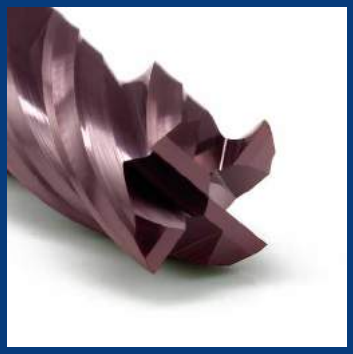
UKAS MANAGEMENT SYSTEMS
ISO 9001

WINSTAR

WinMills Solid Carbide Endmills

2017~2018 Catalogue



Winstar
Cutting Technologies

Vol. 18A.1

Winstar Cutting Technologies Corp. *Is a Taiwanese company that started operations in the year 2008 by Tim Chen following a dream and personal interest in developing solid tools. We are a professional manufacturer of Cutting Tools and Inserts. Since WINSTAR started it has specialized in the Design and Manufacture of High-Quality Cutting Tools. Having more than 4,400 different kinds of items and huge stocks. We are able to meet customer's needs. 90% of our products provide our own brand tools and 10% to do OEM project for world-class cutting group. WINSTAR has become one of the most successful companies in Taiwan. We base our company's success on our long-standing commitment to satisfy our customers' needs. By Utilizing the Finest Raw Materials and introducing Innovative Cutting Tools.*

Why Winstar?
Your order will receive personal attention from our sales staff. We offer full technical support for our products and are always just a phone call away. Your satisfaction is very important to us. We stock our shelves to support our full product line. This means we probably have what you need ready to ship today.

Taiwanese made Quality
Your satisfaction is 100% guaranteed! Our complete line of end mills, drills, holders, and insert will stand-up-to or out-perform any premium cutting tool brand on the market.

Privacy and Security
We aggressively protect your privacy rights. All transactions are conducted via our secure, encrypted online system. Your customer information will never be sold, reproduced, or distributed.

Optimized Carbide Grades
Maximum cutting performance is only achieved when the carbide grade characteristics ideally fit the specific application needs.

Superior Grinding Quality
Research on better surface quality remains an area of continuous technological advancement. Since the cutting edge quality determines the tool life and cutting action, a superior grinding quality is critical. WINSTAR provides the latest Swiss and German grinding Technology to get a superior surface finish.

Highly Innovative Tool Geometries
Highest cutting action cannot be accomplished by using only the standard geometries of universal tools. Efficient chip forming and evacuation is critical for optimal cutting performance. Such geometries are designed to manage a broad range of cutting forces and provide the highest cutting action for aerospace applications. As a recognized provider for "special" tools, WINSTAR possesses the engineering know-how to design highly innovative tool geometries for maximum cutting.

Advanced Tool Coating Technology
We are committed to provide our Customers with Crafted precision and Excellence. Longest tool life and maximum application performance require the utilization of advanced coating technology. As this highly innovative field continues to rapidly change.

Winstar Friends and Family
In WINSTAR CUTTING TECHNOLOGIES Corp. We believe in partnership and understands that the best way to grow is together. That is the reason Winstar works as a team, to provide the customer with a better efficient service. We also have partnerships around the globe. With this special friends we work just the same way we work together in WINSTAR. To make bigger and better alliances so we can grow together as a big family.

Welcome to WINSTAR Family

WinMills Solid Carbide Endmills

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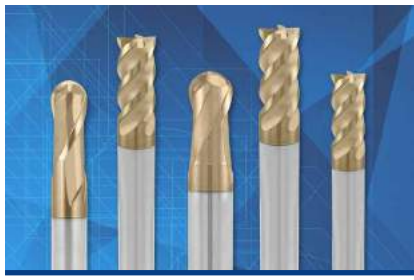
H700 Series for Hardened steel, up to HRC 70

- For hardened steel, HRC ~70.
- Ultra grain carbide.
- High speed cutting.
- SICO, NACO coating.

- 高硬材質加工專用， ~HRC70。
- 進口極細鎢鋼棒料。
- 適用於高速加工。
- 提供 SICO 及 NACO 塗層。



H680 Series for Hardened steel, up to HRC 65

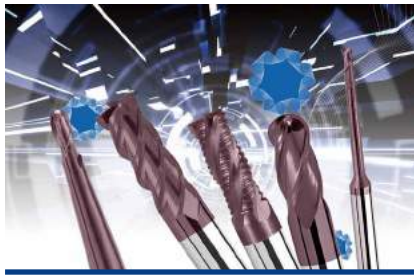
- For hardened steel, HRC 50~65.
- Ultra grain carbide.
- High precision and high performance.
- SICO-TH coating.

- 高硬高精加工專用，HRC50 ~65。
- 進口極細鎢鋼棒料。
- 適用於高精度及高效率加工。
- 提供 SICO-TH 塗層。

H650 Series for Hardened steel, up to HRC 60

- For hardened steel, HRC 40~60.
- Ultra grain carbide.
- SICO, ARCO coating.

- 高硬材質加工專用，HRC40 ~60。
- 進口極細鎢鋼棒料。
- 提供 SICO, ARCO 塗層。



G550 Series for Mold & Alloy steel, up to HRC 55

- For mold steel, alloy steel & cast iron, HRC 30~55.
- Micro grain carbide.
- UNICO coating.

- 模具鋼及合金鋼加工專用，適用於預硬鋼、合金鋼、鑄鐵…，HRC30~55。
- 進口鎢鋼棒料。
- 提供 UNICO 塗層。

EUROS Series for High Feed Milling

- High feed & multiple application, for hardened & pre-hardened steel, Stainless, up to HRC 60.
- Tip with small chamfer or small radius design.
- UNICO, SICO coating.

- 多用途高進給加工專用，適用於高硬材質、預硬鋼、不鏽鋼加工用，HRC ~ 60。
- 刀尖小倒角或小圓角設計。
- 提供 UNICO, SICO 塗層。

G450 Series for Steel, up to HRC 48

- For steel, alloy steel, cast iron, aluminum alloy (Si>15%), HRC 15~48.
- Micro grain carbide.
- UNICO coating.

- 泛用材質加工專用，一般碳鋼、合金鋼、鑄鐵、鋁合金…，HRC15~48。
- 進口鎢鋼棒料。
- 提供 UNICO 塗層。

M500 Series for Stainless, Titanium & Inconel

- For stainless steel, difficult-to-cut material, HRC 20~50.
- Mold steel finishing.
- ARCO coating.

- 不鏽鋼、難切削材專用，HRC20~50。
- 模具鋼精修用。
- 提供 ARCO 塗層。

A200 Series for Graphite

- For Graphite.
- Micro grain carbide.
- DIA diamond coating.

- 石墨專用。
- 進口鎢鋼棒料。
- 提供 DIA 鑽石塗層。

A100 Series for Aluminum Alloy

- For non-ferrous, aluminum, aluminum alloy, copper, HRC<18.
- Micro grain carbide.
- High Helix offers excellent and stable finished surfaces.

- 非鐵金屬、鋁合金、銅專用，HRC<18。
- 進口鎢鋼棒料。
- 高螺旋設計提供優異穩定的成品表面。

WinMaster Series Replaceable Endmills

- For ordinary steel, alloy steel, cast iron, HRC 40~60.
- Micro grain carbide.
- SICO coating.
- Replaceable Endmills.

- 泛用材質加工專用，一般碳鋼、合金鋼、鑄鐵…，HRC40~60。
- 進口鎢鋼棒料。
- 提供 SICO 塗層。
- 鎖牙式銑刀。

ICONS Guide 標記說明

Micro Grain	MG
Ultra Micro Grain	UMG
Ultra Micro Grain 0.4μm	UMG 0.4μm
Helix Angle	30°
Material Hardness	HRC 35
Unequal	
Variable Helix	Varix
UNICO Coated	UNICO
ARCO Coated	ARCO
SICO Coated	SICO
SICO-TH Coated	SICO-TH
DIA Coated	DIA
Sharp Corner Type	
Flatland Type	
Chamfer Type	C
Corner Radius	R
Square Type 2F	
Square Type 3F	
Square Type 4F	
Square Type 6F	
Square Type 8F	
Ball Nose 2F	
Ball Nose 4F	
Corner Radius 2F	
Corner Radius 4F	

Appearance	Series	Code No .	Ø Range	Num.of Teeth	HelixAngle	Coating	Working Materials P	M	K	N	S	H	Page

H700 Series for Hardened steel, up to HRC 70

	High Helix Square Type - 6F 鎢鋼平銑刀 - 高導型 - 6 刃	EHSSS6	Ø6~Ø14	6	45°	SICO	√	√	√			√	A008
	High Helix Square Type - 8F 鎢鋼平銑刀 - 高導型 - 8 刃	EHSSS8	Ø16~Ø20	8	45°	SICO	√	√	√			√	A008
	High Helix & Short Flute Square Type - 4F 鎢鋼平銑刀 - 高導短刃型 - 4 刃	EHSPS4, EHSUS4	Ø1~Ø5	4	45°	SICO	√	√	√			√	A009
	High Helix & Short Flute Square Type - 6F 鎢鋼平銑刀 - 高導短刃型 - 6 刃	EHSUS6	Ø6~Ø12	6	45°	SICO	√	√	√			√	A009
	High Helix & Short Flute Square Type - 8F 鎢鋼平銑刀 - 高導短刃型 - 8 刃	EHSUS8	Ø16~Ø20	8	45°	SICO	√	√	√			√	A009
	Low Helix & Short Flute Ball Nose Type - 2F 鎢鋼球型銑刀 - 低導短刃型 - 2 刃	EHBPS2, EHBUS2	0.5R~8R	2	15°	SICO	√	√	√			√	A010
	High Speed & High Feed Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 高進給直刃型 -4 刃	EHCUK4	0.5R~2R	4	0°	SICO	√		√			√	A011
	Straight Short Flute Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 直短刃型 - 4 刃	EHCPS4, EHCUS4	Ø1~Ø12	4	0°	SICO	√	√	√			√	A012

H680 Series for Hardened steel, up to HRC 65 (High Precision Cutting)

	Square Type - 4F 鎢鋼平銑刀 - 標準型 - 4 刃	EHSFF4, EHSSF4	Ø1~Ø12	4	45°	SICO-TH	√	√	√			√	A014
	Long Shank Square Type - 4F 鎢鋼平銑刀 - 長柄型 - 4 刃	EHSLF4, EHSMF4 EHSNF4	Ø4~Ø12	4	45°	SICO-TH	√	√	√			√	A015
	Ball Nose Type - 2F 鎢鋼球型銑刀 - 標準型 - 2 刃	EHBFF2, EHBSF2	0.5R~6R	2	30°	SICO-TH	√	√	√			√	A016
	Long Shank Ball Nose Type - 2F 鎢鋼球型銑刀 - 長柄型 - 2 刃	EHBLF2, EHBNF2 EHBMF2	2R~6R	2	30°	SICO-TH	√	√	√			√	A017
	Short Flute Ball Nose Type - 2F 鎢鋼球型銑刀 - 短刃型 - 2 刃	EHBPF2, EHBUF2	0.5R~6R	2	30°	SICO-TH	√	√	√			√	A018
	Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 標準型 - 4 刃	EHCSF4	Ø3~Ø12	4	30°	SICO-TH	√	√	√			√	A019
	Long Shank Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 長柄型 - 4 刃	EHCLF4, EHCMF4 EHCNF4	Ø4~Ø12	4	30°	SICO-TH	√	√	√			√	A020

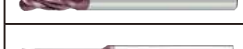
H650 Series for Hardened steel, up to HRC 60

Appearance	Series	Code No .	Ø Range	Num.of Teeth	Helix Angle	Coating	Working Materials P	M	K	N	S	H	Page
	Square Type - 2F 鎢鋼平銑刀 - 標準型 - 2 刃	EHSFA2, EHSSA2	Ø1~Ø20	2	30°	ARCO	√	√	√			√	A022
	Square Type - 4F 鎢鋼平銑刀 - 標準型 - 4 刃	EHSFA4, EHSSA4	Ø1~Ø20	4	30°	ARCO	√	√	√			√	A023
	High Helix Square Type - 4F 鎢鋼平銑刀 - 高導型 - 4 刃	EHSFH4, EHSSH4	Ø1~Ø20	4	45°	ARCO	√	√	√			√	A024
	High Helix & Long Shank Square Type - 4F 鎢鋼平銑刀 - 高導長柄型 - 4 刃	EHSLH4, EHSMH4 EHSNH4	Ø3~Ø20	4	45°	ARCO	√	√	√			√	A025
	Long Neck Square Type - 2F 鎢鋼平銑刀 - 長頸型 - 2 刃	EHSBC2, EHSRC2	Ø0.2~Ø12	2	30°	ARCO	√	√	√			√	A026 ~ A031
	Long Neck Square Type - 4F 鎢鋼平銑刀 - 長頸型 - 4 刃	EHSBC4, EHSRC4	Ø1~Ø12	4	30°	ARCO	√	√	√			√	A032 ~ A034
	Ball Nose Type - 2F 鎢鋼球型銑刀 - 標準型 - 2 刃	EHBFH2, EHBSH2	0.5R~8R	2	30°	ARCO	√	√	√			√	A035
	Long Shank Ball Nose Type - 2F 鎢鋼球型銑刀 - 長柄型 - 2 刃	EHBLH2, EHBMH2 EHBNH2	1R~10R	2	30°	ARCO	√	√	√			√	A036
	Short Flute Ball Nose Type - 2F 鎢鋼球型銑刀 - 短刃型 - 2 刃	EHBUH2	1R~8R	2	27°	SICO	√	√	√			√	A037
	Long Neck Ball Nose Type - 2F 鎢鋼球型銑刀 - 長頸型 - 2 刃	EHBBC2, EHBRC2	0.15R~6R	2	30°	ARCO	√	√	√			√	A038 ~ A042
	Taper Neck Ball Nose Type - 2F 鎢鋼球型銑刀 - 斜頸型 - 2 刃	EHBRT2	1R~6R	2	30°	ARCO	√	√	√			√	A043
	Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 標準型 - 4 刃	EHCFH4, EHCSH4	Ø4~Ø12	4	30°	ARCO	√	√	√			√	A044
	Long Shank Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 長柄型 - 4 刃	EHCLH4, EHCMH4 EHCNH4	Ø4~Ø12	4	30°	ARCO	√	√	√			√	A045
	Short Flute Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 短刃型 - 4 刃	EHCUH4	Ø3~Ø12	4	30°	SICO	√	√	√			√	A046
	Long Neck Corner Radius Type - 2F 鎢鋼圓鼻銑刀 - 長頸型 - 2 刃	EHCBC2, EHCRC2	Ø1~Ø12	2	30°	ARCO	√	√	√			√	A047 ~ A053
	Long Neck Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 長頸型 - 4 刃	EHCBC4, EHCRC4	Ø2~Ø12	4	30°	ARCO	√	√	√			√	A054 ~ A058
	Double Corner High Feed EndMill - 4 / 6F 鎢鋼圓鼻銑刀 - 高進給型 - 4 / 6 刃	EHWSA4, EHWSA6	Ø6~Ø12	6	38°	SICO	√	√	√			√	A059

EUROS Series for High Feed Milling, up to HRC 60

	High Feed Square Type - 4F 鎢鋼平銑刀 - 高進給倒角型 - 4 刃	EUSFA4, EUSSA4	Ø3~Ø16	4	30°	UNICO	√	√	√			√	A062
	EUROS - Toric Square Type - 4F 鎢鋼平銑刀 - 高進給圓角型 - 4 刃	EUSFR4, EUSSR4	Ø3~Ø16	4	40°	UNICO	√	√	√		√	√	A063
	EUROS - Toric Square Type - 4F 鎢鋼平銑刀 - 高進給圓角型 - 4 刃	EUSFH4, EUSSH4	Ø3~Ø16	4	40°	SICO	√	√	√		√	√	A064

G550 Series for Mold & Alloy steel, up to HRC 55

Appearance	Series	Code No .	Ø Range	Num.of Teeth	HelixAngle	Coating	Working Materials P	M	K	N	S	H	Page
	Square Type - 2F 鎢鋼平銑刀 - 標準型 - 2 刃	EPSFC2, EPSSC2	Ø0.2~Ø25	2	30°	UNICO	√	√	√			√	A066
	Square Type - 3F 鎢鋼平銑刀 - 標準型 - 3 刃	EPSFC3, EPSSC3	Ø1~Ø25	3	30°	UNICO	√	√	√			√	A067
	Square Type - 4F 鎢鋼平銑刀 - 標準型 - 4 刃	EPSFC4, EPSSC4	Ø1~Ø25	4	30°	UNICO	√	√	√			√	A068
	Anti-Vibration Square Type - 4F 鎢鋼平銑刀 - 抗震不等型 - 4 刃	EPSSD4	Ø5~Ø16	4	30°	UNICO	√	√	√			√	A069
	High Helix Square Type - 4F 鎢鋼平銑刀 - 高導型 - 4 刃	EPSFH4, EPSSH4	Ø3~Ø16	4	45°	UNICO	√	√	√			√	A070
	Long Flute Square Type - 4F 鎢鋼平銑刀 - 長刃型 - 4 刃	EPSCC4	Ø3~Ø25	4	35°	UNICO	√	√	√			√	A071
	High Helix Square Type - 6F 鎢鋼平銑刀 - 高導型 - 6 刃	EPSSH6, EPSCH6	Ø6~Ø16	6	45°	UNICO	√	√	√			√	A072
	Long Shank Square Type - 2F 鎢鋼平銑刀 - 長柄型 - 2 刃	EPSLC2, EPSMC2 EPSNC2	Ø4~Ø20	2	30°	UNICO	√	√	√			√	A073
	Long Shank Square Type - 4F 鎢鋼平銑刀 - 長柄型 - 4 刃	EPSLC4, EPSMC4 EPSNC4	Ø3~Ø20	4	30°	UNICO	√	√	√			√	A074
	Roughing Square Type - 4F 鎢鋼平銑刀 - 粗銑型 - 4 刃	EPSRR4	Ø6~Ø20	4	30°	UNICO	√	√	√			√	A075
	Long Neck Square Type - 2F 鎢鋼平銑刀 - 長頸型 - 2 刃	EPSBC2, EPSRC2	Ø0.2~Ø12	2	30°	UNICO	√	√	√			√	A076 ~ A081
	Long Neck Square Type - 4F 鎢鋼平銑刀 - 長頸型 - 4 刃	EPSBC4, EPSRC4	Ø1~Ø12	4	30°	UNICO	√	√	√			√	A082 ~ A084
	Taper Square Type - 2F 鎢鋼平銑刀 - 斜度型 - 2 刃	EPSFT2, EPSST2	Ø1~Ø10	2	35°	UNICO	√	√	√			√	A085 ~ A087
	Ball Nose Type - 2F 鎢鋼球型銑刀 - 標準型 - 2 刃	EPBFC2, EPBSC2	0.1R~10R	2	30°	UNICO	√	√	√			√	A088
	Ball Nose Type - 4F 鎢鋼球型銑刀 - 標準型 - 4 刃	EPBFC4, EPBSC4	1R~10R	4	30°	UNICO	√	√	√			√	A089
	Long Shank Ball Nose Type - 2F 鎢鋼球型銑刀 - 長柄型 - 2 刃	EPBLC2, EPBMC2 EPBNC2	1.5R~10R	2	30°	UNICO	√	√	√			√	A090
	Long Shank Ball Nose Type - 4F 鎢鋼球型銑刀 - 長柄型 - 4 刃	EPBLC4, EPBMC4 EPBNC4	2R~8R	4	30°	UNICO	√	√	√			√	A091
	Long Neck Ball Nose Type - 2F 鎢鋼球型銑刀 - 長頸型 - 2 刃	EPBBC2, EPBRC2	0.15R~6R	2	30°	UNICO	√	√	√			√	A092 ~ A096
	Taper Ball Nose Type - 2F 鎢鋼球型銑刀 - 斜度型 - 2 刃	EPBFT2, EPBST2	1R~3R	2	30°	UNICO	√	√	√			√	A097
	Taper Neck Ball Nose Type - 2F 鎢鋼球型銑刀 - 斜頸型 - 2 刃	EPBRT2	0.5R~2R	2	30°	UNICO	√	√	√			√	A098
	Corner Radius Type - 2F 鎢鋼圓鼻銑刀 - 標準型 - 2 刃	EPCSC2	Ø4~Ø12	2	30°	UNICO	√	√	√			√	A099
	Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 標準型 - 4 刃	EPCSC4	Ø1~Ø12	4	30°	UNICO	√	√	√			√	A100
	High Helix Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 高導型 - 4 刃	EPCSH4	Ø3~Ø12	4	45°	UNICO	√	√	√			√	A101
	Long Shank Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 長柄型 - 4 刃	EPCLC4	Ø4~Ø16	4	30°	UNICO	√	√	√			√	A102
	Long Neck Corner Radius Type - 2F 鎢鋼圓鼻銑刀 - 長頸型 - 2 刃	EPCBC2, EPCRC2	Ø1~Ø12	2	30°	UNICO	√	√	√			√	A103 ~ A109
	Long Neck Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 長頸型 - 4 刃	EPCBC4, EPCRC4	Ø2~Ø12	4	30°	UNICO	√	√	√			√	A110 ~ A114
	Taper Neck Corner Radius Type - 2F 鎢鋼圓鼻銑刀 - 斜頸型 - 2 刃	EPCRT2	Ø1~Ø6	2	30°	UNICO	√	√	√			√	A115 ~ A116
	Inner Radius Type - 2F / 4F 鎢鋼內 R 角銑刀 - 2 / 4 刃	EPIFA2, EPISA2 EPIFA4, EPISA4	0.5R~6R	2	0°	UNICO	√	√	√				A117

G450 Series for Alloy Steel, up to HRC 48

Appearance	Series	Code No .	Ø Range	Num.of Teeth	HelixAngle	Coating	Working Materials P	M	K	N	S	H	Page
	Square Type - 2F 鎢鋼平銑刀 - 標準型 - 2 刃	EPSFA2, EPSSA2	Ø1~Ø25	2	35°	UNICO	√	√	√				A120
	Square Type - 4F 鎢鋼平銑刀 - 標準型 - 4 刃	EPSFA4, EPSSA4	Ø1~Ø25	4	35°	UNICO	√	√	√				A121
	Long Flute Square Type - 4F 鎢鋼平銑刀 - 長刃型 - 4 刃	EPSCA4	Ø3~Ø25	4	35°	UNICO	√	√	√				A122
	Long Shank SquareType - 2F 鎢鋼平銑刀 - 長柄型 - 2 刃	EPSLA2, EPSMA2 EPSNA2	Ø4~Ø16	2	30°	UNICO	√	√	√				A123
	Long Shank Square Type - 4F 鎢鋼平銑刀 - 長柄型 - 4 刃	EPSLA4, EPSMA4 EPSNA4	Ø4~Ø20	4	30°	UNICO	√	√	√				A124

M500 Series for Stainless, Titanium & Inconel

	Square Type - 2F 鎢鋼平銑刀 - 標準型 - 2 刃	ESSFA2, ESSSA2	Ø3~Ø16	2	35°	ARCO	√	√			√	√	A126
	Square Type - 4F 鎢鋼平銑刀 - 標準型 - 4 刃	ESSFA4, ESSSA4	Ø3~Ø16	4	35°	ARCO	√	√			√	√	A127
	High Helix Square U Type - 4F 鎢鋼平銑刀 - 高導高效能 U 型 - 4 刃	ESSFB4, ESSSB4	Ø4~Ø16	4	45°	ARCO	√	√			√	√	A128
	Varix & Anti-Vibration Square U Type - 4F 鎢鋼平銑刀 - 抗震變導高效能 U 型 - 4 刃	ESSFU4, ESSSU4	Ø4~Ø16	4	35 & 38	ARCO	√	√			√	√	A129
	High Helix & Anti-Vibration Square U Type - 4F 鎢鋼平銑刀 - 高導抗震高效能 U 型 - 4 刃	ESSSM4	Ø8~Ø16	4	52°	ARCO	√	√			√	√	A130
	Anti-Vibration Square Type - 4F 鎢鋼平銑刀 - 抗震不等 SD 型 - 4 刃	ESSSD4	Ø5~Ø16	4	35°	ARCO	√	√			√	√	A131
	Varix & Anti-Vibration Square Type - 4F 鎢鋼平銑刀 - 抗震變導 SV 型 - 4 刃	ESSSV4	Ø4~Ø16	4	35 & 38	ARCO	√	√			√	√	A132
	Wave Edge Square Type - 3F 鎢鋼平銑刀 - 波浪型 - 3 刃	ESSSW3	Ø6~Ø20	3	30°	ARCO	√	√			√	√	A133
	Wave Edge Square Type - 4F 鎢鋼平銑刀 - 波浪型 - 4 刃	ESSSW4	Ø6~Ø20	4	30°	ARCO	√	√			√	√	A134
	Ball Nose Type - 2F 鎢鋼球型銑刀 - 標準型 - 2 刃	ESBFA2, ESBSA2	1R~8R	2	30°	ARCO	√	√			√	√	A135
	Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 標準型 - 4 刃	ESCSA4	Ø3~Ø12	4	30°	ARCO	√	√			√	√	A136
	High Helix & Anti-Vibration Corner Radius U Type - 4F 鎢鋼圓鼻銑刀 - 高導抗震高效能 U 型 - 4 刃	ESCSM4	Ø8~Ø16	4	52°	ARCO	√	√			√	√	A137
	Varix & Anti-Vibration Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 抗震變導 SV 型 - 4 刃	ESCSV4	Ø4~Ø16	4	35 & 38	ARCO	√	√			√	√	A138

A200 Series for Graphite

Appearance	Series	Code No .	Ø Range	Num.of Teeth	HelixAngle	Coating	Working Materials P	M	K	N	S	H	Page
	Square Type - 4F 鎢鋼平銑刀 - 標準型 - 4 刃	EGSFC4	Ø3~Ø12	4	30°	DIA				√			A140
	Long Flute Square Type - 4F 鎢鋼平銑刀 - 長刃型 - 4 刃	EGSCC4	Ø3~Ø12	4	30°	DIA				√			A141
	Long Shank Square Type - 4F 鎢鋼平銑刀 - 長柄型 - 4 刃	EGSEC4, EGSLC4	Ø4~Ø12	4	30°	DIA				√			A142
	Long Neck Square Type - 2F 鎢鋼平銑刀 - 長頸型 - 4 刃	EGSBC2, EGSRC2	Ø0.5~Ø6	2	30°	DIA				√			A143
	Ball Nose Type - 2F 鎢鋼球型銑刀 - 標準型 - 2 刃	EGBFC2, EGBSC2	0.1R~6R	2	30°	DIA				√			A144
	Long Shank Ball Nose Type - 2F 鎢鋼球型銑刀 - 長柄型 - 2 刃	EGBEC2, EGBLC2	2R~6R	2	30°	DIA				√			A145
	Long Neck Ball Nose Type - 2F 鎢鋼球型銑刀 - 長頸型 - 2 刃	EGBBC2, EGBRC2	0.25R~3R	2	30°	DIA				√			A146
	Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 標準型 - 4 刃	EGCFC4, EGCSC4	Ø3~Ø12	4	30°	DIA				√			A147
	Long Shank Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 長柄型 - 4 刃	EGCEC4, EGCLC4	Ø4~Ø12	4	30°	DIA				√			A148
	Long Neck Corner Radius Type - 2F 鎢鋼圓鼻銑刀 - 長頸型 - 2 刃	EGCBC2, EGCRC2	Ø1~Ø6	2	30°	DIA				√			A149

A100 Series for Aluminium Alloy

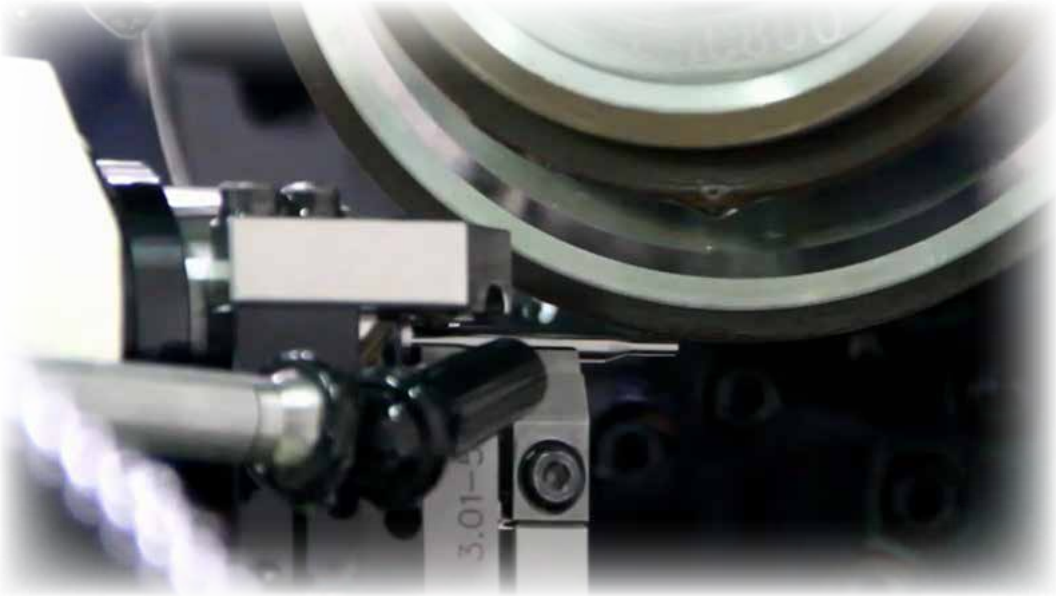
	Square Type - 2F 鎢鋼平銑刀 - 標準型 - 2 刃	ENSFS2, ENSSS2	Ø1~Ø20	2	45°					√			A152
	Square Type - 3F 鎢鋼平銑刀 - 標準型 - 3 刃	ENSFS3, ENSSS3	Ø2~Ø20	3	45°					√			A153
	Square & Long Flute Type - 3F 鎢鋼平銑刀 - 長刃型 - 3 刃	ENSCS3	Ø3~Ø20	3	45°					√			A154
	Square & High Helix Type - 3F 鎢鋼平銑刀 - 高導型 - 3 刃	ENSSH3	Ø4~Ø16	3	55°					√			A155
	High Performance Square Type - 3F (for side milling) 鎢鋼平銑刀 - 高效能型 - 3 刃	ENSSB3	Ø4~Ø20	3	45°					√			A156
	Fine-Finishing Square Type - 3F 鎢鋼平銑刀 - 高光鏡面型 - 3 刃	ENSSP3	Ø6~Ø16	3	45°					√			A157
	Ball Nose Type - 2F 鎢鋼球型銑刀 - 標準型 - 2 刃	ENBFA2, ENBSA2	0.5R~8R	2	35°					√			A158

WinMaster Series Replaceable Endmills, up to HRC 60

	Anti-Vibration Square Type - 4F 鎢鋼平銑刀 - 鎖牙式抗震 PD 型 - 4 刃	EPSWH4	Ø10~Ø20	4	30°	SICO	√	√	√	√		√	A160
	Ball Nose Type - 2F 鎢鋼球型銑刀 - 鎖牙式標準型 - 2 刃	EPBWH2	5R~10R	2	30°	SICO	√	√	√	√		√	A161
	Anti-Vibration Corner Radius Type - 4F 鎢鋼圓鼻銑刀 - 鎖牙式抗震 PD 型 - 4 刃	EPCWH4	Ø10~Ø20	4	30°	SICO	√	√	√	√		√	A162
	Carbide Extension Adapter (Anti-Vibration) 鎢鋼鎖牙式抗震延長桿	SWSEA	M5~M12										A163
	Carbide Extension Adapter (Anti-Vibration) 鎢鋼鎖牙式抗震延長桿	SWSEB	M6~M12										A164
	Carbide Extension Adapter (Anti-Vibration) 鎢鋼鎖牙式抗震延長桿	SWTEA	M5~M12										A165

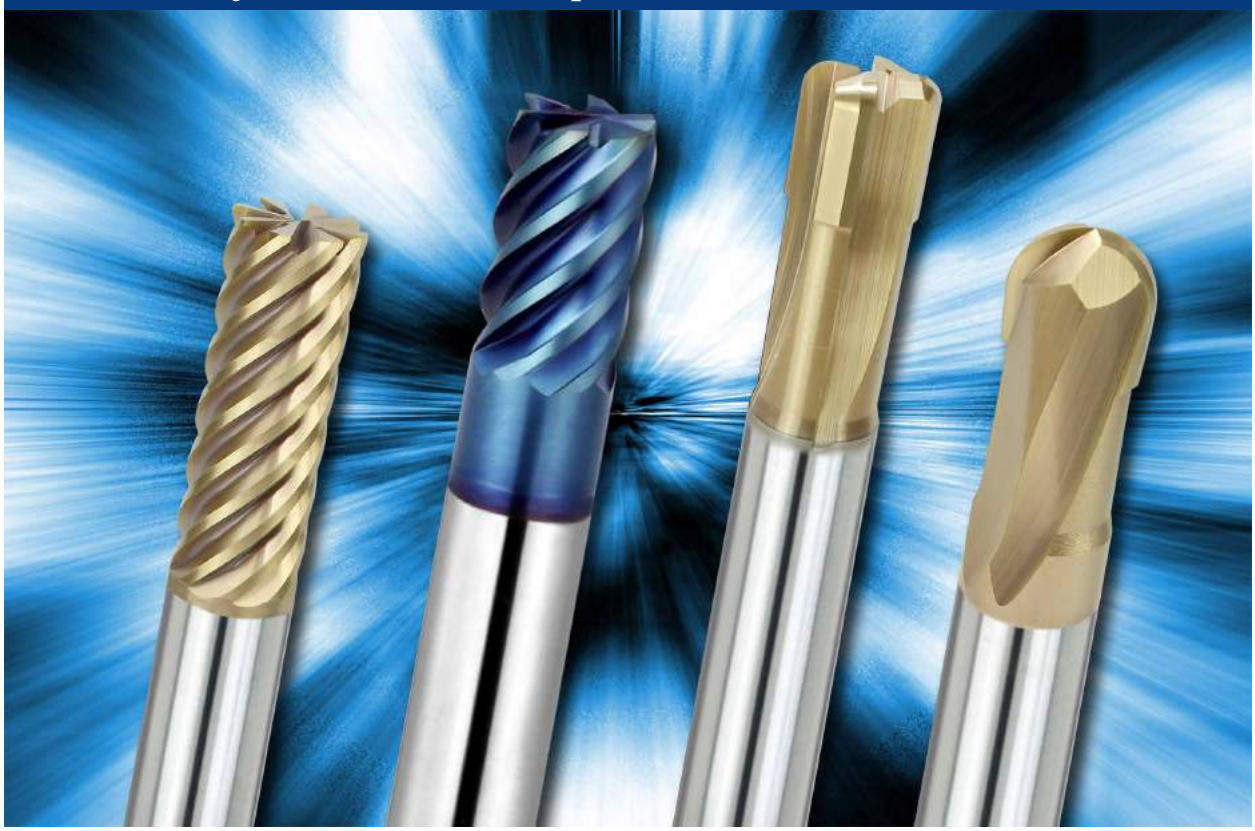
WINSTAR

Endmills · Inserts · Drills



Winstar
Cutting Technologies

H700 Series for Hardened steel, up to HRC 70



- Ultra grain carbide rods with better abrasion resistance.
- SICO coating with anti-high temperature & anti-oxidation.
- Large core diameter promotes its rigidity of the tool.
- Negative rake angle design is suitable for machining hardened material.
- Tough cutting edge and more flute bring extreme high milling speed and excellent finishing surface.
- We also provide NACO coating.

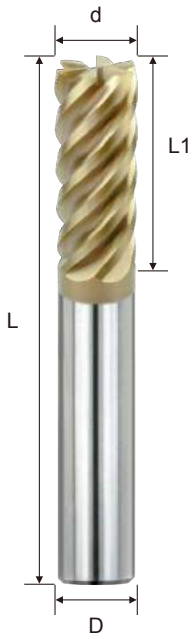
H700 - High Helix Square Type - 6F / 8F

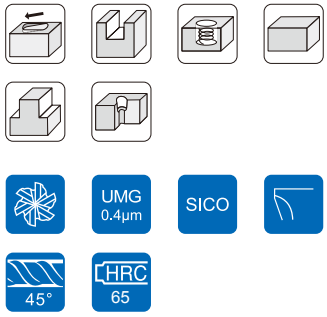
鎢鋼平銑刀 - 高導型 - 6/8 刃

- SICO Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also 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.
- The coating can change to TOP ARCO, the prices will differ.

EHSSS6
EHSSS8

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHSSS606000S	6	15	50	6	6
EHSSS608000S	8	20	60	8	6
EHSSS610000S	10	25	75	10	6
EHSSS612000S	12	30	75	12	6
EHSSS614000S	14	30	75	14	6
EHSSS816000S	16	40	100	16	8
EHSSS818000S	18	40	100	18	8
EHSSS820000S	20	45	100	20	8

Cutting conditions（建議切削參數表）: Table 001

Winstar Cutting Technologies

WINSTAR

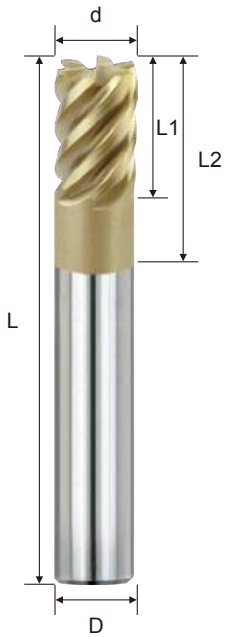
H700 - High Helix & Short Flute Square Type - 4F / 6F / 8F

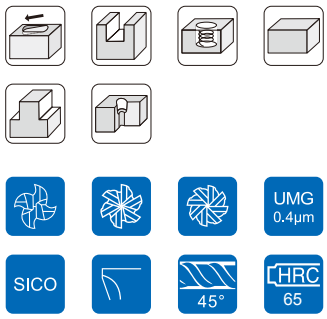
鎢鋼平銑刀 - 高導短刃型 - 4/6/8 刃

- SICO Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Prevents clogging of the flutes.
- The coating can change to TOP ARCO, the prices will differ.

EHSPS4
EHSUS4
EHSUS6
EHSUS8

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSPS401000S	1	1.5	2.5	50	4	4
EHSPS402000S	2	3.0	5.0	50	4	4
EHSUS403000S	3	4.5	7.5	50	6	4
EHSUS404000S	4	6.0	10.0	50	6	4
EHSUS405000S	5	7.5	12.5	50	6	4
EHSUS606000S	6	9.0	15.0	50	6	6
EHSUS608000S	8	12.0	20.0	60	8	6
EHSUS610000S	10	15.0	25.0	75	10	6
EHSUS612000S	12	18.0	30.0	75	12	6
EHSUS816000S	16	24.0	40.0	100	16	8
EHSUS820000S	20	30.0	50.0	100	20	8

Cutting conditions（建議切削參數表）: Table 002

d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

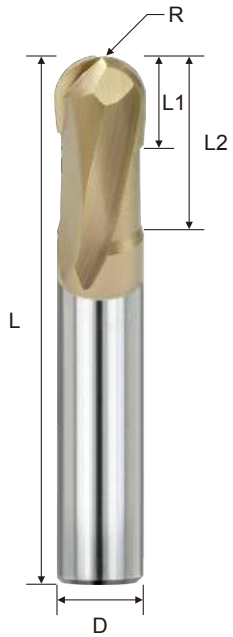
H700 - Low Helix & Short Flute Ball Nose Type - 2F

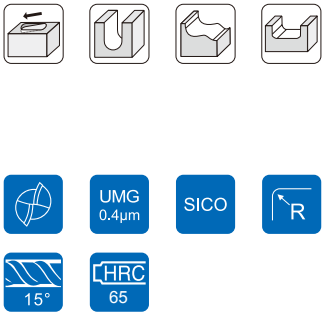
鎢鋼球型銑刀－低導短刃型－ 2 刃

- SICO Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also 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.
- The coating can change to TOP ARCO, the prices will differ.

EHBPS2
EHBUS2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø ≦ 12	± 0.01
Ø > 12	± 0.015

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHBPS201000S	0.50R	1.0	1.0	2	50	4	2
EHBPS201500S	0.75R	1.5	1.5	3	50	4	2
EHBUS202000S	1.00R	2.0	2.0	4	50	6	2
EHBUS203000S	1.50R	3.0	3.0	6	50	6	2
EHBUS204000S	2.00R	4.0	4.0	8	50	6	2
EHBUS205000S	2.50R	5.0	5.0	10	50	6	2
EHBUS206000S	3.00R	6.0	6.0	12	50	6	2
EHBUS208000S	4.00R	8.0	8.0	16	60	8	2
EHBUS210000S	5.00R	10.0	10.0	20	75	10	2
EHBUS212000S	6.00R	12.0	12.0	24	75	12	2
EHBUS216000S	8.00R	16.0	16.0	32	100	16	2

Cutting conditions（建議切削參數表）: Table 003

Winstar Cutting Technologies

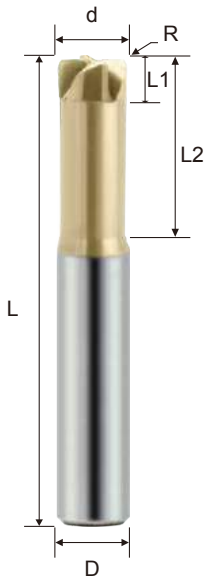
WINSTAR

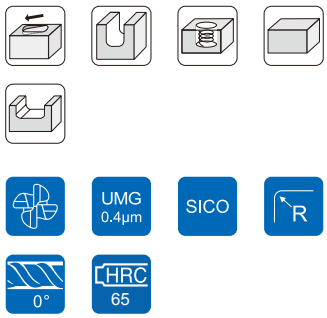
H700 - High Speed & High Feed Corner Radius Type - 4F 鎢鋼圓鼻銑刀－高進給直刃型－ 4 刃

- SICO Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Non-Helix Design.
- Cutting edges are very strong and wear resistant.
- For High speed and high feed cutting.

EHCUK4

P	M	K	N	S	H
☑	☐	☑	☐	☐	☑





Order No.	Dia. (d)	RADIUS (R)	Flute Length (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCUK40200506S	2	0.5R	1	6	50	6	4
EHCUK40300508S	3	0.5R	1.5	8	50	6	4
EHCUK40400512S	4	0.5R	2	12	60	6	4
EHCUK40400516S	4	0.5R	2	16	60	6	4
EHCUK40401012S	4	1R	2	12	60	6	4
EHCUK40401016S	4	1R	2	16	60	6	4
EHCUK40600512S	6	0.5R	3	12	60	6	4
EHCUK40600515S	6	0.5R	3	15	60	6	4
EHCUK40601015S	6	1R	3	15	60	6	4
EHCUK40601515S	6	1.5R	3	15	60	6	4
EHCUK40800520S	8	0.5R	4	20	60	8	4
EHCUK40801020S	8	1R	4	20	60	8	4
EHCUK41000525S	10	0.5R	5	25	75	10	4
EHCUK41001025S	10	1R	5	25	75	10	4
EHCUK41201030S	12	1R	6.0	30	75	12	4
EHCUK41202030S	12	2R	6.0	30	75	12	4

Cutting conditions（建議切削參數表）: Table 004

d	R Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03
R	± 0.015

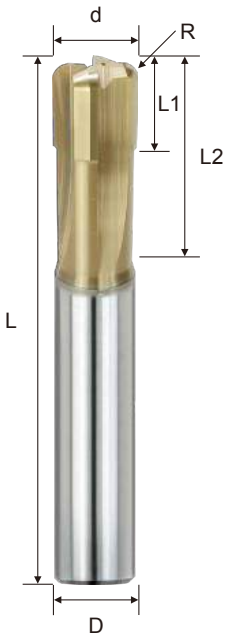
H700 - Straight Short Flute Corner Radius Type - 4F

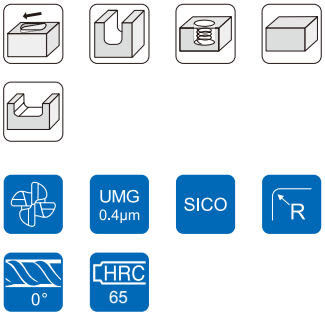
鎢鋼圓鼻銑刀－直短刃型－ 4 刃

- SICO Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Non-Helix Design.
- Cutting edges are very strong and wear resistant.
- The coating can change to TOP ARCO, the prices will differ.

EHCPS4
EHCUS4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCPS401002S	1	0.20R	1	2.5	50	4	4
EHCPS402002S	2	0.25R	2	6.5	50	4	4
EHCUS403005S	3	0.50R	3	7.5	50	6	4
EHCUS404005S	4	0.50R	4	10.0	50	6	4
EHCUS404010S	4	1.00R	4	10.0	50	6	4
EHCUS405010S	5	1.00R	5	12.5	50	6	4
EHCUS406010S	6	1.00R	6	15.0	50	6	4
EHCUS406015S	6	1.50R	6	15.0	50	6	4
EHCUS408010S	8	1.00R	8	20.0	60	8	4
EHCUS408015S	8	1.50R	8	20.0	60	8	4
EHCUS408020S	8	2.00R	8	20.0	60	8	4
EHCUS410010S	10	1.00R	10	25.0	75	10	4
EHCUS410020S	10	2.00R	10	25.0	75	10	4
EHCUS412010S	12	1.00R	12	30.0	75	12	4
EHCUS412020S	12	2.00R	12	30.0	75	12	4
EHCUS412030S	12	3.00R	12	30.0	75	12	4

Cutting conditions（建議切削參數表）: Table 005

d	R Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03
R	± 0.015

Winstar Cutting Technologies

H680 Series for Hardened steel, up to HRC 65 (High Precision Cutting)

- Ultra grain carbide rods with better abrasion resistance.
- Use SICO-TH coating with anti-high temperature & anti-oxidation.
- Special geometry design, suitable for high hardened working materials.
- Comparable to Europe, America, Japan's tolerance with high precision and high performance on Finishing working situation.
- Long Tool life tools reduce tool costs and working cost effectively.

High Precision

High Speed **High Hardened**

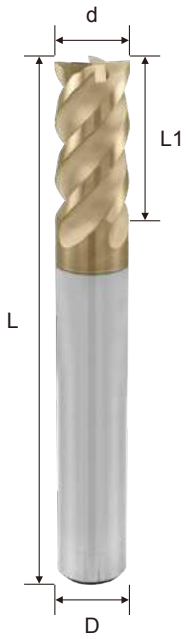
H680 - High Precision Square Type - 4F

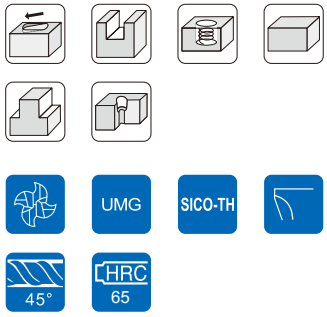
鎢鋼平銑刀－標準型－ 4 刃

- SICO-TH Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHSFF4
EHSSF4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø ≦ 6	+0 ~ -0.01
Ø ≧ 8	+0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHSFF401000S	1.0	3	50	4	4
EHSFF401500S	1.5	4	50	4	4
EHSFF402000S	2.0	5	50	4	4
EHSFF402500S	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

Cutting conditions（建議切削參數表）: Table 006

Winstar Cutting Technologies

WINSTAR

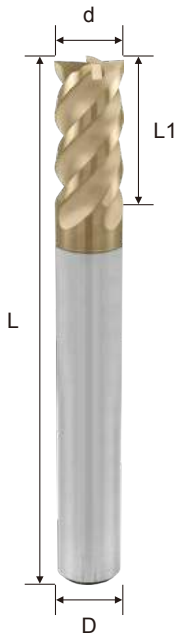
H680 - High Precision Long Shank Square Type - 4F

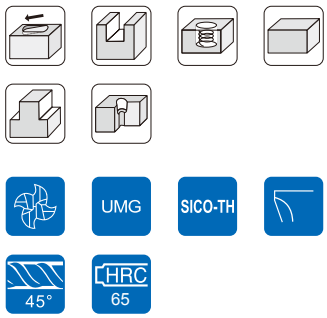
鎢鋼平銑刀－長柄型－ 4 刃

- SICO-TH Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHSLF4
EHSNF4
EHSMF4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø ≦ 6	+0 ~ -0.02
Ø ≧ 8	+0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHSLF404000S	4.0	10	75	6	4
EHSLF406000S	6.0	15	75	6	4
EHSNF406000S	6.0	15	100	6	4
EHSMF408000S	8.0	20	75	8	4
EHSLF408000S	8.0	20	100	8	4
EHSLF410000S	10.0	25	100	10	4
EHSLF412000S	12.0	30	100	12	4

Cutting conditions（建議切削參數表）: Table 006

WINSTAR

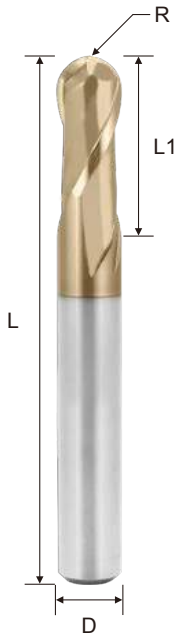
H680 - High Precision Ball Nose Type - 2F

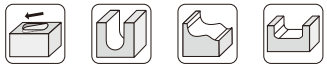
鎢鋼球型銑刀－標準型－ 2 刃

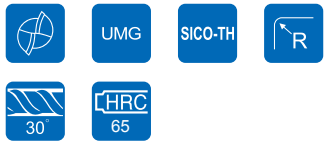
- SICO-TH Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- R tolerance ±5μm with high precision and high performance on Finishing working situation.
- Special geometry design, suitable for high hardened working materials.

EHBFF2
EHBSF2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑







Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHBFF201000S	0.5R	1.0	2	50	4	2
EHBFF202000S	1.0R	2.0	4	50	4	2
EHBFF204000S	2.0R	4.0	8	50	4	2
EHBSF203000S	1.5R	3.0	6	50	6	2
EHBSF204000S	2.0R	4.0	8	50	6	2
EHBSF206000S	3.0R	6.0	12	50	6	2
EHBSF208000S	4.0R	8.0	16	60	8	2
EHBSF210000S	5.0R	10.0	20	75	10	2
EHBSF212000S	6.0R	12.0	24	75	12	2

Cutting conditions（建議切削參數表）: Table 007

R	Tolerance
≦ R3	± 0.005
≧ R4	± 0.007

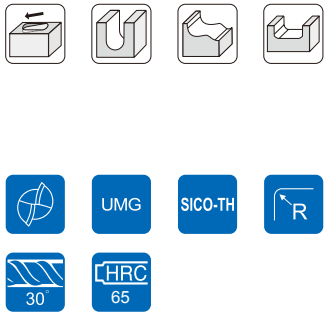
Winstar Cutting Technologies

H680 - High Precision Long Shank Ball Nose Type - 2F 鎢鋼球型銑刀－長柄型－ 2 刃

- SICO-TH Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- R tolerance ±5μm with high precision and high performance on Finishing working situation.
- Special geometry design, suitable for high hardened working materials.

EHBLF2
EHBNF2
EHBMF2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



R	Tolerance
≦ R3	± 0.007
≧ R4	± 0.007

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHBLF204000S	2R	4.0	8	75	6	2
EHBLF206000S	3R	6.0	12	75	6	2
EHBNF206000S	3R	6.0	12	100	6	2
EHBMF208000S	4R	8.0	16	75	8	2
EHBLF208000S	4R	8.0	16	100	8	2
EHBLF210000S	5R	10.0	20	100	10	2
EHBLF212000S	6R	12.0	24	100	12	2

Cutting conditions（建議切削參數表）: Table 007

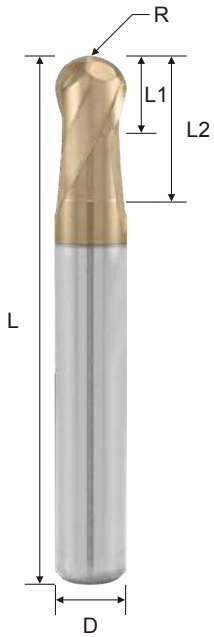
H680 - High Precision Short Flute Ball Nose Type - 2F

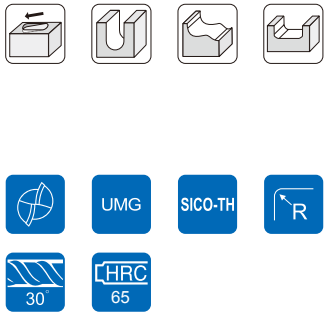
鎢鋼球型銑刀－短刃型－ 2 刃

- SICO-TH Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- R tolerance ±5μm with high precision and high performance on Finishing working situation.
- Special geometry design, suitable for high hardened working materials.

EHBPF2
EHBUF2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHBPF201000S	0.5R	1.0	1	2	50	4	2
EHBPF202000S	1.0R	2.0	2	4	50	4	2
EHBPF204000S	2.0R	4.0	4	8	50	6	2
EHBUF203000S	1.5R	3.0	3	6	50	6	2
EHBUF204000S	2.0R	4.0	4	8	50	6	2
EHBUF206000S	3.0R	6.0	6	12	50	6	2
EHBUF208000S	4.0R	8.0	8	16	60	8	2
EHBUF210000S	5.0R	10.0	10	20	75	10	2
EHBUF212000S	6.0R	12.0	12	24	75	12	2

Cutting conditions（建議切削參數表）: Table 007

R	Tolerance
≦ R3	± 0.005
≧ R4	± 0.007

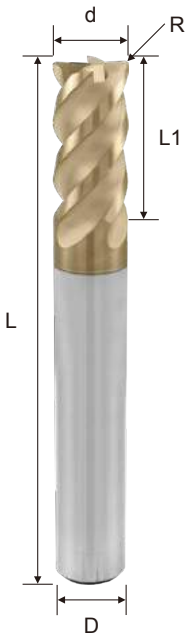
H680 - High Precision Corner Radius Type - 4F

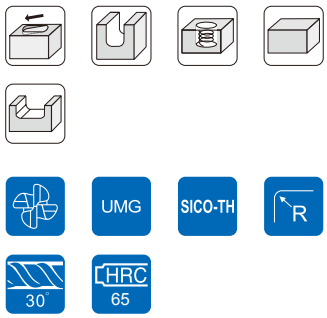
鎢鋼圓鼻銑刀－標準型－ 4 刃

- SICO-TH Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHCSF4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHCSF403005S	3.0	0.5R	6	50	6	4
EHCSF404005S	4.0	0.5R	8	50	6	4
EHCSF406005S	6.0	0.5R	12	50	6	4
EHCSF406010S	6.0	1R	12	50	6	4
EHCSF408005S	8.0	0.5R	16	60	8	4
EHCSF408010S	8.0	1R	16	60	8	4
EHCSF410005S	10.0	0.5R	20	75	10	4
EHCSF410010S	10.0	1R	20	75	10	4
EHCSF412005S	12.0	0.5R	24	75	12	4
EHCSF412010S	12.0	1R	24	75	12	4

Cutting conditions（建議切削參數表）: Table 006

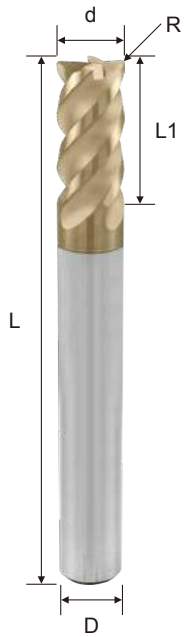
d	R Tolerance
Ø ≦ 6	+0 ~ -0.01
Ø ≧ 8	+0 ~ -0.02
R	± 0.01

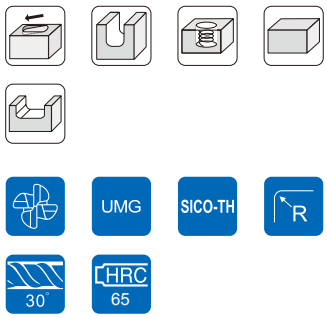
H680 - High Precision Long Shank Corner Radius Type - 4F 鎢鋼圓鼻銑刀－長柄型－ 4 刃

- SICO-TH Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- Special geometry design, suitable for high hardened working materials.

EHCLF4
EHCNF4
EHCMF4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHCLF404005S	4	0.5R	8	75	6	4
EHCLF406005S	6	0.5R	12	75	6	4
EHCNF406005S	6	0.5R	12	100	6	4
EHCMF408005S	8	0.5R	16	75	8	4
EHCLF408005S	8	0.5R	16	100	8	4
EHCLF410005S	10	0.5R	20	100	10	4
EHCLF412005S	12	0.5R	24	100	12	4

Cutting conditions（建議切削參數表）: Table 006

d	R Tolerance
Ø ≦ 6	+0 ~ -0.02
Ø ≧ 8	+0 ~ -0.03
R	± 0.015

H650 Series for Hardened steel, up to HRC 60

- Ultra grain carbide rods with better abrasion resistance.
- SICO coating with anti-high temperature & anti-oxidation.
- ARCO coating shows good performance in coolant machining.
- Large core diameter promote its rigidity of the tool.
- Negative rake angle design is suitable for machining hardened material.
- Long tool-life and good performance in hardened steel material.

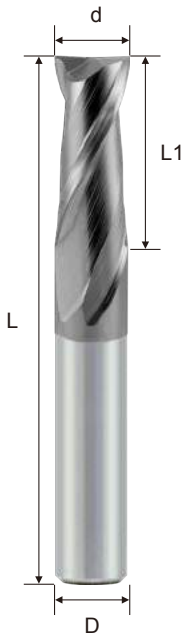
H650 - Square Type - 2F

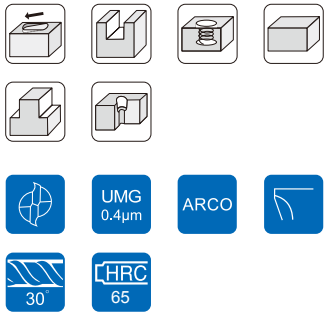
鎢鋼平銑刀－標準型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- UMG Carbide with Incredible toughness and wear resistance at hi speeds.
- Negative angle design with stronger cutting edge.
- The coating can change to SICO, the prices will differ.

EHSFA2
EHSSA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHSFA201000A	1	3	50	4	2
EHSFA202000A	2	5	50	4	2
EHSFA203000A	3	8	50	4	2
EHSFA204000A	4	10	50	4	2
EHSSA203000A	3	8	50	6	2
EHSSA204000A	4	10	50	6	2
EHSSA205000A	5	13	50	6	2
EHSSA206000A	6	15	50	6	2
EHSSA208000A	8	20	60	8	2
EHSSA210000A	10	25	75	10	2
EHSSA212000A	12	30	75	12	2
EHSSA216000A	16	35	100	16	2
EHSSA220000A	20	45	100	20	2

Cutting conditions（建議切削參數表）: Table 008

Winstar Cutting Technologies

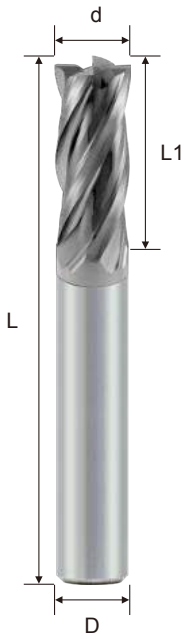
H650 - Square Type - 4F

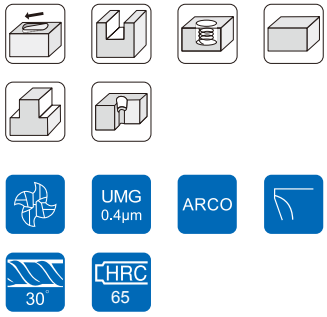
鎢鋼平銑刀－標準型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- High helix angle on side milling with good surface and long tool life.
- UMG Carbide with Incredible toughness and wear resistance at hi speeds.
- The coating can change to SICO, the prices will differ.

EHSFA4
EHSSA4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHSFA401000A	1	3	50	4	4
EHSFA402000A	2	5	50	4	4
EHSFA403000A	3	8	50	4	4
EHSFA404000A	4	10	50	4	4
EHSSA403000A	3	8	50	6	4
EHSSA404000A	4	10	50	6	4
EHSSA405000A	5	13	50	6	4
EHSSA406000A	6	15	50	6	4
EHSSA408000A	8	20	60	8	4
EHSSA410000A	10	25	75	10	4
EHSSA412000A	12	30	75	12	4
EHSSA416000A	16	35	100	16	4
EHSSA420000A	20	45	100	20	4

Cutting conditions（建議切削參數表）: Table 009

d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

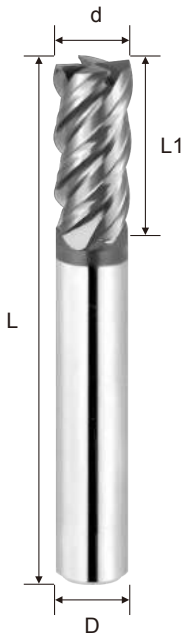
H650 - High Helix Square Type - 4F

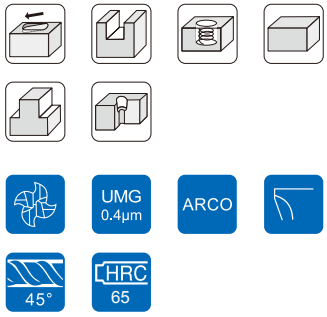
鎢鋼平銑刀－高導型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- UMG Carbide with Incredible toughness and wear resistance at hi speeds.
- Good surface and long tool life.
- The coating can change to SICO, the prices will differ.

EHSFH4
EHSSH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHSFH401000A	1.0	3	50	4	4
EHSFH401500A	1.5	4	50	4	4
EHSFH402000A	2.0	5	50	4	4
EHSFH402500A	2.5	6	50	4	4
EHSFH403000A	3.0	8	50	4	4
EHSFH404000A	4.0	10	50	4	4
EHSSH404000A	4.0	10	50	6	4
EHSSH405000A	5.0	13	50	6	4
EHSSH406000A	6.0	15	50	6	4
EHSSH408000A	8.0	20	60	8	4
EHSSH410000A	10.0	25	75	10	4
EHSSH412000A	12.0	30	75	12	4
EHSSH416000A	16.0	35	100	16	4
EHSSH420000A	20.0	45	100	20	4

Cutting conditions（建議切削參數表）: Table 010

Winstar Cutting Technologies

WINSTAR

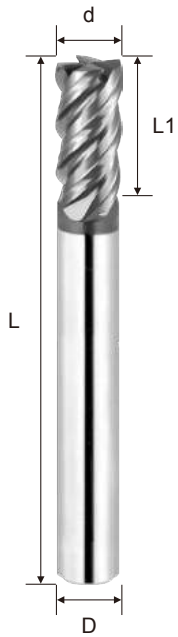
H650 - High Helix & Long Shank Square Type - 4F

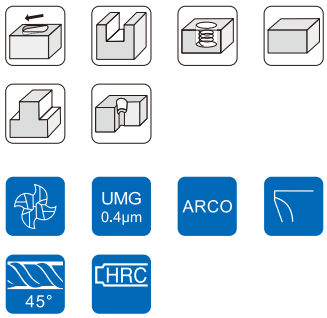
鎢鋼平銑刀－高導長柄型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- UMG Carbide with Incredible toughness and wear resistance at hi speeds.
- Good surface and long tool life.
- The coating can change to SICO, the prices will differ.

EHSLH4
EHSMH4
EHSNH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHSEH403000A	3.0	8	75	4	4
EHSKH403000A	3.0	8	100	4	4
EHSJH404000A	4.0	10	60	4	4
EHSEH404000A	4.0	10	75	4	4
EHSKH404000A	4.0	10	100	4	4
EHSMH406000A	6.0	15	60	6	4
EHSLH406000A	6.0	15	75	6	4
EHSNH406000A	6.0	15	100	6	4
EHSMH408000A	8.0	20	75	8	4
EHSLH408000A	8.0	20	100	8	4
EHSNH408000A	8.0	20	150	8	4
EHSLH410000A	10.0	25	100	10	4
EHSNH410000A	10.0	25	150	10	4
EHSLH412000A	12.0	30	100	12	4
EHSNH412000A	12.0	30	150	12	4
EHSLH416000A	16.0	35	150	16	4
EHSLH420000A	20.0	45	150	20	4

Cutting conditions（建議切削參數表）: Table 011

d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

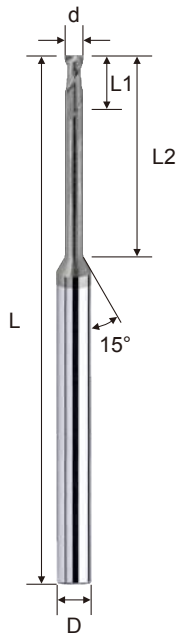
H650 - Long Neck Square Type - 2F

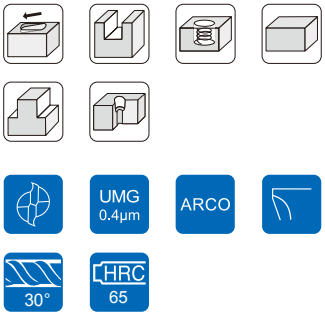
鎢鋼平銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC2
EHSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSBC200201A	0.2	0.3	1	50	4	2
EHSBC200202A	0.2	0.3	2	50	4	2
EHSBC200301A	0.3	0.4	1	50	4	2
EHSBC200302A	0.3	0.4	2	50	4	2
EHSBC200303A	0.3	0.4	3	50	4	2
EHSBC200304A	0.3	0.4	4	50	4	2
EHSBC200305A	0.3	0.4	5	50	4	2
EHSBC200401A	0.4	0.5	1	50	4	2
EHSBC200402A	0.4	0.5	2	50	4	2
EHSBC200403A	0.4	0.5	3	50	4	2
EHSBC200404A	0.4	0.5	4	50	4	2
EHSBC200405A	0.4	0.5	5	50	4	2
EHSBC200406A	0.4	0.5	6	50	4	2
EHSBC200408A	0.4	0.5	8	50	4	2
EHSBC200410A	0.4	0.5	10	50	4	2
EHSBC200502A	0.5	0.6	2	50	4	2
EHSBC200503A	0.5	0.6	3	50	4	2
EHSBC200504A	0.5	0.6	4	50	4	2
EHSBC200505A	0.5	0.6	5	50	4	2
EHSBC200506A	0.5	0.6	6	50	4	2
EHSBC200508A	0.5	0.6	8	50	4	2
EHSBC200510A	0.5	0.6	10	50	4	2
EHSBC200512A	0.5	0.6	12	50	4	2
EHSBC200514A	0.5	0.6	14	50	4	2

Cutting conditions（建議切削參數表）: Table 012 ~ 014

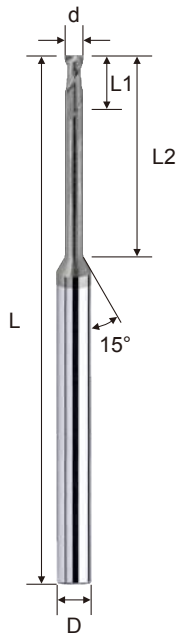
H650 - Long Neck Square Type - 2F

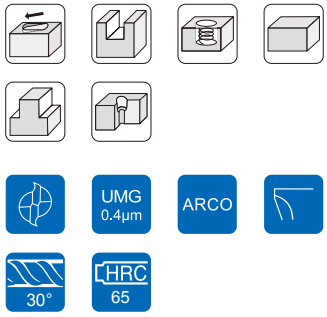
鎢鋼平銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC2
EHSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSBC200602A	0.6	0.7	2	50	4	2
EHSBC200603A	0.6	0.7	3	50	4	2
EHSBC200604A	0.6	0.7	4	50	4	2
EHSBC200605A	0.6	0.7	5	50	4	2
EHSBC200606A	0.6	0.7	6	50	4	2
EHSBC200608A	0.6	0.7	8	50	4	2
EHSBC200610A	0.6	0.7	10	50	4	2
EHSBC200612A	0.6	0.7	12	50	4	2
EHSBC200614A	0.6	0.7	14	50	4	2
EHSBC200616A	0.6	0.7	16	50	4	2
EHSBC200702A	0.7	0.8	2	50	4	2
EHSBC200704A	0.7	0.8	4	50	4	2
EHSBC200706A	0.7	0.8	6	50	4	2
EHSBC200708A	0.7	0.8	8	50	4	2
EHSBC200710A	0.7	0.8	10	50	4	2
EHSBC200712A	0.7	0.8	12	50	4	2
EHSBC200802A	0.8	1.0	2	50	4	2
EHSBC200804A	0.8	1.0	4	50	4	2
EHSBC200806A	0.8	1.0	6	50	4	2
EHSBC200808A	0.8	1.0	8	50	4	2
EHSBC200810A	0.8	1.0	10	50	4	2
EHSBC200812A	0.8	1.0	12	50	4	2
EHSBC200814A	0.8	1.0	14	50	4	2
EHSBC200906A	0.9	1.1	6	50	4	2
EHSBC200908A	0.9	1.1	8	50	4	2
EHSBC200910A	0.9	1.1	10	50	4	2

Cutting conditions（建議切削參數表）: Table 012 ~ 014

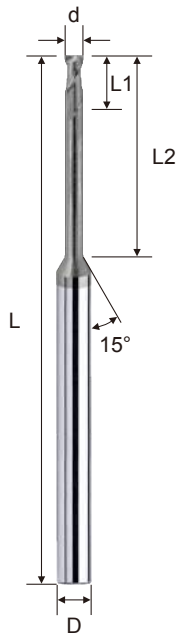
H650 - Long Neck Square Type - 2F

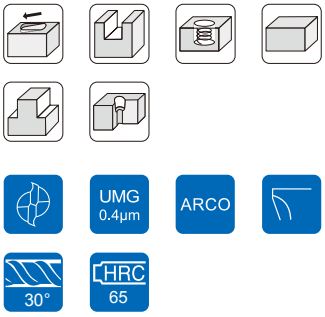
鎢鋼平銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC2
EHSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSBC201002A	1.0	1.2	2	50	4	2
EHSBC201003A	1.0	1.2	3	50	4	2
EHSBC201004A	1.0	1.2	4	50	4	2
EHSBC201005A	1.0	1.2	5	50	4	2
EHSBC201006A	1.0	1.2	6	50	4	2
EHSBC201008A	1.0	1.2	8	50	4	2
EHSBC201010A	1.0	1.2	10	50	4	2
EHSBC201012A	1.0	1.2	12	50	4	2
EHSBC201014A	1.0	1.2	14	50	4	2
EHSBC201016A	1.0	1.2	16	50	4	2
EHSBC201018A	1.0	1.2	18	50	4	2
EHSBC201020A	1.0	1.2	20	50	4	2
EHSBC201204A	1.2	1.5	4	50	4	2
EHSBC201206A	1.2	1.5	6	50	4	2
EHSBC201208A	1.2	1.5	8	50	4	2
EHSBC201210A	1.2	1.5	10	50	4	2
EHSBC201212A	1.2	1.5	12	50	4	2
EHSBC201216A	1.2	1.5	16	50	4	2
EHSBC201220A	1.2	1.5	20	50	4	2
EHSBC201406A	1.4	1.8	6	50	4	2
EHSBC201408A	1.4	1.8	8	50	4	2
EHSBC201410A	1.4	1.8	10	50	4	2
EHSBC201414A	1.4	1.8	14	50	4	2
EHSBC201416A	1.4	1.8	16	50	4	2
EHSBC201420A	1.4	1.8	20	50	4	2

Cutting conditions（建議切削參數表）: Table 012 ~ 014

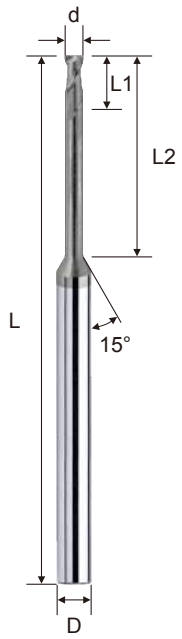
H650 - Long Neck Square Type - 2F

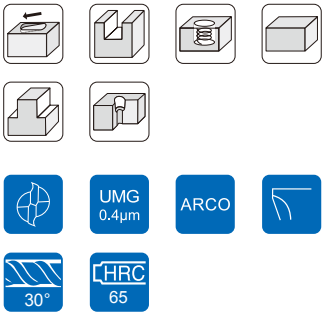
鎢鋼平銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC2
EHSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSBC201504A	1.5	1.8	4	50	4	2
EHSBC201506A	1.5	1.8	6	50	4	2
EHSBC201508A	1.5	1.8	8	50	4	2
EHSBC201510A	1.5	1.8	10	50	4	2
EHSBC201512A	1.5	1.8	12	50	4	2
EHSBC201514A	1.5	1.8	14	50	4	2
EHSBC201516A	1.5	1.8	16	50	4	2
EHSBC201518A	1.5	1.8	18	50	4	2
EHSBC201520A	1.5	1.8	20	50	4	2
EHSBC201610A	1.6	1.9	10	50	4	2
EHSBC201614A	1.6	1.9	14	50	4	2
EHSBC201618A	1.6	1.9	18	50	4	2
EHSBC201810A	1.8	2.0	10	50	4	2
EHSBC201814A	1.8	2.0	14	50	4	2
EHSBC201818A	1.8	2.0	18	50	4	2
EHSBC202004A	2.0	2.5	4	50	4	2
EHSBC202006A	2.0	2.5	6	50	4	2
EHSBC202008A	2.0	2.5	8	50	4	2
EHSBC202010A	2.0	2.5	10	50	4	2
EHSBC202012A	2.0	2.5	12	50	4	2
EHSBC202014A	2.0	2.5	14	50	4	2
EHSBC202016A	2.0	2.5	16	50	4	2
EHSBC202018A	2.0	2.5	18	50	4	2
EHSBC202020A	2.0	2.5	20	50	4	2
EHSBC202022A	2.0	2.5	22	60	4	2
EHSBC202025A	2.0	2.5	25	60	4	2
EHSBC202030A	2.0	2.5	30	75	4	2
EHSBC202035A	2.0	2.5	35	75	4	2

Cutting conditions（建議切削參數表）: Table 012 ~ 014

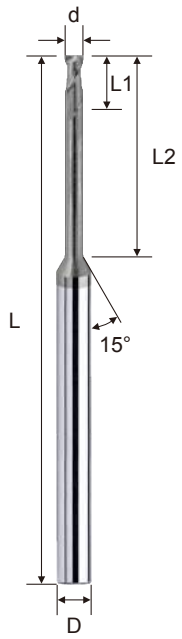
H650 - Long Neck Square Type - 2F

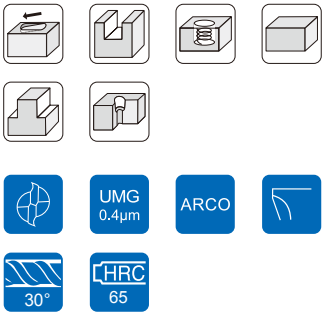
鎢鋼平銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC2
EHSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSBC202508A	2.5	3.0	8	50	4	2
EHSBC202510A	2.5	3.0	10	50	4	2
EHSBC202512A	2.5	3.0	12	50	4	2
EHSBC202516A	2.5	3.0	16	50	4	2
EHSBC202520A	2.5	3.0	20	50	4	2
EHSBC202525A	2.5	3.0	25	60	4	2
EHSBC202530A	2.5	3.0	30	60	4	2
EHSBC202535A	2.5	3.0	35	60	4	2
EHSRC203006A	3.0	3.5	6	50	6	2
EHSRC203010A	3.0	3.5	10	50	6	2
EHSRC203012A	3.0	3.5	12	50	6	2
EHSRC203016A	3.0	3.5	16	50	6	2
EHSRC203020A	3.0	3.5	20	60	6	2
EHSRC203025A	3.0	3.5	25	60	6	2
EHSRC203030A	3.0	3.5	30	75	6	2
EHSRC203035A	3.0	3.5	35	75	6	2
EHSRC204008A	4.0	4.5	8	50	6	2
EHSRC204010A	4.0	4.5	10	50	6	2
EHSRC204012A	4.0	4.5	12	50	6	2
EHSRC204016A	4.0	4.5	16	50	6	2
EHSRC204020A	4.0	4.5	20	60	6	2
EHSRC204025A	4.0	4.5	25	60	6	2
EHSRC204030A	4.0	4.5	30	75	6	2
EHSRC204035A	4.0	4.5	35	75	6	2
EHSRC205016A	5.0	7.0	16	50	6	2
EHSRC205020A	5.0	7.0	20	60	6	2
EHSRC205025A	5.0	7.0	25	60	6	2
EHSRC205030A	5.0	7.0	30	75	6	2
EHSRC205035A	5.0	7.0	35	75	6	2

Cutting conditions（建議切削參數表）: Table 012 ~ 014

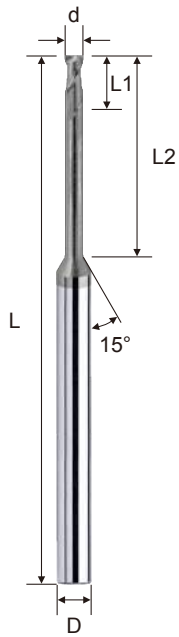
H650 - Long Neck Square Type - 2F

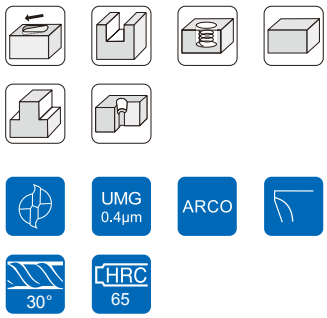
鎢鋼平銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC2
EHSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSRC206020A	6.0	10.0	20	60	6	2
EHSRC206030A	6.0	10.0	30	75	6	2
EHSRC208020A	8.0	15.0	20	60	8	2
EHSRC208030A	8.0	15.0	30	75	8	2
EHSRC208040A	8.0	15.0	40	100	8	2
EHSRC210025A	10.0	20.0	25	75	10	2
EHSRC210035A	10.0	20.0	35	75	10	2
EHSRC210045A	10.0	20.0	45	100	10	2
EHSRC212030A	12.0	25.0	30	75	12	2
EHSRC212040A	12.0	25.0	40	100	12	2
EHSRC212050A	12.0	25.0	50	100	12	2

Cutting conditions（建議切削參數表）: Table 012 ~ 014

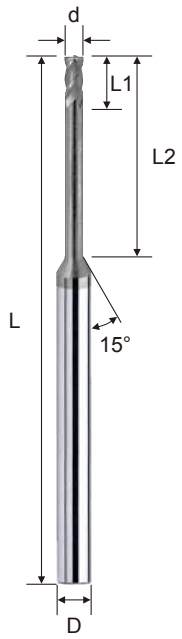
H650 - Long Neck Square Type - 4F

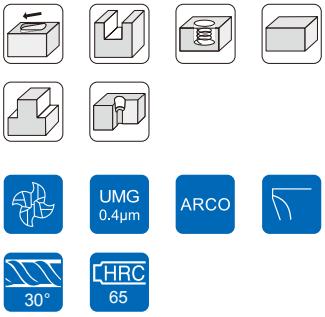
鎢鋼平銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC4
EHSRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSBC401003A	1.0	1.0	3	50	4	4
EHSBC401004A	1.0	1.0	4	50	4	4
EHSBC401006A	1.0	1.0	6	50	4	4
EHSBC401008A	1.0	1.0	8	50	4	4
EHSBC401010A	1.0	1.0	10	50	4	4
EHSBC401012A	1.0	1.0	12	50	4	4
EHSBC401016A	1.0	1.0	16	50	4	4
EHSBC401020A	1.0	1.0	20	50	4	4
EHSBC401025A	1.0	1.0	25	60	4	4
EHSRC401004A	1.0	1.0	4	50	6	4
EHSRC401006A	1.0	1.0	6	50	6	4
EHSRC401008A	1.0	1.0	8	50	6	4
EHSRC401010A	1.0	1.0	10	50	6	4
EHSRC401012A	1.0	1.0	12	50	6	4
EHSBC401506A	1.5	1.5	6	50	4	4
EHSBC401508A	1.5	1.5	8	50	4	4
EHSBC401510A	1.5	1.5	10	50	4	4
EHSBC401512A	1.5	1.5	12	50	4	4
EHSBC401516A	1.5	1.5	16	50	4	4
EHSBC401520A	1.5	1.5	20	50	4	4
EHSBC401525A	1.5	1.5	25	60	4	4
EHSRC401506A	1.5	1.5	6	50	6	4
EHSRC401508A	1.5	1.5	8	50	6	4
EHSRC401510A	1.5	1.5	10	50	6	4
EHSRC401512A	1.5	1.5	12	50	6	4

Cutting conditions（建議切削參數表）: Table 015

Winstar Cutting Technologies

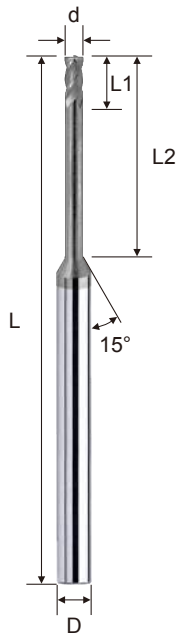
H650 - Long Neck Square Type - 4F

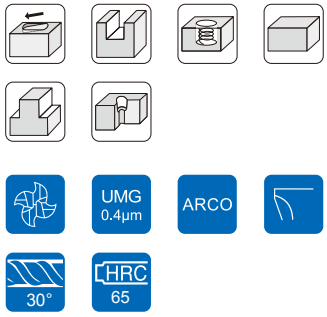
鎢鋼平銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC4
EHSRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSBC402006A	2.0	2.0	6	50	4	4
EHSBC402008A	2.0	2.0	8	50	4	4
EHSBC402010A	2.0	2.0	10	50	4	4
EHSBC402012A	2.0	2.0	12	50	4	4
EHSBC402016A	2.0	2.0	16	50	4	4
EHSBC402020A	2.0	2.0	20	50	4	4
EHSBC402025A	2.0	2.0	25	60	4	4
EHSBC402030A	2.0	2.0	30	75	4	4
EHSRC402006A	2.0	2.0	6	50	6	4
EHSRC402008A	2.0	2.0	8	50	6	4
EHSRC402010A	2.0	2.0	10	50	6	4
EHSRC402016A	2.0	2.0	16	50	6	4
EHSBC402510A	2.5	2.5	10	50	4	4
EHSBC402512A	2.5	2.5	12	50	4	4
EHSBC402516A	2.5	2.5	16	50	4	4
EHSBC402520A	2.5	2.5	20	50	4	4
EHSBC402525A	2.5	2.5	25	60	4	4
EHSBC402530A	2.5	2.5	30	75	4	4
EHSRC402506A	2.5	2.5	6	50	6	4
EHSRC402510A	2.5	2.5	10	50	6	4
EHSRC403010A	3.0	3.0	10	50	6	4
EHSRC403012A	3.0	3.0	12	50	6	4
EHSRC403016A	3.0	3.0	16	50	6	4
EHSRC403020A	3.0	3.0	20	60	6	4
EHSRC403025A	3.0	3.0	25	60	6	4
EHSRC403030A	3.0	3.0	30	75	6	4
EHSRC403035A	3.0	3.0	35	75	6	4

Cutting conditions（建議切削參數表）: Table 015

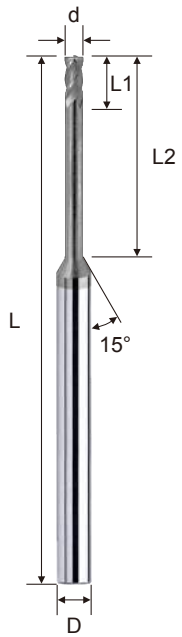
H650 - Long Neck Square Type - 4F

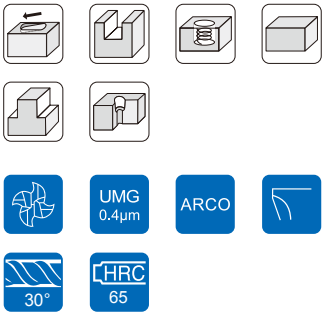
鎢鋼平銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long neck design is suitable for Rib cutting.
- The coating can change to SICO, the prices will differ.

EHSBC4
EHSRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHSRC404010A	4.0	4.0	10	50	6	4
EHSRC404012A	4.0	4.0	12	50	6	4
EHSRC404016A	4.0	4.0	16	50	6	4
EHSRC404020A	4.0	4.0	20	60	6	4
EHSRC404025A	4.0	4.0	25	60	6	4
EHSRC404030A	4.0	4.0	30	75	6	4
EHSRC405016A	5.0	5.0	16	50	6	4
EHSRC405020A	5.0	5.0	20	60	6	4
EHSRC405025A	5.0	5.0	25	60	6	4
EHSRC405030A	5.0	5.0	30	75	6	4
EHSRC406020A	6.0	6.0	20	60	6	4
EHSRC406030A	6.0	6.0	30	75	6	4
EHSRC408020A	8.0	15.0	20	60	8	4
EHSRC408030A	8.0	15.0	30	75	8	4
EHSRC408040A	8.0	15.0	40	100	8	4
EHSRC410025A	10.0	20.0	25	75	10	4
EHSRC410035A	10.0	20.0	35	100	10	4
EHSRC410045A	10.0	20.0	45	100	10	4
EHSRC412030A	12.0	25.0	30	75	12	4
EHSRC412040A	12.0	25.0	40	100	12	4
EHSRC412050A	12.0	25.0	50	100	12	4

Cutting conditions（建議切削參數表）: Table 015

Winstar Cutting Technologies

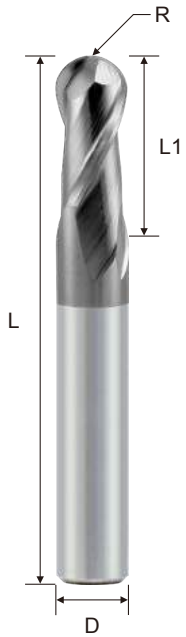
H650 - Ball Nose Type - 2F

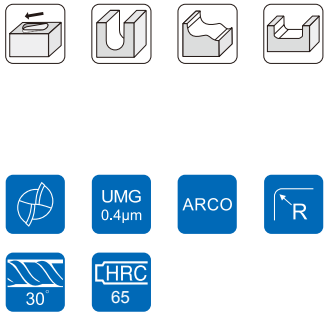
鎢鋼球型銑刀－標準型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- 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.
- The coating can change to SICO, the prices will differ.

EHBFH2
EHBSH2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHBFH201000A	0.50R	1.0	2	50	4	2
EHBFH201500A	0.75R	1.5	3	50	4	2
EHBFH202000A	1.00R	2.0	4	50	4	2
EHBFH203000A	1.50R	3.0	6	50	4	2
EHBFH204000A	2.00R	4.0	8	50	4	2
EHBSH205000A	2.50R	5.0	10	50	6	2
EHBSH206000A	3.00R	6.0	12	50	6	2
EHBSH208000A	4.00R	8.0	16	60	8	2
EHBSH210000A	5.00R	10.0	20	75	10	2
EHBSH212000A	6.00R	12.0	24	75	12	2
EHBSH216000A	8.00R	16.0	32	100	16	2

Cutting conditions（建議切削參數表）: Table 016

d	R Tolerance
Ø ≦ 12	± 0.01
Ø > 12	± 0.015

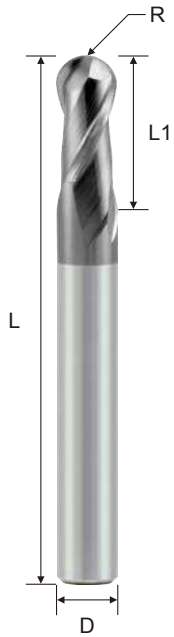
H650 - Long Shank Ball Nose Type - 2F

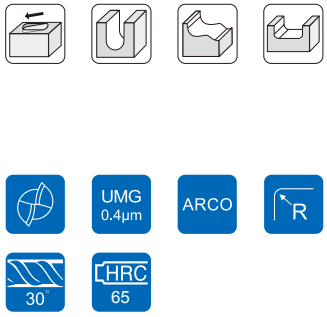
鎢鋼球型銑刀－長柄型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- 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.
- The coating can change to SICO, the prices will differ.

EHBLH2
EHBMH2
EHBNH2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø ≦ 12	± 0.01
Ø > 12	± 0.015

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHBEH202000A	1R	2.0	4	75	4	2
EHBEH203000A	1.5R	3.0	6	75	4	2
EHBKH203000A	1.5R	4.0	6	100	4	2
EHBJH204000A	2R	4.0	8	60	4	2
EHBEH204000A	2R	4.0	8	75	4	2
EHBKH204000A	2R	4.0	8	100	4	2
EHBMH206000A	3R	6.0	12	60	6	2
EHBLH206000A	3R	6.0	12	75	6	2
EHBNH206000A	3R	6.0	12	100	6	2
EHBMH208000A	4R	8.0	16	75	8	2
EHBLH208000A	4R	8.0	16	100	8	2
EHBNH208000A	4R	8.0	16	150	8	2
EHBLH210000A	5R	10.0	20	100	10	2
EHBNH210000A	5R	10.0	20	150	10	2
EHBLH212000A	6R	12.0	24	100	12	2
EHBNH212000A	6R	12.0	24	150	12	2
EHBLH216000A	8R	16.0	32	150	16	2
EHBLH220000A	10R	20.0	40	150	20	2

Cutting conditions（建議切削參數表）: Table 017

Winstar Cutting Technologies

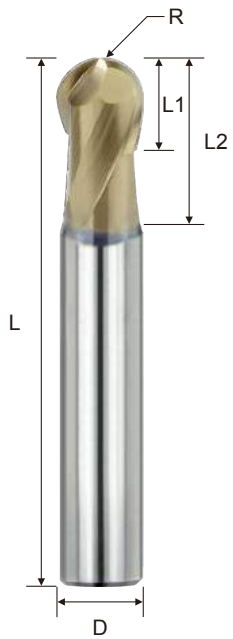
H650 - Short Flute Ball Nose Type - 2F

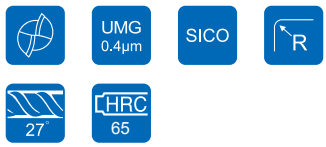
鎢鋼球型銑刀－短刃型－ 2 刃

- SICO Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Due to short cutting length provides an excellent face milling surface roughness of the work pieces.
- Short cutting length provides hi resistance for hi speed cutting.
- The coating can change to TOP ARCO, the prices will differ.

EHBUH2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø ≦ 12	± 0.01
Ø > 12	± 0.015

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

Cutting conditions（建議切削參數表）: Table 018

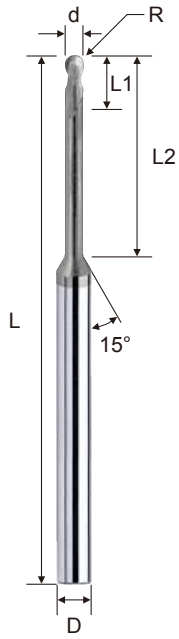
H650 - Long Neck Ball Nose Type - 2F

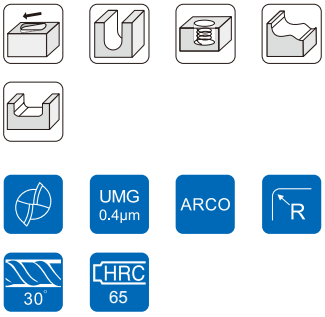
鎢鋼球型銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SICO, the prices will differ.

EHBBC2
EHBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHBBC200301A	0.15R	0.3	0.3	1	50	4	2
EHBBC200302A	0.15R	0.3	0.3	2	50	4	2
EHBBC200303A	0.15R	0.3	0.3	3	50	4	2
EHBBC200401A	0.20R	0.4	0.4	1	50	4	2
EHBBC200402A	0.20R	0.4	0.4	2	50	4	2
EHBBC200403A	0.20R	0.4	0.4	3	50	4	2
EHBBC200404A	0.20R	0.4	0.4	4	50	4	2
EHBBC200405A	0.20R	0.4	0.4	5	50	4	2
EHBBC200406A	0.20R	0.4	0.4	6	50	4	2
EHBBC200408A	0.20R	0.4	0.4	8	50	4	2
EHBBC200501A	0.25R	0.5	0.5	1	50	4	2
EHBBC200502A	0.25R	0.5	0.5	2	50	4	2
EHBBC200503A	0.25R	0.5	0.5	3	50	4	2
EHBBC200504A	0.25R	0.5	0.5	4	50	4	2
EHBBC200505A	0.25R	0.5	0.5	5	50	4	2
EHBBC200506A	0.25R	0.5	0.5	6	50	4	2
EHBBC200508A	0.25R	0.5	0.5	8	50	4	2
EHBBC200510A	0.25R	0.5	0.5	10	50	4	2
EHBBC200601A	0.30R	0.6	0.6	1	50	4	2
EHBBC200602A	0.30R	0.6	0.6	2	50	4	2
EHBBC200603A	0.30R	0.6	0.6	3	50	4	2
EHBBC200604A	0.30R	0.6	0.6	4	50	4	2
EHBBC200605A	0.30R	0.6	0.6	5	50	4	2
EHBBC200606A	0.30R	0.6	0.6	6	50	4	2
EHBBC200608A	0.30R	0.6	0.6	8	50	4	2
EHBBC200610A	0.30R	0.6	0.6	10	50	4	2
EHBBC200612A	0.30R	0.6	0.6	12	50	4	2

Cutting conditions（建議切削參數表）: Table 019

WINSTAR

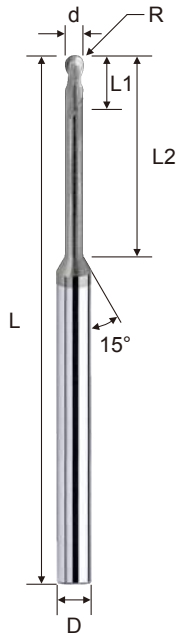
H650 - Long Neck Ball Nose Type - 2F

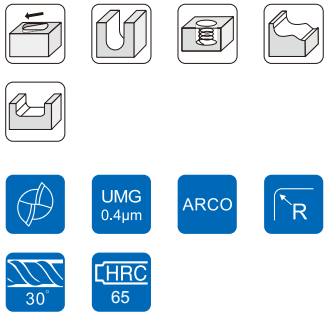
鎢鋼球型銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SICO, the prices will differ.

EHBBC2
EHBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHBBC200702A	0.35R	0.7	0.7	2	50	4	2
EHBBC200704A	0.35R	0.7	0.7	4	50	4	2
EHBBC200708A	0.35R	0.7	0.7	8	50	4	2
EHBBC200710A	0.35R	0.7	0.7	10	50	4	2
EHBBC200712A	0.35R	0.7	0.7	12	50	4	2
EHBBC200802A	0.40R	0.8	0.8	2	50	4	2
EHBBC200804A	0.40R	0.8	0.8	4	50	4	2
EHBBC200806A	0.40R	0.8	0.8	6	50	4	2
EHBBC200808A	0.40R	0.8	0.8	8	50	4	2
EHBBC200810A	0.40R	0.8	0.8	10	50	4	2
EHBBC200812A	0.40R	0.8	0.8	12	50	4	2
EHBBC200904A	0.45R	0.9	0.9	4	50	4	2
EHBBC201002A	0.50R	1.0	1.0	2	50	4	2
EHBBC201003A	0.50R	1.0	1.0	3	50	4	2
EHBBC201004A	0.50R	1.0	1.0	4	50	4	2
EHBBC201005A	0.50R	1.0	1.0	5	50	4	2
EHBBC201006A	0.50R	1.0	1.0	6	50	4	2
EHBBC201008A	0.50R	1.0	1.0	8	50	4	2
EHBBC201010A	0.50R	1.0	1.0	10	50	4	2
EHBBC201012A	0.50R	1.0	1.0	12	50	4	2
EHBBC201014A	0.50R	1.0	1.0	14	50	4	2
EHBBC201016A	0.50R	1.0	1.0	16	50	4	2
EHBBC201018A	0.50R	1.0	1.0	18	50	4	2
EHBBC201020A	0.50R	1.0	1.0	20	50	4	2
EHBBC201022A	0.50R	1.0	1.0	22	60	4	2
EHBRC201004A	0.50R	1.0	1.0	4	50	6	2
EHBRC201006A	0.50R	1.0	1.0	6	50	6	2
EHBRC201008A	0.50R	1.0	1.0	8	50	6	2
EHBRC201010A	0.50R	1.0	1.0	10	50	6	2
EHBRC201012A	0.50R	1.0	1.0	12	50	6	2

Cutting conditions（建議切削參數表）: Table 019

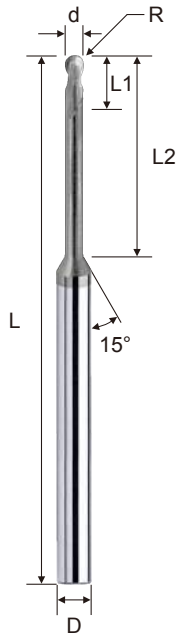
H650 - Long Neck Ball Nose Type - 2F

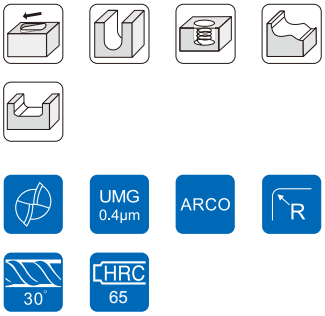
鎢鋼球型銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SICO, the prices will differ.

EHBBC2
EHBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHBBC201204A	0.60R	1.2	1.2	4	50	4	2
EHBBC201206A	0.60R	1.2	1.2	6	50	4	2
EHBBC201208A	0.60R	1.2	1.2	8	50	4	2
EHBBC201210A	0.60R	1.2	1.2	10	50	4	2
EHBBC201212A	0.60R	1.2	1.2	12	50	4	2
EHBBC201216A	0.60R	1.2	1.2	16	50	4	2
EHBBC201220A	0.60R	1.2	1.2	20	50	4	2
EHBBC201224A	0.60R	1.2	1.2	24	60	4	2
EHBBC201406A	0.70R	1.4	1.4	6	50	4	2
EHBBC201408A	0.70R	1.4	1.4	8	50	4	2
EHBBC201412A	0.70R	1.4	1.4	12	50	4	2
EHBBC201416A	0.70R	1.4	1.4	16	50	4	2
EHBBC201503A	0.75R	1.5	1.5	3	50	4	2
EHBBC201504A	0.75R	1.5	1.5	4	50	4	2
EHBBC201506A	0.75R	1.5	1.5	6	50	4	2
EHBBC201508A	0.75R	1.5	1.5	8	50	4	2
EHBBC201510A	0.75R	1.5	1.5	10	50	4	2
EHBBC201512A	0.75R	1.5	1.5	12	50	4	2
EHBBC201514A	0.75R	1.5	1.5	14	50	4	2
EHBBC201516A	0.75R	1.5	1.5	16	50	4	2
EHBBC201518A	0.75R	1.5	1.5	18	50	4	2
EHBBC201520A	0.75R	1.5	1.5	20	50	4	2
EHBBC201522A	0.75R	1.5	1.5	22	60	4	2
EHBBC201525A	0.75R	1.5	1.5	25	60	4	2
EHBBC201530A	0.75R	1.5	1.5	30	75	4	2
EHBRC201506A	0.75R	1.5	1.5	6	50	6	2
EHBRC201508A	0.75R	1.5	1.5	8	50	6	2
EHBRC201510A	0.75R	1.5	1.5	10	50	6	2
EHBRC201512A	0.75R	1.5	1.5	12	50	6	2

Cutting conditions（建議切削參數表）: Table 019

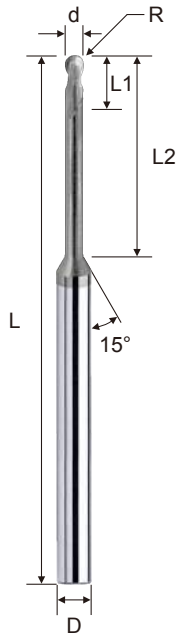
H650 - Long Neck Ball Nose Type - 2F

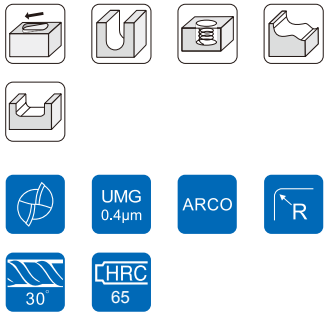
鎢鋼球型銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SICO, the prices will differ.

EHBBC2
EHBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHBBC201606A	0.80R	1.6	1.6	6	50	4	2
EHBBC201608A	0.80R	1.6	1.6	8	50	4	2
EHBBC201612A	0.80R	1.6	1.6	12	50	4	2
EHBBC201616A	0.80R	1.6	1.6	16	50	4	2
EHBBC201620A	0.80R	1.6	1.6	20	50	4	2
EHBBC201806A	0.90R	1.8	1.8	6	50	4	2
EHBBC201808A	0.90R	1.8	1.8	8	50	4	2
EHBBC201812A	0.90R	1.8	1.8	12	50	4	2
EHBBC201816A	0.90R	1.8	1.8	16	50	4	2
EHBBC201820A	0.90R	1.8	1.8	20	50	4	2
EHBBC202004A	1.00R	2.0	2.0	4	50	4	2
EHBBC202006A	1.00R	2.0	2.0	6	50	4	2
EHBBC202008A	1.00R	2.0	2.0	8	50	4	2
EHBBC202010A	1.00R	2.0	2.0	10	50	4	2
EHBBC202012A	1.00R	2.0	2.0	12	50	4	2
EHBBC202014A	1.00R	2.0	2.0	14	50	4	2
EHBBC202016A	1.00R	2.0	2.0	16	50	4	2
EHBBC202018A	1.00R	2.0	2.0	18	50	4	2
EHBBC202020A	1.00R	2.0	2.0	20	50	4	2
EHBBC202022A	1.00R	2.0	2.0	22	60	4	2
EHBBC202025A	1.00R	2.0	2.0	25	60	4	2
EHBRC202006A	1.00R	2.0	2.0	6	50	6	2
EHBRC202008A	1.00R	2.0	2.0	8	50	6	2
EHBRC202010A	1.00R	2.0	2.0	10	50	6	2
EHBRC202016A	1.00R	2.0	2.0	16	50	6	2

Cutting conditions（建議切削參數表）: Table 019

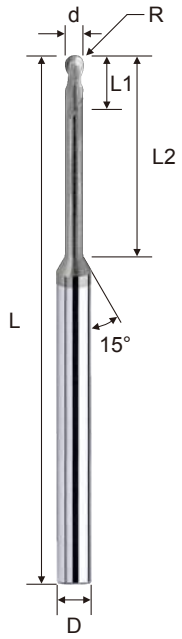
H650 - Long Neck Ball Nose Type - 2F

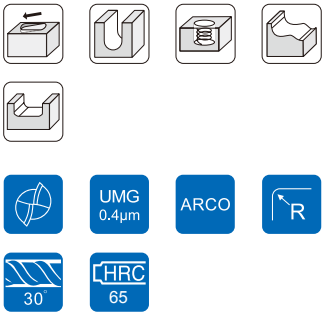
鎢鋼球型銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Suitable for deep cutting due to the long neck design.
- Polish cutting edge provides stronger tip.
- The coating can change to SICO, the prices will differ.

EHBBC2
EHBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHBBC202508A	1.25R	2.5	2.5	8	50	4	2
EHBBC202510A	1.25R	2.5	2.5	10	50	4	2
EHBBC202516A	1.25R	2.5	2.5	16	50	4	2
EHBBC202520A	1.25R	2.5	2.5	20	60	4	2
EHBBC202525A	1.25R	2.5	2.5	25	60	4	2
EHBBC202530A	1.25R	2.5	2.5	30	75	4	2
EHBRC202506A	1.25R	2.5	2.5	6	50	6	2
EHBRC202510A	1.25R	2.5	2.5	10	50	6	2
EHBRC203006A	1.50R	3.0	3.0	6	50	6	2
EHBRC203008A	1.50R	3.0	3.0	8	50	6	2
EHBRC203010A	1.50R	3.0	3.0	10	50	6	2
EHBRC203012A	1.50R	3.0	3.0	12	50	6	2
EHBRC203016A	1.50R	3.0	3.0	16	60	6	2
EHBRC203020A	1.50R	3.0	3.0	20	60	6	2
EHBRC203025A	1.50R	3.0	3.0	25	60	6	2
EHBRC203030A	1.50R	3.0	3.0	30	75	6	2
EHBRC203035A	1.50R	3.0	3.0	35	75	6	2
EHBRC204008A	2.00R	4.0	4.0	8	50	6	2
EHBRC204010A	2.00R	4.0	4.0	10	50	6	2
EHBRC204012A	2.00R	4.0	4.0	12	50	6	2
EHBRC204016A	2.00R	4.0	4.0	16	60	6	2
EHBRC204020A	2.00R	4.0	4.0	20	60	6	2
EHBRC204025A	2.00R	4.0	4.0	25	60	6	2
EHBRC204030A	2.00R	4.0	4.0	30	75	6	2
EHBRC204035A	2.00R	4.0	4.0	35	75	6	2
EHBRC205015A	2.50R	5.0	5.0	15	60	6	2
EHBRC205020A	2.50R	5.0	5.0	20	60	6	2
EHBRC205025A	2.50R	5.0	5.0	25	60	6	2
EHBRC205030A	2.50R	5.0	5.0	30	75	6	2
EHBRC206015A	3.00R	6.0	10.0	15	50	6	2
EHBRC208025A	4.00R	8.0	12.0	25	60	8	2
EHBRC210030A	5.00R	10.0	16.0	30	75	10	2
EHBRC212030A	6.00R	12.0	18.0	30	75	12	2

Cutting conditions（建議切削參數表）: Table 019

Winstar Cutting Technologies

WINSTAR

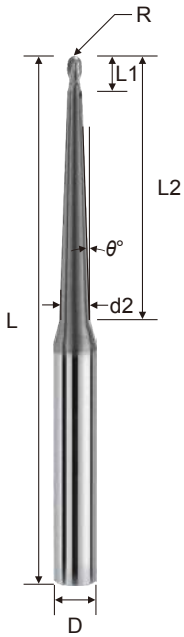
H650 - Taper Neck Ball Nose Type - 2F

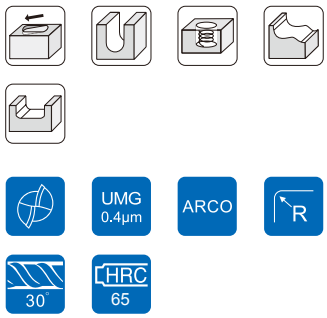
鎢鋼球型銑刀－斜頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- High strength of taper neck, can cut deep grooves without breaking.
- Suitable for cutting groves at hi speed.
- The coating can change to SICO, the prices will differ.

EHBRT2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	θ°	CL (L1)	EFF-L (L2)	NL (d2)	OAL (L)	Shank (D)	Flutes (F)
EHBRT201023AA	0.5R	1	1.5°	2	23	2.20	60	6	2
EHBRT202023AA	1.0R	2	1.5°	4	23	3.00	60	6	2
EHBRT2020423A	1.0R	2	3.0°	4	42	5.98	100	8	2
EHBRT203052AA	1.5R	3	1.5°	6	52	5.40	100	6	2
EHBRT2030473A	1.5R	3	3.0°	6	47	7.29	100	8	2
EHBRT204046AA	2.0R	4	1.5°	8	46	6.00	100	6	2
EHBRT2040383A	2.0R	4	3.0°	8	38	7.14	100	8	2
EHBRT2050283A	2.5R	5	3.0°	10	28	6.88	100	8	2
EHBRT2060383A	3.0R	6	3.0°	12	38	8.72	100	10	2
EHBRT2080383A	4.0R	8	3.0°	16	38	10.30	100	12	2
EHBRT2100573A	5.0R	10	3.0°	20	57	13.88	100	16	2
EHBRT2120383A	6.0R	12	3.0°	24	38	13.47	100	16	2

Cutting conditions（建議切削參數表）: Table 020

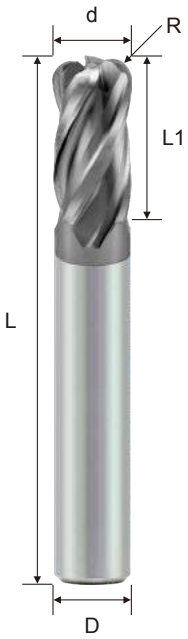
H650 - Corner Radius Type - 4F

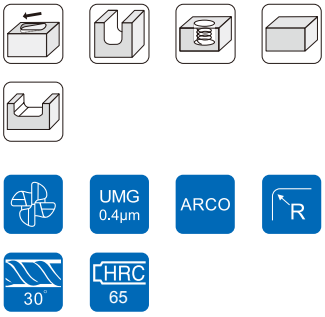
鎢鋼圓鼻銑刀－標準型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long tool life and wear resistant due to its negative angle with corner radius design.
- The coating can change to SICO, the prices will differ.

EHCFH4
EHCSH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHCFH404003A	4	0.3R	8	50	4	4
EHCFH404005A	4	0.5R	8	50	4	4
EHCFH404010A	4	1.0R	8	50	4	4
EHCSH404003A	4	0.3R	8	50	6	4
EHCSH404005A	4	0.5R	8	50	6	4
EHCSH404010A	4	1.0R	8	50	6	4
EHCSH405005A	5	0.5R	10	50	6	4
EHCSH405010A	5	1.0R	10	50	6	4
EHCSH406003A	6	0.3R	12	50	6	4
EHCSH406005A	6	0.5R	12	50	6	4
EHCSH406010A	6	1.0R	12	50	6	4
EHCSH408005A	8	0.5R	16	60	8	4
EHCSH408010A	8	1.0R	16	60	8	4
EHCSH408015A	8	1.5R	16	60	8	4
EHCSH410005A	10	0.5R	20	75	10	4
EHCSH410010A	10	1.0R	20	75	10	4
EHCSH410015A	10	1.5R	20	75	10	4
EHCSH410020A	10	2.0R	20	75	10	4
EHCSH412005A	12	0.5R	24	75	12	4
EHCSH412010A	12	1.0R	24	75	12	4
EHCSH412015A	12	1.5R	24	75	12	4
EHCSH412020A	12	2.0R	24	75	12	4

Cutting conditions（建議切削參數表）: Table 021

d	R Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03
R	± 0.015

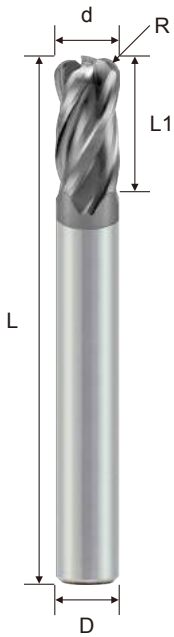
H650 - Long Shank Corner Radius Type - 4F

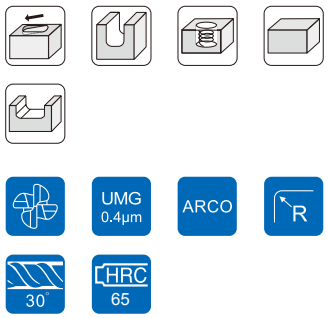
鎢鋼圓鼻銑刀－長柄型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Long tool life and wear resistant due to its negative angle with corner radius design.
- The coating can change to SICO, the prices will differ.

EHCLH4
EHCMH4
EHCNH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EHCEH404005A	4	0.5R	8	75	4	4
EHCEH404010A	4	1.0R	8	75	4	4
EHCKH404005A	4	0.5R	8	100	4	4
EHCKH404010A	4	1.0R	8	100	4	4
EHCLH406005A	6	0.5R	12	75	6	4
EHCLH406010A	6	1.0R	12	75	6	4
EHCNH406005A	6	0.5R	12	100	6	4
EHCNH406010A	6	1.0R	12	100	6	4
EHCMH408005A	8	0.5R	16	75	8	4
EHCMH408010A	8	1.0R	16	75	8	4
EHCLH408005A	8	0.5R	16	100	8	4
EHCLH408010A	8	1.0R	16	100	8	4
EHCLH410005A	10	0.5R	20	100	10	4
EHCLH410010A	10	1.0R	20	100	10	4
EHCNH410005A	10	0.5R	20	150	10	4
EHCNH410010A	10	1.0R	20	150	10	4
EHCLH412005A	12	0.5R	24	100	12	4
EHCLH412010A	12	0.5R	24	100	12	4
EHCNH412005A	12	0.5R	24	150	12	4
EHCNH412010A	12	1.0R	24	150	12	4

Cutting conditions（建議切削參數表）: Table 022

d	R Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03
R	± 0.015

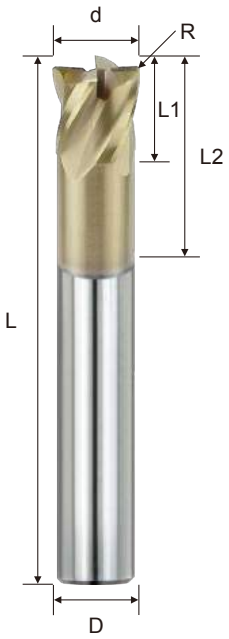
H650 - Short Flute Corner Radius Type - 4F

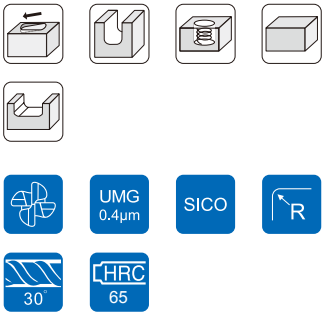
鎢鋼圓鼻銑刀－短刃型－ 4 刃

- SICO Nano coating provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Short cutting length with high rigidity is suitable for high speed cutting.
- The coating can change to TOP ARCO, the prices will differ.

EHCUH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03
R	± 0.015

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCUH403001S	3	0.1R	3	7.5	50	6	4
EHCUH403005S	3	0.5R	3	7.5	50	6	4
EHCUH404002S	4	0.2R	4	10.0	50	6	4
EHCUH404005S	4	0.5R	4	10.0	50	6	4
EHCUH405002S	5	0.2R	5	12.5	50	6	4
EHCUH405005S	5	0.5R	5	12.5	50	6	4
EHCUH406002S	6	0.2R	6	15.0	50	6	4
EHCUH406005S	6	0.5R	6	15.0	50	6	4
EHCUH406010S	6	1.0R	6	15.0	50	6	4
EHCUH408003S	8	0.3R	8	20.0	60	8	4
EHCUH408005S	8	0.5R	8	20.0	60	8	4
EHCUH408010S	8	1.0R	8	20.0	60	8	4
EHCUH408015S	8	1.5R	8	20.0	60	8	4
EHCUH410003S	10	0.3R	10	25.0	75	10	4
EHCUH410005S	10	0.5R	10	25.0	75	10	4
EHCUH410010S	10	1.0R	10	25.0	75	10	4
EHCUH410015S	10	1.5R	10	25.0	75	10	4
EHCUH410020S	10	2.0R	10	25.0	75	10	4
EHCUH412003S	12	0.3R	12	30.0	75	12	4
EHCUH412005S	12	0.5R	12	30.0	75	12	4
EHCUH412010S	12	1.0R	12	30.0	75	12	4
EHCUH412015S	12	1.5R	12	30.0	75	12	4
EHCUH412020S	12	2.0R	12	30.0	75	12	4

Cutting conditions（建議切削參數表）: Table 023

Winstar Cutting Technologies

WINSTAR

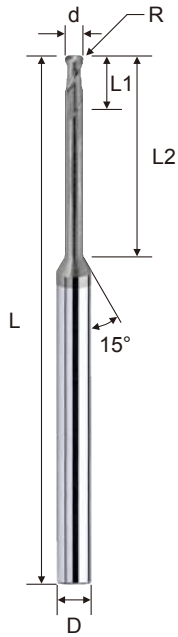
H650 - Long Neck Corner Radius Type - 2F

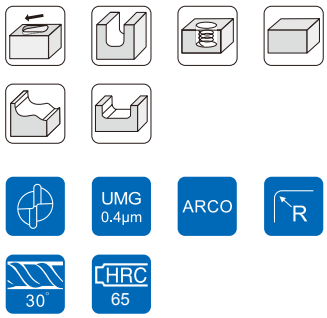
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC2
EHCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCBC20100104A	1.0	0.1R	1.0	4	50	4	2
EHCBC20100106A	1.0	0.1R	1.0	6	50	4	2
EHCBC20100108A	1.0	0.1R	1.0	8	50	4	2
EHCBC20100110A	1.0	0.1R	1.0	10	50	4	2
EHCBC20100112A	1.0	0.1R	1.0	12	50	4	2
EHCBC20100204A	1.0	0.2R	1.0	4	50	4	2
EHCBC20100206A	1.0	0.2R	1.0	6	50	4	2
EHCBC20100208A	1.0	0.2R	1.0	8	50	4	2
EHCBC20100210A	1.0	0.2R	1.0	10	50	4	2
EHCBC20100212A	1.0	0.2R	1.0	12	50	4	2
EHCBC20100304A	1.0	0.3R	1.0	4	50	4	2
EHCBC20100306A	1.0	0.3R	1.0	6	50	4	2
EHCBC20100308A	1.0	0.3R	1.0	8	50	4	2
EHCBC20100310A	1.0	0.3R	1.0	10	50	4	2
EHCBC20100312A	1.0	0.3R	1.0	12	50	4	2
EHCBC20120104A	1.2	0.1R	1.2	4	50	4	2
EHCBC20120106A	1.2	0.1R	1.2	6	50	4	2
EHCBC20120108A	1.2	0.1R	1.2	8	50	4	2
EHCBC20120110A	1.2	0.1R	1.2	10	50	4	2
EHCBC20120112A	1.2	0.1R	1.2	12	50	4	2
EHCBC20120204A	1.2	0.2R	1.2	4	50	4	2
EHCBC20120206A	1.2	0.2R	1.2	6	50	4	2
EHCBC20120208A	1.2	0.2R	1.2	8	50	4	2
EHCBC20120210A	1.2	0.2R	1.2	10	50	4	2
EHCBC20120212A	1.2	0.2R	1.2	12	50	4	2
EHCBC20120304A	1.2	0.3R	1.2	4	50	4	2
EHCBC20120306A	1.2	0.3R	1.2	6	50	4	2
EHCBC20120308A	1.2	0.3R	1.2	8	50	4	2
EHCBC20120310A	1.2	0.3R	1.2	10	50	4	2
EHCBC20120312A	1.2	0.3R	1.2	12	50	4	2

Cutting conditions（建議切削參數表）: Table 024

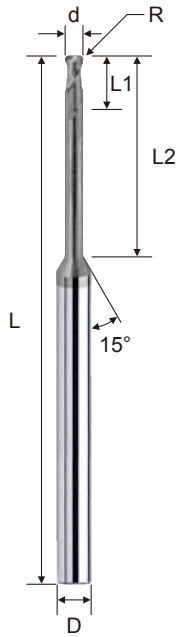
H650 - Long Neck Corner Radius Type - 2F

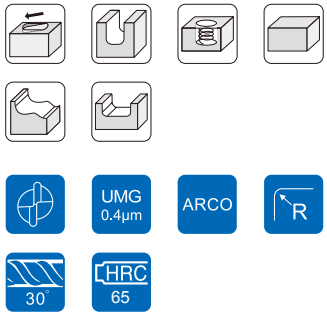
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC2
EHCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCBC20150106A	1.5	0.1R	1.5	6	50	4	2
EHCBC20150108A	1.5	0.1R	1.5	8	50	4	2
EHCBC20150110A	1.5	0.1R	1.5	10	50	4	2
EHCBC20150112A	1.5	0.1R	1.5	12	50	4	2
EHCBC20150116A	1.5	0.1R	1.5	16	50	4	2
EHCBC20150206A	1.5	0.2R	1.5	6	50	4	2
EHCBC20150208A	1.5	0.2R	1.5	8	50	4	2
EHCBC20150210A	1.5	0.2R	1.5	10	50	4	2
EHCBC20150212A	1.5	0.2R	1.5	12	50	4	2
EHCBC20150216A	1.5	0.2R	1.5	16	50	4	2
EHCBC20150306A	1.5	0.3R	1.5	6	50	4	2
EHCBC20150308A	1.5	0.3R	1.5	8	50	4	2
EHCBC20150310A	1.5	0.3R	1.5	10	50	4	2
EHCBC20150312A	1.5	0.3R	1.5	12	50	4	2
EHCBC20150316A	1.5	0.3R	1.5	16	50	4	2
EHCBC20150506A	1.5	0.5R	1.5	6	50	4	2
EHCBC20150508A	1.5	0.5R	1.5	8	50	4	2
EHCBC20150510A	1.5	0.5R	1.5	10	50	4	2
EHCBC20150512A	1.5	0.5R	1.5	12	50	4	2
EHCBC20150516A	1.5	0.5R	1.5	16	50	4	2

Cutting conditions（建議切削參數表）: Table 024

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

WINSTAR

H650 - Long Neck Corner Radius Type - 2F

鎢鋼圓鼻銑刀－長頸型－ 2 刃

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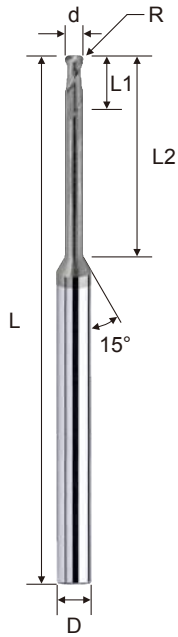
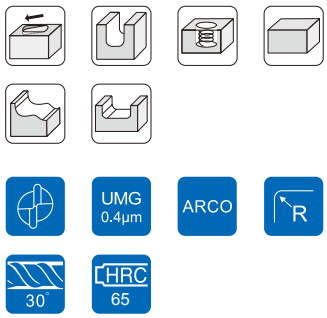
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC2
EHCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCBC20200106A	2.0	0.1R	2.0	6	50	4	2
EHCBC20200108A	2.0	0.1R	2.0	8	50	4	2
EHCBC20200110A	2.0	0.1R	2.0	10	50	4	2
EHCBC20200112A	2.0	0.1R	2.0	12	50	4	2
EHCBC20200116A	2.0	0.1R	2.0	16	50	4	2
EHCBC20200120A	2.0	0.1R	2.0	20	50	4	2
EHCBC20200125A	2.0	0.1R	2.0	25	60	4	2
EHCBC20200206A	2.0	0.2R	2.0	6	50	4	2
EHCBC20200208A	2.0	0.2R	2.0	8	50	4	2
EHCBC20200210A	2.0	0.2R	2.0	10	50	4	2
EHCBC20200212A	2.0	0.2R	2.0	12	50	4	2
EHCBC20200216A	2.0	0.2R	2.0	16	50	4	2
EHCBC20200220A	2.0	0.2R	2.0	20	50	4	2
EHCBC20200225A	2.0	0.2R	2.0	25	60	4	2
EHCBC20200306A	2.0	0.3R	2.0	6	50	4	2
EHCBC20200308A	2.0	0.3R	2.0	8	50	4	2
EHCBC20200310A	2.0	0.3R	2.0	10	50	4	2
EHCBC20200312A	2.0	0.3R	2.0	12	50	4	2
EHCBC20200316A	2.0	0.3R	2.0	16	50	4	2
EHCBC20200320A	2.0	0.3R	2.0	20	50	4	2
EHCBC20200325A	2.0	0.3R	2.0	25	60	4	2
EHCBC20200506A	2.0	0.5R	2.0	6	50	4	2
EHCBC20200508A	2.0	0.5R	2.0	8	50	4	2
EHCBC20200510A	2.0	0.5R	2.0	10	50	4	2
EHCBC20200512A	2.0	0.5R	2.0	12	50	4	2
EHCBC20200516A	2.0	0.5R	2.0	16	50	4	2
EHCBC20200520A	2.0	0.5R	2.0	20	50	4	2
EHCBC20200525A	2.0	0.5R	2.0	25	60	4	2
EHCRC20200510A	2.0	0.5R	2.0	10	50	6	2
EHCRC20200515A	2.0	0.5R	2.0	15	50	6	2

Cutting conditions（建議切削參數表）: Table 024

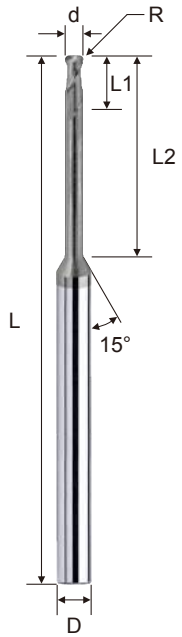
H650 - Long Neck Corner Radius Type - 2F

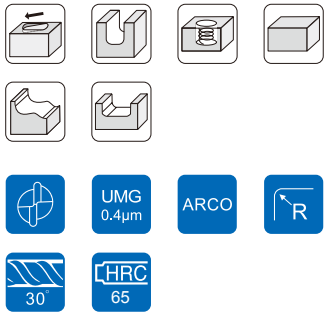
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC2
EHCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCBC20250110A	2.5	0.1R	2.5	10	50	4	2
EHCBC20250116A	2.5	0.1R	2.5	16	50	4	2
EHCBC20250120A	2.5	0.1R	2.5	20	50	4	2
EHCBC20250125A	2.5	0.1R	2.5	25	60	4	2
EHCBC20250210A	2.5	0.2R	2.5	10	50	4	2
EHCBC20250216A	2.5	0.2R	2.5	16	50	4	2
EHCBC20250220A	2.5	0.2R	2.5	20	50	4	2
EHCBC20250225A	2.5	0.2R	2.5	25	60	4	2
EHCBC20250310A	2.5	0.3R	2.5	10	50	4	2
EHCBC20250316A	2.5	0.3R	2.5	16	50	4	2
EHCBC20250320A	2.5	0.3R	2.5	20	50	4	2
EHCBC20250325A	2.5	0.3R	2.5	25	60	4	2
EHCBC20250510A	2.5	0.5R	2.5	10	50	4	2
EHCBC20250516A	2.5	0.5R	2.5	16	50	4	2
EHCBC20250520A	2.5	0.5R	2.5	20	50	4	2
EHCBC20250525A	2.5	0.5R	2.5	25	60	4	2

Cutting conditions（建議切削參數表）: Table 024

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

WINSTAR

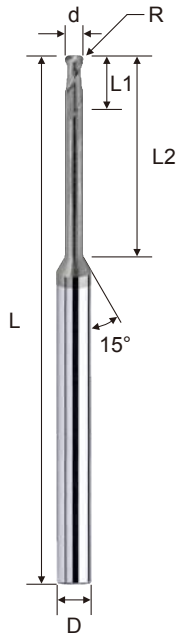
H650 - Long Neck Corner Radius Type - 2F

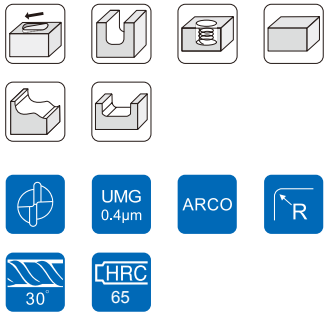
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC2
EHCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCRC20300110A	3.0	0.1R	3.0	10	50	6	2
EHCRC20300116A	3.0	0.1R	3.0	16	60	6	2
EHCRC20300120A	3.0	0.1R	3.0	20	60	6	2
EHCRC20300125A	3.0	0.1R	3.0	25	60	6	2
EHCRC20300130A	3.0	0.1R	3.0	30	75	6	2
EHCRC20300135A	3.0	0.1R	3.0	35	75	6	2
EHCRC20300210A	3.0	0.2R	3.0	10	50	6	2
EHCRC20300216A	3.0	0.2R	3.0	16	60	6	2
EHCRC20300220A	3.0	0.2R	3.0	20	60	6	2
EHCRC20300225A	3.0	0.2R	3.0	25	60	6	2
EHCRC20300230A	3.0	0.2R	3.0	30	75	6	2
EHCRC20300235A	3.0	0.2R	3.0	35	75	6	2
EHCRC20300310A	3.0	0.3R	3.0	10	50	6	2
EHCRC20300316A	3.0	0.3R	3.0	16	60	6	2
EHCRC20300320A	3.0	0.3R	3.0	20	60	6	2
EHCRC20300325A	3.0	0.3R	3.0	25	60	6	2
EHCRC20300330A	3.0	0.3R	3.0	30	75	6	2
EHCRC20300335A	3.0	0.3R	3.0	35	75	6	2
EHCRC20300510A	3.0	0.5R	3.0	10	50	6	2
EHCRC20300516A	3.0	0.5R	3.0	16	60	6	2
EHCRC20300520A	3.0	0.5R	3.0	20	60	6	2
EHCRC20300525A	3.0	0.5R	3.0	25	60	6	2
EHCRC20300530A	3.0	0.5R	3.0	30	75	6	2
EHCRC20300535A	3.0	0.5R	3.0	35	75	6	2
EHCRC20301010A	3.0	1.0R	3.0	10	50	6	2
EHCRC20301016A	3.0	1.0R	3.0	16	60	6	2
EHCRC20301020A	3.0	1.0R	3.0	20	60	6	2
EHCRC20301025A	3.0	1.0R	3.0	25	60	6	2
EHCRC20301030A	3.0	1.0R	3.0	30	75	6	2
EHCRC20301035A	3.0	1.0R	3.0	35	75	6	2

Cutting conditions（建議切削參數表）: Table 024

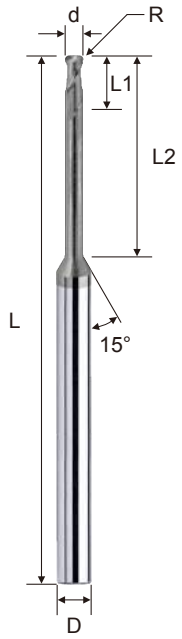
H650 - Long Neck Corner Radius Type - 2F

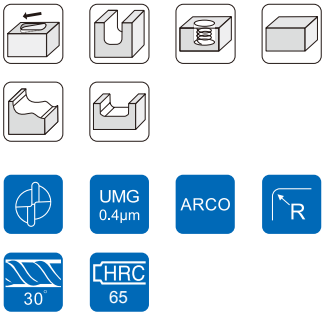
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC2
EHCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCRC20400113A	4.0	0.1R	4.0	13	50	6	2
EHCRC20400116A	4.0	0.1R	4.0	16	60	6	2
EHCRC20400120A	4.0	0.1R	4.0	20	60	6	2
EHCRC20400125A	4.0	0.1R	4.0	25	60	6	2
EHCRC20400130A	4.0	0.1R	4.0	30	75	6	2
EHCRC20400135A	4.0	0.1R	4.0	35	75	6	2
EHCRC20400213A	4.0	0.2R	4.0	13	50	6	2
EHCRC20400216A	4.0	0.2R	4.0	16	60	6	2
EHCRC20400220A	4.0	0.2R	4.0	20	60	6	2
EHCRC20400225A	4.0	0.2R	4.0	25	60	6	2
EHCRC20400230A	4.0	0.2R	4.0	30	75	6	2
EHCRC20400235A	4.0	0.2R	4.0	35	75	6	2
EHCRC20400313A	4.0	0.3R	4.0	13	50	6	2
EHCRC20400316A	4.0	0.3R	4.0	16	60	6	2
EHCRC20400320A	4.0	0.3R	4.0	20	60	6	2
EHCRC20400325A	4.0	0.3R	4.0	25	60	6	2
EHCRC20400330A	4.0	0.3R	4.0	30	75	6	2
EHCRC20400335A	4.0	0.3R	4.0	35	75	6	2
EHCRC20400513A	4.0	0.5R	4.0	13	50	6	2
EHCRC20400516A	4.0	0.5R	4.0	16	60	6	2
EHCRC20400520A	4.0	0.5R	4.0	20	60	6	2
EHCRC20400525A	4.0	0.5R	4.0	25	60	6	2
EHCRC20400530A	4.0	0.5R	4.0	30	75	6	2
EHCRC20400535A	4.0	0.5R	4.0	35	75	6	2
EHCRC20401013A	4.0	1.0R	4.0	13	50	6	2
EHCRC20401016A	4.0	1.0R	4.0	16	60	6	2
EHCRC20401020A	4.0	1.0R	4.0	20	60	6	2
EHCRC20401025A	4.0	1.0R	4.0	25	60	6	2
EHCRC20401030A	4.0	1.0R	4.0	30	75	6	2
EHCRC20401035A	4.0	1.0R	4.0	35	75	6	2

Cutting conditions（建議切削參數表）: Table 024

H650 - Long Neck Corner Radius Type - 2F

鎢鋼圓鼻銑刀－長頸型－ 2 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
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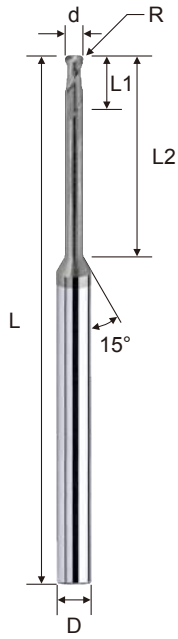
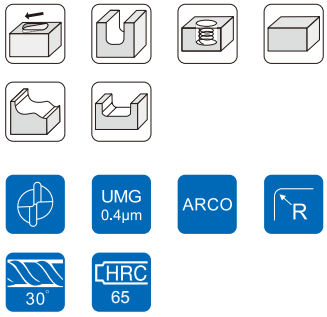
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC2
EHCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCRC20500116A	5.0	0.1R	5.0	16	60	6	2
EHCRC20500130A	5.0	0.1R	5.0	30	75	6	2
EHCRC20500216A	5.0	0.2R	5.0	16	60	6	2
EHCRC20500230A	5.0	0.2R	5.0	30	75	6	2
EHCRC20500316A	5.0	0.3R	5.0	16	60	6	2
EHCRC20500330A	5.0	0.3R	5.0	30	75	6	2
EHCRC20500516A	5.0	0.5R	5.0	16	60	6	2
EHCRC20500530A	5.0	0.5R	5.0	30	75	6	2
EHCRC20501016A	5.0	1.0R	5.0	16	60	6	2
EHCRC20501030A	5.0	1.0R	5.0	30	75	6	2
EHCRC20600120A	6.0	0.1R	7.0	20	60	6	2
EHCRC20600130A	6.0	0.1R	7.0	30	75	6	2
EHCRC20600220A	6.0	0.2R	7.0	20	60	6	2
EHCRC20600230A	6.0	0.2R	7.0	30	75	6	2
EHCRC20600320A	6.0	0.3R	7.0	20	60	6	2
EHCRC20600330A	6.0	0.3R	7.0	30	75	6	2
EHCRC20600520A	6.0	0.5R	7.0	20	60	6	2
EHCRC20600530A	6.0	0.5R	7.0	30	75	6	2
EHCRC20601020A	6.0	1.0R	7.0	20	60	6	2
EHCRC20601030A	6.0	1.0R	7.0	30	75	6	2
EHCRC20601520A	6.0	1.5R	7.0	20	60	6	2
EHCRC20601530A	6.0	1.5R	7.0	30	75	6	2
EHCRC20800522A	8.0	0.5R	9.0	22	60	8	2
EHCRC20801022A	8.0	1.0R	9.0	22	60	8	2
EHCRC20801522A	8.0	1.5R	9.0	22	60	8	2
EHCRC20802022A	8.0	2.0R	9.0	22	60	8	2
EHCRC21000524A	10.0	0.5R	11.0	24	75	10	2
EHCRC21001024A	10.0	1.0R	11.0	24	75	10	2
EHCRC21001524A	10.0	1.5R	11.0	24	75	10	2
EHCRC21002024A	10.0	2.0R	11.0	24	75	10	2
EHCRC21200526A	12.0	0.5R	13.0	26	75	12	2
EHCRC21201026A	12.0	1.0R	13.0	26	75	12	2
EHCRC21201526A	12.0	1.5R	13.0	26	75	12	2
EHCRC21202026A	12.0	2.0R	13.0	26	75	12	2

Cutting conditions（建議切削參數表）: Table 024

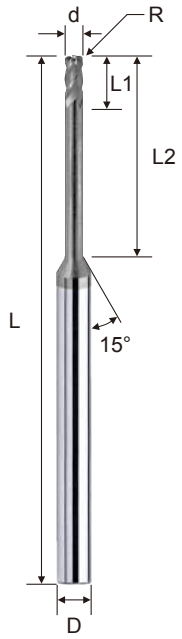
H650 - Long Neck Corner Radius Type - 4F

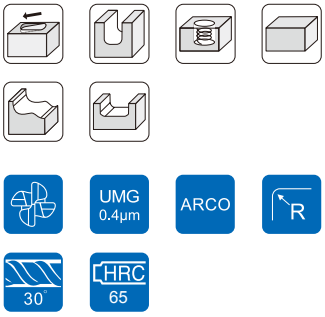
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC4
EHCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCBC40200106A	2.0	0.1R	2.0	6	50	4	4
EHCBC40200108A	2.0	0.1R	2.0	8	50	4	4
EHCBC40200110A	2.0	0.1R	2.0	10	50	4	4
EHCBC40200112A	2.0	0.1R	2.0	12	50	4	4
EHCBC40200116A	2.0	0.1R	2.0	16	50	4	4
EHCBC40200120A	2.0	0.1R	2.0	20	50	4	4
EHCBC40200125A	2.0	0.1R	2.0	25	60	4	4
EHCBC40200206A	2.0	0.2R	2.0	6	50	4	4
EHCBC40200208A	2.0	0.2R	2.0	8	50	4	4
EHCBC40200210A	2.0	0.2R	2.0	10	50	4	4
EHCBC40200212A	2.0	0.2R	2.0	12	50	4	4
EHCBC40200216A	2.0	0.2R	2.0	16	50	4	4
EHCBC40200220A	2.0	0.2R	2.0	20	50	4	4
EHCBC40200225A	2.0	0.2R	2.0	25	60	4	4
EHCBC40200306A	2.0	0.3R	2.0	6	50	4	4
EHCBC40200308A	2.0	0.3R	2.0	8	50	4	4
EHCBC40200310A	2.0	0.3R	2.0	10	50	4	4
EHCBC40200312A	2.0	0.3R	2.0	12	50	4	4
EHCBC40200316A	2.0	0.3R	2.0	16	50	4	4
EHCBC40200320A	2.0	0.3R	2.0	20	50	4	4
EHCBC40200325A	2.0	0.3R	2.0	25	60	4	4
EHCBC40200506A	2.0	0.5R	2.0	6	50	4	4
EHCBC40200508A	2.0	0.5R	2.0	8	50	4	4
EHCBC40200510A	2.0	0.5R	2.0	10	50	4	4
EHCBC40200512A	2.0	0.5R	2.0	12	50	4	4
EHCBC40200516A	2.0	0.5R	2.0	16	50	4	4
EHCBC40200520A	2.0	0.5R	2.0	20	50	4	4
EHCBC40200525A	2.0	0.5R	2.0	25	60	4	4
EHCRC40200510A	2.0	0.5R	2.0	10	50	6	4
EHCRC40200515A	2.0	0.5R	2.0	15	50	6	4

Cutting conditions（建議切削參數表）: Table 025

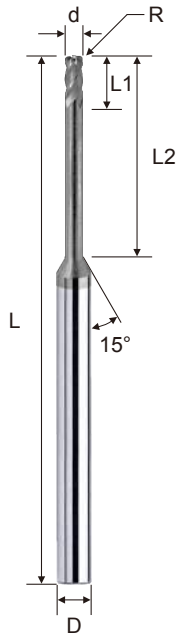
H650 - Long Neck Corner Radius Type - 4F

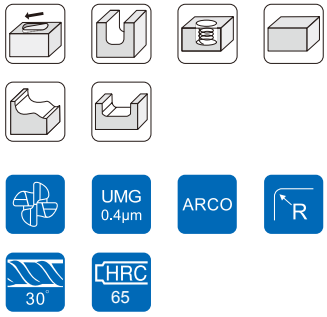
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC4
EHCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCBC40250110A	2.5	0.1R	2.5	10	50	4	4
EHCBC40250116A	2.5	0.1R	2.5	16	50	4	4
EHCBC40250120A	2.5	0.1R	2.5	20	50	4	4
EHCBC40250125A	2.5	0.1R	2.5	25	60	4	4
EHCBC40250210A	2.5	0.2R	2.5	10	50	4	4
EHCBC40250216A	2.5	0.2R	2.5	16	50	4	4
EHCBC40250220A	2.5	0.2R	2.5	20	50	4	4
EHCBC40250225A	2.5	0.2R	2.5	25	60	4	4
EHCBC40250310A	2.5	0.3R	2.5	10	50	4	4
EHCBC40250316A	2.5	0.3R	2.5	16	50	4	4
EHCBC40250320A	2.5	0.3R	2.5	20	50	4	4
EHCBC40250325A	2.5	0.3R	2.5	25	60	4	4
EHCBC40250510A	2.5	0.5R	2.5	10	50	4	4
EHCBC40250516A	2.5	0.5R	2.5	16	50	4	4
EHCBC40250520A	2.5	0.5R	2.5	20	50	4	4
EHCBC40250525A	2.5	0.5R	2.5	25	60	4	4

Cutting conditions（建議切削參數表）: Table 025

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

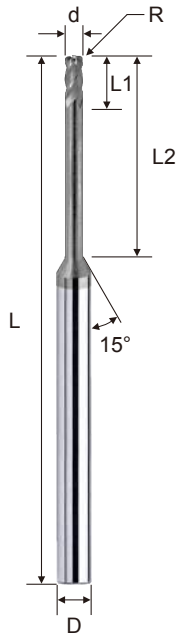
H650 - Long Neck Corner Radius Type - 4F

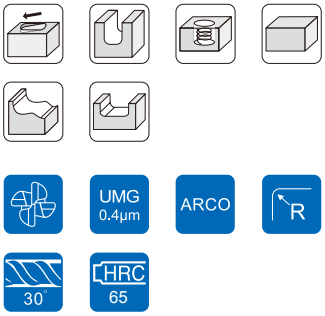
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC4
EHCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCRC40300110A	3.0	0.1R	3.0	10	50	6	4
EHCRC40300116A	3.0	0.1R	3.0	16	60	6	4
EHCRC40300120A	3.0	0.1R	3.0	20	60	6	4
EHCRC40300125A	3.0	0.1R	3.0	25	60	6	4
EHCRC40300130A	3.0	0.1R	3.0	30	75	6	4
EHCRC40300135A	3.0	0.1R	3.0	35	75	6	4
EHCRC40300210A	3.0	0.2R	3.0	10	50	6	4
EHCRC40300216A	3.0	0.2R	3.0	16	60	6	4
EHCRC40300220A	3.0	0.2R	3.0	20	60	6	4
EHCRC40300225A	3.0	0.2R	3.0	25	60	6	4
EHCRC40300230A	3.0	0.2R	3.0	30	75	6	4
EHCRC40300235A	3.0	0.2R	3.0	35	75	6	4
EHCRC40300310A	3.0	0.3R	3.0	10	50	6	4
EHCRC40300316A	3.0	0.3R	3.0	16	60	6	4
EHCRC40300320A	3.0	0.3R	3.0	20	60	6	4
EHCRC40300325A	3.0	0.3R	3.0	25	60	6	4
EHCRC40300330A	3.0	0.3R	3.0	30	75	6	4
EHCRC40300335A	3.0	0.3R	3.0	35	75	6	4
EHCRC40300510A	3.0	0.5R	3.0	10	50	6	4
EHCRC40300516A	3.0	0.5R	3.0	16	60	6	4
EHCRC40300520A	3.0	0.5R	3.0	20	60	6	4
EHCRC40300525A	3.0	0.5R	3.0	25	60	6	4
EHCRC40300530A	3.0	0.5R	3.0	30	75	6	4
EHCRC40300535A	3.0	0.5R	3.0	35	75	6	4
EHCRC40301010A	3.0	1.0R	3.0	10	50	6	4
EHCRC40301016A	3.0	1.0R	3.0	16	60	6	4
EHCRC40301020A	3.0	1.0R	3.0	20	60	6	4
EHCRC40301025A	3.0	1.0R	3.0	25	60	6	4
EHCRC40301030A	3.0	1.0R	3.0	30	75	6	4
EHCRC40301035A	3.0	1.0R	3.0	35	75	6	4

Cutting conditions（建議切削參數表）: Table 025

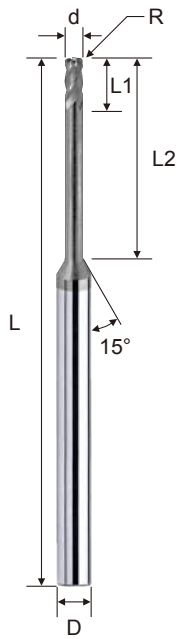
H650 - Long Neck Corner Radius Type - 4F

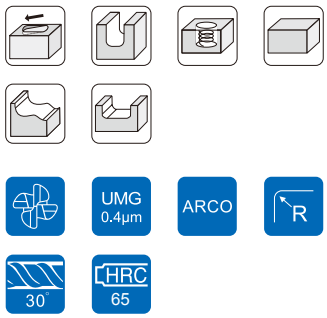
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC4
EHCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCRC40400113A	4.0	0.1R	4.0	13	50	6	4
EHCRC40400116A	4.0	0.1R	4.0	16	60	6	4
EHCRC40400120A	4.0	0.1R	4.0	20	60	6	4
EHCRC40400125A	4.0	0.1R	4.0	25	60	6	4
EHCRC40400130A	4.0	0.1R	4.0	30	75	6	4
EHCRC40400135A	4.0	0.1R	4.0	35	75	6	4
EHCRC40400213A	4.0	0.2R	4.0	13	50	6	4
EHCRC40400216A	4.0	0.2R	4.0	16	60	6	4
EHCRC40400220A	4.0	0.2R	4.0	20	60	6	4
EHCRC40400225A	4.0	0.2R	4.0	25	60	6	4
EHCRC40400230A	4.0	0.2R	4.0	30	75	6	4
EHCRC40400235A	4.0	0.2R	4.0	35	75	6	4
EHCRC40400313A	4.0	0.3R	4.0	13	50	6	4
EHCRC40400316A	4.0	0.3R	4.0	16	60	6	4
EHCRC40400320A	4.0	0.3R	4.0	20	60	6	4
EHCRC40400325A	4.0	0.3R	4.0	25	60	6	4
EHCRC40400330A	4.0	0.3R	4.0	30	75	6	4
EHCRC40400335A	4.0	0.3R	4.0	35	75	6	4
EHCRC40400513A	4.0	0.5R	4.0	13	50	6	4
EHCRC40400516A	4.0	0.5R	4.0	16	60	6	4
EHCRC40400520A	4.0	0.5R	4.0	20	60	6	4
EHCRC40400525A	4.0	0.5R	4.0	25	60	6	4
EHCRC40400530A	4.0	0.5R	4.0	30	75	6	4
EHCRC40400535A	4.0	0.5R	4.0	35	75	6	4
EHCRC40401013A	4.0	1.0R	4.0	13	50	6	4
EHCRC40401016A	4.0	1.0R	4.0	16	60	6	4
EHCRC40401020A	4.0	1.0R	4.0	20	60	6	4
EHCRC40401025A	4.0	1.0R	4.0	25	60	6	4
EHCRC40401030A	4.0	1.0R	4.0	30	75	6	4
EHCRC40401035A	4.0	1.0R	4.0	35	75	6	4

Cutting conditions（建議切削參數表）: Table 025

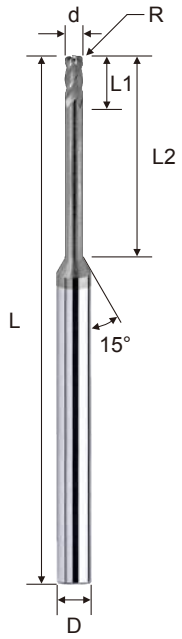
H650 - Long Neck Corner Radius Type - 4F

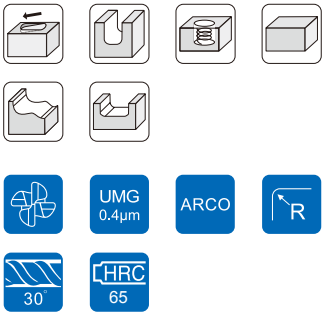
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- ARCO coating provides a superior wear resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Available in various effective cutting lengths.
- It is suitable for deep cutting.
- The coating can change to SICO, the prices will differ.

EHCBC4
EHCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHCRC40500116A	5.0	0.1R	5.0	16	60	6	4
EHCRC40500130A	5.0	0.1R	5.0	30	75	6	4
EHCRC40500216A	5.0	0.2R	5.0	16	60	6	4
EHCRC40500230A	5.0	0.2R	5.0	30	75	6	4
EHCRC40500316A	5.0	0.3R	5.0	16	60	6	4
EHCRC40500330A	5.0	0.3R	5.0	30	75	6	4
EHCRC40500516A	5.0	0.5R	5.0	16	60	6	4
EHCRC40500530A	5.0	0.5R	5.0	30	75	6	4
EHCRC40501016A	5.0	1.0R	5.0	16	60	6	4
EHCRC40501030A	5.0	1.0R	5.0	30	75	6	4
EHCRC40600120A	6.0	0.1R	7.0	20	60	6	4
EHCRC40600130A	6.0	0.1R	7.0	30	75	6	4
EHCRC40600220A	6.0	0.2R	7.0	20	60	6	4
EHCRC40600230A	6.0	0.2R	7.0	30	75	6	4
EHCRC40600320A	6.0	0.3R	7.0	20	60	6	4
EHCRC40600330A	6.0	0.3R	7.0	30	75	6	4
EHCRC40600520A	6.0	0.5R	7.0	20	60	6	4
EHCRC40600530A	6.0	0.5R	7.0	30	75	6	4
EHCRC40601020A	6.0	1.0R	7.0	20	60	6	4
EHCRC40601030A	6.0	1.0R	7.0	30	75	6	4
EHCRC40601520A	6.0	1.5R	7.0	20	60	6	4
EHCRC40601530A	6.0	1.5R	7.0	30	75	6	4
EHCRC40800522A	8.0	0.5R	9.0	22	60	8	4
EHCRC40801022A	8.0	1.0R	9.0	22	60	8	4
EHCRC40801522A	8.0	1.5R	9.0	22	60	8	4
EHCRC40802022A	8.0	2.0R	9.0	22	60	8	4
EHCRC41000524A	10.0	0.5R	11.0	24	75	10	4
EHCRC41001024A	10.0	1.0R	11.0	24	75	10	4
EHCRC41001524A	10.0	1.5R	11.0	24	75	10	4
EHCRC41002024A	10.0	2.0R	11.0	24	75	10	4
EHCRC41200526A	12.0	0.5R	13.0	26	75	12	4
EHCRC41201026A	12.0	1.0R	13.0	26	75	12	4
EHCRC41201526A	12.0	1.5R	13.0	26	75	12	4
EHCRC41202026A	12.0	2.0R	13.0	26	75	12	4

Cutting conditions（建議切削參數表）: Table 025

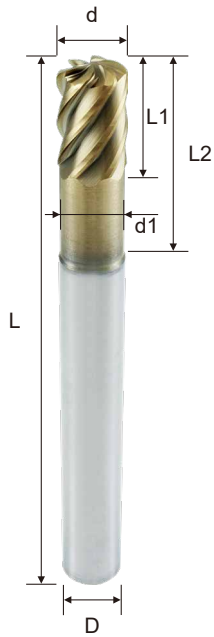
H650 - Double Corner High Feed EndMill - 4F / 6F

鎢鋼圓鼻銑刀－高進給型－ 4/6 刃

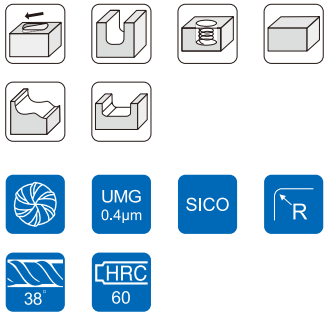
- SICO Nano coating provides a superior wear and heat resistance.
- Duotec design and multi-flute geometry design.
- High feed and high metal removal rate in surface milling.
- UMG Carbide substrate possess high TRS and good wear resistance.

EHWSA4
EHWSA6

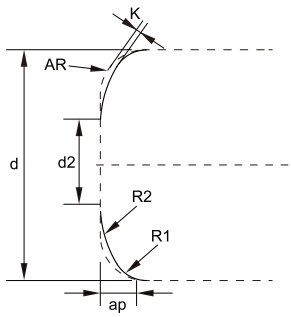
P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



Order No.	Dia. (d)	ND (d1)	(d2)	(ap)	(R1)	(R2)	Approx Radius (AR)	(K)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EHWSA406000S	6	5.6	1.5	0.35	0.6	5.0	0.92	0.21	9	18	60	6	4
EHWSA608000S	8	7.6	3.2	0.40	0.8	4.5	1.16	0.22	12	24	75	8	6
EHWSA610000S	10	9.4	4.0	0.55	1.0	5.5	1.47	0.28	15	30	75	10	6
EHWSA612000S	12	11.4	4.8	0.70	1.2	6.5	1.77	0.34	18	36	75	12	6



d	Tolerance
Ø	0 ~ 0.02
R	± 0.02



WINSTAR

Endmills · Inserts · Drills

Winstar
Cutting Technologies

EUROS Series for High Feed Milling, up to HRC 60

- UNICO, SICO Nano coating provides a superior wear and heat resistance.
- Tip with small chamfer or small radius design.
- High feed & multiple application, Suitable for hardened & pre-hardened steel, Stainless, up to HRC 60.
- Achieve long tool life, perfect surfaces and considerable reduction of machining time.

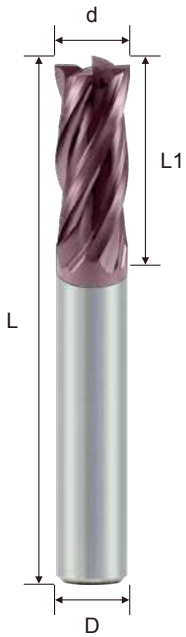
EUROS - High Feed Square Type - 4F

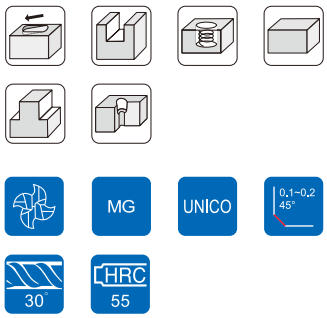
鎢鋼平銑刀－ 高進給倒角型－ 4 刃

- Unico coating provides a superior wear and heat 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.

EUSFA4
EUSSA4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



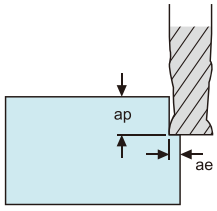


d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	45°	Flutes (F)
EUSSA403000U	3.0	8	50	6	0.10	4
EUSSA404000U	4.0	10	50	6	0.10	4
EUSSA405000U	5.0	13	50	6	0.15	4
EUSSA406000U	6.0	15	50	6	0.15	4
EUSSA408000U	8.0	20	60	8	0.15	4
EUSSA410000U	10.0	25	75	10	0.20	4
EUSSA412000U	12.0	30	75	12	0.20	4
EUSSA416000U	16.0	35	100	16	0.20	4

Feed recommend table

Dia (mm)	Fz (mm)
4	0.006 ~ 0.1
6	0.009 ~ 0.15
10	0.15 ~ 0.25



ap = 1.5D ae = 0.1D

Winstar Cutting Technologies

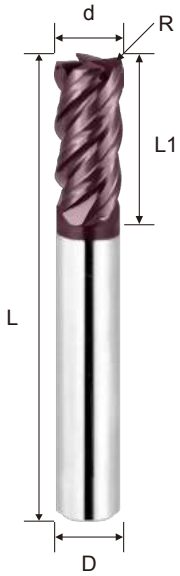
EUROS - Toric Square Type - 4F

鎢鋼平銑刀 – 高進給圓角型 – 4 刃

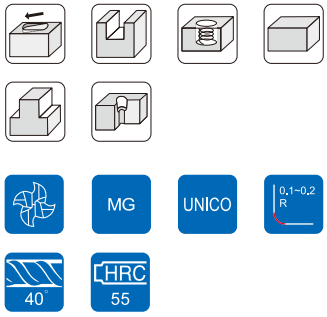
- Unico coating provides a superior wear and heat resistance.
- With "Small positive" rake angle and small corner radius geometries for high feed cutting.
- Outstanding results and tool life for 2-D and 3-D machining of HRC 30 to HRC 55 steel, such as Alloy steel,cast Iron...etc.
- Achieve long tool life, perfect surfaces and considerable reduction of machining time.

EUSFR4
EUSSR4

P	M	K	N	S	H
☑	☑	☑	☐	☑	☑



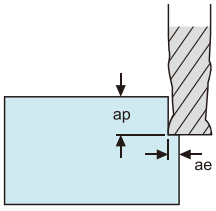
Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (F)
EUSSR403000U	3.0	8	50	6	0.10	4
EUSSR404000U	4.0	10	50	6	0.10	4
EUSSR405000U	5.0	13	50	6	0.15	4
EUSSR406000U	6.0	15	50	6	0.15	4
EUSSR408000U	8.0	20	60	8	0.15	4
EUSSR410000U	10.0	25	75	10	0.20	4
EUSSR412000U	12.0	30	75	12	0.20	4
EUSSR416000U	16.0	35	100	16	0.20	4



d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Feed recommend table

Dia (mm)	Fz (mm)
4	0.006 ~ 0.1
6	0.009 ~ 0.15
10	0.15 ~ 0.25



ap = 1.5D ae = 0.1D

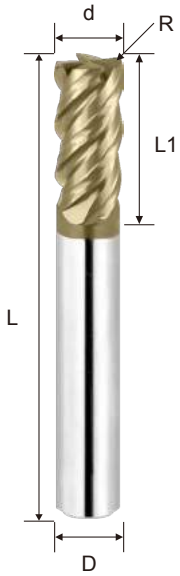
EUROS - Toric Square Type - 4F

鎢鋼平銑刀 - 高進給圓角型 - 4 刃

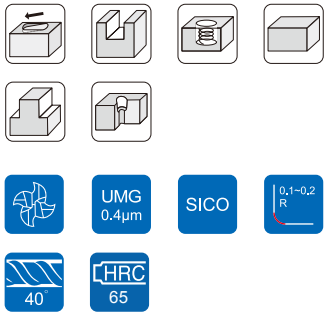
- SICO Nano coating provides a superior wear and heat resistance.
- With "Negative" rake angle and small corner radius geometries for high feed cutting.
- Outstanding results and tool life for 2-D and 3-D machining of HRC 50 to HRC 65 hardened and tempered steel.
- Achieve long tool life, perfect surfaces and considerable reduction of machining time.

EUSFH4
EUSSH4

P	M	K	N	S	H
☑	☑	☑	☐	☑	☑



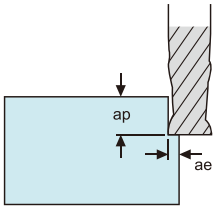
Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	R	Flutes (F)
EUSSH403000S	3.0	8	50	6	0.10	4
EUSSH404000S	4.0	10	50	6	0.10	4
EUSSH405000S	5.0	13	50	6	0.15	4
EUSSH406000S	6.0	15	50	6	0.15	4
EUSSH408000S	8.0	20	60	8	0.15	4
EUSSH410000S	10.0	25	75	10	0.20	4
EUSSH412000S	12.0	30	75	12	0.20	4
EUSSH416000S	16.0	35	100	16	0.20	4



d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Feed recommend table

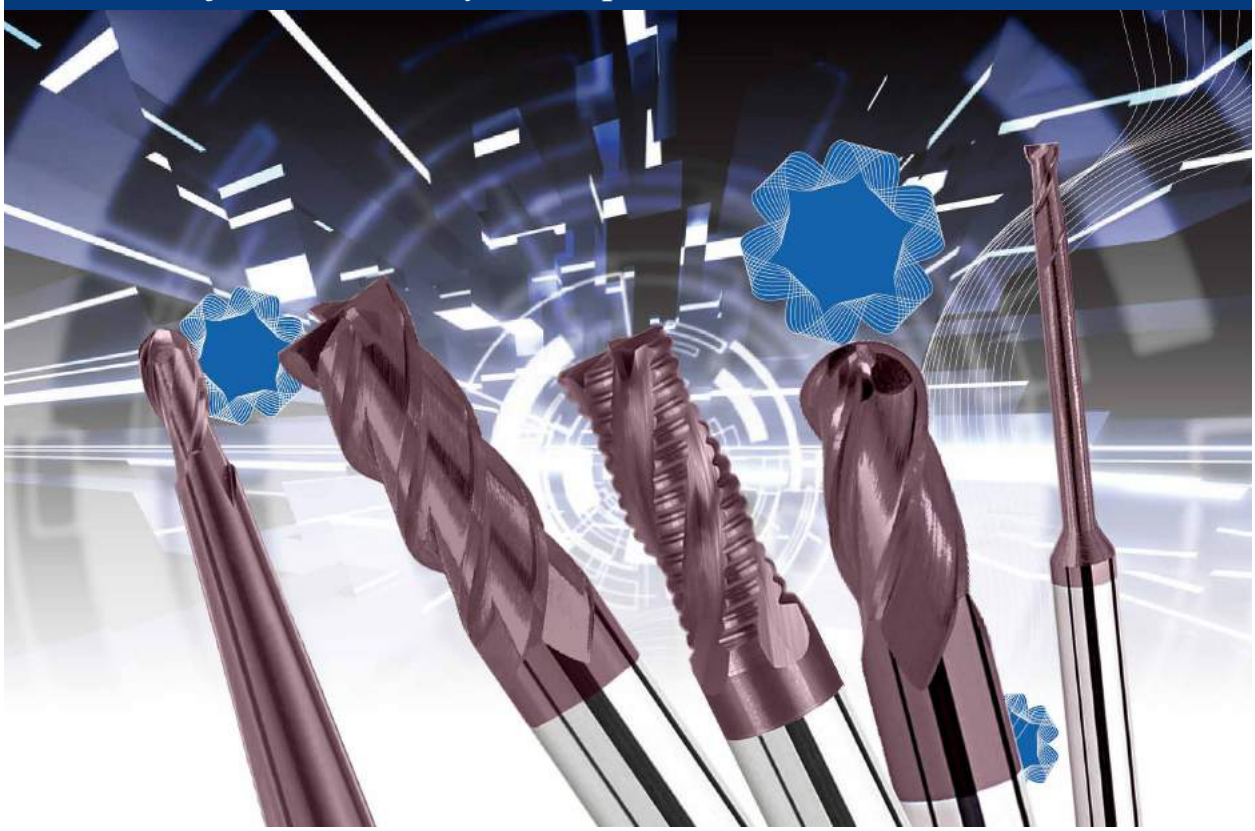
Dia (mm)	Fz (mm)
4	0.006 ~ 0.1
6	0.009 ~ 0.15
10	0.15 ~ 0.25



ap = 1.5D ae = 0.1D

Winstar
Cutting Technologies

G550 Serie for Mold & Alloy steel, up to HRC 55



- Micro grain carbide rod is suitable for general machining.
- UNICO coating provides superior wear resistance and reduces the coefficient of friction.
- Stabilization of the cutting edge by edge flatland design and prevent chipping at corners.
- Universal geometry design is suitable for most materials.

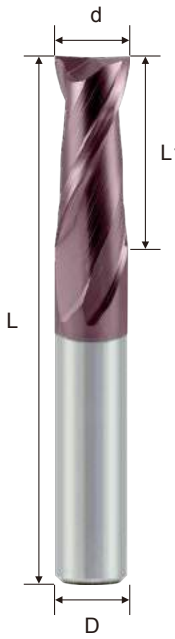
G550 - Square Type - 2F

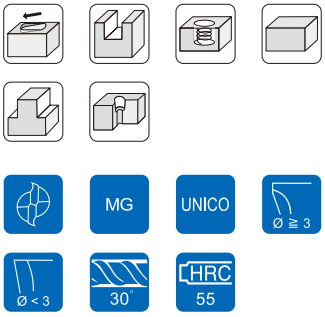
鎢鋼平銑刀－標準型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel,etc.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EPSFC2
EPSSC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSFC200200U	0.2	0.4	50	4	2
EPSFC200300U	0.3	0.6	50	4	2
EPSFC200400U	0.4	0.8	50	4	2
EPSFC200500U	0.5	1.0	50	4	2
EPSFC200600U	0.6	1.5	50	4	2
EPSFC200700U	0.7	2.0	50	4	2
EPSFC200800U	0.8	2.0	50	4	2
EPSFC200900U	0.9	2.0	50	4	2
EPSFC201000U	1.0	3.0	50	4	2
EPSFC201500U	1.5	4.0	50	4	2
EPSFC202000U	2.0	5.0	50	4	2
EPSFC202500U	2.5	6.0	50	4	2
EPSFC203000U	3.0	8.0	50	4	2
EPSFC203500U	3.5	9.0	50	4	2
EPSFC204000U	4.0	10.0	50	4	2
EPSSC201000U	1.0	3.0	50	6	2
EPSSC202000U	2.0	5.0	50	6	2
EPSSC203000U	3.0	8.0	50	6	2
EPSSC203500U	3.5	9.0	50	6	2
EPSSC204000U	4.0	10.0	50	6	2
EPSSC204500U	4.5	11.0	50	6	2
EPSSC205000U	5.0	13.0	50	6	2
EPSSC205500U	5.5	14.0	50	6	2
EPSSC206000U	6.0	15.0	50	6	2
EPSSC206500U	6.5	16.0	60	8	2
EPSSC207000U	7.0	18.0	60	8	2
EPSSC208000U	8.0	20.0	60	8	2
EPSSC209000U	9.0	22.0	75	10	2
EPSSC210000U	10.0	25.0	75	10	2
EPSSC211000U	11.0	25.0	75	12	2
EPSSC212000U	12.0	30.0	75	12	2
EPSSC214000U	14.0	30.0	75	14	2
EPSSC216000U	16.0	35.0	100	16	2
EPSSC218000U	18.0	40.0	100	20	2
EPSSC220000U	20.0	45.0	100	20	2
EPSSC225000U	25.0	45.0	100	25	2

Cutting conditions（建議切削參數表）: Table 026

Winstar Cutting Technologies

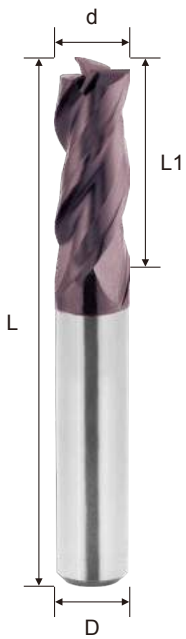
G550 - Square Type - 3F

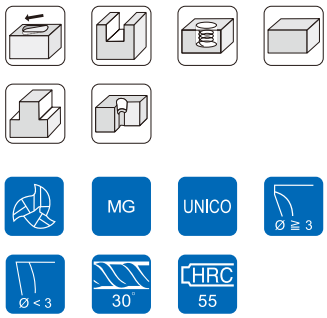
鎢鋼平銑刀－標準型－ 3 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel,etc.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EPSFC3
EPSSC3

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSTC301000U	1.0	3	50	3	3
EPSTC301500U	1.5	4	50	3	3
EPSTC302000U	2.0	5	50	3	3
EPSTC303000U	3.0	8	50	3	3
EPSFC301000U	1.0	3	50	4	3
EPSFC301500U	1.5	4	50	4	3
EPSFC302000U	2.0	5	50	4	3
EPSFC302500U	2.5	6	50	4	3
EPSFC303000U	3.0	8	50	4	3
EPSFC303500U	3.5	9	50	4	3
EPSFC304000U	4.0	10	50	4	3
EPSSC303000U	3.0	8	50	6	3
EPSSC303500U	3.5	9	50	6	3
EPSSC304000U	4.0	10	50	6	3
EPSSC304500U	4.5	11	50	6	3
EPSSC305000U	5.0	13	50	6	3
EPSSC305500U	5.5	14	50	6	3
EPSSC306000U	6.0	15	50	6	3
EPSSC306500U	6.5	16	60	8	3
EPSSC307000U	7.0	18	60	8	3
EPSSC308000U	8.0	20	60	8	3
EPSSC309000U	9.0	22	75	10	3
EPSSC310000U	10.0	25	75	10	3
EPSSC311000U	11.0	25	75	12	3
EPSSC312000U	12.0	30	75	12	3
EPSSC314000U	14.0	30	75	14	3
EPSSC316000U	16.0	35	100	16	3
EPSSC318000U	18.0	40	100	20	3
EPSSC320000U	20.0	45	100	20	3
EPSSC325000U	25.0	45	100	25	3

Cutting conditions（建議切削參數表）: Table 027

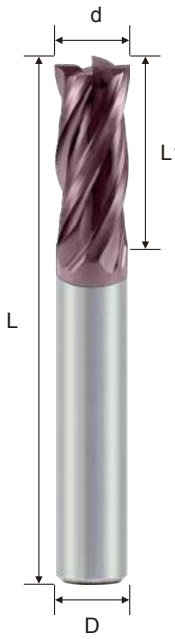
G550 - Square Type - 4F

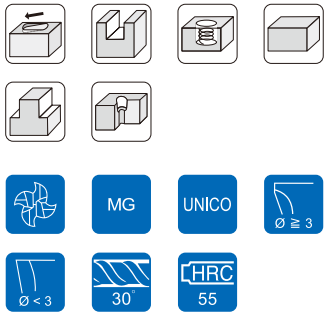
鎢鋼平銑刀－標準型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EPSFC4
EPSSC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSTC401000U	1.0	3	50	3	4
EPSTC401500U	1.5	4	50	3	4
EPSTC402000U	2.0	5	50	3	4
EPSTC403000U	3.0	8	50	3	4
EPSFC401000U	1.0	3	50	4	4
EPSFC401500U	1.5	4	50	4	4
EPSFC402000U	2.0	5	50	4	4
EPSFC402500U	2.5	6	50	4	4
EPSFC403000U	3.0	8	50	4	4
EPSFC403500U	3.5	9	50	4	4
EPSFC404000U	4.0	10	50	4	4
EPSSC403000U	3.0	8	50	6	4
EPSSC403500U	3.5	9	50	6	4
EPSSC404000U	4.0	10	50	6	4
EPSSC404500U	4.5	11	50	6	4
EPSSC405000U	5.0	13	50	6	4
EPSSC405500U	5.5	14	50	6	4
EPSSC406000U	6.0	15	50	6	4
EPSSC406500U	6.5	16	60	8	4
EPSSC407000U	7.0	18	60	8	4
EPSSC408000U	8.0	20	60	8	4
EPSSC409000U	9.0	22	75	10	4
EPSSC410000U	10.0	25	75	10	4
EPSSC411000U	11.0	25	75	12	4
EPSSC412000U	12.0	30	75	12	4
EPSSC414000U	14.0	30	75	14	4
EPSSC416000U	16.0	35	100	16	4
EPSSC418000U	18.0	40	100	20	4
EPSSC420000U	20.0	45	100	20	4
EPSSC425000U	25.0	45	100	25	4

Cutting conditions（建議切削參數表）: Table 027

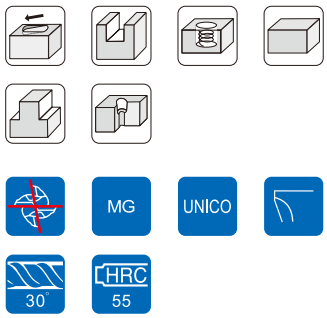
G550 - Anti-Vibration Square Type - 4F

鎢鋼平銑刀－抗震不等型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Unequal axis and sophisticated geometry design provides outstanding Anti-vibrations capabilities.

EPSSD4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSSD405000U	5	13	50	6	4
EPSSD406000U	6	13	50	6	4
EPSSD408000U	8	16	60	8	4
EPSSD410000U	10	20	75	10	4
EPSSD412000U	12	24	75	12	4
EPSSD416000U	16	30	100	16	4

Cutting conditions（建議切削參數表）: Table 028

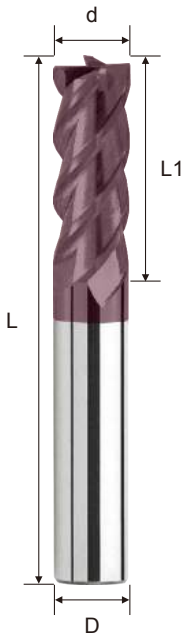
G550 - High Helix Square Type - 4F

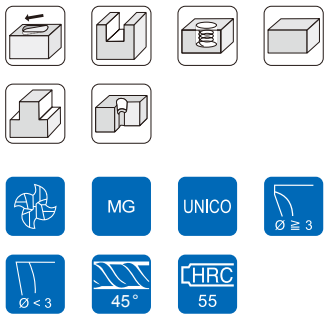
鎢鋼平銑刀－高導型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, FRP, etc.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Strong helix design provides hi speed milling capabilities.

EPSFH4
EPSSH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSFH403000U	3.0	8	50	4	4
EPSFH404000U	4.0	10	50	4	4
EPSSH405000U	5.0	13	50	6	4
EPSSH406000U	6.0	15	50	6	4
EPSSH407000U	7.0	18	60	8	4
EPSSH408000U	8.0	20	60	8	4
EPSSH409000U	9.0	22	75	10	4
EPSSH410000U	10.0	25	75	10	4
EPSSH411000U	11.0	25	75	12	4
EPSSH412000U	12.0	30	75	12	4
EPSSH414000U	14.0	30	75	14	4
EPSSH416000U	16.0	35	100	16	4

Cutting conditions（建議切削參數表）: Table 029

d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

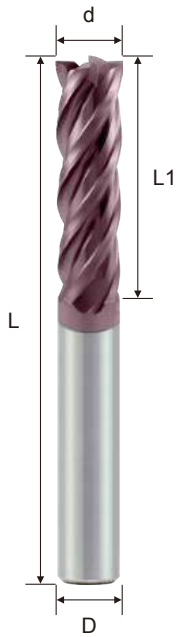
G550 - Long Flute Square Type - 4F

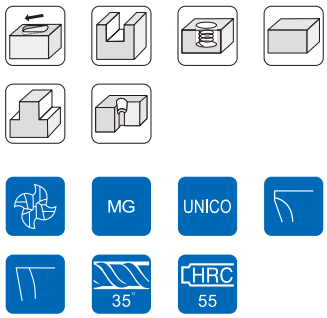
鎢鋼平銑刀－長刃型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various length of cut and overall length end mills.
- Long cutting length is suitable for deep side milling.

EPSCC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSCC403000U	3.0	15	60	6	4
EPSCC404000U	4.0	20	60	6	4
EPSCC405000U	5.0	25	75	6	4
EPSCC406000U	6.0	30	75	6	4
EPSCC408000U	8.0	35	100	8	4
EPSCC410000U	10.0	45	100	10	4
EPSCC412000U	12.0	45	100	12	4
EPSCC414000U	14.0	70	150	14	4
EPSCC416000U	16.0	70	150	16	4
EPSCC420000U	20.0	75	150	20	4
EPSCC425000U	25.0	75	150	25	4

Cutting conditions（建議切削參數表）: Table 030

d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

WINSTAR

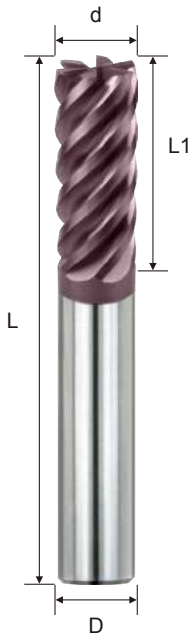
G550 - High Helix Square Type - 6F

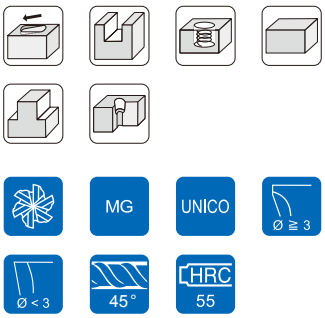
鎢鋼平銑刀 - 高導型 - 6 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, FRP, etc.
- Greater shearing action results in increased speeds and feeds and faster stock removal.
- Strong helix design provides hi speed milling capabilities.
- Six flute for good surface milling.

EPSSH6
EPSCH6

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSSH606000U	6	15	50	6	6
EPSSH608000U	8	20	60	8	6
EPSSH610000U	10	25	75	10	6
EPSSH612000U	12	30	75	12	6
EPSCH606000U	6	30	75	6	6
EPSCH608000U	8	35	100	8	6
EPSCH608000U45C	8	45	100	8	6
EPSCH610000U	10	45	100	10	6
EPSCH610000U55C	10	55	100	10	6
EPSCH612000U	12	45	100	12	6
EPSCH612000U55C	12	55	100	12	6
EPSCH616000U	16	70	150	16	6

d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

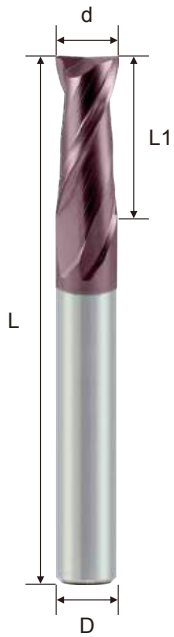
G550 - Long Shank Square Type - 2F

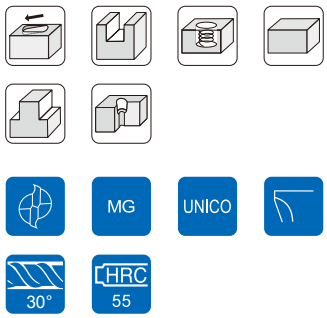
鎢鋼平銑刀－長柄型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various length of cut and overall length end mills.
- Flat design to avoid chipping of the cutting tip.

EPSEC2
EPSKC2
EPSLC2
EPSNC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSJC204000U	4.0	10	60	4	2
EPSEC204000U	4.0	10	75	4	2
EPSKC204000U	4.0	10	100	4	2
EPSMC204000U	4.0	10	60	6	2
EPSLC204000U	4.0	10	75	6	2
EPSNC204000U	4.0	10	100	6	2
EPSMC206000U	6.0	15	60	6	2
EPSLC206000U	6.0	15	75	6	2
EPSNC206000U	6.0	15	100	6	2
EPSMC208000U	8.0	20	75	8	2
EPSLC208000U	8.0	20	100	8	2
EPSNC208000U	8.0	20	150	8	2
EPSLC210000U	10.0	25	100	10	2
EPSNC210000U	10.0	25	150	10	2
EPSLC212000U	12.0	30	100	12	2
EPSNC212000U	12.0	30	150	12	2
EPSLC216000U	16.0	40	150	16	2
EPSLC220000U	20.0	45	150	20	2

Cutting conditions（建議切削參數表）: Table 031

d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

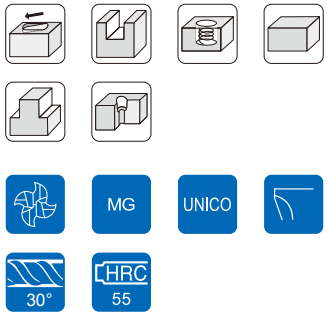
G550 - Long Shank Square Type - 4F

鎢鋼平銑刀－長柄型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various length of cut and overall length end mills.
- Flat design to avoid chipping of the cutting tip.

EPSEC4
EPSKC4
EPSLC4
EPSNC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSEC403000U	3.0	8	75	4	4
EPSKC403000U	3.0	8	100	4	4
EPSJC404000U	4.0	10	60	4	4
EPSEC404000U	4.0	10	75	4	4
EPSKC404000U	4.0	10	100	4	4
EPSMC404000U	4.0	10	60	6	4
EPSLC404000U	4.0	10	75	6	4
EPSNC404000U	4.0	10	100	6	4
EPSMC406000U	6.0	15	60	6	4
EPSLC406000U	6.0	15	75	6	4
EPSNC406000U	6.0	15	100	6	4
EPSMC408000U	8.0	20	75	8	4
EPSLC408000U	8.0	20	100	8	4
EPSNC408000U	8.0	20	150	8	4
EPSLC410000U	10.0	25	100	10	4
EPSNC410000U	10.0	25	150	10	4
EPSLC412000U	12.0	30	100	12	4
EPSNC412000U	12.0	30	150	12	4
EPSLC416000U	16.0	40	150	16	4
EPSLC420000U	20.0	45	150	20	4

Cutting conditions（建議切削參數表）: Table 032

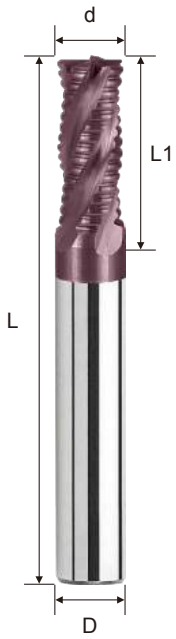
G550 - Roughing Square Type - 4F

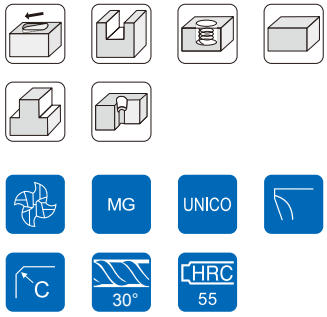
鎢鋼平銑刀－粗銑型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- 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.

EPSRR4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 033

d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

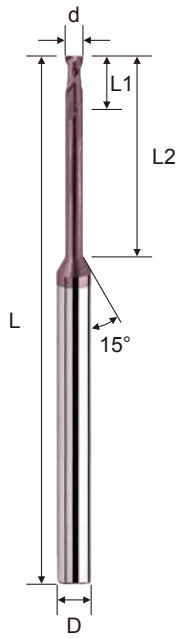
G550 - Long Neck Square Type - 2F

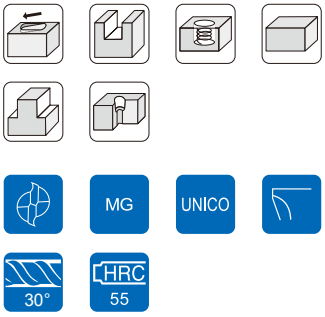
鎢鋼平銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC2
EPSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPSBC200201U	0.2	0.3	1	50	4	2
EPSBC200202U	0.2	0.3	2	50	4	2
EPSBC200301U	0.3	0.4	1	50	4	2
EPSBC200302U	0.3	0.4	2	50	4	2
EPSBC200303U	0.3	0.4	3	50	4	2
EPSBC200304U	0.3	0.4	4	50	4	2
EPSBC200305U	0.3	0.4	5	50	4	2
EPSBC200401U	0.4	0.5	1	50	4	2
EPSBC200402U	0.4	0.5	2	50	4	2
EPSBC200403U	0.4	0.5	3	50	4	2
EPSBC200404U	0.4	0.5	4	50	4	2
EPSBC200405U	0.4	0.5	5	50	4	2
EPSBC200406U	0.4	0.5	6	50	4	2
EPSBC200408U	0.4	0.5	8	50	4	2
EPSBC200410U	0.4	0.5	10	50	4	2
EPSBC200502U	0.5	0.6	2	50	4	2
EPSBC200503U	0.5	0.6	3	50	4	2
EPSBC200504U	0.5	0.6	4	50	4	2
EPSBC200505U	0.5	0.6	5	50	4	2
EPSBC200506U	0.5	0.6	6	50	4	2
EPSBC200508U	0.5	0.6	8	50	4	2
EPSBC200510U	0.5	0.6	10	50	4	2
EPSBC200512U	0.5	0.6	12	50	4	2
EPSBC200514U	0.5	0.6	14	50	4	2

Cutting conditions（建議切削參數表）: Table 034 ~ 036

WINSTAR

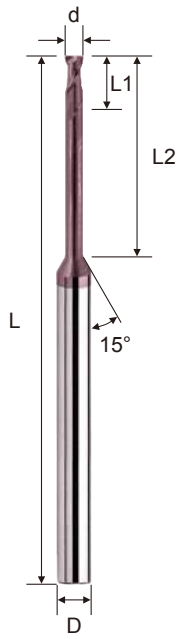
G550 - Long Neck Square Type - 2F

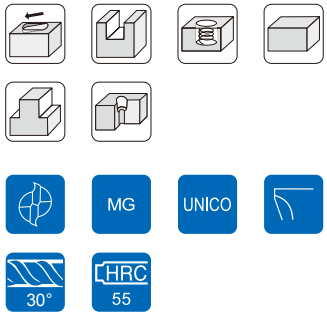
鎢鋼平銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC2
EPSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPSBC200602U	0.6	0.7	2	50	4	2
EPSBC200603U	0.6	0.7	3	50	4	2
EPSBC200604U	0.6	0.7	4	50	4	2
EPSBC200605U	0.6	0.7	5	50	4	2
EPSBC200606U	0.6	0.7	6	50	4	2
EPSBC200608U	0.6	0.7	8	50	4	2
EPSBC200610U	0.6	0.7	10	50	4	2
EPSBC200612U	0.6	0.7	12	50	4	2
EPSBC200614U	0.6	0.7	14	50	4	2
EPSBC200616U	0.6	0.7	16	50	4	2
EPSBC200702U	0.7	0.8	2	50	4	2
EPSBC200704U	0.7	0.8	4	50	4	2
EPSBC200706U	0.7	0.8	6	50	4	2
EPSBC200708U	0.7	0.8	8	50	4	2
EPSBC200710U	0.7	0.8	10	50	4	2
EPSBC200712U	0.7	0.8	12	50	4	2
EPSBC200802U	0.8	1.0	2	50	4	2
EPSBC200804U	0.8	1.0	4	50	4	2
EPSBC200806U	0.8	1.0	6	50	4	2
EPSBC200808U	0.8	1.0	8	50	4	2
EPSBC200810U	0.8	1.0	10	50	4	2
EPSBC200812U	0.8	1.0	12	50	4	2
EPSBC200814U	0.8	1.0	14	50	4	2
EPSBC200906U	0.9	1.1	6	50	4	2
EPSBC200908U	0.9	1.1	8	50	4	2
EPSBC200910U	0.9	1.1	10	50	4	2

Cutting conditions（建議切削參數表）: Table 034 ~ 036

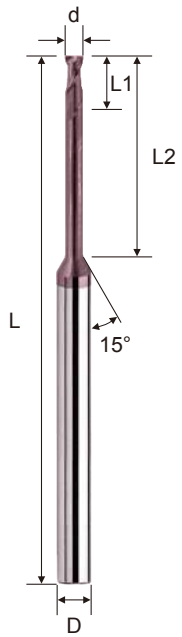
G550 - Long Neck Square Type - 2F

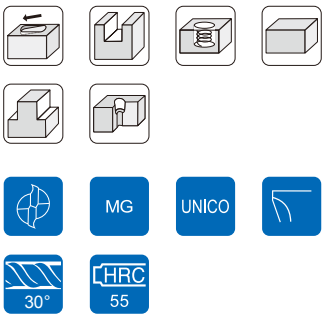
鎢鋼平銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC2
EPSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPSBC201002U	1.0	1.2	2	50	4	2
EPSBC201003U	1.0	1.2	3	50	4	2
EPSBC201004U	1.0	1.2	4	50	4	2
EPSBC201005U	1.0	1.2	5	50	4	2
EPSBC201006U	1.0	1.2	6	50	4	2
EPSBC201008U	1.0	1.2	8	50	4	2
EPSBC201010U	1.0	1.2	10	50	4	2
EPSBC201012U	1.0	1.2	12	50	4	2
EPSBC201014U	1.0	1.2	14	50	4	2
EPSBC201016U	1.0	1.2	16	50	4	2
EPSBC201018U	1.0	1.2	18	50	4	2
EPSBC201020U	1.0	1.2	20	50	4	2
EPSBC201204U	1.2	1.5	4	50	4	2
EPSBC201206U	1.2	1.5	6	50	4	2
EPSBC201208U	1.2	1.5	8	50	4	2
EPSBC201210U	1.2	1.5	10	50	4	2
EPSBC201212U	1.2	1.5	12	50	4	2
EPSBC201216U	1.2	1.5	16	50	4	2
EPSBC201220U	1.2	1.5	20	50	4	2
EPSBC201406U	1.4	1.8	6	50	4	2
EPSBC201408U	1.4	1.8	8	50	4	2
EPSBC201410U	1.4	1.8	10	50	4	2
EPSBC201414U	1.4	1.8	14	50	4	2
EPSBC201416U	1.4	1.8	16	50	4	2
EPSBC201420U	1.4	1.8	20	50	4	2

Cutting conditions（建議切削參數表）: Table 034 ~ 036

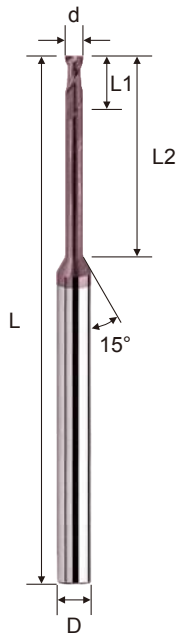
G550 - Long Neck Square Type - 2F

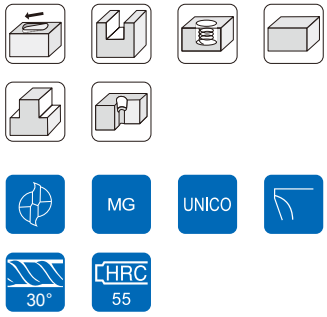
鎢鋼平銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC2
EPSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPSBC201504U	1.5	1.8	4	50	4	2
EPSBC201506U	1.5	1.8	6	50	4	2
EPSBC201508U	1.5	1.8	8	50	4	2
EPSBC201510U	1.5	1.8	10	50	4	2
EPSBC201512U	1.5	1.8	12	50	4	2
EPSBC201514U	1.5	1.8	14	50	4	2
EPSBC201516U	1.5	1.8	16	50	4	2
EPSBC201518U	1.5	1.8	18	50	4	2
EPSBC201520U	1.5	1.8	20	50	4	2
EPSBC201610U	1.6	1.9	10	50	4	2
EPSBC201614U	1.6	1.9	14	50	4	2
EPSBC201618U	1.6	1.9	18	50	4	2
EPSBC201810U	1.8	2.0	10	50	4	2
EPSBC201814U	1.8	2.0	14	50	4	2
EPSBC201818U	1.8	2.0	18	50	4	2
EPSBC202004U	2.0	2.5	4	50	4	2
EPSBC202006U	2.0	2.5	6	50	4	2
EPSBC202008U	2.0	2.5	8	50	4	2
EPSBC202010U	2.0	2.5	10	50	4	2
EPSBC202012U	2.0	2.5	12	50	4	2
EPSBC202014U	2.0	2.5	14	50	4	2
EPSBC202016U	2.0	2.5	16	50	4	2
EPSBC202018U	2.0	2.5	18	50	4	2
EPSBC202020U	2.0	2.5	20	50	4	2
EPSBC202022U	2.0	2.5	22	60	4	2
EPSBC202025U	2.0	2.5	25	60	4	2
EPSBC202030U	2.0	2.5	30	75	4	2
EPSBC202035U	2.0	2.5	35	75	4	2

Cutting conditions（建議切削參數表）: Table 034 ~ 036

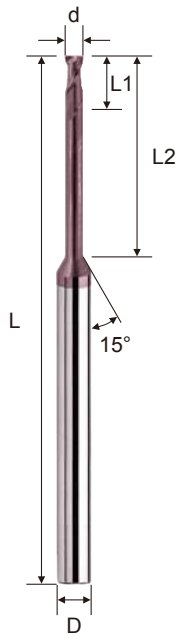
G550 - Long Neck Square Type - 2F

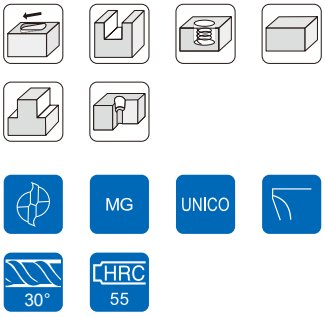
鎢鋼平銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC2
EPSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPSBC202508U	2.5	3.0	8	50	4	2
EPSBC202510U	2.5	3.0	10	50	4	2
EPSBC202512U	2.5	3.0	12	50	4	2
EPSBC202516U	2.5	3.0	16	50	4	2
EPSBC202520U	2.5	3.0	20	50	4	2
EPSBC202525U	2.5	3.0	25	60	4	2
EPSBC202530U	2.5	3.0	30	75	4	2
EPSBC202535U	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

Cutting conditions（建議切削參數表）: Table 034 ~ 036

Winstar Cutting Technologies

WINSTAR

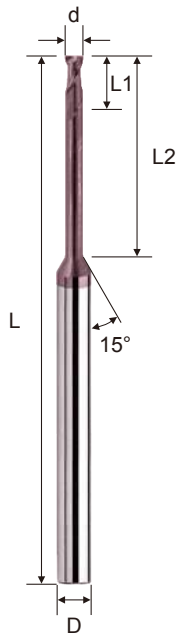
G550 - Long Neck Square Type - 2F

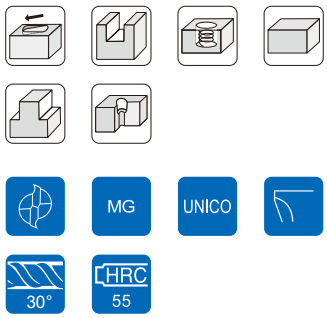
鎢鋼平銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC2
EPSRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 034 ~ 036

d	Tolerance
Ø	0 ~ -0.02

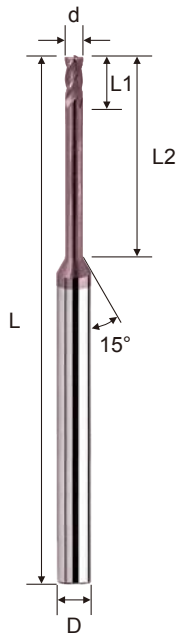
G550 - Long Neck Square Type - 4F

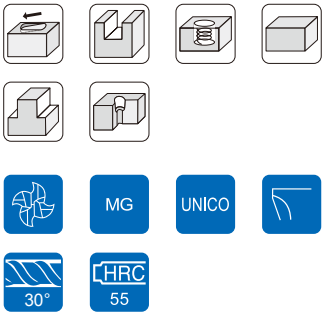
鎢鋼平銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC4
EPSRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPSBC401003U	1.0	1.0	3	50	4	4
EPSBC401004U	1.0	1.0	4	50	4	4
EPSBC401006U	1.0	1.0	6	50	4	4
EPSBC401008U	1.0	1.0	8	50	4	4
EPSBC401010U	1.0	1.0	10	50	4	4
EPSBC401012U	1.0	1.0	12	50	4	4
EPSBC401016U	1.0	1.0	16	50	4	4
EPSBC401020U	1.0	1.0	20	50	4	4
EPSBC401025U	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
EPSBC401506U	1.5	1.5	6	50	4	4
EPSBC401508U	1.5	1.5	8	50	4	4
EPSBC401510U	1.5	1.5	10	50	4	4
EPSBC401512U	1.5	1.5	12	50	4	4
EPSBC401516U	1.5	1.5	16	50	4	4
EPSBC401520U	1.5	1.5	20	50	4	4
EPSBC401525U	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

Cutting conditions（建議切削參數表）: Table 037 ~ 038

WINSTAR

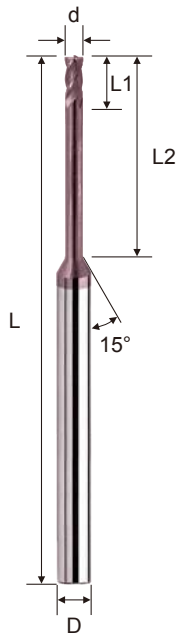
G550 - Long Neck Square Type - 4F

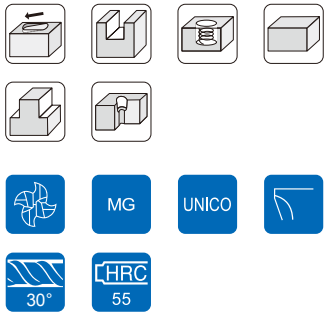
鎢鋼平銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC4
EPSRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPSBC402006U	2.0	2.0	6	50	4	4
EPSBC402008U	2.0	2.0	8	50	4	4
EPSBC402010U	2.0	2.0	10	50	4	4
EPSBC402012U	2.0	2.0	12	50	4	4
EPSBC402016U	2.0	2.0	16	50	4	4
EPSBC402020U	2.0	2.0	20	50	4	4
EPSBC402025U	2.0	2.0	25	60	4	4
EPSBC402030U	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
EPSBC402510U	2.5	2.5	10	50	4	4
EPSBC402512U	2.5	2.5	12	50	4	4
EPSBC402516U	2.5	2.5	16	50	4	4
EPSBC402520U	2.5	2.5	20	50	4	4
EPSBC402525U	2.5	2.5	25	60	4	4
EPSBC402530U	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

Cutting conditions（建議切削參數表）: Table 037 ~ 038

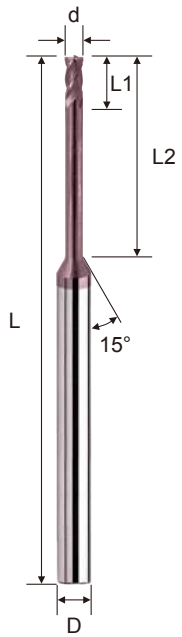
G550 - Long Neck Square Type - 4F

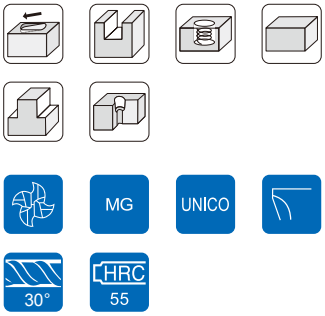
鎢鋼平銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Toughness and reduction of vibration.
- Available in various cut lengths.
- Suitable for deep cutting application.

EPSBC4
EPSRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 037 ~ 038

Winstar Cutting Technologies

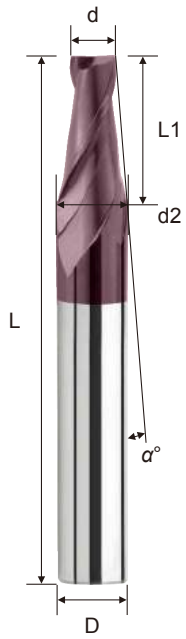
G550 - Taper Square Type - 2F

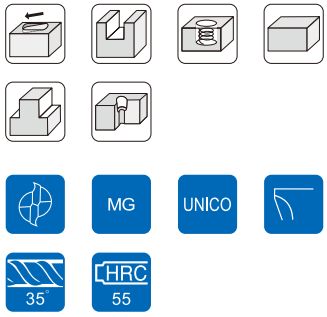
鎢鋼平銑刀－斜度型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.

EPSFT2
EPSST2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.05

Order No.	Dia. (d1)	α°	CL (L1)	NL (d2)	OAL (L)	Shank (D)	Flutes (F)
EPSFT201005U	1.0	0.5°	4.0	1.07	50	4	2
EPSFT201010U	1.0	1.0°	4.0	1.14	50	4	2
EPSFT201015U	1.0	1.5°	4.0	1.21	50	4	2
EPSFT201020U	1.0	2.0°	4.0	1.28	50	4	2
EPSFT201025U	1.0	2.5°	4.0	1.35	50	4	2
EPSFT201030U	1.0	3.0°	4.0	1.42	50	4	2
EPSFT201050U	1.0	5.0°	4.0	1.70	50	4	2
EPSFT201070U	1.0	7.0°	4.0	1.98	50	4	2
EPSFT2010A0U	1.0	10.0°	4.0	2.41	50	4	2
EPSFT2010A5U	1.0	15.0°	4.0	3.14	50	4	2
EPSFT201505U	1.5	0.5°	5.0	1.59	50	4	2
EPSFT201510U	1.5	1.0°	5.0	1.68	50	4	2
EPSFT201515U	1.5	1.5°	5.0	1.76	50	4	2
EPSFT201520U	1.5	2.0°	5.0	1.85	50	4	2
EPSFT201525U	1.5	2.5°	5.0	1.93	50	4	2
EPSFT201530U	1.5	3.0°	5.0	2.02	50	4	2
EPSFT201550U	1.5	5.0°	5.0	2.37	50	4	2
EPSFT202005U	2.0	0.5°	6.0	2.10	50	4	2
EPSFT202010U	2.0	1.0°	6.0	2.21	50	4	2
EPSFT202015U	2.0	1.5°	6.0	2.31	50	4	2
EPSFT202020U	2.0	2.0°	6.0	2.41	50	4	2
EPSFT202025U	2.0	2.5°	6.0	2.52	50	4	2
EPSFT202030U	2.0	3.0°	6.0	2.62	50	4	2
EPSFT202050U	2.0	5.0°	6.0	3.05	50	4	2
EPSFT202070U	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

Cutting conditions（建議切削參數表）: Table 039

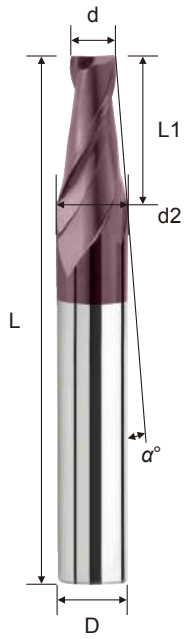
G550 - Taper Square Type - 2F

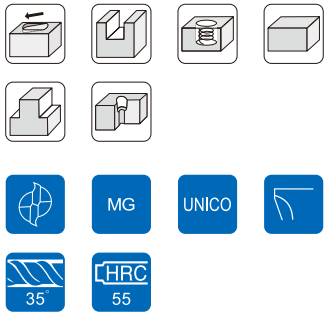
鎢鋼平銑刀－斜度型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.

EPSFT2
EPSST2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.05

Order No.	Dia. (d1)	α°	CL (L1)	NL (d2)	OAL (L)	Shank (D)	Flutes (F)
EPSFT202505U	2.5	0.5°	8.0	2.64	50	4	2
EPSFT202510U	2.5	1.0°	8.0	2.78	50	4	2
EPSFT202515U	2.5	1.5°	8.0	2.91	50	4	2
EPSFT202520U	2.5	2.0°	8.0	3.05	50	4	2
EPSFT202525U	2.5	2.5°	8.0	3.20	50	4	2
EPSFT202530U	2.5	3.0°	8.0	3.33	50	4	2
EPSFT202550U	2.5	5.0°	8.0	3.90	50	4	2
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

Cutting conditions（建議切削參數表）: Table 039

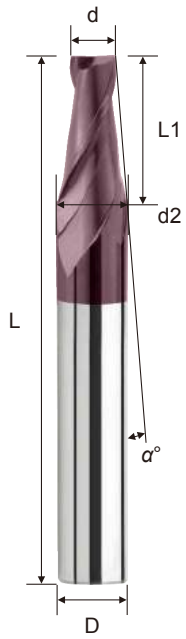
G550 - Taper Square Type - 2F

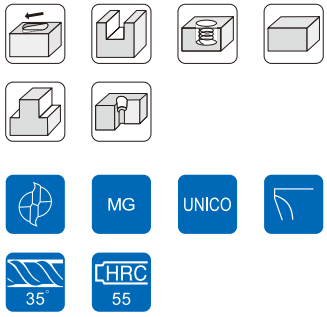
鎢鋼平銑刀 - 斜度型 - 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- High strength of taper cutting length, can cut deep grooves without breaking.
- Convenient for Tap cutting in 3 axis machine.

EPSFT2
EPSST2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.05

Order No.	Dia. (d1)	α°	CL (L1)	NL (d2)	OAL (L)	Shank (D)	Flutes (F)
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
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

Cutting conditions（建議切削參數表）: Table 039

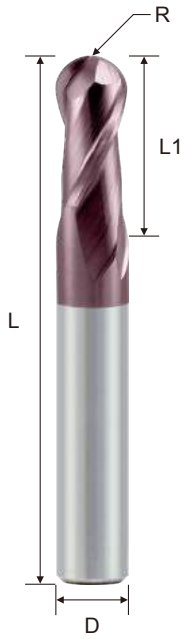
G550 - Ball Nose Type - 2F

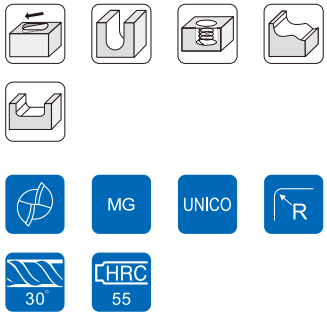
鎢鋼球型銑刀－標準型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- 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.

EPBFC2
EPBSC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPBFC200200U	0.10R	0.2	0.4	50	4	2
EPBFC200300U	0.15R	0.3	0.6	50	4	2
EPBFC200400U	0.20R	0.4	0.8	50	4	2
EPBFC200500U	0.25R	0.5	1.0	50	4	2
EPBFC200600U	0.30R	0.6	1.2	50	4	2
EPBFC200700U	0.35R	0.7	1.4	50	4	2
EPBFC200800U	0.40R	0.8	1.6	50	4	2
EPBFC200900U	0.45R	0.9	1.8	50	4	2
EPBFC201000U	0.50R	1.0	2.0	50	4	2
EPBFC201500U	0.75R	1.5	3.0	50	4	2
EPBFC202000U	1.00R	2.0	4.0	50	4	2
EPBFC203000U	1.50R	3.0	6.0	50	4	2
EPBFC204000U	2.00R	4.0	8.0	50	4	2
EPBSC203000U	1.50R	3.0	6.0	50	6	2
EPBSC204000U	2.00R	4.0	8.0	50	6	2
EPBSC205000U	2.50R	5.0	10.0	50	6	2
EPBSC206000U	3.00R	6.0	12.0	50	6	2
EPBSC207000U	3.50R	7.0	14.0	60	8	2
EPBSC208000U	4.00R	8.0	16.0	60	8	2
EPBSC210000U	5.00R	10.0	20.0	75	10	2
EPBSC212000U	6.00R	12.0	24.0	75	12	2
EPBSC216000U	8.00R	16.0	32.0	100	16	2
EPBSC220000U	10.00R	20.0	40.0	100	20	2

Cutting conditions（建議切削參數表）: Table 040

Winstar Cutting Technologies

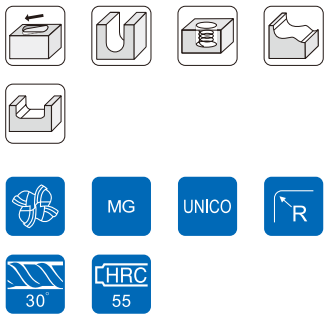
G550 - Ball Nose Type - 4F

鎢鋼球型銑刀－標準型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- It provides an excellent surface due to better surface grindings.
- New tool geometry increases wear resistance and cutting force is decreased.
- Multiple flutes design improves the cutting surface.

EPBFC4
EPBSC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPBFC402000U	1.0R	2.0	4	50	4	4
EPBFC403000U	1.5R	3.0	6	50	4	4
EPBFC404000U	2.0R	4.0	8	50	4	4
EPBSC404000U	2.0R	4.0	8	50	6	4
EPBSC405000U	2.5R	5.0	10	50	6	4
EPBSC406000U	3.0R	6.0	12	50	6	4
EPBSC408000U	4.0R	8.0	16	60	8	4
EPBSC410000U	5.0R	10.0	20	75	10	4
EPBSC412000U	6.0R	12.0	24	75	12	4
EPBSC416000U	8.0R	16.0	32	100	16	4
EPBSC420000U	10.0R	20.0	40	100	20	4

Cutting conditions（建議切削參數表）: Table 041

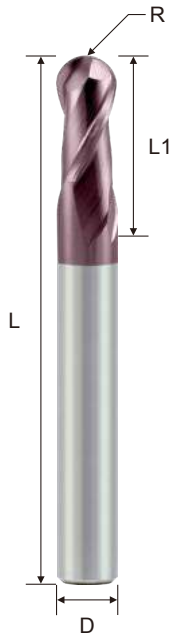
G550 - Long Shank Ball Nose Type - 2F

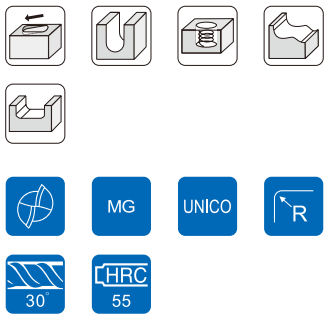
鎢鋼球型銑刀－長柄型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- 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.

EPBEC2
EPBKC2
EPBLC2
EPBNC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPBEC203000U	1.5R	3.0	6	75	4	2
EPBKC203000U	1.5R	3.0	6	100	4	2
EPBJC204000U	2R	4.0	8	60	4	2
EPBEC204000U	2R	4.0	8	75	4	2
EPBKC204000U	2R	4.0	8	100	4	2
EPBMC204000U	2R	4.0	8	60	6	2
EPBLC204000U	2R	4.0	8	75	6	2
EPBNC204000U	2R	4.0	8	100	6	2
EPBMC206000U	3R	6.0	12	60	6	2
EPBLC206000U	3R	6.0	12	75	6	2
EPBNC206000U	3R	6.0	12	100	6	2
EPBMC208000U	4R	8.0	16	75	8	2
EPBLC208000U	4R	8.0	16	100	8	2
EPBNC208000U	4R	8.0	16	150	8	2
EPBLC210000U	5R	10.0	20	100	10	2
EPBNC210000U	5R	10.0	20	150	10	2
EPBLC212000U	6R	12.0	24	100	12	2
EPBNC212000U	6R	12.0	24	150	12	2
EPBLC216000U	8R	16.0	32	150	16	2
EPBLC220000U	10R	20.0	40	150	20	2

Cutting conditions（建議切削參數表）: Table 042

Winstar Cutting Technologies

WINSTAR

G550 - Long Shank Ball Nose Type - 4F

鎢鋼球型銑刀－長柄型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- 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.

EPBEC4
EPBKC4
EPBLC4
EPBNC4

P	M	K	N	S	H
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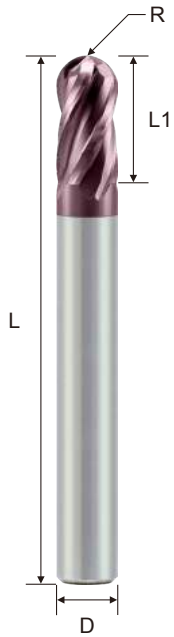
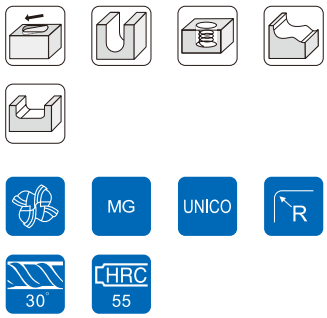




d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPBEC404000U	2R	4.0	8	75	4	4
EPBKC404000U	2R	4.0	8	100	4	4
EPBLC404000U	2R	4.0	8	75	6	4
EPBNC404000U	2R	4.0	8	100	6	4
EPBLC406000U	3R	6.0	12	75	6	4
EPBNC406000U	3R	6.0	12	100	6	4
EPBMC408000U	4R	8.0	16	75	8	4
EPBLC408000U	4R	8.0	16	100	8	4
EPBNC408000U	4R	8.0	16	150	8	4
EPBLC410000U	5R	10.0	20	100	10	4
EPBNC410000U	5R	10.0	20	150	10	4
EPBLC412000U	6R	12.0	24	100	12	4
EPBNC412000U	6R	12.0	24	150	12	4
EPBLC416000U	8R	16.0	32	150	16	4

Cutting conditions（建議切削參數表）: Table 043

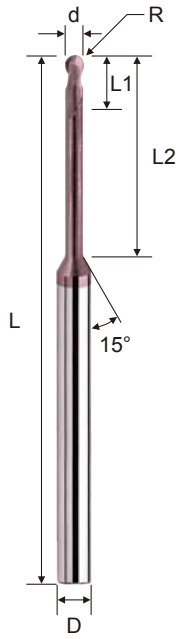
G550 - Long Neck Ball Nose Type - 2F

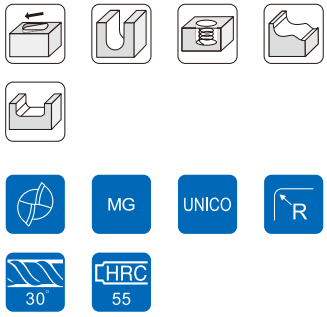
鎢鋼球型銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBBC2
EPBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPBBC200301U	0.15R	0.3	0.3	1	50	4	2
EPBBC200302U	0.15R	0.3	0.3	2	50	4	2
EPBBC200303U	0.15R	0.3	0.3	3	50	4	2
EPBBC200401U	0.20R	0.4	0.4	1	50	4	2
EPBBC200402U	0.20R	0.4	0.4	2	50	4	2
EPBBC200403U	0.20R	0.4	0.4	3	50	4	2
EPBBC200404U	0.20R	0.4	0.4	4	50	4	2
EPBBC200405U	0.20R	0.4	0.4	5	50	4	2
EPBBC200406U	0.20R	0.4	0.4	6	50	4	2
EPBBC200408U	0.20R	0.4	0.4	8	50	4	2
EPBBC200501U	0.25R	0.5	0.5	1	50	4	2
EPBBC200502U	0.25R	0.5	0.5	2	50	4	2
EPBBC200503U	0.25R	0.5	0.5	3	50	4	2
EPBBC200504U	0.25R	0.5	0.5	4	50	4	2
EPBBC200505U	0.25R	0.5	0.5	5	50	4	2
EPBBC200506U	0.25R	0.5	0.5	6	50	4	2
EPBBC200508U	0.25R	0.5	0.5	8	50	4	2
EPBBC200510U	0.25R	0.5	0.5	10	50	4	2
EPBBC200601U	0.30R	0.6	0.6	1	50	4	2
EPBBC200602U	0.30R	0.6	0.6	2	50	4	2
EPBBC200603U	0.30R	0.6	0.6	3	50	4	2
EPBBC200604U	0.30R	0.6	0.6	4	50	4	2
EPBBC200605U	0.30R	0.6	0.6	5	50	4	2
EPBBC200606U	0.30R	0.6	0.6	6	50	4	2
EPBBC200608U	0.30R	0.6	0.6	8	50	4	2
EPBBC200610U	0.30R	0.6	0.6	10	50	4	2
EPBBC200612U	0.30R	0.6	0.6	12	50	4	2

Cutting conditions（建議切削參數表）: Table 044 ~ 046

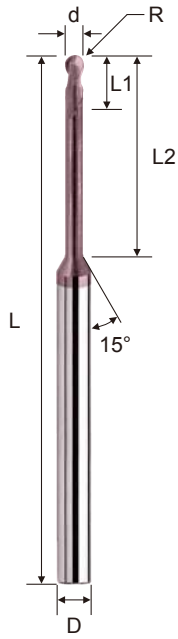
G550 - Long Neck Ball Nose Type - 2F

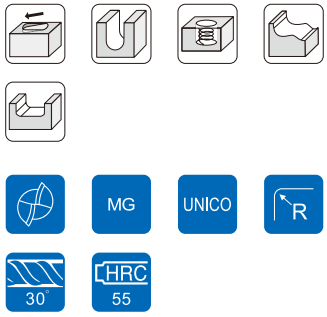
鎢鋼球型銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBBC2
EPBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPBBC200702U	0.35R	0.7	0.7	2	50	4	2
EPBBC200704U	0.35R	0.7	0.7	4	50	4	2
EPBBC200708U	0.35R	0.7	0.7	8	50	4	2
EPBBC200710U	0.35R	0.7	0.7	10	50	4	2
EPBBC200712U	0.35R	0.7	0.7	12	50	4	2
EPBBC200802U	0.40R	0.8	0.8	2	50	4	2
EPBBC200804U	0.40R	0.8	0.8	4	50	4	2
EPBBC200806U	0.40R	0.8	0.8	6	50	4	2
EPBBC200808U	0.40R	0.8	0.8	8	50	4	2
EPBBC200810U	0.40R	0.8	0.8	10	50	4	2
EPBBC200812U	0.40R	0.8	0.8	12	50	4	2
EPBBC200904U	0.45R	0.9	0.9	4	50	4	2
EPBBC201002U	0.50R	1.0	1.0	2	50	4	2
EPBBC201003U	0.50R	1.0	1.0	3	50	4	2
EPBBC201004U	0.50R	1.0	1.0	4	50	4	2
EPBBC201005U	0.50R	1.0	1.0	5	50	4	2
EPBBC201006U	0.50R	1.0	1.0	6	50	4	2
EPBBC201008U	0.50R	1.0	1.0	8	50	4	2
EPBBC201010U	0.50R	1.0	1.0	10	50	4	2
EPBBC201012U	0.50R	1.0	1.0	12	50	4	2
EPBBC201014U	0.50R	1.0	1.0	14	50	4	2
EPBBC201016U	0.50R	1.0	1.0	16	50	4	2
EPBBC201018U	0.50R	1.0	1.0	18	50	4	2
EPBBC201020U	0.50R	1.0	1.0	20	50	4	2
EPBBC201022U	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

Cutting conditions（建議切削參數表）: Table 044 ~ 046

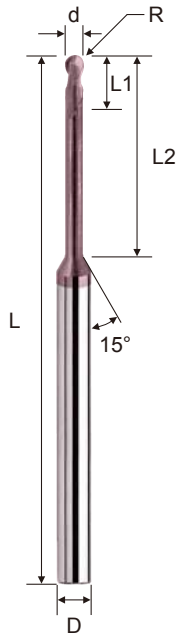
G550 - Long Neck Ball Nose Type - 2F

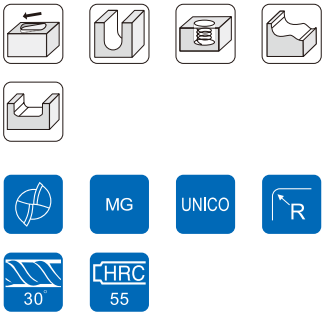
鎢鋼球型銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBBC2
EPBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPBBC201204U	0.60R	1.2	1.2	4	50	4	2
EPBBC201206U	0.60R	1.2	1.2	6	50	4	2
EPBBC201208U	0.60R	1.2	1.2	8	50	4	2
EPBBC201210U	0.60R	1.2	1.2	10	50	4	2
EPBBC201212U	0.60R	1.2	1.2	12	50	4	2
EPBBC201216U	0.60R	1.2	1.2	16	50	4	2
EPBBC201220U	0.60R	1.2	1.2	20	50	4	2
EPBBC201224U	0.60R	1.2	1.2	24	60	4	2
EPBBC201406U	0.70R	1.4	1.4	6	50	4	2
EPBBC201408U	0.70R	1.4	1.4	8	50	4	2
EPBBC201412U	0.70R	1.4	1.4	12	50	4	2
EPBBC201416U	0.70R	1.4	1.4	16	50	4	2
EPBBC201503U	0.75R	1.5	1.5	3	50	4	2
EPBBC201504U	0.75R	1.5	1.5	4	50	4	2
EPBBC201506U	0.75R	1.5	1.5	6	50	4	2
EPBBC201508U	0.75R	1.5	1.5	8	50	4	2
EPBBC201510U	0.75R	1.5	1.5	10	50	4	2
EPBBC201512U	0.75R	1.5	1.5	12	50	4	2
EPBBC201514U	0.75R	1.5	1.5	14	50	4	2
EPBBC201516U	0.75R	1.5	1.5	16	50	4	2
EPBBC201518U	0.75R	1.5	1.5	18	50	4	2
EPBBC201520U	0.75R	1.5	1.5	20	50	4	2
EPBBC201522U	0.75R	1.5	1.5	22	60	4	2
EPBBC201525U	0.75R	1.5	1.5	25	60	4	2
EPBBC201530U	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

Cutting conditions（建議切削參數表）: Table 044 ~ 046

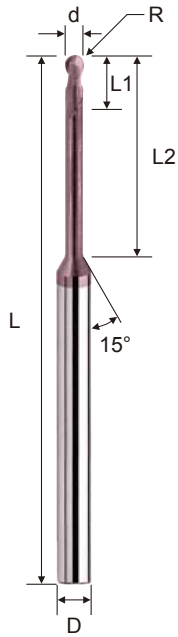
G550 - Long Neck Ball Nose Type - 2F

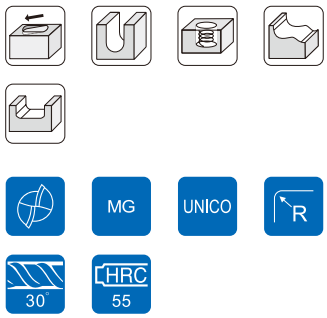
鎢鋼球型銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBBC2
EPBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPBBC201606U	0.80R	1.6	1.6	6	50	4	2
EPBBC201608U	0.80R	1.6	1.6	8	50	4	2
EPBBC201612U	0.80R	1.6	1.6	12	50	4	2
EPBBC201616U	0.80R	1.6	1.6	16	50	4	2
EPBBC201620U	0.80R	1.6	1.6	20	50	4	2
EPBBC201806U	0.90R	1.8	1.8	6	50	4	2
EPBBC201808U	0.90R	1.8	1.8	8	50	4	2
EPBBC201812U	0.90R	1.8	1.8	12	50	4	2
EPBBC201816U	0.90R	1.8	1.8	16	50	4	2
EPBBC201820U	0.90R	1.8	1.8	20	50	4	2
EPBBC202004U	1.00R	2.0	2.0	4	50	4	2
EPBBC202006U	1.00R	2.0	2.0	6	50	4	2
EPBBC202008U	1.00R	2.0	2.0	8	50	4	2
EPBBC202010U	1.00R	2.0	2.0	10	50	4	2
EPBBC202012U	1.00R	2.0	2.0	12	50	4	2
EPBBC202014U	1.00R	2.0	2.0	14	50	4	2
EPBBC202016U	1.00R	2.0	2.0	16	50	4	2
EPBBC202018U	1.00R	2.0	2.0	18	50	4	2
EPBBC202020U	1.00R	2.0	2.0	20	50	4	2
EPBBC202022U	1.00R	2.0	2.0	22	60	4	2
EPBBC202025U	1.00R	2.0	2.0	25	60	4	2
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

Cutting conditions（建議切削參數表）: Table 044 ~ 046

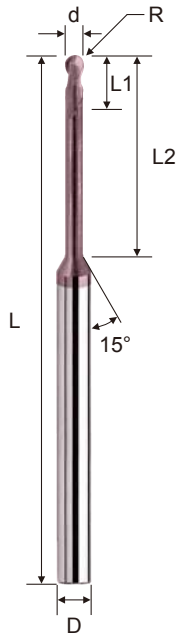
G550 - Long Neck Ball Nose Type - 2F

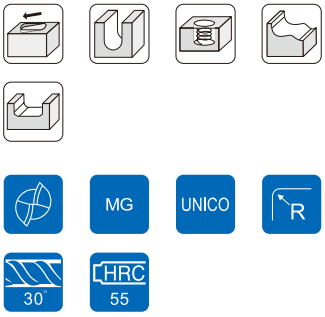
鎢鋼球型銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, Copper, FRP, etc.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EPBBC2
EPBRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPBBC202508U	1.25R	2.5	2.5	8	50	4	2
EPBBC202510U	1.25R	2.5	2.5	10	50	4	2
EPBBC202516U	1.25R	2.5	2.5	16	50	4	2
EPBBC202520U	1.25R	2.5	2.5	20	60	4	2
EPBBC202525U	1.25R	2.5	2.5	25	60	4	2
EPBBC202530U	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
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

Cutting conditions（建議切削參數表）: Table 044 ~ 046

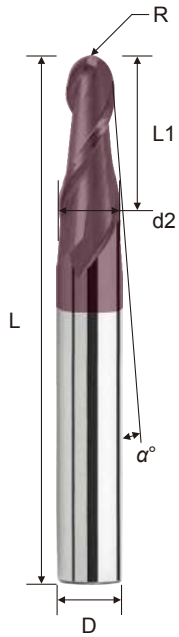
G550 - Taper Ball Nose Type - 2F

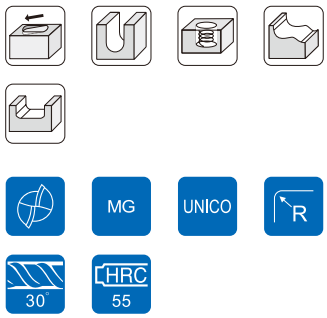
鎢鋼球型銑刀－斜度型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Tape cutting length is convenient for high performance 3D milling.
- Stronger geometry design gives good wear resistance.

EPBFT2
EPBST2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	α°	CL (L1)	NL (d2)	OAL (L)	Shank (D)	Flutes (F)
EPBFT202010U	1.00R	1°	8	2.24	50	4	2
EPBFT202030U	1.00R	3°	8	2.74	50	4	2
EPBFT202050U	1.00R	5°	8	3.23	50	4	2
EPBFT202510U	1.25R	1°	10	2.81	50	4	2
EPBFT202530U	1.25R	3°	10	3.42	50	4	2
EPBST202550U	1.25R	5°	10	4.04	50	6	2
EPBFT203010U	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

Cutting conditions（建議切削參數表）: Table 047

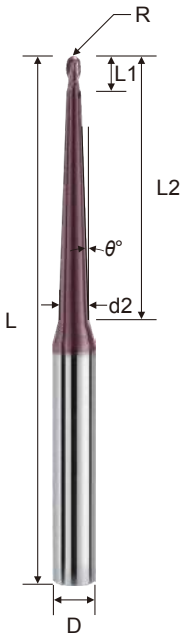
G550 - Taper Neck Ball Nose Type - 2F

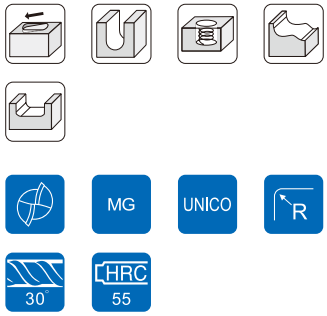
鎢鋼球型銑刀－斜頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Suitable for high performance profile milling.
- High strength of taper neck, can cut deep grooves without breaking.

EPBRT2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	θ°	CL (L1)	EFF-L (L2)	NL (d2)	OAL (L)	Shank (D)	Flutes (F)
EPBRT201023AU	0.5R	1	1.5°	2	23	2.10	60	6	2
EPBRT2010235U	0.5R	1	5.0°	2	23	4.67	60	6	2
EPBRT2010423U	0.5R	1	3.0°	2	42	5.19	75	6	2
EPBRT202035HU	1.0R	2	0.5°	4	35	2.54	75	6	2
EPBRT2020351U	1.0R	2	1.0°	4	35	3.08	75	6	2
EPBRT202023AU	1.0R	2	1.5°	4	23	3.00	60	6	2
EPBRT202035AU	1.0R	2	1.5°	4	35	3.62	75	6	2
EPBRT2020235U	1.0R	2	5.0°	4	23	5.32	60	6	2
EPBRT2020413U	1.0R	2	3.0°	4	41	5.88	75	6	2
EPBRT203052AU	1.5R	3	1.5°	6	52	5.40	100	6	2
EPBRT2030323U	1.5R	3	3.0°	6	32	5.73	75	6	2
EPBRT204046AU	2.0R	4	1.5°	8	46	6.00	100	6	2
EPBRT2040273U	2.0R	4	3.0°	8	27	6.00	75	6	2

Cutting conditions（建議切削參數表）: Table 047

Winstar Cutting Technologies

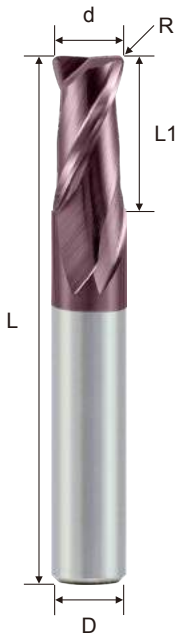
G550 - Corner Radius Type - 2F

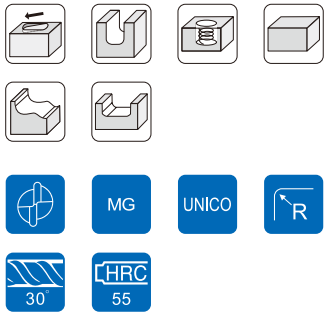
鎢鋼圓筆銑刀－標準型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius design is suitable for high speed surface milling and profiling.

EPCSC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.02

1Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPCFC201001U	1.0	0.1R	2	50	4	2
EPCFC201002U	1.0	0.2R	2	50	4	2
EPCFC201003U	1.0	0.3R	2	50	4	2
EPCFC201502U	1.5	0.2R	3	50	4	2
EPCFC201503U	1.5	0.3R	3	50	4	2
EPCFC201505U	1.5	0.5R	3	50	4	2
EPCFC202002U	2.0	0.2R	4	50	4	2
EPCFC202003U	2.0	0.3R	4	50	4	2
EPCFC202005U	2.0	0.5R	4	50	4	2
EPCFC203002U	3.0	0.2R	6	50	4	2
EPCFC203003U	3.0	0.3R	6	50	4	2
EPCFC203005U	3.0	0.5R	6	50	4	2
EPCFC204002U	4.0	0.2R	8	50	4	2
EPCFC204003U	4.0	0.3R	8	50	4	2
EPCFC204005U	4.0	0.5R	8	50	4	2
EPCFC204010U	4.0	1R	8	50	4	2
EPCSC204003U	4.0	0.3R	8	50	6	2
EPCSC204005U	4.0	0.5R	8	50	6	2
EPCSC204010U	4.0	1R	8	50	6	2
EPCSC205005U	5.0	0.5R	10	50	6	2
EPCSC205010U	5.0	1R	10	50	6	2
EPCSC206003U	6.0	0.3R	12	50	6	2
EPCSC206005U	6.0	0.5R	12	50	6	2
EPCSC206010U	6.0	1R	12	50	6	2
EPCSC208005U	8.0	0.5R	16	60	8	2
EPCSC208010U	8.0	1R	16	60	8	2
EPCSC208015U	8.0	1.5R	16	60	8	2
EPCSC210005U	10.0	0.5R	20	75	10	2
EPCSC210010U	10.0	1R	20	75	10	2
EPCSC210015U	10.0	1.5R	20	75	10	2
EPCSC212020U	10.0	2R	20	75	10	2
EPCSC212005U	12.0	0.5R	20	75	12	2
EPCSC212010U	12.0	1R	20	75	12	2
EPCSC212015U	12.0	1.5R	20	75	12	2
EPCSC212020U	12.0	2R	20	75	12	2

Cutting conditions（建議切削參數表）: Table 048

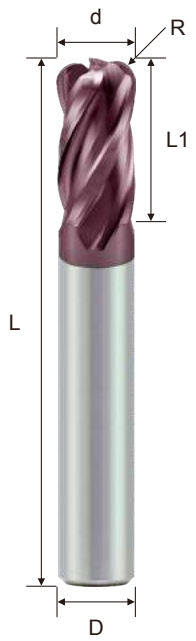
G550 - Corner Radius Type - 4F

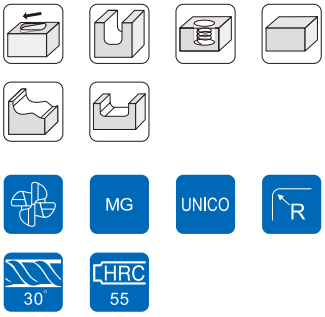
鎢鋼圓鼻銑刀－標準型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius with multiple design increases the finish milling surface.

EPCSC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPCFC401002U	1	0.2R	2	50	4	4
EPCFC401003U	1	0.3R	2	50	4	4
EPCFC401502U	1.5	0.2R	3	50	4	4
EPCFC401503U	1.5	0.3R	3	50	4	4
EPCFC401505U	1.5	0.5R	3	50	4	4
EPCFC402002U	2.0	0.2R	4	50	4	4
EPCFC402003U	2.0	0.3R	4	50	4	4
EPCFC402005U	2.0	0.5R	4	50	4	4
EPCFC403002U	3	0.2R	6	50	4	4
EPCFC403003U	3	0.3R	6	50	4	4
EPCFC403005U	3	0.5R	6	50	4	4
EPCFC403010U	3	1R	6	50	4	4
EPCFC404001U	4	0.1R	8	50	4	4
EPCFC404002U	4	0.2R	8	50	4	4
EPCFC404003U	4	0.3R	8	50	4	4
EPCFC404005U	4	0.5R	8	50	4	4
EPCFC404010U	4	1R	8	50	4	4
EPCSC403003U	3	0.3R	6	50	6	4
EPCSC403005U	3	0.5R	6	50	6	4
EPCSC403010U	3	1R	6	50	6	4
EPCSC404003U	4	0.3R	8	50	6	4
EPCSC404005U	4	0.5R	8	50	6	4
EPCSC404010U	4	1R	8	50	6	4
EPCSC405005U	5	0.5R	10	50	6	4
EPCSC405010U	5	1R	10	50	6	4
EPCSC406003U	6	0.3R	12	50	6	4
EPCSC406005U	6	0.5R	12	50	6	4
EPCSC406010U	6	1R	12	50	6	4
EPCSC408005U	8	0.5R	16	60	8	4
EPCSC408010U	8	1R	16	60	8	4
EPCSC408015U	8	1.5R	16	60	8	4
EPCSC410005U	10	0.5R	20	75	10	4
EPCSC410010U	10	1R	20	75	10	4
EPCSC410015U	10	1.5R	20	75	10	4
EPCSC410020U	10	2R	20	75	10	4
EPCSC412005U	12	0.5R	24	75	12	4
EPCSC412010U	12	1R	24	75	12	4
EPCSC412015U	12	1.5R	24	75	12	4
EPCSC412020U	12	2R	24	75	12	4
EPCSC412030U	12	3R	24	75	12	4

Cutting conditions（建議切削參數表）: Table 049

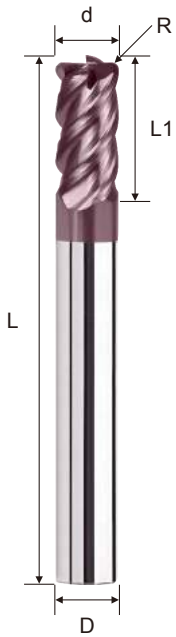
G550 - High Helix Corner Radius Type - 4F

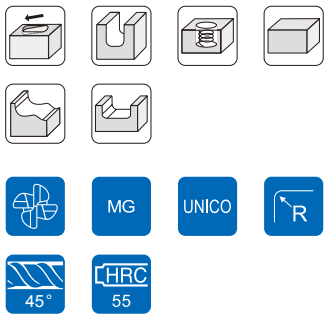
鎢鋼圓鼻銑刀－高導型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius with high helix angle improves the side milling quality.

EPCSH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPCFH403005U	3.0	0.5R	6	50	4	4
EPCFH404005U	4.0	0.5R	8	50	4	4
EPCSH405005U	5.0	0.5R	10	50	6	4
EPCSH405010U	5.0	1.0R	10	50	6	4
EPCSH406005U	6.0	0.5R	12	50	6	4
EPCSH406010U	6.0	1.0R	12	50	6	4
EPCSH408005U	8.0	0.5R	16	60	8	4
EPCSH408010U	8.0	1.0R	16	60	8	4
EPCSH410005U	10.0	0.5R	20	75	10	4
EPCSH410010U	10.0	1.0R	20	75	10	4
EPCSH410015U	10.0	1.5R	20	75	10	4
EPCSH410020U	10.0	2.0R	20	75	10	4
EPCSH412010U	12.0	1.0R	24	75	12	4
EPCSH412020U	12.0	2.0R	24	75	12	4
EPCSH412030U	12.0	3.0R	24	75	12	4

Cutting conditions（建議切削參數表）: Table 050

d	R Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.02

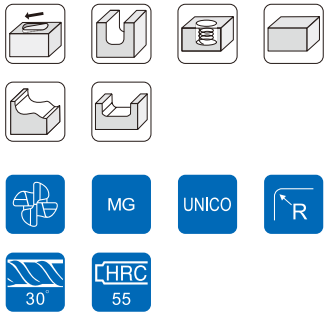
G550 - Long Shank Corner Radius Type - 4F

鎢鋼圓鼻銑刀－長柄型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Corner radius with multiple flutes is suitable for general cutting and 3D milling.

EPCLC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPCEC404005U	4	0.5R	8	75	4	4
EPCKC404005U	4	0.5R	8	100	4	4
EPCLC403005U	3	0.5R	6	75	6	4
EPCLC403010U	3	1R	6	75	6	4
EPCLC404005U	4	0.5R	8	75	6	4
EPCLC404010U	4	1R	8	75	6	4
EPCLC405005U	5	0.5R	10	75	6	4
EPCLC405010U	5	1R	10	75	6	4
EPCLC406005U	6	0.5R	12	75	6	4
EPCLC406010U	6	1R	12	75	6	4
EPCNC406005U	6	0.5R	12	100	6	4
EPCMC408005U	8	0.5R	16	75	8	4
EPCLC408005U	8	0.5R	16	100	8	4
EPCLC408010U	8	1R	16	100	8	4
EPCLC408015U	8	1.5R	16	100	8	4
EPCLC410005U	10	0.5R	20	100	10	4
EPCLC410010U	10	1R	20	100	10	4
EPCLC410015U	10	1.5R	20	100	10	4
EPCLC410020U	10	2R	20	100	10	4
EPCNC410005U	10	0.5R	20	150	10	4
EPCLC412005U	12	0.5R	24	100	12	4
EPCLC412010U	12	1R	24	100	12	4
EPCLC412015U	12	1.5R	24	100	12	4
EPCLC412020U	12	2R	24	100	12	4
EPCNC412005U	12	0.5R	24	150	12	4
EPCLC416010U	16	1R	32	150	16	4
EPCLC416020U	16	2R	32	150	16	4
EPCLC416030U	16	3R	32	150	16	4

Cutting conditions（建議切削參數表）: Table 051

d	R Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.02

WINSTAR

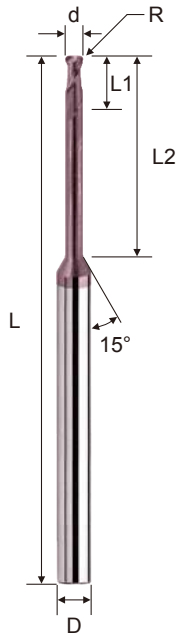
G550 - Long Neck Corner Radius Type - 2F

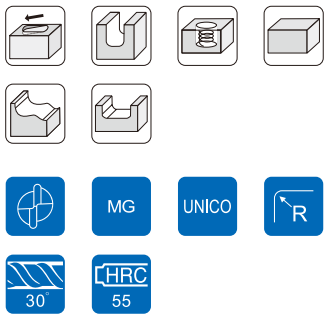
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCBC2
EPCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCBC20100104U	1.0	0.1R	1.0	4	50	4	2
EPCBC20100106U	1.0	0.1R	1.0	6	50	4	2
EPCBC20100108U	1.0	0.1R	1.0	8	50	4	2
EPCBC20100110U	1.0	0.1R	1.0	10	50	4	2
EPCBC20100112U	1.0	0.1R	1.0	12	50	4	2
EPCBC20100204U	1.0	0.2R	1.0	4	50	4	2
EPCBC20100206U	1.0	0.2R	1.0	6	50	4	2
EPCBC20100208U	1.0	0.2R	1.0	8	50	4	2
EPCBC20100210U	1.0	0.2R	1.0	10	50	4	2
EPCBC20100212U	1.0	0.2R	1.0	12	50	4	2
EPCBC20100304U	1.0	0.3R	1.0	4	50	4	2
EPCBC20100306U	1.0	0.3R	1.0	6	50	4	2
EPCBC20100308U	1.0	0.3R	1.0	8	50	4	2
EPCBC20100310U	1.0	0.3R	1.0	10	50	4	2
EPCBC20100312U	1.0	0.3R	1.0	12	50	4	2
EPCBC20120104U	1.2	0.1R	1.2	4	50	4	2
EPCBC20120106U	1.2	0.1R	1.2	6	50	4	2
EPCBC20120108U	1.2	0.1R	1.2	8	50	4	2
EPCBC20120110U	1.2	0.1R	1.2	10	50	4	2
EPCBC20120112U	1.2	0.1R	1.2	12	50	4	2
EPCBC20120204U	1.2	0.2R	1.2	4	50	4	2
EPCBC20120206U	1.2	0.2R	1.2	6	50	4	2
EPCBC20120208U	1.2	0.2R	1.2	8	50	4	2
EPCBC20120210U	1.2	0.2R	1.2	10	50	4	2
EPCBC20120212U	1.2	0.2R	1.2	12	50	4	2
EPCBC20120304U	1.2	0.3R	1.2	4	50	4	2
EPCBC20120306U	1.2	0.3R	1.2	6	50	4	2
EPCBC20120308U	1.2	0.3R	1.2	8	50	4	2
EPCBC20120310U	1.2	0.3R	1.2	10	50	4	2
EPCBC20120312U	1.2	0.3R	1.2	12	50	4	2

Cutting conditions（建議切削參數表）: Table 052

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

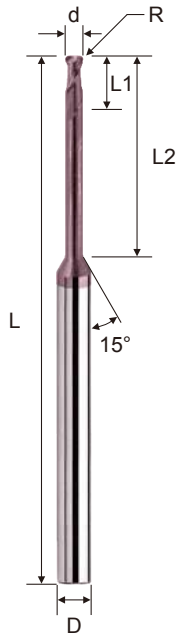
G550 - Long Neck Corner Radius Type - 2F

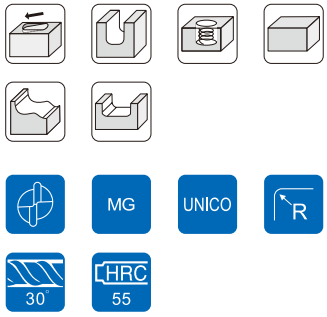
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCBC2
EPCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCBC20150106U	1.5	0.1R	1.5	6	50	4	2
EPCBC20150108U	1.5	0.1R	1.5	8	50	4	2
EPCBC20150110U	1.5	0.1R	1.5	10	50	4	2
EPCBC20150112U	1.5	0.1R	1.5	12	50	4	2
EPCBC20150116U	1.5	0.1R	1.5	16	50	4	2
EPCBC20150206U	1.5	0.2R	1.5	6	50	4	2
EPCBC20150208U	1.5	0.2R	1.5	8	50	4	2
EPCBC20150210U	1.5	0.2R	1.5	10	50	4	2
EPCBC20150212U	1.5	0.2R	1.5	12	50	4	2
EPCBC20150216U	1.5	0.2R	1.5	16	50	4	2
EPCBC20150306U	1.5	0.3R	1.5	6	50	4	2
EPCBC20150308U	1.5	0.3R	1.5	8	50	4	2
EPCBC20150310U	1.5	0.3R	1.5	10	50	4	2
EPCBC20150312U	1.5	0.3R	1.5	12	50	4	2
EPCBC20150316U	1.5	0.3R	1.5	16	50	4	2
EPCBC20150506U	1.5	0.5R	1.5	6	50	4	2
EPCBC20150508U	1.5	0.5R	1.5	8	50	4	2
EPCBC20150510U	1.5	0.5R	1.5	10	50	4	2
EPCBC20150512U	1.5	0.5R	1.5	12	50	4	2
EPCBC20150516U	1.5	0.5R	1.5	16	50	4	2

Cutting conditions（建議切削參數表）: Table 052

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

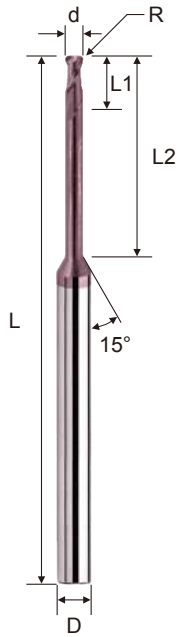
G550 - Long Neck Corner Radius Type - 2F

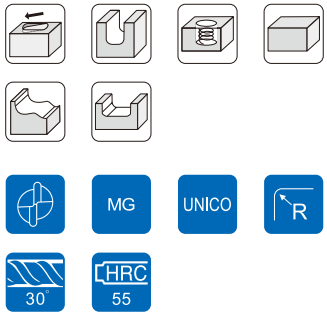
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCBC2
EPCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCBC20200106U	2.0	0.1R	2.0	6	50	4	2
EPCBC20200108U	2.0	0.1R	2.0	8	50	4	2
EPCBC20200110U	2.0	0.1R	2.0	10	50	4	2
EPCBC20200112U	2.0	0.1R	2.0	12	50	4	2
EPCBC20200116U	2.0	0.1R	2.0	16	50	4	2
EPCBC20200120U	2.0	0.1R	2.0	20	50	4	2
EPCBC20200125U	2.0	0.1R	2.0	25	60	4	2
EPCBC20200206U	2.0	0.2R	2.0	6	50	4	2
EPCBC20200208U	2.0	0.2R	2.0	8	50	4	2
EPCBC20200210U	2.0	0.2R	2.0	10	50	4	2
EPCBC20200212U	2.0	0.2R	2.0	12	50	4	2
EPCBC20200216U	2.0	0.2R	2.0	16	50	4	2
EPCBC20200220U	2.0	0.2R	2.0	20	50	4	2
EPCBC20200225U	2.0	0.2R	2.0	25	60	4	2
EPCBC20200306U	2.0	0.3R	2.0	6	50	4	2
EPCBC20200308U	2.0	0.3R	2.0	8	50	4	2
EPCBC20200310U	2.0	0.3R	2.0	10	50	4	2
EPCBC20200312U	2.0	0.3R	2.0	12	50	4	2
EPCBC20200316U	2.0	0.3R	2.0	16	50	4	2
EPCBC20200320U	2.0	0.3R	2.0	20	50	4	2
EPCBC20200325U	2.0	0.3R	2.0	25	60	4	2
EPCBC20200506U	2.0	0.5R	2.0	6	50	4	2
EPCBC20200508U	2.0	0.5R	2.0	8	50	4	2
EPCBC20200510U	2.0	0.5R	2.0	10	50	4	2
EPCBC20200512U	2.0	0.5R	2.0	12	50	4	2
EPCBC20200516U	2.0	0.5R	2.0	16	50	4	2
EPCBC20200520U	2.0	0.5R	2.0	20	50	4	2
EPCBC20200525U	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

Cutting conditions（建議切削參數表）: Table 052

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

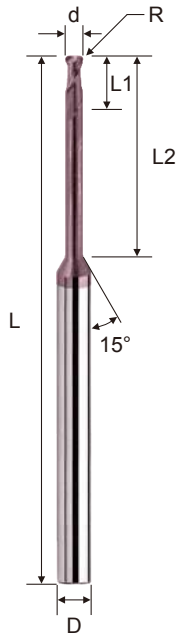
G550 - Long Neck Corner Radius Type - 2F

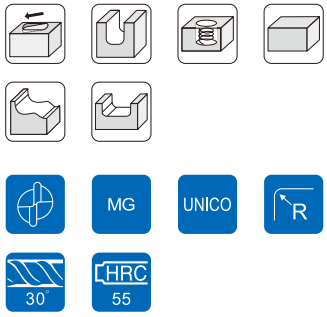
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCBC2
EPCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCBC20250110U	2.5	0.1R	2.5	10	50	4	2
EPCBC20250116U	2.5	0.1R	2.5	16	50	4	2
EPCBC20250120U	2.5	0.1R	2.5	20	50	4	2
EPCBC20250125U	2.5	0.1R	2.5	25	60	4	2
EPCBC20250210U	2.5	0.2R	2.5	10	50	4	2
EPCBC20250216U	2.5	0.2R	2.5	16	50	4	2
EPCBC20250220U	2.5	0.2R	2.5	20	50	4	2
EPCBC20250225U	2.5	0.2R	2.5	25	60	4	2
EPCBC20250310U	2.5	0.3R	2.5	10	50	4	2
EPCBC20250316U	2.5	0.3R	2.5	16	50	4	2
EPCBC20250320U	2.5	0.3R	2.5	20	50	4	2
EPCBC20250325U	2.5	0.3R	2.5	25	60	4	2
EPCBC20250510U	2.5	0.5R	2.5	10	50	4	2
EPCBC20250516U	2.5	0.5R	2.5	16	50	4	2
EPCBC20250520U	2.5	0.5R	2.5	20	50	4	2
EPCBC20250525U	2.5	0.5R	2.5	25	60	4	2

Cutting conditions（建議切削參數表）: Table 052

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Winstar Cutting Technologies

WINSTAR

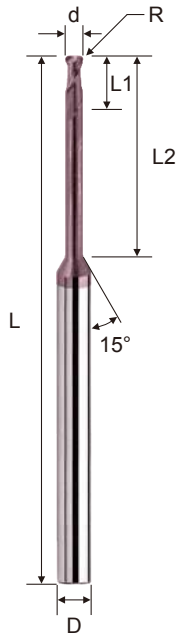
G550 - Long Neck Corner Radius Type - 2F

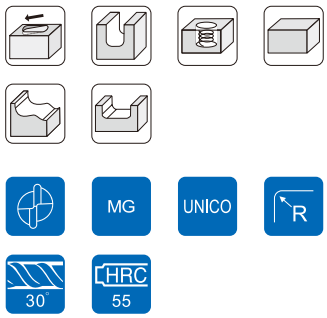
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCBC2
EPCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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
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

Cutting conditions（建議切削參數表）: Table 052

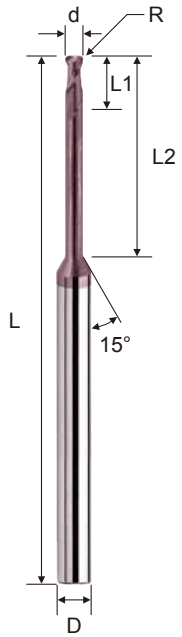
G550 - Long Neck Corner Radius Type - 2F

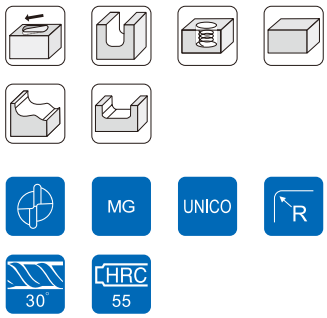
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCBC2
EPCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 052

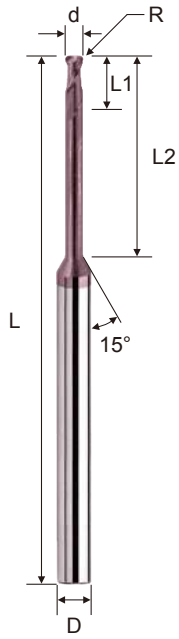
G550 - Long Neck Corner Radius Type - 2F

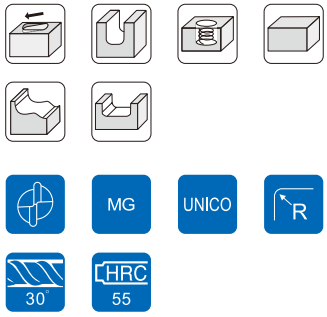
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EPCBC2
EPCRC2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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
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

Cutting conditions（建議切削參數表）: Table 052

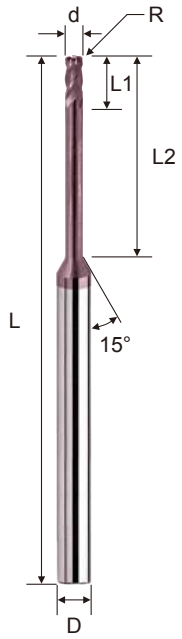
G550 - Long Neck Corner Radius Type - 4F

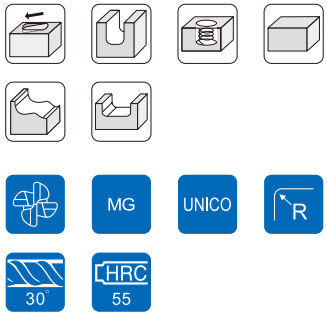
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCBC4
EPCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCBC40200106U	2.0	0.1R	2.0	6	50	4	4
EPCBC40200108U	2.0	0.1R	2.0	8	50	4	4
EPCBC40200110U	2.0	0.1R	2.0	10	50	4	4
EPCBC40200112U	2.0	0.1R	2.0	12	50	4	4
EPCBC40200116U	2.0	0.1R	2.0	16	50	4	4
EPCBC40200120U	2.0	0.1R	2.0	20	50	4	4
EPCBC40200125U	2.0	0.1R	2.0	25	60	4	4
EPCBC40200206U	2.0	0.2R	2.0	6	50	4	4
EPCBC40200208U	2.0	0.2R	2.0	8	50	4	4
EPCBC40200210U	2.0	0.2R	2.0	10	50	4	4
EPCBC40200212U	2.0	0.2R	2.0	12	50	4	4
EPCBC40200216U	2.0	0.2R	2.0	16	50	4	4
EPCBC40200220U	2.0	0.2R	2.0	20	50	4	4
EPCBC40200225U	2.0	0.2R	2.0	25	60	4	4
EPCBC40200306U	2.0	0.3R	2.0	6	50	4	4
EPCBC40200308U	2.0	0.3R	2.0	8	50	4	4
EPCBC40200310U	2.0	0.3R	2.0	10	50	4	4
EPCBC40200312U	2.0	0.3R	2.0	12	50	4	4
EPCBC40200316U	2.0	0.3R	2.0	16	50	4	4
EPCBC40200320U	2.0	0.3R	2.0	20	50	4	4
EPCBC40200325U	2.0	0.3R	2.0	25	60	4	4
EPCBC40200506U	2.0	0.5R	2.0	6	50	4	4
EPCBC40200508U	2.0	0.5R	2.0	8	50	4	4
EPCBC40200510U	2.0	0.5R	2.0	10	50	4	4
EPCBC40200512U	2.0	0.5R	2.0	12	50	4	4
EPCBC40200516U	2.0	0.5R	2.0	16	50	4	4
EPCBC40200520U	2.0	0.5R	2.0	20	50	4	4
EPCBC40200525U	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

Cutting conditions（建議切削參數表）: Table 053

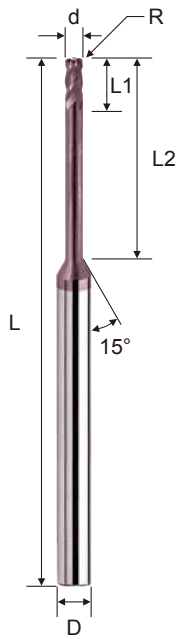
G550 - Long Neck Corner Radius Type - 4F

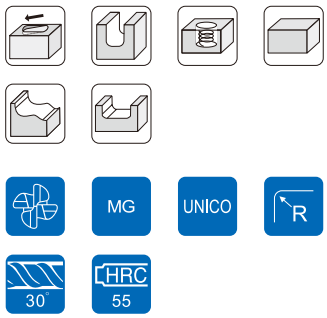
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCBC4
EPCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCBC40250110U	2.5	0.1R	2.5	10	50	4	4
EPCBC40250116U	2.5	0.1R	2.5	16	50	4	4
EPCBC40250120U	2.5	0.1R	2.5	20	50	4	4
EPCBC40250125U	2.5	0.1R	2.5	25	60	4	4
EPCBC40250210U	2.5	0.2R	2.5	10	50	4	4
EPCBC40250216U	2.5	0.2R	2.5	16	50	4	4
EPCBC40250220U	2.5	0.2R	2.5	20	50	4	4
EPCBC40250225U	2.5	0.2R	2.5	25	60	4	4
EPCBC40250310U	2.5	0.3R	2.5	10	50	4	4
EPCBC40250316U	2.5	0.3R	2.5	16	50	4	4
EPCBC40250320U	2.5	0.3R	2.5	20	50	4	4
EPCBC40250325U	2.5	0.3R	2.5	25	60	4	4
EPCBC40250510U	2.5	0.5R	2.5	10	50	4	4
EPCBC40250516U	2.5	0.5R	2.5	16	50	4	4
EPCBC40250520U	2.5	0.5R	2.5	20	50	4	4
EPCBC40250525U	2.5	0.5R	2.5	25	60	4	4

Cutting conditions（建議切削參數表）: Table 053

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

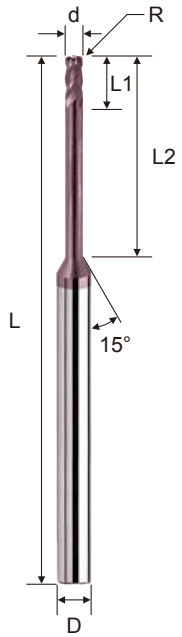
G550 - Long Neck Corner Radius Type - 4F

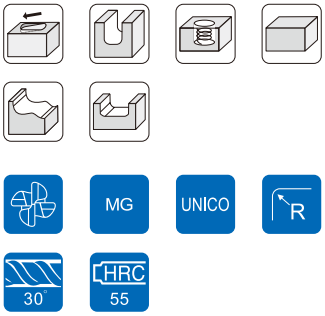
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCBC4
EPCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 053

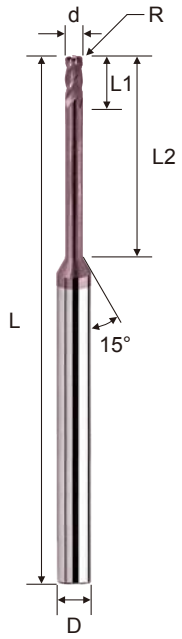
G550 - Long Neck Corner Radius Type - 4F

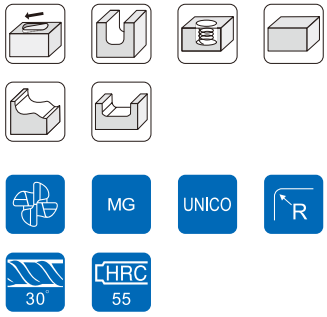
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCBC4
EPCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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
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

Cutting conditions（建議切削參數表）: Table 053

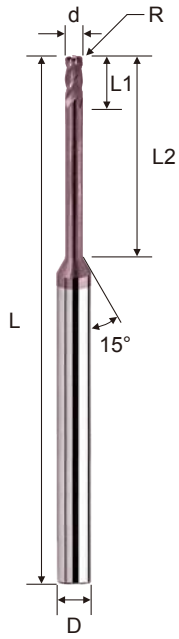
G550 - Long Neck Corner Radius Type - 4F

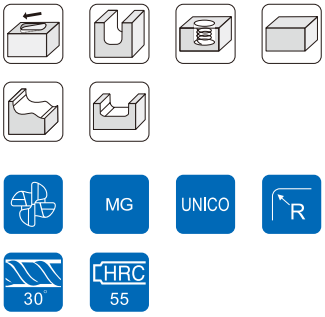
鎢鋼圓鼻銑刀－長頸型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Multiple flutes and ling neck design provides better surface in deep cutting.
- Available in various cut lengths.

EPCBC4
EPCRC4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
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
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

Cutting conditions（建議切削參數表）: Table 053

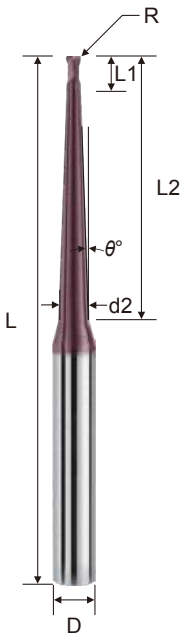
G550 - Taper Neck Corner Radius Type - 2F

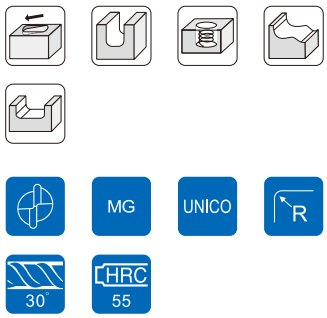
鎢鋼圓鼻銑刀－斜頸型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Various tape angle makes it suitable for different applications.
- Small corner radius applied protect chipping of cutting edges.
  High strength of taper neck, can cut deep grooves without breaking.

EPCRT2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	θ°	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCRT20100120HU	1.0	0.10R	0.5°	2.0	20	60	6	2
EPCRT201001201U	1.0	0.10R	1.0°	2.0	20	60	6	2
EPCRT20100120AU	1.0	0.10R	1.5°	2.0	20	60	6	2
EPCRT201201230HU2C	1.2	0.12R	0.5°	2.0	30	75	6	2
EPCRT2012012301U2C	1.2	0.12R	1.0°	2.0	30	75	6	2
EPCRT201201230AU2C	1.2	0.12R	1.5°	2.0	30	75	6	2
EPCRT201501530HU2C	1.5	0.15R	0.5°	2.0	30	75	6	2
EPCRT2015015301U2C	1.5	0.15R	1.0°	2.0	30	75	6	2
EPCRT201501530AU2C	1.5	0.15R	1.5°	2.0	30	75	6	2
EPCRT201801830HU2C	1.8	0.18R	0.5°	2.0	30	75	6	2
EPCRT2018018301U2C	1.8	0.18R	1.0°	2.0	30	75	6	2
EPCRT201801830AU2C	1.8	0.18R	1.5°	2.0	30	75	6	2
EPCRT20200225AU	2.0	0.20R	1.5°	3.0	25	75	6	2
EPCRT20200239AU	2.0	0.20R	1.5°	3.0	39	75	6	2
EPCRT20200525AU	2.0	0.50R	1.5°	3.0	25	75	6	2
EPCRT20200539AU	2.0	0.50R	1.5°	3.0	39	75	6	2
EPCRT20200550AU	2.0	0.50R	1.5°	3.0	50	100	6	2
EPCRT20200535HU4C	2.0	0.50R	0.5°	4.0	35	75	6	2
EPCRT202005351U4C	2.0	0.50R	1.0°	4.0	35	75	6	2
EPCRT20200535AU4C	2.0	0.50R	1.5°	4.0	35	75	6	2
EPCRT20250535HU5C	2.5	0.50R	0.5°	5.0	35	75	6	2
EPCRT202505351U5C	2.5	0.50R	1.0°	5.0	35	75	6	2
EPCRT20250535AU5C	2.5	0.50R	1.5°	5.0	35	75	6	2
EPCRT20251035HU5C	2.5	1.00R	0.5°	5.0	35	75	6	2
EPCRT202510351U5C	2.5	1.00R	1.0°	5.0	35	75	6	2
EPCRT20251035AU5C	2.5	1.00R	1.5°	5.0	35	75	6	2

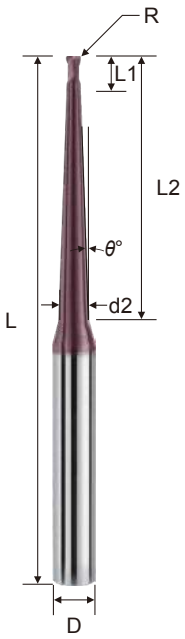
G550 - Taper Neck Corner Radius Type - 2F

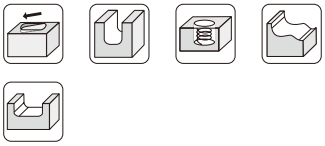
鎢鋼圓鼻銑刀－斜頸型－ 2 刃

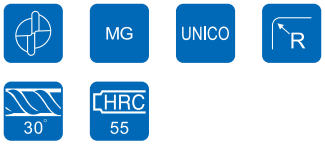
- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Various tape angle makes it suitable for different applications.
- Small corner radius applied protect chipping of cutting edges.
  High strength of taper neck, can cut deep grooves without breaking.

EPCRT2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑







d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	θ°	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EPCRT20300525AU	3.0	0.50R	1.5°	4.5	25	75	6	2
EPCRT20301025AU	3.0	1.00R	1.5°	4.5	25	75	6	2
EPCRT20301039AU	3.0	1.00R	1.5°	4.5	39	75	6	2
EPCRT20301050AU	3.0	1.00R	1.5°	4.5	50	100	6	2
EPCRT20300535HU5C	3.0	0.50R	0.5°	5.0	35	75	6	2
EPCRT203005351U5C	3.0	0.50R	1.0°	5.0	35	75	6	2
EPCRT20300535AU5C	3.0	0.50R	1.5°	5.0	35	75	6	2
EPCRT20301035HU5C	3.0	1.00R	0.5°	5.0	35	75	6	2
EPCRT203010351U5C	3.0	1.00R	1.0°	5.0	35	75	6	2
EPCRT20301035AU5C	3.0	1.00R	1.5°	5.0	35	75	6	2
EPCRT20350535HU	3.5	0.50R	0.5°	5.0	35	75	6	2
EPCRT203505351U	3.5	0.50R	1.0°	5.0	35	75	6	2
EPCRT20350535AU	3.5	0.50R	1.5°	5.0	35	75	6	2
EPCRT20351035HU	3.5	1.00R	0.5°	5.0	35	75	6	2
EPCRT203510351U	3.5	1.00R	1.0°	5.0	35	75	6	2
EPCRT20351035AU	3.5	1.00R	1.5°	5.0	35	75	6	2
EPCRT20400545HU	4.0	0.50R	0.5°	6.0	45	100	6	2
EPCRT204005451U	4.0	0.50R	1.0°	6.0	45	100	6	2
EPCRT20400525AU	4.0	0.50R	1.5°	6.0	25	75	6	2
EPCRT20400545AU	4.0	0.50R	1.5°	6.0	45	100	6	2
EPCRT20401045HU	4.0	1.00R	0.5°	6.0	45	100	6	2
EPCRT204010451U	4.0	1.00R	1.0°	6.0	45	100	6	2
EPCRT20401025AU	4.0	1.00R	1.5°	6.0	25	75	6	2
EPCRT20401045AU	4.0	1.00R	1.5°	6.0	45	100	6	2
EPCRT20501025AU	5.0	1.00R	1.5°	7.5	25	75	6	2
EPCRT20501050AU	5.0	1.00R	1.5°	7.5	50	100	8	2
EPCRT20601035AU	6.0	1.00R	1.5°	9.0	35	75	8	2
EPCRT20601050AU	6.0	1.00R	1.5°	9.0	50	100	10	2

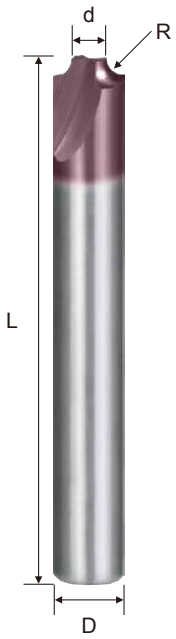
G550 - Inner Radius Type - 2F / 4F

鎢鋼內 R 角銑刀 – 2 / 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 30 to HRC 55 Ordinary Steel, Alloy Steel, Cast Iron, Heat-Resistant Steel, etc.
- Inner radius tools are suitable for chamfering with round corner application.

EPIFA2
EPISA2
EPIFA4
EPISA4

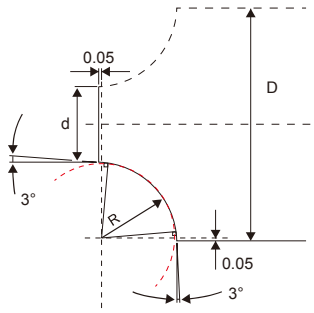
P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



Order No.	Corner Radius (R)	Dia. (d1)	OAL (L)	Shank (D)	Flutes (F)
EPIFA202905U	0.5R	2.9	50	4	2
EPISA204905U	0.5R	4.9	50	6	2
EPIFA201910U	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
EPIFA402905U	0.5R	2.9	50	4	4
EPISA404905U	0.5R	4.9	50	6	4
EPIFA401910U	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

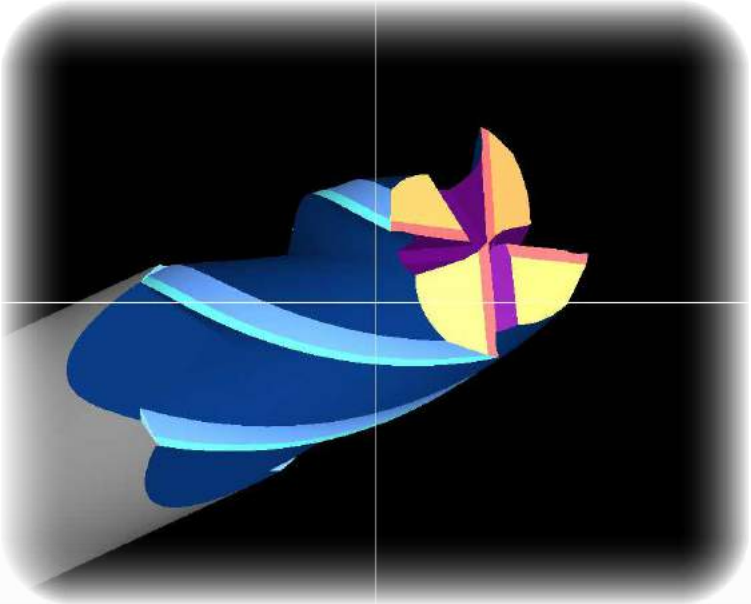
Cutting conditions（建議切削參數表）: Table 054

MG UNICO R 0° HRC 48



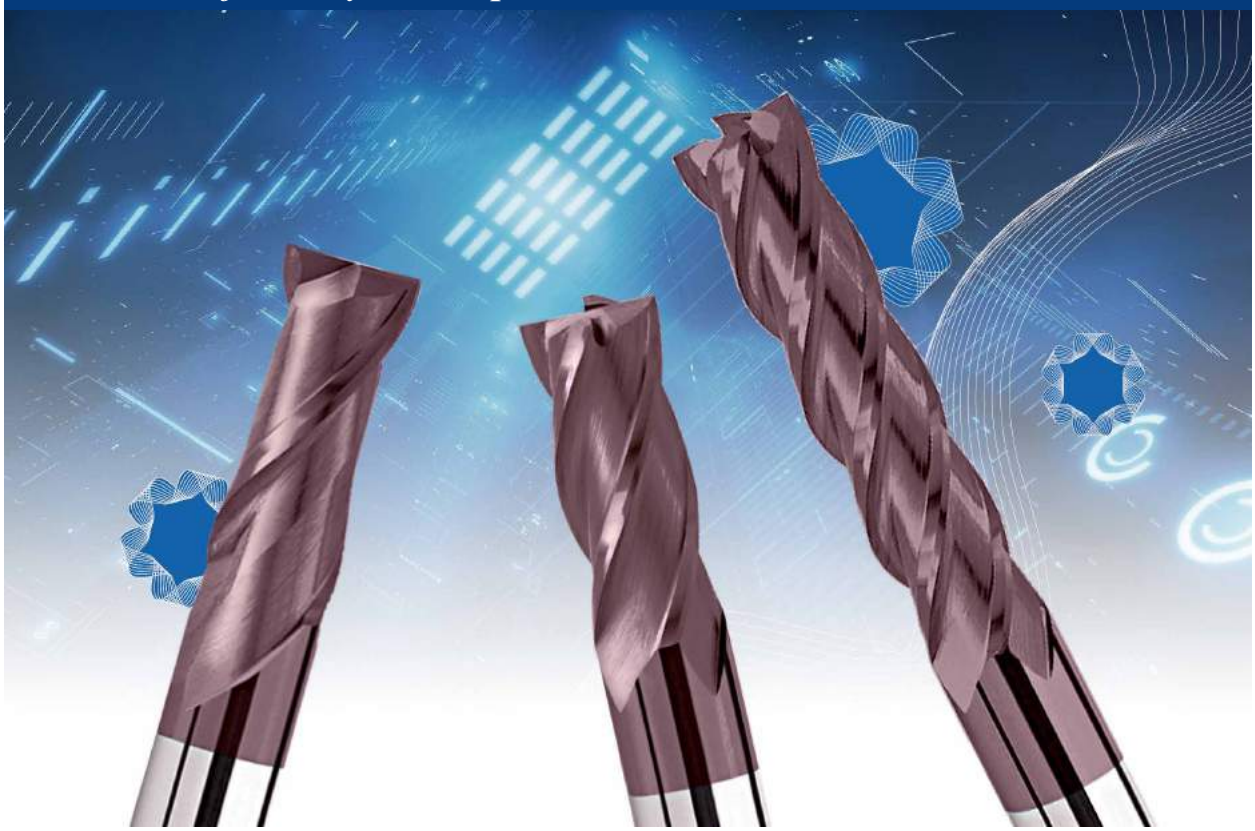
WINSTAR

Endmills · Inserts · Drills



Winstar
Cutting Technologies

G450 Series for Alloy Steel, up to HRC 48



- Micro grain carbide rod is suitable for general machining.
- UNICO coating provides superior wear resistance and reduces the coefficient of friction.
- Positive geometry is suitable for better shearing.
- Excellent cutting ability of cutting edges.

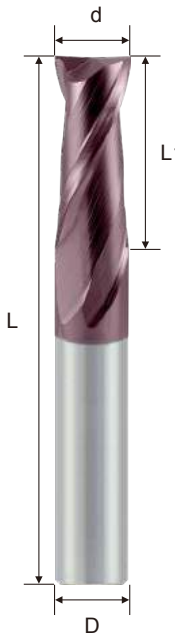
G450 - Square Type - 2F

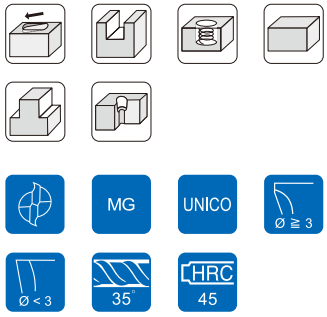
鎢鋼平銑刀－標準型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 20 to HRC 45 Steel, Alloy Steel, Cast Iron, Aluminum Alloy (Si >15%).
- Excellent cutting ability of cutting edges.
- High precision cutting.
- Positive Geometry design is suitable for better shearing.

EPSFA2
EPSSA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSFA201000U	1.0	3	50	4	2
EPSFA201500U	1.5	4	50	4	2
EPSFA202000U	2.0	5	50	4	2
EPSFA202500U	2.5	6	50	4	2
EPSFA203000U	3.0	8	50	4	2
EPSSA203000U	3.0	8	50	6	2
EPSSA203500U	3.5	9	50	6	2
EPSFA204000U	4.0	10	50	4	2
EPSSA204000U	4.0	10	50	6	2
EPSSA204500U	4.5	11	50	6	2
EPSSA205000U	5.0	13	50	6	2
EPSSA205500U	5.5	14	50	6	2
EPSSA206000U	6.0	15	50	6	2
EPSSA206500U	6.5	16	60	8	2
EPSSA207000U	7.0	18	60	8	2
EPSSA208000U	8.0	20	60	8	2
EPSSA209000U	9.0	22	75	10	2
EPSSA210000U	10.0	25	75	10	2
EPSSA212000U	12.0	30	75	12	2
EPSSA214000U	14.0	30	75	14	2
EPSSA216000U	16.0	35	100	16	2
EPSSA218000U	18.0	40	100	20	2
EPSSA220000U	20.0	45	100	20	2
EPSSA225000U	25.0	45	100	25	2

Cutting conditions（建議切削參數表）: Table 026

Winstar Cutting Technologies

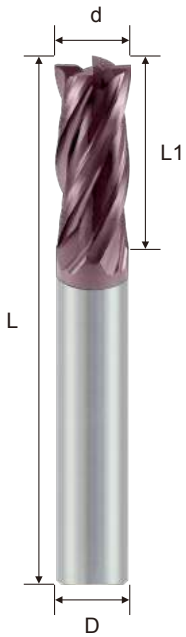
G450 - Square Type - 4F

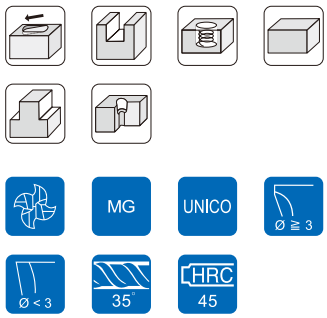
鎢鋼平銑刀－標準型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 20 to HRC 45 Steel, Alloy Steel, Cast Iron, Aluminum Alloy (Si >15%).
- Excellent cutting ability of cutting edges.
- High precision cutting.
- Positive Geometry design is suitable for better shearing.

EPSFA4
EPSSA4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSFA401000U	1.0	3	50	4	4
EPSFA401500U	1.5	4	50	4	4
EPSFA402000U	2.0	5	50	4	4
EPSFA402500U	2.5	6	50	4	4
EPSFA403000U	3.0	8	50	4	4
EPSSA403000U	3.0	8	50	6	4
EPSFA404000U	4.0	10	50	4	4
EPSSA404000U	4.0	10	50	6	4
EPSSA405000U	5.0	13	50	6	4
EPSSA406000U	6.0	15	50	6	4
EPSSA408000U	8.0	20	60	8	4
EPSSA410000U	10.0	25	75	10	4
EPSSA412000U	12.0	30	75	12	4
EPSSA414000U	14.0	30	75	14	4
EPSSA416000U	16.0	35	100	16	4
EPSSA420000U	20.0	45	100	20	4
EPSSA425000U	25.0	45	100	25	4

Cutting conditions（建議切削參數表）: Table 027

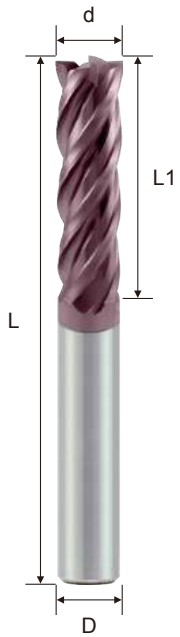
G450 - Long Flute Square Type - 4F

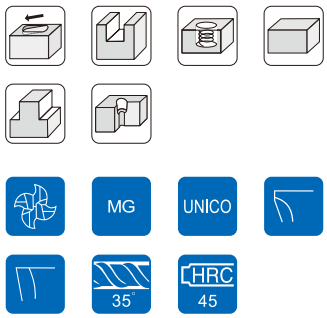
鎢鋼平銑刀－長刃型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 20 to HRC 45 Steel, Alloy Steel, Cast Iron, Aluminum Alloy (Si >15%).
- Excellent cutting ability of cutting edges.
- Long flutes is available in various length of cut and overall length end mills.

EPSCA4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSCA403000U	3.0	15	60	6	4
EPSCA404000U	4.0	20	60	6	4
EPSCA405000U	5.0	25	75	6	4
EPSCA406000U	6.0	30	75	6	4
EPSCA408000U	8.0	35	100	8	4
EPSCA410000U	10.0	45	100	10	4
EPSCA412000U	12.0	45	100	12	4
EPSCA414000U	14.0	70	150	14	4
EPSCA416000U	16.0	70	150	16	4
EPSCA420000U	20.0	75	150	20	4
EPSCA425000U	25.0	75	150	25	4

Cutting conditions（建議切削參數表）: Table 030

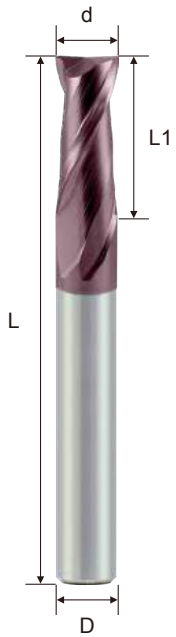
G450 - Long Shank Square Type - 2F

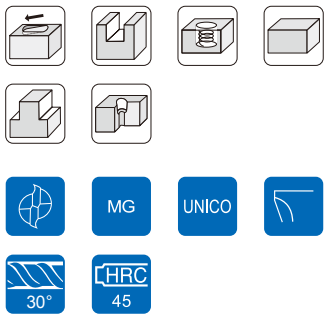
鎢鋼平銑刀－長柄型－ 2 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 20 to HRC 45 Steel, Alloy Steel, Cast Iron, Aluminum Alloy (Si >15%).
- Excellent cutting ability of cutting edges.
- Long Shank is available in various length of cut and overall length end mills.

EPSEA2
EPSKA2
EPSLA2
EPSNA2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSEA204000U	4.0	10	75	4	2
EPSKA204000U	4.0	10	100	4	2
EPSLA204000U	4.0	10	75	6	2
EPSNA204000U	4.0	10	100	6	2
EPSLA205000U	5.0	13	75	6	2
EPSNA205000U	5.0	13	100	6	2
EPSLA206000U	6.0	15	75	6	2
EPSNA206000U	6.0	15	100	6	2
EPSMA208000U	8.0	20	75	8	2
EPSLA208000U	8.0	20	100	8	2
EPSNA208000U	8.0	20	150	8	2
EPSLA210000U	10.0	25	100	10	2
EPSNA210000U	10.0	25	150	10	2
EPSLA212000U	12.0	30	100	12	2
EPSNA212000U	12.0	30	150	12	2
EPSLA216000U	16.0	40	150	16	2

Cutting conditions（建議切削參數表）: Table 031

d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

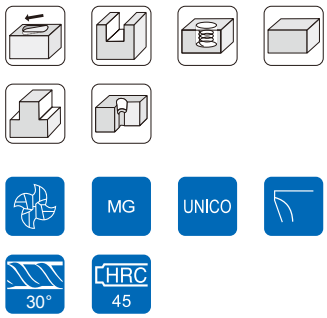
G450 - Long Shank Square Type - 4F

鎢鋼平銑刀－長柄型－ 4 刃

- UNICO Coating provides superior wear resistance and reduces the coefficient of friction.
- Suitable for HRC 20 to HRC 45 Steel, Alloy Steel, Cast Iron, Aluminum Alloy (Si >15%).
- Excellent cutting ability of cutting edges.
- Long Shank is available in various length of cut and overall length end mills.

EPSEA4
EPSKA4
EPSLA4
EPSNA4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EPSEA404000U	4.0	10	75	4	4
EPSKA404000U	4.0	10	100	4	4
EPSLA404000U	4.0	10	75	6	4
EPSNA404000U	4.0	10	100	6	4
EPSLA405000U	5.0	13	75	6	4
EPSNA405000U	5.0	13	100	6	4
EPSLA406000U	6.0	15	75	6	4
EPSNA406000U	6.0	15	100	6	4
EPSMA408000U	8.0	20	75	8	4
EPSLA408000U	8.0	20	100	8	4
EPSNA408000U	8.0	20	150	8	4
EPSLA410000U	10.0	25	100	10	4
EPSNA410000U	10.0	25	150	10	4
EPSLA412000U	12.0	30	100	12	4
EPSNA412000U	12.0	30	150	12	4
EPSLA416000U	16.0	40	150	16	4
EPSLA420000U	20.0	45	150	20	4

Cutting conditions（建議切削參數表）: Table 032

d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

Winstar Cutting Technologies

M500 Series for Stainless, Titanium, Inconel & Mold Steel

- Ultra grain carbide rods with better abrasion resistance.
- ARCO coating shows good performance in coolant machining.
- Anti-vibrations capabilities at high speeds and high remove rate.
- Varix Technology with different helix angles(35°and 38°) improves cutting performance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.

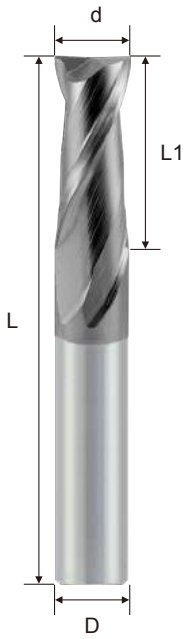
M500 - Square Type - 2F

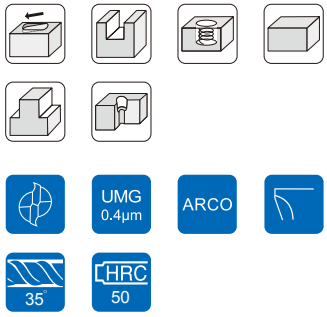
鎢鋼平銑刀－標準型－ 2 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at high speeds.
- UMG carbide grade is suitable for cutting difficult materials.

ESSFA2
ESSSA2

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESSFA203000A	3	8	50	4	2
ESSFA204000A	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

Cutting conditions（建議切削參數表）: Table 055

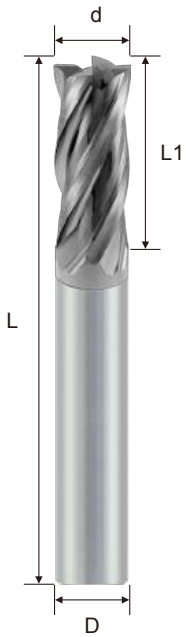
M500 - Square Type - 4F

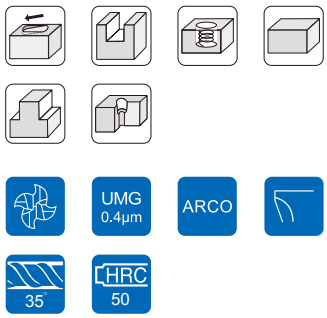
鎢鋼平銑刀－標準型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at high speeds.
- High precise tolerance EndMills.
- UMG carbide grade is suitable for cutting difficult materials.

ESSFA4
ESSSA4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESSFA403000A	3	8	50	4	4
ESSFA404000A	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

Cutting conditions（建議切削參數表）: Table 056

d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

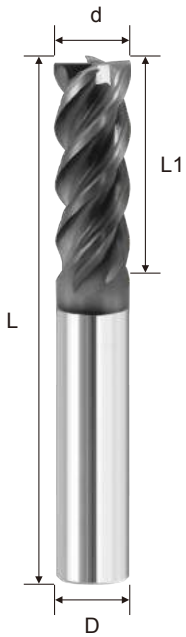
M500 - High Helix Square U Type - 4F

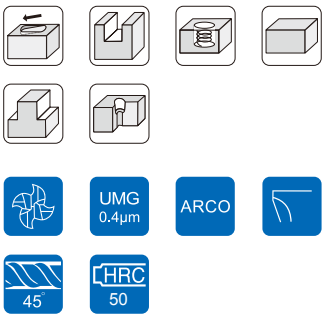
鎢鋼平銑刀－高導高效能 U 型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- U-flute design with high chips volume space and easy to remove chips.
- UMG carbide grade is suitable for cutting difficult materials.

ESSFB4
ESSSB4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

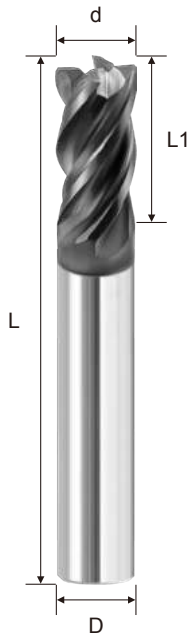
Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESSFB404000A	4	10	50	4	4
ESSSB404000A	4	10	50	6	4
ESSSB405000A	5	13	50	6	4
ESSSB406000A	6	15	50	6	4
ESSSB408000A	8	20	60	8	4
ESSSB410000A	10	25	75	10	4
ESSSB412000A	12	30	75	12	4
ESSSB414000A	14	30	75	14	4
ESSSB416000A	16	35	100	16	4

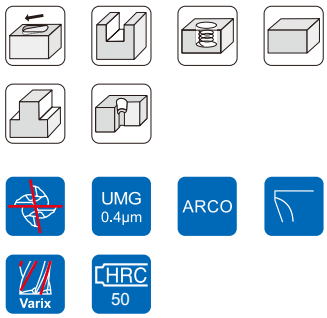
M500 - Varix & Anti-Vibration Square U Type - 4F 鎢鋼平銑刀－抗震變導高效能 U 型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Unequal axis and sophisticated geometry design provides outstanding Anti-vibrations capabilities at high speeds.
- Varix Technology with different helix angles (35 ° and 38 °) improves cutting performance.
  Provides the highest cutting action for aerospace applications.

ESSFU4
ESSSU4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESSFU404000A	4	10	50	4	4
ESSSU404000A	4	10	50	6	4
ESSSU405000A	5	13	50	6	4
ESSSU406000A	6	15	50	6	4
ESSSU408000A	8	20	60	8	4
ESSSU410000A	10	25	75	10	4
ESSSU412000A	12	30	75	12	4
ESSSU414000A	14	30	75	14	4
ESSSU416000A	16	35	100	16	4

d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

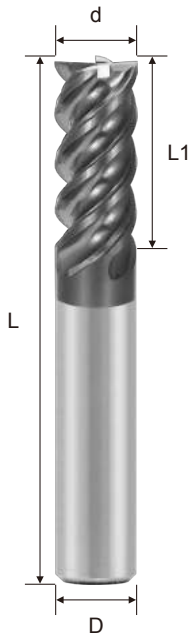
M500 - High Helix Anti-Vibration Square U Type - 4F

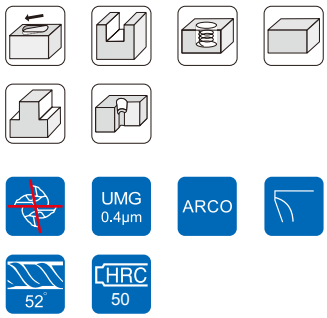
鎢鋼平銑刀 - 高導抗震高效能 U 型 - 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- U-flute design with high chips volume space and easy to remove chips.
- UMG carbide grade is suitable for cutting difficult materials.

ESSSM4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESSSM408000A	8	20	60	8	4
ESSSM410000A	10	30	75	10	4
ESSSM412000A	12	30	75	12	4
ESSSM416000A	16	32	100	16	4

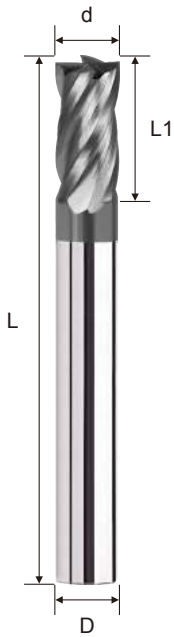
M500 - Anti-Vibration Square Type - 4F

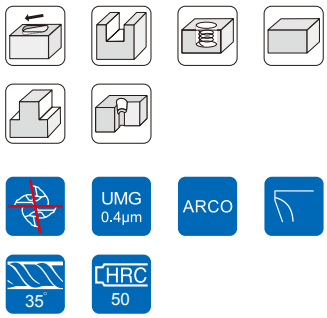
鎢鋼平銑刀－抗震不等 SD 型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Unequal axis and sophisticated geometry design provides outstanding Anti-vibrations capabilities at high speeds.
- UMG carbide grade is suitable for cutting difficult materials.

ESSSD4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESSSD405000A	5	13	50	6	4
ESSSD406000A	6	13	50	6	4
ESSSD408000A	8	16	60	8	4
ESSSD410000A	10	20	75	10	4
ESSSD412000A	12	24	75	12	4
ESSSD416000A	16	30	100	16	4

Cutting conditions（建議切削參數表）: Table 057

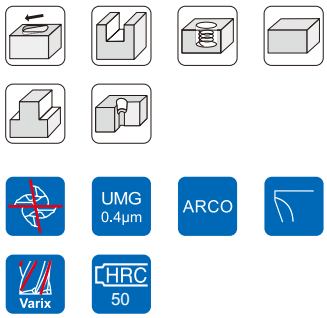
M500 - Varix & Anti-Vibration Square Type - 4F

鎢鋼平銑刀－抗震變導 SV 型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Unequal axis and sophisticated geometry design provides outstanding Anti-vibrations capabilities at high speeds.
- Varix Technology with different helix angles (35 ° and 38 °) improves cutting performance.
- Provides the highest cutting action for aerospace applications.

ESSSV4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑



d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESSSV404000A	4	10	50	6	4
ESSSV405000A	5	13	50	6	4
ESSSV406000A	6	13	50	6	4
ESSSV408000A	8	16	60	8	4
ESSSV410000A	10	20	75	10	4
ESSSV412000A	12	24	75	12	4
ESSSV416000A	16	32	100	16	4

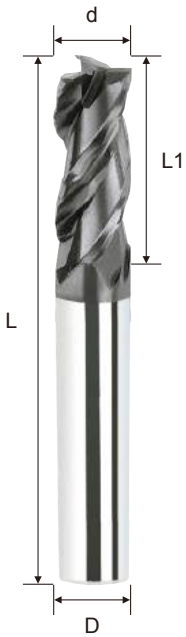
M500 - Wave Edge Square Type - 3F

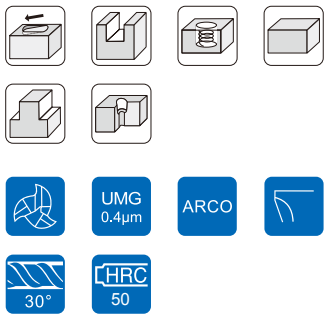
鎢鋼平銑刀 - 波浪型 - 3 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, 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.

ESSSW3

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 058

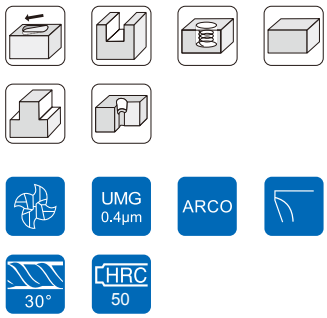
M500 - Wave Edge Square Type - 4F

鎢鋼平銑刀－波浪型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, 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.

ESSSW4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑



d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 058

Winstar Cutting Technologies

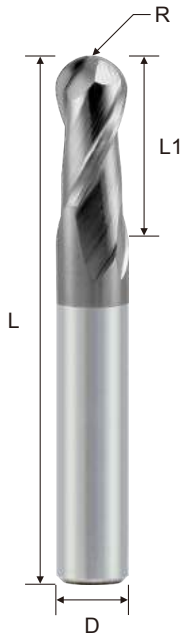
M500 - Ball Nose Type - 2F

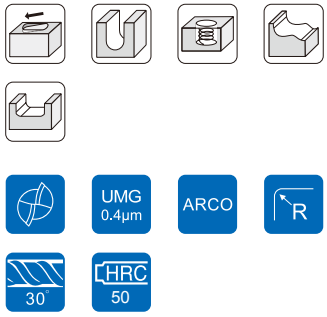
鎢鋼球型銑刀－標準型－ 2 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at hi speeds, suitable for high performance profile milling.
- New tool geometry increases wear resistance and cutting force is decreased
- UMG carbide grade is suitable for cutting difficult materials.

ESBFA2
ESBSA2

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESBFA202000A	1.0R	2	4	50	4	2
ESBFA203000A	1.5R	3	6	50	4	2
ESBFA204000A	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
ESBSA214000A	7.0R	14	28	75	14	2
ESBSA216000A	8.0R	16	32	100	16	2

Cutting conditions（建議切削參數表）: Table 059

d	R Tolerance
Ø ≦ 12	± 0.01
Ø > 12	± 0.015

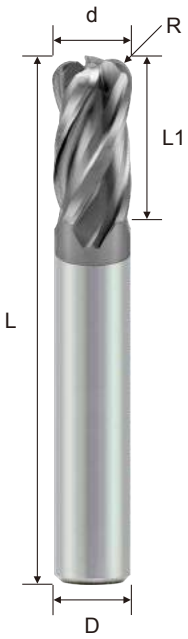
M500 - Corner Radius Type - 4F

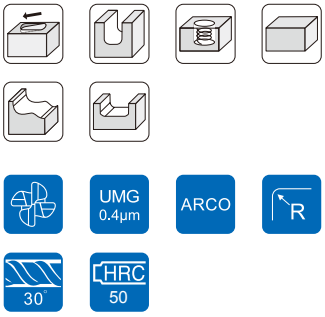
鎢鋼圓鼻銑刀－標準型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at high speeds.
- Corner geometry and stronger design makes it suitable for cutting difficult material.

ESCSA4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESCSA403003A	3	0.3R	6	50	6	4
ESCSA403005A	3	0.5R	6	50	6	4
ESCSA403010A	3	1.0R	6	50	6	4
ESCSA404003A	4	0.3R	8	50	6	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

Cutting conditions（建議切削參數表）: Table 060

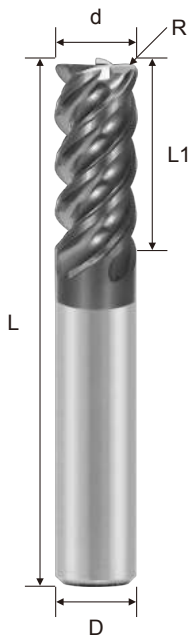
d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.015

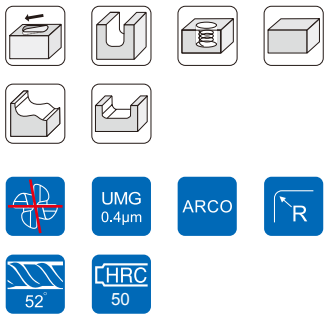
M500 - High Helix Anti-Vibration Corner Radius U Type - 4F 鎢鋼圓鼻銑刀 - 高導抗震高效能 U 型 - 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Incredible toughness and vibration reduction at high speeds.
- Corner geometry and stronger design makes it suitable for cutting difficult material.
- U-flute design with high chips volume space and easy to remove chips.

ESCSM4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESCSM408005A	8	0.5R	16	60	8	4
ESCSM410010A	10	1.0R	20	75	10	4
ESCSM412010A	12	1.0R	24	75	12	4
ESCSM416015A	16	1.5R	32	100	16	4

d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.015

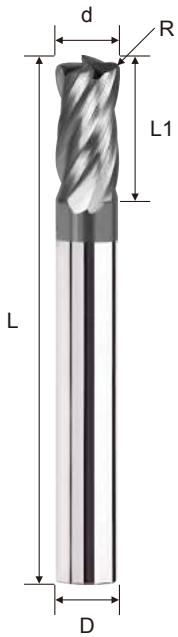
M500 - Varix & Anti-Vibration Corner Radius Type - 4F

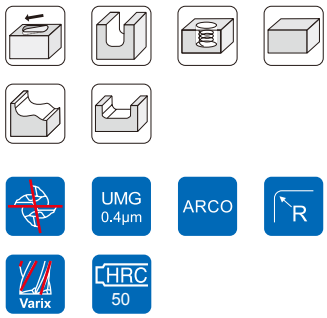
鎢鋼圓鼻銑刀－抗震變導 SV 型－ 4 刃

- ARCO coating provides a superior wear resistance.
- For difficult to cut materials like Stainless Steel, Titanium, Inconel, Alloy Steel & Mold Steel... etc.
- Unequal axis and sophisticated geometry design provides outstanding Anti-vibrations capabilities at high speeds.
- Varix Technology to improve cutting performance.

ESCSV4

P	M	K	N	S	H
☑	☑	☐	☐	☑	☑



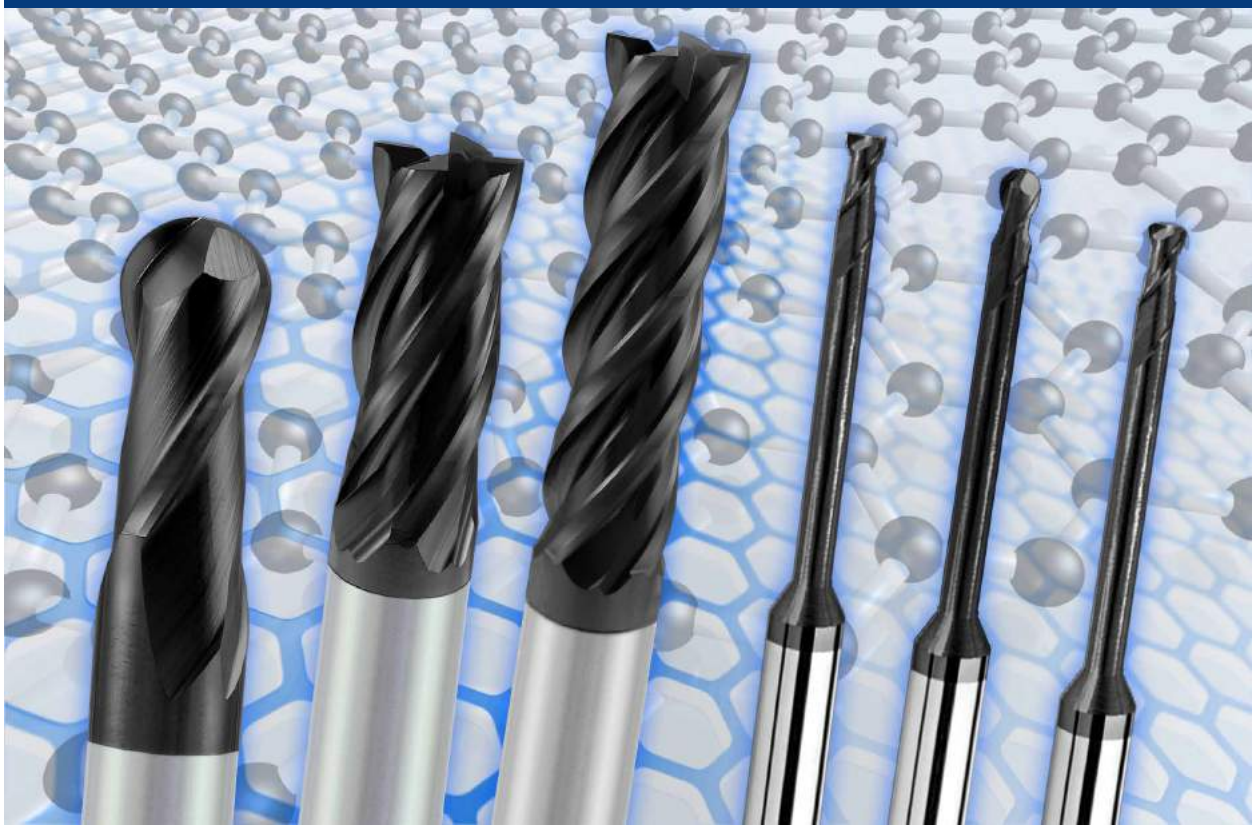


Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ESCSV404003A	4	0.3R	8	50	4	4
ESCSV405003A	5	0.3R	10	50	6	4
ESCSV406005A	6	0.5R	12	50	6	4
ESCSV408005A	8	0.5R	16	60	8	4
ESCSV410005A	10	0.5R	20	75	10	4
ESCSV412005A	12	0.5R	24	75	12	4
ESCSV412010A	12	1.0R	24	75	12	4
ESCSV416010A	16	1.0R	32	100	16	4

Cutting conditions（建議切削參數表）: Table 061

d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.015

A200 Series for Graphite



- Suitable carbide rod for Diamond coating which brings good tightness of Diamond coating.
- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Available in various effective length.
- Suitable carbide rod brings good tightness of Diamond coating.

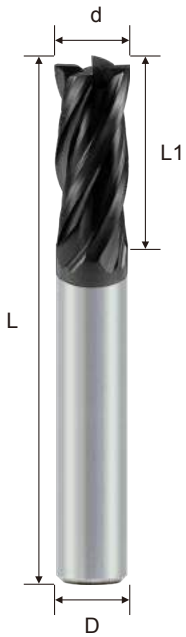
A200 - Square Type - 4F

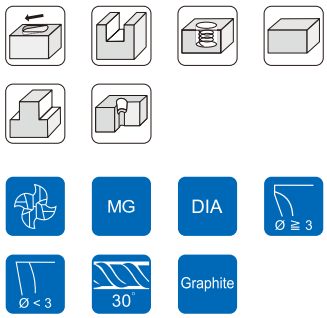
鎢鋼平銑刀 - 標準型 - 4 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Strong geometry design has excellent cutting ability of cutting edges.
- High precision cutting for side milling.

EGSFC4

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EGSFC403000D	3.0	8	50	4	4
EGSFC404000D	4.0	10	50	4	4
EGSSC404000D	4.0	10	50	6	4
EGSSC405000D	5.0	13	50	6	4
EGSSC406000D	6.0	15	50	6	4
EGSSC408000D	8.0	20	60	8	4
EGSSC410000D	10.0	25	75	10	4
EGSSC412000D	12.0	30	75	12	4

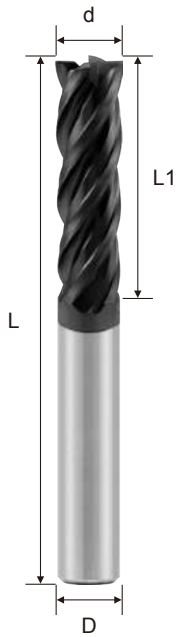
A200 - Long Flute Square Type - 4F

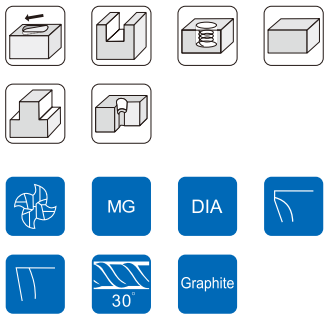
鎢鋼平銑刀 - 長刃型 - 4 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Available in various effective length.
- Long cutting length is suitable for deep side milling.

EGSCC4

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EGSCC403000D	3	15	60	6	4
EGSCC404000D	4	20	60	6	4
EGSCC405000D	5	25	75	6	4
EGSCC406000D	6	30	75	6	4
EGSCC408000D	8	35	100	8	4
EGSCC410000D	10	45	100	10	4
EGSCC412000D	12	45	100	12	4

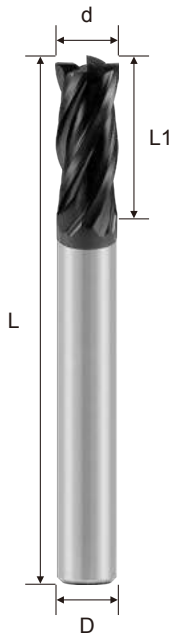
A200 - Long Shank Square Type - 4F

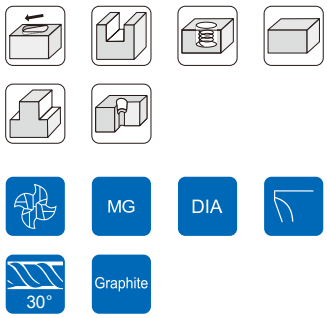
鎢鋼平銑刀－長柄型－ 4 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Available in various length of cut and overall length end mills.
- Flat design to avoid chipping of the cutting tip.

EGSEC4
EGSLC4

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EGSEC404000D	4.0	10	75	4	4
EGSKC404000D	4.0	10	100	4	4
EGSLC404000D	4.0	10	75	6	4
EGSNC404000D	4.0	10	100	6	4
EGSLC406000D	6.0	15	75	6	4
EGSNC406000D	6.0	15	100	6	4
EGSMC408000D	8.0	20	75	8	4
EGSLC408000D	8.0	20	100	8	4
EGSNC408000D	8.0	20	150	8	4
EGSLC410000D	10.0	25	100	10	4
EGSNC410000D	10.0	25	150	10	4
EGSLC412000D	12.0	30	100	12	4
EGSNC412000D	12.0	30	150	12	4

Winstar Cutting Technologies

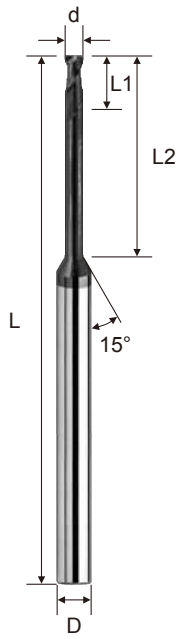
A200 - Long Neck Square Type - 2F

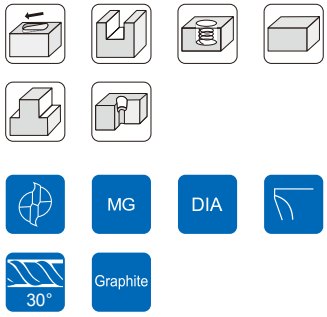
鎢鋼平銑刀－長頸型－ 2 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Available in various effective length.
- Suitable for deep cutting application.

EGSBC2
EGSRC2

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	Tolerance
Ø	0 ~ -0.02

Order No.	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EGSBC200504D	0.5	0.6	4	50	4	2
EGSBC200506D	0.5	0.6	6	50	4	2
EGSBC200508D	0.5	0.6	8	50	4	2
EGSBC201006D	1	1.2	6	50	4	2
EGSBC201008D	1	1.2	8	50	4	2
EGSBC201012D	1	1.2	12	50	4	2
EGSBC201016D	1	1.2	16	50	4	2
EGSBC201020D	1	1.2	20	50	4	2
EGSBC201508D	1.5	1.8	8	50	4	2
EGSBC201512D	1.5	1.8	12	50	4	2
EGSBC201516D	1.5	1.8	16	50	4	2
EGSBC201520D	1.5	1.8	20	50	4	2
EGSBC202010D	2	2.5	10	50	4	2
EGSBC202016D	2	2.5	16	50	4	2
EGSBC202020D	2	2.5	20	50	4	2
EGSBC202025D	2	2.5	25	60	4	2
EGSRC203012D	3	3.5	12	50	6	2
EGSRC203020D	3	3.5	20	60	6	2
EGSRC203025D	3	3.5	25	60	6	2
EGSRC203030D	3	3.5	30	75	6	2
EGSRC204016D	4	4.5	16	50	6	2
EGSRC204020D	4	4.5	20	60	6	2
EGSRC204025D	4	4.5	25	60	6	2
EGSRC204030D	4	4.5	30	75	6	2
EGSRC204035D	4	4.5	35	75	6	2
EGSRC205020D	5	7	20	60	6	2
EGSRC205025D	5	7	25	60	6	2
EGSRC205030D	5	7	30	75	6	2
EGSRC205035D	5	7	35	75	6	2
EGSRC206020D	6	10	20	60	6	2
EGSRC206030D	6	10	30	75	6	2

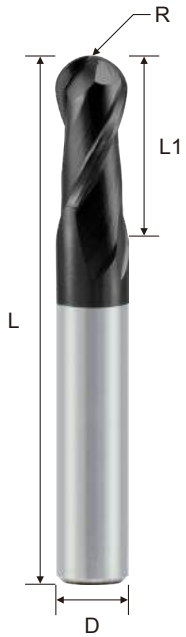
A200 - Ball Nose Type - 2F

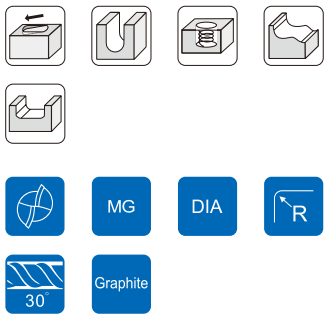
鎢鋼球型銑刀－標準型－ 2 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- 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.

EGBFC2
EGBSC2

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EGBFC200200D	0.1R	0.2	0.4	50	4	2
EGBFC200300D	0.15R	0.3	0.6	50	4	2
EGBFC200400D	0.2R	0.4	0.8	50	4	2
EGBFC200500D	0.25R	0.5	1.0	50	4	2
EGBFC200600D	0.3R	0.6	1.2	50	4	2
EGBFC200700D	0.35R	0.7	1.4	50	4	2
EGBFC200800D	0.4R	0.8	1.6	50	4	2
EGBFC200900D	0.45R	0.9	1.8	50	4	2
EGBFC201000D	0.5R	1.0	2	50	4	2
EGBFC201500D	0.75R	1.5	3	50	4	2
EGBFC202000D	1R	2.0	4	50	4	2
EGBFC203000D	1.5R	3.0	6	50	4	2
EGBFC204000D	2R	4.0	8	50	4	2
EGBSC204000D	2R	4.0	8	50	6	2
EGBSC205000D	2.5R	5.0	10	50	6	2
EGBSC206000D	3R	6.0	12	50	6	2
EGBSC208000D	4R	8.0	16	60	8	2
EGBSC210000D	5R	10.0	20	75	10	2
EGBSC212000D	6R	12.0	24	75	12	2

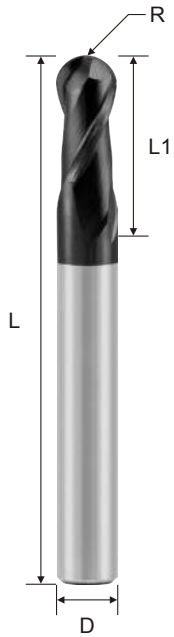
A200 - Long Shank Ball Nose Type - 2F

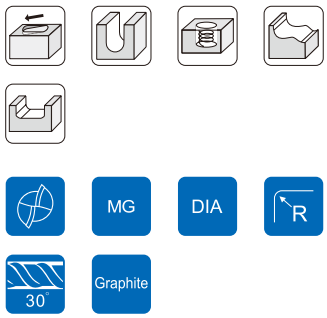
鎢鋼球型銑刀－長柄型－ 2 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- 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.

EGBEC2
EGBLC2

P ☐ M ☐ K ☐ N ☑ S ☐ H ☐





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EGBEC204000D	2R	4.0	8	75	4	2
EGBKC204000D	2R	4.0	8	100	4	2
EGBLC204000D	2R	4.0	8	75	6	2
EGBNC204000D	2R	4.0	8	100	6	2
EGBLC206000D	3R	6.0	12	75	6	2
EGBNC206000D	3R	6.0	12	100	6	2
EGBMC208000D	4R	8.0	16	75	8	2
EGBLC208000D	4R	8.0	16	100	8	2
EGBNC208000D	4R	8.0	16	150	8	2
EGBLC210000D	5R	10.0	20	100	10	2
EGBNC210000D	5R	10.0	20	150	10	2
EGBLC212000D	6R	12.0	24	100	12	2
EGBNC212000D	6R	12.0	24	150	12	2

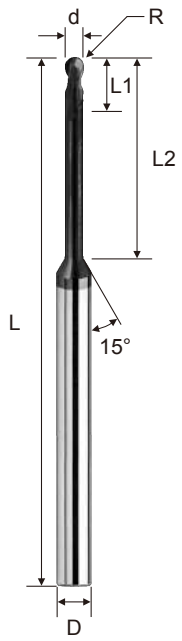
A200 - Long Neck Ball Nose Type - 2F

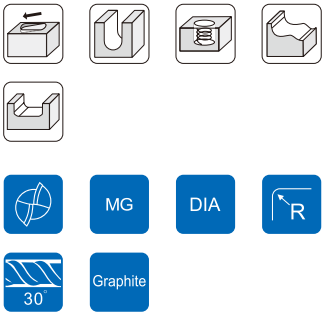
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Reduce vibration and more toughness.
- It provides an excellent surface due to better surface grindings.
- Long neck design is suitable for rid cutting.

EGBBC2
EGBRC2

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EGBBC200504D	0.25R	0.5	0.5	4	50	4	2
EGBBC200506D	0.25R	0.5	0.5	6	50	4	2
EGBBC200508D	0.25R	0.5	0.5	8	50	4	2
EGBBC201006D	0.5R	1	1	6	50	4	2
EGBBC201008D	0.5R	1	1	8	50	4	2
EGBBC201012D	0.5R	1	1	12	50	4	2
EGBBC201016D	0.5R	1	1	16	50	4	2
EGBBC201020D	0.5R	1	1	20	50	4	2
EGBBC201508D	0.75R	1.5	1.5	8	50	4	2
EGBBC201512D	0.75R	1.5	1.5	12	50	4	2
EGBBC201516D	0.75R	1.5	1.5	16	50	4	2
EGBBC201520D	0.75R	1.5	1.5	20	50	4	2
EGBBC202010D	1R	2	2	10	50	4	2
EGBBC202016D	1R	2	2	16	50	4	2
EGBBC202020D	1R	2	2	20	50	4	2
EGBBC202025D	1R	2	2	25	60	4	2
EGBRC203012D	1.5R	3	3	12	50	6	2
EGBRC203016D	1.5R	3	3	16	60	6	2
EGBRC203020D	1.5R	3	3	20	60	6	2
EGBRC203025D	1.5R	3	3	25	60	6	2
EGBRC203030D	1.5R	3	3	30	75	6	2
EGBRC204016D	2R	4	4	16	60	6	2
EGBRC204020D	2R	4	4	20	60	6	2
EGBRC204025D	2R	4	4	25	60	6	2
EGBRC204030D	2R	4	4	30	75	6	2
EGBRC205020D	2.5R	5	5	20	60	6	2
EGBRC205025D	2.5R	5	5	25	60	6	2
EGBRC205030D	2.5R	5	5	30	75	6	2
EGBRC206020D	3R	6	10	20	60	6	2
EGBRC206030D	3R	6	10	30	75	6	2

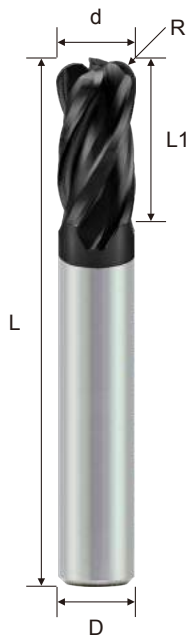
A200 - Corner Radius Type - 4F

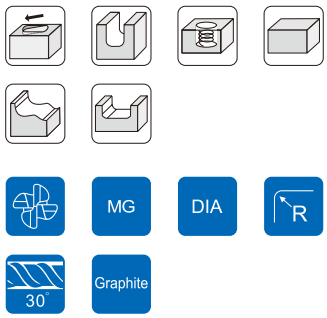
鎢鋼圓鼻銑刀－標準型－ 4 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Corner radius with multiple design increases the finish milling surface.

EGCFC4
EGCSC4

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	R Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.02

Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EGCFC403003D	3	0.3R	6	50	4	4
EGCFC403005D	3	0.5R	6	50	4	4
EGCFC403010D	3	1R	6	50	4	4
EGCFC404003D	4	0.3R	8	50	4	4
EGCFC404005D	4	0.5R	8	50	4	4
EGCFC404010D	4	1R	8	50	4	4
EGCSC403003D	3	0.3R	6	50	6	4
EGCSC403005D	3	0.5R	6	50	6	4
EGCSC403010D	3	1R	6	50	6	4
EGCSC404003D	4	0.3R	8	50	6	4
EGCSC404005D	4	0.5R	8	50	6	4
EGCSC404010D	4	1R	8	50	6	4
EGCSC405005D	5	0.5R	10	50	6	4
EGCSC405010D	5	1R	10	50	6	4
EGCSC406003D	6	0.3R	12	50	6	4
EGCSC406005D	6	0.5R	12	50	6	4
EGCSC406010D	6	1R	12	50	6	4
EGCSC408005D	8	0.5R	16	60	8	4
EGCSC408010D	8	1R	16	60	8	4
EGCSC408015D	8	1.5R	16	60	8	4
EGCSC410005D	10	0.5R	20	75	10	4
EGCSC410010D	10	1R	20	75	10	4
EGCSC410015D	10	1.5R	20	75	10	4
EGCSC410020D	10	2R	20	75	10	4
EGCSC412005D	12	0.5R	24	75	12	4
EGCSC412010D	12	1R	24	75	12	4
EGCSC412015D	12	1.5R	24	75	12	4
EGCSC412020D	12	2R	24	75	12	4
EGCSC412030D	12	3R	24	75	12	4
EGCSC408010D	8	1R	16	60	8	4
EGCSC408015D	8	1.5R	16	60	8	4
EGCSC410005D	10	0.5R	20	75	10	4
EGCSC410010D	10	1R	20	75	10	4
EGCSC410015D	10	1.5R	20	75	10	4
EGCSC410020D	10	2R	20	75	10	4
EGCSC412005D	12	0.5R	24	75	12	4
EGCSC412010D	12	1R	24	75	12	4
EGCSC412015D	12	1.5R	24	75	12	4
EGCSC412020D	12	2R	24	75	12	4
EGCSC412030D	12	3R	24	75	12	4

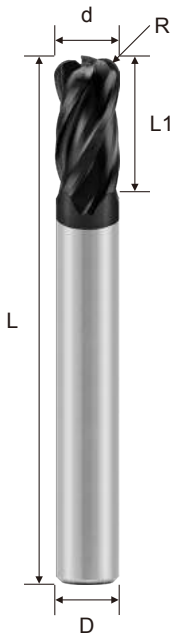
A200 - Long Shank Corner Radius Type - 4F

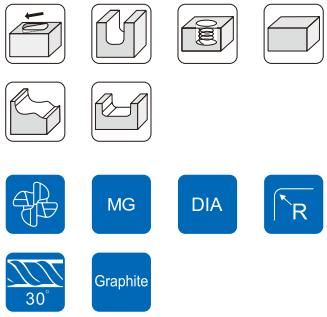
鎢鋼圓鼻銑刀－長柄型－ 4 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Corner radius with multiple design increases the finish milling surface.

EGCEC4
EGCLC4

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
EGCEC404005D	4	0.5R	8	75	4	4
EGCKC404005D	4	0.5R	8	100	4	4
EGCLC403005D	3	0.5R	6	75	6	4
EGCLC403010D	3	1R	6	75	6	4
EGCLC404005D	4	0.5R	8	75	6	4
EGCLC404010D	4	1R	8	75	6	4
EGCLC405005D	5	0.5R	10	75	6	4
EGCLC405010D	5	1R	10	75	6	4
EGCLC406005D	6	0.5R	12	75	6	4
EGCNC406005D	6	0.5R	12	100	6	4
EGCLC406010D	6	1R	12	75	6	4
EGCMC408005D	8	0.5R	16	75	8	4
EGCLC408005D	8	0.5R	16	100	8	4
EGCLC408010D	8	1R	16	100	8	4
EGCLC408015D	8	1.5R	16	100	8	4
EGCLC410005D	10	0.5R	20	100	10	4
EGCNC410005D	10	0.5R	20	150	10	4
EGCLC410010D	10	1R	20	100	10	4
EGCLC410015D	10	1.5R	20	100	10	4
EGCLC410020D	10	2R	20	100	10	4
EGCLC412005D	12	0.5R	24	100	12	4
EGCNC412005D	12	0.5R	24	150	12	4
EGCLC412010D	12	1R	24	100	12	4
EGCLC412015D	12	1.5R	24	100	12	4
EGCLC412020D	12	2R	24	100	12	4

d	R Tolerance
Ø < 3	0 ~ -0.03
3 ≦ Ø ≦ 10	0 ~ -0.04
Ø > 10	0 ~ -0.05
R	± 0.02

Winstar Cutting Technologies

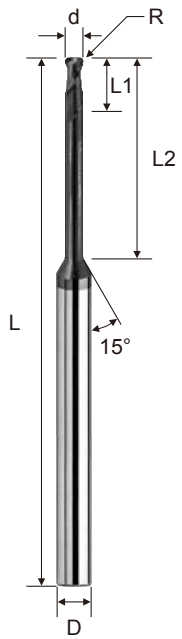
A200 - Long Neck Corner Radius Type - 2F

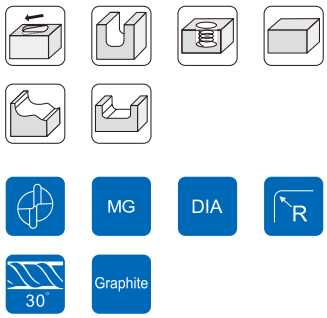
鎢鋼圓鼻銑刀－長頸型－ 2 刃

- The DIAMOND coating protects the cutting edge of the end mill which better than conventional coating.
- Suitable for Graphite.
- Available in various cut lengths.
- Corner radius with long neck are suitable for deep general cutting and 3D milling.

EGCBC2
EGCRC2

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





Order No.	Dia. (d)	Corner Radius (R)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (F)
EGCBC20100106D	1	0.1R	1	6	50	4	2
EGCBC20100108D	1	0.1R	1	8	50	4	2
EGCBC20100110D	1	0.1R	1	10	50	4	2
EGCBC20100112D	1	0.1R	1	12	50	4	2
EGCBC20200210D	2	0.2R	2	10	50	4	2
EGCBC20200216D	2	0.2R	2	16	50	4	2
EGCBC20200220D	2	0.2R	2	20	50	4	2
EGCBC20200225D	2	0.2R	2	25	60	4	2
EGCBC20200510D	2	0.5R	2	10	50	4	2
EGCBC20200516D	2	0.5R	2	16	50	4	2
EGCBC20200520D	2	0.5R	2	20	50	4	2
EGCBC20200525D	2	0.5R	2	25	60	4	2
EGCRC20300210D	3	0.2R	3	10	50	6	2
EGCRC20300220D	3	0.2R	3	20	60	6	2
EGCRC20300230D	3	0.2R	3	30	75	6	2
EGCRC20300510D	3	0.5R	3	10	50	6	2
EGCRC20300520D	3	0.5R	3	20	60	6	2
EGCRC20300530D	3	0.5R	3	30	75	6	2
EGCRC20400516D	4	0.5R	4	16	60	6	2
EGCRC20400525D	4	0.5R	4	25	60	6	2
EGCRC20400535D	4	0.5R	4	35	75	6	2
EGCRC20401016D	4	1R	4	16	60	6	2
EGCRC20401025D	4	1R	4	25	60	6	2
EGCRC20401035D	4	1R	4	35	75	6	2
EGCRC20500520D	5	0.5R	5	20	60	6	2
EGCRC20500530D	5	0.5R	5	30	75	6	2
EGCRC20600520D	6	0.5R	7	20	60	6	2
EGCRC20600530D	6	0.5R	7	30	75	6	2
EGCRC20601020D	6	1R	7	20	60	6	2
EGCRC20601030D	6	1R	7	30	75	6	2

d	Tolerance
Ø	0 ~ 0.02
R	± 0.02

WINSTAR

Endmills · Inserts · Drills

Winstar
Cutting Technologies

A100 Series for Aluminium Alloy

- Micro grain carbide rod is suitable for general machining.
- High efficient processing can be achieved by great chip evacuation.
- High helix angle offers stable and excellent finished surface in high speed.
- Radial flute design is good for chip evacuation and easy of machining.

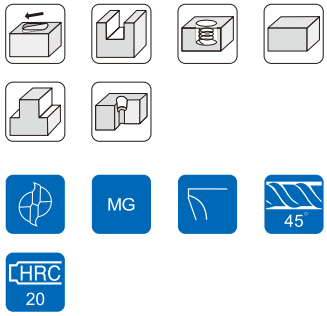
A100 - Square Type - 2F

鎢鋼平銑刀－標準型－ 2 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- CrN coating is optional for Copper Electrode and high Si(>12%) content Aluminum Alloy.
- High Helix offers excellent and stable finished surfaces in high speed.
- Great chip evacuation and flute polishing increase cutting surface and feed rate.

ENSFS2
ENSSS2

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ENSFS201000	1	3	50	4	2
ENSFS202000	2	6	50	4	2
ENSFS203000	3	9	50	4	2
ENSFS204000	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

Cutting conditions（建議切削參數表）: Table 062

d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

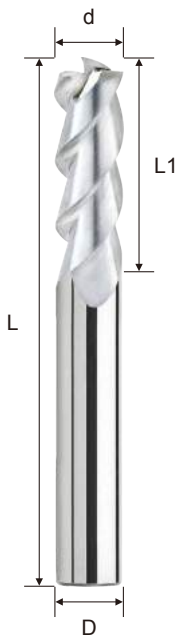
A100 - Square Type - 3F

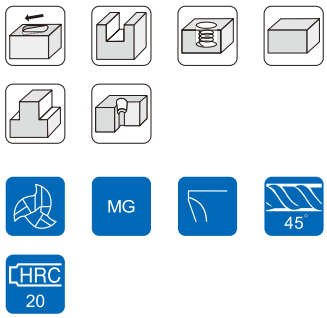
鎢鋼平銑刀 - 標準型 - 3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- CrN coating is optional for Copper Electrode and high Si(>12%) content Aluminum Alloy.
- 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.

ENSFS3
ENSSS3

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ENSFS302000	2	6	50	4	3
ENSFS303000	3	9	50	4	3
ENSFS304000	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

Cutting conditions（建議切削參數表）: Table 062

d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

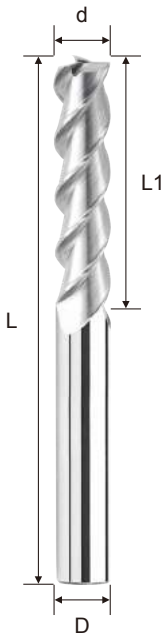
A100 - Long Flute Square Type - 3F

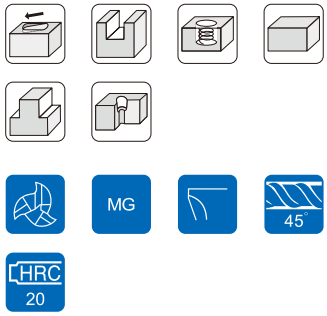
鎢鋼平銑刀－長刃型－ 3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20)
- CrN coating is optional for Copper Electrode and high Si(>12%) content Aluminum Alloy.
- 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.

ENSCS3

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
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

Cutting conditions（建議切削參數表）: Table 062

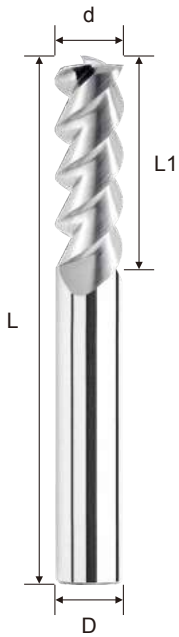
A100 - High Helix Square Type - 3F

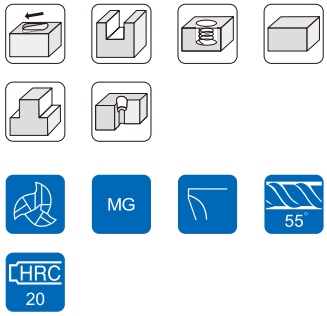
鎢鋼平銑刀 - 高導型 - 3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- CrN coating is optional for Copper Electrode and high Si(>12%) content Aluminum Alloy.
- 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.

ENSSH3

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
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

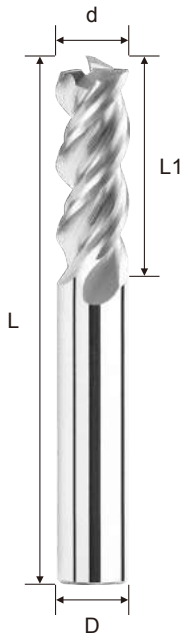
Cutting conditions（建議切削參數表）: Table 062

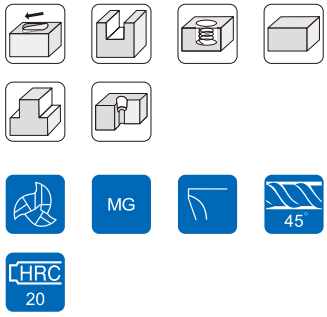
A100 - High Performance Square Type - 3F (for side milling) 鎢鋼平銑刀－高效能型－ 3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- CrN coating is optional for Copper Electrode and high Si(>12%) content Aluminum Alloy.
- U-flute design with high chips volume space and easy to remove chips.
- Excellent for high feed rough milling.
- Also suitable for surface finish in high speed milling.

ENSSB3

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ENSSB304000	4	12	50	6	3
ENSSB305000	5	15	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
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

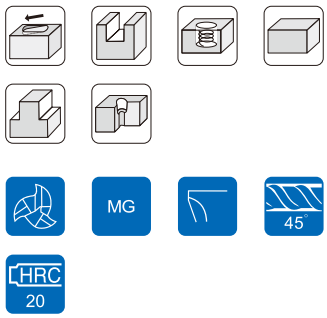
A100 - Fine-Finishing Square Type - 3F

鎢鋼平銑刀－高光鏡面型－ 3 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy , Copper (HRC<20)
- 45° High Helix offers excellent stable and finished surfaces.
- Great chip evacuation and flute polish increase cutting surface and feed rate.

ENSSP3

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐



Order No.	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ENSSP306000	6	15	50	6	3
ENSSP308000	8	20	60	8	3
ENSSP310000	10	30	75	10	3
ENSSP312000	12	30	75	12	3
ENSSP316000	16	40	100	16	3

d	Tolerance
Ø < 3	0 ~ -0.02
3 ≦ Ø ≦ 10	0 ~ -0.03
Ø > 10	0 ~ -0.04

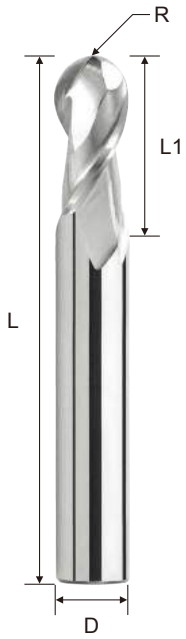
A100 - Ball Nose Type - 2F

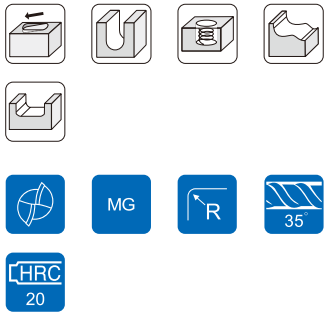
鎢鋼球型銑刀－標準型－ 2 刃

- Suitable for cutting non-ferrous metals, Aluminum, Aluminum Alloy, Copper (HRC< 20).
- CrN coating is optional for Copper Electrode and high Si(>12%) content Aluminum Alloy.
- 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.

ENBFA2
ENBSA2

P	M	K	N	S	H
☐	☐	☐	☑	☐	☐





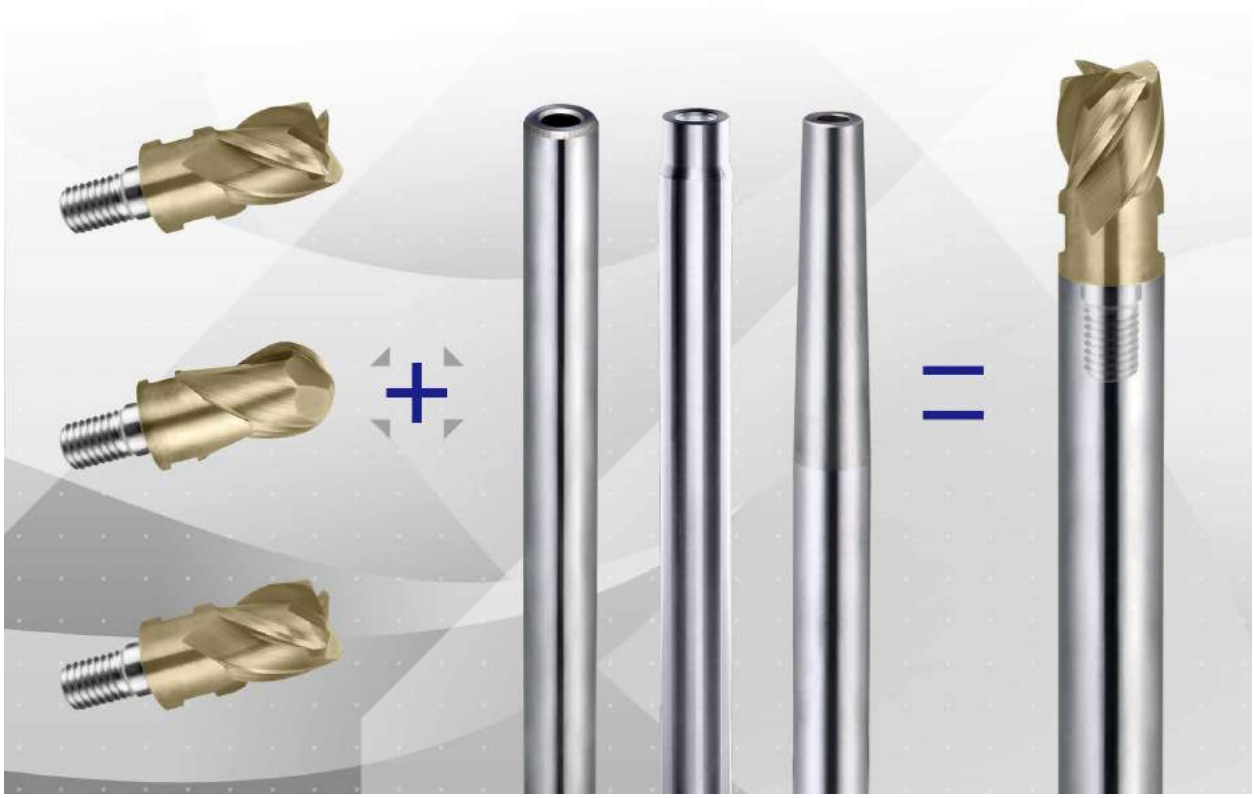
d	R Tolerance
Ø	± 0.02

Order No.	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (F)
ENBFA201000	0.5R	1	2	50	4	2
ENBFA202000	1.0R	2	4	50	4	2
ENBFA203000	1.5R	3	6	50	4	2
ENBFA204000	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

Cutting conditions（建議切削參數表）: Table 063

Winstar Cutting Technologies

WinMaster Series Replaceable Endmills, up to HRC 60



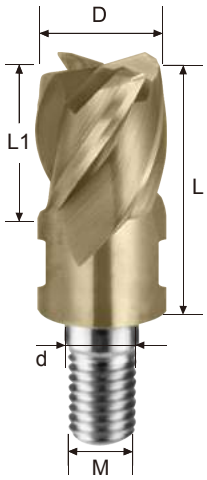
- High efficiency machining.
- Excellent compatibility.
- SICO coating.
- Flexible adapter.

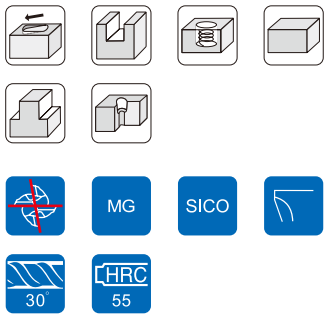
WinMaster Series - Anti-Vibration Square Type - 4F

鎢鋼平銑刀 - 鎖牙式抗震 PD 型 - 4 刃

EPSWH4

P ☑ M ☑ K ☑ N ☐ S ☐ H ☑





d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Order No.	Dia. (D)	CL (L1)	ND (d)	M (M)	Flutes (F)
EPSWH410000S	10	10	5.5	M5	4
EPSWH412000S	12	12	6.5	M6	4
EPSWH416000S	16	16	8.5	M8	4
EPSWH420000S	20	20	10.5	M10	4

Cutting conditions（建議切削參數表）: Table 064

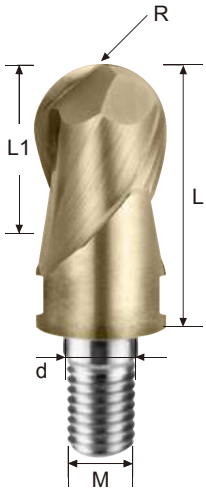
Winstar Cutting Technologies

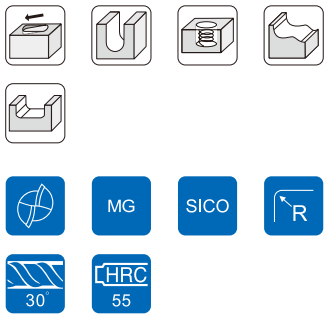
WinMaster Series - Ball Nose Type - 2F

鎢鋼球型銑刀－鎖牙式標準型－ 2 刃

EPBWH2

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑





d	R Tolerance
Ø ≦ 12	± 0.01
Ø > 12	± 0.015

Order No.	Radius (R)	Dia. (D)	CL (L1)	ND (d)	M (M)	Flutes (F)
EPBWH210000S	5R	10	10	5.5	M5	2
EPBWH212000S	6R	12	12	6.5	M6	2
EPBWH216000S	8R	16	16	8.5	M8	2
EPBWH220000S	10R	20	20	10.5	M10	2

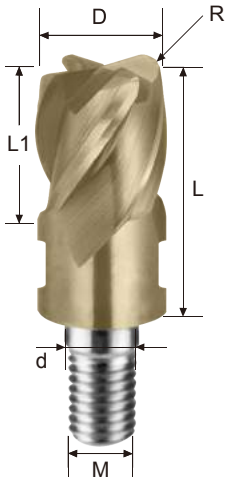
Cutting conditions（建議切削參數表）: Table 065

WinMaster Series - Anti-Vibration Corner Radius Type - 4F

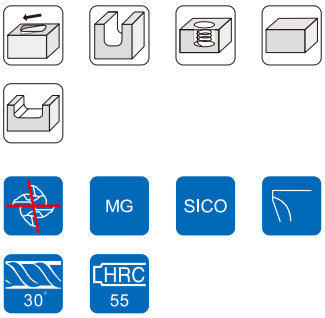
鎢鋼圓鼻銑刀 - 鎖牙式抗震 PD 型 - 4 刃

EPCWH4

P	M	K	N	S	H
☑	☑	☑	☐	☐	☑



Order No.	Dia. (D)	Corner Radius (R)	CL (L1)	ND (d)	M (M)	Flutes (F)
EPCWH410005S	10	0.5R	10	5.5	M5	4
EPCWH410010S	10	1.0R	10	5.5	M5	4
EPCWH410020S	10	2.0R	10	5.5	M5	4
EPCWH412005S	12	0.5R	12	6.5	M6	4
EPCWH412010S	12	1.0R	12	6.5	M6	4
EPCWH412020S	12	2.0R	12	6.5	M6	4
EPCWH412030S	12	3.0R	12	6.5	M6	4
EPCWH416010S	16	1.0R	16	8.5	M8	4
EPCWH416020S	16	2.0R	16	8.5	M8	4
EPCWH416030S	16	3.0R	16	8.5	M8	4
EPCWH420010S	20	1.0R	20	10.5	M10	4
EPCWH420020S	20	2.0R	20	10.5	M10	4
EPCWH420030S	20	3.0R	20	10.5	M10	4



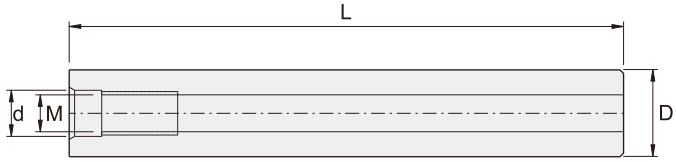
d	Tolerance
Ø ≦ 12	0 ~ -0.02
Ø > 12	0 ~ -0.03

Cutting conditions（建議切削參數表）: Table 064

Winstar Cutting Technologies

WinMaster Series - CARBIDE EXTENSION ADAPTER (Anti-Vibration) 鎢鋼鎖牙式抗震延長桿

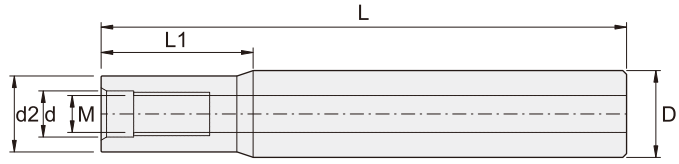
SWSEA



Order No.	Dimensions, mm			
	d	L	D	M
ISWSEA050750	5.5	75	10	M5
ISWSEA051000	5.5	100	10	M5
ISWSEA051500	5.5	150	10	M5
ISWSEA061001	6.5	100	10	M6
ISWSEA061501	6.5	150	10	M6
ISWSEA060750	6.5	75	12	M6
ISWSEA061000	6.5	100	12	M6
ISWSEA061500	6.5	150	12	M6
ISWSEA062000	6.5	200	12	M6
ISWSEA081000	8.5	100	16	M8
ISWSEA081500	8.5	150	16	M8
ISWSEA082000	8.5	200	16	M8
ISWSEA082500	8.5	250	16	M8
ISWSEA101000	10.5	100	20	M10
ISWSEA101500	10.5	150	20	M10
ISWSEA102000	10.5	200	20	M10
ISWSEA102500	10.5	250	20	M10
ISWSEA103000	10.5	300	20	M10
ISWSEA121000	12.5	100	25	M12
ISWSEA121500	12.5	150	25	M12
ISWSEA122000	12.5	200	25	M12
ISWSEA122500	12.5	250	25	M12
ISWSEA123000	12.5	300	25	M12

WinMaster Series - CARBIDE EXTENSION ADAPTER (Anti-Vibration) 鎢鋼鎖牙式抗震延長桿

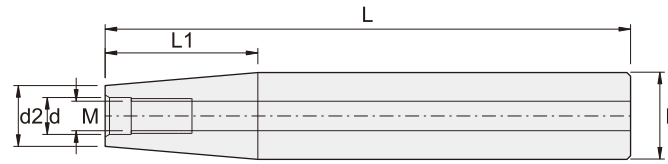
SWSEB



Order No.	Dimensions, mm					
	d	d2	L1	L	D	M
ISWSEB0610024	6.5	11.8	24	100	12	M6
ISWSEB0615024	6.5	11.5	24	150	12	M6
ISWSEB0815030	8.5	15	30	150	16	M8
ISWSEB0820040	8.5	15	40	200	16	M8
ISWSEB1015040	10.5	19	40	150	20	M10
ISWSEB1020040	10.5	19	40	200	20	M10
ISWSEB1220048	12.5	24	48	150	25	M12
ISWSEB1220048	12.5	24	48	200	25	M12

WinMaster Series - CARBIDE EXTENSION ADAPTER (Anti-Vibration) 鎢鋼鎖牙式抗震延長桿

SWTEA



Order No.	Dimensions, mm					
	d	d2	L1	L	D	M
ISWTEA051500	5.5	9.8	60	150	12	M5
ISWTEA061500	6.5	11.8	70	150	16	M6
ISWTEA082000	8.5	15.5	90	200	20	M8
ISWTEA102000	10.5	19.8	90	200	25	M10
ISWTEA122000	12.5	24.5	90	200	32	M12

WINSTAR

Endmills · Inserts · Drills

Winstar
Cutting Technologies

Table 001

EHSSS6, EHSSS8

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	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	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
Milling Amount (mm)			ap: 1.5D, ae: 0.05D aeMax ≦ 1.0mm		ap: 1.5D, ae: 0.03D aeMax ≦ 0.5mm	ap: 1.0D, ae: 0.02D aeMax ≦ 0.5mm

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 002

EHSPS4, EHSUS4, EHSUS6, EHSUS8

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	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	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

Milling Amount (mm)

ap	ae
1.5D	0.05D
aeMax ≦ 1.0mm	

ap	ae
1.5D	0.03D
aeMax ≦ 0.5mm	

ap	ae
1.0D	0.02D
aeMax ≦ 0.5mm	

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

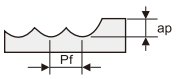
1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 003

EHBPS2, EHBUS2

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		116 M/min		63 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	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
Milling Amount (mm)						

	ap	Pf
R ≦ 8	0.02D	0.1D
R ＞ 8	0.32mm	0.1D

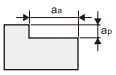


1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 004

EHCUK4

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
HARDNESS	HRC 40~50		HRC 50~55		HRC 55~60	
Vc	130 M/min		78 M/min		52 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	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
Milling Amount (mm)						

	aa	ap
R ≦ 1	0.1 x R	0.25D
R > 1	0.2mm	0.25D

	aa	ap
R ≦ 1	0.05 x R	0.25D
R > 1	0.1mm	0.25D

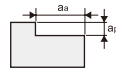
	aa	ap
R ≦ 1	0.05 x R	0.25D
R > 1	0.1mm	0.25D

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 005

EHCPS4, EHCUS4

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	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	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	3,445	2,150	2,080	990	1,378	500
8MM	2,600	2,160	1,560	990	1,034	500
10MM	2,080	2,160	1,242	980	826	500
12MM	1,755	2,190	1,034	980	689	500
Milling Amount (mm)						

	aa	ap
R ≦ 2	0.2 x R	0.5D
R > 2	0.4mm	0.5D

	aa	ap
R ≦ 2	0.1 x R	0.5D
R > 2	0.2mm	0.5D

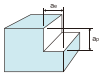
	aa	ap
R ≦ 2	0.1 x R	0.5D
R > 2	0.2mm	0.5D

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

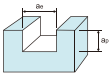
1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 006

EHSFF4, EHSSF4, EHSLF4, EHNF4, EHMF4, EHCSF4, EHCLF4, EHCNF4, EHCMF4

Side Milling 

Work Material	Condition Range	Cutting Depth	Cutting Condition	Diameter (d)							
				Ø1	Ø2	Ø3	Ø4	Ø6	Ø8	Ø10	Ø12
Pre-Harden Steels (HRC 35~45) NAK80、CENA1	High Speed	ap=1.5D	RPM	35000	17500	12000	8700	5830	4380	3500	2900
		ae=0.05D	Feed(mm/min)	630	830	1000	1000	1100	1100	1100	1100
	General	ap=1.5D	RPM	25500	12700	8500	6350	4200	3200	2500	2150
		ae=0.07D	Feed(mm/min)	460	510	550	600	750	800	750	700
Hardened Steels (HRC 45~60)SKD61、SKD11、SKH51	High Speed	ap=1.5D	RPM	32000	16000	11000	8000	5300	4000	3200	2750
		ae=0.02D	Feed(mm/min)	600	750	800	850	900	1000	900	850
	General	ap=1.5D	RPM	22000	11200	7400	5600	3750	2800	2200	2000
		ae=0.05D	Feed(mm/min)	360	440	460	500	560	600	580	550

Slotting Milling 

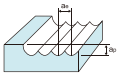
Work Material	Condition Range	Cutting Depth	Cutting Condition	Diameter (d)						
				Ø3	Ø4	Ø5	Ø6	Ø8	Ø10	Ø12
Pre-Harden Steels (HRC 35~45) NAK80、CENA1	General	ap=0.5D	RPM	7690	5800	4640	3770	2900	2320	1890
		ae=1D	Feed(mm/min)	460	580	670	610	580	550	520
Hardened Steels (HRC 45~60)SKD61、SKD11、SKH51	General	ap=0.2D	RPM	3990	3000	2430	1950	1500	1200	1020
		ae=1D	Feed(mm/min)	200	240	300	330	300	270	240

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 007

EHBFF2, EHBSF2, EHBLF2, EHBNF2, EHBMF2, EPBPF2, EHBUF2



Work Material	Condition Range	Cutting Depth	Cutting Condition	Diameter (d)						
				0.5R	1R	2R	3R	4R	5R	6R
Pre-Harden Steels (HRC 35~45) NAK80、CENA1	High Speed	ap=0.05~0.1	RPM	50000	32000	22000	16000	12000	10000	8000
		ae=0.02D	Feed(mm/min)	4000	3000	2850	2800	2400	2000	1600
	General	ap=0.05~0.1	RPM	36000	20000	13000	8500	6400	5000	4200
		ae=0.02D	Feed(mm/min)	1600	1500	1500	1400	1200	1060	920
Hardened Steels (HRC 45~55)SKD61、SKT4	High Speed	ap=0.05~0.1	RPM	50000	32000	20000	13000	10000	8000	6600
		ae=0.02D	Feed(mm/min)	3200	2560	2500	2200	1840	1600	1400
	General	ap=0.05~0.1	RPM	36000	20000	10000	6800	5200	4000	3500
		ae=0.02D	Feed(mm/min)	1280	1280	1280	1160	960	820	730
Hardened Steels (HRC 55~60)SKD11、SKH51	High Speed	ap=0.05~0.1	RPM	50000	32000	16000	11000	8000	6400	5300
		ae=0.15D	Feed(mm/min)	2000	2000	1920	1760	1400	1200	1060
	General	ap=0.05~0.1	RPM	25000	15000	9500	6500	4800	3800	3200
		ae=0.15D	Feed(mm/min)	1000	1000	960	960	840	720	640

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 008

EHSFA2, EHSSA2

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	145(m/min)				125 (m/min)				105 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	15390	705	0.15	3	13270	610	0.15	3	11150	510	0.15	3
4mm	11550	690	0.2	4	9950	595	0.2	4	8360	500	0.2	4
6mm	7700	615	0.3	6	6630	530	0.3	6	5570	445	0.3	6
8mm	5770	460	0.4	8	4980	395	0.4	8	4180	335	0.4	8
10mm	4620	462	0.5	10	3980	395	0.5	10	3345	335	0.5	10
12mm	3850	385	0.6	12	3320	330	0.6	12	2790	280	0.6	12

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

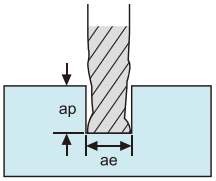


Table 009

EHSFA4, EHSSA4

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	145(m/min)				125 (m/min)				105 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	15390	1415	3	0.15	13270	1220	3	0.15	11150	1025	3	0.15
4mm	11550	1386	4	0.2	9950	1194	4	0.2	8360	1003	4	0.2
6mm	7700	1232	6	0.3	6630	1060	6	0.3	5570	891	6	0.3
8mm	5770	923	8	0.4	4980	796	8	0.4	4180	668	8	0.4
10mm	4620	924	10	0.5	3980	796	10	0.5	3345	669	10	0.5
12mm	3850	770	12	0.6	3320	664	12	0.6	2790	558	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

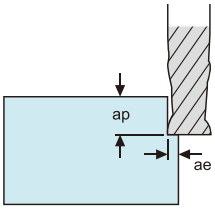


Table 010

EHSFH4, EHSSH4

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	145(m/min)				125 (m/min)				105 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	15390	1415	3	0.15	13270	1220	3	0.15	11150	1025	3	0.15
4mm	11550	1386	4	0.2	9950	1194	4	0.2	8360	1003	4	0.2
6mm	7700	1232	6	0.3	6630	1060	6	0.3	5570	891	6	0.3
8mm	5770	923	8	0.4	4980	796	8	0.4	4180	668	8	0.4
10mm	4620	924	10	0.5	3980	796	10	0.5	3345	669	10	0.5
12mm	3850	770	12	0.6	3320	664	12	0.6	2790	558	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

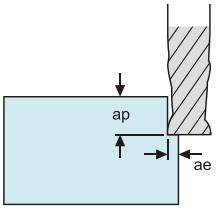


Table 011

EHSLH4, EHSMH4, EHSNH4

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	123 (m/min)				106 (m/min)				89 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	13080	1200	3	0.15	11280	1038	3	0.15	9480	871	3	0.15
4mm	9820	1178	4	0.2	8460	1015	4	0.2	7100	852	4	0.2
6mm	6545	1050	6	0.3	5635	900	6	0.3	4740	757	6	0.3
8mm	4905	785	8	0.4	4235	676	8	0.4	3555	568	8	0.4
10mm	3927	785	10	0.5	3385	676	10	0.5	2845	568	10	0.5
12mm	3270	655	12	0.6	2820	564	12	0.6	2370	474	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

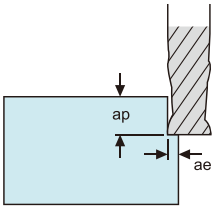


Table 012

EHSBC2, EHSRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1			HARDENED STEELS 淬火鋼 SKD61,SKD11			Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度		HRC 35~45			HRC 40~55			HRC 55~65			
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	RPM 轉速	Feed (mm/min) 進給	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
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.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

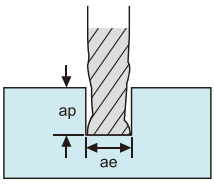


Table 013

EHSBC2, EHSRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1			HARDENED STEELS 淬火鋼 SKD61,SKD11			Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度		HRC 35~45			HRC 40~55			HRC 55~65			
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
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	-	-	-	-
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	-	-	-	-

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

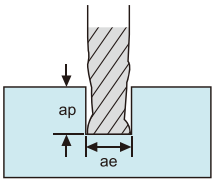


Table 014

EHSBC2, EHSRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1			HARDENED STEELS 淬火鋼 SKD61,SKD11			Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度		HRC 35~45			HRC 40~55			HRC 55~65			
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

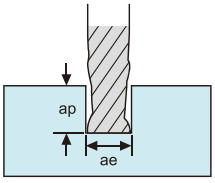


Table 015

EHSBC4, EHSRC4

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1		HARDENED STEELS 淬火鋼 SKD61,SKD11		Hardened Steel 淬火鋼 SKD11,SKH51	
Hardness 硬度	HRC 35~45		HRC 40~55		HRC 55~65	
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	RPM 轉速	Feed (mm/min) 進給	RPM 轉速	Feed (mm/min) 進給
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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

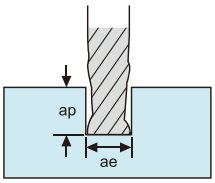


Table 016

EHBFH2, EHBSH2

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	145 (m/min)				125 (m/min)				105 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	45270	1130	0.14	0.2	39030	975	0.14	0.2	32780	820	0.14	0.2
2R	22636	1358	0.28	0.4	19500	1170	0.28	0.4	16400	984	0.28	0.4
3R	15090	1130	0.42	0.6	13000	975	0.42	0.6	10930	820	0.42	0.6
4R	11320	905	0.56	0.8	9750	780	0.56	0.8	8195	655	0.56	0.8
5R	9055	770	0.7	1	7800	663	0.7	1	6555	557	0.7	1
6R	7545	680	0.84	1.2	6500	585	0.84	1.2	5460	491	0.84	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

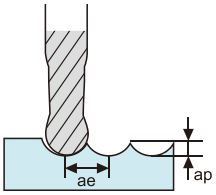


Table 017

EHBLH2, EHBMH2, EHBNH2

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	145 (m/min)				125 (m/min)				105 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	36200	904	0.14	0.2	31200	780	0.14	0.2	26200	656	0.14	0.2
2R	18100	1086	0.28	0.4	15600	930	0.28	0.4	13120	787	0.28	0.4
3R	12050	904	0.42	0.6	10400	780	0.42	0.6	8750	656	0.42	0.6
4R	9050	724	0.56	0.8	7800	624	0.56	0.8	6550	524	0.56	0.8
5R	7250	616	0.7	1	6250	530	0.7	1	5250	446	0.7	1
6R	6036	544	0.84	1.2	5200	468	0.84	1.2	4370	393	0.84	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

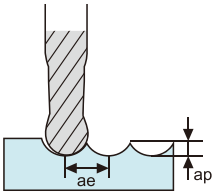


Table 018

EHBUH2

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	145 (m/min)				125 (m/min)				105 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	45270	1130	0.14	0.2	39030	975	0.14	0.2	32780	820	0.14	0.2
2R	22636	1358	0.28	0.4	19500	1170	0.28	0.4	16400	984	0.28	0.4
3R	15090	1130	0.42	0.6	13000	975	0.42	0.6	10930	820	0.42	0.6
4R	11320	905	0.56	0.8	9750	780	0.56	0.8	8195	655	0.56	0.8
5R	9055	770	0.7	1	7800	663	0.7	1	6555	557	0.7	1
6R	7545	680	0.84	1.2	6500	585	0.84	1.2	5460	491	0.84	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

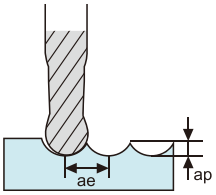


Table 019

EHBBC2, EHBRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度		HRC 35~45				HRC 40~55				HRC 55~65			
Radius 半徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
R0.15	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
R0.2	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
R0.25	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
R0.3	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
R0.4	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
R0.5	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
R0.75	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
R1.0	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
R1.5	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
R2.0	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
R2.5	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
R3.0	15	8160	1764	0.420	0.800	5760	1320	0.300	0.800	4440	864	0.300	0.800
R4.0	25	7200	1176	0.350	0.750	4920	912	0.180	0.600	4560	732	0.200	0.630
R5.0	30	5880	1128	0.370	0.900	4800	852	0.200	0.670	4200	708	0.200	0.650
R6.0	30	4800	984	0.420	0.900	4320	828	0.250	0.600	3600	600	0.250	0.600

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

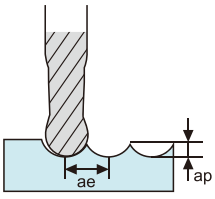
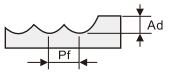


Table 020

EHBRT2

WORKING MATERIAL	HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	SKT, SKD		SKT, SKD		SKT, SKD	
HARDNESS	HRC 35~45		HRC 45~55		HRC 55~60	
Vc	260 M/min		195 M/min		130 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
1.0R	41,600	1,920	31,200	1,440	20,800	960
2.0R	20,800	1,920	15,600	1,440	10,335	955
3.0R	13,650	1,890	10,335	1,430	6,890	955
4.0R	10,335	1,910	7,735	1,430	5,200	960
5.0R	8,255	1,905	6,240	1,440	4,160	960
6.0R	6,890	1,910	5,200	1,440	3,445	955
8.0R	5,200	1,920	3,900	1,440	2,600	960
10.0R	4,160	1,920	3,120	1,440	2,080	960
Milling Amount (mm)	Ad = 0.05D Pf = 0.1D					

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 021

EHCSH4

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	145 (m/min)				125 (m/min)				105 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	15390	1415	3	0.15	13270	1220	3	0.15	11150	1025	3	0.15
4mm	11550	1386	4	0.2	9950	1194	4	0.2	8360	1003	4	0.2
6mm	7700	1232	6	0.3	6630	1060	6	0.3	5570	891	6	0.3
8mm	5770	923	8	0.4	4980	796	8	0.4	4180	668	8	0.4
10mm	4620	924	10	0.5	3980	796	10	0.5	3345	669	10	0.5
12mm	3850	770	12	0.6	3320	664	12	0.6	2790	558	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

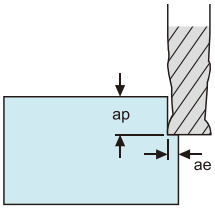


Table 022

EHCLH4

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	123 (m/min)				106 (m/min)				89 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	13080	1200	3	0.15	11280	1038	3	0.15	9480	871	3	0.15
4mm	9820	1178	4	0.2	8460	1015	4	0.2	7100	852	4	0.2
6mm	6545	1050	6	0.3	5635	900	6	0.3	4740	757	6	0.3
8mm	4905	785	8	0.4	4235	676	8	0.4	3555	568	8	0.4
10mm	3927	785	10	0.5	3385	676	10	0.5	2845	568	10	0.5
12mm	3270	655	12	0.6	2820	564	12	0.6	2370	474	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

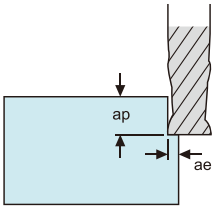


Table 023

EHCUH4

Material 工件材料	PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度	HRC 35~45				HRC 40~55				HRC 55~65			
VC 線速度	123 (m/min)				106 (m/min)				89 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	15390	1415	3	0.15	13270	1220	3	0.15	11150	1025	3	0.15
4mm	11550	1386	4	0.2	9950	1194	4	0.2	8360	1003	4	0.2
6mm	7700	1232	6	0.3	6630	1060	6	0.3	5570	891	6	0.3
8mm	5770	923	8	0.4	4980	796	8	0.4	4180	668	8	0.4
10mm	4620	924	10	0.5	3980	796	10	0.5	3345	669	10	0.5
12mm	3850	770	12	0.6	3320	664	12	0.6	2790	558	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

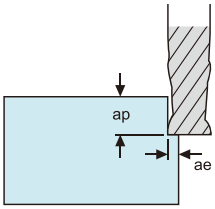


Table 024

EHCBC2, EHCRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度		HRC 35~45				HRC 40~55				HRC 55~65			
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	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
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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

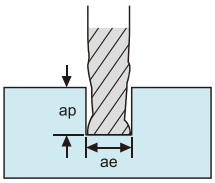


Table 025

EHCBC4, EHCRC4

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1				Hardened Steel 淬火鋼 SKD11,SKH51			
Hardness 硬度		HRC 35~45				HRC 55~65			
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

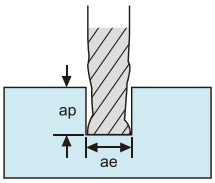


Table 026

EPSFC2, EPSSC2, EPSFA2, EPSSA2

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120(m/min)				95(m/min)				79(m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	12700	380	1.5	3	10000	300	0.9	3	8386	251	0.15	3
4mm	9550	382	2	4	7560	302	1.2	4	6290	251	0.2	4
6mm	6370	445	3	6	5040	352	1.8	6	4200	294	0.3	6
8mm	4770	333	4	8	3780	264	2.4	8	3140	220	0.4	8
10mm	3820	230	5	10	3020	181	3	10	2515	150	0.5	10
12mm	3180	190	6	12	2520	151	3.6	12	2100	126	0.6	12

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48(m/min)				79(m/min)				120(m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	5095	152	0.15	3	8386	251	0.15	3	12700	380	1.5	3
4mm	3820	152	0.2	4	6290	251	0.2	4	9550	382	2	4
6mm	2548	178	0.3	6	4200	294	0.3	6	6370	445	3	6
8mm	1910	133	0.4	8	3140	220	0.4	8	4770	333	4	8
10mm	1528	92	0.5	10	2515	150	0.5	10	3820	230	5	10
12mm	1274	76	0.6	12	2100	126	0.6	12	3180	190	6	12

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

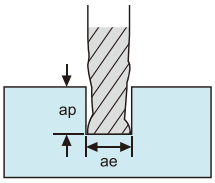


Table 027

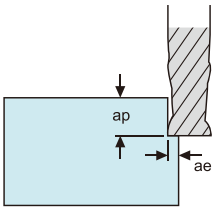
EPSFC3, EPSSC3, EPSFC4, EPSSC4, EPSFA4, EPSSA4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	12700	762	3	0.15	10000	600	3	0.15	8386	503	3	0.15
4mm	9550	764	4	0.2	7560	604	4	0.2	6290	503	4	0.2
6mm	6370	890	6	0.3	5040	705	6	0.3	4200	588	6	0.3
8mm	4770	668	8	0.4	3780	529	8	0.4	3140	440	8	0.4
10mm	3820	458	10	0.5	3020	362	10	0.5	2515	301	10	0.5
12mm	3180	380	12	0.6	2520	302	12	0.6	2100	252	12	0.6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	5095	305	3	0.15	8386	503	3	0.15	12700	503	3	0.15
4mm	3820	305	4	0.2	6290	503	4	0.2	9550	503	4	0.2
6mm	2548	356	6	0.3	4200	588	6	0.3	6370	588	6	0.3
8mm	1910	267	8	0.4	3140	440	8	0.4	4770	440	8	0.4
10mm	1528	183	10	0.5	2515	301	10	0.5	3820	301	10	0.5
12mm	1274	152	12	0.6	2100	252	12	0.6	3180	252	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。



Recommended Cutting Conditions 推薦切削參數

Table 028

EPSSD4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				80 (m/min)				60 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	12700	1270	3	1.5	8492	850	3	1.5	6370	254	3	1.5
4mm	9550	955	4	2	6370	637	4	2	4778	190	4	2
6mm	6370	1020	6	3	4246	680	6	3	3184	190	6	3
8mm	4770	954	8	4	3184	636	8	4	2388	238	8	4
10mm	3820	916	10	5	2548	610	10	5	1910	190	10	5
12mm	3180	826	12	6	2120	550	12	6	1592	190	12	6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	30 (m/min)				70 (m/min)				108 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	3184	127	3	0.6	7430	743	3	1.5	11460	1146	3	1.5
4mm	2388	95	4	0.8	5570	577	4	2	8600	860	4	2
6mm	1590	95	6	1.2	3720	595	6	3	5730	916	6	3
8mm	1194	120	8	1.6	2780	556	8	4	4300	860	8	4
10mm	955	95	10	2	2230	535	10	5	3440	825	10	5
12mm	796	95	12	2.4	1860	484	12	6	2866	750	12	6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

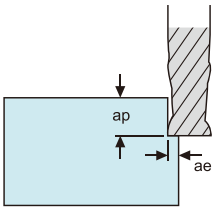


Table 029

EPSFH4, EPSSH4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	12700	762	4.5	0.15	10000	600	4.5	0.15	8386	503	4.5	0.15
4mm	9550	764	6	0.2	7560	604	6	0.2	6290	503	6	0.2
6mm	6370	890	9	0.3	5040	705	9	0.3	4200	588	9	0.3
8mm	4770	668	12	0.4	3780	529	12	0.4	3140	440	12	0.4
10mm	3820	458	15	0.5	3020	362	15	0.5	2515	301	15	0.5
12mm	3180	380	18	0.6	2520	302	18	0.6	2100	252	18	0.6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	5095	305	4.5	0.15	7430	743	4.5	0.15	12700	503	4.5	0.15
4mm	3820	305	6	0.2	5570	577	6	0.2	9550	503	6	0.2
6mm	2548	356	9	0.3	3720	595	9	0.3	6370	588	9	0.3
8mm	1910	267	12	0.4	2780	556	12	0.4	4770	440	12	0.4
10mm	1528	183	15	0.5	2230	535	15	0.5	3820	301	15	0.5
12mm	1274	152	18	0.6	1860	484	18	0.6	3180	252	18	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

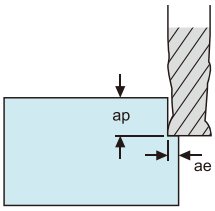


Table 030

EPSCC4, EPSCA4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	96 (m/min)				76 (m/min)				63 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	10160	610	3	0.15	8000	480	3	0.15	6708	402	3	0.15
4mm	7640	610	4	0.2	6048	483	4	0.2	5032	402	4	0.2
6mm	5096	712	6	0.3	4032	564	6	0.3	3360	470	6	0.3
8mm	3816	534	8	0.4	3024	423	8	0.4	2512	352	8	0.4
10mm	3056	366	10	0.5	2416	290	10	0.5	2012	240	10	0.5
12mm	2544	304	12	0.6	2016	242	12	0.6	1680	202	12	0.6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	38 (m/min)				63 (m/min)				96 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	4076	244	3	0.15	6708	402	3	0.15	10160	610	3	0.15
4mm	3056	244	4	0.2	5032	402	4	0.2	7640	610	4	0.2
6mm	2038	285	6	0.3	3360	470	6	0.3	5096	712	6	0.3
8mm	1528	214	8	0.4	2512	352	8	0.4	3816	534	8	0.4
10mm	1222	146	10	0.5	2012	240	10	0.5	3056	366	10	0.5
12mm	1016	122	12	0.6	1680	202	12	0.6	2544	304	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

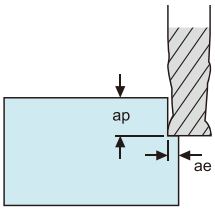


Table 031

EPSLC2, EPSMC2, EPSNC2, EPSLA2, EPSMA2, EPSNA2

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	102 (m/min)				80 (m/min)				67 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	10800	323	1.5	3	8500	255	0.9	3	7128	213	0.15	3
4mm	8118	324	2	4	4626	256	1.2	4	5346	213	0.2	4
6mm	5414	378	3	6	4284	300	1.8	6	3570	250	0.3	6
8mm	4054	283	4	8	3210	224	2.4	8	2670	187	0.4	8
10mm	3248	195	5	10	2568	154	3	10	2138	127	0.5	10
12mm	2700	160	6	12	2142	128	3.6	12	1785	107	0.6	12

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	40 (m/min)				67 (m/min)				102 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	4330	130	0.15	3	7128	213	0.15	3	10800	323	1.5	3
4mm	3247	130	0.2	4	5346	213	0.2	4	8118	324	2	4
6mm	2165	151	0.3	6	3570	250	0.3	6	5414	378	3	6
8mm	1624	113	0.4	8	2670	187	0.4	8	4054	283	4	8
10mm	1298	78	0.5	10	2138	127	0.5	10	3248	195	5	10
12mm	1082	65	0.6	12	1785	107	0.6	12	2700	160	6	12

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

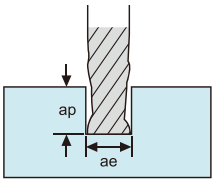


Table 032

EPSLC4, EPSMC4, EPSNC4, EPSLA4, EPSMA4, EPSNA4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	102 (m/min)				80 (m/min)				67 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	10800	647	3	0.15	8500	510	3	0.15	7128	427	3	0.15
4mm	8118	649	4	0.2	4626	513	4	0.2	5346	427	4	0.2
6mm	5414	756	6	0.3	4284	600	6	0.3	3570	500	6	0.3
8mm	4054	568	8	0.4	3210	450	8	0.4	2670	340	8	0.4
10mm	3248	389	10	0.5	2568	307	10	0.5	2138	255	10	0.5
12mm	2700	323	12	0.6	2142	256	12	0.6	1785	214	12	0.6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	40 (m/min)				67 (m/min)				102 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	4330	260	3	0.15	7128	427	3	0.15	10800	647	3	0.15
4mm	3247	260	4	0.2	5346	427	4	0.2	8118	649	4	0.2
6mm	2165	302	6	0.3	3570	500	6	0.3	5414	756	6	0.3
8mm	1624	226	8	0.4	2670	340	8	0.4	4054	568	8	0.4
10mm	1298	155	10	0.5	2138	255	10	0.5	3248	389	10	0.5
12mm	1082	129	12	0.6	1785	214	12	0.6	2700	323	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

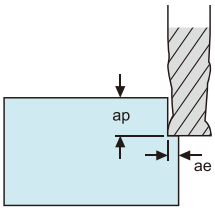


Table 033

EPSRR4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB 180~250				HRC 25~35				HRC 35~45			
VC 線速度	68 (m/min)				54 (m/min)				45 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
6mm	3600	430	6	0.6	2880	295	6	0.6	2340	200	6	0.6
8mm	2700	430	8	0.8	2160	295	8	0.8	1800	200	8	0.8
10mm	2160	430	10	1	1710	295	10	1	1440	200	10	1
12mm	1800	430	12	1.2	1440	295	12	1.2	1200	200	12	1.2

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55											
VC 線速度	27 (m/min)				54 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
6mm	1440	85	6	0.3	2880	295	6	0.6	4320	520	6	0.6
8mm	1080	85	8	0.4	2160	295	8	0.8	3240	520	8	0.8
10mm	860	85	10	0.5	1710	295	10	1	2520	520	10	1
12mm	720	85	12	0.6	1440	295	12	1.2	2160	520	12	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

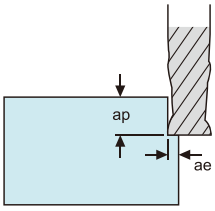


Table 034

EPSBC2, EPSRC2

Material 工件材料		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness 硬度		HRC 35~45		
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	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
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.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

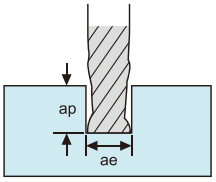


Table 035

EPSBC2, EPSRC2

Material 工件材料		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness 硬度		HRC 35~45		
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)
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
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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

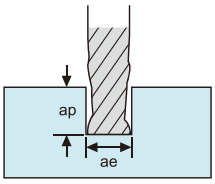


Table 036

EPSBC2, EPSRC2

Material 工件材料		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness 硬度		HRC 35~45		
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)
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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

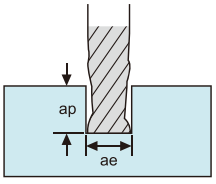


Table 037

EPSBC4, EPSRC4

Material 工件材料		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness 硬度		HRC 35~45		
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

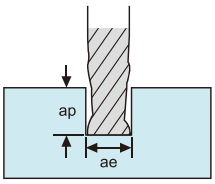


Table 038

EPSBC4, EPSRC4

Material 工件材料		Carbon Steels/Cast iron/Alloy Steels S50C/FC250/SCM/NAK		
Hardness 硬度		HRC 35~45		
Dia 刃徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

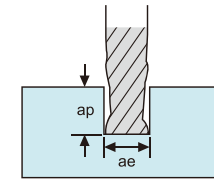
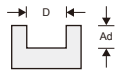


Table 039

EPSFT2, EPSST2

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	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)
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
Milling Amount (mm)							Ad = 0.1D (D < 3, Ad ≦ 0.05D)		Ad = 0.5D (D < 3, Ad ≦ 0.25D)			

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

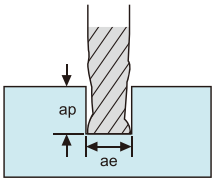


Table 040

EPBFC2, EPBSC2

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	37470	936	0.14	0.2	29660	740	0.14	0.2	24660	616	0.14	0.2
2R	18730	1120	0.28	0.4	14830	890	0.28	0.4	12330	740	0.28	0.4
3R	12490	936	0.42	0.6	9890	740	0.42	0.6	8220	616	0.42	0.6
4R	9366	750	0.56	0.8	7415	593	0.56	0.8	6170	494	0.56	0.8
5R	7490	636	0.7	1	5930	504	0.7	1	4930	420	0.7	1
6R	6244	560	0.84	1.2	4940	444	0.84	1.2	4110	370	0.84	1.2

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	14990	374	0.14	0.2	24660	616	0.14	0.2	37470	936	0.14	0.2
2R	7490	450	0.28	0.4	12330	740	0.28	0.4	18730	1120	0.28	0.4
3R	4995	374	0.42	0.6	8220	616	0.42	0.6	12490	936	0.42	0.6
4R	3750	300	0.56	0.8	6170	494	0.56	0.8	9366	750	0.56	0.8
5R	3000	255	0.7	1	4930	420	0.7	1	7490	636	0.7	1
6R	2500	225	0.84	1.2	4110	370	0.84	1.2	6244	560	0.84	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

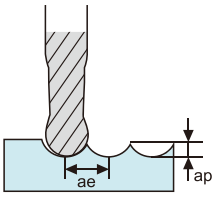


Table 041

EPBFC4, EPBSC4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	37470	936	0.14	0.2	29660	740	0.14	0.2	24660	616	0.14	0.2
2R	18730	1120	0.28	0.4	14830	890	0.28	0.4	12330	740	0.28	0.4
3R	12490	936	0.42	0.6	9890	740	0.42	0.6	8220	616	0.42	0.6
4R	9366	750	0.56	0.8	7415	593	0.56	0.8	6170	494	0.56	0.8
5R	7490	636	0.7	1	5930	504	0.7	1	4930	420	0.7	1
6R	6244	560	0.84	1.2	4940	444	0.84	1.2	4110	370	0.84	1.2

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	14990	374	0.14	0.2	24660	616	0.14	0.2	37470	936	0.14	0.2
2R	7490	450	0.28	0.4	12330	740	0.28	0.4	18730	1120	0.28	0.4
3R	4995	374	0.42	0.6	8220	616	0.42	0.6	12490	936	0.42	0.6
4R	3750	300	0.56	0.8	6170	494	0.56	0.8	9366	750	0.56	0.8
5R	3000	255	0.7	1	4930	420	0.7	1	7490	636	0.7	1
6R	2500	225	0.84	1.2	4110	370	0.84	1.2	6244	560	0.84	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

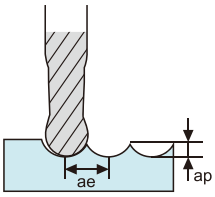


Table 042

EPBLC2, EPBMC2, EPBNC2

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	31850	796	0.14	0.2	25210	629	0.14	0.2	20960	524	0.14	0.2
2R	15920	952	0.28	0.4	12606	757	0.28	0.4	10480	629	0.28	0.4
3R	10620	796	0.42	0.6	8400	629	0.42	0.6	6990	524	0.42	0.6
4R	7960	638	0.56	0.8	6300	504	0.56	0.8	5244.5	420	0.56	0.8
5R	6370	540	0.7	1	5040	428	0.7	1	4190	357	0.7	1
6R	5308	476	0.84	1.2	4200	377	0.84	1.2	3495	315	0.84	1.2

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)				HRC25~35				HRC35~45			
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	12740	318	0.14	0.2	20960	524	0.14	0.2	31850	796	0.14	0.2
2R	6370	383	0.28	0.4	10480	629	0.28	0.4	15920	952	0.28	0.4
3R	4245.8	318	0.42	0.6	6990	524	0.42	0.6	10620	796	0.42	0.6
4R	3187.5	255	0.56	0.8	5244.5	420	0.56	0.8	7960	638	0.56	0.8
5R	2550	217	0.7	1	4190	357	0.7	1	6370	540	0.7	1
6R	2125	191	0.84	1.2	3495	315	0.84	1.2	5308	476	0.84	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

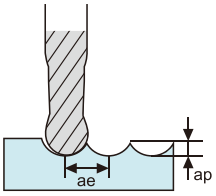


Table 043

EPBLC4, EPBMC4, EPBNC4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	31850	796	0.14	0.2	25210	629	0.14	0.2	20960	524	0.14	0.2
2R	15920	952	0.28	0.4	12606	757	0.28	0.4	10480	629	0.28	0.4
3R	10620	796	0.42	0.6	8400	629	0.42	0.6	6990	524	0.42	0.6
4R	7960	638	0.56	0.8	6300	504	0.56	0.8	5245	420	0.56	0.8
5R	6370	540	0.7	1	5040	428	0.7	1	4190	357	0.7	1
6R	5308	476	0.84	1.2	4200	377	0.84	1.2	3495	315	0.84	1.2

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)				HRC25~35				HRC35~45			
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
1R	12740	318	0.14	0.2	20960	524	0.14	0.2	31850	796	0.14	0.2
2R	6370	383	0.28	0.4	10480	629	0.28	0.4	15920	952	0.28	0.4
3R	4246	318	0.42	0.6	6990	524	0.42	0.6	10620	796	0.42	0.6
4R	3188	255	0.56	0.8	5245	420	0.56	0.8	7960	638	0.56	0.8
5R	2550	217	0.7	1	4190	357	0.7	1	6370	540	0.7	1
6R	2125	191	0.84	1.2	3495	315	0.84	1.2	5308	476	0.84	1.2

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

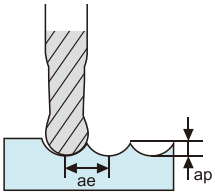


Table 044

EPBBC2, EPBRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Copper 銅			
Hardness 硬度		HRC 35~45				HRC 40~55							
Radius 半徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
R0.15	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
R0.2	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
R0.25	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
R0.3	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
R0.35	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
R0.4	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
R0.45	4	32000	685	0.054	0.130	24500	460	0.043	0.180	50500	1900	0.067	0.190
R0.5	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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

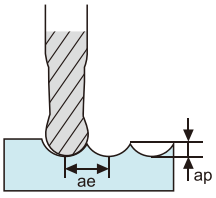


Table 045

EPBBC2, EPBRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Copper 銅			
Hardness 硬度		HRC 35~45				HRC 40~55							
Radius 半徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
R0.6	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
R0.7	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
R0.75	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
R0.8	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
R0.9	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
R1.0	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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

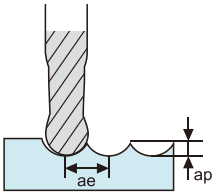


Table 046

EPBBC2, EPBRC2

Material 工件材料		PREHARDENED STEELS 調質鋼 NAK80 CENA1				HARDENED STEELS 淬火鋼 SKD61,SKD11				Copper 銅			
Hardness 硬度		HRC 35~45				HRC 40~55							
Radius 半徑	EFF-L 有效長	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
R1.25	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
R1.5	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
R2.0	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
R2.5	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
R3.0	15	7400	1670	0.443	1.200	5200	1300	0.360	1.200	8000	2530	0.555	1.800
R4.0	25	7200	1200	0.5	1.000	5200	920	0.350	1.000	9000	2400	0.600	1.500
R5.0	30	6800	720	0.23	0.600	4600	570	0.190	0.570	7800	1300	0.300	0.900
R6.0	30	6350	684	0.210	0.570	4370	541.5	0.181	0.550	7410	1235	0.285	0.855

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

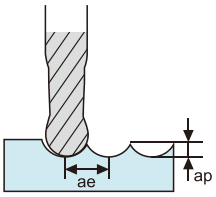
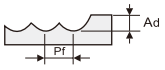


Table 047

EPBFT2, EPBST2, EPBRT2

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	
DIAMETER	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
Milling Amount (mm)	Ad = 0.05D Pf = 0.1D											



1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

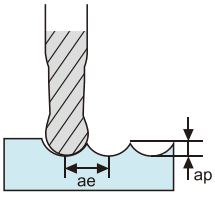


Table 048

EPCSC2

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	12700	380	1.5	3	10000	300	0.9	3	8386	251	0.15	3
4mm	9550	382	2	4	7560	302	1.2	4	6290	251	0.2	4
6mm	6370	445	3	6	5040	352	1.8	6	4200	294	0.3	6
8mm	4770	333	4	8	3780	264	2.4	8	3140	220	0.4	8
10mm	3820	230	5	10	3020	181	3	10	2515	150	0.5	10
12mm	3180	190	6	12	2520	151	3.6	12	2100	126	0.6	12

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	5095	152	0.15	3	8386	251	0.15	3	12700	380	1.5	3
4mm	3820	152	0.2	4	6290	251	0.2	4	9550	382	2	4
6mm	2548	178	0.3	6	4200	294	0.3	6	6370	445	3	6
8mm	1910	133	0.4	8	3140	220	0.4	8	4770	333	4	8
10mm	1528	92	0.5	10	2515	150	0.5	10	3820	230	5	10
12mm	1274	76	0.6	12	2100	126	0.6	12	3180	190	6	12

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

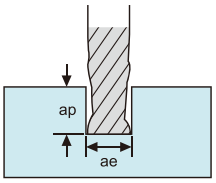


Table 049

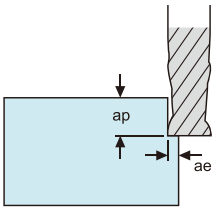
EPCSC4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	12700	762	3	0.15	10000	600	3	0.15	8386	503	3	0.15
4mm	9550	764	4	0.2	7560	604	4	0.2	6290	503	4	0.2
6mm	6370	890	6	0.3	5040	705	6	0.3	4200	588	6	0.3
8mm	4770	668	8	0.4	3780	529	8	0.4	3140	440	8	0.4
10mm	3820	458	10	0.5	3020	362	10	0.5	2515	301	10	0.5
12mm	3180	380	12	0.6	2520	302	12	0.6	2100	252	12	0.6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	5095	305	3	0.15	8386	503	3	0.15	12700	503	3	0.15
4mm	3820	305	4	0.2	6290	503	4	0.2	9550	503	4	0.2
6mm	2548	356	6	0.3	4200	588	6	0.3	6370	588	6	0.3
8mm	1910	267	8	0.4	3140	440	8	0.4	4770	440	8	0.4
10mm	1528	183	10	0.5	2515	301	10	0.5	3820	301	10	0.5
12mm	1274	152	12	0.6	2100	252	12	0.6	3180	252	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。



Recommended Cutting Conditions 推薦切削參數

Table 050

EPCSH4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	120 (m/min)				95 (m/min)				79 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	12700	762	3	0.15	10000	600	3	0.15	8386	503	3	0.15
4mm	9550	764	4	0.2	7560	604	4	0.2	6290	503	4	0.2
6mm	6370	890	6	0.3	5040	705	6	0.3	4200	588	6	0.3
8mm	4770	668	8	0.4	3780	529	8	0.4	3140	440	8	0.4
10mm	3820	458	10	0.5	3020	362	10	0.5	2515	301	10	0.5
12mm	3180	380	12	0.6	2520	302	12	0.6	2100	252	12	0.6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	48 (m/min)				79 (m/min)				120 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	5095	305	3	0.15	8386	503	3	0.15	12700	503	3	0.15
4mm	3820	305	4	0.2	6290	503	4	0.2	9550	503	4	0.2
6mm	2548	356	6	0.3	4200	588	6	0.3	6370	588	6	0.3
8mm	1910	267	8	0.4	3140	440	8	0.4	4770	440	8	0.4
10mm	1528	183	10	0.5	2515	301	10	0.5	3820	301	10	0.5
12mm	1274	152	12	0.6	2100	252	12	0.6	3180	252	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

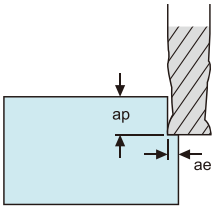


Table 051

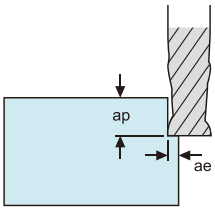
EPCLC4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼				ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD				PREHARDENED STEEL 調質鋼 NAK80 CENA1			
Hardness 硬度	HB180~250				HRC25~35				HRC35~45			
VC 線速度	102 (m/min)				80 (m/min)				67 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	10800	647	3	0.15	8500	510	3	0.15	7128	427	3	0.15
4mm	8118	649	4	0.2	4626	513	4	0.2	5346	427	4	0.2
6mm	5414	756	6	0.3	4284	600	6	0.3	3570	500	6	0.3
8mm	4054	568	8	0.4	3210	450	8	0.4	2670	340	8	0.4
10mm	3248	389	10	0.5	2568	307	10	0.5	2138	255	10	0.5
12mm	2700	323	12	0.6	2142	256	12	0.6	1785	214	12	0.6

Material 工件材料	HARDENED STEEL 淬火鋼 SKD61, SKD11				STAINLESS STEEL 不鏽鋼 SUS304 316				CAST IRON 鑄鐵 FC / FCD			
Hardness 硬度	HRC 40~55)											
VC 線速度	40 (m/min)				67 (m/min)				102 (m/min)			
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)	RPM 轉速	Feed (mm/min) 進給	ap (mm)	ae (mm)
3mm	4330	260	3	0.15	7128	427	3	0.15	10800	647	3	0.15
4mm	3247	260	4	0.2	5346	427	4	0.2	8118	649	4	0.2
6mm	2165	302	6	0.3	3570	500	6	0.3	5414	756	6	0.3
8mm	1624	226	8	0.4	2670	340	8	0.4	4054	568	8	0.4
10mm	1298	155	10	0.5	2138	255	10	0.5	3248	389	10	0.5
12mm	1082	129	12	0.6	1785	214	12	0.6	2700	323	12	0.6

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。



Recommended Cutting Conditions 推薦切削參數

Table 052

EPCBC2, EPCRC2

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼 SCM, SNCM, S45		ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD		PREHARDENED STEEL 調質鋼 NAK80 CENA1	
Hardness 硬度	~HRC35		HRC35~45		HRC45~55	
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	RPM 轉速	Feed (mm/min) 進給	RPM 轉速	Feed (mm/min) 進給
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

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 053

EPCBC4, EPCRC4

Material 工件材料	CARBON STEEL / ALLOY STEEL 碳素鋼 / 合金鋼 SCM, SNCM, S45		ALLOY STEEL / TOOL STEEL 合金鋼 / 工具鋼 SCM, SKT, SKD		PREHARDENED STEEL 調質鋼 NAK80 CENA1	
Hardness 硬度	~HRC35		HRC35~45		HRC45~55	
Dia（刃徑）	RPM 轉速	Feed (mm/min) 進給	RPM 轉速	Feed (mm/min) 進給	RPM 轉速	Feed (mm/min) 進給
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

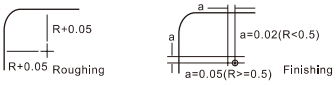
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Recommended Cutting Conditions 推薦切削參數

Table 054

EPIFA2, EPISA2, EPIFA4, EPISA4

WORKING MATERIAL	CARBON STEEL			ALLOY STEEL / TOOL STEEL			HARDENED STEEL		
CODE	S50C			SCM, SKD			SKT, SKD		
HARDNESS	HRC < 20			HRC 30 ~ 40			HRC 40~50		
Vc	30~40 M/min			20~30 M/min			15~25 M/min		
DIAMETER	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
Milling Amount (mm)							· Divide the cutting depth into several time paths. · Use cutting fluid.		

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

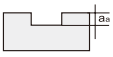
1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 055

ESSFA2, ESSSA2

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	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)	R.P.M	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
Milling Amount (mm)														

	aa
D ≦ ø3	0.15D
ø3 < D	0.20D



	aa
D ≦ ø6	0.10D
ø6 < D	0.15D

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

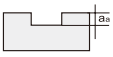
1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 056

ESSFA4, ESSSA4

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	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)	R.P.M	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
Milling Amount (mm)														

	aa
D ≦ ø3	0.15D
ø3 < D	0.20D



	aa
D ≦ ø6	0.10D
ø6 < D	0.15D

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 057

ESSSD4

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	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)	R.P.M	FEED (mm/min)
4MM	5,732	573	4,459	357	3,822	229	3,185	153	9,554	955	7,643	764	1,592	70
5MM	4,586	550	3,567	357	3,057	306	2,548	153	7,643	917	6,115	734	1,274	56
6MM	3,822	611	2,972	416	2,548	306	2,123	170	6,369	1,019	5,096	815	1,062	72
8MM	2,866	573	2,229	401	1,911	306	1,592	191	4,777	1,146	3,822	917	796	86
10MM	2,293	550	1,783	357	1,529	275	1,274	155	3,822	917	3,057	734	637	69
12MM	1,911	497	1,486	327	1,274	255	1,062	170	3,185	892	2,548	713	531	81
14MM	1,638	439	1,274	290	1,092	231	910	157	2,730	797	2,184	638	455	82
16MM	1,433	401	1,115	268	955	210	796	143	2,389	717	1,911	573	398	78
Milling Amount (mm)	a_a = 1.0D a_r = 0.5D												a_a = 1.0D a_r = 0.2D	
	a_d = 1.0D												a_d = 0.3D	

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 058

ESSSW3, ESSSW4

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	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)
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
12MM	2,340	260	1,872	175	1,560	120	936	50	1,872	205	2,808	310
14MM	2,340	300	1,768	195	1,482	135	936	60	1,768	230	2,600	335
16MM	2,028	300	2,730	345	1,300	135	819	60	2,730	400	2,340	345
18MM	2,028	305	1,378	175	1,144	120	819	60	1,378	205	2,080	310
20MM	1,560	260	1,248	175	1,040	120	624	50	1,248	205	1,820	300
Milling Amount (mm)												

	aa	ar
D<ø6	1.0D	0.02D
ø6≦D	1.0D	0.05D

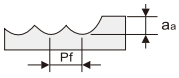
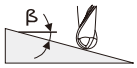
	aa	ar
D < ø6	1.0D	0.01D
ø6≦D	1.0D	0.02D

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 059

ESBFA2, ESBSA2

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 M/min		71 M/min		44 M/min		38 M/min		71 M/min		94 M/min	
DIAMETER	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)
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
When β is less than 15° milling speed and feed speed in the table can be increased 1.0-1.2 times.												
Milling Amount (mm)	a_a = 0.02D Pf = 0.05D											

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Recommended Cutting Conditions 推薦切削參數

Table 060

ESCSA4

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	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)
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
Milling Amount (mm)												

	aa	ar
D<ø6	1.0D	0.02D
ø6≦D	1.0D	0.05D

	aa	ar
D < ø6	1.0D	0.01D
ø6≦D	1.0D	0.02D

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 061

ESCSV4

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	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)	R.P.M	FEED (mm/min)
4MM	5,732	573	4,459	357	3,822	229	3,185	153	9,554	955	7,643	764	1,592	70
5MM	4,586	550	3,567	357	3,057	306	2,548	153	7,643	917	6,115	734	1,274	56
6MM	3,822	611	2,972	416	2,548	306	2,123	170	6,369	1,019	5,096	815	1,062	72
8MM	2,866	573	2,229	401	1,911	306	1,592	191	4,777	1,146	3,822	917	796	86
10MM	2,293	550	1,783	357	1,529	275	1,274	155	3,822	917	3,057	734	637	69
12MM	1,911	497	1,486	327	1,274	255	1,062	170	3,185	892	2,548	713	531	81
14MM	1,638	439	1,274	290	1,092	231	910	157	2,730	797	2,184	638	455	82
16MM	1,433	401	1,115	268	955	210	796	143	2,389	717	1,911	573	398	78
Milling Amount (mm)	a_a = 1.0D a_r = 0.5D												a_a = 1.0D a_r = 0.2D	
	a_d = 1.0D												a_d = 0.3D	

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 062

ENSFS2, ENSSS2, ENSFS3, ENSSS3, ENSCS3, ENSSH3

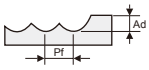
WORKING MATERIAL	ALLUMINUM ALLOY			
CODE	A5052			
	Slotting		Side Milling	
Vc	196 M/min		325 M/min	
DIAMETER	R.P.M	FEED (mm/min)	R.P.M	FEED (mm/min)
3MM	20,800	1,200	34,580	1,350
4MM	15,600	1,000	26,000	1,350
5MM	12,480	900	20,670	1,350
6MM	10,400	820	17,290	1,350
8MM	7,800	750	13,000	1,350
10MM	6,240	680	10,270	1,350
12MM	5,200	620	8,580	1,350
Milling Amount (mm)	Ad = 0.1D			

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 063

ENBFA2, ENBSA2

WORKING MATERIAL	ALLUMINUM ALLOY	
CODE	A5052	
Vc	327 M/min	
DIAMETER	R.P.M	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
Milling Amount (mm)	Ad = 0.1D 	

1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 064

EPSWH4, EPCWH4

WORKING MATERIAL	CAST IRON		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	FC / FCD		SCM,SKT,SKD		SKT,SKD		SKT, SKD		SKT,SKD	
HARDNESS	~ HRC 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~55		HRC 55~60	
Vc	163 M/min		143 M/min		143 M/min		122 M/min		103 M/min	
DIAMETER	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)
10MM	5,200	1,150	4,550	990	4,550	830	3,900	610	3,315	400
12MM	4,420	1,150	3,770	990	3,770	830	3,250	610	2,730	400
16MM	3,250	1,150	2,730	950	2,730	830	2,340	610	1,950	390
18MM	2,860	1,150	2,470	960	2,470	830	2,080	610	1,690	390
20MM	2,600	1,150	2,210	960	2,210	830	1,950	610	1,560	390
Milling Amount (mm)										

	aa	ar
D<ø6	1.0D	0.02D
ø6≦D	1.0D	0.05D

	aa	ar
D < ø6	1.0D	0.01D
ø6≦D	1.0D	0.02D

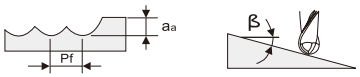
1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

Table 065

EPBWH2

WORKING MATERIAL	CAST IRON		ALLOY STEEL / TOOL STEEL		HARDENED STEEL		HARDENED STEEL		HARDENED STEEL	
CODE	FC / FCD		SCM,SKT,SKD		SKT,SKD		SKT, SKD		SKT,SKD	
HARDNESS	~ HRC 20		HRC 20 ~ 30		HRC 30 ~ 40		HRC 45~55		HRC 55~60	
Vc	163 M/min		143 M/min		143 M/min		122 M/min		103 M/min	
DIAMETER	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)
10MM	5,200	1,150	4,550	990	4,550	830	3,900	610	3,315	400
12MM	4,420	1,150	3,770	990	3,770	830	3,250	610	2,730	400
16MM	3,250	1,150	2,730	950	2,730	830	2,340	610	1,950	390
18MM	2,860	1,150	2,470	960	2,470	830	2,080	610	1,690	390
20MM	2,600	1,150	2,210	960	2,210	830	1,950	610	1,560	390
Milling Amount (mm)	aa = 0.02D Pf = 0.05D									



1.Use as highly rigid and accurate machine as possible.
2.If the rpm available is lower than the recommend condition, please reduce the feed rate to the same ratio.
3.Use long shank type please reduce the rpm and feed rate.
4.The Feed and RPM may be changed depending on the M/C conditions ,lubricating and cooling system.

1. 盡可能用高剛性、高精機床。
2. 機床轉速不足時，請將進給、轉速同比例下調。
3. 長柄型或偏擺過大時請視情況下調轉速、進給。
4. 以上數據為建議值，適當的條件仍須視機台狀況、夾治具品質、潤滑冷卻系統…等改變。

WinMills Technical Data

WINSTAR

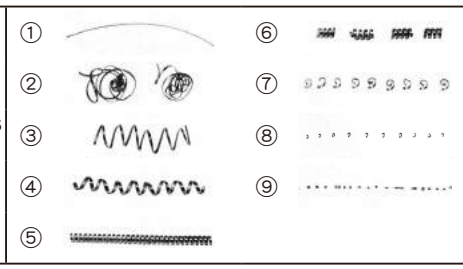
Cutting Tool Evaluation Report 刀具切削報告

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:
	Hardness 硬度	
	Quantity 加工數量	
Machine 機械	Machine No. 機台型號	
	Power 主軸出力 (HP)	

Tools 工具	Brand Name 品牌				
	Part Number 型號				
	Tool Diameter 刀具刃徑				
	Tool teeth 刀具齒數				
Cutting Conditions 切削條件	N (rpm) 轉速				
	Vc (m/min) 切削速度				
	fz (mm/rev、mm/tooth) 每刃進給量				
	F (mm/min) 進給速度				
	Ad×Rd (mm) 切深 × 側深				
	Cutting time (mm/pcs) 切削時間				
	Wet / Dry 濕式 / 乾式				
Results 結果	Tool Life Criterion 壽命判定基準				
	Chips Types 切屑				
Appraise 總合評價	Overall Rating 性能，成本等總體評價				
	Accept 接受	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No

Tool Life Criterion 壽命判定基準	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 崩刃 , 碎裂

Chips Types 切屑	

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Endmills · Inserts · Drills

WinMills Solid Carbide Endmills

WINSTAR CUTTING TECHNOLOGIES CORP.

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