25.5	10	3	42		ICSH0516	IPL40
IMGIVR2620M4	20	150	25	15.5	6	4	26	MGMN400.. MRMN400..	ICSH0512	IPL40
IMGIVR3020M4	20	150	25	20	10	4	30		ICSH0512	IPL40
IMGIVR3125R4	25	200	30	18.5	6	4	31		ICSH0516	IPL40
IMGIVR3525R4	25	200	30	22.5	10	4	35		ICSH0516	IPL40
IMGIVR3832S4	32	250	40	22	6	4	38		ICSH0516	IPL40
IMGIVR4232S4	32	250	40	26	10	4	42		ICSH0516	IPL40
IMGIVR5040T4	40	300	45	29.5	10	4	50		ICSH0516	IPL40
IMGIVR5540T4	40	300	45	34.5	15	4	55		ICSH0516	IPL40

MGEH Grooving Tools (Depth < 20mm) MGEH 切槽刀 (切深 < 20mm)

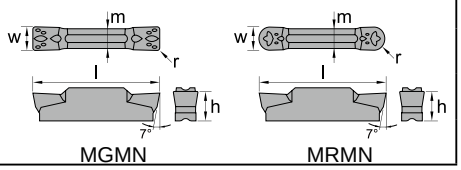
Recommended Cutting Conditions 建議切削數據

Working Material	Vc (m/min)	Parting off, fr (mm/rev)			Grooving, fr (mm/rev)		
		Cutting Width (w)					
		2	3	4	2	3	4
Carbon Steel / Alloy Steel	80 ~ 200	0.02 ~ 0.14	0.03 ~ 0.21	0.04 ~ 0.28	0.04 ~ 0.08	0.06 ~ 0.12	0.08 ~ 0.16
Stainless Steel	60 ~ 140	0.02 ~ 0.10	0.03 ~ 0.15	0.04 ~ 0.20	0.04 ~ 0.06	0.06 ~ 0.09	0.08 ~ 0.12
Cast Iron	80 ~ 200	0.04 ~ 0.14	0.06 ~ 0.21	0.08 ~ 0.28	0.04 ~ 0.08	0.06 ~ 0.12	0.08 ~ 0.16
Super Alloy	50 ~ 100	0.02 ~ 0.06	0.03 ~ 0.09	0.04 ~ 0.12	0.02 ~ 0.04	0.03 ~ 0.06	0.04 ~ 0.08

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	w	r	l	h	m
MGMN200	2.0	0.2	16	3.5	1.60
MGMN300	3.0	0.4	21	4.8	2.35
MGMN400	4.0	0.4	21	4.8	3.30
MRMN200	2.0	1.0	16	3.5	1.60
MRMN300	3.0	1.5	21	4.8	2.35
MRMN400	4.0	2.0	21	4.8	3.30

Chipbreaker 斷屑槽	
SG	For light cutting 適合輕加工
MG	For general cutting 適合一般泛用加工



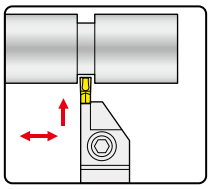
Insert Designation 刀片型號

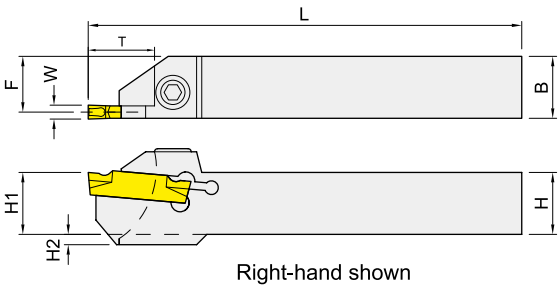
Insert	Order No.	Code-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IMGMN200SG6025	MGMN200-SG-CP6025	●	●	●		●	●
	IMGMN200SG6035	MGMN200-SG-CP6035	●	●	●		○	
	IMGMN300MG6025	MGMN300-MG-CP6025	●	●	●		●	●
	IMGMN300MG6035	MGMN300-MG-CP6035	●	●	●		○	
	IMGMN400MG6025	MGMN400-MG-CP6025	●	●	●		●	●
	IMGMN400MG6035	MGMN400-MG-CP6035	●	●	●		○	
	IMRMN200MG6025	MRMN200-MG-CP6025	●	●	●		●	●
	IMRMN200MG6035	MRMN200-MG-CP6035	●	●	●		○	
	IMRMN300MG6025	MRMN300-MG-CP6025	●	●	●		●	●
	IMRMN300MG6035	MRMN300-MG-CP6035	●	●	●		○	
	IMRMN400MG6025	MRMN400-MG-CP6025	●	●	●		●	●
	IMRMN400MG6035	MRMN400-MG-CP6035	●	●	●		○	

＊ CP6025 for General cutting. (Previous grade is CX33TX)
CP6035 for Interrupted cutting. (Previous grade is CX43TX)

KGM Grooving Tools (Depth < 20mm) KGM 外徑切槽刀 (切深 < 20mm)

External Tool Holder Specifications 外徑刀桿規格

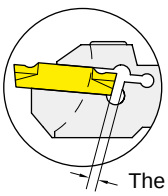




Right-hand shown

Insert Brand : Winstar

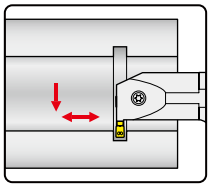
Order No.	Dimensions (mm)						W (mm)		Inserts	Screw	Wrench
	H (H1)	B	L	F	T	H2	min	max			
IKGM$^{R}_{L}$1212K1.5L10	12	12	125	11.4	10	2	1.5	2.0	GMM2020..	IHTM416	IPL30
IKGM$^{R}_{L}$1616K1.5L10	16	16	125	15.4	10	-	1.5	2.0		IHTMT520	IETL25
IKGM$^{R}_{L}$2020K1.5L10	20	20	125	19.4	10	-	1.5	2.0		IHTMT525	IETL25
IKGM$^{R}_{L}$2525M1.5L10	25	25	150	24.4	10	-	1.5	2.0		IHTMT525	IETL25
IKGM$^{R}_{L}$1212K2TL10	12	12	125	11.1	10	2	2.0	3.0	GMM2020.. GMM2520.. GMM3020..	IHTM416	IPL30
IKGM$^{R}_{L}$1616K2TL10	16	16	125	15.1	10	-	2.0	3.0		IHTMT520	IETL25
IKGM$^{R}_{L}$2020K2TL10	20	20	125	19.1	10	-	2.0	3.0		IHTMT525	IETL25
IKGM$^{R}_{L}$2525M2TL10	25	25	150	24.1	10	-	2.0	3.0		IHTMT525	IETL25
IKGM$^{R}_{L}$1212K2TL13	12	12	125	11.1	13	3	2.0	3.0		IHTM420	IPL30
IKGM$^{R}_{L}$1616K2TL13	16	16	125	15.1	13	-	2.0	3.0		IHTMT520	IETL25
IKGM$^{R}_{L}$2020K2TL13	20	20	125	19.1	13	-	2.0	3.0		IHTMT525	IETL25
IKGM$^{R}_{L}$2525M2TL13	25	25	150	24.1	13	-	2.0	3.0		IHTMT525	IETL25
IKGM$^{R}_{L}$1212K2TL17	12	12	125	11.1	17	4	2.0	3.0		IHTM420	IPL30
IKGM$^{R}_{L}$1616K2TL17	16	16	125	15.1	17	-	2.0	3.0		IHTMT520	IETL25
IKGM$^{R}_{L}$2020K2TL17	20	20	125	19.1	17	-	2.0	3.0		IHTMT525	IETL25
IKGM$^{R}_{L}$2525M2TL17	25	25	150	24.1	17	-	2.0	3.0		IHTMT525	IETL25
IKGM$^{R}_{L}$1616K3TL16	16	16	125	14.8	16	-	3.0	4.0	GMM3020..	IHTMT520	IETL25
IKGM$^{R}_{L}$2020K3TL16	20	20	125	18.8	16	-	3.0	4.0		IHTMT525	IETL25
IKGM$^{R}_{L}$2525M3TL16	25	25	150	23.8	16	-	3.0	4.0		IHTMT525	IETL25
IKGM$^{R}_{L}$1616K3TL20	16	16	125	14.8	20	4	3.0	4.0		IHTMT525	IETL25
IKGM$^{R}_{L}$2020K3TL20	20	20	125	18.8	20	-	3.0	4.0		IHTMT525	IETL25
IKGM$^{R}_{L}$2525M3TL20	25	25	150	23.8	20	-	3.0	4.0		IHTMT525	IETL25
IKGMR3232P3TL20	32	32	170	30.8	20	-	3.0	4.0		IHTMT525	IETL25

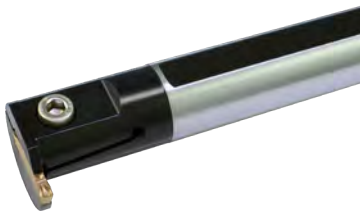


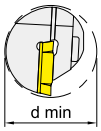
The GMM□□□□R□□ inserts need to be installed 0.5~1mm away from the bottom.

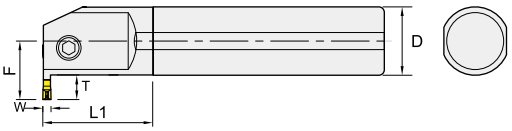
KIGM Grooving Tools (Depth < 9mm) KIGM 內徑切槽刀 (切深 < 9mm)

Internal Tool Holder Specifications 內徑刀桿規格







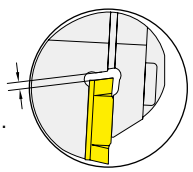


Right-hand shown

Insert Brand : Winstar

Order No.	Dimensions (mm)							Inserts	Screw	Wrench
	D	L	L1	F	T	W	d min			
IKIGMRS20Q3T07	20	180	35	17	7	3	28	GMM3020..	IHTM516	IPL40
IKIGMRS25R3T09	25	200	40	21.5	9	3	35		IHTMT520	IETL25

The GMM□□□□R□□ inserts need to be installed 0.5~1mm away from the bottom.



Recommended Cutting Conditions 建議切削數據

Working Material	Vc (m/min)	Parting off, fr (mm/rev)		Grooving, fr (mm/rev)	
		Cutting Width (w)			
		2	3	2	3
Carbon Steel / Alloy Steel	80 ~ 200	0.02 ~ 0.14	0.03 ~ 0.21	0.04 ~ 0.08	0.06 ~ 0.12
Stainless Steel	60 ~ 140	0.02 ~ 0.10	0.03 ~ 0.15	0.04 ~ 0.06	0.06 ~ 0.09
Cast Iron	80 ~ 200	0.04 ~ 0.14	0.06 ~ 0.21	0.04 ~ 0.08	0.06 ~ 0.12
Super Alloy	50 ~ 100	0.02 ~ 0.06	0.03 ~ 0.09	0.02 ~ 0.04	0.03 ~ 0.06

KGM Grooving Tools (Depth < 20mm) KGM 切槽刀 (切深 < 20mm)

Insert Specifications 刀片規格

Insert	Dimensions (mm)						Fig.
	w	r	l	h	m	k°	
GMM2020	2.0	0.20	20	4.3	1.5	-	1
GMM2020R06	2.0	-	20	4.3	1.5	6°	2
GMM2020R15	2.0	-	20	4.3	1.5	15°	2
GMM2020L15	2.0	-	20	4.3	1.5	15°	3
GMM2520	2.5	0.20	20	4.3	1.9	-	1
GMM2520R06	2.5	-	20	4.3	1.9	6°	2
GMM2520R15	2.5	-	20	4.3	1.9	15°	2
GMM2520L15	2.5	-	20	4.3	1.9	15°	3
GMM3020	3.0	0.25	20	4.3	2.3	-	1
GMM3020R06	3.0	-	20	4.3	2.3	6°	2
GMM3020R15	3.0	-	20	4.3	2.3	15°	2
GMM3020L15	3.0	-	20	4.3	2.3	15°	3

Chipbreaker 斷屑槽	
MR	For high feed cutting 適合高進給加工

Fig. 1

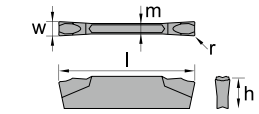


Fig. 2

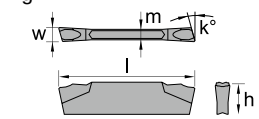
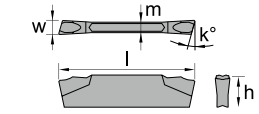


Fig. 3



Insert Designation 刀片型號

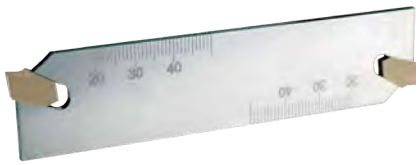
Insert	Order No.	Code-Chipbreaker-Grade	Working Material					
			P	M	K	N	S	H
	IGMM2020MR6025	GMM2020-MR-CP6025	●	●	●		●	●
	IGMM2020MR6035	GMM2020-MR-CP6035	●	●	●		○	
	IGMM2520MR6025	GMM2520-MR-CP6025	●	●	●		●	●
	IGMM3020MR6025	GMM3020-MR-CP6025	●	●	●		●	●
	IGMM2020R06MR6025	GMM2020R06-MR-CP6025	●	●	●		●	●
	IGMM2020R06MR6035	GMM2020R06-MR-CP6035	●	●	●		○	
	IGMM2520R06MR6025	GMM2520R06-MR-CP6025	●	●	●		●	●
	IGMM3020R06MR6025	GMM3020R06-MR-CP6025	●	●	●		●	●
	IGMM2020R15MR6025	GMM2020R15-MR-CP6025	●	●	●		●	●
	IGMM2020L15MR6025	GMM2020L15-MR-CP6025	●	●	●		●	●
	IGMM2020R15MR6035	GMM2020R15-MR-CP6035	●	●	●		○	
	IGMM2020L15MR6035	GMM2020L15-MR-CP6035	●	●	●		○	
	IGMM2520R15MR6025	GMM2520R15-MR-CP6025	●	●	●		●	●
	IGMM2520L15MR6025	GMM2520L15-MR-CP6025	●	●	●		●	●
	IGMM3020R15MR6025	GMM3020R15-MR-CP6025	●	●	●		○	●
	IGMM3020L15MR6025	GMM3020L15-MR-CP6025	●	●	●		○	●

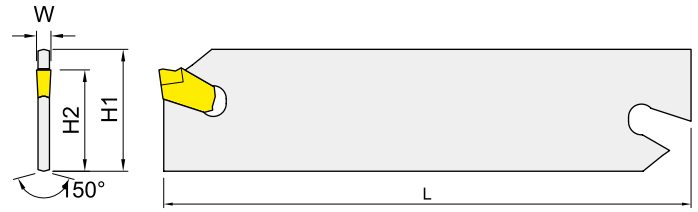
＊ CP6025 for General cutting. (Previous grade is CX33TX)
CP6035 for Interrupted cutting. (Previous grade is CX43TX)

SGIH Parting Tools (Depth < 40mm) SGIH 切斷刀 (切深 < 40mm)

External Tool Holder Specifications 外徑刀桿規格

SGIH

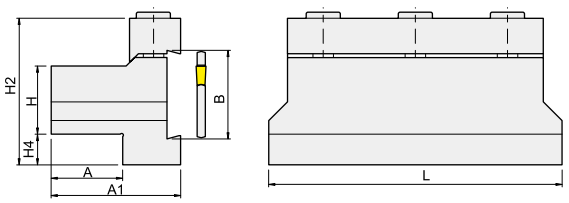




Insert Brand : Winstar

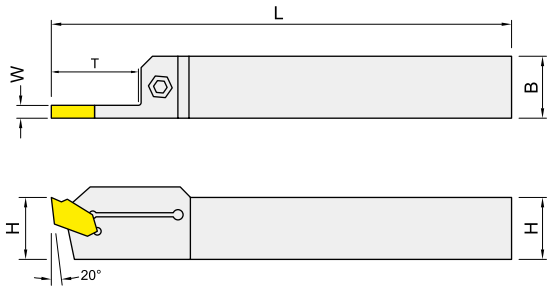
Order No.	Dimensions (mm)				Insert	Tool Block	Wrench
	H1	H2	L	W			
ISGIH26-2	26	21.4	110	2.2	TGTN0220	ISGTBU..-26	IESG-1
ISGIH26-3	26	21.4	110	3.1	TGTN0310		
ISGIH26-4	26	21.4	110	4.1	TGTN0410		
ISGIH32-2	32	25	150	2.2	TGTN0220	ISGTBU..-32	
ISGIH32-3	32	25	150	3.1	TGTN0310		
ISGIH32-4	32	25	150	4.1	TGTN0410		

SGTBU



Order No.	Dimensions (mm)							Screw	Wrench	BLADE
	H	B	A	A1	L	H2	H4			
ISGTBU20-26	20	26	21	38	86	43	9	IHTM630	IPL50	ISGIH26-3
ISGTBU25-26	25	26	23	40	86	43	4			
ISGTBU20-32	20	32	21	40	110	50	13			ISGIH32-3
ISGTBU25-32	25	32	23	42	110	50	8			

SGTHR



Order No.	Dimensions (mm)					Insert	Screw	Wrench
	H	B	L	W	T			
ISGTHR16162	16	16	110	2	16	TGTN0220	IHTM521	IPL40
ISGTHR20202	20	20	125	2	18			
ISGTHR20203	20	20	125	3	20	TGTN0310	IHTM625	IPL50
ISGTHR25253	25	25	150	3	25			
ISGTHR25254	25	25	150	4	30	TGTN0410	IHTM625	IPL50

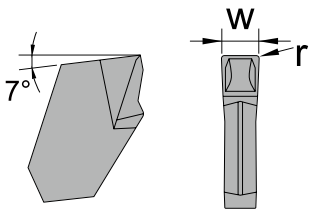
SGIH Parting Tools (Depth < 40mm) SGIH 切斷刀 (切深 < 40mm)

Recommended Cutting Conditions 建議切削數據

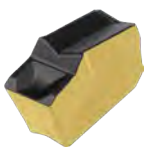
Working Material	Vc (m/min)	Parting off, fr (mm/rev)		
		Cutting Width (w)		
		2	3	4
Carbon Steel / Alloy Steel	80 ~ 200	0.02 ~ 0.14	0.03 ~ 0.21	0.04 ~ 0.28
Stainless Steel	60 ~ 140	0.02 ~ 0.10	0.03 ~ 0.15	0.04 ~ 0.20
Cast Iron	80 ~ 200	0.04 ~ 0.14	0.06 ~ 0.21	0.08 ~ 0.28
Super Alloy	50 ~ 100	0.02 ~ 0.06	0.03 ~ 0.09	0.04 ~ 0.12

Insert Specifications 刀片規格

Insert	Dimensions (mm)	
	w	r
TGTN0220	2.2	0.2
TGTN0310	3.1	0.2
TGTN0410	4.1	0.25

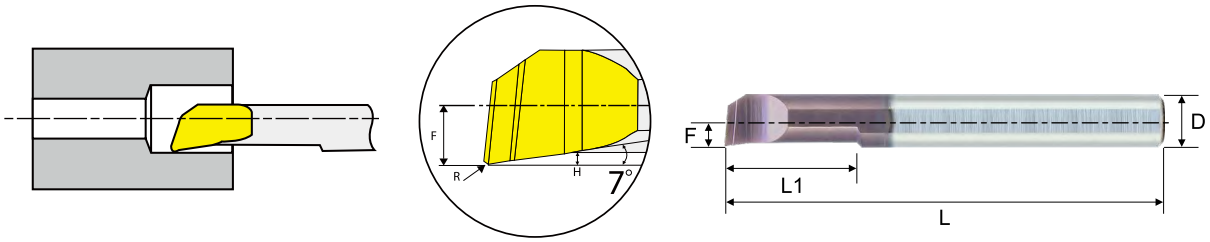


Insert Designation 刀片型號

Inserts	Order No.	Code-Grade	Working Material					
			P	M	K	N	S	H
	ITGTN02206025	TGTN0220-CP6025	●	●	●		●	●
	ITGTN02206035	TGTN0220-CP6035	●	●	●		○	
	ITGTN02207035	TGTN0220-CC7035	●	●	●			
	ITGTN03106025	TGTN0310-CP6025	●	●	●		●	●
	ITGTN03106035	TGTN0310-CP6035	●	●	●		○	
	ITGTN03107035	TGTN0310-CC7035	●	●	●			
	ITGTN04106025	TGTN0410-CP6025	●	●	●		●	●
	ITGTN04106035	TGTN0410-CP6035	●	●	●		○	
	ITGTN04107035	TGTN0410-CC7035	●	●	●			

＊ CP6025 for General cutting. (Previous grade is CX33TX)
CP6035 for Interrupted cutting. (Previous grade is CX43TX)
CC7035 for Heavy interrupted cutting. (Previous grade is CX47TA)

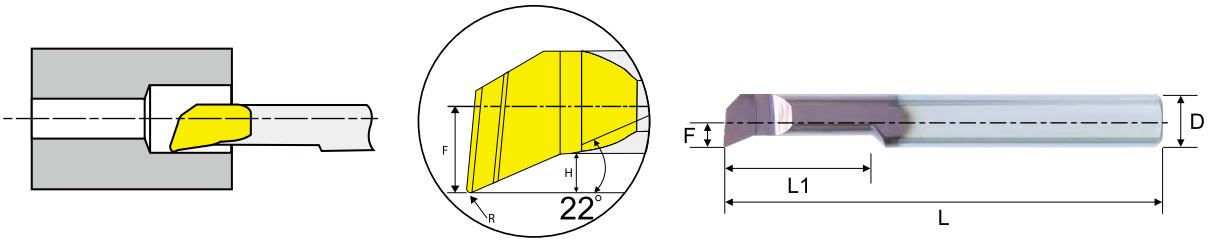
DLBSR Carbide Internal Boring Bars (7°) 鎢鋼內徑搪刀 (7°)



Order No.	F	L1	L	R	D	H	Min. Bore Dia.
DLBSR08051507U	0.8	5	50	0.15	3	0.1	2.4
DLBSR08101507U	0.8	10	50	0.15	3	0.1	2.4
DLBSR13100507U	1.3	10	50	0.05	3	0.2	3.1
DLBSR13150507U	1.3	15	50	0.05	3	0.2	3.1
DLBSR13151007U	1.3	15	50	0.10	3	0.2	3.1
DLBSR13102007U	1.3	10	50	0.20	3	0.2	3.1
DLBSR13152007U	1.3	15	50	0.20	3	0.2	3.1
DLBSR17101007U	1.7	10	50	0.10	4	0.2	4.1
DLBSR17151007U	1.7	15	50	0.10	4	0.2	4.1
DLBSR17221007U	1.7	22	50	0.10	4	0.2	4.1
DLBSR17102007U	1.7	10	50	0.20	4	0.2	4.1
DLBSR17152007U	1.7	15	50	0.20	4	0.2	4.1
DLBSR17222007U	1.7	22	50	0.20	4	0.2	4.1
DLBSR21151007U	2.1	15	50	0.10	5	0.3	5.1
DLBSR21221007U	2.1	22	50	0.10	5	0.3	5.1
DLBSR21301007U	2.1	30	75	0.10	5	0.3	5.1
DLBSR21152007U	2.1	15	50	0.20	5	0.3	5.1
DLBSR21222007U	2.1	22	50	0.20	5	0.3	5.1
DLBSR21302007U	2.1	30	75	0.20	5	0.3	5.1
DLBSR28150507U	2.8	15	50	0.05	6	0.3	6.1
DLBSR28151007U	2.8	15	50	0.10	6	0.3	6.1
DLBSR28152007U	2.8	15	50	0.20	6	0.3	6.1
DLBSR28222007U	2.8	22	50	0.20	6	0.3	6.1
DLBSR28302007U	2.8	30	60	0.20	6	0.3	6.1

＊ For left hand tools specify DLBSL instead of DLBSR.

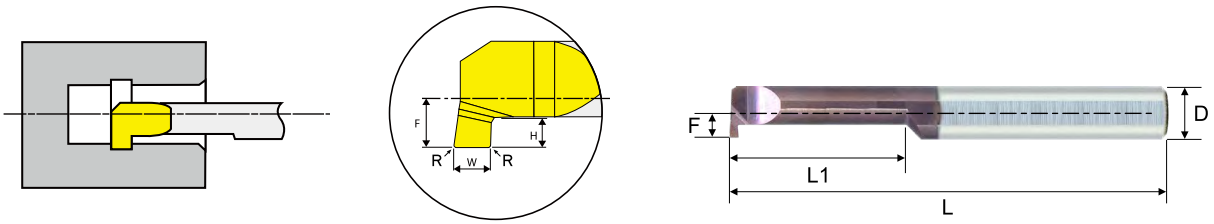
DLBSR Carbide Internal Boring Bars (22°) 鎢鋼內徑搪刀 (22°)



Order No.	F	L1	L	R	D	H	Min. Bore Dia.
DLBSR04030522U	0.4	3	50	0.05	4	0.2	1.0
DLBSR04050522U	0.4	5	50	0.05	4	0.2	1.0
DLBSR08060522U	0.8	6	50	0.05	4	0.4	2.0
DLBSR08100522U	0.8	10	50	0.05	4	0.4	2.0
DLBSR08140522U	0.8	14	50	0.05	4	0.4	2.0
DLBSR13091022U	1.3	9	50	0.10	4	0.6	3.0
DLBSR13151022U	1.3	15	50	0.10	4	0.6	3.0
DLBSR13211022U	1.3	21	50	0.10	4	0.6	3.0
DLBSR18121022U	1.8	12	50	0.10	4	0.8	4.0
DLBSR18201022U	1.8	20	50	0.10	4	0.8	4.0
DLBSR18281022U	1.8	28	60	0.10	4	0.8	4.0
DLBSR23152022U	2.3	15	50	0.20	6	1.0	5.0
DLBSR23252022U	2.3	25	50	0.20	6	1.0	5.0
DLBSR23302022U	2.3	30	60	0.20	6	1.0	5.0
DLBSR28182022U	2.8	18	50	0.20	6	1.2	6.0
DLBSR28302022U	2.8	30	60	0.20	6	1.2	6.0
DLBSR28422022U	2.8	42	65	0.20	6	1.2	6.0

＊ For left hand tools specify DLBSL instead of DLBSR.

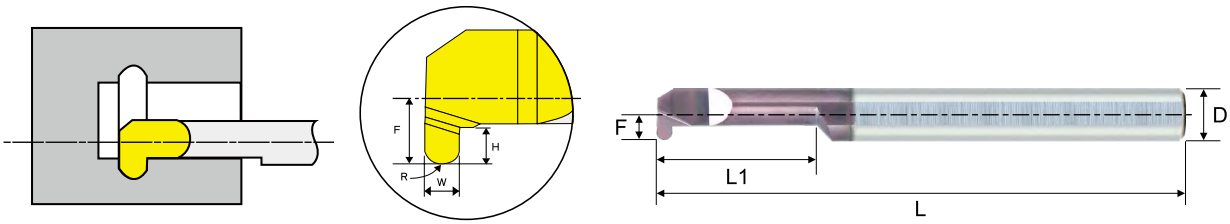
DLGSR Carbide Internal Grooving Bars 鎢鋼內徑開槽刀



Order No.	F	L1	L	W	R	D	H	Min. Bore Dia.
DLGSR17101010U	1.7	10	50	1.00	0.1	4	1.0	4.1
DLGSR17101510U	1.7	10	50	1.50	0.1	4	1.0	4.1
DLGSR23101012U	2.3	10	50	1.00	0.1	5	1.2	5.1
DLGSR23101512U	2.3	10	50	1.50	0.1	5	1.2	5.1
DLGSR23102012U	2.3	10	50	2.00	0.1	5	1.2	5.1
DLGSR28201014U	2.8	20	50	1.00	0.1	6	1.4	6.1
DLGSR28201514U	2.8	20	50	1.50	0.1	6	1.4	6.1
DLGSR28202014U	2.8	20	50	2.00	0.1	6	1.4	6.1
DLGSR38301022U	3.8	30	60	1.00	0.15	8	2.2	8.1
DLGSR38301522U	3.8	30	60	1.50	0.15	8	2.2	8.1
DLGSR38302022U	3.8	30	60	2.00	0.15	8	2.2	8.1

＊ For left hand tools specify DLGSL instead of DLGSR.

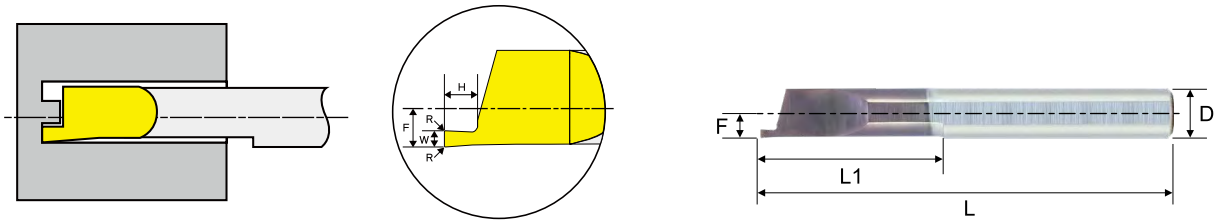
DLGBR Carbide Internal Grooving R Bars 鎢鋼內徑 R 開槽刀



Order No.	F	L1	L	W	R	D	H	Min. Bore Dia.
DLGBR17101010U	1.7	10	50	1.00	0.50	4	1.0	4.1
DLGBR17101510U	1.7	10	50	1.50	0.75	4	1.0	4.1
DLGBR23151012U	2.3	15	50	1.00	0.50	5	1.2	5.1
DLGBR23151512U	2.3	15	50	1.50	0.75	5	1.2	5.1
DLGBR23152012U	2.3	15	50	2.00	1.00	5	1.2	5.1
DLGBR28151016U	2.8	15	50	1.00	0.50	6	1.6	6.1
DLGBR28151516U	2.8	15	50	1.50	0.75	6	1.6	6.1
DLGBR28152016U	2.8	15	50	2.00	1.00	6	1.6	6.1

＊ For left hand tools specify DLGBL instead of DLGBR.

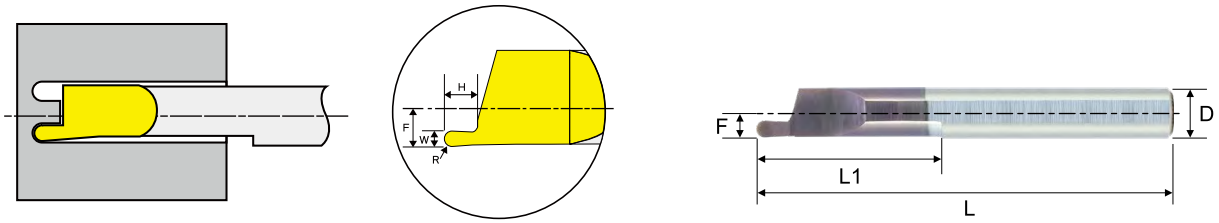
DLFSR Carbide Internal Face Grooving Bars 迷你鎢鋼內徑端面開槽刀



Order No.	F	L1	L	W	R	D	H	Min. Bore Dia.
DLFSR18150712U	1.8	15	50	0.75	0.1	4	1.2	4.0
DLFSR18151015U	1.8	15	50	1.00	0.1	4	1.5	4.0
DLFSR18151526U	1.8	15	50	1.50	0.1	4	2.6	4.0
DLFSR23220712U	2.3	22	50	0.75	0.1	6	1.2	5.0
DLFSR23221015U	2.3	22	50	1.00	0.1	6	1.5	5.0
DLFSR23221525U	2.3	22	50	1.50	0.1	6	2.5	5.0
DLFSR23222036U	2.3	22	50	2.00	0.1	6	3.6	5.0
DLFSR28221015U	2.8	22	50	1.00	0.1	6	1.5	6.0
DLFSR28221525U	2.8	22	50	1.50	0.1	6	2.5	6.0
DLFSR28222030U	2.8	22	50	2.00	0.1	6	3.0	6.0
DLFSR28222546U	2.8	22	50	2.50	0.1	6	4.6	6.0

＊ For left hand tools specify DLFSL instead of DLFSR.

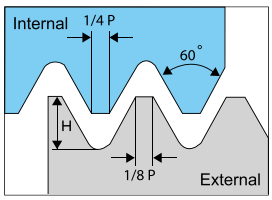
DLFBR Carbide Internal Face R Grooving Bars 鎢鋼內徑端面 R 開槽刀

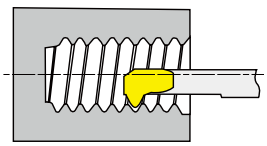


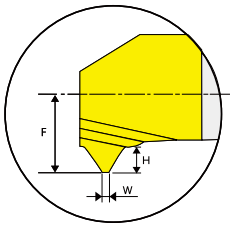
Order No.	F	L1	L	W	R	D	H	Min. Bore Dia.
DLFBR18150512U	1.8	15	50	1.0	0.50	4	1.2	4.0
DLFBR18150715U	1.8	15	50	1.5	0.75	4	1.5	4.0
DLFBR23220512U	2.3	22	50	1.0	0.50	6	1.2	5.0
DLFBR23220715U	2.3	22	50	1.5	0.75	6	1.5	5.0
DLFBR23221025U	2.3	22	50	2.0	1.00	6	2.5	5.0
DLFBR28220715U	2.8	22	50	1.5	0.75	6	1.5	6.0
DLFBR28221025U	2.8	22	50	2.0	1.00	6	2.5	6.0

＊ For left hand tools specify DLFBL instead of DLFBR.

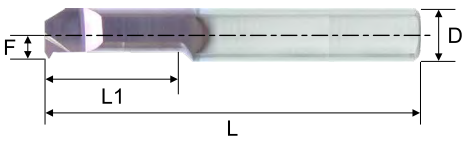
DLTSR Carbide Internal Thread 鎢鋼內徑螺紋搪刀







ISO Metric 60°
ISO 牙

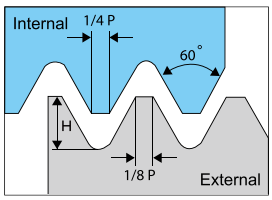


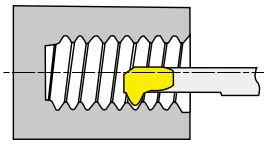
Tolerance class : 6H

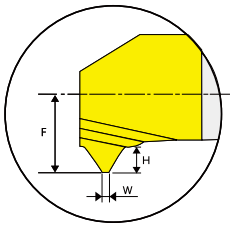
Order No.	F	Pitch	L1	W	L	D	H	Min. Bore Dia.
DLTSR05010360U	1.4	0.50	10	0.062	39	3	0.33	3.2
DLTSR07010360U	1.4	0.70	10	0.087	39	3	0.46	3.2
DLTSR07510360U	1.4	0.75	10	0.093	39	3	0.49	3.2
DLTSR05010460U	1.8	0.50	10	0.062	50	4	0.33	4.1
DLTSR07510460U	1.8	0.75	10	0.093	50	4	0.49	4.1
DLTSR08010460U	1.8	0.80	10	0.100	50	4	0.52	4.1
DLTSR10010560U	2.2	1.00	10	0.125	50	5	0.65	4.9
DLTSR05015660U	2.6	0.50	15	0.062	50	6	0.33	5.9
DLTSR07515660U	2.6	0.75	15	0.093	50	6	0.49	5.9
DLTSR10015660U	2.6	1.00	15	0.125	50	6	0.65	5.9
DLTSR12522660U	2.8	1.25	22	0.156	50	6	0.81	6.1

＊ For left hand tools specify DLTSL instead of DLTSR.

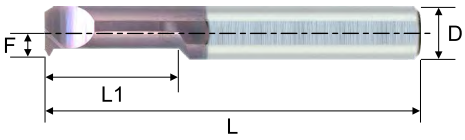
DLTMR Carbide Internal Thread 鎢鋼內徑螺紋搪刀







Partial Profile 60°
泛用牙

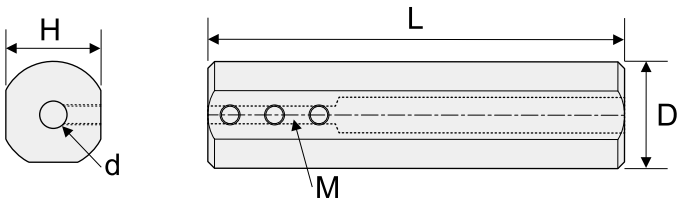


Tolerance class : 6H

Order No.	F	Pitch	L1	W	L	D	H	Min. Bore Dia.
DLTMR04508360U	1.0	0.45 ~ 0.70	8	0.056	50	3	0.5	2.6
DLTMR07015360U	1.4	0.70 ~ 1.00	15	0.087	50	3	0.7	3.2
DLTMR08015460U	1.8	0.80 ~ 1.00	15	0.100	50	4	0.7	4.1
DLTMR10015560U	2.3	1.00 ~ 1.25	15	0.125	50	5	0.8	5.1
DLTMR10015660U	2.6	1.00 ~ 1.50	15	0.125	50	6	1.0	6.0
DLTMR10018860U	3.6	1.00 ~ 1.75	18	0.125	60	8	1.4	8.0
DLTMR10018160U	4.6	1.00 ~ 2.00	18	0.125	75	10	1.8	10.0

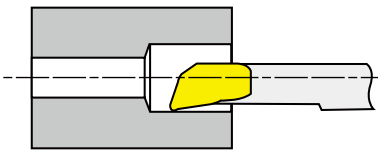
＊ For left hand tools specify DLTML instead of DLTMR.

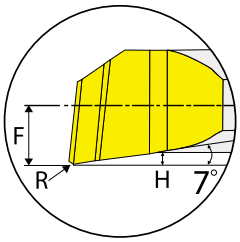
DLS Carbide Bars - Sleeves 鎢鋼內徑搪刀套筒

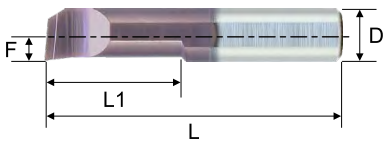


Order No.	d	D	L	H	M
DLS0316100	3	16	100	14	M4
DLS0416100	4	16	100	14	M4
DLS0516100	5	16	100	14	M4
DLS0616100	6	16	100	14	M5
DLS0816100	8	16	100	14	M5
DLS1016100	10	16	100	14	M5

DEBSR Carbide Modular Internal Boring Bars (7°) 模組化鎢鋼內徑搪刀 (7°)



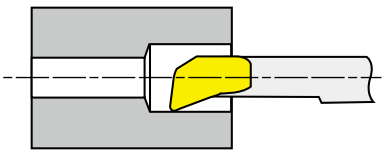


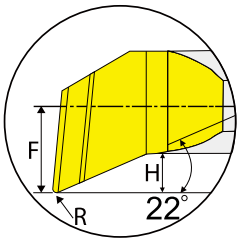


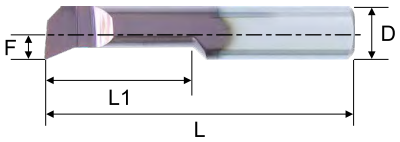
Order No.	F	L1	L (±0.05mm)	R	D	H	Min. Bore Dia.
DEBSR08051507U	0.8	5	21.5	0.15	3	0.1	2.4
DEBSR08101507U	0.8	10	26.5	0.15	3	0.1	2.4
DEBSR13100507U	1.3	10	26.5	0.05	3	0.2	3.1
DEBSR13150507U	1.3	15	31.5	0.05	3	0.2	3.1
DEBSR13151007U	1.3	15	31.5	0.10	3	0.2	3.1
DEBSR13102007U	1.3	10	26.5	0.20	3	0.2	3.1
DEBSR13152007U	1.3	15	31.5	0.20	3	0.2	3.1
DEBSR17101007U	1.7	10	26.5	0.10	4	0.2	4.1
DEBSR17151007U	1.7	15	31.5	0.10	4	0.2	4.1
DEBSR17221007U	1.7	22	38.5	0.10	4	0.2	4.1
DEBSR17102007U	1.7	10	26.5	0.20	4	0.2	4.1
DEBSR17152007U	1.7	15	31.5	0.20	4	0.2	4.1
DEBSR17222007U	1.7	22	38.5	0.20	4	0.2	4.1
DEBSR21151007U	2.1	15	31.5	0.10	5	0.3	5.1
DEBSR21221007U	2.1	22	38.5	0.10	5	0.3	5.1
DEBSR21301007U	2.1	30	46.5	0.10	5	0.3	5.1
DEBSR21152007U	2.1	15	31.5	0.20	5	0.3	5.1
DEBSR21222007U	2.1	22	38.5	0.20	5	0.3	5.1
DEBSR21302007U	2.1	30	46.5	0.20	5	0.3	5.1
DEBSR28150507U	2.8	15	31.5	0.05	6	0.3	6.1
DEBSR28151007U	2.8	15	31.5	0.10	6	0.3	6.1
DEBSR28152007U	2.8	15	31.5	0.20	6	0.3	6.1
DEBSR28222007U	2.8	22	38.5	0.20	6	0.3	6.1
DEBSR28302007U	2.8	30	46.5	0.20	6	0.3	6.1

＊ For left hand tools specify DEBSL instead of DEBSR.

DEBSR Carbide Modular Internal Boring Bars (22°) 模組化鎢鋼內徑搪刀 (22°)



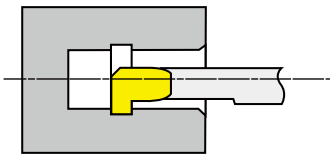


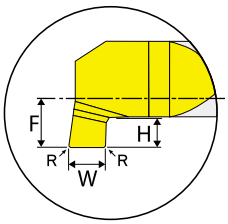


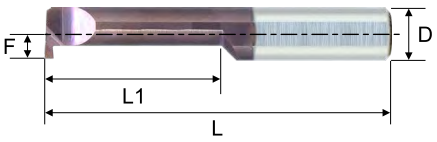
Order No.	F	L1	L (±0.05mm)	R	D	H	Min. Bore Dia.
DEBSR04030522U	0.4	3	19.5	0.05	4	0.2	1.0
DEBSR04050522U	0.4	5	21.5	0.05	4	0.2	1.0
DEBSR08060522U	0.8	6	22.5	0.05	4	0.4	2.0
DEBSR08100522U	0.8	10	26.5	0.05	4	0.4	2.0
DEBSR08140522U	0.8	14	30.5	0.05	4	0.4	2.0
DEBSR13091022U	1.3	9	25.5	0.10	4	0.6	3.0
DEBSR13151022U	1.3	15	31.5	0.10	4	0.6	3.0
DEBSR13211022U	1.3	21	37.5	0.10	4	0.6	3.0
DEBSR18121022U	1.8	12	28.5	0.10	4	0.8	4.0
DEBSR18201022U	1.8	20	36.5	0.10	4	0.8	4.0
DEBSR18281022U	1.8	28	44.5	0.10	4	0.8	4.0
DEBSR23152022U	2.3	15	31.5	0.20	6	1.0	5.0
DEBSR23252022U	2.3	25	41.5	0.20	6	1.0	5.0
DEBSR23302022U	2.3	30	46.5	0.20	6	1.0	5.0
DEBSR28182022U	2.8	18	34.5	0.20	6	1.2	6.0
DEBSR28302022U	2.8	30	46.5	0.20	6	1.2	6.0
DEBSR28422022U	2.8	42	58.5	0.20	6	1.2	6.0

＊ For left hand tools specify DEBSL instead of DEBSR.

DEGSR Carbide Modular Internal Grooving Bars 模組化鎢鋼內徑開槽刀



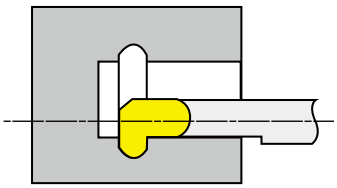


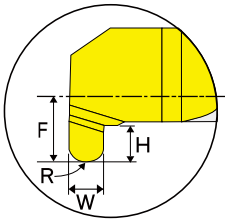


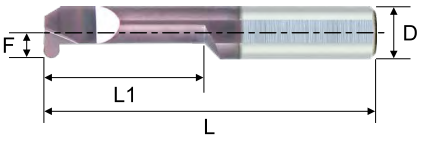
Order No.	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEGSR17101010U	1.7	10	26.5	1.00	0.1	4	1.0	4.1
DEGSR17101510U	1.7	10	26.5	1.50	0.1	4	1.0	4.1
DEGSR23101012U	2.3	10	26.5	1.00	0.1	5	1.2	5.1
DEGSR23101512U	2.3	10	26.5	1.50	0.1	5	1.2	5.1
DEGSR23102012U	2.3	10	26.5	2.00	0.1	5	1.2	5.1
DEGSR28201014U	2.8	20	36.5	1.00	0.1	6	1.4	6.1
DEGSR28201514U	2.8	20	36.5	1.50	0.1	6	1.4	6.1
DEGSR28202014U	2.8	20	36.5	2.00	0.1	6	1.4	6.1

＊ For left hand tools specify DEGSL instead of DEGSR.

DEGBR Carbide Modular Internal Grooving R Bars 模組化鎢鋼內徑 R 開槽刀



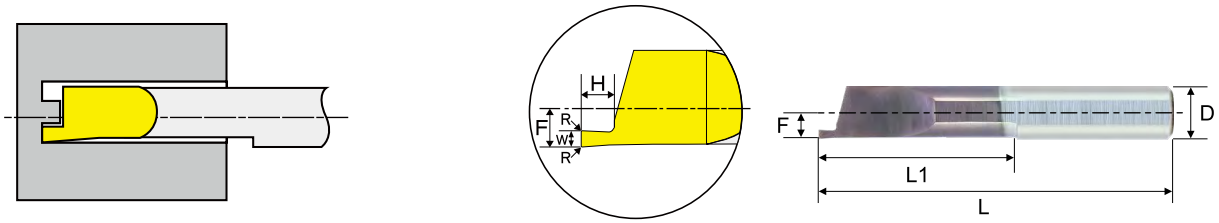




Order No.	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEGBR17101010U	1.7	10	26.5	1.00	0.50	4	1.0	4.1
DEGBR17101510U	1.7	10	26.5	1.50	0.75	4	1.0	4.1
DEGBR23151012U	2.3	15	31.5	1.00	0.50	5	1.2	5.1
DEGBR23151512U	2.3	15	31.5	1.50	0.75	5	1.2	5.1
DEGBR23152012U	2.3	15	31.5	2.00	1.00	5	1.2	5.1
DEGBR28151016U	2.8	15	31.5	1.00	0.50	6	1.6	6.1
DEGBR28151516U	2.8	15	31.5	1.50	0.75	6	1.6	6.1
DEGBR28152016U	2.8	15	31.5	2.00	1.00	6	1.6	6.1

＊ For left hand tools specify DEGBL instead of DEGBR.

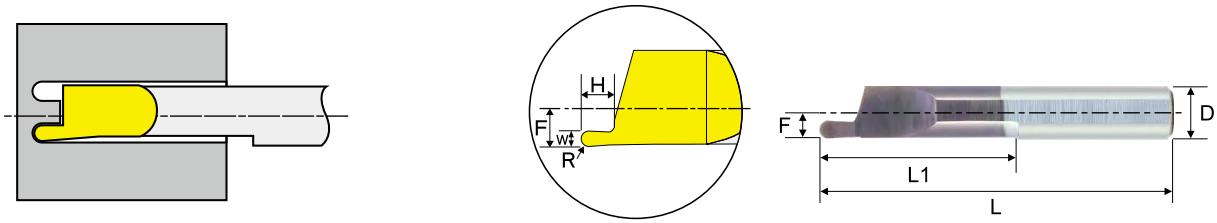
DEFSR Carbide Modular Internal Face Grooving Bars 模組化鎢鋼內徑端面開槽刀



Order No.	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEFSR18150712U	1.8	15	31.5	0.75	0.1	4	1.2	4
DEFSR18151015U	1.8	15	31.5	1.00	0.1	4	1.5	4
DEFSR18151526U	1.8	15	31.5	1.50	0.1	4	2.6	4
DEFSR23220712U	2.3	22	38.5	0.75	0.1	6	1.2	5
DEFSR23221015U	2.3	22	38.5	1.00	0.1	6	1.5	5
DEFSR23221525U	2.3	22	38.5	1.50	0.1	6	2.5	5
DEFSR23222036U	2.3	22	38.5	2.00	0.1	6	3.6	5
DEFSR28221015U	2.8	22	38.5	1.00	0.1	6	1.5	6
DEFSR28221525U	2.8	22	38.5	1.50	0.1	6	2.5	6
DEFSR28222030U	2.8	22	38.5	2.00	0.1	6	3.0	6
DEFSR28222546U	2.8	22	38.5	2.50	0.1	6	4.6	6

＊ For left hand tools specify DEFSL instead of DEFSR.

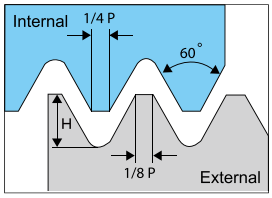
DEFBR Carbide Modular Internal Face R Grooving Bars 模組化鎢鋼內徑端面 R 開槽刀

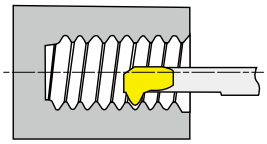


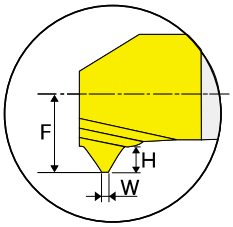
Order No.	F	L1	L (±0.05mm)	W	R	D	H	Min. Bore Dia.
DEFBR18150512U	1.8	15	31.5	1.0	0.50	4	1.2	4
DEFBR18150715U	1.8	15	31.5	1.5	0.75	4	1.5	4
DEFBR23220512U	2.3	22	38.5	1.0	0.50	6	1.2	5
DEFBR23220715U	2.3	22	38.5	1.5	0.75	6	1.5	5
DEFBR23221025U	2.3	22	38.5	2.0	1.00	6	2.5	5
DEFBR28220715U	2.8	22	38.5	1.5	0.75	6	1.5	6
DEFBR28221025U	2.8	22	38.5	2.0	1.00	6	2.5	6

＊ For left hand tools specify DEFBL instead of DEFBR.

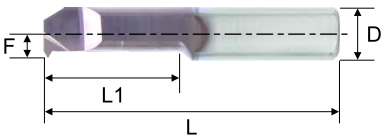
DETSR Carbide Modular Internal Thread 模組化鎢鋼內徑螺紋搪刀







ISO Metric 60°
ISO 牙

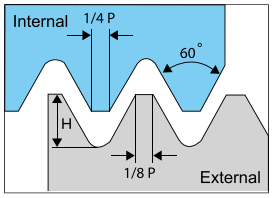


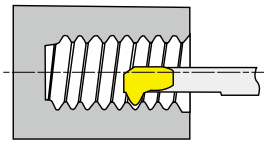
Tolerance class : 6H

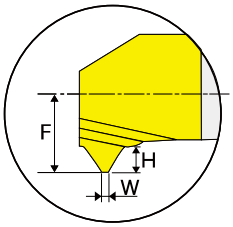
Order No.	F	Pitch	L1	W	L (±0.05mm)	D	H	Min. Bore Dia.
DETSR05010360U	1.4	0.50	10	0.062	26.5	3	0.33	3.2
DETSR07010360U	1.4	0.70	10	0.087	26.5	3	0.46	3.2
DETSR07510360U	1.4	0.75	10	0.093	26.5	3	0.49	3.2
DETSR05010460U	1.8	0.50	10	0.062	26.5	4	0.33	4.1
DETSR07510460U	1.8	0.75	10	0.093	26.5	4	0.49	4.1
DETSR08010460U	1.8	0.80	10	0.100	26.5	4	0.52	4.1
DETSR10010560U	2.2	1.00	10	0.125	26.5	5	0.65	4.9
DETSR05015660U	2.6	0.50	15	0.062	31.5	6	0.33	5.9
DETSR07515660U	2.6	0.75	15	0.093	31.5	6	0.49	5.9
DETSR10015660U	2.6	1.00	15	0.125	31.5	6	0.65	5.9
DETSR12522660U	2.8	1.25	22	0.156	38.5	6	0.81	6.1

＊ For left hand tools specify DETSL instead of DETSR.

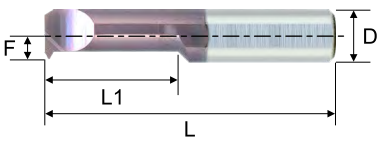
DETMR Carbide Modular Internal Thread 模組化鎢鋼內徑螺紋搪刀







Partial Profile 60°
泛用牙

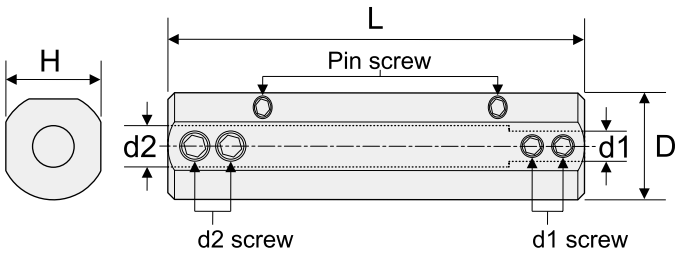


Tolerance class : 6H

Order No.	F	Pitch	L1	W	L (±0.05mm)	D	H	Min. Bore Dia.
DETMR04508360U	1.0	0.45 ~ 0.70	8	0.056	24.5	3	0.5	2.6
DETMR07015360U	1.4	0.70 ~ 1.00	15	0.087	31.5	3	0.7	3.2
DETMR08015460U	1.8	0.80 ~ 1.00	15	0.100	31.5	4	0.7	4.1
DETMR10015560U	2.3	1.00 ~ 1.25	15	0.125	31.5	5	0.8	5.1
DETMR10015660U	2.6	1.00 ~ 1.50	15	0.125	31.5	6	1.0	6.0

＊ For left hand tools specify DETML instead of DETMR.

DES Carbide Modular Bars - Double Sizes Sleeves 模組化鎢鋼內徑搪刀雙柄套筒

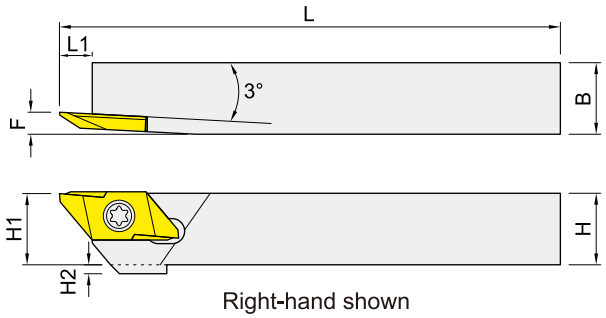


Order No.	D	d1	d2	L	H	Spare parts
DES1635075	16	3	5	75	15	①
DES1646075	16	4	6	75	15	②

Spare parts	d1		d2		Pin	
	Screw	Wrench	Screw	Wrench	Screw	Wrench
①	ITHM405	IPL20	ITHM405	IPL20	ITTS412	IPL20
②	ITHM405	IPL20	ITHM505	IPL25	ITTS412	IPL20

Back Turning - BTAH 後掃車削

Tool Holder Specifications 刀桿規格



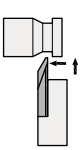
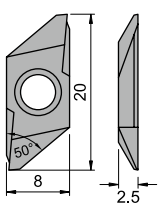
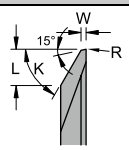
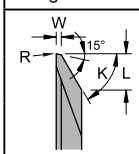
Right-hand shown

Order No.	Item Specification	Dimensions (mm)						Insert	Screw	Wrench
		H(H1)	B	L	L1	F	H2			
IBTAHR1010K	BTAHR-1010K-50	10	10	125	5.5	3.5	2	BTAT	IMS4009A	ITK15
IBTAHL1010K	BTAHL-1010K-50	10	10	125	5.5	3.5	2			
IBTAHR1212K	BTAHR-1212K-50	12	12	125	5.5	3.5	-		IMS4011A	
IBTAHL1212K	BTAHL-1212K-50	12	12	125	5.5	3.5	-			
IBTAHR1616K	BTAHR-1616K-50	16	16	125	5.5	3.5	-			
IBTAHL1616K	BTAHL-1616K-50	16	16	125	5.5	3.5	-			

Recommended Cutting Conditions 建議切削數據

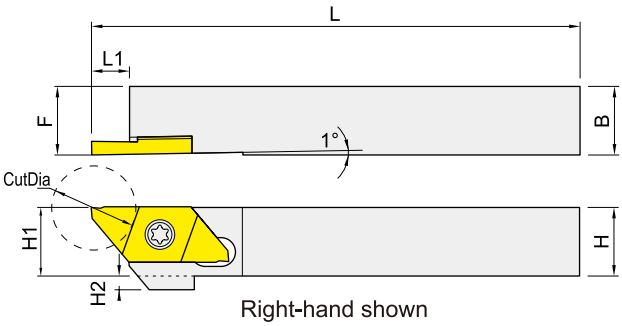
Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	30 ~ 180	0.01 ~ 0.15
Stainless Steel	50 ~ 120	0.02 ~ 0.10
Cast Iron	30 ~ 180	0.01 ~ 0.15
Aluminum Alloy	70 ~ 230	0.03 ~ 0.15

Insert Specifications 刀片規格

Inserts		Designation	Grade No.						Dimensions (mm)				Drawing
			CP6025						K	R	L	W	
Back turning 後掃加工 Right hand shown		**BTAT552800R-B**	✓						55°	0	2.8	0.5	 Right hand insert shown
	 Right hand	**BTAT552801R-B**	✓						55°	0.1	2.8	0.5	
		BTAT603500R-B	✓						60°	0	3.5	0.5	
		BTAT603501R-B	✓						60°	0.1	3.5	0.5	
	 Left hand	**BTAT552800L-B**	✓						55°	0	2.8	0.5	
		BTAT552801L-B	✓						55°	0.1	2.8	0.5	
		BTAT603500L-B	✓						60°	0	3.5	0.5	
		BTAT603501L-B	✓						60°	0.1	3.5	0.5	

Grooving or Parting - CTAH 切槽或切斷

Tool Holder Specifications 刀桿規格



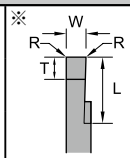
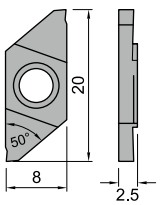
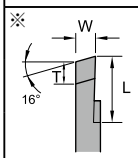
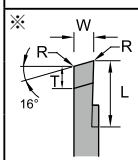
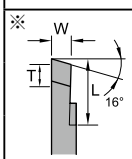
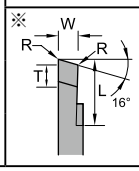
Right-hand shown

Order No.	Item Specification	Dimensions (mm)						Insert	CutDia (mm)	Screw	Wrench
		H(H1)	B	L	L1	F	H2				
ICTAHR1010K	CTAHR-1010K-120	10	10	125	5.5	10	2	CTAT	12	IMS4009A	ITK15
ICTAHR1212K	CTAHR-1212K-120	12	12	125	5.5	12	-			IMS4011A	
ICTAHR1616K	CTAHR-1616K-120	16	16	125	5.5	16	-				
ICTAHL1616K	CTAHL-1616K-120	16	16	125	5.5	16	-				
ICTAHR2020K	CTAHR-2020K-120	20	20	125	5.5	20	-				
ICTAHL2020K	CTAHL-2020K-120	20	20	125	5.5	20	-				

Recommended Cutting Conditions 建議切削數據

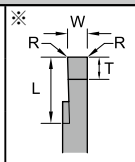
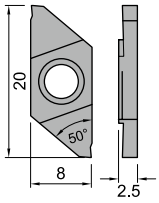
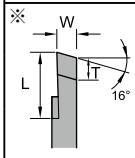
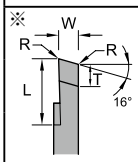
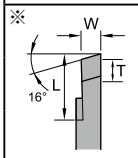
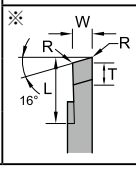
Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	30 ~ 180	0.01 ~ 0.09
Stainless Steel	50 ~ 120	0.02 ~ 0.05
Cast Iron	30 ~ 180	0.01 ~ 0.09
Aluminum Alloy	70 ~ 230	0.03 ~ 0.11

Insert Specifications 刀片規格

Inserts		Designation	Grade No.						Dimensions (mm)				Drawing
			CP6025						W	R	L	T	
Grooving 切槽加工	※ 	**CTAT101205RN**	✓						1.0	0.05	6.7	1.5	 Right hand insert shown
		CTAT151205RN	✓						1.5	0.05	6.7	1.5	
		CTAT201205RN	✓						2.0	0.05	6.7	1.5	
	※ 	**CTAT101200RR**	✓						1.0	-	6.7	1.5	
		CTAT151200RR	✓						1.5	-	6.7	1.5	
		CTAT201200RR	✓						2.0	-	6.7	1.5	
	※ 	**CTAT101205RR**	✓						1.0	0.05	6.7	1.5	
		CTAT151205RR	✓						1.5	0.05	6.7	1.5	
		CTAT201205RR	✓						2.0	0.05	6.7	1.5	
Parting off 切斷加工	※ 	**CTAT101200RL**	✓						1.0	-	6.7	1.5	
		CTAT151200RL	✓						1.5	-	6.7	1.5	
		CTAT201200RL	✓						2.0	-	6.7	1.5	
	※ 	**CTAT101205RL**	✓						1.0	0.05	6.7	1.5	
		CTAT151205RL	✓						1.5	0.05	6.7	1.5	
Right hand shown		**CTAT201205RL**	✓						2.0	0.05	6.7	1.5	

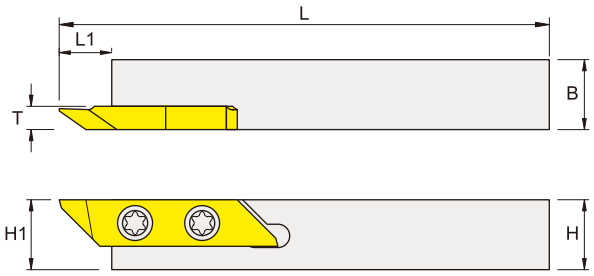
※Right hand inserts

Insert Specifications 刀片規格

Inserts		Designation	Grade No.						Dimensions (mm)				Drawing
			CP6025						W	R	L	T	
Grooving 切槽加工	※ 	**CTAT101205LN**	✓						1.0	0.05	6.7	1.5	 Left hand insert shown
		CTAT151205LN	✓						1.5	0.05	6.7	1.5	
		CTAT201205LN	✓						2.0	0.05	6.7	1.5	
	※ 	**CTAT101200LL**	✓						1.0	-	6.7	1.5	
		CTAT151200LL	✓						1.5	-	6.7	1.5	
		CTAT201200LL	✓						2.0	-	6.7	1.5	
	※ 	**CTAT101205LL**	✓						1.0	0.05	6.7	1.5	
		CTAT151205LL	✓						1.5	0.05	6.7	1.5	
		CTAT201205LL	✓						2.0	0.05	6.7	1.5	
Parting off 切斷加工	※ 	**CTAT101200LR**	✓						1.0	-	6.7	1.5	
		CTAT151200LR	✓						1.5	-	6.7	1.5	
		CTAT201200LR	✓						2.0	-	6.7	1.5	
	※ 	**CTAT101205LR**	✓						1.0	0.05	6.7	1.5	
		CTAT151205LR	✓						1.5	0.05	6.7	1.5	
Left hand shown		**CTAT201205LR**	✓						2.0	0.05	6.7	1.5	

※Left hand inserts

Tool Holder Specifications 刀桿規格



Right-hand shown

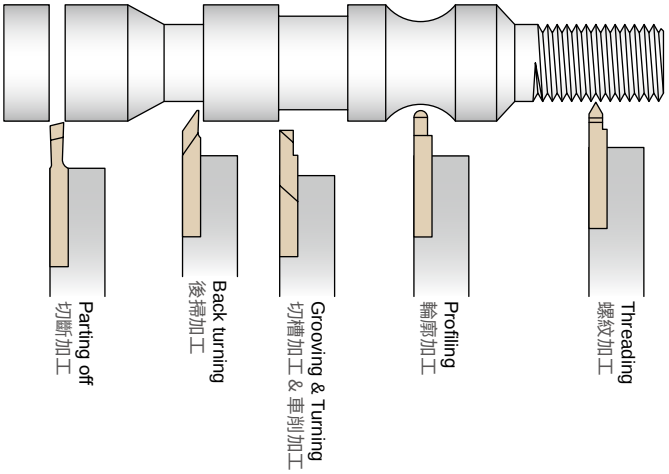
Order No.	Item Specification	Dimensions (mm)					Insert	Screw	Wrench
		H(H1)	B	L	L1	T			
ISAKGR1010K	SAKGR-1010K-374	10	10	125	9	4	SAK...	IMS3509A	ITK15
ISAKGL1010K	SAKGL-1010K-374	10	10	125	9	4			
ISAKGR1212K	SAKGR-1212K-374	12	12	125	9	4			
ISAKGL1212K	SAKGL-1212K-374	12	12	125	9	4			
ISAKGR1212M	SAKGR-1212M-374	12	12	150	9	4			
ISAKGL1212M	SAKGL-1212M-374	12	12	150	9	4			
ISAKGR1616M	SAKGR-1616M-374	16	16	150	9	4			
ISAKGL1616M	SAKGL-1616M-374	16	16	150	9	4			
ISAKGR2020K	SAKGR-2020K-374	20	20	125	9	4			
ISAKGL2020K	SAKGL-2020K-374	20	20	125	9	4			
ISAKGR2525M	SAKGR-2525M-374	25	25	150	9	4			
ISAKGL2525M	SAKGL-2525M-374	25	25	150	9	4			

Recommended Cutting Conditions 建議切削數據

For Grooving & turning, Back turning and Parting off

Working Material	Vc (m/min)	fr (mm/rev)
Carbon Steel / Alloy Steel	50 ~ 200	0.02 ~ 0.10
Stainless Steel	50 ~ 200	0.02 ~ 0.10
Cast Iron	50 ~ 200	0.02 ~ 0.10
Aluminum Alloy	200 ~ 300	0.05 ~ 0.15
Super Alloy	80 ~ 120	0.03 ~ 0.07
Hardened Steel	80 ~ 120	0.03 ~ 0.07

Insert Specifications 刀片規格

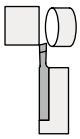
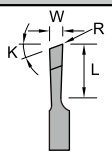
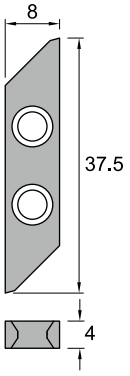
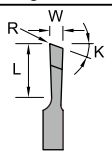
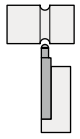
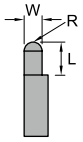
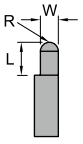
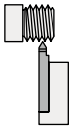
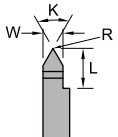
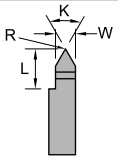


Inserts		Designation	Grade No.						Dimensions (mm)					Drawing
			CP6025						W	R	L	K	T	
Grooving / Turning 切槽加工 / 車削加工	Right hand	**SAKNR10012**	✓						1.0	0.1	2	-	8	8 / 37.5 / 4 Right hand insert shown
		SAKNR10022	✓						1.0	0.2	2	-	8	
		SAKNR15013	✓						1.5	0.1	3	-	8	
		SAKNR15023	✓						1.5	0.2	3	-	8	
		SAKNR20014	✓						2.0	0.1	4	-	8	
		SAKNR20024	✓						2.0	0.2	4	-	8	
		SAKNR25015	✓						2.5	0.1	5	-	8	
		SAKNR25025	✓						2.5	0.2	5	-	8	
		SAKNR30016	✓						3.0	0.1	6	-	8	
		SAKNR30026	✓						3.0	0.2	6	-	8	
	Left hand	**SAKNL10012**	✓						1.0	0.1	2	-	8	
		SAKNL10022	✓						1.0	0.2	2	-	8	
		SAKNL15013	✓						1.5	0.1	3	-	8	
		SAKNL15023	✓						1.5	0.2	3	-	8	
		SAKNL20014	✓						2.0	0.1	4	-	8	
		SAKNL20024	✓						2.0	0.2	4	-	8	
		SAKNL25015	✓						2.5	0.1	5	-	8	
		SAKNL25025	✓						2.5	0.2	5	-	8	
		SAKNL30016	✓						3.0	0.1	6	-	8	
		SAKNL30026	✓						3.0	0.2	6	-	8	

Insert Specifications 刀片規格

Inserts		Designation	Grade No.						Dimensions (mm)					Drawing
			CP6025						W	R	L	K	T	
Grooving 切槽加工	Right hand	**SAKGR10012**	✓						1.0	0.1	2.0	-	-	
		SAKGR15013	✓						1.5	0.1	3.0	-	-	
		SAKGR15023	✓						1.5	0.2	3.0	-	-	
		SAKGR20014	✓						2.0	0.1	4.0	-	-	
		SAKGR20024	✓						2.0	0.2	4.0	-	-	
		SAKGR25015	✓						2.5	0.1	5.0	-	-	
		SAKGR25025	✓						2.5	0.2	5.0	-	-	
		SAKGR30016	✓						3.0	0.1	6.0	-	-	
		SAKGR30026	✓						3.0	0.2	6.0	-	-	
	Left hand	**SAKGL10012**	✓						1.0	0.1	2.0	-	-	
		SAKGL15013	✓						1.5	0.1	3.0	-	-	
		SAKGL15023	✓						1.5	0.2	3.0	-	-	
		SAKGL20014	✓						2.0	0.1	4.0	-	-	
		SAKGL20024	✓						2.0	0.2	4.0	-	-	
		SAKGL25015	✓						2.5	0.1	5.0	-	-	
		SAKGL25025	✓						2.5	0.2	5.0	-	-	
		SAKGL30016	✓						3.0	0.1	6.0	-	-	
		SAKGL30026	✓						3.0	0.2	6.0	-	-	
Back turning 後掃加工	Right hand	**SAKBR20005**	✓						2.0	-	5.0	35°	0.5	
		SAKBR20015	✓						2.0	0.1	5.0	35°	0.5	
		SAKBR20025	✓						2.0	0.2	5.0	35°	0.5	
		SAKBR30015	✓						3.0	0.1	5.0	35°	0.75	
		SAKBR30025	✓						3.0	0.2	5.0	35°	0.75	
	Left hand	**SAKBL20005**	✓						2.0	-	5.0	35°	0.5	
		SAKBL20015	✓						2.0	0.1	5.0	35°	0.5	
		SAKBL20025	✓						2.0	0.2	5.0	35°	0.5	
		SAKBL30015	✓						3.0	0.1	5.0	35°	0.75	
		SAKBL30025	✓						3.0	0.2	5.0	35°	0.75	

Insert Specifications 刀片規格

Inserts		Designation	Grade No.						Dimensions (mm)					Drawing
			CP6025						W	R	L	K	Pitch	
 Parting off 切斷加工	 Right hand	**SAKCR15018**	✓						1.5	0.1	8.5	15°	-	 Right hand insert shown
		SAKCR20019	✓						2.0	0.1	9.0	15°	-	
		SAKCR25019	✓						2.5	0.1	9.0	15°	-	
		SAKCR30019	✓						3.0	0.1	9.0	15°	-	
	 Left hand	**SAKCL15018**	✓						1.5	0.1	8.5	15°	-	
		SAKCL20019	✓						2.0	0.1	9.0	15°	-	
		SAKCL25019	✓						2.5	0.1	9.0	15°	-	
		SAKCL30019	✓						3.0	0.1	9.0	15°	-	
 Profiling 輪廓加工	 Right hand	**SAKPR10053**	✓						1.0	0.5	3.0	-	-	
		SAKPR15075	✓						1.5	0.75	5.0	-	-	
		SAKPR20105	✓						2.0	1.0	5.0	-	-	
		SAKPR25125	✓						2.5	1.25	5.0	-	-	
		SAKPR30158	✓						3.0	1.5	8.0	-	-	
	 Left hand	**SAKPL10053**	✓						1.0	0.5	3.0	-	-	
		SAKPL15075	✓						1.5	0.75	5.0	-	-	
		SAKPL20105	✓						2.0	1.0	5.0	-	-	
		SAKPL25125	✓						2.5	1.25	5.0	-	-	
		SAKPL30158	✓						3.0	1.5	8.0	-	-	
 Threading 螺紋加工	 Right hand	**SAKTR20655**	✓						2.0	0.05	6.0	55°	0.5~2	
		SAKTR30655	✓						3.0	0.1	6.0	55°	1~3	
		SAKTR20660	✓						2.0	0.05	6.0	60°	0.5~2	
		SAKTR30660	✓						3.0	0.1	6.0	60°	1~3	
	 Left hand	**SAKTL20655**	✓						2.0	0.05	6.0	55°	0.5~2	
		SAKTL30655	✓						3.0	0.1	6.0	55°	1~3	
		SAKTL20660	✓						2.0	0.05	6.0	60°	0.5~2	
		SAKTL30660	✓						3.0	0.1	6.0	60°	1~3	

ETU Series - Carbide Endmills (Short Total Length) 全鎢鋼銑刀 (短全長)

Fig. 1

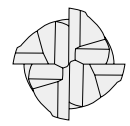
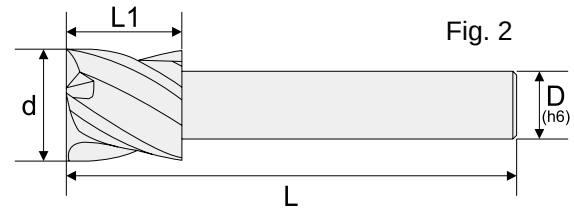
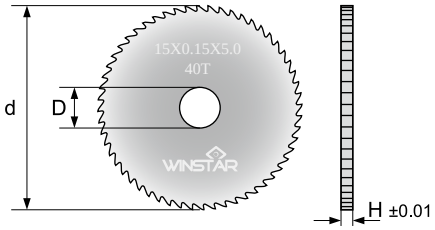


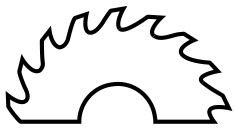
Fig. 2



Order No.	Dia (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)	Coating	Fig
ETSSC401000U	1.0	1.0	40	6	4	UNICO	1
ETSSC401500U	1.5	1.5	40	6	4	UNICO	1
ETSSC402000U	2.0	2.0	40	6	4	UNICO	1
ETSSC402500U	2.5	2.5	40	6	4	UNICO	1
ETSSC403000U	3.0	3.0	40	6	4	UNICO	1
ETSSC404000U	4.0	4.0	40	6	4	UNICO	2
ETSSC405000U	5.0	5.0	40	6	4	UNICO	2
ETSSC406000U	6.0	6.0	40	6	4	UNICO	2
ETSSC408000U	8.0	8.0	40	6	4	UNICO	2
ETSSC410000U	10.0	10.0	40	6	4	UNICO	2
ETSSC412000U	12.0	10.0	40	6	4	UNICO	2

ETWSF Carbide Slitting Saws 全鎢鋼小徑鋸片

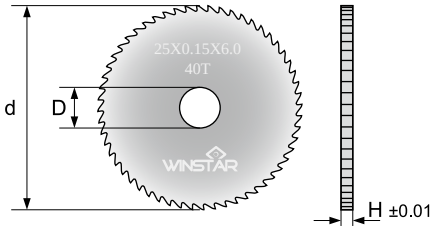


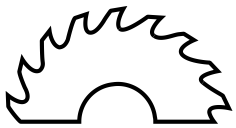


Order No.	d	H	D	T
ETWSF04015015	15	0.15	5	40
ETWSF04015020	15	0.20	5	40
ETWSF04015025	15	0.25	5	40
ETWSF04015030	15	0.30	5	40
ETWSF04015040	15	0.40	5	40
ETWSF04015050	15	0.50	5	40
ETWSF04015060	15	0.60	5	40
ETWSF04015070	15	0.70	5	40
ETWSF04015080	15	0.80	5	40
ETWSF04015090	15	0.90	5	40
ETWSF04015100	15	1.00	5	40
ETWSF05020015	20	0.15	5	56
ETWSF05020020	20	0.20	5	56
ETWSF05020025	20	0.25	5	56
ETWSF05020030	20	0.30	5	56
ETWSF05020040	20	0.40	5	56
ETWSF05020050	20	0.50	5	56
ETWSF05020060	20	0.60	5	56
ETWSF05020070	20	0.70	5	56
ETWSF05020080	20	0.80	5	56
ETWSF05020090	20	0.90	5	56
ETWSF05020100	20	1.00	5	56
ETWSF05020120	20	1.20	5	56
ETWSF05020150	20	1.50	5	56

✱ Other diameters make to order.

ETWSF Carbide Slitting Saws 全鎢鋼小徑鋸片

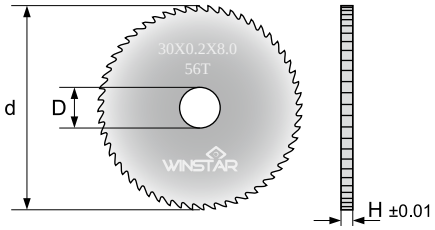


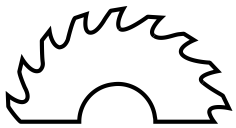


Order No.	d	H	D	T
ETWSF04025015	25	0.15	6	40
ETWSF04025020	25	0.20	6	40
ETWSF04025025	25	0.25	6	40
ETWSF04025030	25	0.30	6	40
ETWSF04025040	25	0.40	6	40
ETWSF04025050	25	0.50	6	40
ETWSF04025060	25	0.60	6	40
ETWSF04025070	25	0.70	6	40
ETWSF04025080	25	0.80	6	40
ETWSF04025090	25	0.90	6	40
ETWSF04025100	25	1.00	6	40
ETWSF04025120	25	1.20	6	40
ETWSF04025150	25	1.50	6	40
ETWSF07025015	25	0.15	6	72
ETWSF07025020	25	0.20	6	72
ETWSF07025025	25	0.25	6	72
ETWSF07025030	25	0.30	6	72
ETWSF07025040	25	0.40	6	72
ETWSF07025050	25	0.50	6	72
ETWSF07025060	25	0.60	6	72
ETWSF07025070	25	0.70	6	72
ETWSF07025080	25	0.80	6	72
ETWSF07025090	25	0.90	6	72
ETWSF07025100	25	1.00	6	72
ETWSF07025120	25	1.20	6	72
ETWSF07025150	25	1.50	6	72

✱ Other diameters make to order.

ETWLF Carbide Slitting Saws 全鎢鋼小徑鋸片

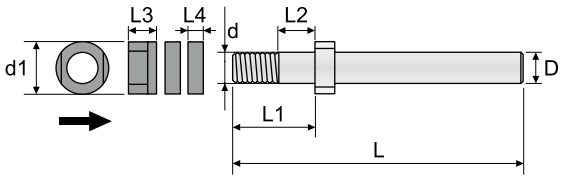




Order No.	d	H	D	T
ETWLF05030020	30	0.20	8	56
ETWLF05030025	30	0.25	8	56
ETWLF05030030	30	0.30	8	56
ETWLF05030040	30	0.40	8	56
ETWLF05030050	30	0.50	8	56
ETWLF05030060	30	0.60	8	56
ETWLF05030070	30	0.70	8	56
ETWLF05030080	30	0.80	8	56
ETWLF05030090	30	0.90	8	56
ETWLF05030100	30	1.00	8	56
ETWLF05030110	30	1.10	8	56
ETWLF05030120	30	1.20	8	56
ETWLF05030150	30	1.50	8	56
ETWLF05030200	30	2.00	8	56

✱ Other diameters make to order.

ETWSA Carbide Slitting Saws - Arbors 全鎢鋼小徑鋸片 - 鋸片柄

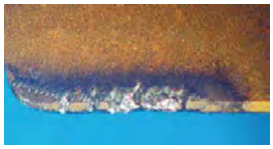
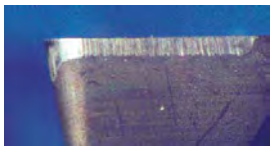


Order No.	d	D	d1	L1	L2	L	L3	L4
ETWSA050065	5	6	10	12	5.2	50	5	3.0
ETWSA050076	5	7	13	16	7.5	60	8.8	4.0
ETWSA060065	6	6	10	12	5.2	50	5.1	3.2
ETWSA060076	6	7	13	16	7.5	60	8.8	4.0
ETWSA060106	6	10	16	11	5.2	60	5.5	1.5 / 3.0
ETWSA060109	6	10	13	16	7.5	90	8.2	4.2
ETWSA080106	8	10	13	16	7.5	60	7.5	4.2

Recommended Cutting Conditions 建議切削數據

Working Material	Carbon Steel (S35C,S45C,S50C)		Alloy Steel (SCM,SKT,SKD)		Stainless Steel (SUS304)		Cast Iron (FC,FCD)		Aluminum / Copper		Hardened Steel (SKT,SKD)	
Hardness	HRC < 30		HRC 30 ~ 45		-		HRC < 30		-		HRC 45 ~ 55	
Vc	54 - 68 - 82 m/min		36 - 45 - 54 m/min		48 - 59 - 70 m/min		54 - 68 - 82 m/min		120 - 150 - 180 m/min		23 - 29 - 35 m/min	
Diameter (mm)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
15	1450	220	950	150	1250	180	1450	220	3180	560	620	90
20	1080	240	720	160	940	200	1080	240	2390	580	460	100
25	860	260	570	170	750	220	860	260	1900	600	370	110
30	740	280	470	180	630	240	740	280	1590	620	310	120

Troubleshooting in Insert 刀片加工異常原因及對策

Trouble / 情況	Occurrences / 原因	Countermeasures / 對策
 Thermal Crackin 熱裂	Intermittent heating of the cutting edge. High speed, high volume metal removal. 切削角間歇性高熱，高切削線速度和較大的金屬移除量，造成的熱裂	1.Use heat resistant grades 使用具有耐熱阻抗的刀片材質 2.Use positive or large rake tools 使用正角或較銳利的刀片 3.Increase nose radius 使用較大半徑刀口的刀片 4.Reduce speed, feed or depth of cut 降低切削線速度、進給或切深
 Chipping 脆裂	Cutting tool excessively brittle. 刀片材質太硬脆	1.Use tougher grades 使用韌性較高的刀片材質 2.Use negative or smaller rake tools 使用負角或較鈍的刀片 3.Increase nose radius 使用較大半徑刀口的刀片 4.Use increased edge land 使用較大刀口平台的刀片 5.Increase cutting speed 增加切削線速度
 Excessive Flank Wear 過度磨耗	Cutting tool too soft. 刀片材質太軟 Surface speed too fast. 切削線速度太快	1.Use harder and more wear resistant grade 使用較硬或較耐磨的刀片材質 2.Reduce cutting speed 降低切削線速度 3.Increase feed 增加進給 4.Use coolant 使用冷卻液
 Notching 凹陷	Cutting material working harden cause serious wear of insert. 被加工材料產生硬化而造成刀片嚴重磨損	1.Increase approach angle 增加進刀時切削邊隙角 2.Reduce cutting speed and feed 降低切削線速度及進給量 3.Use high lubricity coolant 使用潤滑性較高的冷卻液
 Built-Up-Edge 積屑	Cutting speed too slow for material being machined. 就被加工材料而言，切削線速度太低	1.Increase cutting speed 提高切削線速度 2.Use friction reducing grade 使用摩擦力較低的刀片材質 3.Use high lubricity coolant 使用潤滑性較高的冷卻液
 Deformation 變形	Heavy feeds or higher cutting speed. 切削線速度太快或是進給量太大	1.Reduce cutting speed or feed 降低切削線速度或進給量 2.Use polished tools to reducing friction 使用拋光刀片降低磨擦阻力 3.Use more heat resistant grade 使用更高耐熱阻抗的刀片材質
 Crater Wear 熱裂	Excessive heat and pressure welding of chip to rake. 切削產生的高溫和高壓，造成鐵屑焊黏在刀口上	1.Use a harder grade 使用較硬的刀片材質 2.Reduce cutting speed and feed 降低切削線速度及進給量 3.Use high lubricity coolant 使用潤滑性較高的冷卻液

＊ Pictures from Kennametal Tooling Catalogue

WINSTAR

Threading

螺紋刀具

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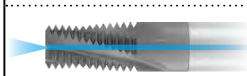
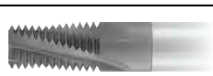
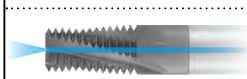
    - ETMMM Modular Thread Mills (ISO M) ETMMM 模組化螺紋銑刀 (ISO M)... E022
  - Indexable Thread Milling Tools - 捨棄式螺紋銑刀
    - CXMT Indexable Thread Milling Holders CXMT 捨棄式螺紋銑刀桿 E023
    - LNEX Thread Milling Inserts (ISO M / UN) LNEX 螺紋銑刀片 (ISO M / UN) ... E025
    - LNEX Thread Milling Inserts (BSPT / NPT) LNEX 螺紋銑刀片 (BSPT / NPT) ... E027

- Thread Turning Tools ・螺紋車削刀具
  - Solid Carbide Thread Boring Bars - 鎢鋼內徑螺紋車刀 E028
  - Thread Turning Inserts (ISO M / UN) - 螺紋車刀片 (ISO M / UN)..... E032
  - Thread Turning Holders - 螺紋車刀桿 E048

- Tapping Tools ・絲攻
  - TKS Solid Carbide Spiral Fluted Taps - TKS 全鎢鋼螺旋絲攻 E055
  - TKT Solid Carbide Straight Fluted Taps - TKT 全鎢鋼直刃絲攻 E057
  - THT Solid Carbide Straight Fluted Taps - THT 全鎢鋼直刃絲攻 E059
  - TNF Solid Carbide Forming Taps - TNF 全鎢鋼無屑絲攻 E061

Solid Carbide Thread Mills 全鎢鋼螺紋銑刀

Code No.	Appearance	Pitch		No. of Threads	Thread milling	Chamfering	Helical drilling	Drilling	P	M	K	N	S	H	Page
ETS	ETSN	TP	0.25~1.75	1	✓				●	●	●		○	○	E008
ETT	ETTN	TP	0.35~2.5	3	✓				●	●	●		○	○	E009
		TPI	36~10												E010
	ETTC	TP	0.45~2.5	3	✓				●	●	●		○	○	E009
		TPI	36~10												E010
ETTR	ETTRN	TP	0.35~2.5	3	✓				○	●	○		●	●	E011
		TPI	36~10												E012
	ETTRC	TP	0.45~2.5	3	✓				○	●	○		●	●	E011
		TPI	36~10												E012
ETL (Left hand cutting)	ETLN	TP	0.7~2.0	3	✓	✓	✓		●	●	●		○	○	E013
		TPI	40~11												E014
	ETLC	TP	0.5~2.0	3	✓	✓	✓		●	●	●		○	○	E013
		TPI	36~13												E014
ETM	ETMN	TP	1~2.5	12~24	✓				●	●	●		○	○	E015
		TPI	36~8												E017
	ETMC	TP	1~1.5	12~24	✓				●	●	●		○	○	E016
ETM□PT (BSPT)	ETMNPT	TPI	28~11	18~25	✓				●	●	●		○	○	E018
	 ETMCPT	TPI	28~11	18~25	✓				●	●	●		○	○	E018
ETM□NT (NPT)	 ETMNNT	TPI	27~8	10~15	✓				●	●	●		○	○	E019
	 ETMCNT	TPI	27~8	10~15	✓				●	●	●		○	○	E019
ETD	ETDN	TP	0.8~1.5	11~12	✓	✓		✓			●	●			E020

Index 索引

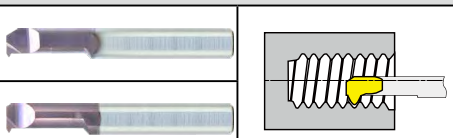
Modular Carbide Thread Mills 模組化螺紋銑刀

Code No.	Appearance	Name	Pitch		No. of Threads	P	M	K	N	S	H	Page
ETMMM		Modular Thread Mills - ISO M 模組化螺紋銑刀 - ISO M	TP	0.5~3	5 ~ 16	●	●	●	○	●	●	E022

Indexable Thread Milling Tools 捨棄式螺紋銑刀

Code No.	Appearance	Name	Type	Pitch		P	M	K	N	S	H	Page
ICXMT		Thread Milling Tools 捨棄式螺紋銑刀	1 Fulte	Use Insert : LNEX14 / LNEX21 / LNHT14 / LNHT21								E023
			2 Flute									
ILNEX		Thread Milling Insert 螺紋銑刀片	LNEX14 - ISO M	TP	0.75~2.5	●	○	●		○	●	E025
			LNEX14 - UN	TPI	10~32	●	○	●		○	●	E026
			LNEX21 - ISO M	TP	1~3	●	○	●		○	●	E025
			LNEX21- UN	TPI	10~24	●	○	●		○	●	E026
ILNHT			LNHT14 - BSPT	TPI	14~19	●	○	●		○	●	E027
			LNHT14 - NPT	TPI	14~18	●	○	●		○	●	
			LNHT21- BSPT	TPI	11~14	●	○	●		○	●	
			LNHT21 - NPT	TPI	11.5~14	●	○	●		○	●	

Solid Carbide Thread Turning Bars 全鎢鋼內徑螺紋車刀

Code No.	Appearance	Name	Min. Bore Dia.	Page
DLTSR		Carbide Internal Thread (ISO Metric 60°) 全鎢鋼內徑螺紋車刀 (ISO Metric 60°)	3.2 ~ 6.1	E028
DLTMR		Carbide Internal Thread (Partial Profile 60°) 全鎢鋼內徑螺紋車刀 (泛用牙 60°)	2.6 ~ 10.0	E029
DLS		Sleeves 內徑搪刀套筒	–	E030

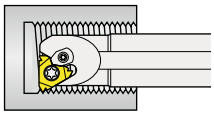
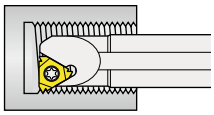
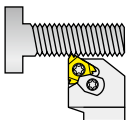
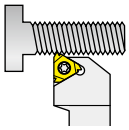
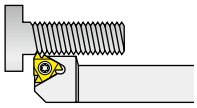
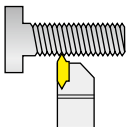
Index 索引

Thread Turning Inserts 螺紋車刀片

Code No.	Thread Standard	Insert Sharp	Thread Pitch	Applicable Holder	Page
I11 I16 I22	Partial Profile 60°	Regular Type	TP (mm) / TPI A 0.5 ~ 1.5 / 48 ~ 16 AG 0.5 ~ 3.0 / 48 ~ 8 G 1.75 ~ 3.0 / 14 ~ 8 N 3.5 ~ 5.0 / 7 ~ 5	SN... SE... SKE...	E032
I22		U Type	TP (mm) / TPI U 5.5 ~ 8.0 / 4.5 ~ 3.25	–	
I16		Vertical Type	TP (mm) / TPI A 0.5 ~ 1.5 / 48 ~ 16 AG 0.5 ~ 2.5 / 48 ~ 10 G 1.75 ~ 2.5 / 14 ~ 10	KTTX...	E034
I11 I16 I22	Partial Profile 55°	Regular Type	TP (mm) / TPI A 0.5 ~ 1.5 / 48 ~ 16 AG 0.5 ~ 3.0 / 48 ~ 8 G 1.75 ~ 3.0 / 14 ~ 8 N 3.5 ~ 5.0 / 7 ~ 5	SN... SE... SKE...	E035
I22		U Type	TP (mm) / TPI U 5.5 ~ 8.0 / 4.5 ~ 3.25	–	
I16		Vertical Type	TP (mm) / TPI A 0.5 ~ 1.5 / 48 ~ 16 AG 0.5 ~ 2.5 / 48 ~ 10 G 1.75 ~ 2.5 / 14 ~ 10	KTTX...	E037
I11 I16 I22	ISO 60°	Regular Type	TP (mm) 0.35 ~ 5.0	SN... SE... SKE...	E038
I22		U Type	TP (mm) 5.5 ~ 6.0	–	
I16		Vertical Type	TP (mm) 0.5 ~ 2.5	KTTX...	E042
I11 I16 I22	UN 60°	Regular Type	TPI 32 ~ 5	SN... SE... SKE...	E043
I22		Vertical Type	TPI 32 ~ 10	KTTX...	E047

Index 索引

Thread Turning Holders 螺紋車刀桿

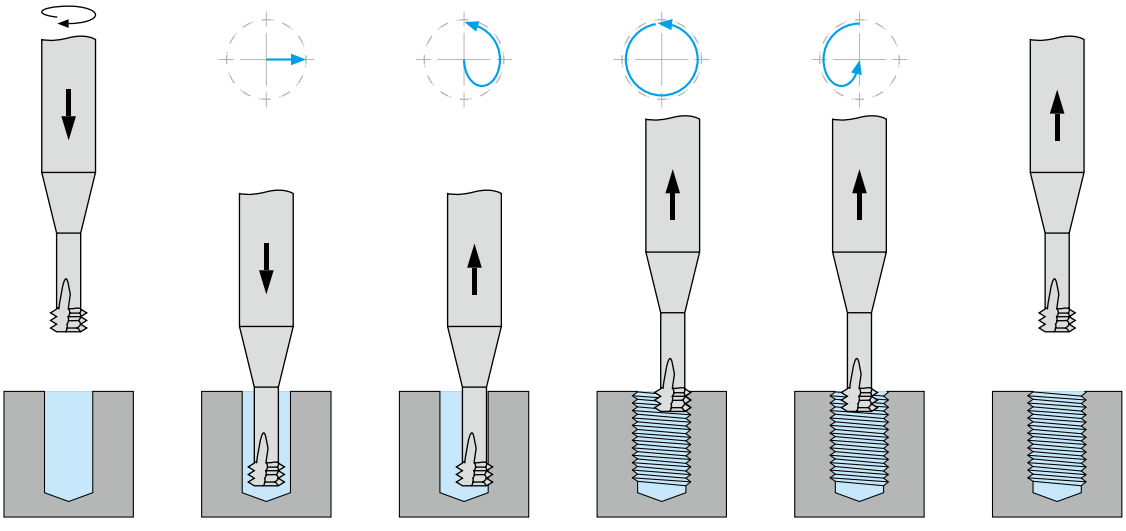
Code No.	Holder Sharp	Type	Applicable Insert	Min. Bore Dia.	Page
SN$^{R}_{L}$...CL		Internal	16I$^{R}_{L}$ 22I$^{R}_{L}$ (Regular Type Insert)	24mm~40mm	E048
SN$^{R}_{L}$...			16I$^{R}_{L}$ 22I$^{R}_{L}$ (Regular Type Insert)	13mm~40mm	E049
SE$^{R}_{L}$...CL		External	16E$^{R}_{L}$ (Regular Type Insert)	10mm~32mm	E050
SE$^{R}_{L}$...			16E$^{R}_{L}$ 22E$^{R}_{L}$ (Regular Type Insert)	12mm~32mm	E050
SKE$^{R}_{L}$...			16E$^{R}_{L}$ (Regular Type Insert)	12mm~25mm	E051
KTTX$^{R}_{L}$...			16VE$^{R}_{L}$ (Vertical Type Insert)	10mm~25mm	E051

Tapping Tools 絲攻

Code No.	Appearance	Name	Thread Size	P	M	K	N	S	H	Page
TKSNM		Solid Carbide Spiral Fluted Taps 全鎢鋼螺旋絲攻	M5 ~ M12	○		●	●			E055
TKSCM		Solid Carbide Spiral Fluted Taps with Internal Coolant 全鎢鋼內冷螺旋絲攻	M5 ~ M12	○		●	●			E056
TKTNM		Solid Carbide Straight Fluted Taps 全鎢鋼直刃絲攻	M3 ~ M16			●	●			E057
TKTCM		Solid Carbide Straight Fluted Taps with Internal Coolant 全鎢鋼內冷直刃絲攻	M3 ~ M16			●	●			E058
THTNM		Solid Carbide Straight Fluted Taps 全鎢鋼直刃絲攻	M3 ~ M16						●	E059
THTCM		Solid Carbide Straight Fluted Taps with Internal Coolant 全鎢鋼內冷直刃絲攻	M3 ~ M16						●	E060
TNFNM		Solid Carbide Forming Taps 全鎢鋼無屑絲攻	M1 ~ M6				●			E061

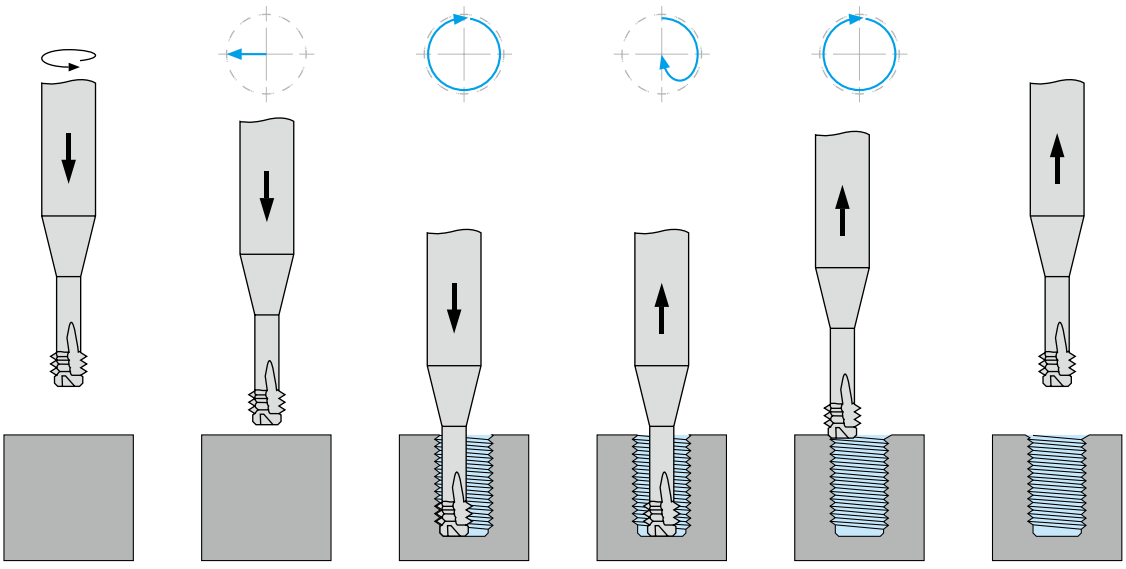
Thread Mill Cutting Method 加工方法

ETS, ETT, ETTR, ETM Cutting Method



①	②	③	④	⑤	⑥
Start point, position at center of hole	Go to first helical start position	Entrance for thread milling	Thread milling by helical	Complete, move to the center of hole	Return to start point
起點 (孔中心)	刀具移至第一個螺旋起始位置	進入螺紋銑削入口	以螺旋加工方式進行螺紋銑削	完成螺紋 , 刀具移至孔中心	返回起點

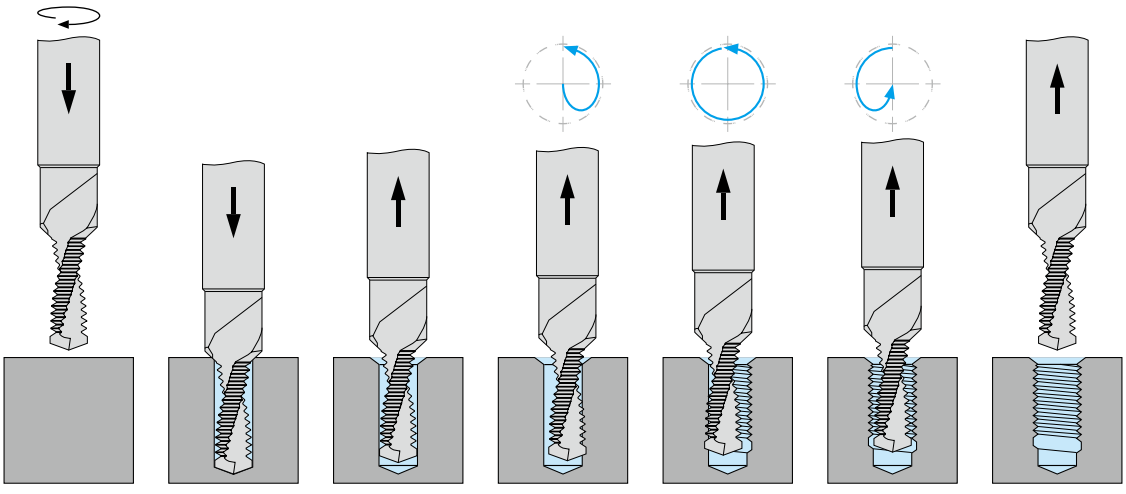
ETL Cutting Method



①	②	③	④	⑤	⑥
Start position	Move to helical start position	Drilling & threading with helical interpolation	Complete, move to the center of hole	Chamfering	Return to start point
起點	刀具移至螺旋起始位置	使用螺旋插補進行鑽孔和螺紋加工	完成螺紋 , 刀具移至孔中心	倒角加工	返回起點

Thread Mill Cutting Method 加工方法

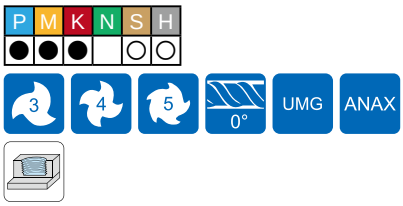
ETD Cutting Method

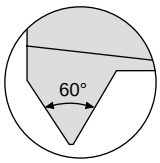


①	②	③	④	⑤	⑥	⑦
Start position	Drilling & chamfering	Up 1/3 pitch	Entrance 1/8 pitch	Thread milling 1 pitch	Complete, move to the center of hole	Return to start point
起點	鑽孔及倒角加工	刀具上升 1/3 螺距	進入螺紋銑削入口 (1/8 螺距)	螺紋銑削 1 螺距	完成螺紋 , 刀具移至孔中心	返回起點

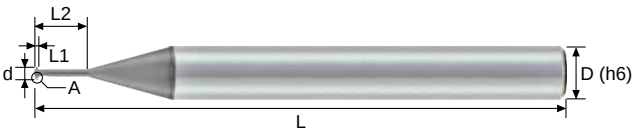
Solid Carbide Thread Mills - ISO M 全鎢鋼螺紋銑刀 - ISO M

ETSNM (ISO M)





Detail A

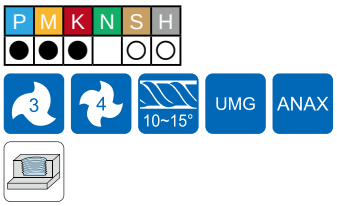


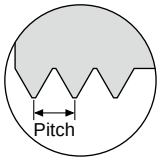
Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
ETSNM30072025A	M1 × 0.25	0.72	0.25	0.25	1	2.75	42	4	3
ETSNM30091025A	M1.2 × 0.25	0.91	0.25	0.25	1	3.25	42	4	3
ETSNM30105030A	M1.4 × 0.3	1.05	0.30	0.30	1	3.80	42	4	3
ETSNM30120035A	M1.6 × 0.35	1.20	0.35	0.35	1	4.35	42	4	3
ETSNM30130035A	M1.7~M1.8 × 0.35	1.30	0.35	0.35	1	4.85	42	4	3
ETSNM30152040A	M2 × 0.4	1.52	0.40	0.40	1	6	42	4	3
ETSNM30240050A	M3 × 0.5	2.40	0.50	0.50	1	9	42	4	3
ETSNM30315070A	M4 × 0.7	3.15	0.70	0.70	1	12	50	4	3
ETSNM40480100A	M6 × 1	4.80	1.00	1.00	1	18	60	6	4
ETSNM40590125A	M8 × 1.25	5.90	1.25	1.25	1	25	75	6	4
ETSNM50820150A	M10 × 1.5	8.20	1.50	1.50	1	32	75	10	5
ETSNM50990175A	M12 × 1.75	9.90	1.75	1.75	1	38	75	10	5

※Customized specification available.

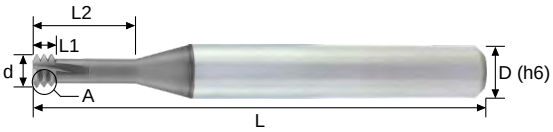
Solid Carbide Thread Mills - ISO M 全鎢鋼螺紋銑刀 - ISO M

ETTNM (ISO M)



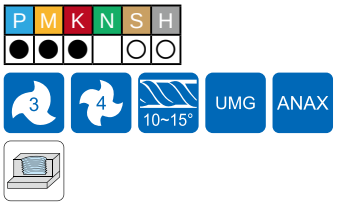


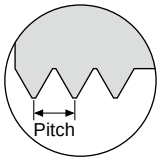
Detail A



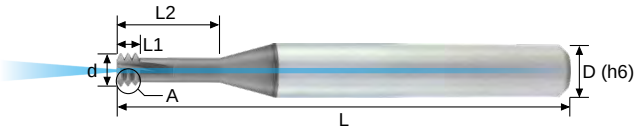
Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
ETTNM30135035A	M1.8 × 0.35	1.35	0.35	1.05	3	4.0	50	6	3
ETTNM30150040A	M2 × 0.4	1.5	0.40	1.20	3	4.4	50	6	3
ETTNM30190045A	M2.5 × 0.45	1.9	0.45	1.35	3	5.6	50	6	3
ETTNM30240050A	M3 × 0.5	2.4	0.50	1.50	3	6.5	50	6	3
ETTNM30310070A	M4 × 0.7	3.1	0.70	2.10	3	8.7	50	6	3
ETTNM30400080A	M5 × 0.8	4.0	0.80	2.40	3	10.8	50	6	3
ETTNM30480100A	M6 × 1	4.8	1.00	3.00	3	12.5	50	6	3
ETTNM40650125A	M8 × 1.25	6.5	1.25	3.75	3	16.6	60	8	4
ETTNM40820150A	M10 × 1.5	8.2	1.50	4.50	3	20.8	75	10	4
ETTNM40990175A	M12 × 1.75	9.9	1.75	5.25	3	25.0	75	10	4
ETTNM41190200A	M16 × 2	11.9	2.00	6.00	3	33.0	75	12	4
ETTNM41590250A	M20 × 2.5	15.9	2.50	7.50	3	41.3	100	16	4

ETTCM (ISO M with Internal Coolant)





Detail A

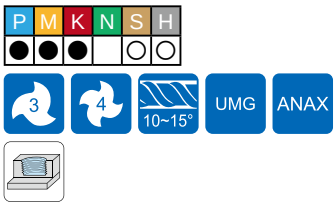


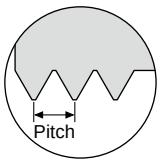
Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
ETTCM30190045A	M2.5 × 0.45	1.9	0.45	1.35	3	5.6	50	6	3
ETTCM30240050A	M3 × 0.5	2.4	0.50	1.50	3	6.5	50	6	3
ETTCM30310070A	M4 × 0.7	3.1	0.70	2.10	3	8.7	50	6	3
ETTCM30400080A	M5 × 0.8	4.0	0.80	2.40	3	10.8	50	6	3
ETTCM30480100A	M6 × 1	4.8	1.00	3.00	3	12.5	50	6	3
ETTCM40650125A	M8 × 1.25	6.5	1.25	3.75	3	16.6	60	8	4
ETTCM40820150A	M10 × 1.5	8.2	1.50	4.50	3	20.8	75	10	4
ETTCM40990175A	M12 × 1.75	9.9	1.75	5.25	3	25.0	75	10	4
ETTCM41190200A	M16 × 2	11.9	2.00	6.00	3	33.0	75	12	4
ETTCM41590250A	M20 × 2.5	15.9	2.50	7.50	3	41.3	100	16	4

Solid Carbide Thread Mills - UN

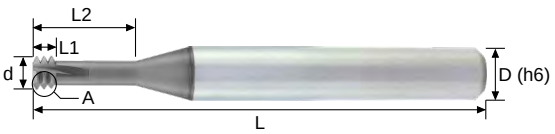
全鎢鋼螺紋銑刀 - UN

ETTNU (UN)



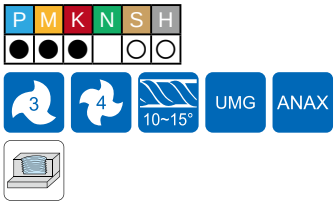


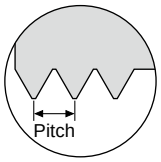
Detail A



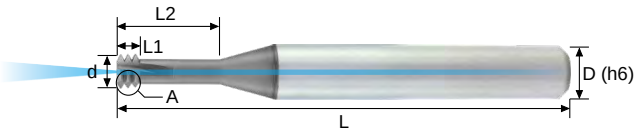
Order No.	Thread Size		Dia. (d)	TPI	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
	UNC	UNF								
ETTNU30331036A		8-36UNF	3.31	36	2.12	3	8.8	50	4	3
ETTNU30257032A	6-32UNC		2.57	32	2.38	3	7.3	50	4	3
ETTNU30322032A	8-32UNC	10-32UNF	3.22	32	2.38	3	10.1	60	6	3
ETTNU30520028A		1/4-28UNF	5.2	28	2.72	3	14	60	6	3
ETTNU40355024A	10-24UNC		3.55	24	3.18	3	10.4	60	6	4
ETTNU40665024A		5/16-24UNF	6.65	24	3.18	3	16.7	60	8	4
ETTNU40485020A	1/4-20UNC	7/16-20UNF	4.85	20	3.81	3	13.7	60	6	4
ETTNU40795020A		7/16-20UNF	7.95	20	3.81	3	24	60	8	4
ETTNU40595018A	5/16-18UNC		5.95	18	4.23	3	16.5	60	6	4
ETTNU40690016A	3/8-16UNC		6.9	16	4.76	3	21	60	8	4
ETTNU40795014A	7/16-14UNC		7.95	14	5.44	3	23.5	60	8	4
ETTNU40930013A	1/2-13UNC		9.3	13	5.86	3	27	80	10	4
ETTNU40995012A	9/16-12UNC		9.95	12	6.35	3	29	80	10	4
ETTNU41150011A	5/8-11UNC		11.5	11	6.93	3	33	80	12	4
ETTNU41440010A	3/4-10UNC		14.4	10	7.62	3	42	110	16	4

ETTCU (UN with Internal Coolant)





Detail A

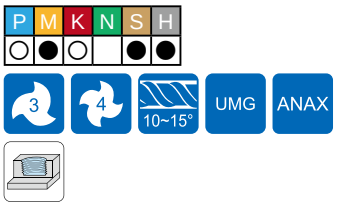


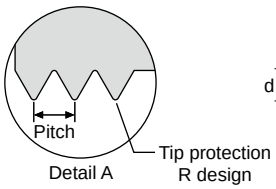
Order No.	Thread Size		Dia. (d)	TPI	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
	UNC	UNF								
ETTCU30331036A		8-36UNF	3.31	36	2.12	3	8.8	50	4	3
ETTCU30257032A	6-32UNC		2.57	32	2.38	3	7.3	50	4	3
ETTCU30322032A	8-32UNC	10-32UNF	3.22	32	2.38	3	10.1	60	6	3
ETTCU30520028A		1/4-28UNF	5.2	28	2.72	3	14	60	6	3
ETTCU40355024A	10-24UNC		3.55	24	3.18	3	10.4	60	6	4
ETTCU40665024A		5/16-24UNF	6.65	24	3.18	3	16.7	60	8	4
ETTCU40485020A	1/4-20UNC	7/16-20UNF	4.85	20	3.81	3	13.7	60	6	4
ETTCU40795020A		7/16-20UNF	7.95	20	3.81	3	24	60	8	4
ETTCU40595018A	5/16-18UNC		5.95	18	4.23	3	16.5	60	6	4
ETTCU40690016A	3/8-16UNC		6.9	16	4.76	3	21	60	8	4
ETTCU40795014A	7/16-14UNC		7.95	14	5.44	3	23.5	60	8	4
ETTCU40930013A	1/2-13UNC		9.3	13	5.86	3	27	80	10	4
ETTCU40995012A	9/16-12UNC		9.95	12	6.35	3	29	80	10	4
ETTCU41150011A	5/8-11UNC		11.5	11	6.93	3	33	80	12	4
ETTCU41440010A	3/4-10UNC		14.4	10	7.62	3	42	110	16	4

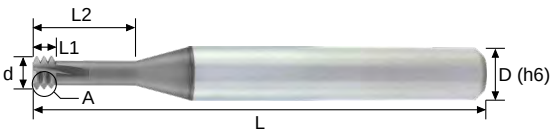
※Customized specification available.

Solid Carbide Thread Mills - ISO M 全鎢鋼螺紋銑刀 - ISO M

ETTRNM (ISO M)

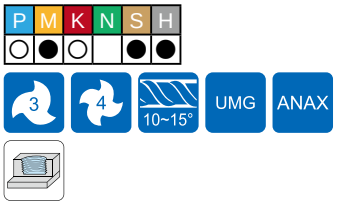


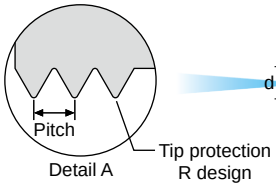


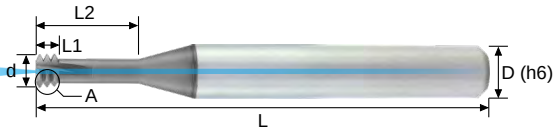


Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
ETTRNM30135035A	M1.8 × 0.35	1.35	0.35	1.05	3	4.0	50	6	3
ETTRNM30150040A	M2 × 0.4	1.5	0.40	1.20	3	4.4	50	6	3
ETTRNM30190045A	M2.5 × 0.45	1.9	0.45	1.35	3	5.6	50	6	3
ETTRNM30240050A	M3 × 0.5	2.4	0.50	1.50	3	6.5	50	6	3
ETTRNM30310070A	M4 × 0.7	3.1	0.70	2.10	3	8.7	50	6	3
ETTRNM30400080A	M5 × 0.8	4.0	0.80	2.40	3	10.8	50	6	3
ETTRNM30480100A	M6 × 1	4.8	1.00	3.00	3	12.5	50	6	3
ETTRNM40650125A	M8 × 1.25	6.5	1.25	3.75	3	16.6	60	8	4
ETTRNM40820150A	M10 × 1.5	8.2	1.50	4.50	3	20.8	75	10	4
ETTRNM40990175A	M12 × 1.75	9.9	1.75	5.25	3	25.0	75	10	4
ETTRNM41190200A	M16 × 2	11.9	2.00	6.00	3	33.0	75	12	4
ETTRNM41590250A	M20 × 2.5	15.9	2.50	7.50	3	41.3	100	16	4

ETTRCM (ISO M with Internal Coolant)







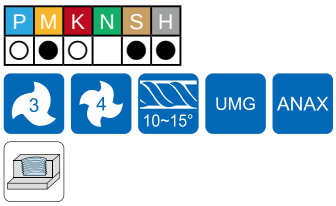
Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
ETTRCM30190045A	M2.5 × 0.45	1.9	0.45	1.35	3	5.6	50	6	3
ETTRCM30240050A	M3 × 0.5	2.4	0.50	1.50	3	6.5	50	6	3
ETTRCM30310070A	M4 × 0.7	3.1	0.70	2.10	3	8.7	50	6	3
ETTRCM30400080A	M5 × 0.8	4.0	0.80	2.40	3	10.8	50	6	3
ETTRCM30480100A	M6 × 1	4.8	1.00	3.00	3	12.5	50	6	3
ETTRCM40650125A	M8 × 1.25	6.5	1.25	3.75	3	16.6	60	8	4
ETTRCM40820150A	M10 × 1.5	8.2	1.50	4.50	3	20.8	75	10	4
ETTRCM40990175A	M12 × 1.75	9.9	1.75	5.25	3	25.0	75	10	4
ETTRCM41190200A	M16 × 2	11.9	2.00	6.00	3	33.0	75	12	4
ETTRCM41590250A	M20 × 2.5	15.9	2.50	7.50	3	41.3	100	16	4

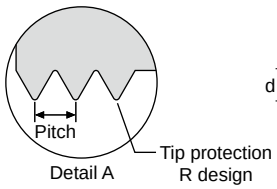
※Customized specification available.

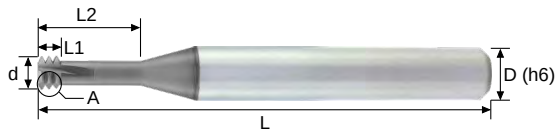
Solid Carbide Thread Mills - UN

全鎢鋼螺紋銑刀 - UN

ETTRNU (UN)

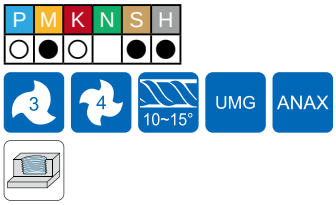


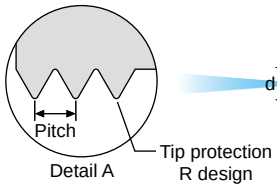


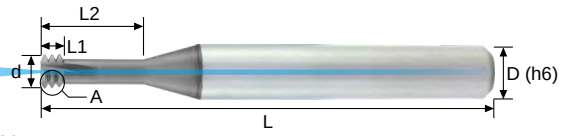


Order No.	Thread Size		Dia. (d)	TPI	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
	UNC	UNF								
ETTRNU30331036A		8-36UNF	3.31	36	2.12	3	8.8	50	4	3
ETTRNU30257032A	6-32UNC		2.57	32	2.38	3	7.3	50	4	3
ETTRNU30322032A	8-32UNC	10-32UNF	3.22	32	2.38	3	10.1	60	6	3
ETTRNU30520028A		1/4-28UNF	5.2	28	2.72	3	14	60	6	3
ETTRNU40355024A	10-24UNC		3.55	24	3.18	3	10.4	60	6	4
ETTRNU40665024A		5/16-24UNF	6.65	24	3.18	3	16.7	60	8	4
ETTRNU40485020A	1/4-20UNC	7/16-20UNF	4.85	20	3.81	3	13.7	60	6	4
ETTRNU40795020A		7/16-20UNF	7.95	20	3.81	3	24	60	8	4
ETTRNU40595018A	5/16-18UNC		5.95	18	4.23	3	16.5	60	6	4
ETTRNU40690016A	3/8-16UNC		6.9	16	4.76	3	21	60	8	4
ETTRNU40795014A	7/16-14UNC		7.95	14	5.44	3	23.5	60	8	4
ETTRNU40930013A	1/2-13UNC		9.3	13	5.86	3	27	80	10	4
ETTRNU40995012A	9/16-12UNC		9.95	12	6.35	3	29	80	10	4
ETTRNU41150011A	5/8-11UNC		11.5	11	6.93	3	33	80	12	4
ETTRNU41440010A	3/4-10UNC		14.4	10	7.62	3	42	110	16	4

ETTRCU (UN with Internal Coolant)







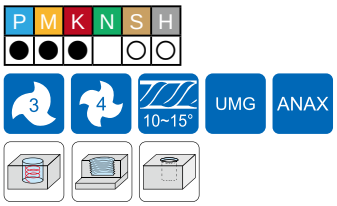
Order No.	Thread Size		Dia. (d)	TPI	CL (L1)	No. of Threads	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (z)
	UNC	UNF								
ETTRCU30331036A		8-36UNF	3.31	36	2.12	3	8.8	50	4	3
ETTRCU30257032A	6-32UNC		2.57	32	2.38	3	7.3	50	4	3
ETTRCU30322032A	8-32UNC	10-32UNF	3.22	32	2.38	3	10.1	60	6	3
ETTRCU30520028A		1/4-28UNF	5.2	28	2.72	3	14	60	6	3
ETTRCU40355024A	10-24UNC		3.55	24	3.18	3	10.4	60	6	4
ETTRCU40665024A		5/16-24UNF	6.65	24	3.18	3	16.7	60	8	4
ETTRCU40485020A	1/4-20UNC	7/16-20UNF	4.85	20	3.81	3	13.7	60	6	4
ETTRCU40795020A		7/16-20UNF	7.95	20	3.81	3	24	60	8	4
ETTRCU40595018A	5/16-18UNC		5.95	18	4.23	3	16.5	60	6	4
ETTRCU40690016A	3/8-16UNC		6.9	16	4.76	3	21	60	8	4
ETTRCU40795014A	7/16-14UNC		7.95	14	5.44	3	23.5	60	8	4
ETTRCU40930013A	1/2-13UNC		9.3	13	5.86	3	27	80	10	4
ETTRCU40995012A	9/16-12UNC		9.95	12	6.35	3	29	80	10	4
ETTRCU41150011A	5/8-11UNC		11.5	11	6.93	3	33	80	12	4
ETTRCU41440010A	3/4-10UNC		14.4	10	7.62	3	42	110	16	4

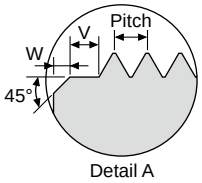
※Customized specification available.

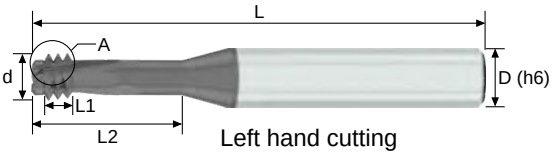
Solid Carbide Chamfer Thread Mills - ISO M 全鎢鋼倒角螺紋銑刀 - ISO M

ETLNM (ISO M)

Suitable for : 1. Thread milling
2. Chamfering
3. Helical drilling



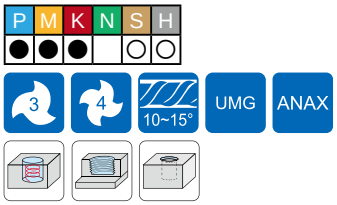


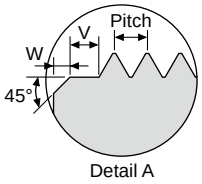


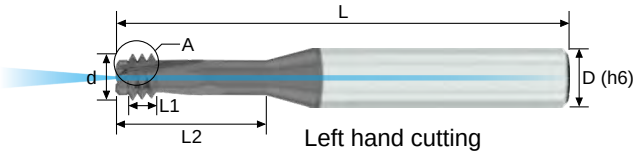
Left hand cutting
(For CNC use M04 code)

Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	EFF-L (L2)	W	V	OAL (L)	Shank (D)	Flutes (z)
ETLNM30315070A	M4 × 0.7	3.15	0.7	2.10	3	11.6	0.2	0.7	58	6	3
ETLNM30400080A	M5 × 0.8	4.00	0.8	2.40	3	14.4	0.3	0.8	58	6	3
ETLNM30470100A	M6 × 1	4.70	1.0	3.00	3	14.4	0.4	1.0	64	8	3
ETLNM40610120A	M8 × 1.25	6.10	1.25	3.75	3	19.0	0.5	1.25	64	8	4
ETLNM40780150A	M10 × 1.5	7.80	1.5	4.50	3	23.6	0.6	1.5	64	8	4
ETLNM40900170A	M12 × 1.75	9.00	1.75	5.25	3	28.1	0.6	1.75	73	10	4
ETLNM41180200A	M16 × 2	11.80	2.0	6.00	3	36.6	0.6	2.0	84	12	4

ETLCM (ISO M with Internal Coolant)







Left hand cutting
(For CNC use M04 code)

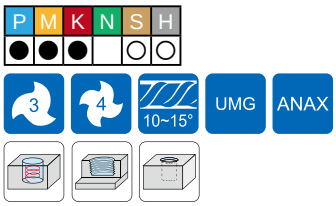
Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	EFF-L (L2)	W	V	OAL (L)	Shank (D)	Flutes (z)
ETLCM30240050A	M3 × 0.5	2.4	0.50	1.50	3	7.2	0.2	0.5	58	6	3
ETLCM30315070A	M4 × 0.7	3.15	0.70	2.10	3	11.6	0.2	0.7	58	6	3
ETLCM30400080A	M5 × 0.8	4.0	0.80	2.40	3	14.4	0.3	0.8	58	6	3
ETLCM30470100A	M6 × 1	4.7	1.00	3.00	3	14	0.4	1.0	64	8	3
ETLCM30470101A	M6 × 1	4.7	1.00	3.00	3	20.4	0.4	1.0	64	8	3
ETLCM40610120A	M8 × 1.25	6.1	1.25	3.75	3	18	0.5	1.25	64	8	4
ETLCM40610121A	M8 × 1.25	6.1	1.25	3.75	3	27	0.5	1.25	64	8	4
ETLCM40780150A	M10 × 1.5	7.8	1.50	4.50	3	23	0.6	1.5	64	8	4
ETLCM40900170A	M12 × 1.75	9.0	1.75	5.25	3	26	0.6	1.75	73	10	4
ETLCM41180200A	M16 × 2	11.8	2.00	6.00	3	35	0.6	2.0	84	12	4

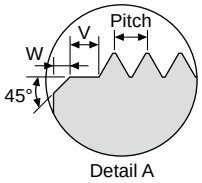
※Customized specification available.

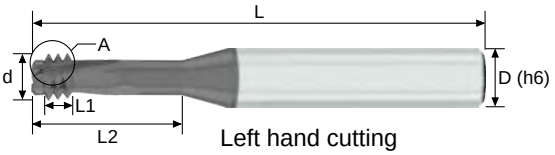
Solid Carbide Chamfer Thread Mills - UN 全鎢鋼倒角螺紋銑刀 - UN

ETLNU (UN)

Suitable for : 1. Thread milling
2. Chamfering
3. Helical drilling



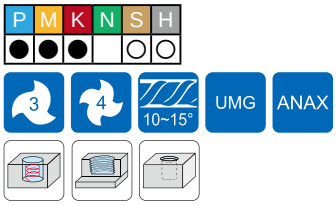


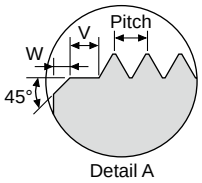


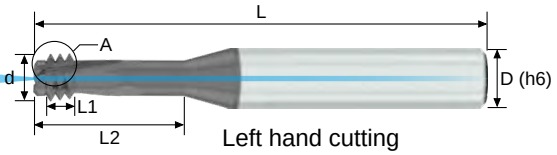
Left hand cutting
(For CNC use M04 code)

Order No.	Thread Size		Dia. (d)	TPI	CL (L1)	No. of Threads	EFF-L (L2)	W	V	OAL (L)	Shank (D)	Flutes (z)
	UNC	UNF										
ETLNU30210040A	4-40UNC	6-40UNF	2.10	40	1.91	3	7.0	0.1	0.6	58	6	3
ETLNU30260032A	6-32UNC		2.60	32	2.38	3	8.7	0.1	0.8	58	6	3
ETLNU30500028A		1/4-28UNF	5.00	28	2.72	3	14.9	0.4	0.9	64	8	3
ETLNU40650024A		5/16-24UNF	6.50	24	3.18	3	18.5	0.5	1.05	64	8	4
ETLNU40480020A	1/4-20UNC		4.80	20	3.81	3	15.6	0.4	1.25	64	8	4
ETLNU40600018A	5/16-18UNC		6.00	18	4.23	3	19.2	0.5	1.4	64	8	4
ETLNU40670016A	3/8-16UNC		6.70	16	4.76	3	22.8	0.5	1.6	64	8	4
ETLNU40920013A	1/2-13UNC		9.20	13	5.86	3	30.0	0.6	2.0	73	10	4
ETLNU41140011A	5/8-11UNC		11.40	11	6.93	3	37.0	0.6	2.3	84	12	4

ETLCU (UN with Internal Coolant)







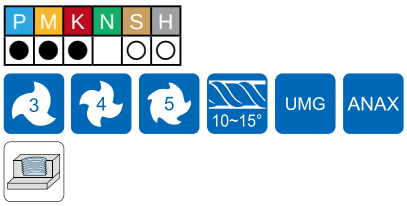
Left hand cutting
(For CNC use M04 code)

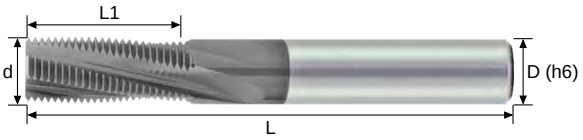
Order No.	Thread Size		Dia. (d)	TPI	CL (L1)	No. of Threads	EFF-L (L2)	W	V	OAL (L)	Shank (D)	Flutes (z)
	UNC	UNF										
ETLCU30330036A		8-36UNF	3.3	36	2.12	3	12	0.2	0.7	58	6	3
ETLCU30260032A	6-32UNC		2.6	32	2.38	3	8.7	0.2	0.8	58	6	3
ETLCU30320032A	8-32UNC		3.2	32	2.38	3	12.3	0.3	0.8	58	6	3
ETLCU30380032A		10-32UNF	3.8	32	2.38	3	14	0.3	0.8	58	6	3
ETLCU30500028A		1/4-28UNF	5	28	2.72	3	14.5	0.4	0.9	64	8	3
ETLCU30350024A	10-24UNC		3.5	24	3.18	3	12.1	0.3	1.05	58	6	3
ETLCU40650024A		5/16-24UNF	6.5	24	3.18	3	17	0.5	1.05	64	8	4
ETLCU40480020A	1/4-20UNC		4.8	20	3.81	3	14	0.4	1.25	64	8	4
ETLCU40600018A	5/16-18UNC		6	18	4.23	3	17	0.5	1.4	64	8	4
ETLCU40670016A	3/8-16UNC		6.7	16	4.76	3	22	0.5	1.6	64	8	4
ETLCU40800014A	7/16-14UNC		8	14	5.44	3	26.5	0.6	1.8	64	8	4
ETLCU40100013A	1/2-13UNC		10	13	5.86	3	29.8	0.6	2.0	73	10	4

※Customized specification available.

Solid Carbide Thread Mills - ISO M　全鎢鋼螺紋銑刀 - ISO M

ETMNM (ISO M)





Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	OAL (L)	Shank (D)	Flutes (z)
ETMNM30390075A	M6 × 0.75	3.90	0.75	12.00 *	16	50	6	3
ETMNM30390100A	M6 × 1	3.90	1.00	12.00 *	12	50	6	3
ETMNM30590100A	M8 × 1	5.90	1.00	16.00	16	60	6	3
ETMNM30580125A	M8 × 1.25	5.80	1.25	16.25	13	60	6	3
ETMNM30790100A	M10 × 1	7.90	1.00	20.00	20	60	8	3
ETMNM30770125A	M10 × 1.25	7.70	1.25	20.00	16	60	8	3
ETMNM30770150A	M10 × 1.5	7.70	1.50	21.00	14	60	8	3
ETMNM40990100A	M12 × 1	9.90	1.00	24.00	24	75	10	4
ETMNM40940150A	M12 × 1.5	9.40	1.50	24.00	16	75	10	4
ETMNM40870175A	M12 × 1.75	8.70	1.75	24.50 *	14	75	10	4
ETMNM41120150A	M14 × 1.5	11.20	1.50	28.50	19	75	12	4
ETMNM40990200A	M14 × 2	9.90	2.00	28.00	14	75	10	4
ETMNM41190150A	M16 × 1.5	11.90	1.50	33.00	22	100	12	4
ETMNM41190200A	M16 × 2	11.90	2.00	32.00	16	100	12	4
ETMNM51370250A	M20 × 2.5	13.70	2.50	45.00 *	18	133	16	5

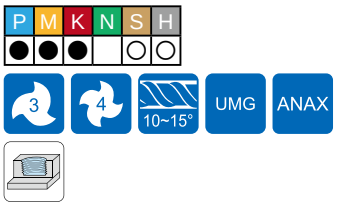
* Increase neck length 2~5mm

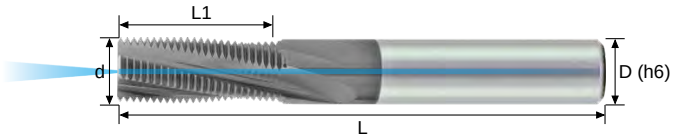
※Customized specification available.

Solid Carbide Thread Mills - ISO M

全鎢鋼螺紋銑刀 - ISO M

ETMCM (ISO M with Internal Coolant)





Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	OAL (L)	Shank (D)	Flutes (z)
ETMCM30390075A	M6 × 0.75	3.90	0.75	12.00 *	16	50	6	3
ETMCM30390100A	M6 × 1	3.90	1.00	12.00 *	12	50	6	3
ETMCM30590100A	M8 × 1	5.90	1.00	16.00	16	60	6	3
ETMCM30580125A	M8 × 1.25	5.80	1.25	16.25	13	60	6	3
ETMCM30790100A	M10 × 1	7.90	1.00	20.00	20	60	8	3
ETMCM30770125A	M10 × 1.25	7.70	1.25	20.00	16	60	8	3
ETMCM30770150A	M10 × 1.5	7.70	1.50	21.00	14	60	8	3
ETMCM40990100A	M12 × 1	9.90	1.00	24.00	24	75	10	4
ETMCM40940150A	M12 × 1.5	9.40	1.50	24.00	16	75	10	4
ETMCM40870175A	M12 × 1.75	8.70	1.75	24.50 *	14	75	10	4
ETMCM41120150A	M14 × 1.5	11.20	1.50	28.50	19	75	12	4
ETMCM40990200A	M14 × 2	9.90	2.00	28.00	14	75	10	4
ETMCM41190150A	M16 × 1.5	11.90	1.50	33.00	22	100	12	4
ETMCM41190200A	M16 × 2	11.90	2.00	32.00	16	100	12	4

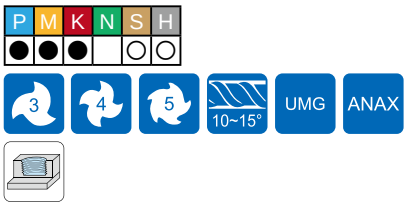
* Increase neck length 2~5mm

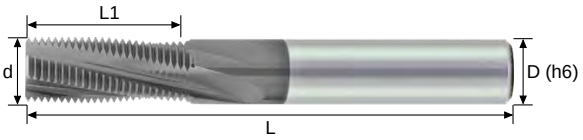
※Customized specification available.

Solid Carbide Thread Mills - UN

全鎢鋼螺紋銑刀 - UN

ETMNU (UN)



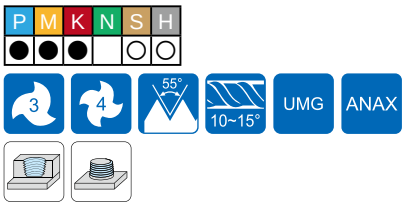


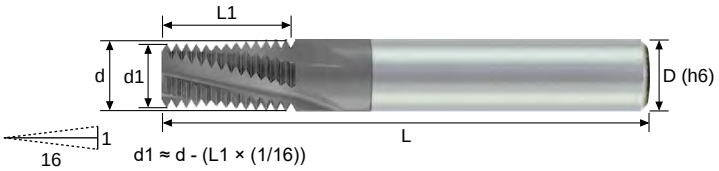
Order No.	Thread Size			Dia. (d)	TPI	CL (L1)	No. of Threads	OAL (L)	Shank (D)	Flutes (z)
	UNC	UNF	UNEF							
ETMNU30300036A		No.8		3.0	36	8.5	12	50	4	3
ETMNU30330032A		No.10	No.12-3/8"	3.3	32	11.1	14	50	4	3
ETMNU30380028A		No.12, 1/4"	7/16", 1/2"	3.8	28	11.8	13	50	4	3
ETMNU30460028A		1/4"	7/16, 1/2"	4.6	28	12.7 *	14	60	6	3
ETMNU40920028A			7/16", 1/2"	9.2	28	22.7	25	75	10	4
ETMNU30290024A	No.10	5/16", 3/8"	9/16"-11/16"	2.9	24	10.6 *	10	50	4	3
ETMNU30350024A	No.12	5/16", 3/8"	9/16"-11/16"	3.5	24	11.6	11	50	4	3
ETMNU30570024A		5/16", 3/8"	9/16"-11/16"	5.7	24	15.9	15	60	6	3
ETMNU30740024A		3/8"	9/16"-11/16"	7.4	24	19.1	18	60	8	3
ETMNU41190024A			9/16"-11/16"	11.9	24	28.6	27	100	12	4
ETMNU30390020A	1/4"	7/16", 1/2"	3/4"-1"	3.9	20	12.7	10	50	4	3
ETMNU40850020A		7/16", 1/2"	3/4"-1"	8.5	20	22.9 *	18	75	10	4
ETMNU40990020A		1/2"	3/4"-1"	9.9	20	25.4	20	75	10	4
ETMNU51590020A			3/4"-1"	15.9	20	38.1	30	100	16	5
ETMNU30520018A	5/16"	9/16", 5/8"	11/16"-1 11/16"	5.2	18	16.9	12	60	6	3
ETMNU41130018A		9/16", 5/8"	11/16"-1 11/16"	11.3	18	29.6	21	100	12	4
ETMNU41190018A		5/8"	11/16"-1 11/16"	11.9	18	32.5	23	100	12	4
ETMNU30670016A	3/8"	3/4"		6.7	16	19.1 *	12	60	8	3
ETMNU41590016A		3/4"		15.9	16	38.1	24	100	16	4
ETMNU40760014A	7/16"	7/8"		7.6	14	23.6	13	60	8	4
ETMNU41870014A		7/8"		18.7	14	44.4 *	24	100	20	4
ETMNU40890013A	1/2"			8.9	13	25.4	13	75	10	4
ETMNU41030012A	9/16"	1"-1 1/2"		10.3	12	29.6 *	14	100	12	4
ETMNU51990012A		1"-1 1/2"		19.9	12	50.8	24	100	20	5
ETMNU41100011A	5/8"			11.0	11	32.3	14	100	12	4
ETMNU51350010A	3/4"			13.5	10	38.1 *	15	100	16	5
ETMNU41520009A	7/8"			15.2	9	45.2	16	100	16	4
ETMNU41700008A	1"			17.0	8	50.8 *	16	100	20	4

* Increase neck length 2~5mm

Solid Carbide Pipe Thread Mills - BSPT 全鎢鋼管用錐形螺紋銑刀 - BSPT

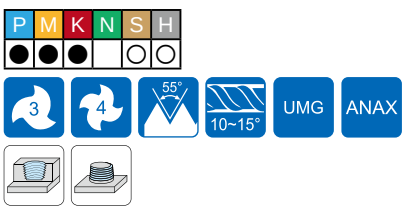
ETMNPT (BSPT)

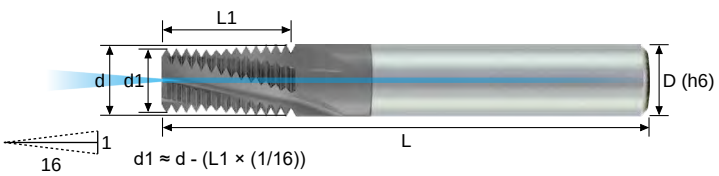




Order No.	Thread Size	Dia. (d)	TPI	CL (L1)	No. of Threads	OAL (L)	Shank (D)	Flutes (z)	Working dia.
ETMNPT305828A	1/16"×28	5.8	28	16.3	18	60	6	3	6.7
ETMNPT307728A	1/8"×28	7.7	28	20	22	60	8	3	8.7
ETMNPT409919A	1/4"×19	9.9	19	26.7	20	75	10	4	11.8
ETMNPT413419A	3/8"×19	13.4	19	33.4	25	100	16	4	15.2
ETMNPT415714A	1/2"×14, 3/4"×14	15.7	14	43.5	24	100	16	4	19.0
ETMNPT419911A	1”×11, 1 1/2”×11, 2“×11, 2 1/2”×11	19.9	11	41.6	18	100	20	4	30.7

ETMCPT (BSPT with Internal Coolant)

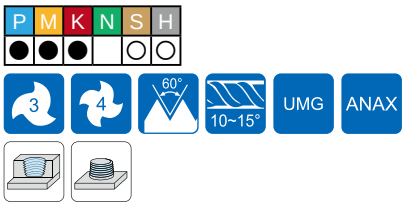


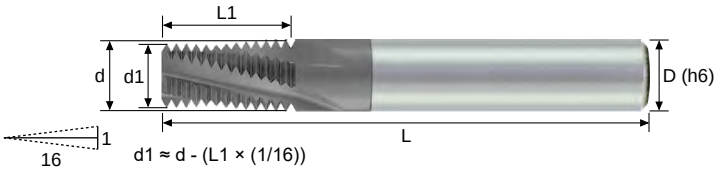


Order No.	Thread Size	Dia. (d)	TPI	CL (L1)	No. of Threads	OAL (L)	Shank (D)	Flutes (z)	Working dia.
ETMCPT305828A	1/16"×28	5.8	28	16.3	18	60	6	3	6.7
ETMCPT307728A	1/8"×28	7.7	28	20	22	60	8	3	8.7
ETMCPT409919A	1/4"×19	9.9	19	26.7	20	75	10	4	11.8
ETMCPT413419A	3/8"×19	13.4	19	33.4	25	100	16	4	15.2
ETMCPT415714A	1/2"×14, 3/4"×14	15.7	14	43.5	24	100	16	4	19.0
ETMCPT419911A	1”×11, 1 1/2”×11, 2“×11, 2 1/2”×11	19.9	11	41.6	18	100	20	4	30.7

Solid Carbide Pipe Thread Mills - NPT 全鎢鋼管用錐形螺紋銑刀 - NPT

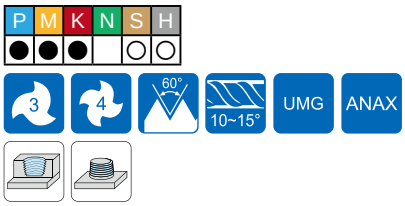
ETMNNT (NPT)

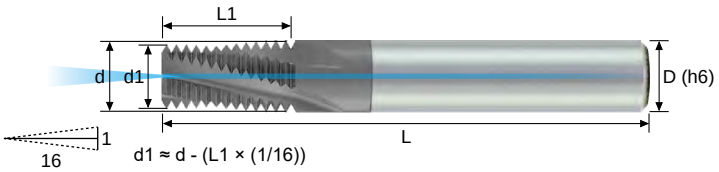




Order No.	Thread Size	Dia. (d)	TPI	CL (L1)	No. of Threads	OAL (L)	Shank (D)	Flutes (z)	Working dia.
ETMNNT305327A	1/16"×27	5.3	27	9.4	10	60	6	3	6.3
ETMNNT407527A	1/8"×27	7.5	27	9.4	10	60	8	4	8.5
ETMNNT409418A	1/4"×18	9.4	18	14.1	10	75	10	4	11.1
ETMNNT411918A	3/8"×18	11.9	18	14.1	10	75	12	4	14.5
ETMNNT410714A	1/2"×14	10.7	14	21.7	12	75	12	4	17.7
ETMNNT415514A	1/2"×14, 3/4"×14	15.5	14	25.4	14	100	16	4	17.7~23
ETMNNT419911A	1-2"×11.5	19.9	11.5	33.1	15	100	20	4	29~56
ETMNNT419908A	2 1⁄2"x8, 3"x8	19.9	8	38.1	12	100	20	4	66.5

ETMCNT (NPT with Internal Coolant)

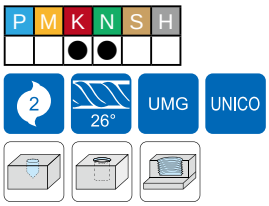


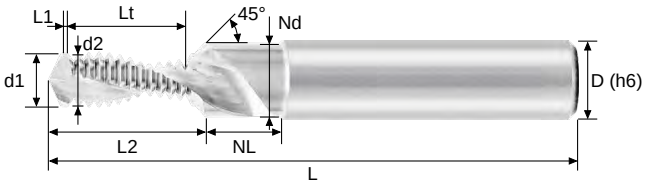


Order No.	Thread Size	Dia. (d)	TPI	CL (L1)	No. of Threads	OAL (L)	Shank (D)	Flutes (z)	Working dia.
ETMNCT305327A	1/16"×27	5.3	27	9.4	10	60	6	3	6.3
ETMNCT407527A	1/8"×27	7.5	27	9.4	10	60	8	4	8.5
ETMNCT409418A	1/4"×18	9.4	18	14.1	10	75	10	4	11.1
ETMNCT411918A	3/8"×18	11.9	18	14.1	10	75	12	4	14.5
ETMNCT410714A	1/2"×14	10.7	14	21.7	12	75	12	4	17.7
ETMNCT415514A	1/2"×14, 3/4"×14	15.5	14	25.4	14	100	16	4	17.7~23
ETMNCT419911A	1-2"×11.5	19.9	11.5	33.1	15	100	20	4	29~56
ETMNCT419908A	2 1⁄2"x8, 3"x8	19.9	8	38.1	12	100	20	4	66.5

Solid Carbide Drill&Thread Mills - ETDN · 2F 全鎢鋼螺紋鑽銑刀・2 刃

ETDNM (ISO M with Internal Coolant)





Order No.	Thread Size	d1	Pitch	d2	Lt	L1	L2	No. of Threads	Nd	NL	L	D	h	Coating
ETDNM20420080	M5 × 0.8	4.2	0.80	4.00	9.60	0.8	11.9	12	5.7	6.1	55	6	0.46	
ETDNM20500100	M6 × 1	5.0	1.00	4.85	11.00	1.0	13.7	11	6.6	9.5	60	8	0.58	
ETDNM20680125	M8 × 1.25	6.8	1.25	6.45	13.75	1.3	17.1	11	9.0	16.8	75	10	0.72	
ETDNM20850150	M10 × 1.5	8.5	1.50	8.08	18.00	1.5	22.1	12	11.0	11.6	80	12	0.87	
ETDNM20420080U	M5 × 0.8	4.2	0.80	4.00	9.60	0.8	11.9	12	5.7	6.1	55	6	0.46	●
ETDNM20500100U	M6 × 1	5.0	1.00	4.85	11.00	1.0	13.7	11	6.6	9.5	60	8	0.58	●
ETDNM20680125U	M8 × 1.25	6.8	1.25	6.45	13.75	1.3	17.1	11	9.0	16.8	75	10	0.72	●
ETDNM20850150U	M10 × 1.5	8.5	1.50	8.08	18.00	1.5	22.1	12	11.0	11.6	80	12	0.87	●

＊ Maximum chamfering depth = (Nd - d1) × 0.5

Recommended Cutting Conditions 建議切削數據

For ETS, ETT, ETC, ETL

Work Material	Vc (m/min)	Feed (mm/t)
Carbon Steel / Alloy Steel	60 ~ 90	0.02 ~ 0.08
Stainless Steel	60 ~ 90	0.02 ~ 0.08
Cast Iron	50 ~ 100	0.03 ~ 0.10
Aluminum Alloy	50 ~ 100	0.02 ~ 0.06
Super Alloy	20 ~ 60	0.01 ~ 0.03
Hardened Steel	30 ~ 60	0.01 ~ 0.03

For ETM

Work Material	Vc (m/min)	Feed (mm/t)
Carbon Steel / Alloy Steel	50 ~ 70	0.02 ~ 0.07
Stainless Steel	50 ~ 70	0.02 ~ 0.07
Cast Iron	50 ~ 100	0.03 ~ 0.10
Aluminum Alloy	50 ~ 70	0.03 ~ 0.10
Super Alloy	20 ~ 60	0.01 ~ 0.03
Hardened Steel	25 ~ 50	0.01 ~ 0.05

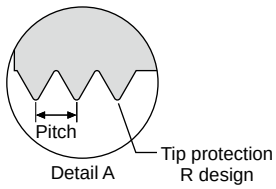
For ETD

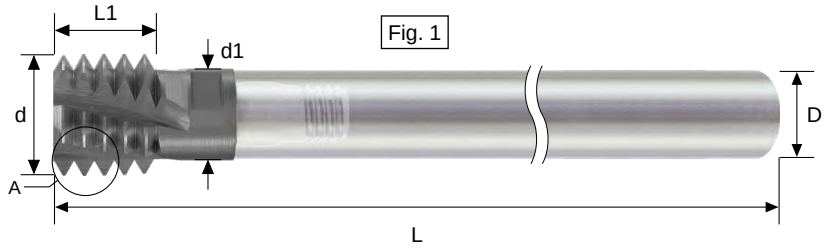
Work Material		Vc (m/min)	Drilling f (mm/rev)		Thread milling fz (mm)	
			≤ 6mm	≤ 12mm	≤ 6mm	≤ 12mm
K	Grey Cast Iron	55 ~ 85	0.07 ~ 0.105	0.105 ~ 0.154	0.014 ~ 0.035	0.035 ~ 0.07
	Grey Cast Iron (Heat Treated)	55 ~ 85	0.07 ~ 0.105	0.105 ~ 0.154	0.014 ~ 0.035	0.035 ~ 0.07
N	Short Chips, Brass, Bronze	70 ~ 280	0.07 ~ 0.210	0.042 ~ 0.070	0.021 ~ 0.042	0.042 ~ 0.07
	Aluminium, Cast Alloy (Si<10%)	70 ~ 280	0.07 ~ 0.175	0.175 ~ 0.210	0.021 ~ 0.042	0.042 ~ 0.07
	Aluminium, Cast Alloy (Si≥10%)	70 ~ 280	0.07 ~ 0.175	0.175 ~ 0.210	0.021 ~ 0.042	0.042 ~ 0.07
	Thermoplastics	40 ~ 80	0.07 ~ 0.175	0.175 ~ 0.210	0.021 ~ 0.042	0.042 ~ 0.07

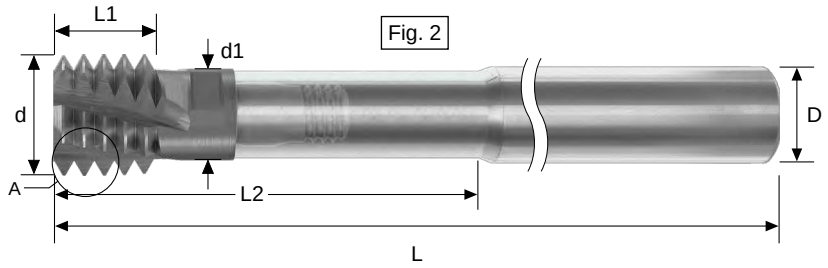
※ To choose uncoated tool for aluminum materials machining.

ETMMM (ISO M)

P	M	K	N	S	H
●	●	●	○	●	●



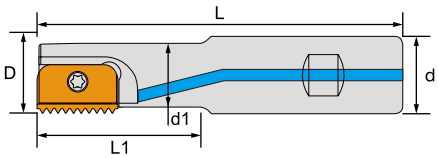


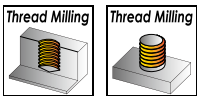


3 4 5 6 10~15° MG ANAX

Order No.	Thread Size	Dia. (d)	Pitch	CL (L1)	No. of Threads	Neck (d1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)	Fig.	Specifications	
												Threading Head	Adapter
ETMMM410005010A	≥ M12	10	0.5	8	16	9.25	39	115	10	4	2	ETMWM41000050A	ISWMEB10100060
ETMMM410007510A	≥ M12	10	0.75	6.75	9	8.93	39	115	10	4	2	ETMWM41000075A	ISWMEB10100060
ETMMM410010010A	≥ M12	10	1	7	7	8.6	39	115	10	4	2	ETMWM41000100A	ISWMEB10100060
ETMMM512010010A	≥ M16	12	1	9	9	10.6	–	117	10	5	1	ETMWM51200100A	ISWMEA10100060
ETMMM512010015A	≥ M16	12	1	9	9	10.6	–	167	10	5	1	ETMWM51200100A	ISWMEA10150060
ETMMM412012510A	≥ M16	12	1.25	8.75	7	10.3	–	117	10	4	1	ETMWM41200125A	ISWMEA10100060
ETMMM412012515A	≥ M16	12	1.25	8.75	7	10.3	–	167	10	4	1	ETMWM41200125A	ISWMEA10150060
ETMMM412015010A	≥ M16	12	1.5	9	6	9.95	–	117	10	4	1	ETMWM41200150A	ISWMEA10100060
ETMMM412015015A	≥ M16	12	1.5	9	6	9.95	–	167	10	4	1	ETMWM41200150A	ISWMEA10150060
ETMMM616015010A	≥ M20	16	1.5	13.5	9	13.95	–	122	14	6	1	ETMWM61600150A	ISWMEA14100080
ETMMM616015015A	≥ M20	16	1.5	13.5	9	13.95	–	172	14	6	1	ETMWM61600150A	ISWMEA14150080
ETMMM616015020A	≥ M20	16	1.5	13.5	9	13.95	–	222	14	6	1	ETMWM61600150A	ISWMEA14200080
ETMMM516020010A	≥ M19	16	2	14	7	13.3	52	122	14	5	2	ETMWM51600200A	ISWMEB14100080
ETMMM516020015A	≥ M19	16	2	14	7	13.3	82	172	14	5	2	ETMWM51600200A	ISWMEB14150080
ETMMM516020020A	≥ M19	16	2	14	7	13.3	122	222	14	5	2	ETMWM51600200A	ISWMEB14200080
ETMMM515425010A	≥ M20	15.4	2.5	15	6	12.05	–	122	12	5	1	ETMWM51540250A	ISWMEA12100080
ETMMM515425015A	≥ M20	15.4	2.5	15	6	12.05	–	172	12	5	1	ETMWM51540250A	ISWMEA12150080
ETMMM515425020A	≥ M20	15.4	2.5	15	6	12.05	–	222	12	5	1	ETMWM51540250A	ISWMEA12200080
ETMMM420030010A	≥ M24	20	3	15	5	16	–	127	16	4	1	ETMWM42000300A	ISWMEA16100100

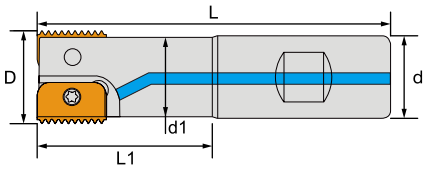
Thread Milling Tools 螺紋銑刀

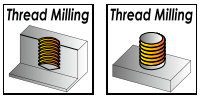




Order No.	D	L1	L	d	d1	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXMTE141012071	12	20	75	20	8.9	1	✓	LNEX14 LNHT14	ITS3002	ITK09	●
ICXMTE141014081	14.5	25	85	20	11	1	✓				●
ICXMTE211021091	21	40	94	20	16.5	1	✓	LNEX21 LNHT21	ITS4020	ITK15	●
ICXMTE211025121	25	28	125	20	-	1	✓				●

● stock ○ by inquiry





Order No.	D	L1	L	d	d1	T	Coolant Hole	Inserts	Screw	Wrench	Stock
ICXMTE142020091	20	41	93	20	16	2	✓	LNEX14 LNHT14	ITS3002	ITK09	●
ICXMTE212030101	30	52	108	25	24	2	✓	LNEX21 LNHT21	ITS4020	ITK15	●

● stock ○ by inquiry

Recommended Cutting Conditions 建議切削數據

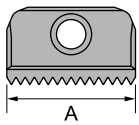
Working Material	Vc	fz
Carbon Steel / Alloy Steel	100 ~ 250	0.10 ~ 0.20
Stainless Steel	130 ~ 200	0.10 ~ 0.18
Cast Iron	100 ~ 200	0.12 ~ 0.20
Aluminum Alloy	110 ~ 400	0.15 ~ 0.24
Super Alloy	25 ~ 100	0.05 ~ 0.15
Hardened Steel	40 ~ 100	0.05 ~ 0.15

Thread Milling Tools - LNEX Inserts 螺紋銑削刀片

Designations for Thread Milling Insert 螺紋銑削刀片型號編碼

LNEX	21	E	100	ISO
	①	②	③	④

① Insert Size



A (mm)
14
21

② Type of Inserrt

E	External
I	Internal
None	External + Internal

③ Thread Pitch

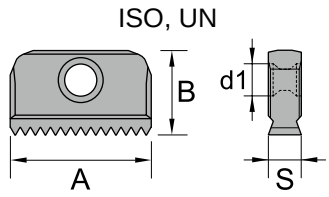
TP (mm)	0.75	1.0	...	2.5
	075	100	...	250
TPI	32	28	...	10
	32	28	...	10

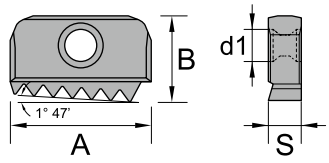
④ Thread Standard

ISO
UN
BSPT
NPT

Insert Specifications 刀片規格

Insert	Dimensions (mm)				
	A	B	S	d1	
LNEX14	14	7.5	3.1	3.3	ISO, UN
LNEX21	21	12	4.7	4.7	
LNHT14	14	7.5	3.1	3.3	BSPT, NPT
LNHT21	21	12	4.7	4.7	

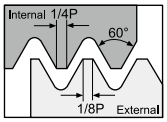




Insert Grade 刀片材質

Grade Type 刀片材質	Coating Color 塗層顏色	Properties 屬性	Application 加工特性	Working Material 加工材質 P	M	K	N	S	H	Industry Area 產業應用範圍
CX33TX		● PVD (AlTiSiN) ● Wear resistance ● Anti-corrosion ● 耐磨性 ● 抗腐蝕	● Medium to roughing ● General machining ● Suitable for various materials ● 適合中至粗加工 ● 適合泛用加工 ● 適用於各種材料加工	●	○	●		○	●	● Mold & Die ● Automotive ● Machinery ● Aerospace ● 模具產業 ● 汽車零件 ● 機械零件 ● 航太零件

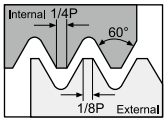
Insert Designation 刀片型號



ISO M

External 外徑

Insert	Order No.	Code-I/E-Pitch-Grade	Pitch	Working Material					
			TP(mm)	P	M	K	N	S	H
	ILNEX14E075ISO33TX	LNEX14E0.75ISO-CX33TX	0.75	●	○	●		○	●
	ILNEX14E100ISO33TX	LNEX14E1.00ISO-CX33TX	1.0	●	○	●		○	●
	ILNEX14E125ISO33TX	LNEX14E1.25ISO-CX33TX	1.25	●	○	●		○	●
	ILNEX14E150ISO33TX	LNEX14E1.50ISO-CX33TX	1.5	●	○	●		○	●
	ILNEX14E175ISO33TX	LNEX14E1.75ISO-CX33TX	1.75	●	○	●		○	●
	ILNEX14E200ISO33TX	LNEX14E2.00ISO-CX33TX	2.0	●	○	●		○	●
	ILNEX14E250ISO33TX	LNEX14E2.50ISO-CX33TX	2.5	●	○	●		○	●
	ILNEX21E100ISO33TX	LNEX21E1.00ISO-CX33TX	1.0	●	○	●		○	●
	ILNEX21E125ISO33TX	LNEX21E1.25ISO-CX33TX	1.25	●	○	●		○	●
	ILNEX21E150ISO33TX	LNEX21E1.50ISO-CX33TX	1.5	●	○	●		○	●
	ILNEX21E175ISO33TX	LNEX21E1.75ISO-CX33TX	1.75	●	○	●		○	●
	ILNEX21E200ISO33TX	LNEX21E2.00ISO-CX33TX	2.0	●	○	●		○	●
	ILNEX21E250ISO33TX	LNEX21E2.50ISO-CX33TX	2.5	●	○	●		○	●
	ILNEX21E300ISO33TX	LNEX21E3.00ISO-CX33TX	3.0	●	○	●		○	●

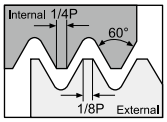


ISO M

Internal 內徑

Insert	Order No.	Code-I/E-Pitch-Grade	Pitch	Working Material					
			TP(mm)	P	M	K	N	S	H
	ILNEX14I075ISO33TX	LNEX14I0.75ISO-CX33TX	0.75	●	○	●		○	●
	ILNEX14I100ISO33TX	LNEX14I1.00ISO-CX33TX	1.0	●	○	●		○	●
	ILNEX14I125ISO33TX	LNEX14I1.25ISO-CX33TX	1.25	●	○	●		○	●
	ILNEX14I150ISO33TX	LNEX14I1.50ISO-CX33TX	1.5	●	○	●		○	●
	ILNEX14I175ISO33TX	LNEX14I1.75ISO-CX33TX	1.75	●	○	●		○	●
	ILNEX14I200ISO33TX	LNEX14I2.00ISO-CX33TX	2.0	●	○	●		○	●
	ILNEX14I250ISO33TX	LNEX14I2.50ISO-CX33TX	2.5	●	○	●		○	●
	ILNEX21I100ISO33TX	LNEX21I1.00ISO-CX33TX	1.0	●	○	●		○	●
	ILNEX21I125ISO33TX	LNEX21I1.25ISO-CX33TX	1.25	●	○	●		○	●
	ILNEX21I150ISO33TX	LNEX21I1.50ISO-CX33TX	1.5	●	○	●		○	●
	ILNEX21I175ISO33TX	LNEX21I1.75ISO-CX33TX	1.75	●	○	●		○	●
	ILNEX21I200ISO33TX	LNEX21I2.00ISO-CX33TX	2.0	●	○	●		○	●
	ILNEX21I250ISO33TX	LNEX21I2.50ISO-CX33TX	2.5	●	○	●		○	●
	ILNEX21I300ISO33TX	LNEX21I3.00ISO-CX33TX	3.0	●	○	●		○	●

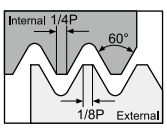
Insert Designation 刀片型號



UN

External 外徑

Insert	Order No.	Code-I/E-Pitch-Grade	Pitch	Working Material					
			TPI	P	M	K	N	S	H
	ILNEX14E32UN33TX	LNEX14E32UN-CX33TX	32	●	○	●		○	●
	ILNEX14E28UN33TX	LNEX14E28UN-CX33TX	28	●	○	●		○	●
	ILNEX14E24UN33TX	LNEX14E24UN-CX33TX	24	●	○	●		○	●
	ILNEX14E20UN33TX	LNEX14E20UN-CX33TX	20	●	○	●		○	●
	ILNEX14E18UN33TX	LNEX14E18UN-CX33TX	18	●	○	●		○	●
	ILNEX14E16UN33TX	LNEX14E16UN-CX33TX	16	●	○	●		○	●
	ILNEX14E14UN33TX	LNEX14E14UN-CX33TX	14	●	○	●		○	●
	ILNEX14E12UN33TX	LNEX14E12UN-CX33TX	12	●	○	●		○	●
	ILNEX14E10UN33TX	LNEX14E10UN-CX33TX	10	●	○	●		○	●
	ILNEX21E24UN33TX	LNEX21E24UN-CX33TX	24	●	○	●		○	●
	ILNEX21E20UN33TX	LNEX21E20UN-CX33TX	20	●	○	●		○	●
	ILNEX21E18UN33TX	LNEX21E18UN-CX33TX	18	●	○	●		○	●
	ILNEX21E16UN33TX	LNEX21E16UN-CX33TX	16	●	○	●		○	●
	ILNEX21E14UN33TX	LNEX21E14UN-CX33TX	14	●	○	●		○	●
	ILNEX21E12UN33TX	LNEX21E12UN-CX33TX	12	●	○	●		○	●
	ILNEX21E10UN33TX	LNEX21E10UN-CX33TX	10	●	○	●		○	●



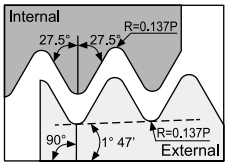
UN

Internal 內徑

Insert	Order No.	Code-I/E-Pitch-Grade	Pitch	Working Material					
			TPI	P	M	K	N	S	H
	ILNEX14I32UN33TX	LNEX14I32UN-CX33TX	32	●	○	●		○	●
	ILNEX14I28UN33TX	LNEX14I28UN-CX33TX	28	●	○	●		○	●
	ILNEX14I24UN33TX	LNEX14I24UN-CX33TX	24	●	○	●		○	●
	ILNEX14I20UN33TX	LNEX14I20UN-CX33TX	20	●	○	●		○	●
	ILNEX14I18UN33TX	LNEX14I18UN-CX33TX	18	●	○	●		○	●
	ILNEX14I16UN33TX	LNEX14I16UN-CX33TX	16	●	○	●		○	●
	ILNEX14I14UN33TX	LNEX14I14UN-CX33TX	14	●	○	●		○	●
	ILNEX14I12UN33TX	LNEX14I12UN-CX33TX	12	●	○	●		○	●
	ILNEX14I10UN33TX	LNEX14I10UN-CX33TX	10	●	○	●		○	●
	ILNEX21I24UN33TX	LNEX21I24UN-CX33TX	24	●	○	●		○	●
	ILNEX21I20UN33TX	LNEX21I20UN-CX33TX	20	●	○	●		○	●
	ILNEX21I18UN33TX	LNEX21I18UN-CX33TX	18	●	○	●		○	●
	ILNEX21I16UN33TX	LNEX21I16UN-CX33TX	16	●	○	●		○	●
	ILNEX21I14UN33TX	LNEX21I14UN-CX33TX	14	●	○	●		○	●
	ILNEX21I12UN33TX	LNEX21I12UN-CX33TX	12	●	○	●		○	●
	ILNEX21I10UN33TX	LNEX21I10UN-CX33TX	10	●	○	●		○	●

Indexable Pipe Thread Milling Inserts - BSPT, NPT 捨棄式管用錐形銑牙刀片 - BSPT, NPT

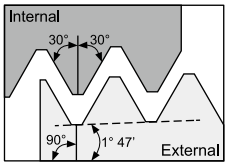
Insert Designation 刀片型號



BSPT

External and Internal 外徑和內徑

Insert	Order No.	Serie-Pitch-Grade	Pitch	Working Material					
			TPI	P	M	K	N	S	H
	ILNHT1419BSPT33TX	LNHT1419BSPT-CX33TX	19	●	○	●		○	●
	ILNHT1414BSPT33TX	LNHT1414BSPT-CX33TX	14	●	○	●		○	●
	ILNHT2114BSPT33TX	LNHT2114BSPT-CX33TX	14	●	○	●		○	●
	ILNHT2111BSPT33TX	LNHT2111BSPT-CX33TX	11	●	○	●		○	●

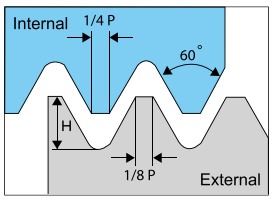


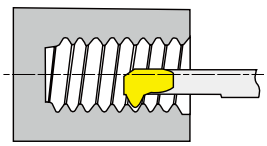
NPT

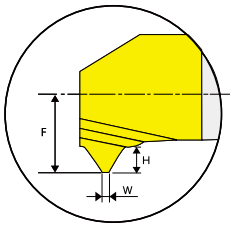
External and Internal 外徑和內徑

Insert	Order No.	Code-Pitch-Grade	Pitch	Working Material					
			TPI	P	M	K	N	S	H
	ILNHT1418NPT33TX	LNHT1418NPT-CX33TX	18	●	○	●		○	●
	ILNHT1414NPT33TX	LNHT1414NPT-CX33TX	14	●	○	●		○	●
	ILNHT2114NPT33TX	LNHT2114NPT-CX33TX	14	●	○	●		○	●
	ILNHT2111NPT33TX	LNHT2111NPT-CX33TX	11.5	●	○	●		○	●

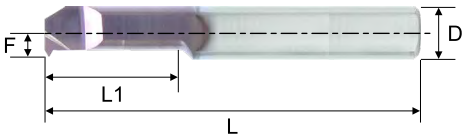
DLTSR Carbide Mini Internal Thread 全鎢鋼內徑螺紋車刀







ISO Metric 60°
ISO 牙

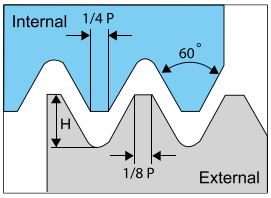


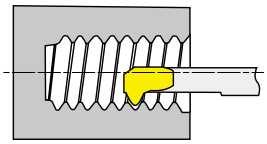
Tolerance class : 6H

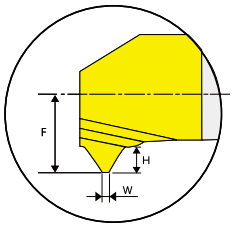
Order No.	F	Pitch	L1	W	L	D	H	Min. Bore Dia.
DLTSR05010360U	1.4	0.50	10	0.062	39	3	0.33	3.2
DLTSR07010360U	1.4	0.70	10	0.087	39	3	0.46	3.2
DLTSR07510360U	1.4	0.75	10	0.093	39	3	0.49	3.2
DLTSR05010460U	1.8	0.50	10	0.062	50	4	0.33	4.1
DLTSR07510460U	1.8	0.75	10	0.093	50	4	0.49	4.1
DLTSR08010460U	1.8	0.80	10	0.100	50	4	0.52	4.1
DLTSR10010560U	2.2	1.00	10	0.125	50	5	0.65	4.9
DLTSR05015660U	2.6	0.50	15	0.062	50	6	0.33	5.9
DLTSR07515660U	2.6	0.75	15	0.093	50	6	0.49	5.9
DLTSR10015660U	2.6	1.00	15	0.125	50	6	0.65	5.9
DLTSR12522660U	2.8	1.25	22	0.156	50	6	0.81	6.1

∗ For left hand tools specify DLTSL instead of DLTSR.

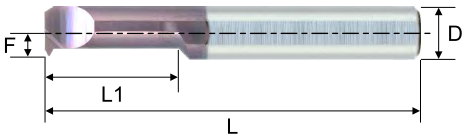
DLTMR Carbide Mini Internal Thread 全鎢鋼內徑螺紋車刀







Partial Profile 60°
泛用牙

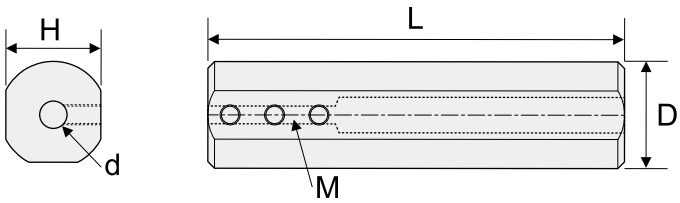


Tolerance class : 6H

Order No.	F	Pitch	L1	W	L	D	H	Min. Bore Dia.
DLTMR04508360U	1.0	0.45 ~ 0.70	8	0.056	50	3	0.5	2.6
DLTMR07015360U	1.4	0.70 ~ 1.00	15	0.087	50	3	0.7	3.2
DLTMR08015460U	1.8	0.80 ~ 1.00	15	0.100	50	4	0.7	4.1
DLTMR10015560U	2.3	1.00 ~ 1.25	15	0.125	50	5	0.8	5.1
DLTMR10015660U	2.6	1.00 ~ 1.50	15	0.125	50	6	1.0	6.0
DLTMR10018860U	3.6	1.00 ~ 1.75	18	0.125	60	8	1.4	8.0
DLTMR10018160U	4.6	1.00 ~ 2.00	18	0.125	75	10	1.8	10.0

∗ For left hand tools specify DLTML instead of DLTMR.

DLS Carbide Mini Bars - Sleeves 迷你鎢鋼內徑搪刀套筒

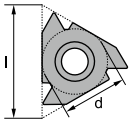


Order No.	d	D	L	H	M
DLS0316100	3	16	100	14	M4
DLS0416100	4	16	100	14	M4
DLS0516100	5	16	100	14	M4
DLS0616100	6	16	100	14	M5
DLS0816100	8	16	100	14	M5
DLS1016100	10	16	100	14	M5

Designations for Thread Turning Insert 螺紋車刀片型號編碼

16	E	R		A	60
①	②	③	④	⑤	⑥

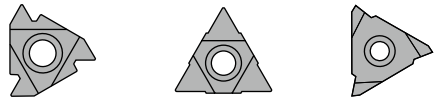
① Insert Size



l (mm)	d (inch)
11	1/4
16	3/8
22	1/2

② Application

E	Regular Type, External
I	Regular Type, Internal
UE	U Type, External
UI	U Type, Internal
UEI	U Type, External and internal
VE	Vertical Type, External
VI	Vertical Type, Internal



Regular Type　U Type　Vertical Type

③ Hand of Tool

R	Right Hand
L	Left Hand
RL	Right and left-hand

④ Type

M	Press to size with a chipbreaker
B	Peripherally ground & chipbreaker

⑤ Thread Pitch or TPI

Partial Profile

	TP (mm)	TPI
A	0.5 ~ 1.5	48 ~ 16
AG	0.5 ~ 3.0	48 ~ 8
G	1.75 ~ 3.0	14 ~ 8
N	3.5 ~ 5.0	7 ~ 5
U	5.5 ~ 8.0	4.5 ~ 4

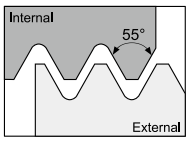
Full Profile

Value by number

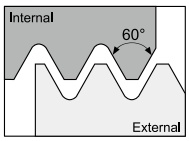
TP (mm)	TPI
0.75	34
⋮	⋮
6.00	5

⑥ Thread Standard

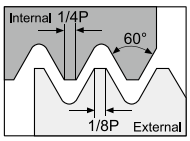
55	Partial Profile 55°
60	Partial Profile 60°
ISO	ISO Metric 60°
UN	American UN 60°
W	Whitworth 55°
BSPT	British Standard Pipe Thread
NPT	NPT
RD	Round DIN 405
TR	Trapeze DIN 103
ACME	ACME
STACME	Stub ACME
PG	Pg DIN 40430
UNJ	UNJ
MJ	MJ ISO 5855
⋮	⋮



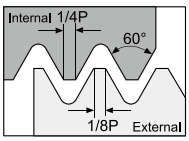
Partial Profile 55°



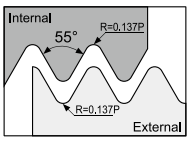
Partial Profile 60°



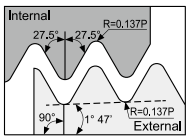
ISO Metric 60°



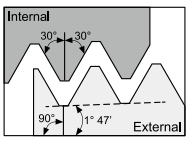
American UN 60°



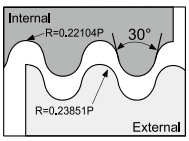
Whitworth 55°



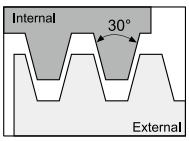
BSPT 55°



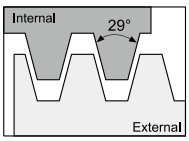
NPT 60°



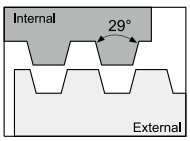
Round (DIN 405)



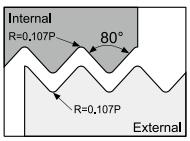
Trapeze (DIN 103)



ACME



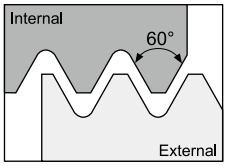
Stub ACME



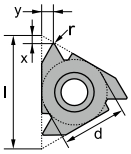
PG (DIM 40430)

Thread Turning Inserts - Partial Profile 60° 螺紋車刀片 - 60° 泛牙型

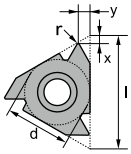
External 外徑



Regular Type

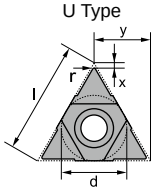


Right hand



Left hand

U Type



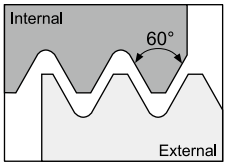
Right & Left hand

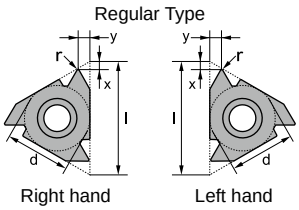
Insert	Order No.	Designation	Pitch		Dimensions (mm)					Working Material					
			TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I11ERA606025	11ER-A60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I11ELA606025	11EL-A60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I16ERA606025	16ER-A60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16ELA606025	16EL-A60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16ERAG606025	16ER-AG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	* I16ERMAG606025	16ERM-AG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I16ELAG606025	16EL-AG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	I16ERG606025	16ER-G60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
	I16ELG606025	16EL-G60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
	I22ERN606025	22ER-N60-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.32	1.7	2.5	●	●	●		○	○
	I22ELN606025	22EL-N60-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.32	1.7	2.5	●	●	●		○	○
U Type	** I22UEIRLU606025	22UEIRL-U60-CP6025	5.5 ~ 8.0	4.5 ~ 3.25	1/2"	22	0.28	0.6	11.0	●	●	●		○	○

* Press to size with a chip breaker.
** For external and internal application.

Thread Turning Inserts - Partial Profile 60° 螺紋車刀片 - 60° 泛牙型

Internal 內徑



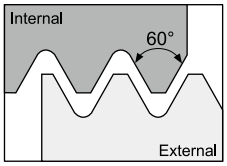


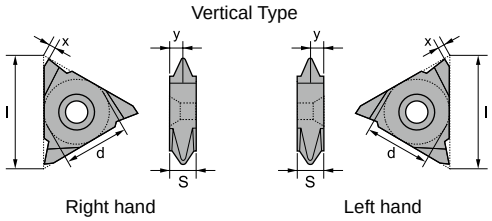
Insert	Order No.	Designation	Pitch		Dimensions (mm)					Working Material					
			TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I11IRA606025	11IR-A60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I11ILA606025	11IL-A60-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I16IRA606025	16IR-A60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16ILA606025	16IL-A60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16IRAG606025	16IR-AG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	*I16IRMAG606025	16IRM-AG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I16ILAG606025	16IL-AG60-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	I16IRG606025	16IR-G60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I16ILG606025	16IL-G60-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I22IRN606025	22IR-N60-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.22	1.7	2.5	●	●	●		○	○
	I22ILN606025	22IL-N60-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.22	1.7	2.5	●	●	●		○	○

* Press to size with a chip breaker.

Thread Turning Inserts - Partial Profile 60° Vertical 立式螺紋車刀片 - 60° 泛牙型

External 外徑

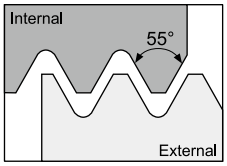




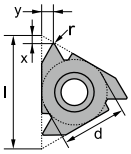
Insert	Order No.	Designation	Pitch		Dimensions (mm)					Working Material					
			TP (mm)	TPI	d	l	x	y	S	P	M	K	N	S	H
Vertical Type	I16VERA606025	16VER-A60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VELA606025	16VEL-A60-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VERAG606025	16VER-AG60-CP6025	0.5 ~ 2.5	48 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VELAG606025	16VEL-AG60-CP6025	0.5 ~ 2.5	48 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VERG606025	16VER-G60-CP6025	1.75 ~ 2.5	14 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VELG606025	16VEL-G60-CP6025	1.75 ~ 2.5	14 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○

Thread Turning Inserts - Partial Profile 55° 螺紋車刀片 - 55° 泛牙型

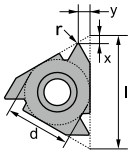
External 外徑



Regular Type

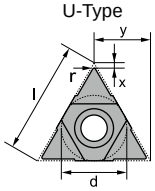


Right hand



Left hand

U-Type



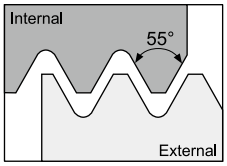
Right & Left hand

Insert	Order No.	Designation	Pitch		Dimensions (mm)					Working Material					
			TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I11ERA556025	11ER-A55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I11ELA556025	11EL-A55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I16ERA556025	16ER-A55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16ELA556025	16EL-A55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16ERAG556025	16ER-AG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	* I16ERMAG556025	16ERM-AG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I16ELAG556025	16EL-AG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	I16ERG556025	16ER-G55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
	I16ELG556025	16EL-G55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
	I22ERN556025	22ER-N55-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.42	1.7	2.5	●	●	●		○	○
	I22ELN556025	22EL-N55-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.42	1.7	2.5	●	●	●		○	○
U Type	** I22UEIRLU556025	22UEIRL-U55-CP6025	5.5 ~ 8.0	4.5 ~ 3.25	1/2"	22	0.60	0.9	11.0	●	●	●		○	○

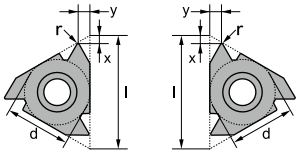
* Press to size with a chip breaker.
** For external and internal application.

Thread Turning Inserts - Partial Profile 55° 螺紋車刀片 - 55° 泛牙型

Internal 內徑



Regular Type

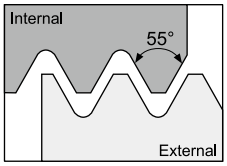


Insert	Order No.	Designation	Pitch		Dimensions (mm)					Working Material					
			TP (mm)	TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I11IRA556025	11IR-A55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I11ILA556025	11IL-A55-CP6025	0.5 ~ 1.5	48 ~ 16	1/4"	11	0.05	0.8	0.9	●	●	●		○	○
	I16IRA556025	16IR-A55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16ILA556025	16IL-A55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	0.05	0.8	0.9	●	●	●		○	○
	I16IRAG556025	16IR-AG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	*I16IRMAG556025	16IRM-AG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I16ILAG556025	16IL-AG55-CP6025	0.5 ~ 3.0	48 ~ 8	3/8"	16	0.05	1.2	1.7	●	●	●		○	○
	I16IRG556025	16IR-G55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I16ILG556025	16IL-G55-CP6025	1.75 ~ 3.0	14 ~ 8	3/8"	16	0.12	1.2	1.7	●	●	●		○	○
	I22IRN556025	22IR-N55-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.42	1.7	2.5	●	●	●		○	○
	I22ILN556025	22IL-N55-CP6025	3.5 ~ 5.0	7 ~ 5	1/2"	22	0.42	1.7	2.5	●	●	●		○	○

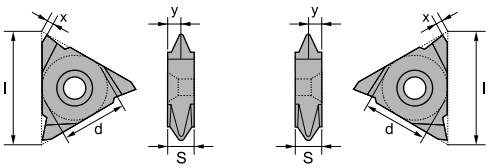
* Press to size with a chip breaker.

Thread Turning Inserts - Partial Profile 55° Vertical 立式螺紋車刀片 - 55° 泛牙型

External 外徑



Vertical Type

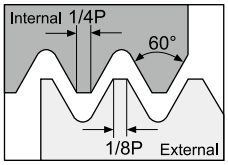


Right hand　　Left hand

Insert	Order No.	Designation	Pitch		Dimensions (mm)					Working Material					
			TP (mm)	TPI	d	l	x	y	S	P	M	K	N	S	H
Vertical Type	I16VERA556025	16VER-A55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VELA556025	16VEL-A55-CP6025	0.5 ~ 1.5	48 ~ 16	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VERAG556025	16VER-AG55-CP6025	0.5 ~ 2.5	48 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VELAG556025	16VEL-AG55-CP6025	0.5 ~ 2.5	48 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VERG556025	16VER-G55-CP6025	1.75 ~ 2.5	14 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VELG556025	16VEL-G55-CP6025	1.75 ~ 2.5	14 ~ 10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○

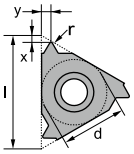
Thread Turning Inserts - ISO Metric 60° 螺紋車刀片 - ISO 公制 60° 螺紋

External 外徑

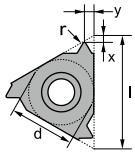


Tolerance Class : 6g/6H

Regular Type



Right hand



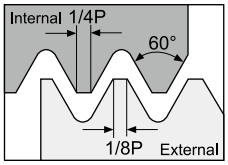
Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TP (mm)	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I16ER035ISO6025	16ER-0.35ISO-CP6025	0.35	3/8"	16	0.04	0.8	0.4	●	●	●		○	○
	I16EL035ISO6025	16EL-0.35ISO-CP6025	0.35	3/8"	16	0.04	0.8	0.4	●	●	●		○	○
	I16ER040ISO6025	16ER-0.40ISO-CP6025	0.40	3/8"	16	0.04	0.7	0.4	●	●	●		○	○
	I16ER045ISO6025	16ER-0.45ISO-CP6025	0.45	3/8"	16	0.05	0.7	0.4	●	●	●		○	○
	I16ER050ISO6025	16ER-0.50ISO-CP6025	0.50	3/8"	16	0.05	0.6	0.6	●	●	●		○	○
	I16EL050ISO6025	16EL-0.50ISO-CP6025	0.50	3/8"	16	0.05	0.6	0.6	●	●	●		○	○
	I16ER060ISO6025	16ER-0.60ISO-CP6025	0.60	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
	I16ER070ISO6025	16ER-0.70ISO-CP6025	0.70	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
	I16ER075ISO6025	16ER-0.75ISO-CP6025	0.75	3/8"	16	0.08	0.6	0.6	●	●	●		○	○
	I16EL075ISO6025	16EL-0.75ISO-CP6025	0.75	3/8"	16	0.08	0.6	0.6	●	●	●		○	○
	I16ER080ISO6025	16ER-0.80ISO-CP6025	0.80	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
	I16EL080ISO6025	16EL-0.80ISO-CP6025	0.80	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
	I16ER100ISO6025	16ER-1.00ISO-CP6025	1.00	3/8"	16	0.12	0.7	0.7	●	●	●		○	○
	I16EL100ISO6025	16EL-1.00ISO-CP6025	1.00	3/8"	16	0.12	0.7	0.7	●	●	●		○	○
	I16ER125ISO6025	16ER-1.25ISO-CP6025	1.25	3/8"	16	0.15	0.8	0.9	●	●	●		○	○
	I16EL125ISO6025	16EL-1.25ISO-CP6025	1.25	3/8"	16	0.15	0.8	0.9	●	●	●		○	○
	I16ER150ISO6025	16ER-1.50ISO-CP6025	1.50	3/8"	16	0.18	0.8	1.0	●	●	●		○	○
	I16EL150ISO6025	16EL-1.50ISO-CP6025	1.50	3/8"	16	0.18	0.8	1.0	●	●	●		○	○
	I16ER175ISO6025	16ER-1.75ISO-CP6025	1.75	3/8"	16	0.21	0.9	1.2	●	●	●		○	○
	I16EL175ISO6025	16EL-1.75ISO-CP6025	1.75	3/8"	16	0.21	0.9	1.2	●	●	●		○	○
	I16ER200ISO6025	16ER-2.00ISO-CP6025	2.00	3/8"	16	0.25	1.0	1.3	●	●	●		○	○
	I16EL200ISO6025	16EL-2.00ISO-CP6025	2.00	3/8"	16	0.25	1.0	1.3	●	●	●		○	○
	I16ER250ISO6025	16ER-2.50ISO-CP6025	2.50	3/8"	16	0.31	1.1	1.5	●	●	●		○	○
	I16EL250ISO6025	16EL-2.50ISO-CP6025	2.50	3/8"	16	0.31	1.1	1.5	●	●	●		○	○
	I16ER300ISO6025	16ER-3.00ISO-CP6025	3.00	3/8"	16	0.38	1.2	1.6	●	●	●		○	○
	I16EL300ISO6025	16EL-3.00ISO-CP6025	3.00	3/8"	16	0.38	1.2	1.6	●	●	●		○	○

(continued)

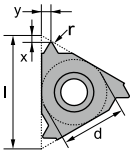
Thread Turning Inserts - ISO Metric 60° 螺紋車刀片 - ISO 公制 60° 螺紋

External 外徑

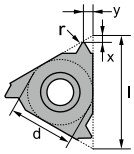


Tolerance Class : 6g/6H

Regular Type

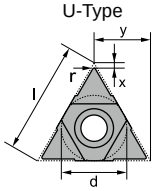


Right hand



Left hand

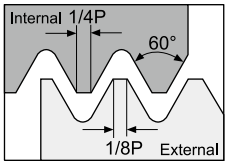
U-Type



Right & Left hand

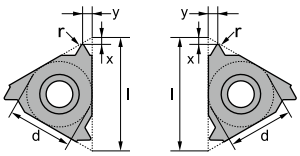
Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TP (mm)	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I22ER350ISO6025	22ER-3.50ISO-CP6025	3.50	1/2"	22	0.44	1.6	2.3	●	●	●		○	○
	I22EL350ISO6025	22EL-3.50ISO-CP6025	3.50	1/2"	22	0.44	1.6	2.3	●	●	●		○	○
	I22ER400ISO6025	22ER-4.00ISO-CP6025	4.00	1/2"	22	0.52	1.6	2.3	●	●	●		○	○
	I22EL400ISO6025	22EL-4.00ISO-CP6025	4.00	1/2"	22	0.52	1.6	2.3	●	●	●		○	○
	I22ER450ISO6025	22ER-4.50ISO-CP6025	4.50	1/2"	22	0.58	1.7	2.4	●	●	●		○	○
	I22EL450ISO6025	22EL-4.50ISO-CP6025	4.50	1/2"	22	0.58	1.7	2.4	●	●	●		○	○
	I22ER500ISO6025	22ER-5.00ISO-CP6025	5.00	1/2"	22	0.64	1.7	2.5	●	●	●		○	○
	I22EL500ISO6025	22EL-5.00ISO-CP6025	5.00	1/2"	22	0.64	1.7	2.5	●	●	●		○	○
U Type	I22UERL550ISO6025	22UERL-5.50ISO-CP6025	5.50	1/2"	22	0.70	2.3	11.0	●	●	●		○	○
	I22UERL600ISO6025	22UERL-6.00ISO-CP6025	6.00	1/2"	22	0.78	2.6	11.0	●	●	●		○	○

Internal 內徑



Tolerance Class : 6g/6H

Regular Type



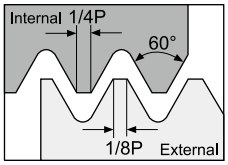
Right hand Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TP (mm)	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I11IR035ISO6025	11IR-0.35ISO-CP6025	0.35	1/4"	11	0.02	0.8	0.3	●	●	●		○	○
	I11IL035ISO6025	11IL-0.35ISO-CP6025	0.35	1/4"	11	0.02	0.8	0.3	●	●	●		○	○
	I11IR040ISO6025	11IR-0.40ISO-CP6025	0.40	1/4"	11	0.02	0.8	0.4	●	●	●		○	○
	I11IR050ISO6025	11IR-0.50ISO-CP6025	0.50	1/4"	11	0.03	0.6	0.6	●	●	●		○	○
	I11IL050ISO6025	11IL-0.50ISO-CP6025	0.50	1/4"	11	0.03	0.6	0.6	●	●	●		○	○
	I11IR070ISO6025	11IR-0.70ISO-CP6025	0.70	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
	I11IR075ISO6025	11IR-0.75ISO-CP6025	0.75	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
	I11IL075ISO6025	11IL-0.75ISO-CP6025	0.75	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
	I11IR080ISO6025	11IR-0.80ISO-CP6025	0.80	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
	I11IR100ISO6025	11IR-1.00ISO-CP6025	1.00	1/4"	11	0.05	0.6	0.7	●	●	●		○	○
	I11IL100ISO6025	11IL-1.00ISO-CP6025	1.00	1/4"	11	0.05	0.6	0.7	●	●	●		○	○
	I11IR125ISO6025	11IR-1.25ISO-CP6025	1.25	1/4"	11	0.07	0.8	0.8	●	●	●		○	○
	I11IL125ISO6025	11IL-1.25ISO-CP6025	1.25	1/4"	11	0.07	0.8	0.8	●	●	●		○	○
	I11IR150ISO6025	11IR-1.50ISO-CP6025	1.50	1/4"	11	0.08	0.8	1.0	●	●	●		○	○
	I11IL150ISO6025	11IL-1.50ISO-CP6025	1.50	1/4"	11	0.08	0.8	1.0	●	●	●		○	○
	I16IR075ISO6025	16IR-0.75ISO-CP6025	0.75	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
	I16IL075ISO6025	16IL-0.75ISO-CP6025	0.75	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
	I16IR080ISO6025	16IR-0.80ISO-CP6025	0.80	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
	I16IL080ISO6025	16IL-0.80ISO-CP6025	0.80	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
	I16IR100ISO6025	16IR-1.00ISO-CP6025	1.00	3/8"	16	0.05	0.6	0.7	●	●	●		○	○
	I16IL100ISO6025	16IL-1.00ISO-CP6025	1.00	3/8"	16	0.05	0.6	0.7	●	●	●		○	○
	I16IR125ISO6025	16IR-1.25ISO-CP6025	1.25	3/8"	16	0.07	0.8	0.9	●	●	●		○	○
	I16IL125ISO6025	16IL-1.25ISO-CP6025	1.25	3/8"	16	0.07	0.8	0.9	●	●	●		○	○
	I16IR150ISO6025	16IR-1.50ISO-CP6025	1.50	3/8"	16	0.10	0.8	1.0	●	●	●		○	○
	I16IL150ISO6025	16IL-1.50ISO-CP6025	1.50	3/8"	16	0.10	0.8	1.0	●	●	●		○	○
	I16IR175ISO6025	16IR-1.75ISO-CP6025	1.75	3/8"	16	0.12	0.9	1.2	●	●	●		○	○
	I16IL175ISO6025	16IL-1.75ISO-CP6025	1.75	3/8"	16	0.12	0.9	1.2	●	●	●		○	○

(continued)

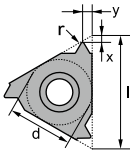
Thread Turning Inserts - ISO Metric 60° 螺紋車刀片 - ISO 公制 60° 螺紋

Internal 內徑

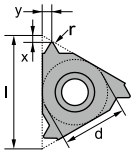


Tolerance Class : 6g/6H

Regular Type

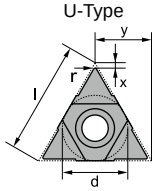


Right hand



Left hand

U-Type

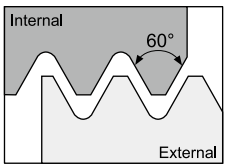


Right & Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TP (mm)	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I16IR200ISO6025	16IR-2.00ISO-CP6025	2.00	3/8"	16	0.13	1.0	1.3	●	●	●		○	○
	I16IL200ISO6025	16IL-2.00ISO-CP6025	2.00	3/8"	16	0.13	1.0	1.3	●	●	●		○	○
	I16IR250ISO6025	16IR-2.50ISO-CP6025	2.50	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
	I16IL250ISO6025	16IL-2.50ISO-CP6025	2.50	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
	I16IR300ISO6025	16IR-3.00ISO-CP6025	3.00	3/8"	16	0.18	1.1	1.5	●	●	●		○	○
	I16IL300ISO6025	16IL-3.00ISO-CP6025	3.00	3/8"	16	0.18	1.1	1.5	●	●	●		○	○
	I22IR350ISO6025	22IR-3.50ISO-CP6025	3.50	1/2"	22	0.22	1.6	2.3	●	●	●		○	○
	I22IL350ISO6025	22IL-3.50ISO-CP6025	3.50	1/2"	22	0.22	1.6	2.3	●	●	●		○	○
	I22IR400ISO6025	22IR-4.00ISO-CP6025	4.00	1/2"	22	0.25	1.6	2.3	●	●	●		○	○
	I22IL400ISO6025	22IL-4.00ISO-CP6025	4.00	1/2"	22	0.25	1.6	2.3	●	●	●		○	○
	I22IR450ISO6025	22IR-4.50ISO-CP6025	4.50	1/2"	22	0.29	1.6	2.4	●	●	●		○	○
	I22IL450ISO6025	22IL-4.50ISO-CP6025	4.50	1/2"	22	0.29	1.6	2.4	●	●	●		○	○
	I22IR500ISO6025	22IR-5.00ISO-CP6025	5.00	1/2"	22	0.32	1.6	2.3	●	●	●		○	○
	I22IL500ISO6025	22IL-5.00ISO-CP6025	5.00	1/2"	22	0.32	1.6	2.3	●	●	●		○	○
U Type	I22UIRL550ISO6025	22UIRL-5.50ISO-CP6025	5.50	1/2"	22	0.35	2.4	11.0	●	●	●		○	○
	I22UIRL600ISO6025	22UIRL-6.00ISO-CP6025	6.00	1/2"	22	0.39	2.1	11.0	●	●	●		○	○

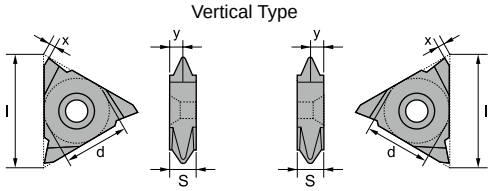
Thread Turning Inserts - ISO Metric 60° Vertical 立式螺紋車刀片 - ISO 公制 60° 螺紋

External 外徑



Tolerance Class : 6g/6H

Vertical Type

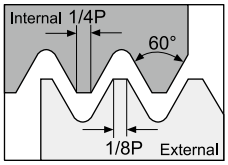


Right hand Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TP (mm)	d	l	x	y	S	P	M	K	N	S	H
Vertical Type	I16VER050ISO6025	16VER-0.50ISO-CP6025	0.50	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VEL050ISO6025	16VEL-0.50ISO-CP6025	0.50	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VER075ISO6025	16VER-0.75ISO-CP6025	0.75	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VEL075ISO6025	16VEL-0.75ISO-CP6025	0.75	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VER080ISO6025	16VER-0.80ISO-CP6025	0.80	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VEL080ISO6025	16VEL-0.80ISO-CP6025	0.80	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VER100ISO6025	16VER-1.00ISO-CP6025	1.00	3/8"	16	1.0	0.7	3.18	●	●	●		○	○
	I16VEL100ISO6025	16VEL-1.00ISO-CP6025	1.00	3/8"	16	1.0	0.7	3.18	●	●	●		○	○
	I16VER125ISO6025	16VER-1.25ISO-CP6025	1.25	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VEL125ISO6025	16VEL-1.25ISO-CP6025	1.25	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VER150ISO6025	16VER-1.50ISO-CP6025	1.50	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VEL150ISO6025	16VEL-1.50ISO-CP6025	1.50	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VER175ISO6025	16VER-1.75ISO-CP6025	1.75	3/8"	16	1.0	1.2	3.18	●	●	●		○	○
	I16VEL175ISO6025	16VEL-1.75ISO-CP6025	1.75	3/8"	16	1.0	1.2	3.18	●	●	●		○	○
	I16VER200ISO6025	16VER-2.00ISO-CP6025	2.00	3/8"	16	1.0	1.3	3.18	●	●	●		○	○
	I16VEL200ISO6025	16VEL-2.00ISO-CP6025	2.00	3/8"	16	1.0	1.3	3.18	●	●	●		○	○
	I16VER250ISO6025	16VER-2.50ISO-CP6025	2.50	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VEL250ISO6025	16VEL-2.50ISO-CP6025	2.50	3/8"	16	1.0	1.5	3.18	●	●	●		○	○

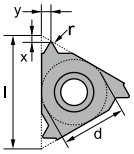
Thread Turning Inserts - American UN 60° 螺紋車刀片 - 美制 UN 60° 螺紋

External 外徑

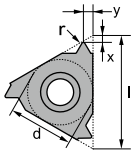


Tolerance Class : 2A/2B

Regular Type



Right hand



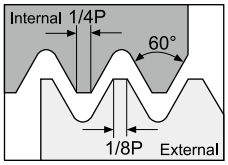
Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I11ER32UN6025	11ER-32UN-CP6025	32	1/4"	11	0.09	0.6	0.6	●	●	●		○	○
	I11ER28UN6025	11ER-28UN-CP6025	28	1/4"	11	0.10	0.6	0.7	●	●	●		○	○
	I11EL28UN6025	11EL-28UN-CP6025	28	1/4"	11	0.10	0.6	0.7	●	●	●		○	○
	I11ER18UN6025	11ER-18UN-CP6025	18	1/4"	11	0.17	0.8	1.0	●	●	●		○	○
	I11ER16UN6025	11ER-16UN-CP6025	16	1/4"	11	0.18	0.9	1.1	●	●	●		○	○
	I16ER40UN6025	16ER-40UN-CP6025	40	3/8"	16	0.06	0.6	0.6	●	●	●		○	○
	I16EL40UN6025	16EL-40UN-CP6025	40	3/8"	16	0.06	0.6	0.6	●	●	●		○	○
	I16ER36UN6025	16ER-36UN-CP6025	36	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
	I16EL36UN6025	16EL-36UN-CP6025	36	3/8"	16	0.07	0.6	0.6	●	●	●		○	○
	I16ER32UN6025	16ER-32UN-CP6025	32	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
	I16EL32UN6025	16EL-32UN-CP6025	32	3/8"	16	0.09	0.6	0.6	●	●	●		○	○
	I16ER28UN6025	16ER-28UN-CP6025	28	3/8"	16	0.10	0.6	0.7	●	●	●		○	○
	I16EL28UN6025	16EL-28UN-CP6025	28	3/8"	16	0.10	0.6	0.7	●	●	●		○	○
	I16ER26UN6025	16ER-26UN-CP6025	26	3/8"	16	0.11	0.7	0.8	●	●	●		○	○
	I16EL26UN6025	16EL-26UN-CP6025	26	3/8"	16	0.11	0.7	0.8	●	●	●		○	○
	I16ER24UN6025	16ER-24UN-CP6025	24	3/8"	16	0.12	0.7	0.8	●	●	●		○	○
	I16EL24UN6025	16EL-24UN-CP6025	24	3/8"	16	0.12	0.7	0.8	●	●	●		○	○
	I16ER20UN6025	16ER-20UN-CP6025	20	3/8"	16	0.15	0.8	0.9	●	●	●		○	○
	I16EL20UN6025	16EL-20UN-CP6025	20	3/8"	16	0.15	0.8	0.9	●	●	●		○	○
	I16ER18UN6025	16ER-18UN-CP6025	18	3/8"	16	0.17	0.8	1.0	●	●	●		○	○
	I16EL18UN6025	16EL-18UN-CP6025	18	3/8"	16	0.17	0.8	1.0	●	●	●		○	○
	I16ER16UN6025	16ER-16UN-CP6025	16	3/8"	16	0.18	0.9	1.1	●	●	●		○	○
	I16EL16UN6025	16EL-16UN-CP6025	16	3/8"	16	0.18	0.9	1.1	●	●	●		○	○

(continued)

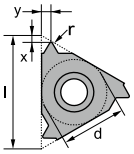
Thread Turning Inserts - American UN 60° 螺紋車刀片 - 美制 UN 60° 螺紋

External 外徑

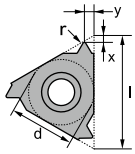


Tolerance Class : 2A/2B

Regular Type



Right hand

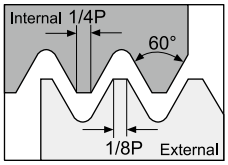


Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I16ER14UN6025	16ER-14UN-CP6025	14	3/8"	16	0.22	1.0	1.2	●	●	●		○	○
	I16EL14UN6025	16EL-14UN-CP6025	14	3/8"	16	0.22	1.0	1.2	●	●	●		○	○
	I16ER13UN6025	16ER-13UN-CP6025	13	3/8"	16	0.24	1.0	1.3	●	●	●		○	○
	I16EL13UN6025	16EL-13UN-CP6025	13	3/8"	16	0.24	1.0	1.3	●	●	●		○	○
	I16ER12UN6025	16ER-12UN-CP6025	12	3/8"	16	0.26	1.1	1.4	●	●	●		○	○
	I16EL12UN6025	16EL-12UN-CP6025	12	3/8"	16	0.26	1.1	1.4	●	●	●		○	○
	I16ER115UN6025	16ER-11.5UN-CP6025	11.5	3/8"	16	0.27	1.1	1.5	●	●	●		○	○
	I16EL115UN6025	16EL-11.5UN-CP6025	11.5	3/8"	16	0.27	1.1	1.5	●	●	●		○	○
	I16ER11UN6025	16ER-11UN-CP6025	11	3/8"	16	0.28	1.1	1.5	●	●	●		○	○
	I16EL11UN6025	16EL-11UN-CP6025	11	3/8"	16	0.28	1.1	1.5	●	●	●		○	○
	I16ER10UN6025	16ER-10UN-CP6025	10	3/8"	16	0.32	1.1	1.5	●	●	●		○	○
	I16EL10UN6025	16EL-10UN-CP6025	10	3/8"	16	0.32	1.1	1.5	●	●	●		○	○
	I16ER9UN6025	16ER-9UN-CP6025	9	3/8"	16	0.36	1.2	1.7	●	●	●		○	○
	I16EL9UN6025	16EL-9UN-CP6025	9	3/8"	16	0.36	1.2	1.7	●	●	●		○	○
	I16ER8UN6025	16ER-8UN-CP6025	8	3/8"	16	0.41	1.2	1.6	●	●	●		○	○
	I16EL8UN6025	16EL-8UN-CP6025	8	3/8"	16	0.41	1.2	1.6	●	●	●		○	○
	I22ER7UN6025	22ER-7UN-CP6025	7	1/2"	22	0.47	1.6	2.3	●	●	●		○	○
	I22ER6UN6025	22ER-6UN-CP6025	6	1/2"	22	0.67	1.6	2.3	●	●	●		○	○
	I22EL6UN6025	22EL-6UN-CP6025	6	1/2"	22	0.67	1.6	2.3	●	●	●		○	○
	I22ER5UN6025	22ER-5UN-CP6025	5	1/2"	22	0.67	1.7	2.5	●	●	●		○	○

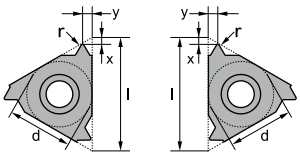
Thread Turning Inserts - American UN 60° 螺紋車刀片 - 美制 UN 60° 螺紋

Internal 內徑



Tolerance Class : 2A/2B

Regular Type



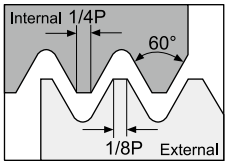
Right hand Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I11IR32UN6025	11IR-32UN-CP6025	32	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
	I11IL32UN6025	11IL-32UN-CP6025	32	1/4"	11	0.04	0.6	0.6	●	●	●		○	○
	I11IR28UN6025	11IR-28UN-CP6025	28	1/4"	11	0.04	0.6	0.7	●	●	●		○	○
	I11IL28UN6025	11IL-28UN-CP6025	28	1/4"	11	0.04	0.6	0.7	●	●	●		○	○
	I11IR24UN6025	11IR-24UN-CP6025	24	1/4"	11	0.05	0.7	0.8	●	●	●		○	○
	I11IL24UN6025	11IL-24UN-CP6025	24	1/4"	11	0.05	0.7	0.8	●	●	●		○	○
	I11IR20UN6025	11IR-20UN-CP6025	20	1/4"	11	0.06	0.8	0.9	●	●	●		○	○
	I11IL20UN6025	11IL-20UN-CP6025	20	1/4"	11	0.06	0.8	0.9	●	●	●		○	○
	I11IR18UN6025	11IR-18UN-CP6025	18	1/4"	11	0.07	0.8	1.0	●	●	●		○	○
	I11IL18UN6025	11IL-18UN-CP6025	18	1/4"	11	0.07	0.8	1.0	●	●	●		○	○
	I11IR16UN6025	11IR-16UN-CP6025	16	1/4"	11	0.09	0.9	1.1	●	●	●		○	○
	I11IL16UN6025	11IL-16UN-CP6025	16	1/4"	11	0.09	0.9	1.1	●	●	●		○	○
	I16IR40UN6025	16IR-40UN-CP6025	40	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
	I16IL40UN6025	16IL-40UN-CP6025	40	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
	I16IR36UN6025	16IR-36UN-CP6025	36	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
	I16IL36UN6025	16IL-36UN-CP6025	36	3/8"	16	0.03	0.6	0.6	●	●	●		○	○
	I16IR32UN6025	16IR-32UN-CP6025	32	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
	I16IL32UN6025	16IL-32UN-CP6025	32	3/8"	16	0.04	0.6	0.6	●	●	●		○	○
	I16IR28UN6025	16IR-28UN-CP6025	28	3/8"	16	0.04	0.6	0.7	●	●	●		○	○
	I16IL28UN6025	16IL-28UN-CP6025	28	3/8"	16	0.04	0.6	0.7	●	●	●		○	○
	I16IR26UN6025	16IR-26UN-CP6025	26	3/8"	16	0.04	0.7	0.8	●	●	●		○	○
	I16IL26UN6025	16IL-26UN-CP6025	26	3/8"	16	0.04	0.7	0.8	●	●	●		○	○
	I16IR24UN6025	16IR-24UN-CP6025	24	3/8"	16	0.05	0.7	0.8	●	●	●		○	○
	I16IL24UN6025	16IL-24UN-CP6025	24	3/8"	16	0.05	0.7	0.8	●	●	●		○	○
	I16IR20UN6025	16IR-20UN-CP6025	20	3/8"	16	0.06	0.8	0.9	●	●	●		○	○
	I16IL20UN6025	16IL-20UN-CP6025	20	3/8"	16	0.06	0.8	0.9	●	●	●		○	○

(continued)

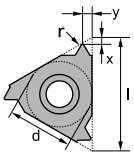
Thread Turning Inserts - American UN 60° 螺紋車刀片 - 美制 UN 60° 螺紋

Internal 內徑

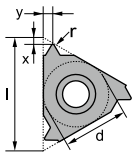


Tolerance Class : 2A/2B

Regular Type



Right hand

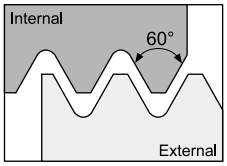


Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TPI	d	l	r	x	y	P	M	K	N	S	H
Regular Type	I16IR18UN6025	16IR-18UN-CP6025	18	3/8"	16	0.07	0.8	1.0	●	●	●		○	○
	I16IL18UN6025	16IL-18UN-CP6025	18	3/8"	16	0.07	0.8	1.0	●	●	●		○	○
	I16IR16UN6025	16IR-16UN-CP6025	16	3/8"	16	0.09	0.9	1.1	●	●	●		○	○
	I16IL16UN6025	16IL-16UN-CP6025	16	3/8"	16	0.09	0.9	1.1	●	●	●		○	○
	I16IR14UN6025	16IR-14UN-CP6025	14	3/8"	16	0.10	0.9	1.2	●	●	●		○	○
	I16IL14UN6025	16IL-14UN-CP6025	14	3/8"	16	0.10	0.9	1.2	●	●	●		○	○
	I16IR13UN6025	16IR-13UN-CP6025	13	3/8"	16	0.11	1.0	1.3	●	●	●		○	○
	I16IL13UN6025	16IL-13UN-CP6025	13	3/8"	16	0.11	1.0	1.3	●	●	●		○	○
	I16IR12UN6025	16IR-12UN-CP6025	12	3/8"	16	0.12	1.1	1.4	●	●	●		○	○
	I16IL12UN6025	16IL-12UN-CP6025	12	3/8"	16	0.12	1.1	1.4	●	●	●		○	○
	I16IR115UN6025	16IR-11.5UN-CP6025	11.5	3/8"	16	0.13	1.1	1.5	●	●	●		○	○
	I16IL115UN6025	16IL-11.5UN-CP6025	11.5	3/8"	16	0.13	1.1	1.5	●	●	●		○	○
	I16IR11UN6025	16IR-11UN-CP6025	11	3/8"	16	0.14	1.1	1.5	●	●	●		○	○
	I16IL11UN6025	16IL-11UN-CP6025	11	3/8"	16	0.14	1.1	1.5	●	●	●		○	○
	I16IR10UN6025	16IR-10UN-CP6025	10	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
	I16IL10UN6025	16IL-10UN-CP6025	10	3/8"	16	0.15	1.1	1.5	●	●	●		○	○
	I16IR9UN6025	16IR-9UN-CP6025	9	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
	I16IL9UN6025	16IL-9UN-CP6025	9	3/8"	16	0.17	1.2	1.7	●	●	●		○	○
	I16IR8UN6025	16IR-8UN-CP6025	8	3/8"	16	0.19	1.1	1.5	●	●	●		○	○
	I16IL8UN6025	16IL-8UN-CP6025	8	3/8"	16	0.19	1.1	1.5	●	●	●		○	○
	I22IR7UN6025	22IR-7UN-CP6025	7	1/2"	22	0.22	1.6	2.3	●	●	●		○	○
	I22IR6UN6025	22IR-6UN-CP6025	6	1/2"	22	0.26	1.6	2.3	●	●	●		○	○
	I22IL6UN6025	22IL-6UN-CP6025	6	1/2"	22	0.26	1.6	2.3	●	●	●		○	○
	I22IR5UN6025	22IR-5UN-CP6025	5	1/2"	22	0.32	1.6	2.3	●	●	●		○	○

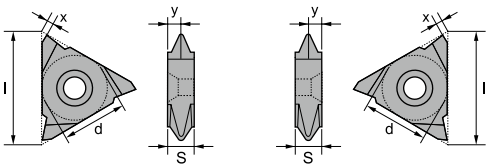
Thread Turning Inserts - American UN 60° Vertical 立式螺紋車刀片 - 美制 UN 60° 螺紋

External 外徑



Tolerance Class : 6g/6H

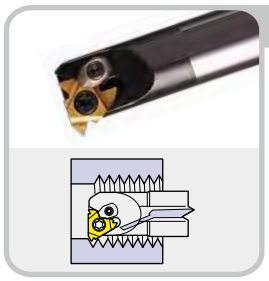
Vertical Type



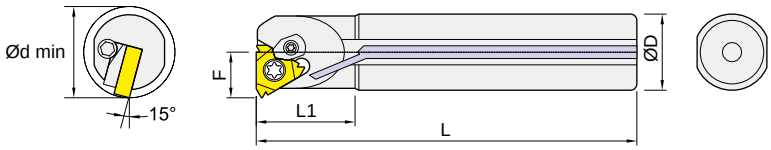
Right hand　　Left hand

Insert	Order No.	Designation	Pitch	Dimensions (mm)					Working Material					
			TPI	d	l	x	y	S	P	M	K	N	S	H
Vertical Type	I16VER32UN6025	16VER-32UN-CP6025	32	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VEL32UN6025	16VEL-32UN-CP6025	32	3/8"	16	1.0	0.6	3.18	●	●	●		○	○
	I16VER28UN6025	16VER-28UN-CP6025	28	3/8"	16	1.0	0.7	3.18	●	●	●		○	○
	I16VEL28UN6025	16VEL-28UN-CP6025	28	3/8"	16	1.0	0.7	3.18	●	●	●		○	○
	I16VER24UN6025	16VER-24UN-CP6025	24	3/8"	16	1.0	0.8	3.18	●	●	●		○	○
	I16VEL24UN6025	16VEL-24UN-CP6025	24	3/8"	16	1.0	0.8	3.18	●	●	●		○	○
	I16VER20UN6025	16VER-20UN-CP6025	20	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VEL20UN6025	16VEL-20UN-CP6025	20	3/8"	16	1.0	0.9	3.18	●	●	●		○	○
	I16VER18UN6025	16VER-18UN-CP6025	18	3/8"	16	1.0	1.0	3.18	●	●	●		○	○
	I16VEL18UN6025	16VEL-18UN-CP6025	18	3/8"	16	1.0	1.0	3.18	●	●	●		○	○
	I16VER16UN6025	16VER-16UN-CP6025	16	3/8"	16	1.0	1.1	3.18	●	●	●		○	○
	I16VEL16UN6025	16VEL-16UN-CP6025	16	3/8"	16	1.0	1.1	3.18	●	●	●		○	○
	I16VER14UN6025	16VER-14UN-CP6025	14	3/8"	16	1.0	1.2	3.18	●	●	●		○	○
	I16VEL14UN6025	16VEL-14UN-CP6025	14	3/8"	16	1.0	1.2	3.18	●	●	●		○	○
	I16VER12UN6025	16VER-12UN-CP6025	12	3/8"	16	1.0	1.4	3.18	●	●	●		○	○
	I16VEL12UN6025	16VEL-12UN-CP6025	12	3/8"	16	1.0	1.4	3.18	●	●	●		○	○
	I16VER10UN6025	16VER-10UN-CP6025	10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○
	I16VEL10UN6025	16VEL-10UN-CP6025	10	3/8"	16	1.0	1.5	3.18	●	●	●		○	○

Internal Thread Turning Tool Holders 內徑螺紋車刀桿



SN..CL



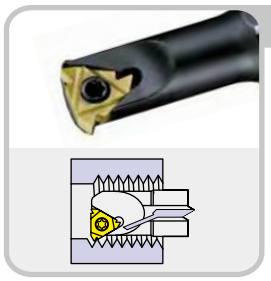
Right-hand shown

Order No.	Dimensions (mm)					Coolant	Insert	Spare parts
	D	L	L1	F	d min			
ISN$^{R}_{L}$0020R16CL	20	200	40	12	24		16IR 16IL	①
ISN$^{R}_{L}$0025R16CL	25	200	45	14.5	29			
ISN$^{R}_{L}$0032S16CL	32	250	45	18.5	36			
ISN$^{R}_{L}$A0020R16CL	20	200	40	12	24	●		
ISN$^{R}_{L}$A0025R16CL	25	200	45	14.5	29	●		
ISN$^{R}_{L}$A0032S16CL	32	250	45	18.5	36	●		
ISN$^{R}_{L}$0020R22CL	20	200	40	14	28		22IR 22IL	②
ISN$^{R}_{L}$0025R22CL	25	200	45	16.5	32			③
ISN$^{R}_{L}$0032S22CL	32	250	45	20	40			
ISN$^{R}_{L}$A0020R22CL	20	200	40	14	28	●		②
ISN$^{R}_{L}$A0025R22CL	25	200	45	16.5	32	●		③
ISN$^{R}_{L}$A0032S22CL	32	250	45	20	40	●		

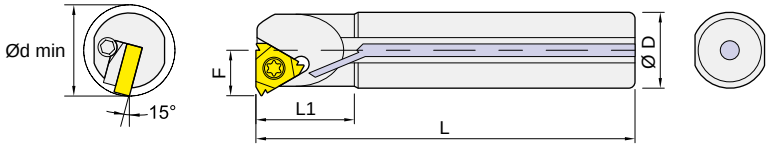
Spare parts	Screw	Wrench	Shim	Screw	Wrench	Clamp	Wrench
①	IMS3512A	–	IGXN16 or IGXE16	IHTM309	IPL25	IMC353V	ITK15
②	IMS4511A	ITK20	–	–	–	IMC353V	ITK15
③	IMS4516A	ITK20	IGXN22 or IGXE22	IHTM412	IPL30	IMC353V	ITK15

※ SNR right hand tools shim is IGXN.., SNL left hand tools shim is IGXE...

Internal Thread Turning Tool Holders 內徑螺紋車刀桿



SN



Right-hand shown

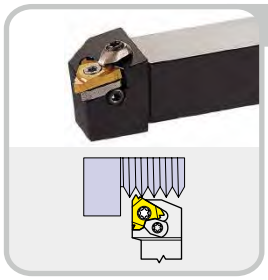
Order No.	Dimensions (mm)					Coolant	Insert	Spare parts
	D	L	L1	F	d min			
ISN$^{R}_{L}$0010K11S10	10	125	22	6.5	13		11IR 11IL	①
ISN$^{R}_{L}$0012M11S12	12	150	26	8	16			
ISN$^{R}_{L}$A0010K11S10	10	125	22	6.5	13	●		
ISN$^{R}_{L}$A0012M11S12	12	150	26	8	16	●		
ISN$^{R}_{L}$0016Q16	16	180	36	10	19		16IR 16IL	②
ISN$^{R}_{L}$0020R16	20	200	40	12	24			③
ISN$^{R}_{L}$0025R16	25	200	45	14.5	29			
ISN$^{R}_{L}$0032S16	32	250	45	18.5	36			
ISN$^{R}_{L}$A0016Q16	16	180	36	10	19	●		②
ISN$^{R}_{L}$A0020R16	20	200	40	12	24	●		③
ISN$^{R}_{L}$A0025R16	25	200	45	14.5	29	●		
ISN$^{R}_{L}$A0032S16	32	250	45	18.5	36	●		
ISN$^{R}_{L}$0020R22	20	200	40	14	28		22IR 22IL	④
ISN$^{R}_{L}$0025R22	25	200	45	16.5	32			⑤
ISN$^{R}_{L}$0025S22	25	250	45	16.5	32			
ISN$^{R}_{L}$0032S22	32	250	45	20	40			
ISN$^{R}_{L}$A0020R22	20	200	40	14	28	●		④
ISN$^{R}_{L}$A0025R22	25	200	45	16.5	32	●		⑤
ISN$^{R}_{L}$A0025S22	25	250	45	16.5	32	●		
ISN$^{R}_{L}$A0032S22	32	250	45	20	40	●		

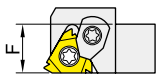
Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS2507G	–	–	–	ITK08
②	IMS3509A	–	–	–	ITK15
③	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15
④	IMS4511A	–	–	–	ITK20
⑤	IMS4516A	IGXN22 or IGXE22	IHTM412	IPL30	ITK20

※ SNR right hand tools shim is IGXN.., SNL left hand tools shim is IGXE...

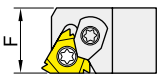
External Thread Turning Tool Holders 外徑螺紋車刀桿

SE..CL

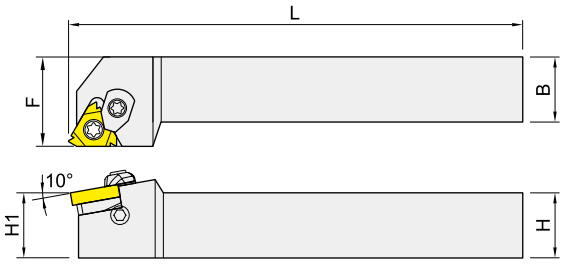




SER1010K16HC
SER1212K16HC



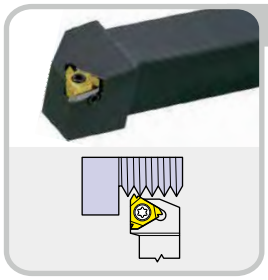
SER1216K16HC
SER1616K16HC



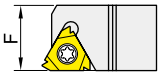
Right-hand shown

Order No.	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISE$^{R}_{L}$1010K16HC	10	10	125	10	16ER 16EL	①
ISE$^{R}_{L}$1212K16HC	12	12	125	12		
ISE$^{R}_{L}$1216K16HC	12	16	125	16		
ISE$^{R}_{L}$1616K16HC	16	16	125	16		②
ISE$^{R}_{L}$1616K16CL	16	16	125	20		
ISE$^{R}_{L}$2020K16CL	20	20	125	25		
ISE$^{R}_{L}$2525M16CL	25	25	150	32		
ISE$^{R}_{L}$3232P16CL	32	32	170	40		

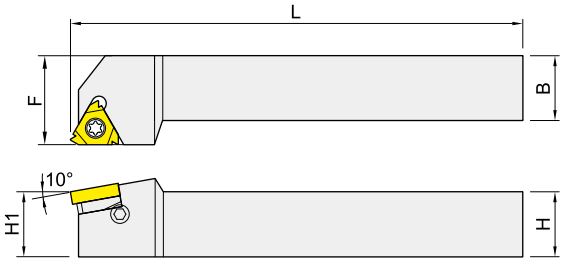
SE



SER1010K16
SER1212K16



SER1216K16
SER1616K16H



Right-hand shown

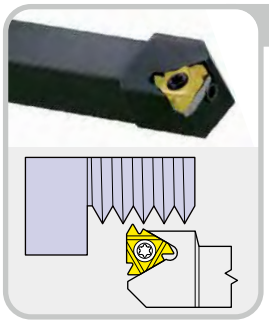
Order No.	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISE$^{R}_{L}$1216K16	12	16	125	16	16ER 16EL	③
ISE$^{R}_{L}$1010K16H	10	10	125	10		
ISE$^{R}_{L}$1212K16H	12	12	125	12		
ISE$^{R}_{L}$1616K16H	16	16	125	16		④
ISE$^{R}_{L}$1616K16	16	16	125	20		
ISE$^{R}_{L}$2020K16	20	20	125	25		
ISE$^{R}_{L}$2525M16	25	25	150	32		
ISE$^{R}_{L}$3232P16	32	32	170	40		
ISE$^{R}_{L}$2020K22	20	20	125	25	22ER 22IR	⑤
ISE$^{R}_{L}$2525M22	25	25	150	32		
ISE$^{R}_{L}$3232P22	32	32	170	40		

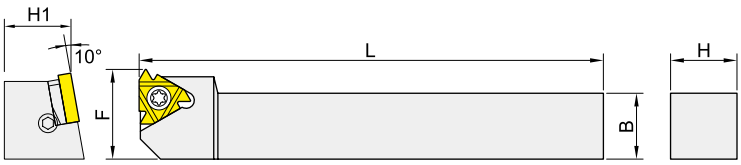
Spare parts	Screw	Wrench	Shim	Screw	Wrench	Clamp	Wrench
①	MS3509A	–	–	–	–	IMC353V	ITK15
②	MS3512A	–	IGXN16 or IGXE16	IHTM309	IPL25	IMC353V	ITK15
③	MS3509A	ITK15	–	–	–	–	–
④	MS3512A	ITK15	IGXN16 or IGXE16	IHTM309	IPL25	–	–
⑤	MS4516A	ITK20	IGXN22 or IGXE22	IHTM412	IPL30	–	–

※ SER right hand tools shim is IGXE.., SEL left hand tools shim is IGXN...

External Thread Turning Tool Holders 外徑螺紋車刀桿

SKE





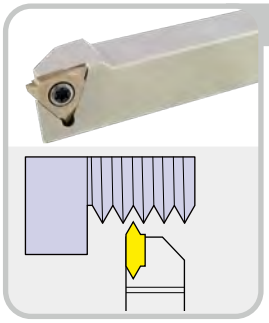
Right-hand shown

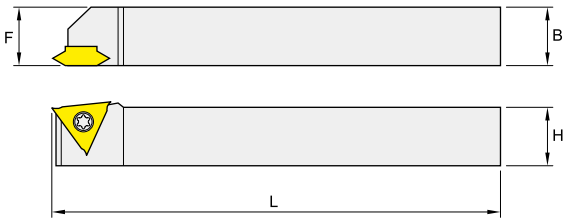
Order No.	Dimensions (mm)				Insert	Spare parts
	H(H1)	B	L	F		
ISKE$^{R}_{L}$1212K16	12	12	125	18	16ER 16EL	①
ISKE$^{R}_{L}$1616K16	16	16	125	22		②
ISKE$^{R}_{L}$2020K16	20	20	125	27		
ISKE$^{R}_{L}$2525M16	25	25	150	34		

Spare parts	Screw	Shim	Screw	Wrench	Wrench
①	IMS3509A	-	-	-	ITK15
②	IMS3512A	IGXN16 or IGXE16	IHTM309	IPL25	ITK15

※ SKER right hand tools shim is IGXE16, SKEL left hand tools shim is IGXN16.

KTTX





Right-hand shown

Order No.	Dimensions (mm)				Insert	Screw	Wrench
	H	B	L	F			
IKTTX$^{R}_{L}$1010K16F	10	10	125	10	16VER 16VEL	IBFTX0407	ITK15
IKTTX$^{R}_{L}$1212K16F	12	12	125	12			
IKTTX$^{R}_{L}$1616K16F	16	16	125	16			
IKTTX$^{R}_{L}$2020K16F	20	20	125	20			
IKTTX$^{R}_{L}$2525K16F	25	25	150	25			

Depth of Cut And Number of Passes 切深與加工步數

ISO Metric 60° External 外徑

No. of Passes	Pitch (mm)															
	0.5	0.75	0.8	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
	Radial infeed per pass (mm)															
1	0.102	0.178	0.178	0.178	0.178	0.229	0.229	0.254	0.279	0.279	0.330	0.330	0.381	0.406	0.432	0.457
2	0.102	0.152	0.152	0.178	0.178	0.203	0.203	0.229	0.254	0.254	0.305	0.330	0.330	0.381	0.406	0.432
3	0.076	0.102	0.127	0.127	0.152	0.178	0.152	0.178	0.203	0.203	0.254	0.254	0.279	0.330	0.330	0.356
4	0.076	0.076	0.076	0.102	0.127	0.152	0.152	0.152	0.178	0.178	0.203	0.229	0.229	0.279	0.279	0.305
5	**0.356**	**0.508**	**0.533**	0.076	0.102	0.127	0.127	0.152	0.152	0.152	0.178	0.178	0.229	0.229	0.229	0.279
6				**0.660**	0.076	0.076	0.102	0.127	0.127	0.152	0.178	0.178	0.203	0.229	0.229	0.229
7					**0.813**	**0.965**	0.102	0.102	0.127	0.127	0.152	0.152	0.178	0.203	0.203	0.229
8							0.076	0.076	0.102	0.127	0.152	0.152	0.178	0.178	0.178	0.203
9							**1.143**	**1.270**	0.102	0.127	0.152	0.152	0.152	0.178	0.178	0.203
10									0.076	0.102	0.127	0.127	0.152	0.178	0.178	0.178
11									**1.600**	0.102	0.102	0.127	0.152	0.152	0.152	0.178
12										0.076	0.076	0.127	0.127	0.152	0.152	0.152
13										**1.880**	**2.210**	0.102	0.127	0.127	0.127	0.152
14												0.076	0.102	0.102	0.127	0.152
15												**2.515**	**2.819**	**3.124**	0.127	0.127
16															0.102	0.102
															3.429	**3.734**

Last pass equals total depth of thread.

ISO Metric 60° Internal 內徑

No. of Passes	Pitch (mm)														
	0.5	0.75	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
	Radial infeed per pass (mm)														
1	0.102	0.178	0.178	0.203	0.254	0.229	0.254	0.279	0.279	0.305	0.330	0.356	0.381	0.381	0.406
2	0.102	0.127	0.152	0.178	0.203	0.203	0.229	0.229	0.229	0.279	0.305	0.330	0.356	0.356	0.406
3	0.076	0.102	0.102	0.127	0.152	0.152	0.178	0.178	0.203	0.229	0.229	0.279	0.305	0.305	0.356
4	0.076	0.076	0.102	0.102	0.102	0.127	0.152	0.152	0.152	0.203	0.203	0.229	0.254	0.254	0.279
5	**0.356**	**0.483**	0.076	0.102	0.102	0.102	0.127	0.152	0.152	0.178	0.178	0.203	0.229	0.229	0.229
6			**0.610**	0.076	0.076	0.102	0.102	0.127	0.152	0.152	0.152	0.178	0.203	0.203	0.229
7				**0.787**	**0.889**	0.102	0.102	0.102	0.127	0.152	0.152	0.152	0.178	0.178	0.203
8						0.076	0.076	0.102	0.102	0.152	0.152	0.152	0.152	0.178	0.178
9						**1.092**	**1.219**	0.102	0.102	0.127	0.127	0.152	0.152	0.152	0.178
10								0.076	0.102	0.102	0.127	0.152	0.152	0.152	0.152
11								**1.499**	0.102	0.102	0.102	0.127	0.152	0.152	0.152
12									0.076	0.076	0.102	0.127	0.152	0.152	0.152
13									**1.778**	**2.057**	0.102	0.102	0.127	0.152	0.152
14											0.076	0.102	0.102	0.127	0.152
15											**2.337**	**2.642**	**2.896**	0.127	0.127
16														0.102	0.102
														3.200	**3.454**

Last pass equals total depth of thread.

Depth of Cut And Number of Passes 切深與加工步數

Unified(UN) 60° External 外徑

No. of Passes	TPI												
	32	28	24	20	18	16	14	13	12	11	10	9	8
	Radial infeed per pass (mm)												
1	0.178	0.178	0.178	0.203	0.229	0.229	0.229	0.254	0.279	0.279	0.279	0.279	0.305
2	0.152	0.152	0.178	0.178	0.203	0.203	0.229	0.229	0.229	0.254	0.229	0.229	0.254
3	0.127	0.127	0.152	0.152	0.152	0.152	0.178	0.178	0.203	0.203	0.203	0.203	0.229
4	0.076	0.102	0.127	0.127	0.152	0.152	0.152	0.152	0.152	0.178	0.178	0.178	0.178
5	**0.533**	0.076	0.076	0.102	0.127	0.127	0.127	0.152	0.152	0.152	0.152	0.152	0.178
6		**0.635**	**0.711**	0.076	0.076	0.102	0.102	0.127	0.152	0.152	0.152	0.152	0.152
7				**0.838**	**0.940**	0.076	0.102	0.102	0.127	0.127	0.152	0.152	0.152
8						**1.041**	0.076	0.076	0.076	0.102	0.127	0.127	0.152
9							**1.194**	**1.270**	**1.372**	0.076	0.102	0.127	0.127
10										**1.499**	0.076	0.102	0.127
11											**1.651**	0.076	0.102
12												**1.778**	0.076
13													**2.032**

Last pass equals total depth of thread.

Unified(UN) 60° Internal 內徑

No. of Passes	TPI												
	32	28	24	20	18	16	14	13	12	11	10	9	8
	Radial infeed per pass (mm)												
1	0.178	0.178	0.178	0.203	0.229	0.229	0.229	0.254	0.279	0.279	0.279	0.279	0.305
2	0.152	0.152	0.152	0.178	0.178	0.178	0.203	0.229	0.229	0.229	0.229	0.229	0.279
3	0.102	0.102	0.152	0.127	0.152	0.152	0.152	0.152	0.178	0.178	0.152	0.178	0.203
4	0.076	0.102	0.102	0.102	0.127	0.127	0.152	0.152	0.152	0.152	0.152	0.152	0.178
5	**0.508**	0.076	0.076	0.102	0.102	0.102	0.102	0.127	0.127	0.152	0.152	0.152	0.152
6		**0.610**	**0.660**	0.076	0.076	0.102	0.102	0.102	0.102	0.127	0.127	0.152	0.152
7				**0.787**	**0.864**	0.076	0.102	0.102	0.102	0.102	0.102	0.127	0.127
8						**0.940**	0.076	0.076	0.076	0.102	0.102	0.102	0.102
9							**1.118**	**1.194**	**1.245**	0.076	0.102	0.102	0.102
10										**1.397**	0.076	0.102	0.102
11											**1.499**	0.076	0.102
12												**1.651**	0.076
13													**1.880**

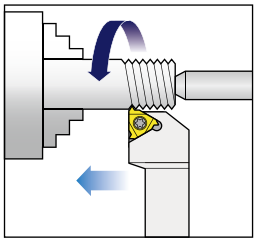
Last pass equals total depth of thread.

Recommended Cutting Conditions 建議切削數據

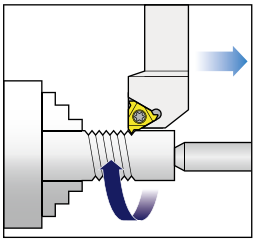
Working Material	Vc (m/min)
Carbon Steel (HB85-225)	60 -100 -140
Stainless 300 Series	40 - 80 - 120
Cast Iron (HB140-220)	60 - 90 -120
Super Alloy	25 - 45 - 65
Hardened Steel	20 - 40 -60

Thread Methods 進刀方法

External Right Hand Thread

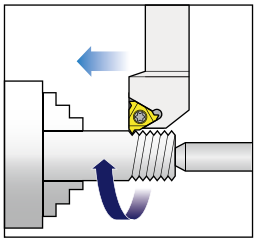


Spindle : Clockwise
Tool : right hand

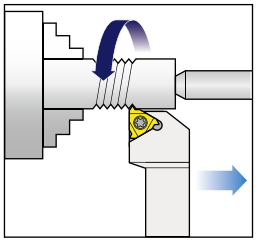


Spindle : Counterclockwise
Tool : left hand

External Left Hand Thread

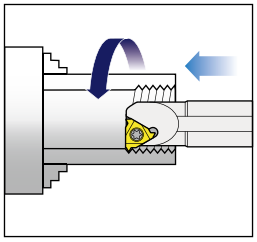


Spindle : Counterclockwise
Tool : left hand

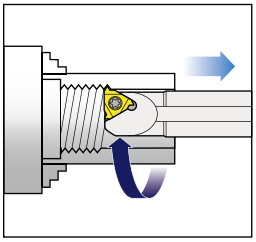


Spindle : Clockwise
Tool : right hand

Internal Right Hand Thread

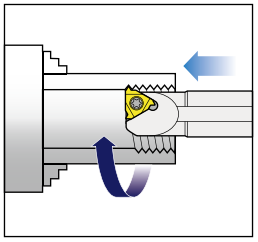


Spindle : Clockwise
Tool : right hand

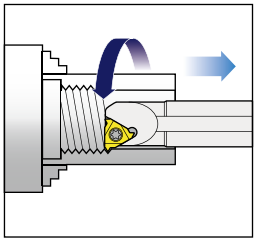


Spindle : Counterclockwise
Tool : left hand

Internal Left Hand Thread

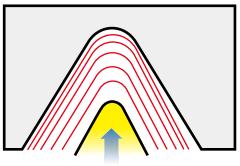
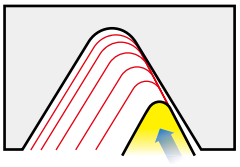
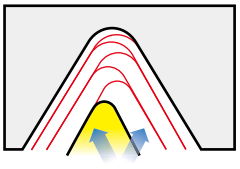


Spindle : Counterclockwise
Tool : left hand



Spindle : Clockwise
Tool : right hand

Infeed Methods 螺紋加工方法

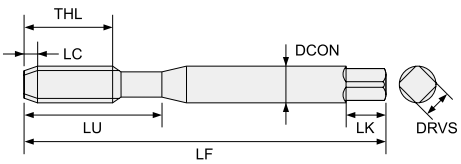
Infeed Methods	Features
 Radial Infeed	• For pitches of less than 1.5mm or 16 T.P.I. • Most commonly used method on manual lathes. • Equal wear on leading and trailing edge. • Good surface finish on trailing edge. • Use on work hardening materials. • Use on short chipping materials.
 Modified Flank Infeed	• For threads greater than 1.5mm or 16 T.P.I. • Reduced cutting pressure on larger pitches. • Reduced chatter. • Directs chip away from the cutting edge. • Displaced in-feed angle improves surface finish. • First choice for internal threading.
 Alternating Flank Infeed	• Recommended for large pitches. • Recommended for long chipping materials. • Method divides the work between both flanks. • Results in equal wear. • Less cutting pressure. • Not available on all lathes.

TKS - Spiral Fluted Taps 全鎢鋼螺旋絲攻

P	M	K	N	S	H
○		●	●		

Specification

- Thread type : ISO M
- For cast iron, brass casting, aluminum casting and steel.
- Recommend for through hole.
- ANAX Smooth Coating
- Vc = 5~15 m/min



JIS

Unit:mm

Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKSNM306010031A	M6×1.00	2~3P	19	29	70	6	7	4.5	3	OH3	5.0
TKSNM308012531A	M8×1.25		22	-	75	6.2	8	5	3		6.75
TKSNM310012531A	M10×1.25		24	-	75	7	8	5.5	3		8.5
TKSNM3100150 31A	M10×1.50		24	-	75	7	8	5.5	3	OH4	8.5
TKSNM312012531A	M12×1.25		29	-	95	8.5	9	6.5	3		10.25
TKSNM312017531A	M12×1.75		29	-	95	8.5	9	6.5	3		10.25

DIN 371

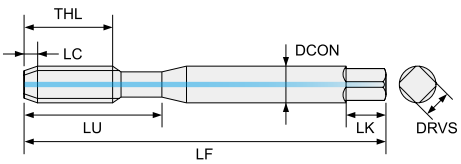
Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKSNM305008033A	M5×0.80	Form C (2~3P)	16	24	70	6	8	4.9	3	6HX	4.2
TKSNM306010033A	M6×1.00		19	29	70	6	8	4.9	3		5.0
TKSNM308012533A	M8×1.25		22	32	75	8	9	6.2	3		6.75
TKSNM310015033A	M10×1.50		24	40	75	10	11	8	3		8.5

TKS - Spiral Fluted Taps with Internal Coolant 全鎢鋼內冷螺旋絲攻

P	M	K	N	S	H
○		●	●		

Specification

- Thread type : ISO M
- For cast iron, brass casting, aluminum casting and steel.
- Recommend for blind hole.
- ANAX Smooth Coating
- Vc = 10~50 m/min



JIS

Unit:mm

Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKSCM306010031A	M6×1.00	2~3P	19	29	70	6	7	4.5	3	OH3	5.0
TKSCM308012531A	M8×1.25		22	-	75	6.2	8	5	3		6.75
TKSCM310012531A	M10×1.25		24	-	75	7	8	5.5	3		8.5
TKSCM3100150 31A	M10×1.50		24	-	75	7	8	5.5	3	OH4	8.5
TKSCM312012531A	M12×1.25		29	-	95	8.5	9	6.5	3		10.25
TKSCM312017531A	M12×1.75		29	-	95	8.5	9	6.5	3		10.25

DIN 371

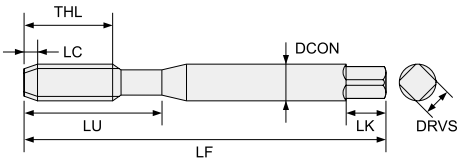
Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKSCM305008033A	M5×0.80	Form C (2~3P)	16	24	70	6	8	4.9	3	6HX	4.2
TKSCM306010033A	M6×1.00		19	29	70	6	8	4.9	3		5.0
TKSCM308012533A	M8×1.25		22	32	75	8	9	6.2	3		6.75
TKSCM310015033A	M10×1.50		24	40	75	10	11	8	3		8.5

TKT - Straight Fluted Taps 全鎢鋼直刃絲攻

P	M	K	N	S	H
		●	●		

Specification

- Thread type : ISO M
- For cast iron, brass casting and aluminum casting.
- Recommend for through hole.
- ANAX Smooth Coating
- Vc = 5~15 m/min



JIS

Unit:mm

Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKTNM403005031A	M3×0.50	3P	11	19	65	4	6	3.2	4	OH3	2.5
TKTNM404007031A	M4×0.70		13	21	65	5	7	4	4		3.3
TKTNM405008031A	M5×0.80		16	24	70	5.5	7	4.5	4		4.2
TKTNM506010031A	M6×1.00		19	29	70	6	7	4.5	5		5.0
TKTNM508010031A	M8×1.00		22	-	75	6.2	8	5	5		7.0
TKTNM508012531A	M8×1.25		22	-	75	6.2	8	5	5		6.75
TKTNM510010031A	M10×1.00		24	-	75	7	8	5.5	5		9.0
TKTNM510015031A	M10×1.50		24	-	75	7	8	5.5	5		8.5
TKTNM512015031A	M12×1.50		29	-	95	8.5	9	6.5	5		10.5
TKTNM512017531A	M12×1.75		29	-	95	8.5	9	6.5	5		10.25
TKTNM616020031A	M16×2.00		32	-	95	12.5	13	10	6	OH4	14

DIN 371

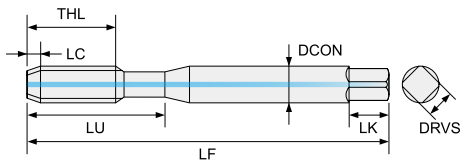
Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKTNM403005053A	M3×0.50	Form D (3.5~5P)	11	19	65	4.5	6	3.4	4	6H	2.5
TKTNM404007053A	M4×0.70		13	21	65	4.5	6	3.4	4		3.3
TKTNM405008053A	M5×0.80		16	24	70	6	8	4.9	4		4.2
TKTNM406010053A	M6×1.00		19	29	70	6	8	4.9	4		5.0
TKTNM508010053A	M8×1.00		22	32	75	8	9	6.2	5		7.0
TKTNM508012553A	M8×1.25		22	32	75	8	9	6.2	5		6.75
TKTNM510010053A	M10×1.00		24	40	75	10	11	8	5		9.0
TKTNM510015053A	M10×1.50		24	40	75	10	11	8	5		8.5
TKTNM512015053A	M12×1.50		29	48	85	12	12	9	5		10.5
TKTNM512017553A	M12×1.75		29	48	85	12	12	9	5		10.25
TKTNM516020053A	M16×2.00		32	48	95	16	15	12	5		14

TKT - Straight Fluted Taps with Internal Coolant 全鎢鋼內冷直刃絲攻

P	M	K	N	S	H
		●	●		

Specification

- Thread type : ISO M
- For cast iron, brass casting and aluminum casting.
- Recommend for blind hole.
- ANAX Smooth Coating
- Vc = 10~50 m/min



JIS

Unit:mm

Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKTCM403005031A	M3×0.50	3P	11	19	65	4	6	3.2	4	OH3	2.5
TKTCM404007031A	M4×0.70		13	21	65	5	7	4	4		3.3
TKTCM405008031A	M5×0.80		16	24	70	5.5	7	4.5	4		4.2
TKTCM506010031A	M6×1.00		19	29	70	6	7	4.5	5		5.0
TKTCM508010031A	M8×1.00		22	-	75	6.2	8	5	5		7.0
TKTCM508012531A	M8×1.25		22	-	75	6.2	8	5	5		6.75
TKTCM510010031A	M10×1.00		24	-	75	7	8	5.5	5		9.0
TKTCM510015031A	M10×1.50		24	-	75	7	8	5.5	5		8.5
TKTCM512015031A	M12×1.50		29	-	95	8.5	9	6.5	5		10.5
TKTCM512017531A	M12×1.75		29	-	95	8.5	9	6.5	5		10.25
TKTCM616020031A	M16×2.00		32	-	95	12.5	13	10	6	OH4	14

DIN 371

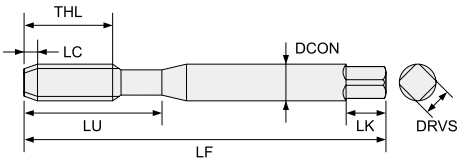
Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
TKTCM403005053A	M3×0.50	Form D (3.5~5P)	11	19	65	4.5	6	3.4	4	6H	2.5
TKTCM404007053A	M4×0.70		13	21	65	4.5	6	3.4	4		3.3
TKTCM405008053A	M5×0.80		16	24	70	6	8	4.9	4		4.2
TKTCM406010053A	M6×1.00		19	29	70	6	8	4.9	4		5.0
TKTCM508010053A	M8×1.00		22	32	75	8	9	6.2	5		7.0
TKTCM508012553A	M8×1.25		22	32	75	8	9	6.2	5		6.75
TKTCM510010053A	M10×1.00		24	40	75	10	11	8	5		9.0
TKTCM510015053A	M10×1.50		24	40	75	10	11	8	5		8.5
TKTCM512015053A	M12×1.50		29	48	85	12	12	9	5		10.5
TKTCM512017553A	M12×1.75		29	48	85	12	12	9	5		10.25
TKTCM516020053A	M16×2.00		32	48	95	16	15	12	5		14

THT - Straight Fluted Taps 全鎢鋼直刃絲攻

P	M	K	N	S	H
					●

Specification

- Thread type : ISO M
- For hardened steel (HRC 40 ~ 55)
- Recommend for through hole.
- ANAX Smooth Coating
- Vc = 2~4 m/min



JIS

Unit:mm

Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
THTNM403005031A	M3×0.50	3P	11	19	65	4	6	3.2	4	OH3	2.5
THTNM404007031A	M4×0.70		13	21	65	5	7	4	4		3.3
THTNM405008031A	M5×0.80		16	24	70	5.5	7	4.5	4		4.2
THTNM506010031A	M6×1.00		19	29	70	6	7	4.5	5		5.0
THTNM508010031A	M8×1.00		22	-	75	6.2	8	5	5		7.0
THTNM508012531A	M8×1.25		22	-	75	6.2	8	5	5		6.75
THTNM510010031A	M10×1.00		24	-	75	7	8	5.5	5		9.0
THTNM510015031A	M10×1.50		24	-	75	7	8	5.5	5		8.5
THTNM512015031A	M12×1.50		29	-	95	8.5	9	6.5	5		10.5
THTNM512017531A	M12×1.75		29	-	95	8.5	9	6.5	5		10.25
THTNM616020031A	M16×2.00		32	-	95	12.5	13	10	6	OH4	14

DIN 371

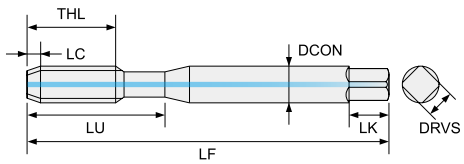
Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
THTNM403005053A	M3×0.50	Form D (3.5~5P)	11	19	65	4.5	6	3.4	4	6H	2.5
THTNM404007053A	M4×0.70		13	21	65	4.5	6	3.4	4		3.3
THTNM405008053A	M5×0.80		16	24	70	6	8	4.9	4		4.2
THTNM406010053A	M6×1.00		19	29	70	6	8	4.9	4		5.0
THTNM508010053A	M8×1.00		22	32	75	8	9	6.2	5		7.0
THTNM508012553A	M8×1.25		22	32	75	8	9	6.2	5		6.75
THTNM510010053A	M10×1.00		24	40	75	10	11	8	5		9.0
THTNM510015053A	M10×1.50		24	40	75	10	11	8	5		8.5
THTNM512015053A	M12×1.50		29	48	85	12	12	9	5		10.5
THTNM512017553A	M12×1.75		29	48	85	12	12	9	5		10.25
THTNM516020053A	M16×2.00		32	48	95	16	15	12	5		14

THT - Straight Fluted Taps with Internal Coolant 全鎢鋼內冷直刃絲攻

P	M	K	N	S	H
					●

Specification

- Thread type : ISO M
- For hardened steel (HRC 40 ~ 55)
- Recommend for blind hole.
- ANAX Smooth Coating
- Vc = 2~4 m/min



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Unit:mm

Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
THTCM403005031A	M3×0.50	3P	11	19	65	4	6	3.2	4	OH3	2.5
THTCM404007031A	M4×0.70		13	21	65	5	7	4	4		3.3
THTCM405008031A	M5×0.80		16	24	70	5.5	7	4.5	4		4.2
THTCM506010031A	M6×1.00		19	29	70	6	7	4.5	5		5.0
THTCM508010031A	M8×1.00		22	-	75	6.2	8	5	5		7.0
THTCM508012531A	M8×1.25		22	-	75	6.2	8	5	5		6.75
THTCM510010031A	M10×1.00		24	-	75	7	8	5.5	5		9.0
THTCM510015031A	M10×1.50		24	-	75	7	8	5.5	5		8.5
THTCM512015031A	M12×1.50		29	-	95	8.5	9	6.5	5		10.5
THTCM512017531A	M12×1.75		29	-	95	8.5	9	6.5	5		10.25
THTCM616020031A	M16×2.00		32	-	95	12.5	13	10	6	OH4	14

DIN 371

Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Flutes	TAP Limit	Drill Hole
THTCM403005053A	M3×0.50	Form D (3.5~5P)	11	19	65	4.5	6	3.4	4	6H	2.5
THTCM404007053A	M4×0.70		13	21	65	4.5	6	3.4	4		3.3
THTCM405008053A	M5×0.80		16	24	70	6	8	4.9	4		4.2
THTCM406010053A	M6×1.00		19	29	70	6	8	4.9	4		5.0
THTCM508010053A	M8×1.00		22	32	75	8	9	6.2	5		7.0
THTCM508012553A	M8×1.25		22	32	75	8	9	6.2	5		6.75
THTCM510010053A	M10×1.00		24	40	75	10	11	8	5		9.0
THTCM510015053A	M10×1.50		24	40	75	10	11	8	5		8.5
THTCM512015053A	M12×1.50		29	48	85	12	12	9	5		10.5
THTCM512017553A	M12×1.75		29	48	85	12	12	9	5		10.25
THTCM516020053A	M16×2.00		32	48	95	16	15	12	5		14

TNF - Forming Taps 全鎢鋼無屑絲攻

P	M	K	N	S	H
			●		

Specification

・Thread type : ISO M ・For aluminum alloy and copper.
・Chamfer Length(LC) 4P for through holes, 2P for blind holes ・Vc = 15~30 m/min
・Suitable for through or blind hole.

Fig. 1

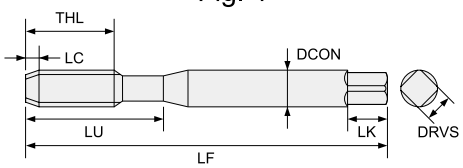
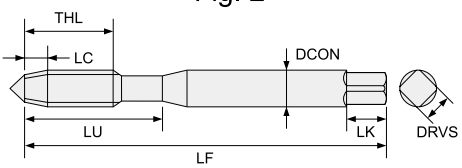


Fig. 2



Unit:mm

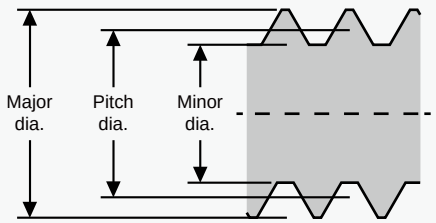
Order No.	Thread	LC	THL	LU	LF	DCON	LK	DRVS	Cutting Edges	Fig	TAP Limit	Drill Hole
TNFNM401002541	M1×0.25	4P	6	-	50	3	5	2.5	4	2	RH4	0.92
TNFNM401202541	M1.2×0.25	4P	6	-	50	3	5	2.5	4	2	RH4	1.12
TNFNM401403041	M1.4×0.30	4P	6	-	50	3	5	2.5	4	2	RH4	1.29
TNFNM402004021	M2×0.40	2P	8	-	50	3	5	2.5	4	1	RH4	1.85
TNFNM402004041	M2×0.40	4P	8	-	50	3	5	2.5	4	2	RH4	1.85
TNFNM403005021	M3×0.50	2P	11	19	50	4	6	3.2	4	1	RH5	2.8
TNFNM403005041	M3×0.50	4P	11	19	50	4	6	3.2	4	2	RH5	2.8
TNFNM404007021	M4×0.70	2P	13	21	50	5	7	4	4	1	RH6	3.7
TNFNM404007041	M4×0.70	4P	13	21	50	5	7	4	4	2	RH6	3.7
TNFNM405008021	M5×0.80	2P	16	24	60	6	7	4.5	4	1	RH7	4.65
TNFNM405008041	M5×0.80	4P	16	24	60	6	7	4.5	4	2	RH7	4.65
TNFNM406010021	M6×1.00	2P	19	29	60	6	7	4.5	4	1	RH7	5.55
TNFNM406010041	M6×1.00	4P	19	29	60	6	7	4.5	4	2	RH7	5.55

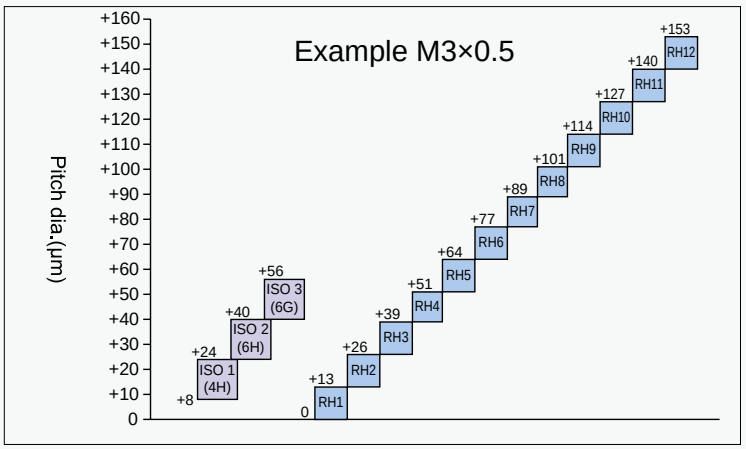
Tap Limit 絲攻精度

RH Limit 精度

Upper limit : 0.0127 × n
Lower limit : 0.0127 × n - 0.0127

(n=RH number, Unit:mm)

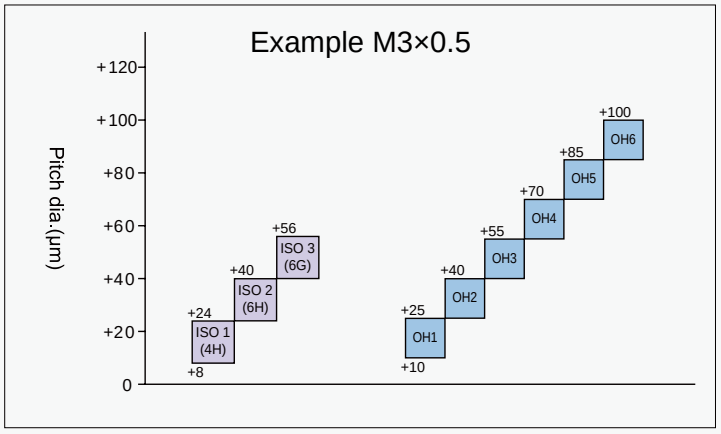




OH Limit 精度

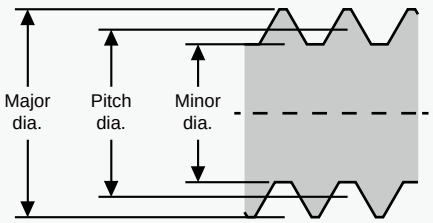
Pitch ≤ 0.6
Upper limit : 0.010+0.015×n
Lower limit : (upper limit)-0.015

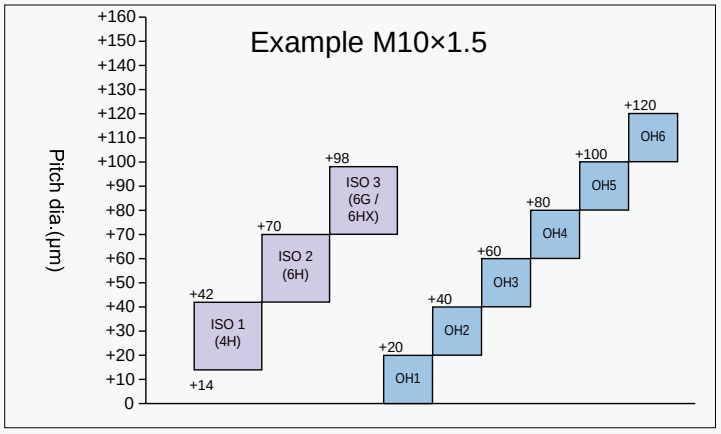
(n=OH number, Unit:mm)



Pitch ≥ 0.7
Upper limit : 0.020×n
Lower limit : (upper limit)-0.020

(n=OH number, Unit:mm)





DIN Material Chart

DIN 材料表

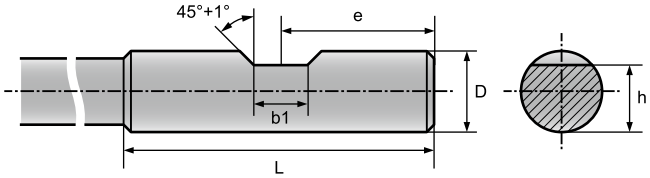
Material Group	Description	Content	Tensile Strength RM (MPa)*	Hardness (HB)	Hardness (HRC)	DIN Standards
P1	Low-Carbon Steels	C < 0.25%	< 530	< 125	-	C15, Ck22, ST37-2, S235JR, 9SMnPb28, GS38
P2	Medium-Carbon Steels, High-Carbon Steels	C > 0.25%	> 530	< 220	< 25	ST52, S355JR, C35, GS60, Cf53
P3	Alloy Steels, Tool Steels	C > 0.25%	600 ~ 850	< 330	< 35	16MnCr5, Ck45, 21CrMoV5-7, 38SMn28
P4	Alloy Steels, Tool Steels	C > 0.25%	800 ~ 1000	350 ~ 450	35 ~ 48	100Cr6, 105MnCr4, 51CrMnV4, 105WCr6, 100Cr2
P5	Ferritic, Martensitic, PH Stainless Steels	C = 0~0.4%	600 ~ 850	< 330	< 35	X6Cr13, X10Cr13, X20Cr13, X12CrMoS17, X20CrMo13
P6	High-Strength Ferritic, Martensitic, PH Stainless Steels	C = 0.1~0.6%	900 ~ 1350	350 ~ 450	35 ~ 48	X40CrMoV51, H1, X155CrVMo121, S6-5-2-5, X45Cr13, X120Mn12
M1	Austenitic Stainless Steel	C = 0.05~0.15%	< 650	130 ~ 200	-	X5CrNi1810, GX6CrNiMo1810, X6CrNiMoTi17122, X8CrNiMoAl1572
M2	High-Strength Austenitic Stainless and Cast Stainless Steels	C = 0.05~0.15%	500 ~ 700	150 ~ 230	< 25	X2CrNiMo134, X10CrNi189, X5CrNiCuNb1744
M3	Duplex Stainless Steel	C = 0.05~0.2%	< 900	135 ~ 275	< 30	X2CrNiMoN2315, X20CrNiSi254, GX40CrNiSi274, X2CrNiMoN2253
K1	Grey Cast Iron	-	150 ~ 400	120 ~ 290	< 32	GG10, GG15, GG20, GG25, GG40
K2	Low- and Medium-Strength Ductile Irons and Compacted Graphite Irons (CGI)	-	400 ~ 600	130 ~ 260	< 28	GGG35.3, GGG40.3, GGG70
K3	High-Strength Ductile Irons and Austempered Ductile Iron (ADI)	-	600 ~ 900	180 ~ 350	< 43	GTW-35-04, GTW-65, GTS-35-10, GTS-45-06
N1	Wrought Aluminium	-	< 520	60 ~ 90	-	AlMg1, Al99.5, AlCuMg1, AlCuBiPb, AlMgSi1, ALMgSiPb
N2	Low-Silicon Aluminium Alloys	Si < 12.2%	< 350	70 ~ 120	-	GAlSiCu4, GDAlSi10Mg
N3	High-Silicon Aluminium Alloys	Si > 12.2%	200 ~ 320	60 ~ 120	-	G-ALSi12, G-AlSi17Cu4, G-AlSi21CuNiMg
N4	Copper and Copper Alloys	-	200 ~ 650	60 ~ 200	-	CuZn40, Ms60, G-CuSn5ZnPb, CuZn37, CuSi3Mn
N5	Nylon, Plastics	-	-	-	-	Lexan, Hostalen, Polystyrol, Makrolon
N6	Carbon, Graphite Composites, CFRP	-	600 ~ 1500	-	-	CFRP, CFK, GFK
S1	Iron-Based, Heat-Resistant Alloys	-	500 ~ 1200	160 ~ 260	25 ~ 48	X1NiCrMoCu32287, X12NiCrSi3616, X5NiCrAlTi3120, X40CoCrNi20 20
S2	Cobalt-Based, Heat-Resistant Alloys	-	1000 ~ 1450	250 ~ 450	25 ~ 48	Haynes 188, Stellite 6, 21, 31
S3	Nickel-Based, Heat-Resistant Alloys	-	600 ~ 1700	160 ~ 450	33 ~ 48	NiCr29Fe, NiCr22Mo9Nb, NiCr20Mo, NiCr19FeNbMo, NiCr16Fe7TiAl
S4	Titanium and Titanium Alloys	-	900 ~ 1600	300 ~ 400	33 ~ 48	Ti1, TiAl5Sn2, TiAl6V4, TiAl4Mo4Sn2
H1	Hardened Materials	-	-	< 460	< 48	GX260NiCr42, GX330NiCr42, GX300CrNiSi952, GX300CrMo153
H2	Hardened Materials	-	-	460 ~ 560	48 ~ 55	-
H3	Hardened Materials	-	-	560 ~ 650	56 ~ 60	-
H4	Hardened Materials	-	-	> 650	> 60	-

Form HA Shank Standard HA 柄部標準

Unit : mm

D (h6)	
2 mm	12 mm
3 mm	14 mm
4 mm	16 mm
5 mm	18 mm
6 mm	20 mm
8 mm	25 mm
10 mm	32 mm

Form HB Shank Standard HB 柄部標準

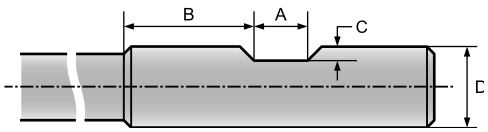


Ød < 10, L = OAL - (CL + 6) ; Ød ≥ 10, L = OAL - (CL + 10)

Unit : mm

D (h6)	***b1*** (+0.05 / 0)	***e*** (0 / -2)	***h*** (h11)
6	4.2	18	5.1
8	5.5	18	6.9
10	7	20	8.5
12	8	22.5	10.4
14	8	22.5	12.7
16	10	24	14.2
18	10	24	16.2
20	11	25	18.2
25	12	32	23
32	14	36	30

Form HB Shank Standard HB 柄部標準



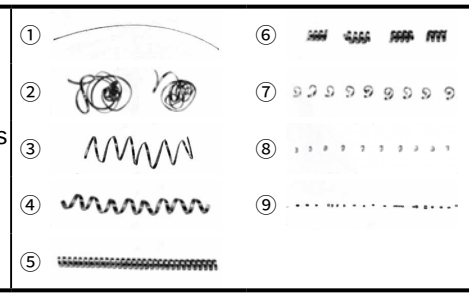
Unit : inch

D (h6)	***A*** ±0.004" (±0.1016mm)	***B*** ±0.015" (±0.381mm)	***C*** +0.005" / -0.000" (+0.127mm / -0mm)
0.1250" (3.175mm)	0.15" (3.81mm)	0.375" (9.525mm)	0.015" (0.381mm)
0.1875" (4.7625mm)	0.15" (3.81mm)	0.500" (12.7mm)	0.015" (0.381mm)
0.2500" (6.35mm)	0.17" (4.318mm)	0.563" (14.3002mm)	0.015" (0.381mm)
0.3125" (7.9375mm)	0.17" (4.318mm)	0.625" (15.875mm)	0.020" (0.508mm)
0.3750" (9.525mm)	0.27" (6.858mm)	0.800" (20.32mm)	0.035" (0.889mm)
0.4375" (11.1125mm)	0.27" (6.858mm)	0.850" (21.59mm)	0.040" (1.016mm)
0.5000" (12.7mm)	0.31" (7.874mm)	0.850" (21.59mm)	0.040" (1.016mm)
0.6250" (15.875mm)	0.37" (9.398mm)	1.000" (25.4mm)	0.040" (1.016mm)
0.7500" (19.05mm)	0.47" (11.938mm)	1.050" (26.67mm)	0.045" (1.143mm)
1.0000" (25.4mm)	0.47" (11.938mm)	1.100" (27.94mm)	0.050" (1.270mm)

Cutting Tools Evaluation Report 刀具切削報告

Company 公司名				Department 部門		Name of Contact 聯絡人		
Address 地址				TEL 電話		Date 測試日期		
Material 工件	Material Name 材質名稱			Remark: 備註				
	Hardness 硬度							
	Quantity 加工數量							
Machine 機械	Machine No. 機台型號							
	Power 主軸出力							
Tools 工具	Brand Name 品牌							
	Part Number 型號							
	Tool Diameter 刀具刃徑							
	Tool tooth 刀具齒數							
	External / Internal Coolant 外冷 / 內冷							
Cutting Conditions 切削條件	Vc (m/min) 切削速度							
	fz (mm/tooth) for Milling 每刃進給量 (銑削)							
	fz (mm/rev) for Turning or Drilling 每轉進給量 (車削或鑽削)							
	ap (mm) 切深							
	ae (mm) 切寬							
	Cutting time or pcs 加工時間或件數							
	Wet / Dry 濕式 / 乾式							
Results 結果	Tool Life Criterion 壽命判定標準							
	Chips Types 切屑類型							
Appraise 綜合評價	Overall Rating 性能、成本等總體評價							
	Accept 接受		☐ Yes 是 ☐ No 否		☐ Yes 是 ☐ No 否		☐ Yes 是 ☐ No 否	☐ Yes 是 ☐ No 否

Tool Life Criterion 壽命判斷標準	① Change constant 加工數量 ② Surface roughness 表面粗糙度 ③ Dimensional change 加工精度 ④ Happen burr 產生毛邊 ⑤ Spindle load 主軸負載 ⑥ Situation of tip control 尖點損耗 ⑦ Tool wear 刀具磨損 ⑧ Chipping, breaks 刀具崩刃、碎裂

Chips Types 切屑類型	

About WINSTAR 關於萬事達

Winstar Cutting Technologies Corp. is a taiwanese company that specializes in crafting cutting tools using advanced methods like pressing, sintering, grinding and coating. We offer a variety of tools for different purposes such as milling, drilling, turning and threading.

Our cutting tools are made from high-quality materials like carbide, CBN and PCD, designed to cut through various materials including steel, alloy steel, stainless steel, high hardness steel, titanium, inconel, ceramic and more. These tools are widely used across industries such as aerospace, medicine, energy, molds, automotive and machine parts.

Our tools are sold under the brand name WINSTAR and are available worldwide, including in Europe, America, Oceania and Asia. We are deeply committed to delivering exceptional products and building lasting relationships with our customers, as we believe this is essential for our success. Together, we strive to grow and succeed as a close family.

萬事達切削科技是在臺灣專門採用沖壓、燒結、研磨和塗層等先進方法製造切削刀具的製造廠。提供各種不同用途的刀具，例如銑削、鑽削、車削和螺紋刀具。

我們的切削刀具包含硬質合金、CBN 和 PCD 等優質材料製成，可用於各種不同材料加工，包括鋼、合金鋼、不鏽鋼、高硬度鋼、鈦、鎳基合金、陶瓷等。廣泛應用於航太、醫療、能源、模具、汽車和機械零組件等。

我們的切削刀具以 WINSTAR 品牌在世界各地銷售，包括歐洲、美洲、大洋洲和亞洲。我們相信，提供卓越的產品並與珍貴的客戶建立長期合作關係是成功的關鍵。我們期待與您攜手並進，共同成長。

Inserts Manufacturing Line 捨棄式刀片生產線

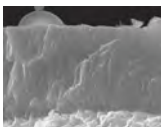
3D design
刀片 3D 設計

Powder
粉末選用

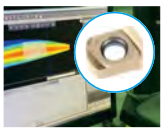
Pressing
自動化沖壓

H.I.P Sintering
加壓燒結

Grinding
自動化研磨



Coating
多層膜結構



Inspection
光學檢驗

Solid Carbide Tools Manufacturing Line 全鎢鋼刀具生產線

Endmill 3D design
銑刀 3D 設計

Drill 3D design
鑽頭 3D 設計

Wheel Setting
砂輪設定

5-axis Grinding
5 軸研磨

Coating
真空鍍膜

Inspection
光學檢驗

Testing
測試

WINSTAR

WINSTAR manufacture a diverse range of cutting tools, including milling, drilling, turning and threading options, each suited for specific machining tasks. These tools are crafted from a selection of high-quality materials such as carbide, CBN, and PCD, providing total solution in cutting operations.

萬事達切削科技生產各種切削刀具，包括銑削、孔加工、車削和螺紋，材質包括硬質合金、CBN 和 PCD 等，用以提供各種不同加工領域的刀 具解決方案。

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萬事達切削科技股份有限公司