Index 索引

H68X Series

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

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

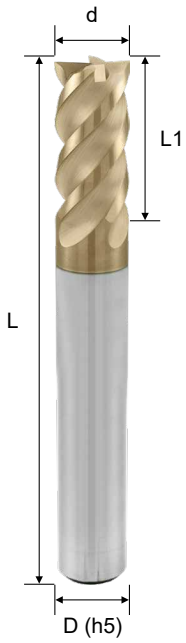
Appearance 外觀	Name 名稱	Code No. 編碼	Diameter 外徑	Helix 螺旋角	Coating 塗層	P	M	K	N	S	H	Page 頁碼
H68X Series for High Hardened Steel · High Speed · High Precision Finishing 適用高硬度鋼・高速・高精加工												
	Square · High Precision · Standard · 4F 平銑刀・高精標準型・4 刃	EHSSF	Ø1~Ø12	45°	SNAX	●	○	●		○	●	B132
	Square · High Precision · Long Shank · 4F 平銑刀・高精長柄型・4 刃	EHSLF	Ø4~Ø16	45°	SNAX	●	○	●		○	●	B133
	Ball Nose · High Precision · Standard · 2F 球型銑刀・高精標準型・2 刃	EHBSF	0.5R~6R	30°	SNAX	●	○	●		○	●	B134
	Ball Nose · High Precision · Long Shank · 2F 球型銑刀・高精長柄型・2 刃	EHBLF	2R~6R	30°	SNAX	●	○	●		○	●	B135
	Ball Nose · High Precision · Short with Neck · 2F 球型銑刀・高精短刃型・2 刃	EHBUF	0.5R~6R	30°	SNAX	●	○	●		○	●	B136
	Corner Radius · High Precision · Standard · 4F 圓鼻銑刀・高精標準型・4 刃	EHCSF	Ø1~Ø12	30°	SNAX	●	○	●		○	●	B137
	Corner Radius · High Precision · Long Shank · 4F 圓鼻銑刀・高精長柄型・4 刃	EHCLF	Ø4~Ø12	30°	SNAX	●	○	●		○	●	B138

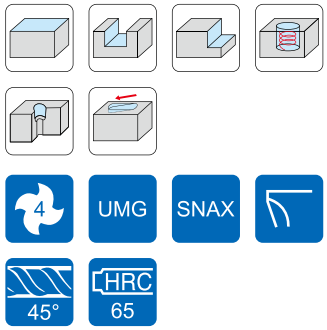
H68X - Square · High Precision · Standard · 4F 平銑刀・高精標準型・4 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) 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.

EHSSF

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHSSF441000S	1.0	3	50	4	4
EHSSF441500S	1.5	4	50	4	4
EHSSF442000S	2.0	5	50	4	4
EHSSF442500S	2.5	6	50	4	4
EHSSF403000S	3.0	8	50	6	4
EHSSF404000S	4.0	10	50	6	4
EHSSF405000S	5.0	13	50	6	4
EHSSF406000S	6.0	15	50	6	4
EHSSF408000S	8.0	20	60	8	4
EHSSF410000S	10.0	25	75	10	4
EHSSF412000S	12.0	30	75	12	4

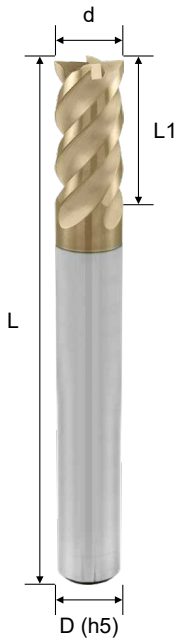
Cutting conditions：Page B252

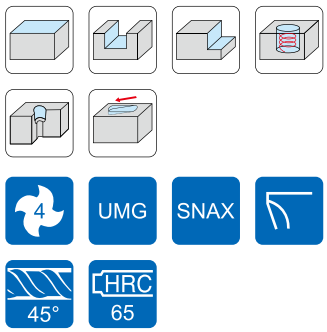
H68X - Square · High Precision · Long Shank · 4F 平銑刀・高精長柄型・4 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) 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.

EHSLF

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

Order No. 訂購編碼	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
Helix angle : 45°					
EHSLF404007S	4	10	75	6	4
EHSLF406007S	6	15	75	6	4
EHSLF406010S	6	15	100	6	4
EHSLF408007S	8	20	75	8	4
EHSLF408010S	8	20	100	8	4
EHSLF410010S	10	25	100	10	4
EHSLF412010S	12	30	100	12	4
Helix angle : 50°					
EHSMF606000S	6	15	50	6	6
EHSMF608000S	8	20	60	8	6
EHSMF610000S	10	25	75	10	6
EHSMF612000S	12	30	75	12	6
EHSMF816000S	16	40	100	16	8

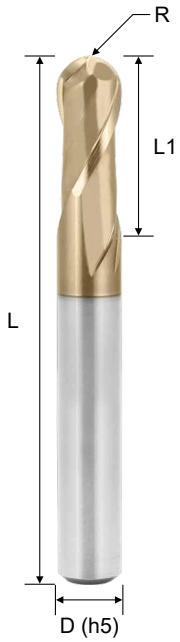
Cutting conditions：Page B252

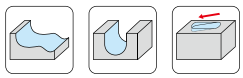
H68X - Ball Nose · High Precision · Standard · 2F 球型銑刀・高精標準型・2 刃

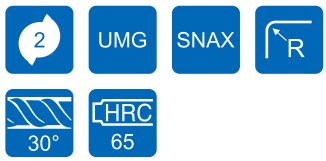
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- R tolerance ±5μm with high precision and high performance on Finishing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

EHBSF

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBSF241000S	0.5R	1	2	50	4	2
EHBSF242000S	1.0R	2	4	50	4	2
EHBSF244000S	2.0R	4	8	50	4	2
EHBSF203000S	1.5R	3	6	50	6	2
EHBSF204000S	2.0R	4	8	50	6	2
EHBSF206000S	3.0R	6	12	50	6	2
EHBSF208000S	4.0R	8	16	60	8	2
EHBSF210000S	5.0R	10	20	75	10	2
EHBSF212000S	6.0R	12	24	75	12	2

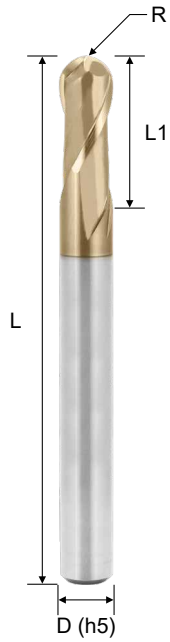
Cutting conditions：Page B253

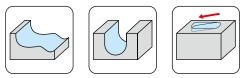
H68X - Ball Nose · High Precision · Long Shank · 2F 球型銑刀・高精長柄型・2 刃

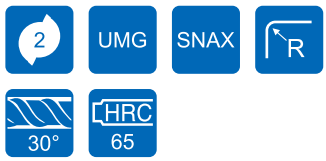
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Suitable for HRC 50 and over HRC 50 Hardened Steel, also maximum up to HRC 65.
- Ultra grain carbide rods with better abrasion resistance.
- R tolerance ±5μm with high precision and high performance on Finishing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

EHBLF

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.007
R > 3	±0.010

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHBLF204007S	2R	4	8	75	6	2
EHBLF206007S	3R	6	12	75	6	2
EHBLF206010S	3R	6	12	100	6	2
EHBLF208007S	4R	8	16	75	8	2
EHBLF208010S	4R	8	16	100	8	2
EHBLF210010S	5R	10	20	100	10	2
EHBLF212010S	6R	12	24	100	12	2

Cutting conditions：Page B253

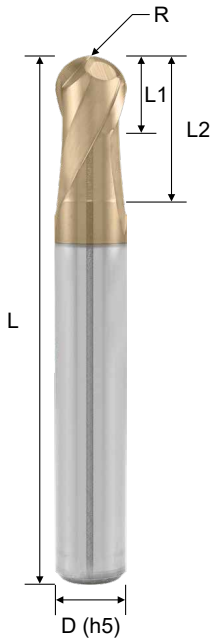
H68X - Ball Nose · High Precision · Short with Neck · 2F 球型銑刀・高精短刃型・2 刃

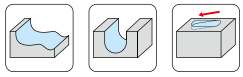
- SNAX smooth coating (Al, Ti, Si, Cr, N) provides a superior wear and heat resistance.
- Special SR geometry design with wear resistance, good chip discharge and high rigidity.
- For hardened materials milling from HRC 40 to HRC 60.
- High-efficiency for roughing and high feed finishing.

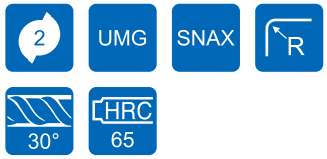
H680 Pro

EHBUF

P	M	K	N	S	H
●	○	●		○	●







R Tolerance	
R ≤ 3	±0.005
R > 3	±0.007

Order No. 訂購編碼	Radius (R)	Dia. (d)	CL (L1)	EFF-L (L2)	OAL (L)	Shank (D)	Flutes (Z)
EHBUF240200PS	0.10R	0.2	0.2	0.2	50	4	2
EHBUF240400PS	0.20R	0.4	0.4	0.4	50	4	2
EHBUF240600PS	0.30R	0.6	0.6	0.6	50	4	2
EHBUF240800PS	0.40R	0.8	0.8	0.8	50	4	2
EHBUF241000PS	0.50R	1.0	1.0	1.0	50	4	2
EHBUF241500PS	0.75R	1.5	1.5	1.5	50	4	2
EHBUF242000PS	1.00R	2.0	2.0	2.0	50	4	2
EHBUF202000PS	1.00R	2.0	2.0	2.0	50	6	2
EHBUF243000PS	1.50R	3.0	3.0	3.0	50	4	2
EHBUF203000PS	1.50R	3.0	3.0	3.0	50	6	2
EHBUF244000PS	2.00R	4.0	4.0	4.0	50	4	2
EHBUF204000PS	2.00R	4.0	4.0	4.0	50	6	2
EHBUF241001PS	0.50R	1.0	1.0	2	50	4	2
EHBUF241501PS	0.75R	1.5	1.5	3	50	4	2
EHBUF242001PS	1.00R	2.0	2.0	4	50	4	2
EHBUF243001PS	1.50R	3.0	3.0	6	50	4	2
EHBUF244001PS	2.00R	4.0	4.0	8	50	4	2
EHBUF206001PS	3.00R	6.0	6.0	12	50	6	2
EHBUF208001PS	4.00R	8.0	8.0	16	60	8	2
EHBUF210001PS	5.00R	10.0	10.0	20	75	10	2
EHBUF212001PS	6.00R	12.0	12.0	24	75	12	2

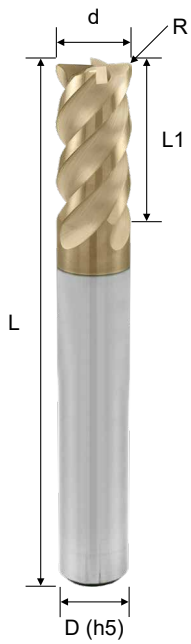
Cutting conditions：Page B253

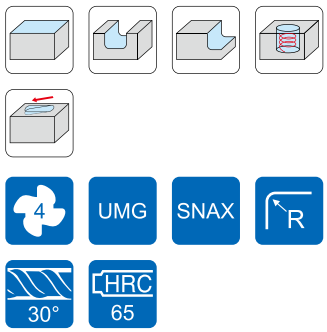
H68X - Corner Radius · High Precision · Standard · 4F 圓鼻銑刀・高精標準型・4 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) 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.

EHCSF

P	M	K	N	S	H
●	○	●		○	●





d Tolerance	
d ≤ 6	0 ~ -0.01
d > 6	0 ~ -0.02

R Tolerance	
R < 2	±0.010
R ≥ 2	±0.015

Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCSF441001S	1.0	0.1R	2	50	4	4
EHCSF441002S	1.0	0.2R	2	50	4	4
EHCSF441501S	1.5	0.1R	3	50	4	4
EHCSF441502S	1.5	0.2R	3	50	4	4
EHCSF442001S	2.0	0.1R	4	50	4	4
EHCSF442002S	2.0	0.2R	4	50	4	4
EHCSF442005S	2.0	0.5R	4	50	4	4
EHCSF443002S	3.0	0.2R	6	50	4	4
EHCSF443005S	3.0	0.5R	6	50	4	4
EHCSF403005S	3.0	0.5R	6	50	6	4
EHCSF444002S	4.0	0.2R	8	50	4	4
EHCSF444005S	4.0	0.5R	8	50	4	4
EHCSF404005S	4.0	0.5R	8	50	6	4
EHCSF404010S	4.0	1.0R	8	50	6	4
EHCSF406005S	6.0	0.5R	12	50	6	4
EHCSF406010S	6.0	1.0R	12	50	6	4
EHCSF406002S	6.0	0.2R	12	50	6	4
EHCSF406003S	6.0	0.3R	12	50	6	4
EHCSF408005S	8.0	0.5R	16	60	8	4
EHCSF408010S	8.0	1.0R	16	60	8	4
EHCSF410005S	10.0	0.5R	20	75	10	4
EHCSF410010S	10.0	1.0R	20	75	10	4
EHCSF412005S	12.0	0.5R	24	75	12	4
EHCSF412010S	12.0	1.0R	24	75	12	4

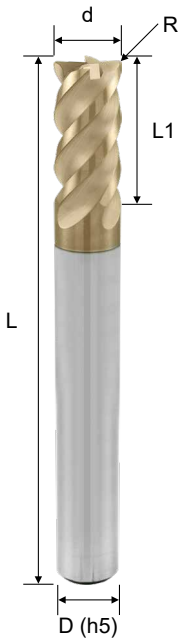
Cutting conditions：Page B252

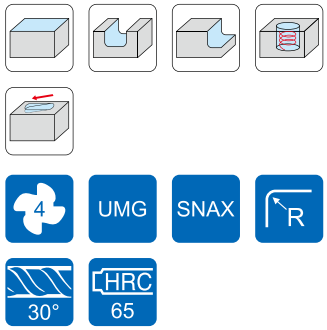
H68X - Corner Radius · High Precision · Long Shank · 4F 圓鼻銑刀・高精長柄型・4 刃

- SNAX smooth coating (Al, Ti, Si, Cr, N) 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.

EHCLF

P	M	K	N	S	H
●	○	●		○	●





Order No. 訂購編碼	Dia. (d)	Corner Radius (R)	CL (L1)	OAL (L)	Shank (D)	Flutes (Z)
EHCLF40400507S	4	0.5R	8	75	6	4
EHCLF40600507S	6	0.5R	12	75	6	4
EHCLF40600510S	6	0.5R	12	100	6	4
EHCLF40800507S	8	0.5R	16	75	8	4
EHCLF40800510S	8	0.5R	16	100	8	4
EHCLF41000510S	10	0.5R	20	100	10	4
EHCLF41200510S	12	0.5R	24	100	12	4

Cutting conditions：Page B252

d Tolerance	
d ≤ 6	0 ~ -0.02
d > 6	0 ~ -0.03

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

Recommended Cutting Conditions 建議切削參數

H68X Seires EHSSF4, EHSLF4, EHCSF4, EHCLF4

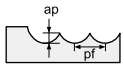
WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	110 m/min		80 m/min		100 m/min		70 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
1mm	35000	630	25500	460	32000	600	22000	360
2mm	17500	830	12700	510	16000	750	11200	440
3mm	12000	1000	8500	550	11000	800	7400	460
4mm	8700	1000	6350	600	8000	850	5600	500
6mm	5830	1100	4200	750	5300	900	3750	560
8mm	4380	1100	3200	800	4000	1000	2800	600
10mm	3500	1100	2500	750	3200	900	2200	580
12mm	2900	1100	2150	700	2750	850	2000	550
	ap = 1.5d ae = 0.05d		ap = 1.5d ap = 0.07d		ap = 1.5d ae = 0.02d		ap = 1.5d ae = 0.05d	

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1		HARDENED STEEL SKD61,SKD11,SKH51	
HARDNESS	HRC 35~45		HRC 45~60	
Vc	70 m/min		40 m/min	
DIAMETER (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
3mm	7690	460	3990	200
4mm	5800	580	3000	240
5mm	4640	670	2430	300
6mm	3770	610	1950	330
8mm	2900	580	1500	300
10mm	2320	550	1200	270
12mm	1890	520	1020	240
	ap = 0.5d ae = 1d		ap = 0.2d ae = 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.

Recommended Cutting Conditions 建議切削參數

H68X Seires EHBSF2, EHBLF2, EHBUF2

WORKING MATERIAL	PREHARDENED STEEL NAK80,CENA1				HARDENED STEEL SKD61,SKT4				HARDENED STEEL SKD11,SKH51			
HARDNESS	HRC 35~45				HRC 45~55				HRC 55~60			
CONDITION RANGE	HIGH SPEED		GENERAL		HIGH SPEED		GENERAL		HIGH SPEED		GENERAL	
Vc	50~95 m/min		25~70 m/min		40~95 m/min		20~70 m/min		30~95 m/min		20~50 m/min	
RADIUS (R)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
0.5R	50000	4000	36000	1600	50000	3200	36000	1280	50000	2000	25000	1000
1R	32000	3000	20000	1500	32000	2560	20000	1280	32000	2000	15000	1000
2R	22000	2850	13000	1500	20000	2500	10000	1280	16000	1920	9500	960
3R	16000	2800	8500	1400	13000	2200	6800	1160	11000	1760	6500	960
4R	12000	2400	6400	1200	10000	1840	5200	960	8000	1400	4800	840
5R	10000	2000	5000	1060	8000	1600	4000	820	6400	1200	3800	720
6R	8000	1600	4200	920	6600	1400	3500	730	5300	1060	3200	640
	ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.02d		ap = 0.05~0.1d pf = 0.15d		ap = 0.05~0.1d pf = 0.15d	

H70X Seires 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 (d)	RPM	Feed (mm/min)	RPM	Feed (mm/min)	RPM	Feed (mm/min)
6mm	6,890	1,900	5,200	1,000	3,445	505
8mm	5,200	1,900	3,900	1,000	2,600	505
10mm	4,160	1,900	3,120	1,000	2,080	505
12mm	3,445	1,900	2,600	1,000	1,755	505
14mm	2,925	1,800	2,210	1,000	1,430	505
16mm	2,535	1,700	2,015	930	1,294	505
18mm	2,275	1,600	1,885	895	1,151	505
20mm	2,015	1,500	1,495	845	1,040	505
25mm	1,625	1,500	1,242	915	826	505
	ap = 1.5d ae = 0.05d		ap = 1.5d ae = 0.03d		ap = 1d ae = 0.02d	

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.