

DORMER PRAMET



S77x 5-齿硬质合金摆线铣刀

ProLaunch 2021



SAFETY FIRST

Dormer Pramet's objective is **zero harm** to our people, the environment we work in, our customers and our suppliers.



ALARM



EMERGENCY
EXIT



ASSEMBLY
POINT



FIRST AID



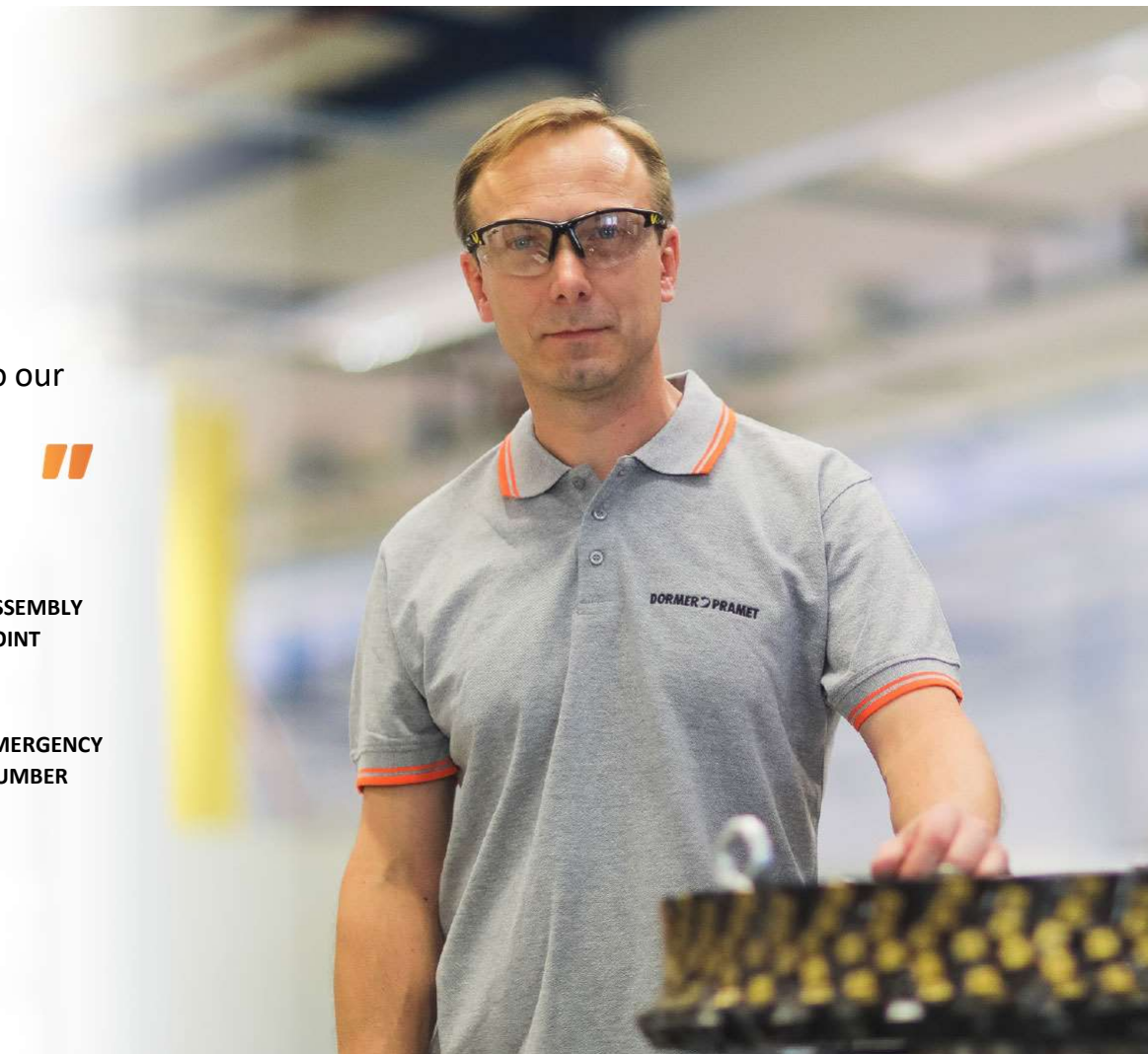
PROTECTIVE
EQUIPMENT



EMERGENCY
NUMBER



PSYCHOLOGICAL
SAFETY



产品预览

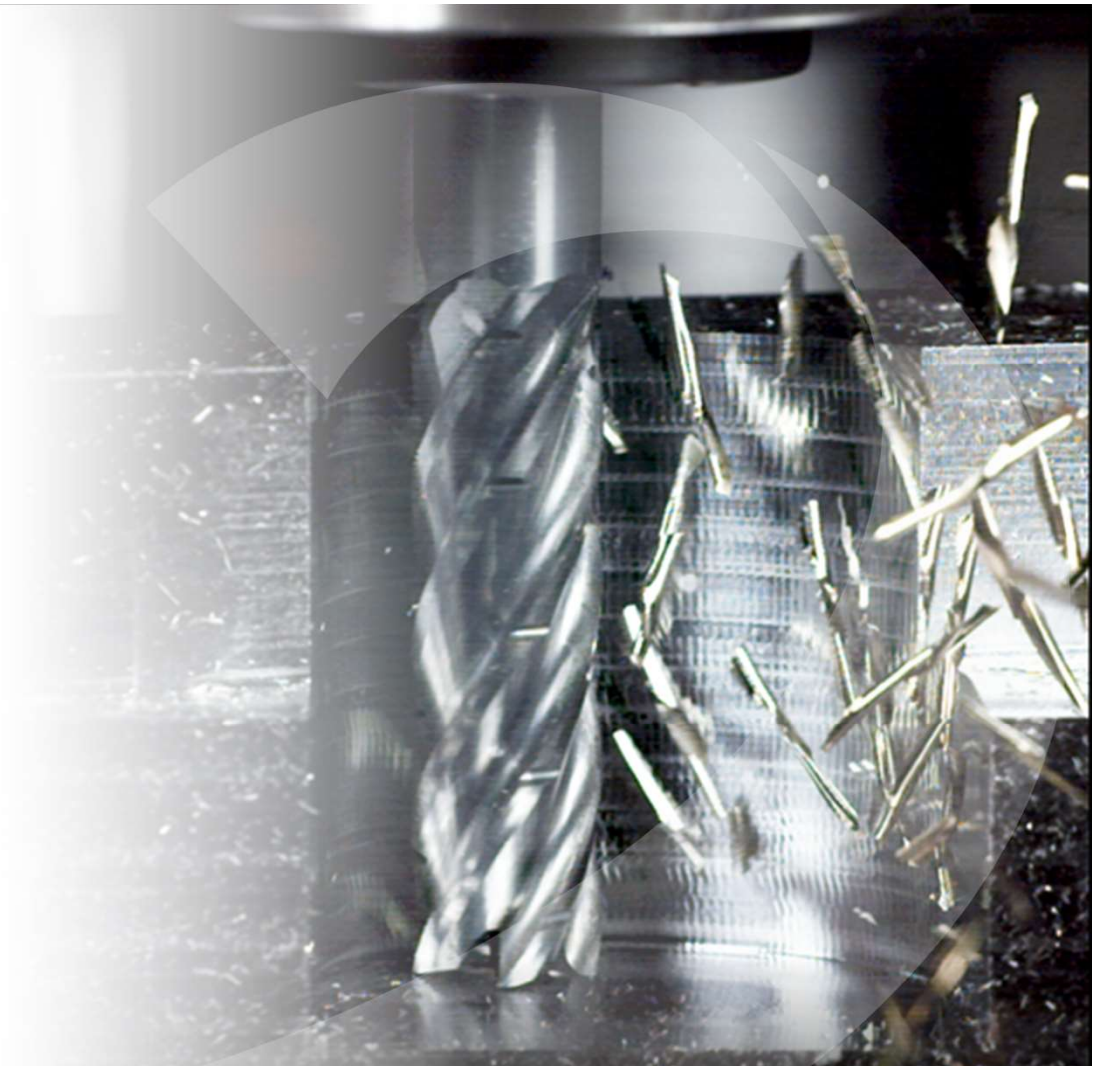
S7xx 整硬摆线铣刀



DORMER PRAMET

产品介绍

S77x 5-齿整硬摆线铣刀



S77x - 5齿整硬摆线铣刀

产品介绍



为什么要开发摆线铣

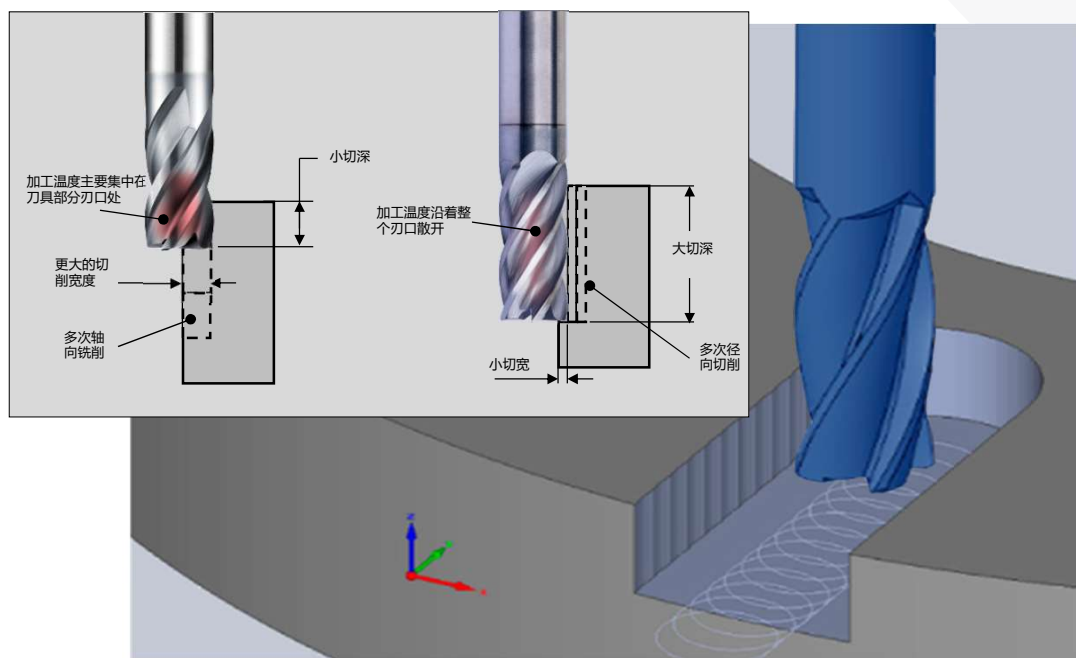
- 高性能动态铣削
- 更多齿数可提升加工效率
- 从刀具长度和槽型上提供更广泛的选择

产品优势有哪些

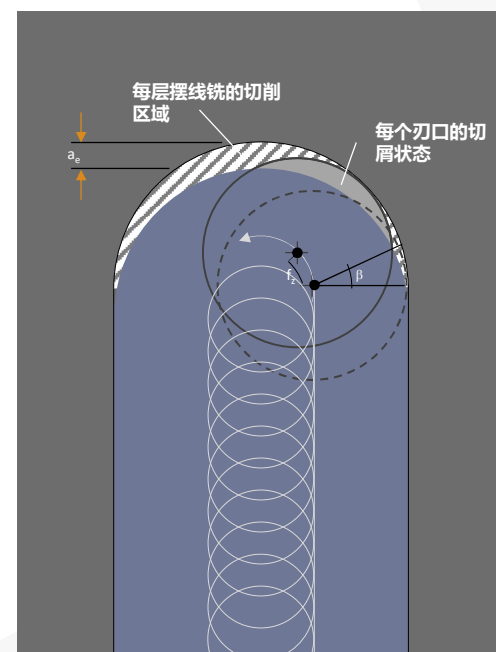
- 高效率 – 5齿铣刀增加进给率
- 通用性 – 中长刃设计提升通用性
- 有效性 – FS刃带设计改善断屑效果
- 竞争性 – 内冷却液
- 安全性 – HB侧固柄降低干涉风险

S77x - 5齿整硬摆线铣刀

产品介绍



摆线铣



产品预览

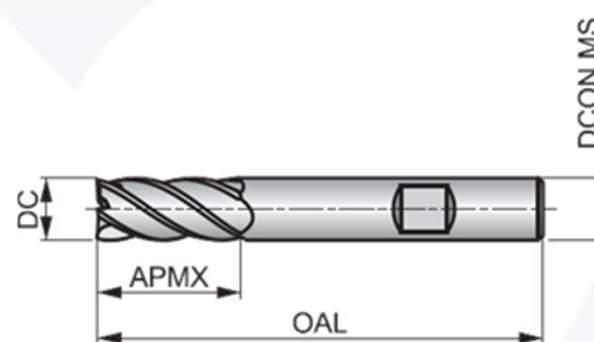
介绍

型号	DC Range	NOF	APMX	螺旋角 λ	前角 γ	缩颈	刃口分屑	内冷	齿数	柄部标准	P	M	K	S	N	H
立铣刀																
S770HB	10.0 – 20.0	5	~ 2xDC	≠ °	10°	No			regular	DIN 6535 HB	■	■	■	■		
S771HB	10.0 – 20.0	5	~ 2xDC	≠ °	10°	Yes	Yes	Yes	regular	DIN 6535 HB	■	■	■	■		
S772HB	10.0 – 20.0	5	~3.8 -3.2xDC	≠ °	10°	No			regular	DIN 6535 HB	■	■	■	■		
S773HB	10.0 – 20.0	5	~3.8 -3.2xDC	≠ °	10°	Yes	Yes	Yes	regular	DIN 6535 HB	■	■	■	■		

S770HB

产品介绍

订货号	DC [mm]	RE [mm]	DCON MS [mm]	APMX [mm]	OAL [mm]	NOF
S770HB10.0	10.00	0.20	10.00	22.00	72.0	5
S770HB12.0	12.00	0.30	12.00	26.00	83.0	5
S770HB16.0	16.00	0.30	16.00	32.00	92.0	5
S770HB20.0	20.00	0.30	20.00	38.00	104.0	5



参数
DC
RE
DCON MS
APMX
OAL
NOF
LU
DN

描述
切削直径
刀尖圆角
柄部直径
最大切削深度
全长
齿数
有效长度
颈部直径



W
侧固刀柄



CC-HKS
强力刀柄



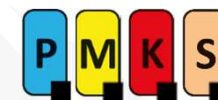
SC
热胀刀柄



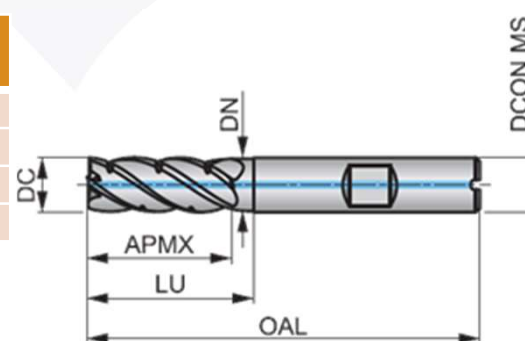
HC
液压刀柄

S771HB

产品介绍



订货号	DC [mm]	RE [mm]	DCON MS [mm]	APMX [mm]	OAL [mm]	NOF	LU [mm]	DN [mm]
S771HB10.0	10.00	0.20	10.00	25.00	72.0	5	30.0	9.70
S771HB12.0	12.00	0.20	12.00	30.00	83.0	5	38.00	11.70
S771HB16.0	16.00	0.30	16.00	39.00	92.0	5	44.00	15.70
S771HB20.0	20.00	0.30	20.00	48.00	104.0	5	54.00	19.70



W
侧固刀柄



CC-HKS
强力刀柄



SC
热胀刀柄



HC
液压刀柄



参数

DC
RE
DCON MS
APMX
OAL
NOF
LU
DN

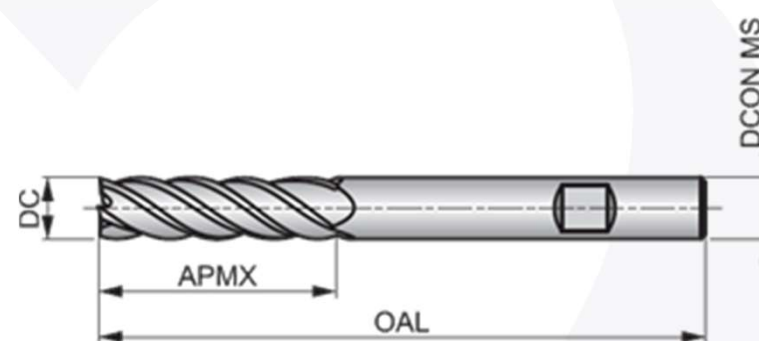
描述

切削直径
刀尖圆角
柄部直径
最大切削深度
全长
齿数
有效长度
颈部直径

S772HB

产品介绍

订货号	DC [mm]	RE [mm]	DCON MS [mm]	APMX [mm]	OAL [mm]	NOF
S772HB10.0	10.00	0.20	10.00	38.00	100.0	5
S772HB12.0	12.00	0.30	12.00	45.00	100.0	5
S772HB16.0	16.00	0.30	16.00	55.00	125.0	5
S772HB20.0	20.00	0.30	20.00	65.00	125.0	5



参数

DC
RE
DCON MS
APMX
OAL
NOF
LU
DN

描述

切削直径
刀尖圆角
柄部直径
最大切削深度
全长
齿数
有效长度
颈部直径



W
侧固刀柄



CC-HKS
强力刀柄



SC
热胀刀柄

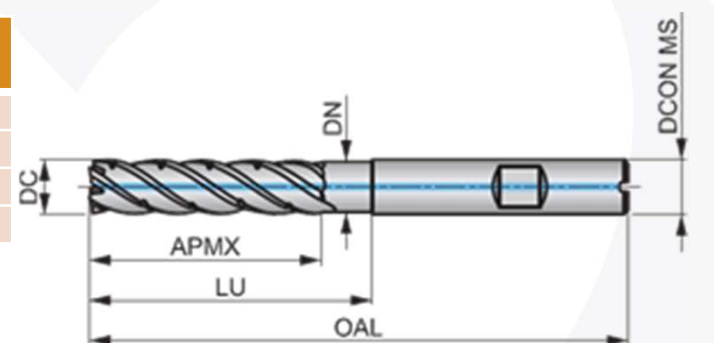


HC
液压刀柄

S773HB

产品介绍

订货号	DC [mm]	RE [mm]	DCON MS [mm]	APMX [mm]	OAL [mm]	NOF	LU [mm]	DN [mm]
S773HB10.0	10.00	0.20	10.00	42.00	100.0	5	52.00	9.70
S773HB12.0	12.00	0.20	12.00	42.00	100.0	5	54.00	11.70
S773HB16.0	16.00	0.30	16.00	60.00	125.0	5	68.00	15.70
S773HB20.0	20.00	0.30	20.00	67.00	125.0	5	75.00	19.70



W
侧固刀柄



CC-HKS
强力刀柄



SC
热胀刀柄



HC
液压刀柄



参数
DC
RE
DCON MS
APMX
OAL
NOF
LU
DN

描述
切削直径
刀尖圆角
柄部直径
最大切削深度
全长
齿数
有效长度
颈部直径

PRODUCT MARKET

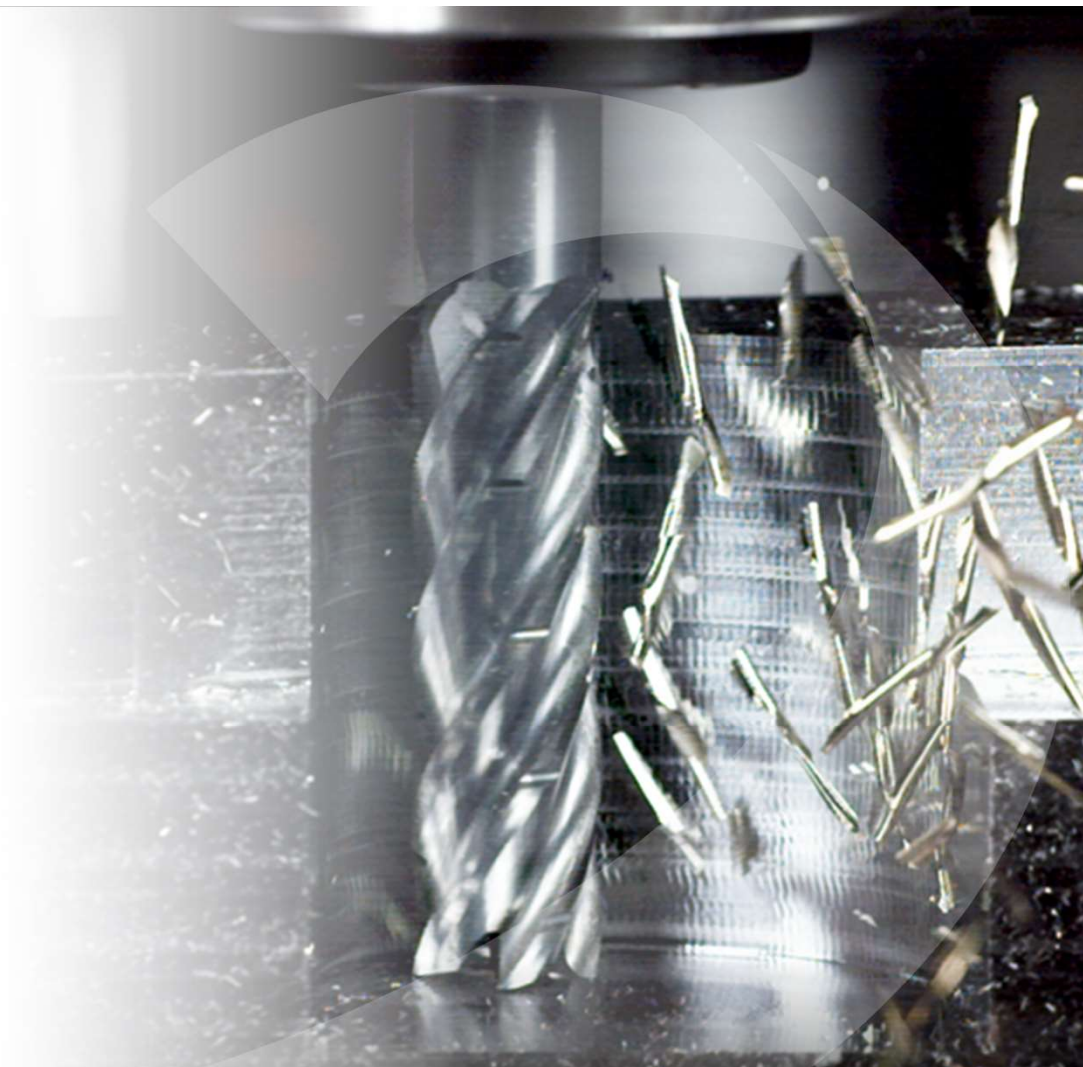
产品介绍



DORMER PRAMET

特点&优势

S77x 5-齿硬质合金摆线铣刀



钢和铸钢(P-材料组)

ISO group		WMG (Work Material Group)		Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)	Examples of material (AISI, EN, DIN, SS, STN, BS, UNE, GB, AFNOR, GOST, UNI)	
P	P1	■ P1.1	Free machining steel <i>(carbon steels with increased machinability)</i>	sulfurized	< 240 HB	≤ 830	AISI 1108, EN 15S22, DIN 1.0723, SS 1922, ČSN 11120, BS 210A15, UNE F.210F, GB Y15, AFNOR 10F1, GOST A30, UNI CF10S20
		■ P1.2		sulfurized and phosphorized	< 180 HB	≤ 620	AISI 1211, EN 11SMn30, DIN 1.0715, SS 1912, ČSN 11109, BS 230M7, UNE F.2111, GB Y15, AFNOR S250, GOST A40G, UNI CF9SMn28
		■ P1.3		sulfurized/phosphorized and leaded	< 180 HB	≤ 620	AISI 12L13, EN 11SMnPb30, DIN 1.0718, SS 1914, ČSN 12110, BS 210M16, UNE F.2114, GB Y15Pb, AFNOR S250Pb, GOST AS35G2, UNI CF10SPb20
	P2	■ P2.1	Plain carbon steel <i>(steels comprised of mainly iron and carbon)</i>	containing <0.25%C	< 180 HB	≤ 620	AISI 1015, EN C15, DIN 1.0401, SS 1350, ČSN 11301 , BS 080A15, UNE F.111, GB 15, AFNOR C18RR, GOST St2ps, UNI Fe360
		■ P2.2		containing <0.55%C	< 240 HB	≤ 830	AISI 1030, EN C30, DIN 1.0528, SS 1550, ČSN 12031, BS 080M32, UNE F.1130, GB 30, AFNOR AF50C30, GOST 30G, UNI Fe590
		■ P2.3		containing >0.55%C	< 300 HB	≤ 1030	AISI 1060, EN C60, DIN 1.0601, SS 1655, ČSN 12061, BS 080A62, UNE F513, GB 60, AFNOR 1C60, GOST 60G, UNI C60
	P3	■ P3.1	Alloy steel <i>(carbon steels with an alloying content ≤ 10%)</i>	annealed	< 180 HB	≤ 620	AISI 3415, 4140, 4340, 6150, 8620, EN 15NiCr13, 42CrMo4, 41NiCrMo7-3-2, DIN 1.5732, 1.7223, 1.6563, 1.8159, 1.6523, SS 2244, 2541, 2230, 2506, ČSN 15020, BS 1501-240, UNE F.2601, GB 16Mo, AFNOR 15D3, GOST 15M, UNI 16Mo3KW
		■ P3.2		hardened and tempered	180 - 260 HB	> 620 ≤ 900	
		■ P3.3			260 - 360 HB	> 900 ≤ 1240	
	P4	■ P4.1	Tool steel <i>(special alloy steel for tools, dies and molds)</i>	annealed	< 26 HRC	≤ 900	AISI D2, EN X155CrVMo12-1, DIN 1.2370, SS 2736, ČSN 19573, BS BD2, UNE F.520A, GB Cr12Mo1V1, AFNOR Z160CDV12, GOST Ch12MF, UNI X155CrVMo121KU
		■ P4.2		hardened and tempered	26 - 39 HRC	> 900 ≤ 1240	
		▣ P4.3			39 - 45 HRC	> 1240 ≤ 1450	



不锈钢(M-材料组)

ISO group		WMG (Work Material Group)		Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)	Examples of material (AISI, EN, DIN, SS, STN, B.S, UNE, CN, AFNOR, GOST, UNI)	
M	M1	■ M1.1	Ferritic stainless steel (straight chromium non-hardenable alloys)	< 160 HB	≤ 520	AISI S429, EN X7Cr14, DIN 1.4001, SS 2326, BS 434S17, UNE F.3401, AFNOR Z8C12, GOST 08Ch13, UNI X6CrTi12	
		■ M1.2		160 - 220 HB	> 520 ≤ 700	AISI 446, EN X10CrAl24, DIN 1.4762, SS 2322, ČSN 17113, BS 430S17, UNE F.3154, GB 10Cr17, AFNOR Z10CAS24, GOST 12Ch17, UNI X16Cr26	
	M2	■ M2.1	Martensitic stainless steel (straight chromium hardenable alloys)	annealed	< 200 HB	≤ 670	AISI 430F, EN X14CrMoS17, DIN 1.4104, SS 2383, ČSN 17140, BS 410S21, UNE F.3117, AFNOR Z10CF17, UNI X10CrS17
		■ M2.2		quenched and tempered	200 - 280 HB	> 670 ≤ 950	AISI 440C, EN X105CrMo17, DIN 1.4125, SS 2385, ČSN 17023, BS 425C11, UNE F.3402; GB 102Cr17Mo, AFNOR Z100CD17, GOST 95Ch18, UNI GX6CrNi 13 04
		M2.3		precipitation-hardened	280 - 380 HB	> 950 ≤ 1300	AISI 420, EN X45Cr13, DIN 1.4034, ČSN 17029, BS 425C11, UNE F.3405, AFNOR Z44C14, GOST 20X17H12, UNI X30Cr13
	M3	■ M3.1	Austenitic stainless steel (chromium-nickel and chromium-nickel-manganese alloys)	< 200 HB	≤ 750	AISI 304, 309, 5848 EN X5CrNi18-12, X15CrNiSi20-12, X45CrNiW18-9, DIN 1.4303, 1.4828, 1.4873, SS 2352, ČSN 17249, BS 305S17, UNE F.3513, GB 10Cr18Ni12, AFNOR Z8CN18.12, UNI X7CrNi18 10	
		■ M3.2		200 - 260 HB	> 750 ≤ 870		
		M3.3		260 - 300 HB	> 870 ≤ 1040		
	M4	M4.1	Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel (alloys with austenitic-ferritic microstructure, austenitic alloys with > 20%Ni)	< 300 HB	≤ 990	AISI 329, EN X1-NiCrMoCU25-20-5, DIN 1.4539, SS 2562, ČSN 17265, BS 318S13, UNE F.3552, GB 022Cr25NiMo2N, AFNOR Z1NCDU25.20	
		M4.2	Precipitation hardening austenitic stainless steel	300 - 380 HB	≤ 1320	AISI 631 (17-7PH), EN X7CrNiAl17-7, DIN 1.4568, SS 2388, ČSN 17465, BS 301S13, UNE F.3217, GB 07Cr17Ni7Al, AFNOR Z9CNA17-07	



铸铁(K-材料组)

ISO group		WMG (Work Material Group)		Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)	Examples of material (ASTM, EN, DIN, SS, STN, B.S, UNE, CN, AFNOR, GOST, UNI)	
K	K1	■ K1.1	Gray iron or Automotive Gray iron (iron-carbon castings with a lamellar graphite microstructure)	ferritic or ferritic-pearlitic	< 180 HB	≤ 190	ASTM A48 Grade 20, EN-JL-100, DIN GG-10 (0.6010), STN 422410
		■ K1.2		ferritic-pearlitic or pearlitic	180 - 240 HB	> 190 ≤ 310	ASTM A48 Grade 30, EN-JL-1030, DIN GG-20 (0.6020), SS 0120, STN 422420
		■ K1.3		pearlitic	240 - 280 HB	> 310 ≤ 390	ASTM A48 Grade 50, EN-JL-1060, DIN GG-35 (0.6035), SS 0135, STN 422435
	K2	■ K2.1	Malleable iron (iron-carbon castings with a graphite-free microstructure)	ferritic	< 160 HB	≤ 400	ASTM A602 Grade M3210, EN-JM-1130, DIN GTS-35 (0.8135), SS 0815
		■ K2.2		ferritic or pearlitic	160 - 200 HB	> 400 ≤ 550	ASTM A602 Grade M4504 (F20001), EN-JM-1040, DIN GTS-50-05 (0.8045)
		■ K2.3		pearlitic	200 - 240 HB	> 550 ≤ 660	ASTM A602 Grade M7002, EN-JM-1140, DIN GTS-45 (0.8145), STN 422540
	K3	■ K3.1	Ductile iron (iron-carbon castings with a nodular graphite microstructure)	ferritic	< 180 HB	≤ 560	ASTM A536 Grade 60-40-18, EN-JS-1030, DIN GGG-40 (0.7040), STN 422304
		■ K3.2		ferritic or pearlitic	180 - 220 HB	> 560 ≤ 680	ASTM A536 Grade 80-55-06, EN-JS-1050, DIN GGG-50 (0.7050), STN 422305
		■ K3.3		pearlitic	220 - 260 HB	> 680 ≤ 800	ASTM A536 Grade 100-70-03, EN-JS-1060, DIN GGG-60 (0.7060), STN 422306
	K4	■ K4.1	Austenitic gray iron (iron-carbon alloy castings with an austenitic lamellar graphite microstructure)		< 180 HB	≤ 190	ASTM A436 Type 1 (L-NiCuCr 15 6 2), DIN GGL-NiMn 13 7 (0.6652)
		■ K4.2			< 240 HB	≤ 740	ASTM A439 Type D-2B (S-NiCr 20 3), DIN GGG-NiMn 23 4, GOST ЧН19Х3Ш
		■ K4.3		Austempered ductile iron (iron-carbon alloy castings with an ausferrite microstructure)	< 280 HB	> 840 ≤ 980	ASTM A897 Grade 110-70-11
		■ K4.4			280 - 320 HB	> 980 ≤ 1130	ASTM A897 Grade 125-80-10, EN-JS-1100, DIN GGG-90 (5.3400)
		■ K4.5			320 - 360 HB	> 1130 ≤ 1280	ASTM A897 Grade 2 (150-110-07), EN-JS-1110, DIN GGG-100 (5.3403)
	K5	■ K5.1	Compacted graphite iron (iron-carbon castings with a vermicular graphite structure)	ferritic	< 180 HB	≤ 400	ASTM A842 Grade 300, EN-GJV-300, DIN GGV 30, GOST ЧВГ30,
■ K5.2		ferritic-pearlitic		180 - 220 HB	> 400 ≤ 450	ASTM A842 Grade 350, EN-GJV-350, DIN GGV 35 (5.2200), GOST ЧВГ30,	
■ K5.3		pearlitic		220 - 260 HB	> 450 ≤ 500	ASTM A842 Grade 450, EN-GJV-450, DIN GGV 45, GOST ЧВГ45,	



高温合金(S-材料组)

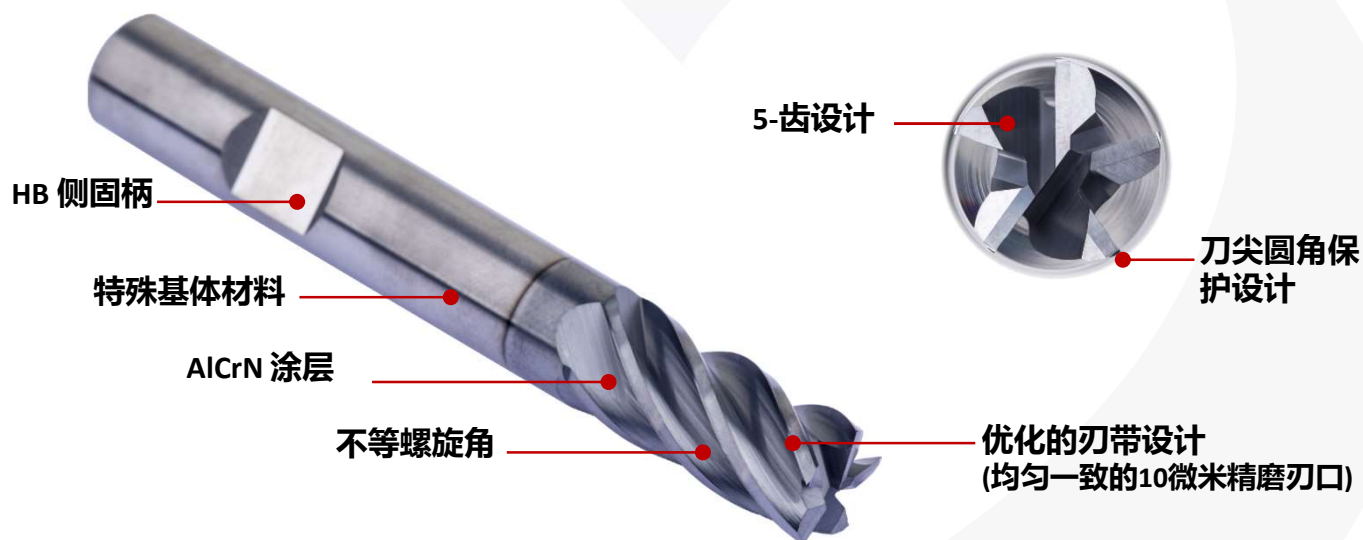
ISO group		WMG (Work Material Group)		Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)	Examples of material (UNS, EN, DIN, SS, STN, B.S, UNE, CN, AFNOR, GOST, UNI)
S	S1	S1.1	Titanium or titanium alloys	< 200 HB	≤ 660	UNS R50250 (Grade 1), EN Ti 99.6, DIN 3.7035, BS TA.2, UNE Ti-Po2, AFNOR T-40, GOST BT1-00
		■ S1.2		200 - 280 HB	> 660 ≤ 950	UNS R56404 (Grade 29), EN Ti2Cu, DIN 3.7124, BS TA.21, UNE Ti-P11, AFNOR T-U2
		S1.3		280 - 360 HB	> 950 ≤ 1200	UNS R54250 (Grade 38), EN TiAl6V4, DIN 3.7165, ČSN TiAl6VELI, BS TA. 13, UNE Ti-P63, AFNOR T-A6V, GOST BT6
	S2	■ S2.1	Fe-based high-temperature alloys	< 200 HB	≤ 690	UNS N08801 (Incoloy 801), EN X8 NiCrAlTi31-21, DIN 1.4959, BS NA 15, AFNOR Z8NC33-21
		S2.2		200 - 280 HB	> 690 ≤ 970	UNS N19907, EN X6NiCrTiMoVB25-15-2, DIN 1.4980, SS 2570, BS HR52, AFNOR Z6NCTDV25.15B, GOST 36HXTIO
	S3	■ S3.1	Ni-based high-temperature alloys	< 280 HB	≤ 940	UNS A09706 (Inconel 706), EN NiCr25FeAl, DIN 2.4856, ČSN Inconel 625, BS HR 6, UNE F.3313, GB 1Cr16Ni35, AFNOR NC22FeDNB, GOST XH38BT
		S3.2		280 - 360 HB	> 940 ≤ 1200	UNS N07001, EN NiCr20Co13Mo4Ti3Al, DIN 2.4654, BS HR 2, ČSN Waspaloy, AFNOR NCKD 20ATV, GOST XH80T6IO
	S4	■ S4.1	Co-based high-temperature alloys	< 240 HB	≤ 800	UNS R30016 (Stellite 6b), EN CoCr20W15Ni, DIN 2.4964, AFNOR KC 20 WN, GOST ЛK52
		S4.2		240 - 320 HB	> 800 ≤ 1070	UNS R30016 (Stellite 6b), EN CoCr20W15Ni, DIN 2.4964, AFNOR KC 20 WN, GOST ЛK52



S770HB

产品特点

HM	N	NOP 5
	λ $\neq$	γ 10°
DIN 6535HB	AlCrN	DC h9
	DORMER	

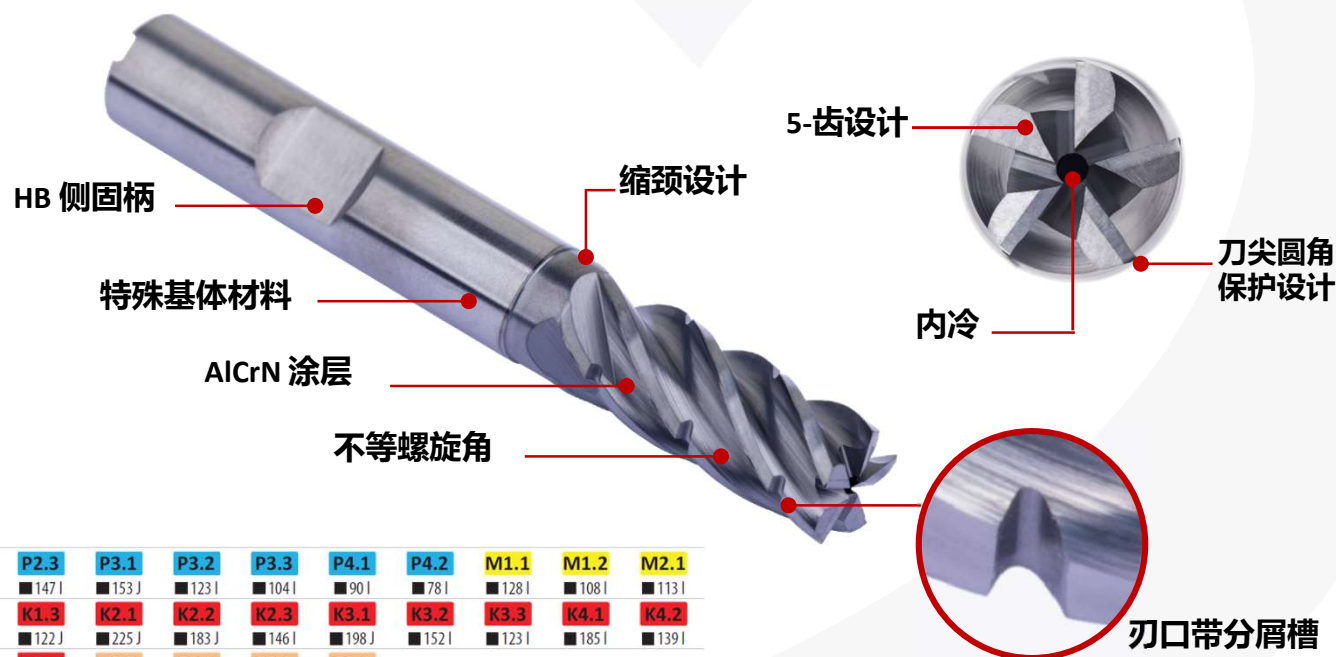
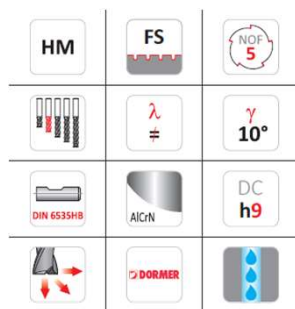


P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 211 I	■ 236 I	■ 243 I	■ 180 I	■ 158 I	■ 140 I	■ 146 I	■ 117 I	■ 99 I	■ 86 I	■ 74 I	■ 122 I	■ 103 I	■ 108 I
M2.2	M3.1	M3.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2
■ 89 I	■ 100 I	■ 86 I	■ 208 I	■ 154 I	■ 116 I	■ 214 I	■ 174 I	■ 139 I	■ 189 I	■ 145 I	■ 117 I	■ 176 I	■ 132 I
K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	S1.2	S2.1	S3.1	S4.1				
■ 97 I	■ 83 G	■ 69 G	■ 199 I	■ 149 I	■ 116 I	■ 72 I	■ 56 G	■ 42 G	■ 33 G				

DCON MS tolerance h6; RE ±0.01mm

S771HB

产品特点



P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 222 J	■ 248 J	■ 255 J	■ 189 J	■ 166 J	■ 147 J	■ 153 J	■ 123 J	■ 104 J	■ 90 J	■ 78 J	■ 128 J	■ 108 J	■ 113 J
M2.2	M3.1	M3.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2
■ 93 J	■ 105 J	■ 90 J	■ 218 J	■ 162 J	■ 122 J	■ 225 J	■ 183 J	■ 146 J	■ 198 J	■ 152 J	■ 123 J	■ 185 J	■ 139 J
K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	S1.2	S2.1	S3.1	S4.1				
■ 102 J	■ 87 J	■ 72 J	■ 209 J	■ 156 J	■ 122 J	■ 76 J	■ 59 J	■ 44 G	■ 35 G				

DCON MS tolerance h6; RE $\pm 0.01\text{mm}$

S772HB

产品特点

HM	N	NOF 5
	$\lambda \neq$	$\gamma 10^\circ$
DIN 6535HB	AlCrN	DC h9
	DORMER	



HB 侧固柄

特殊基体材料

AlCrN 涂层

不等螺旋角

5-齿设计

刀尖圆角保护设计

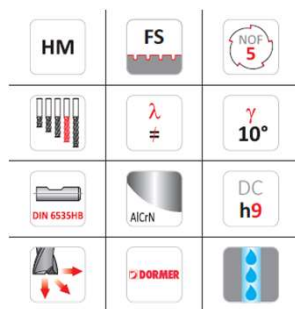
优化的刃带设计
(均匀一致的10微米精磨刃口)

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 148 G	■ 165 G	■ 170 G	■ 126 G	■ 111 G	■ 98 F	■ 102 G	■ 82 F	■ 69 F	■ 60 F	■ 52 F	■ 85 G	■ 72 G	■ 76 G
M2.2	M3.1	M3.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2
■ 62 G	■ 70 G	■ 60 G	■ 146 G	■ 108 G	■ 81 G	■ 150 G	■ 122 G	■ 97 F	■ 132 G	■ 102 G	■ 82 F	■ 123 F	■ 92 F
K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	S1.2	S2.1	S3.1	S4.1				
■ 68 F	■ 58 G	■ 48 G	■ 139 F	■ 104 F	■ 81 F	■ 50 F	■ 39 F	■ 29 F	■ 23 F				

DCON MS tolerance h6; RE ±0.01mm

S773HB

产品特点



P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 155 G	■ 173 G	■ 179 G	■ 132 G	■ 117 G	■ 103 F	■ 107 G	■ 86 F	■ 72 F	■ 63 F	■ 55 F	■ 89 F	■ 76 F	■ 80 F
M2.2	M3.1	M3.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2
■ 65 F	■ 74 F	■ 63 F	■ 153 G	■ 113 G	■ 85 G	■ 158 G	■ 128 G	■ 102 F	■ 139 G	■ 107 G	■ 86 F	■ 129 F	■ 97 F
K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	S1.2	S2.1	S3.1	S4.1				
■ 71 F	■ 61 F	■ 50 F	■ 146 F	■ 109 F	■ 85 F	■ 53 F	■ 41 F	■ 30 F	■ 24 F				

DCON MS tolerance h6; RE ±0.01mm

S77x - 5齿整硬摆线铣刀

DORMER PRAMET

www.dormerpramet.com

Full YouTube clip

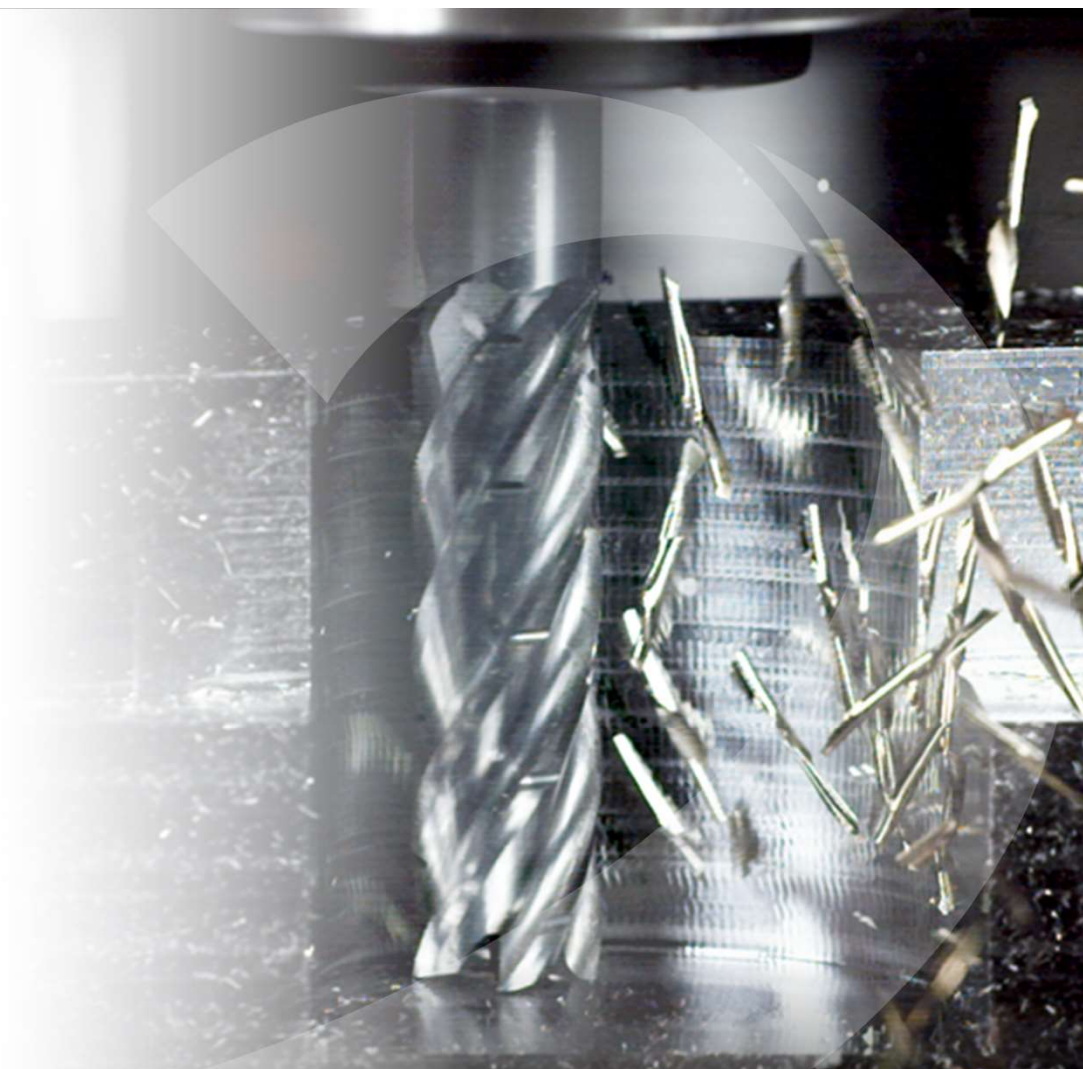


YouTube

DORMER PRAMET

测试情况

S77x 5-齿摆线铣刀

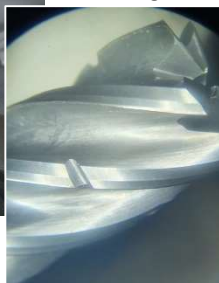


S771HB – 5 齿带分屑槽短刃铣刀

实验室数据



Cutter edge after trail



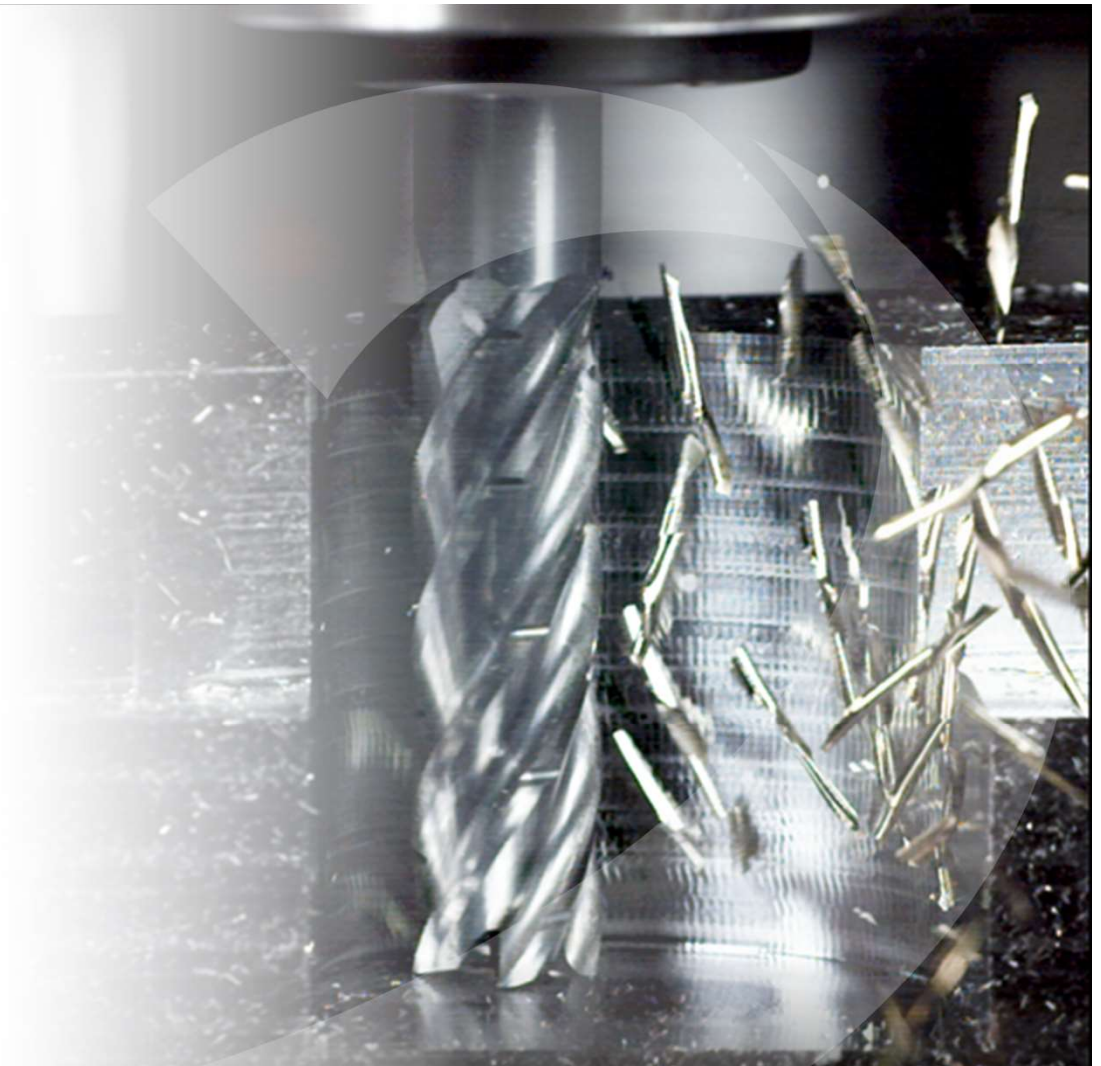
Work-material INCONEL 718
WMG S3.2

OPERATION	a_p mm	a_e mm	DC mm	RPM	V_c m/min	V_f mm/min	f_z mm/z	h_{max} mm	Q cm ³ /min
方肩铣 Dormer S771HB10.0	20.00 (2 x DC)	1.00 (0.10 x DC)	10.0	1600	50	640	0.080	0.048	12.800

DORMER PRAMET

加工推荐

S77x 5-齿摆线铣刀



新图标

如何识别

基体材料

HM HM 硬质合金

刀具类型

W W 软材料槽型

NRA NRA HRA粗加工刃型

FS FS FS断屑槽

W NRA W-槽型 + HRA粗加工刃型

齿

Z 2 NOF 2 齿数

Z 4 NOF 4 ≠ 齿数 + 不等齿距设计

刀具长度

切削长度

切削角度

$\lambda 12^\circ$ $\lambda 25^\circ$ 螺旋角

$\gamma 10^\circ$ $\gamma 20^\circ$ 前角

$\lambda \neq 10^\circ$ $\lambda \neq$ 不等螺旋角

刀柄

DIN 6535HA 标准柄

表面处理

表面光亮处理

表面抛光处理

涂层

TiSiN TiSiN 涂层

冷却

内冷

刀具公差

h9 DC h9 切削直径公差

切削方向

切削方向

刀具标准

DIN 6527K DIN 6527K 长度标准

DORMER DORMER 长度标准

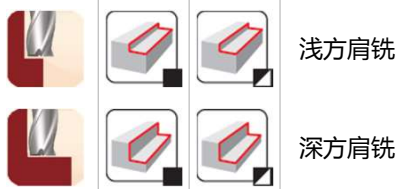
新图标

加工推荐

开槽工序



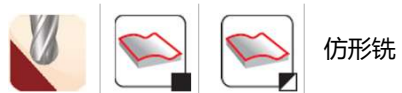
方肩铣



面铣



仿形铣



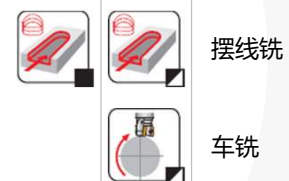
坡走铣



插铣



其他工序



切削数据

怎样识别数据?

新WMG 材料组

■ 首选

▣ 次选

切削数据仅在产品页

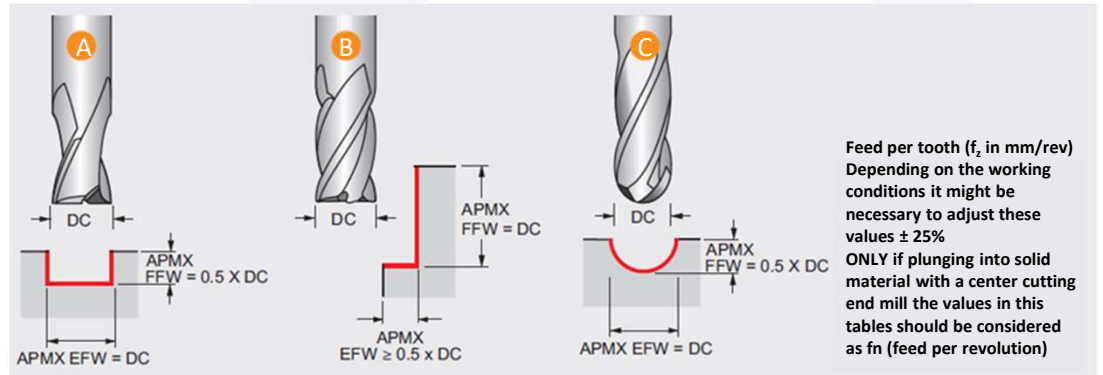
P1.1 ■ 199 J	P1.2 ■ 223 J	P1.3 ■ 230 J	P2.1 ■ 170 J	P2.2 ■ 150 J	P2.3 ■ 133 I	P3.1 ■ 138 J
M2.2 ■ 84 I	M3.1 ■ 94 I	M3.2 ■ 81 I	K1.1 ■ 196 J	K1.2 ■ 145 J	K1.3 ■ 109 J	K2.1 ■ 202 J
K4.3 ■ 91 I	K4.4 ■ 78 I	K4.5 ■ 65 I	K5.1 ■ 187 I	K5.2 ■ 141 I	K5.3 ■ 109 I	S1.2 ■ 69 I

Product Family Code														
		S722HB	S765HB	S768	S770HB	S771HB	S772HB	S773HB	S791	S561	S610	S611	S614	S629
		3.00 - 20.00	6.00 - 20.00	4.00 - 20.00	10.00 - 20.00	10.00 - 20.00	10.00 - 20.00	10.00 - 20.00	6.00 - 16.00	1.00 - 20.00	2.00 - 20.00	3.00 - 20.00	3.00 - 16.00	1.00 - 20.00
														
P	P1	■	■	■	■	■	■	■	新的预览页仅展示适用性，不包括 具体具体参数					
	P2	■	■	■	■	■	■	■						
	P3	■	■	■	■	■	■	■						
	P4	■	■	■	■	■	■	■						
M	M1	■	■	■	■	■	■	■	■					
	M2	■	■	■	■	■	■	■	■					
	M3	■	■	■	■	■	■	■	▣					
	M4	■	■	■	■	■	■	■	▣					
K	K1	■	■	■	■	■	■	■	■					
	K2	■	■	■	■	■	■	■	■					
	K3	■	■	■	■	■	■	■	■					
	K4	■	■	■	■	■	■	■	■					
	K5	■	■	■	■	■	■	■	■					
N	N1								▣		■	■	■	■
	N2								▣		■	■	■	■
	N3								▣		■	■	■	■
	N4								▣		■	■	■	■
	N5								▣		■	■	■	■
S	S1	■	■	■	■	■	■	■	▣					
	S2	■	■	■	■	■	■	■	▣					
	S3	■	■	■	■	■	■	■	▣					
	S4	■	■	■	■	■	■	■	▣					
H	H1									■				
	H2									■				
	H3									■				
	H4									■				

新的预览页仅展示适用性，不包括具体参数

切削数据

如何计算速度和进给等参数?



How to use this table to find the feed per tooth (f_z):

1. Find your Alpha Code on the product page (example: 170J, „J“ is the Alpha Code).
2. Find the closest diameter for your cutting application in the top row of the table.
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter and Alpha Code is the feed per tooth (f_z).

FOR SOLID
CARBIDE
MILLING
CUTTERS ONLY

P1.1	P1.2	P1.3	P2.1	P2.2
■ 199 J	■ 223 J	■ 230 J	■ 170 J	■ 150 J
M2.2	M3.1	M3.2	K1.1	K1.2
■ 84 I	■ 94 I	■ 81 I	■ 196 J	■ 145 J
K4.3	K4.4	K4.5	K5.1	K5.2
■ 91 I	■ 78 I	■ 65 I	■ 187 I	■ 141 I

	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	12.00	14.00	16.00	18.00	20.00	22.00	25.00
I	0.003	0.006	0.011	0.019	0.024	0.030	0.032	0.036	0.039	0.042	0.049	0.054	0.061	0.066	0.073	0.079	0.088
J	0.004	0.009	0.014	0.026	0.033	0.041	0.044	0.048	0.053	0.057	0.066	0.074	0.083	0.090	0.099	0.107	0.120
K	0.006	0.012	0.019	0.035	0.044	0.054	0.059	0.064	0.070	0.076	0.088	0.098	0.110	0.120	0.132	0.142	0.160

校正因子

如何校正速度和进给?

1 Slot Milling

Correction factors for cutting speed V_c and feed per tooth for slot milling operations at different depths of cut

APMX FFW / DC	25%	50%	100%	150%				
	1.25	1.00	0.75	0.50				
	1.25	1.00	0.75	0.50				

2 Shoulder Milling

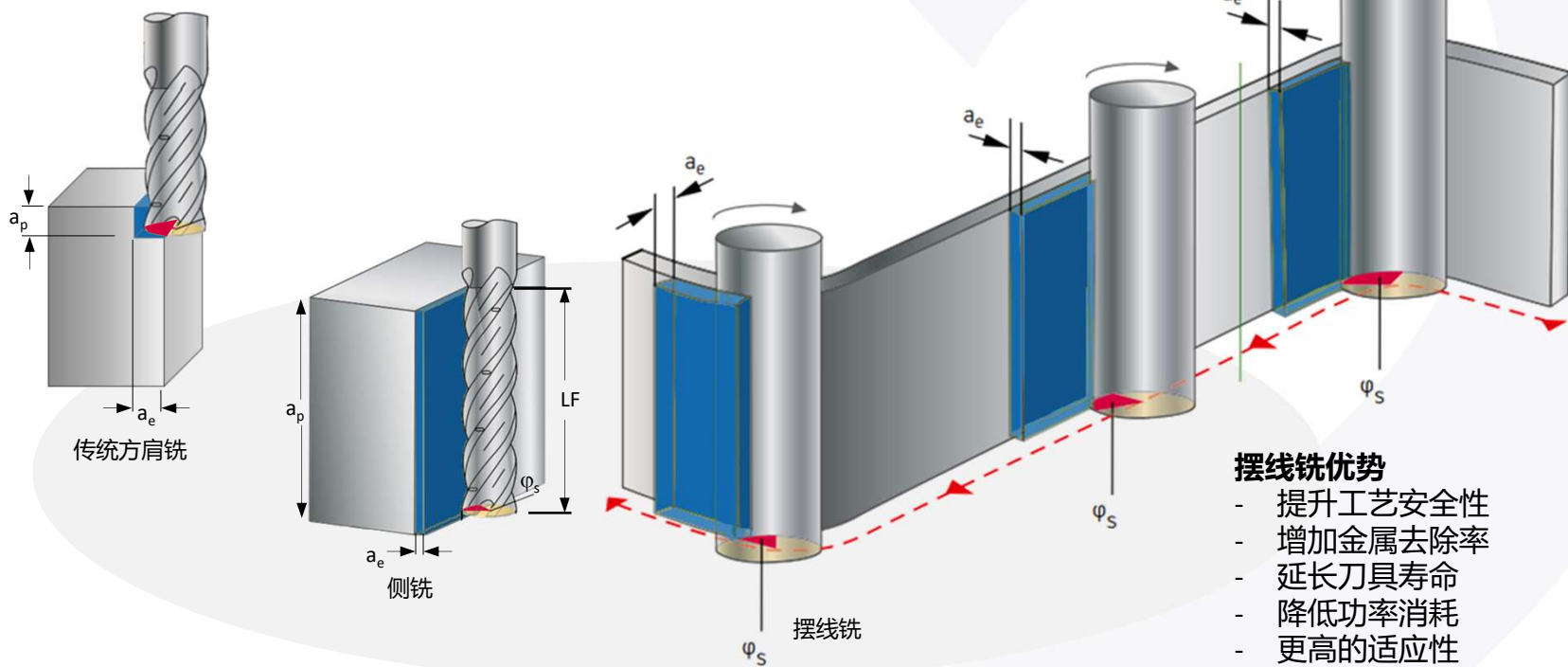
Correction factors for cutting speed V_c and feed per tooth for square shoulder milling with <50% radial immersion

APMX EFW / DC	5%	10%	15%	20%	25%	30%	40%	≥ 50%
	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.00
	2.29	1.67	1.40	1.25	1.15	1.09	1.02	1.00

We recommend to avoid milling with 50% radial immersion

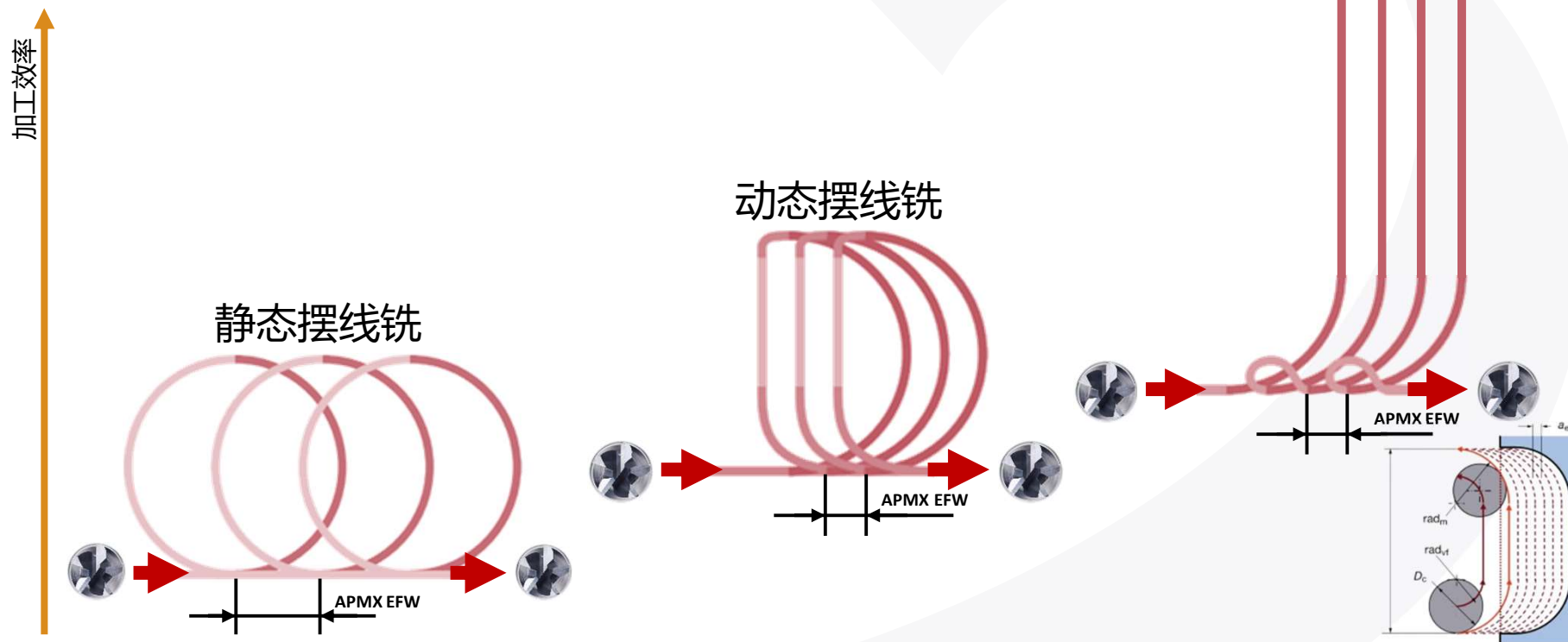
摆线铣削

加工推荐



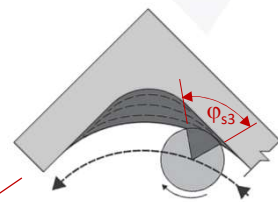
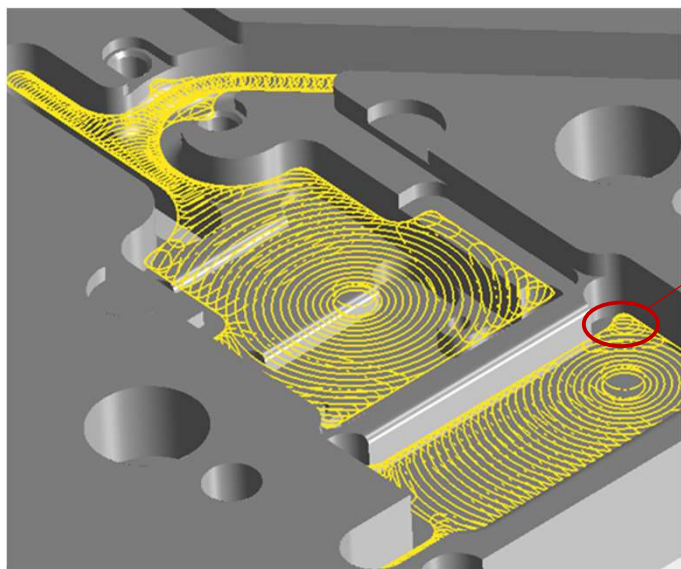
摆线铣削路径

加工推荐

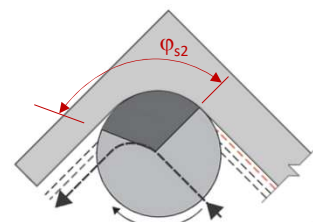


内部圆角铣削

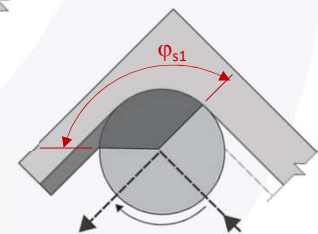
加工推荐



平稳过渡
i.c.w. 动态铣削



传统铣削-圆弧过渡

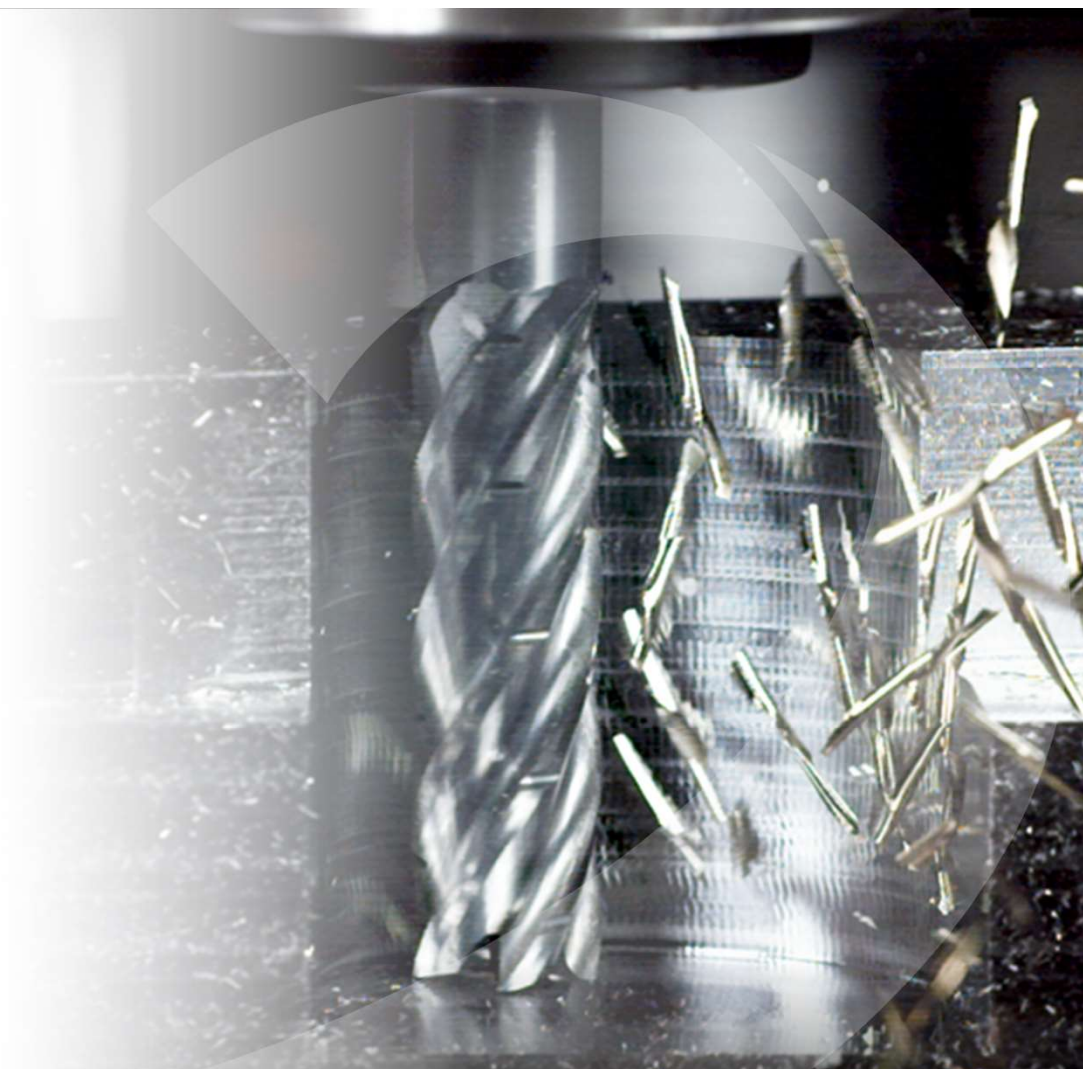


传统铣削



销售信息

S77x 5-齿摆线铣刀



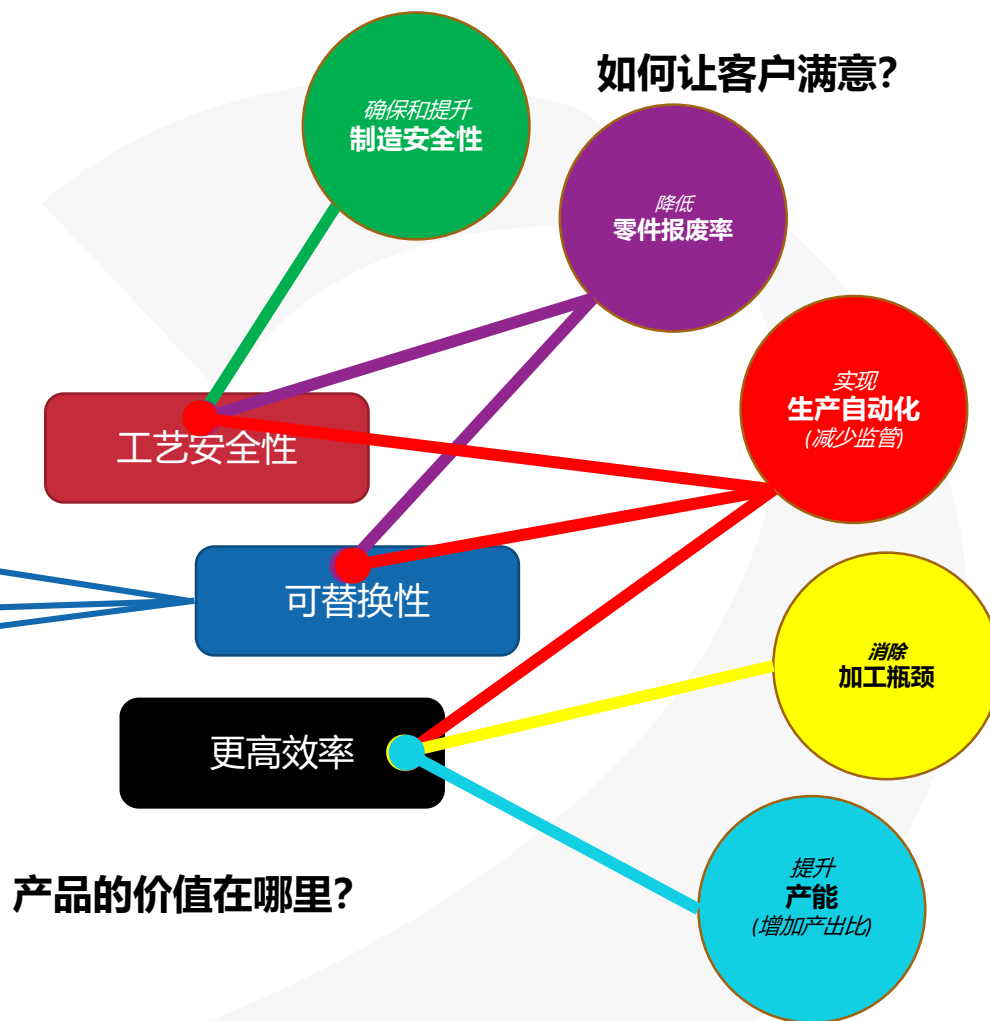
销售信息

产品的卖点在哪里？

产品特点	产品优势
5-齿设计	实现更高进给(相比4齿铣刀可提升1.25倍) 适用于方肩铣和摆线铣工序
正前角	实现光顺切削 减少加工硬化风险
小刀尖圆角	实现稳定性能 降低崩口并延长刀具寿命
不等螺旋角	实现连续加工 实现出色的表面精度
缩颈设计	避免干涉 可加工深窄腔体
FS-分屑槽	实现有效断屑 降低主轴负载 增加金属去除率 相比没有分屑槽的铣刀可提升至少50%的加工效率
内冷却	提升抗粘结性能(BUE) 实现更广泛的应用, 尤其是加工难加工材料 提升排屑性能

S771HB/S773HB

如何让客户满意？



产品的价值在哪里？

DORMER PRAMET



SIMPLY
RELIABLE



/DormerPrametSocial



Dormer Pramet



@DormerPramet



Dormer Pramet



dormerpramet.com

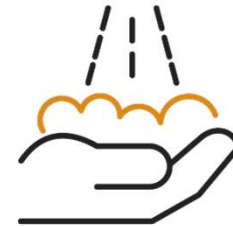
COVID-19 PRECAUTIONS



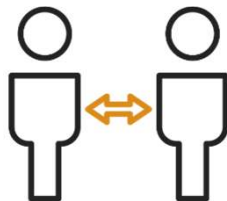
**FOLLOW LOCAL
GUIDELINES**



**STAY HOME WHEN
FEELING SICK**



**WASH YOUR HANDS
CAREFULLY**



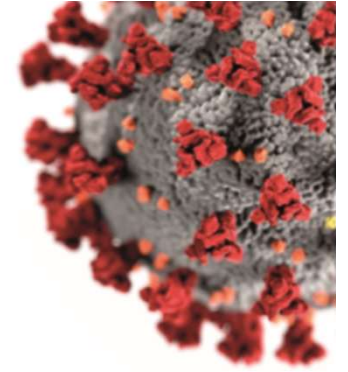
**OBSERVE PHYSICAL
DISTANCING GUIDELINES**



**COUGH AND SNEEZE
CORRECTLY**



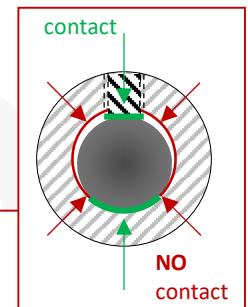
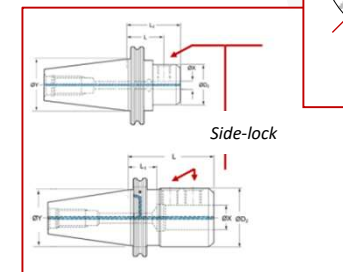
**AVOID TOUCHING
YOUR FACE**



侧固刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
侧固刀柄	6 - 20	•	•	•		•	•	•	•	•	•	•
	25 - 40		•	•			•	•	•	•	•	•
侧固刀柄 with peripheral coolant	6 - 20		•	•			•	•			•	•
	25 - 40		•	•			•	•			•	•



W



Torques for DIN 1835

Bore	Screw	Torque
Ø 6 mm	M 6 SW 3	10 Nm
Ø 8 mm	M 8 SW 4	10 Nm
Ø 10 mm	M 10 SW 5	16 Nm
Ø 12 mm	M 12 SW 6	28 Nm
Ø 14 mm	M 12 SW 6	28 Nm
Ø 16 mm	M 14 SW 6	42 Nm
Ø 18 mm	M 14 SW 6	42 Nm
Ø 20 mm	M 16 SW 8	50 Nm
Ø 25 mm	M 18 × 2 SW 10	60 Nm
Ø 32 mm	M 20 × 2 SW 10	72 Nm
Ø 40 mm	M 20 × 2 SW 10	72 Nm
Ø 50 mm	M 24 × 2 SW 12	90 Nm



W-C

With peripheral coolant channels
(for tools without through coolant)

- High torque transmission
- Easy handling
- Low cost
- Poor balance and radial run-out
- Every shank size needs one chuck
- Not suited for high speeds
- Heavy roughing- semi finishing



HKS 强力刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
High-performance Chuck	3 – 20		•	•			•	•			•	•
	25 – 32		•	•			•	•			•	•

HKS



Form AD/B
 $\nabla \leq 0,003$
 G6,3 15.000 min⁻¹



HKS-C

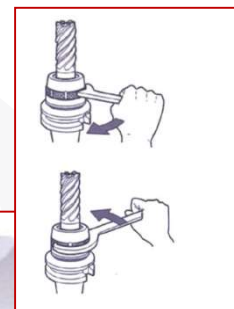
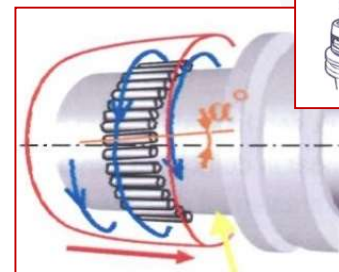


HKS-C-S

Sealed for tough coolant

Size	20mm	25mm
Clamping torque	50-70 Nm	80-100 Nm
Clamping force	780 Nm	2000 Nm

- Easy handling
- For h6 shanks
- **For operations involving high MRR**
- High retention force
- High torque transmission
- Highest stability
- Accurate
- Flexible



SC 热胀刀柄 HOLDERS

Tooling systems

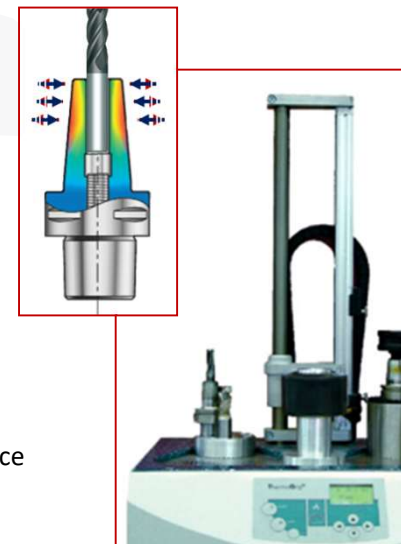
Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	3 - 20	•	•	•		•	•	•			•	•
	25 - 32		•	•			•	•			•	•

SC



Form AD/B
 $\nabla \leq 0,003$
 G6,3 15.000 min⁻¹

- Requires a shrink-fit device
- For h6 shanks
- For finishing
- High torque transmission
- High levels of accuracy
- Extremely rigid



HC 液压刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	6 – 20	•	•	•		•	•	•			•	•
	25 – 32		•	•			•	•			•	•
	40			•								

HC



Form AD/B
 $\nabla \leq 0,003$
 G6.3
 15.000 min⁻¹



HC-C



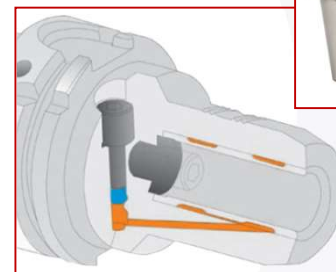
HC-C-S

Sealed for tough coolant

Torque

Clamping- $\varnothing$ mm	Moment (Nm)
6	10
8	20
10	40
12	50
14	80
16	100
18	150
20	200
25	250
32	400
40	550

- Easy handling
- For h6 shanks
- **For finishing and super finishing**
- Medium-high torque transmission
- High run-out accuracy
- Dampen vibrations in low speed range



ER COLLET CHUCK

Tooling systems

ER Collet chuck are not the first choice to recommend for holding indexable milling cutters. However if a customer wants to, we should recommend to use at least high precision collets (ER-C-P or ER-C-SC4)!

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A		DIN 228-1				
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100	MT2	MT3	MT4	MT5	MT6
ER Collet Chuck	1 – 10 (ER16)	●	●	●		●	●	●			●		●				
	2 – 16 (ER25)	●	●	●		●	●	●	●		●	●	●	●	●		
	2 – 20 (ER32)	●	●	●		●	●	●	●	●	●	●		●	●		
	3 – 26 (ER40)	●	●	●		●	●	●	●	●	●	●				●	

CC-ER



Form AD/B
 $\nabla \leq 0,003$
 G6,3
 15.000 min⁻¹



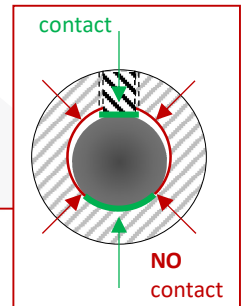
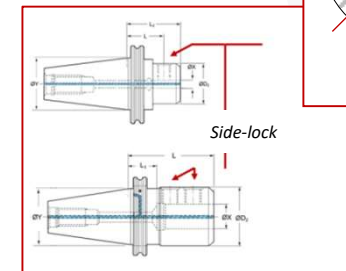
- Medium torque transmission
- Low to medium run-out accuracy
- Assembly requires some instruction (read instructions) 
- Moderate repeatability
- Dampen vibration
- Not suited for high speeds
- Flexible (broader range of collets than OZ system)
- Clean carefully
- Rotate the tool to achieve best run-out



侧固刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
侧固刀柄	6 - 20	•	•	•		•	•	•	•	•	•	•
	25 - 40		•	•			•	•	•	•	•	•
侧固刀柄 with peripheral coolant	6 - 20		•	•			•	•			•	•
	25 - 40		•	•			•	•			•	•



W



Torques for DIN 1835

Bore	Screw	Torque
Ø 6 mm	M 6 SW 3	10 Nm
Ø 8 mm	M 8 SW 4	10 Nm
Ø 10 mm	M 10 SW 5	16 Nm
Ø 12 mm	M 12 SW 6	28 Nm
Ø 14 mm	M 12 SW 6	28 Nm
Ø 16 mm	M 14 SW 6	42 Nm
Ø 18 mm	M 14 SW 6	42 Nm
Ø 20 mm	M 16 SW 8	50 Nm
Ø 25 mm	M 18 × 2 SW 10	60 Nm
Ø 32 mm	M 20 × 2 SW 10	72 Nm
Ø 40 mm	M 20 × 2 SW 10	72 Nm
Ø 50 mm	M 24 × 2 SW 12	90 Nm



W-C

With peripheral coolant channels
(for tools without through coolant)

- High torque transmission
- Easy handling
- Low cost
- Poor balance and radial run-out
- Every shank size needs one chuck
- Not suited for high speeds
- Heavy roughing- semi finishing



HKS 强力刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
High-performance Chuck	3 – 20		•	•			•	•			•	•
	25 – 32		•	•			•	•			•	•

HKS



Form AD/B
 $\nabla \leq 0,003$
 G6.3
 15.000 min⁻¹



HKS-C

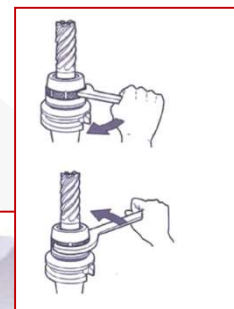
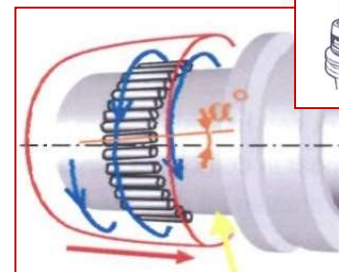


HKS-C-S

Sealed for tough coolant

Size	20mm	25mm
Clamping torque	50-70 Nm	80-100 Nm
Clamping force	780 Nm	2000 Nm

- Easy handling
- For h6 shanks
- **For operations involving high MRR**
- High retention force
- High torque transmission
- Highest stability
- Accurate
- Flexible



SC 热胀刀柄 HOLDERS

Tooling systems

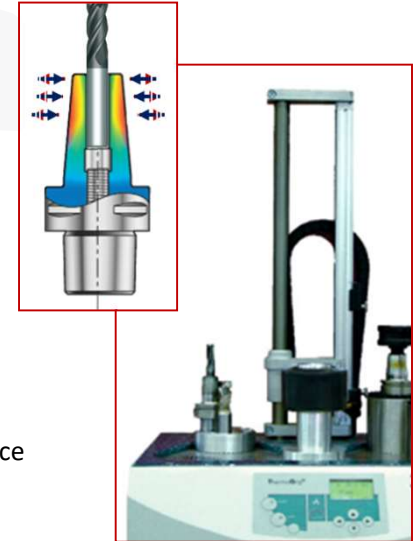
Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	3 - 20	•	•	•		•	•	•			•	•
	25 - 32		•	•			•	•			•	•

SC



Form AD/B
 $\nabla \leq 0,003$
 G6,3 15.000 min⁻¹

- Requires a shrink-fit device
- For h6 shanks
- For finishing
- High torque transmission
- High levels of accuracy
- Extremely rigid



HC 液压刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	6 – 20	•	•	•		•	•	•			•	•
	25 – 32		•	•			•	•			•	•
	40			•								

HC



Form AD/B
 $\nabla \leq 0,003$
 G6.3
 15.000 min⁻¹



HC-C



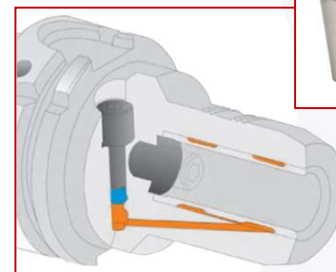
HC-C-S

Sealed for tough coolant

Torque

Clamping- $\varnothing$ mm	Moment (Nm)
6	10
8	20
10	40
12	50
14	80
16	100
18	150
20	200
25	250
32	400
40	550

- Easy handling
- For h6 shanks
- **For finishing and super finishing**
- Medium-high torque transmission
- High run-out accuracy
- Dampen vibrations in low speed range



ER COLLET CHUCK

Tooling systems

ER Collet chuck are not the first choice to recommend for holding indexable milling cutters. However if a customer wants to, we should recommend to use at least high precision collets (ER-C-P or ER-C-SC4)!

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A		DIN 228-1				
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100	MT2	MT3	MT4	MT5	MT6
ER Collet Chuck	1 – 10 (ER16)	●	●	●		●	●	●			●		●				
	2 – 16 (ER25)	●	●	●		●	●	●	●		●	●	●	●	●		
	2 – 20 (ER32)	●	●	●		●	●	●	●	●	●	●		●	●		
	3 – 26 (ER40)	●	●	●		●	●	●	●	●	●	●				●	

CC-ER



Form AD/B
 $\nabla \leq 0,003$
 G6,3
 15.000 min⁻¹



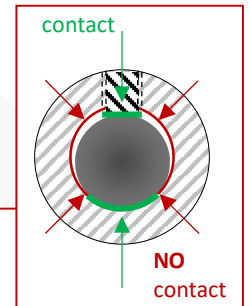
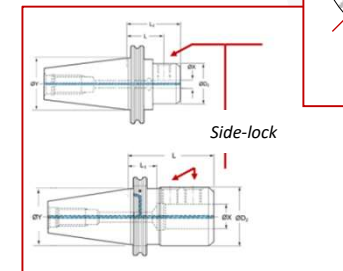
- Medium torque transmission
- Low to medium run-out accuracy
- Assembly requires some instruction (read instructions) 
- Moderate repeatability
- Dampen vibration
- Not suited for high speeds
- Flexible (broader range of collets than OZ system)
- Clean carefully
- Rotate the tool to achieve best run-out



侧固刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
侧固刀柄	6 - 20	•	•	•		•	•	•	•	•	•	•
	25 - 40		•	•			•	•	•	•	•	•
侧固刀柄 with peripheral coolant	6 - 20		•	•			•	•			•	•
	25 - 40		•	•			•	•			•	•



W



Torques for DIN 1835

Bore	Screw	Torque
Ø 6 mm	M 6 SW 3	10 Nm
Ø 8 mm	M 8 SW 4	10 Nm
Ø 10 mm	M 10 SW 5	16 Nm
Ø 12 mm	M 12 SW 6	28 Nm
Ø 14 mm	M 12 SW 6	28 Nm
Ø 16 mm	M 14 SW 6	42 Nm
Ø 18 mm	M 14 SW 6	42 Nm
Ø 20 mm	M 16 SW 8	50 Nm
Ø 25 mm	M 18 × 2 SW 10	60 Nm
Ø 32 mm	M 20 × 2 SW 10	72 Nm
Ø 40 mm	M 20 × 2 SW 10	72 Nm
Ø 50 mm	M 24 × 2 SW 12	90 Nm



W-C

With peripheral coolant channels
(for tools without through coolant)

- High torque transmission
- Easy handling
- Low cost
- Poor balance and radial run-out
- Every shank size needs one chuck
- Not suited for high speeds
- Heavy roughing- semi finishing



HKS 强力刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
High-performance Chuck	3 – 20		•	•			•	•			•	•
	25 – 32		•	•			•	•			•	•

HKS



Form AD/B
 $\nabla \leq 0,003$
 G6,3 15.000 min⁻¹



HKS-C

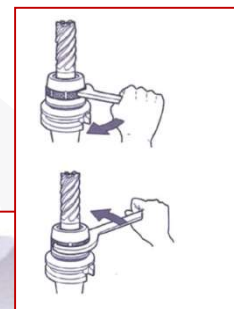
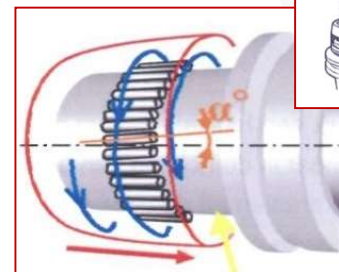


HKS-C-S

Sealed for tough coolant

Size	20mm	25mm
Clamping torque	50-70 Nm	80-100 Nm
Clamping force	780 Nm	2000 Nm

- Easy handling
- For h6 shanks
- **For operations involving high MRR**
- High retention force
- High torque transmission
- Highest stability
- Accurate
- Flexible



SC 热胀刀柄 HOLDERS

Tooling systems

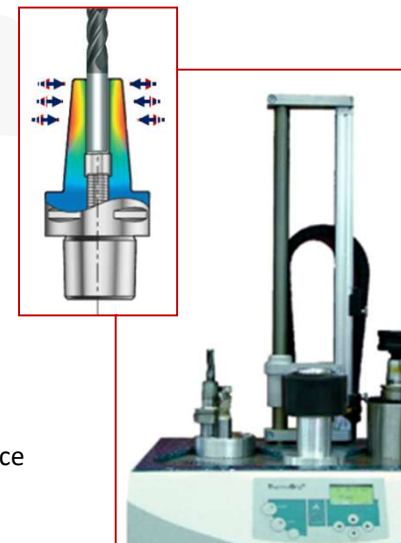
Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	3 - 20	•	•	•		•	•	•			•	•
	25 - 32		•	•			•	•			•	•

SC



Form AD/B
 $\nabla \leq 0,003$
 G6,3 15.000 min⁻¹

- Requires a shrink-fit device
- For h6 shanks
- For finishing
- High torque transmission
- High levels of accuracy
- Extremely rigid



HC 液压刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	6 – 20	•	•	•		•	•	•			•	•
	25 – 32		•	•			•	•			•	•
	40			•								

HC



Form AD/B
 $\nabla \leq 0,003$
 G6.3
 15.000 min⁻¹



HC-C



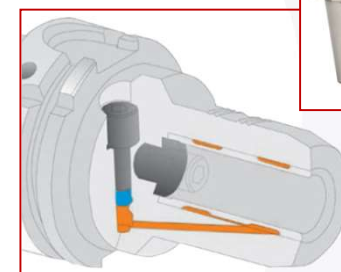
HC-C-S

Sealed for tough coolant

Torque

Clamping- $\varnothing$ mm	Moment (Nm)
6	10
8	20
10	40
12	50
14	80
16	100
18	150
20	200
25	250
32	400
40	550

- Easy handling
- For h6 shanks
- **For finishing and super finishing**
- Medium-high torque transmission
- High run-out accuracy
- Dampen vibrations in low speed range



ER COLLET CHUCK

Tooling systems

ER Collet chuck are not the first choice to recommend for holding indexable milling cutters. However if a customer wants to, we should recommend to use at least high precision collets (ER-C-P or ER-C-SC4)!

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A		DIN 228-1					
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100	MT2	MT3	MT4	MT5	MT6	
ER Collet Chuck	1 – 10 (ER16)	●	●	●		●	●	●			●		●					
	2 – 16 (ER25)	●	●	●		●	●	●	●		●	●	●	●	●			
	2 – 20 (ER32)	●	●	●		●	●	●	●	●	●	●		●	●			
	3 – 26 (ER40)	●	●	●		●	●	●	●	●	●	●				●		

CC-ER



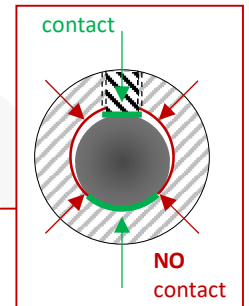
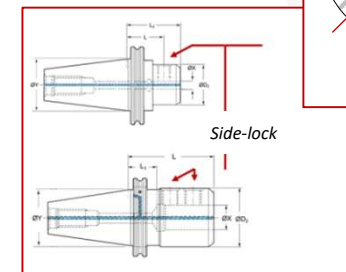
- Medium torque transmission
- Low to medium run-out accuracy
- Assembly requires some instruction (read instructions) 
- Moderate repeatability
- Dampen vibration
- Not suited for high speeds
- Flexible (broader range of collets than OZ system)
- Clean carefully
- Rotate the tool to achieve best run-out



侧固刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
侧固刀柄	6 - 20	•	•	•		•	•	•	•	•	•	•
	25 - 40		•	•			•	•	•	•	•	•
侧固刀柄 with peripheral coolant	6 - 20		•	•			•	•			•	•
	25 - 40		•	•			•	•			•	•



W



Torques for DIN 1835

Bore	Screw	Torque
Ø 6 mm	M 6 SW 3	10 Nm
Ø 8 mm	M 8 SW 4	10 Nm
Ø 10 mm	M 10 SW 5	16 Nm
Ø 12 mm	M 12 SW 6	28 Nm
Ø 14 mm	M 12 SW 6	28 Nm
Ø 16 mm	M 14 SW 6	42 Nm
Ø 18 mm	M 14 SW 6	42 Nm
Ø 20 mm	M 16 SW 8	50 Nm
Ø 25 mm	M 18 × 2 SW 10	60 Nm
Ø 32 mm	M 20 × 2 SW 10	72 Nm
Ø 40 mm	M 20 × 2 SW 10	72 Nm
Ø 50 mm	M 24 × 2 SW 12	90 Nm



W-C

With peripheral coolant channels
(for tools without through coolant)

- High torque transmission
- Easy handling
- Low cost
- Poor balance and radial run-out
- Every shank size needs one chuck
- Not suited for high speeds
- Heavy roughing- semi finishing



HKS 强力刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
High-performance Chuck	3 – 20		•	•			•	•			•	•
	25 – 32		•	•			•	•			•	•

HKS



Form AD/B
 $\nabla \leq 0,003$
 G6.3
 15.000 min⁻¹



HKS-C

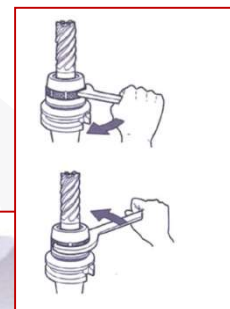
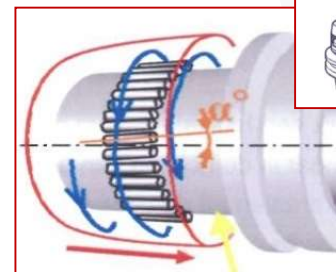


HKS-C-S

Sealed for through coolant

Size	20mm	25mm
Clamping torque	50-70 Nm	80-100 Nm
Clamping force	780 Nm	2000 Nm

- Easy handling
- For h6 shanks
- **For operations involving high MRR**
- High retention force
- High torque transmission
- Highest stability
- Accurate
- Flexible



SC 热胀刀柄 HOLDERS

Tooling systems

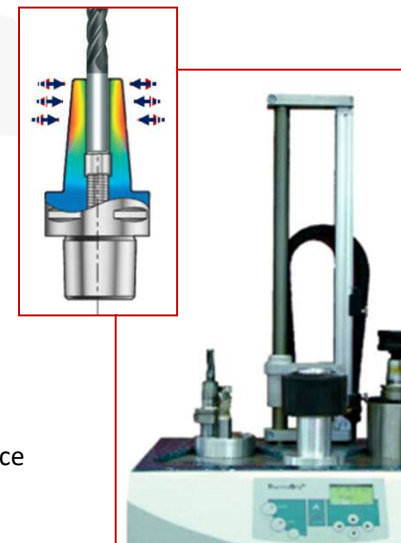
Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	3 - 20	•	•	•		•	•	•			•	•
	25 - 32		•	•			•	•			•	•

SC



Form AD/B
 $\nabla \leq 0,003$
 G6,3 15.000 min⁻¹

- Requires a shrink-fit device
- For h6 shanks
- For finishing
- High torque transmission
- High levels of accuracy
- Extremely rigid



HC 液压刀柄

Tooling systems

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A	
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100
液压刀柄	6 – 20	•	•	•		•	•	•			•	•
	25 – 32		•	•			•	•			•	•
	40			•								

HC



HC-C



HC-C-S

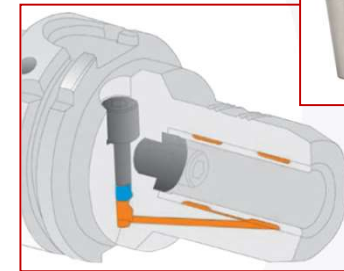
Sealed for tough coolant



Torque

Clamping- $\varnothing$ mm	Moment (Nm)
6	10
8	20
10	40
12	50
14	80
16	100
18	150
20	200
25	250
32	400
40	550

- Easy handling
- For h6 shanks
- **For finishing and super finishing**
- Medium-high torque transmission
- High run-out accuracy
- Dampen vibrations in low speed range



ER COLLET CHUCK

Tooling systems

ER Collet chuck are not the first choice to recommend for holding indexable milling cutters. However if a customer wants to, we should recommend to use at least high precision collets (ER-C-P or ER-C-SC4)!

Description	Diameter range	DIN 69871				JIS B 6339			DIN 2080		DIN 69893-A		DIN 228-1				
		SK30	SK40	SK50	SK60	BT30	BT40	BT50	SK40	SK50	HSK63	HSK100	MT2	MT3	MT4	MT5	MT6
ER Collet Chuck	1 – 10 (ER16)	●	●	●		●	●	●			●		●				
	2 – 16 (ER25)	●	●	●		●	●	●	●		●	●	●	●	●		
	2 – 20 (ER32)	●	●	●		●	●	●	●	●	●	●		●	●		
	3 – 26 (ER40)	●	●	●		●	●	●	●	●	●	●				●	

CC-ER



Form AD/B
 $\nabla \leq 0,003$
 G6,3
 15.000 min⁻¹



- Medium torque transmission
- Low to medium run-out accuracy
- Assembly requires some instruction (read instructions) 
- Moderate repeatability
- Dampen vibration
- Not suited for high speeds
- Flexible (broader range of collets than OZ system)
- Clean carefully
- Rotate the tool to achieve best run-out



CORRECTION FACTORS

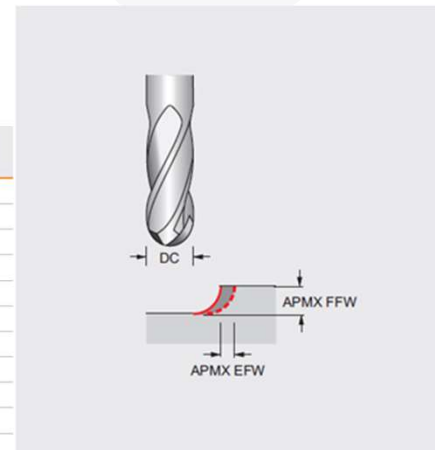
How to use the correction factors for ball nose cutters?

3b

Line offset f_e (step over distance) for achieving a theoretical surface roughness R_{th}

$\varnothing DC$	μm	2	4	8	16	32	63	125	250
2		0.13	0.18	0.25	0.36	0.50	0.70	0.97	1.32
3		0.15	0.22	0.31	0.44	0.62	0.86	1.20	1.66
4		0.18	0.25	0.36	0.50	0.71	1.00	1.39	1.94
5		0.20	0.28	0.40	0.56	0.80	1.12	1.56	2.18
6		0.22	0.31	0.44	0.62	0.87	1.22	1.71	2.40
8		0.25	0.36	0.51	0.71	1.01	1.41	1.98	2.78
10		0.28	0.40	0.57	0.80	1.13	1.58	2.22	3.12
12		0.31	0.44	0.62	0.88	1.24	1.73	2.44	3.43
14		0.33	0.47	0.67	0.95	1.34	1.87	2.63	3.71
16		0.36	0.51	0.72	1.01	1.43	2.00	2.82	3.97
18		0.38	0.54	0.76	1.07	1.52	2.13	2.99	4.21
20		0.40	0.57	0.80	1.13	1.60	2.24	3.15	4.44
22		0.42	0.59	0.84	1.19	1.68	2.35	3.31	4.66
25		0.45	0.63	0.89	1.26	1.79	2.51	3.53	4.97
28		0.47	0.67	0.95	1.34	1.89	2.65	3.73	5.27

Line offset dimensions shown are Metric (mm) only



3c

Correction factors for feed per tooth f_z for plain copy milling with a line offset $<50\% \times D$ at different depths of cut

APMX FFW	APMX EFW	5%	10%	15%	20%	25%	30%	35%	40%	50%
5%		5.26	3.82	3.21	2.87	2.65	2.50	2.40	2.34	2.29
10%		3.82	2.78	2.33	2.08	1.92	1.82	1.75	1.70	1.67
15%		3.21	2.33	1.96	1.75	1.62	1.53	1.47	1.43	1.40
20%		2.87	2.08	1.75	1.56	1.44	1.36	1.31	1.28	1.25
25%		2.65	1.92	1.62	1.44	1.33	1.26	1.21	1.18	1.15
30%		2.50	1.82	1.53	1.36	1.26	1.19	1.14	1.11	1.09