

用户指南

铣削夹持具

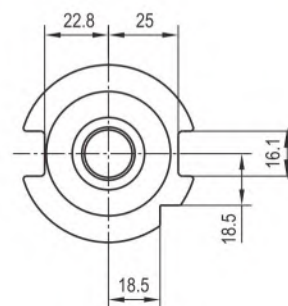
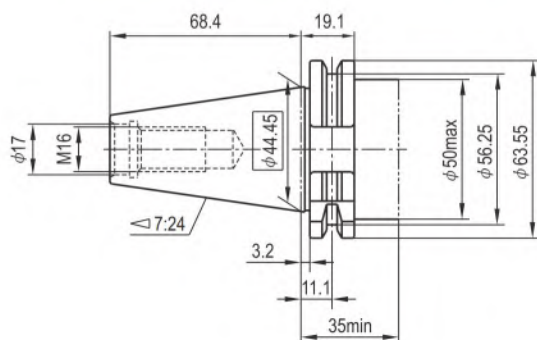
HN2020-03

● 锥柄型式 (DIN69871)

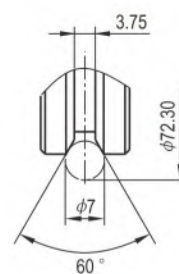
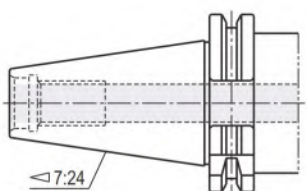


JT40 A/AD

A型
Form A

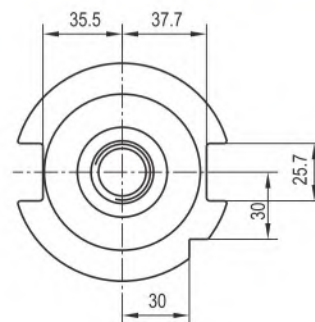
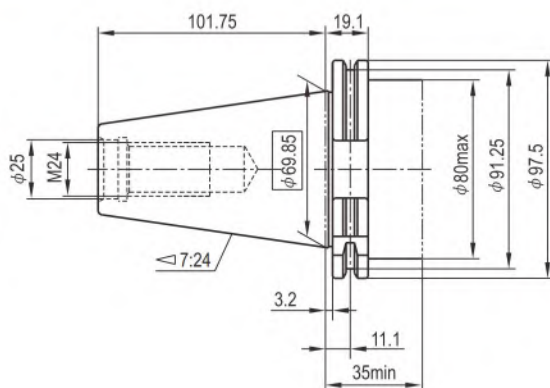


AD型
Form AD

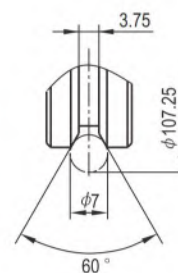
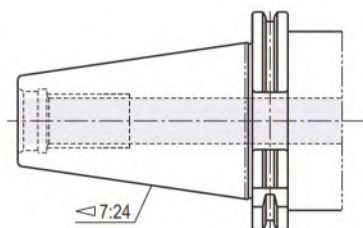


JT50 A/AD

A型
Form A



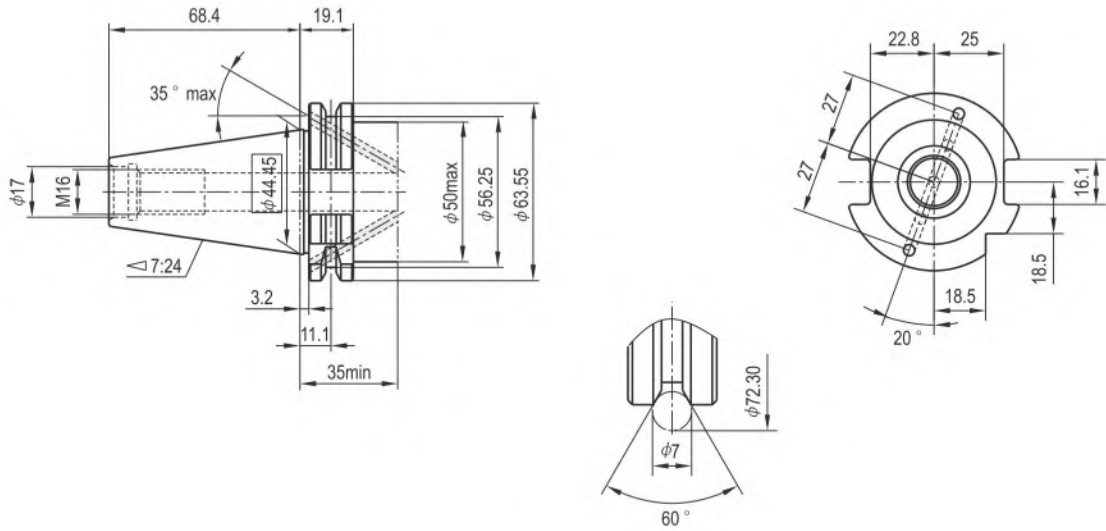
AD型
Form AD



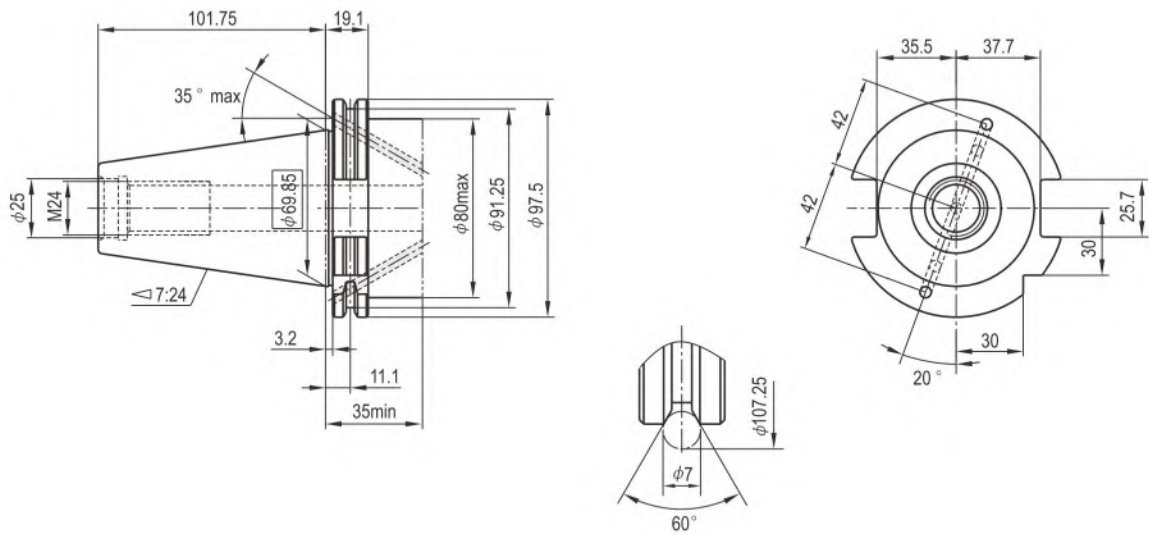
● 锥柄型式 (DIN69871)



JT40 B



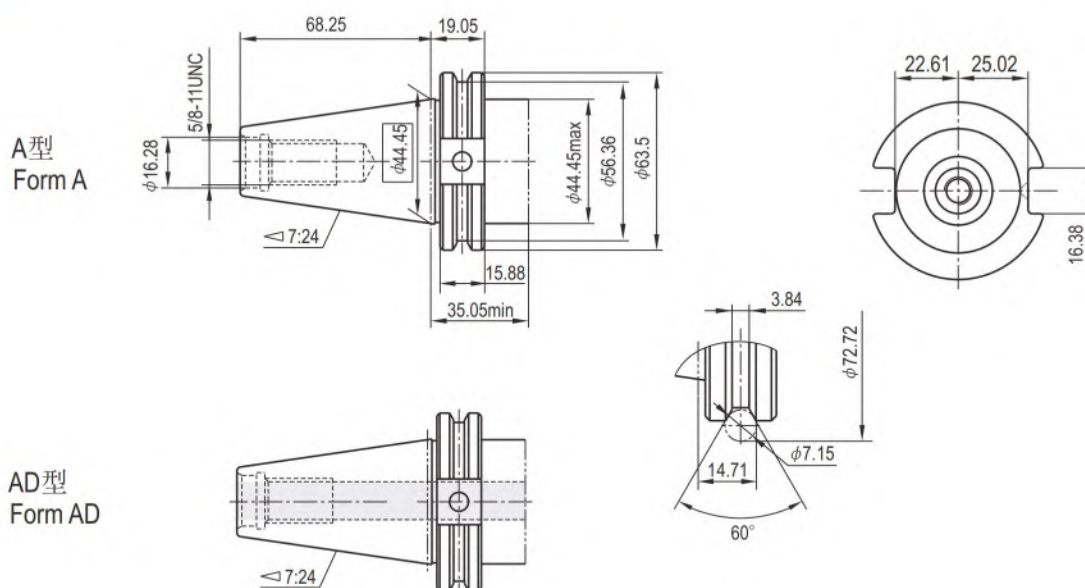
JT50 B



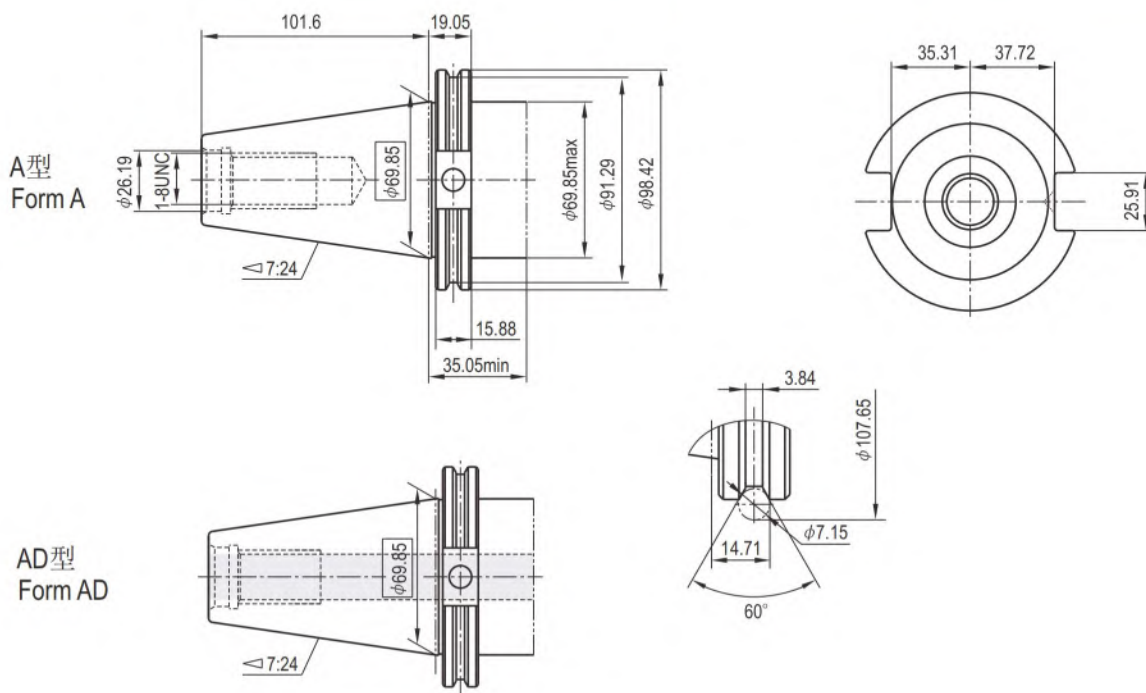
● 锥柄型式 (ANSI/AMSE B5.50CAT)



CT40 A/AD



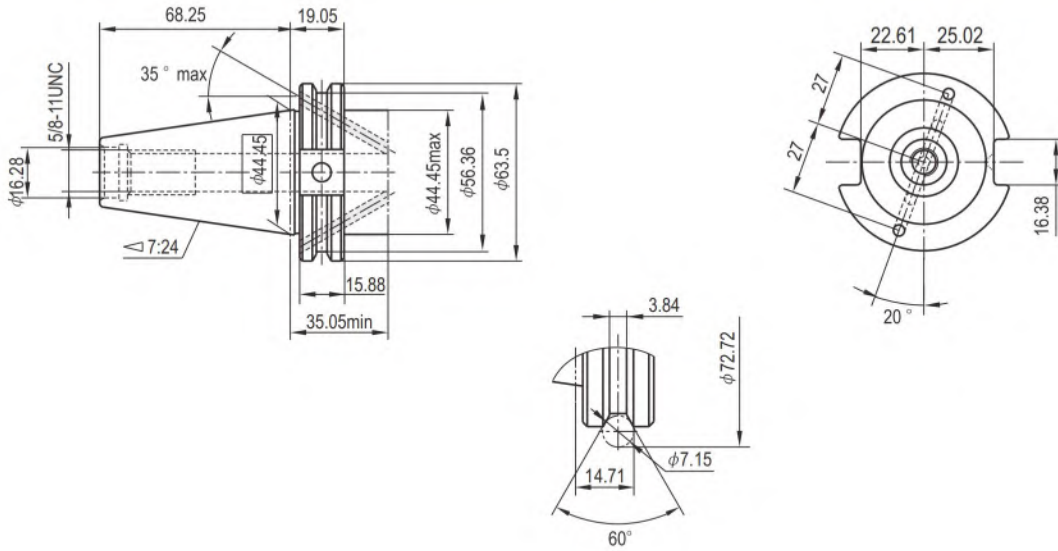
CT50 A/AD



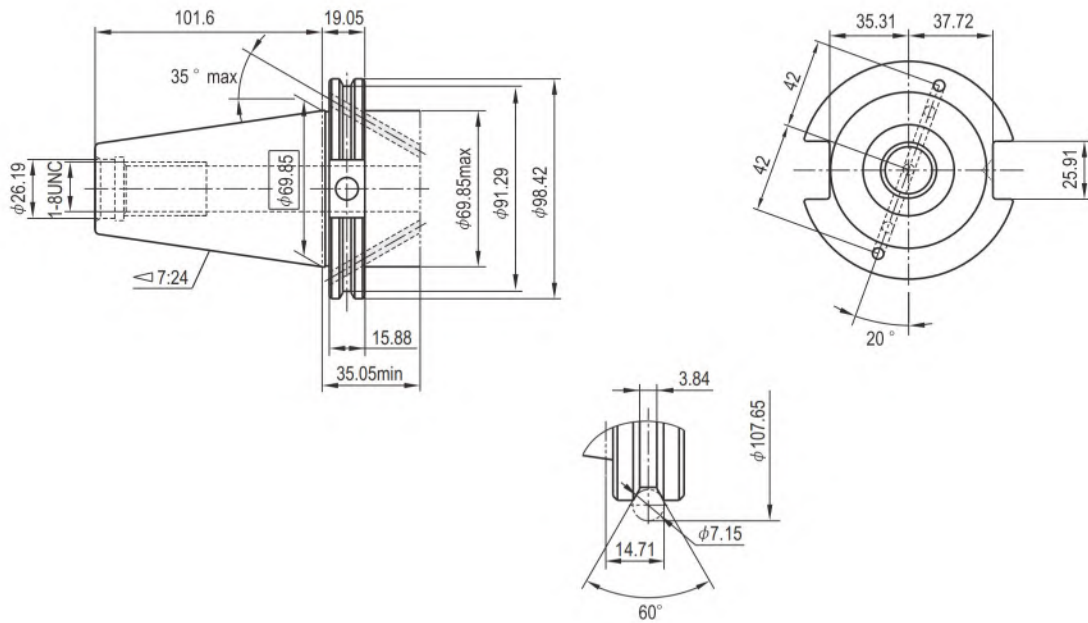
● 锥柄型式 (ANSI/AMSE B5.50CAT)



CT40 B



CT50 B

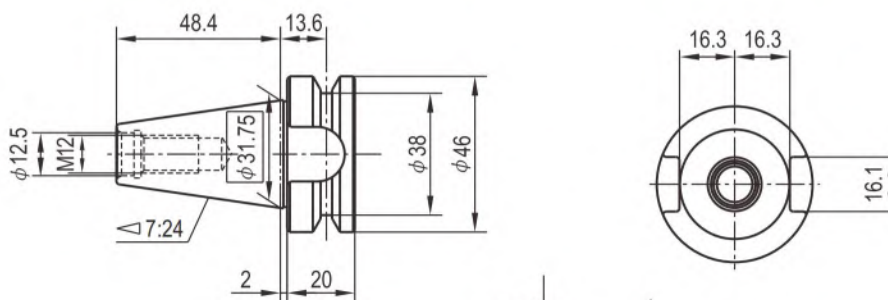


● 锥柄型式 (JIS B6339)

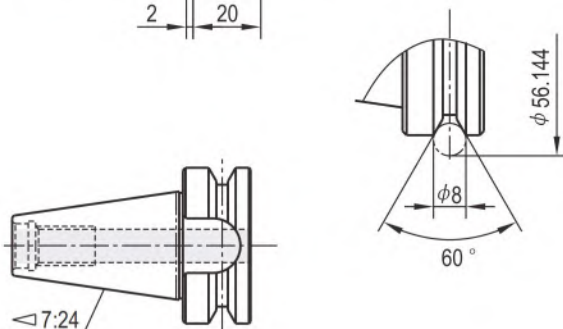


BT30 A/AD

A型
Form A

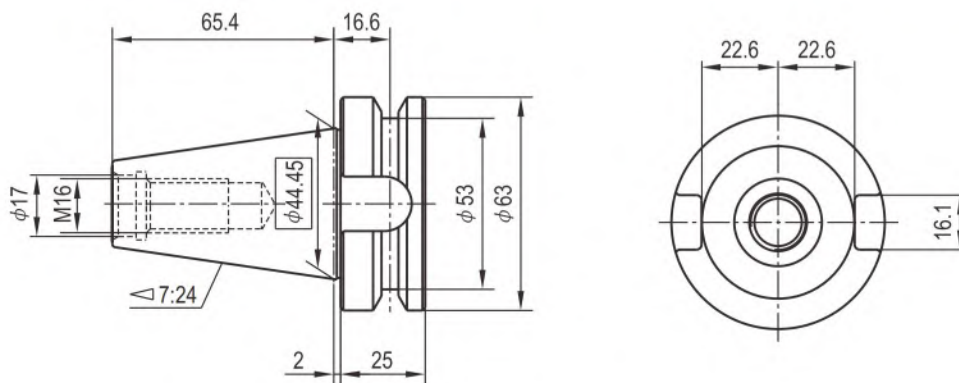


AD型
Form AD

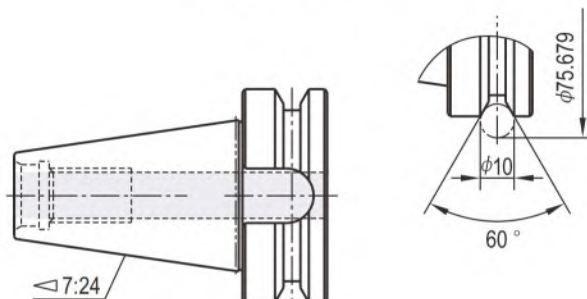


BT40 A/AD

A型
Form A



AD型
Form AD

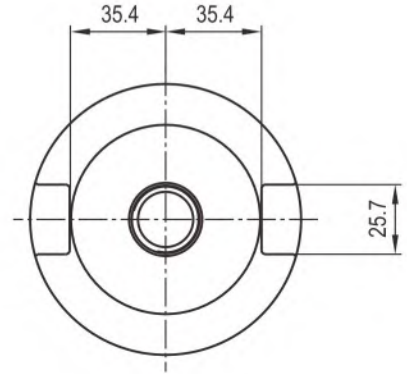
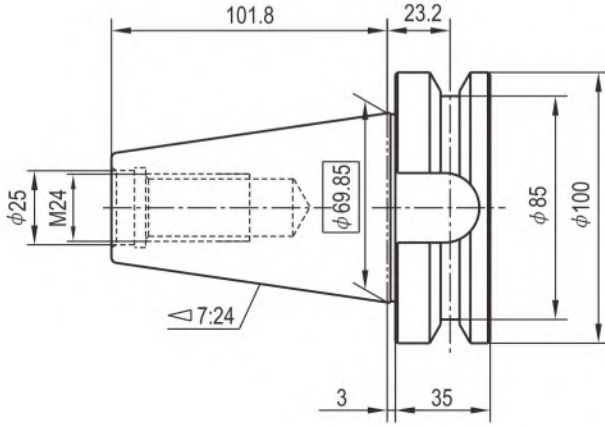


● 锥柄型式 (JIS B6339)

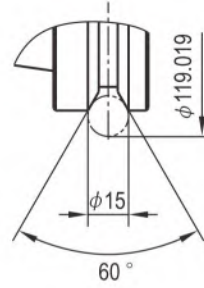
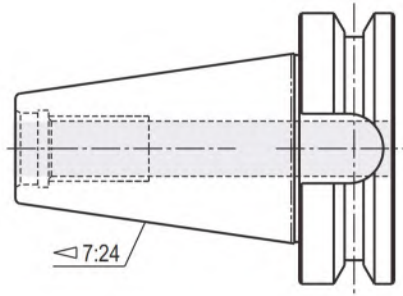


BT50 A/AD

A型
Form A



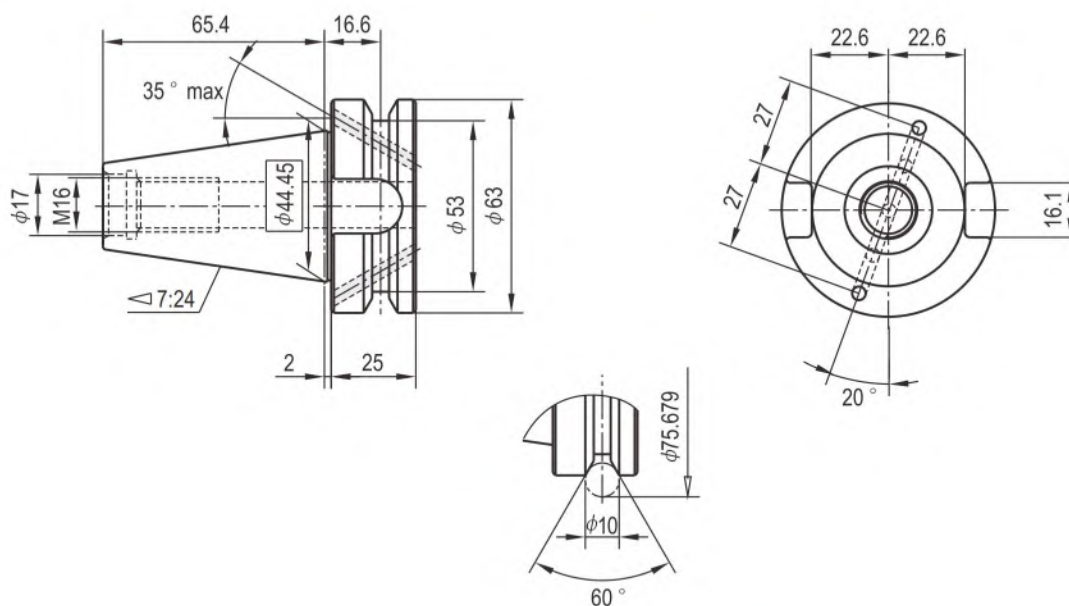
AD型
Form AD



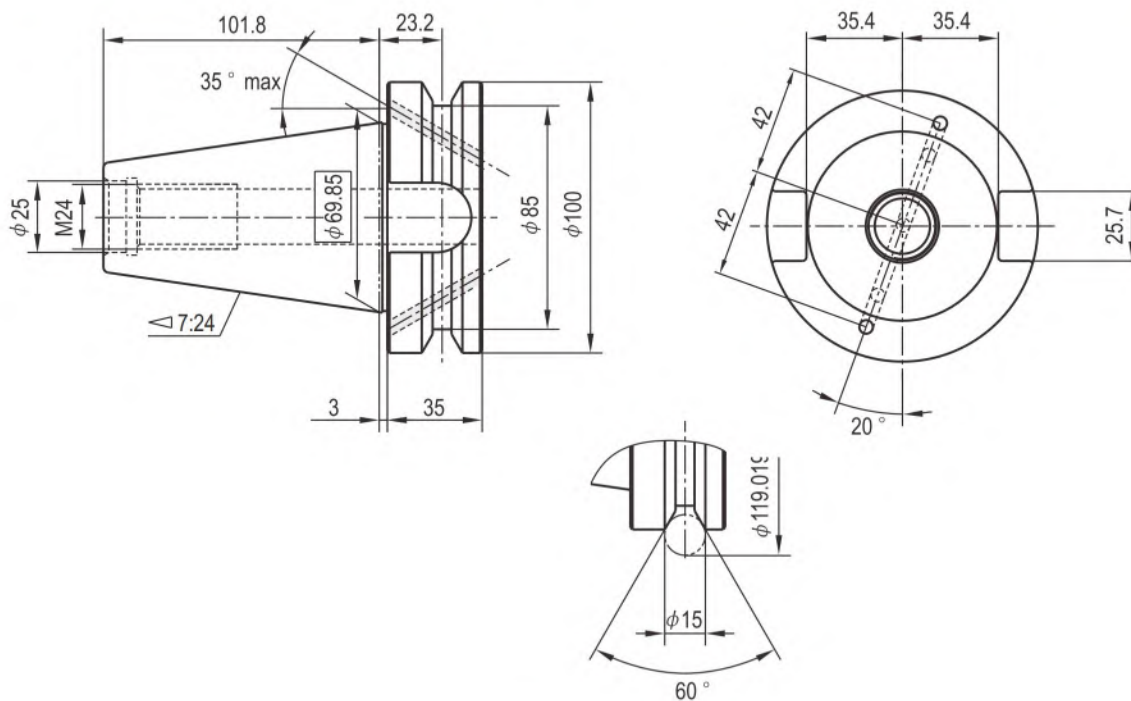
● 锥柄型式 (JIS B6339)



BT40 B



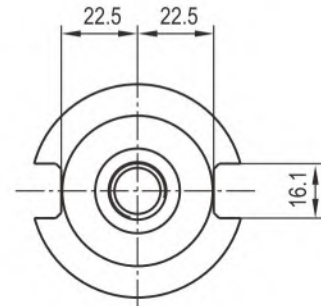
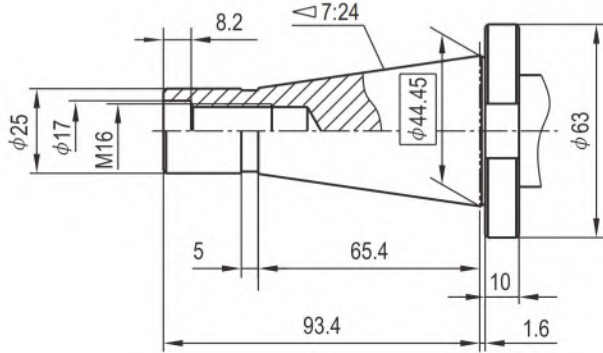
BT50 B



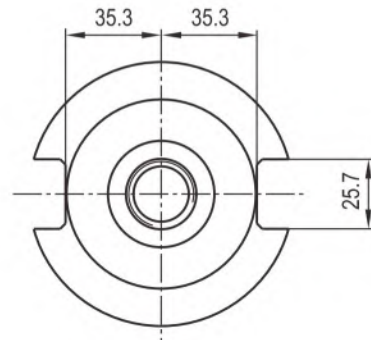
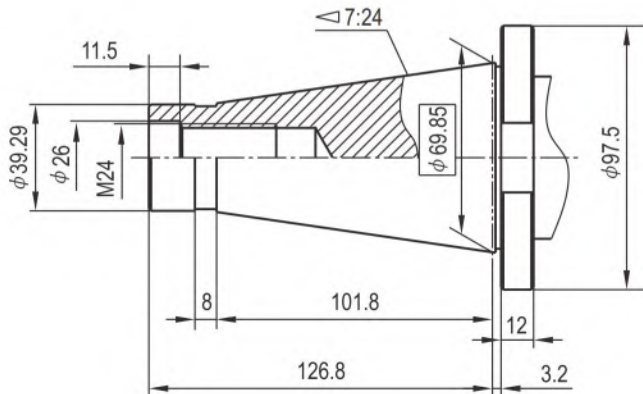
● 锥柄型式 (DIN2080)



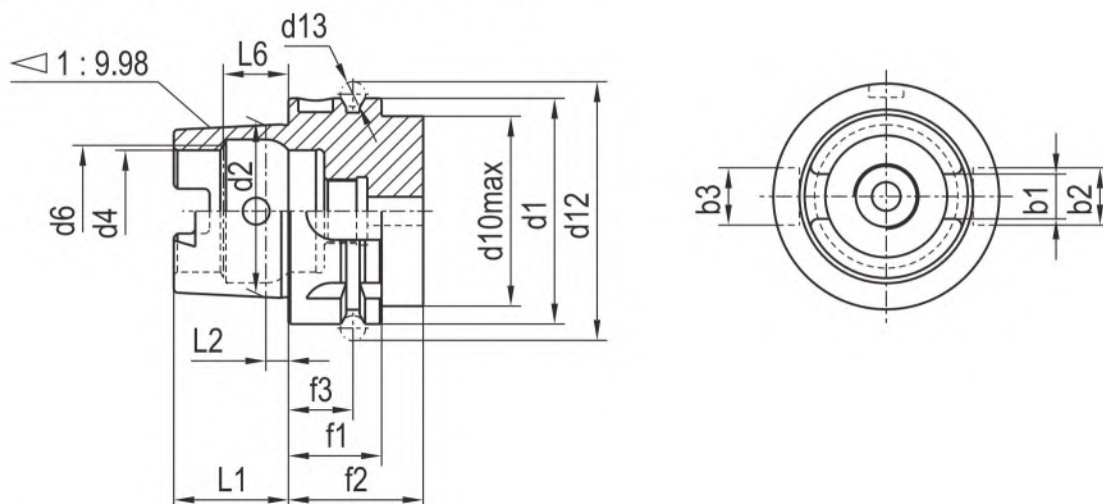
ST40



ST50

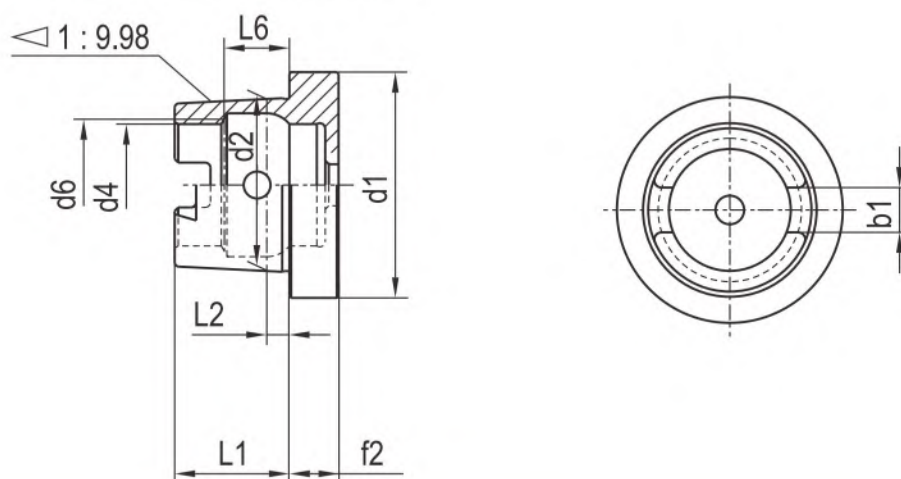


● HSK短锥型式 A型 (DIN69893 A)



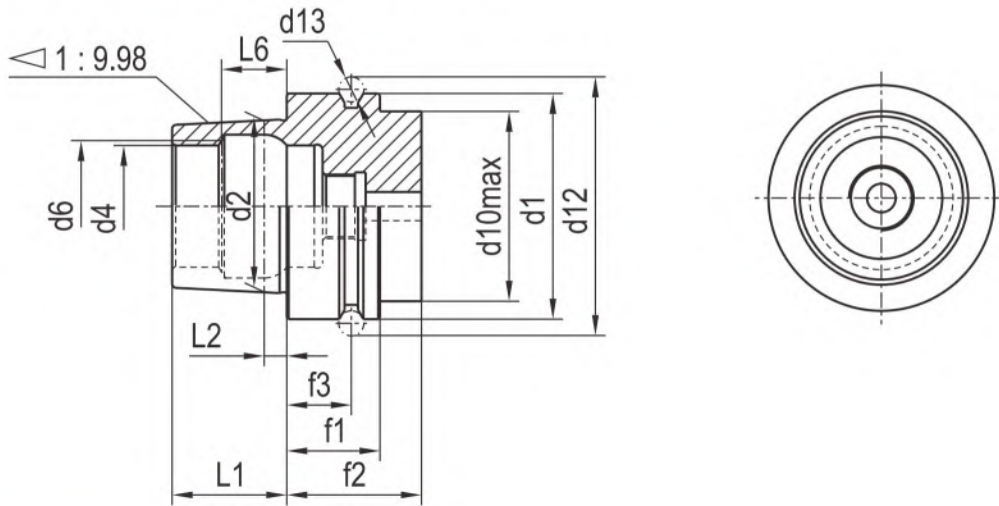
	b1	b2	b3	d1	d2	d4	d6	d10	d12	d13	f1	f2	f3	L1	L2	L6
HSK-A32	7.05	7	9	32	24.007	17	19	26	37	4	20	35	16	16	3.2	8.92
HSK-A40	8.05	9	11	40	30.007	21	23	34	45	4	20	35	16	20	4	11.42
HSK-A50	10.54	12	14	50	38.009	26	29	42	59.3	7	26	42	18	25	5	14.13
HSK-A63	12.54	16	18	63	48.010	34	37	53	72.3	7	26	42	18	32	6.3	18.13
HSK-A100	20.02	20	22	100	75.013	53	58	88	109.75	7	29	45	20	50	10	28.56


● HSK短锥型式 C型 (DIN69893 C)



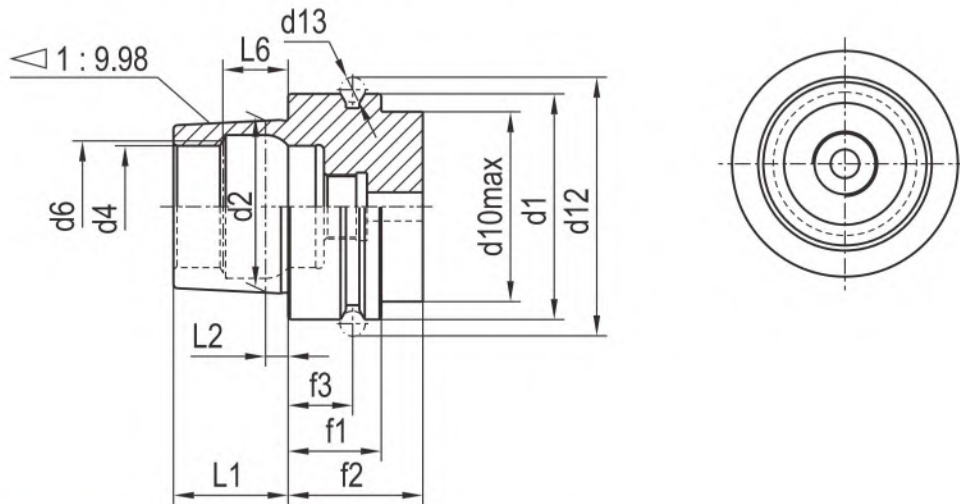
	b1	d1	d2	d4	d6	f2	L1	L2	L6
HSK-C32	7.05	32	24.007	17	19	10	16	3.2	8.92
HSK-C40	8.05	40	30.007	21	23	10	20	4	11.42
HSK-C50	10.54	50	38.009	26	29	12.5	25	5	14.13
HSK-C63	12.54	63	48.010	34	37	12.5	32	6.3	18.13
HSK-C100	20.02	100	75.013	53	58	16	50	10	28.56


● HSK短锥型式 E型 (DIN69893 E)



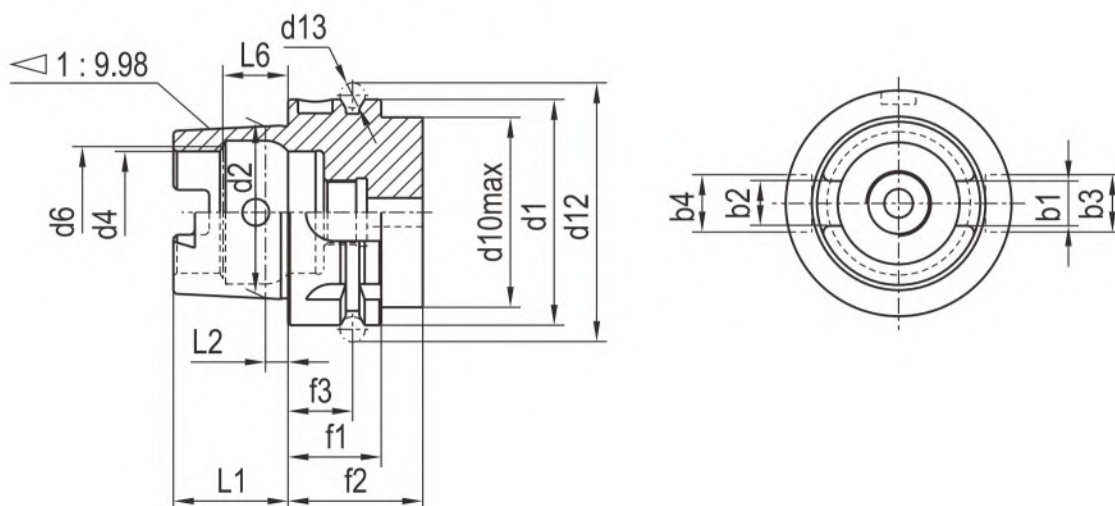
	d1	d2	d4	d6	d10	d12	d13	f1	f2	f3	L1	L2	L6
HSK-E32	32	24.007	17	19	26	37	4	20	35	16	16	3.2	8.92
HSK-E40	40	30.007	21	23	34	45	4	20	35	16	20	4	11.42
HSK-E50	50	38.009	26	29	42	59.3	7	26	42	18	25	5	14.13
HSK-E63	63	48.010	34	37	53	72.3	7	26	42	18	32	6.3	18.13

● HSK短锥型式 F型 (DIN69893 F)



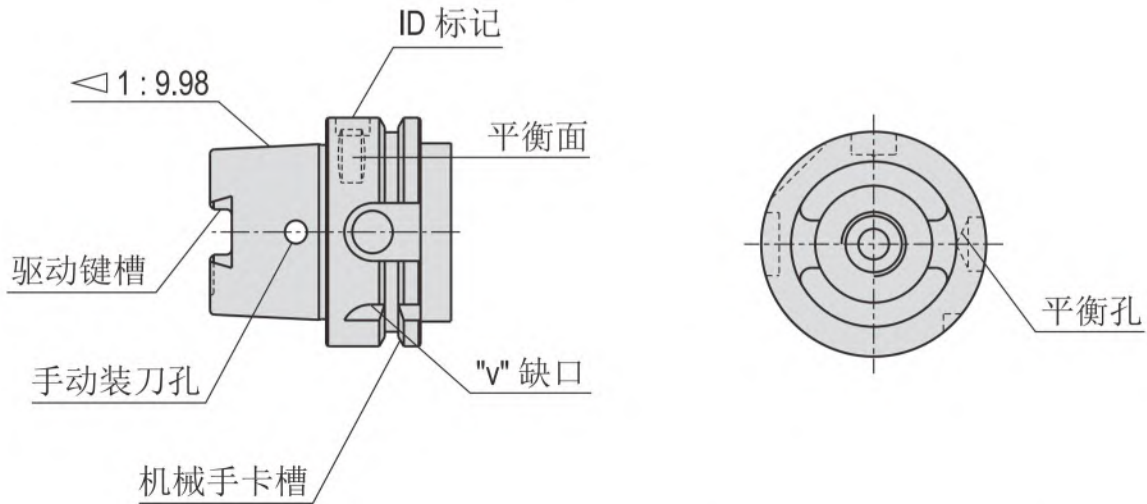
	d1	d2	d4	d6	d10	d12	d13	f1	f2	f3	L1	L2	L6
HSK-F50	50	30.007	21	23	42	59.3	7	26	42	18	20	4	11.42
HSK-F63	63	38.007	26	29	53	72.3	7	26	42	18	25	5	14.13
HSK-F80	80	48.010	34	37	67	88.8	7	26	42	18	32	6.3	18.13

● HSK短锥型式 T型 (ISO 12164-3)



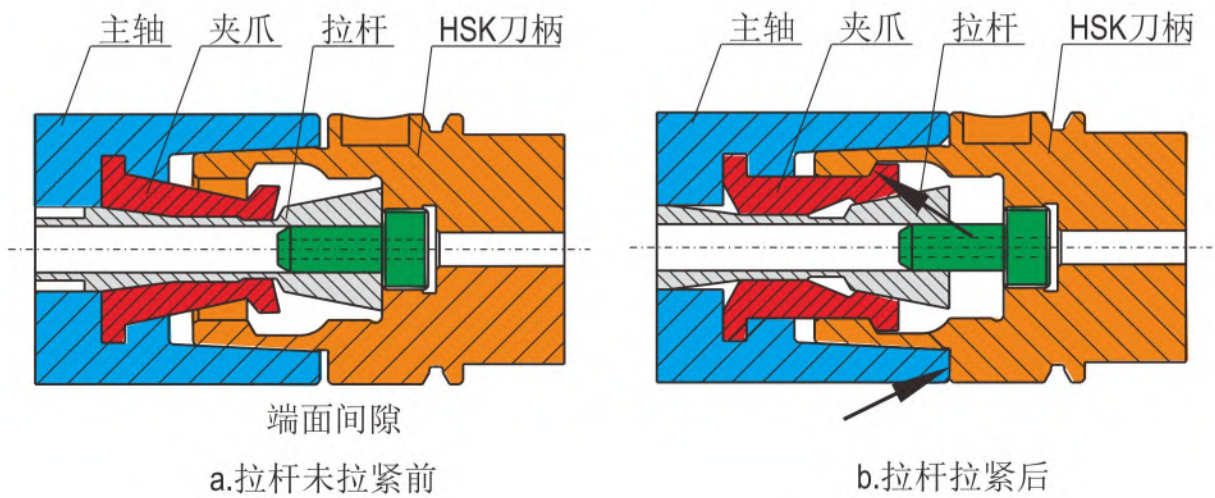
	b1	b2	b3	b4	d1	d2	d4	d6	d10	d12	d13	f1	f2	f3	L1	L2	L6
HSK-T32	7.05	6.932	7	9	32	24.007	17	19	32	37	4	20	23	16	16	3.2	8.92
HSK-T40	8.05	7.932	9	11	40	30.007	21	23	40	45	4	20	23	16	20	4	11.42
HSK-T50	10.54	10.425	12	14	50	38.009	26	29	50	59.3	7	26	30	18	25	5	14.13
HSK-T63	12.54	12.425	16	18	63	48.010	34	37	63	72.3	7	26	30	18	32	6.3	18.13
HSK-T100	20.02	19.910	20	22	100	75.013	53	58	100	109.75	7	29	34	20	50	10	28.56

● HSK短锥柄特征说明



说明:本公司所有HSK-A型常备库存产品均不带数据孔, 如有需要, 请订货时说明。

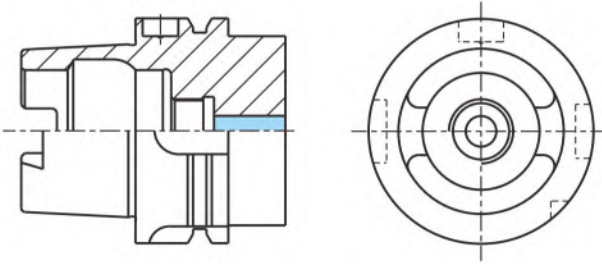
● HSK工具系统的工作原理



HSK刀柄的空心锥柄与主轴孔完全接触时, HSK刀柄端面与主轴端面有约0.1mm间隙(如图a)。在夹紧机构作用下,拉杆向左移动, 夹爪胀开, 夹爪外锥面顶在空心锥柄30°锥面上, 拉动HSK刀柄向左移动, 空心锥柄产生变形, 刀柄端面与主轴端面靠紧, 实现了刀柄与主轴锥面和端面两面同时定位和夹紧(如图b所示)。

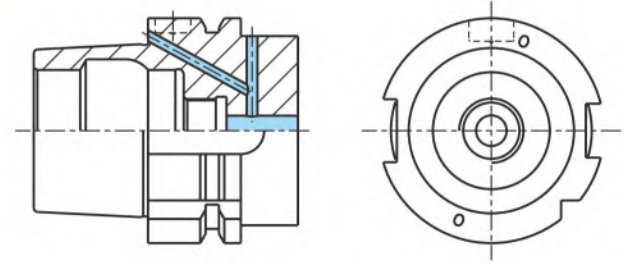
● HSK的各种特征及用途

DIN 69893 - HSK-A



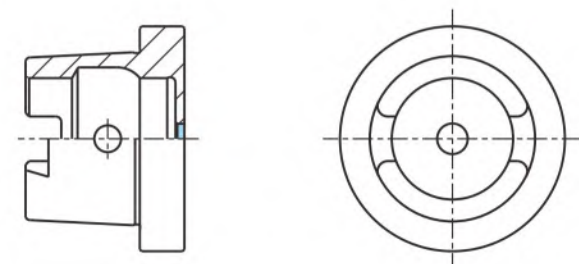
- 用途：加工中心
- 中心冷却孔
- V 槽用于 ATC 凹槽定位
- ID 凹槽孔

DIN 69893 - HSK-B



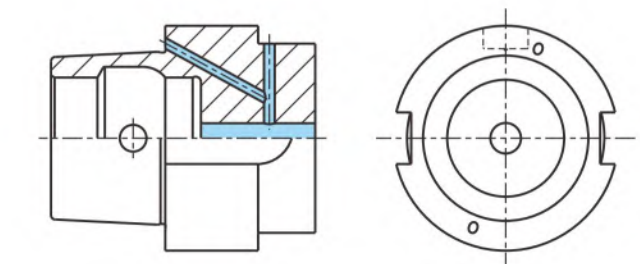
- 用途：加工中心，铣床，车床
- 大直径法兰盘
- 冷却孔穿过法兰盘
- 凹槽定位
- ID 凹槽孔

DIN 69893 - HSK-C



- 用途：线路传输及无 ATC 装置的机床
- 中心冷却孔
- 用法兰盘上驱动开关进行扭矩传输

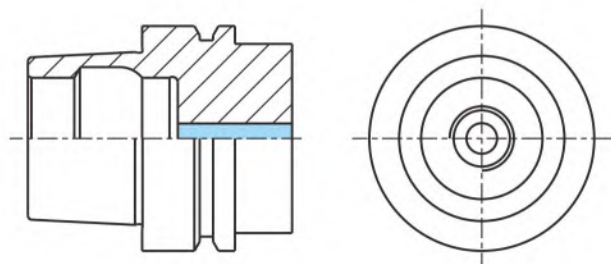
DIN 69893 - HSK-D



- 用途：线路传输及无 ATC 装置的机床
- 大直径法兰盘
- 冷却孔穿过法兰盘
- 冷却孔穿过法兰盘

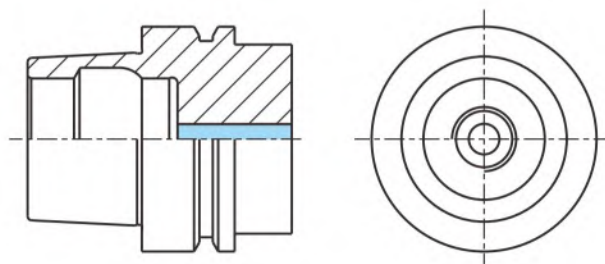
● HSK的各种特征及用途

DIN 69893 - HSK-E



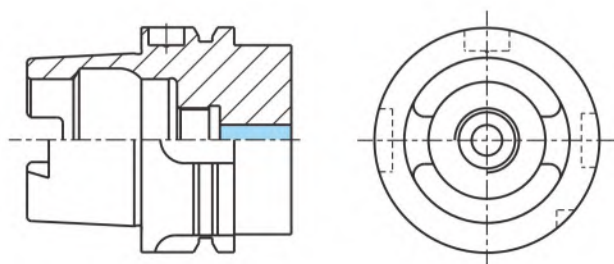
- 用途：高速加工中心，木工机械
- 完全对称型，不带驱动开关
- 摩擦扭矩传输
- 中心冷却孔

DIN 69893 - HSK-F



- 用途：高速加工中心
- 大直径法兰盘
- 中心冷却孔

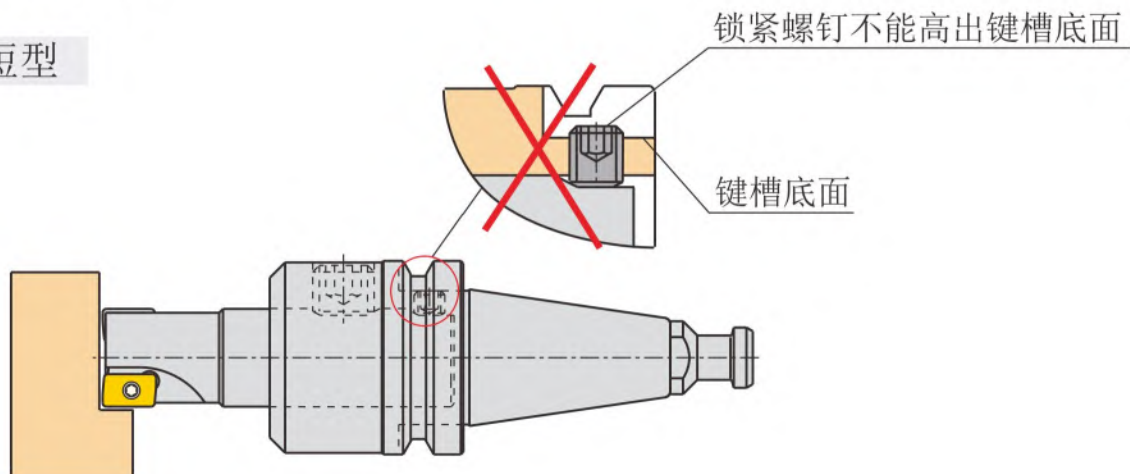
ISO12164-3- HSK-T



- 用途：加工中心及车铣复合机床
- 中心冷却孔
- 用法兰盘上驱动开关进行扭矩传输
- 精准的圆周定位，特别适用于静态刀具
- V 槽用于 ATC 凹槽定位
- ID 凹槽孔

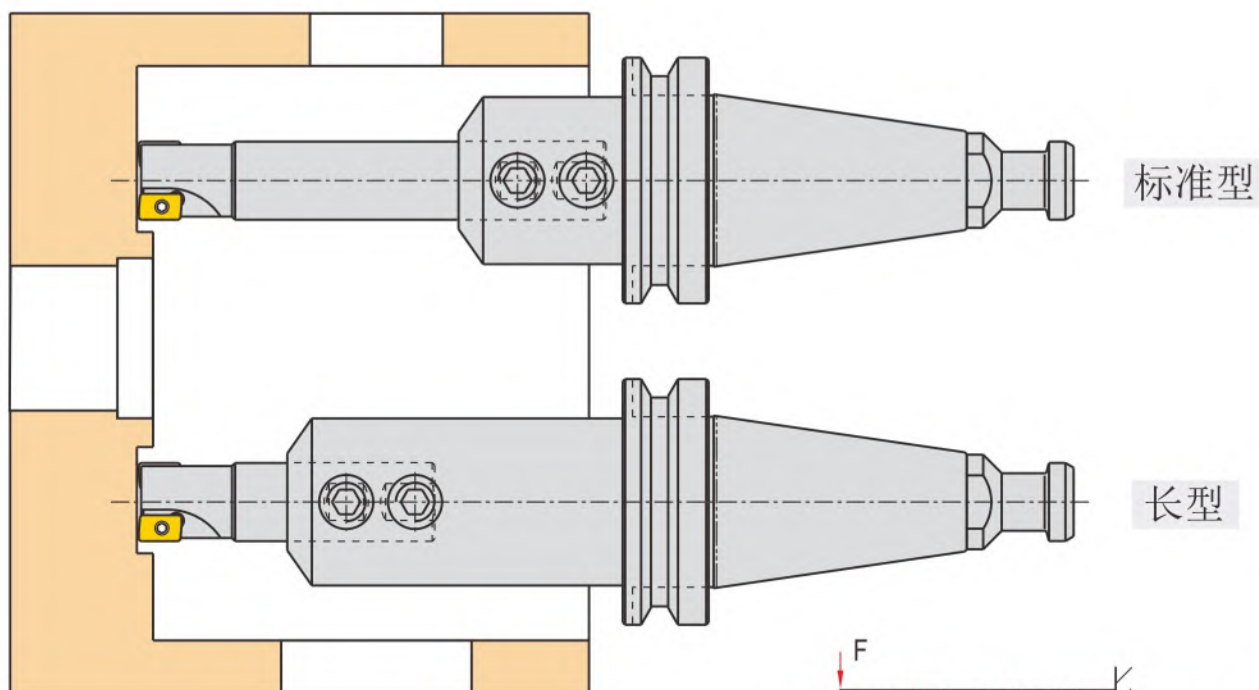
● 侧固式刀柄

短型



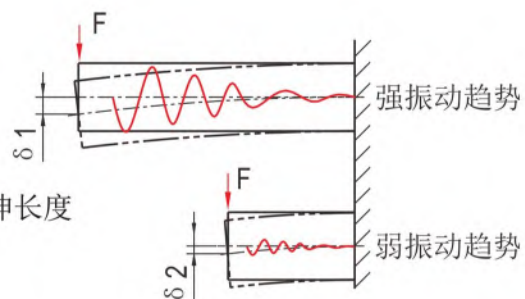
技术信息

- 注意压紧螺钉长度不能太长，压紧后螺钉不能高于刀柄键槽底面
- 刀柄越短，刚性越高
- 主要适用立式加工中心



技术信息

- 为保证刀具总长要求，使用长型刀柄可以减少刀杆悬伸长度从而提高系统刚性，适用于较深的型腔加工。
- 适用于卧式加工中心，延长刀具总长。



● 刀柄及刀具的长度选择

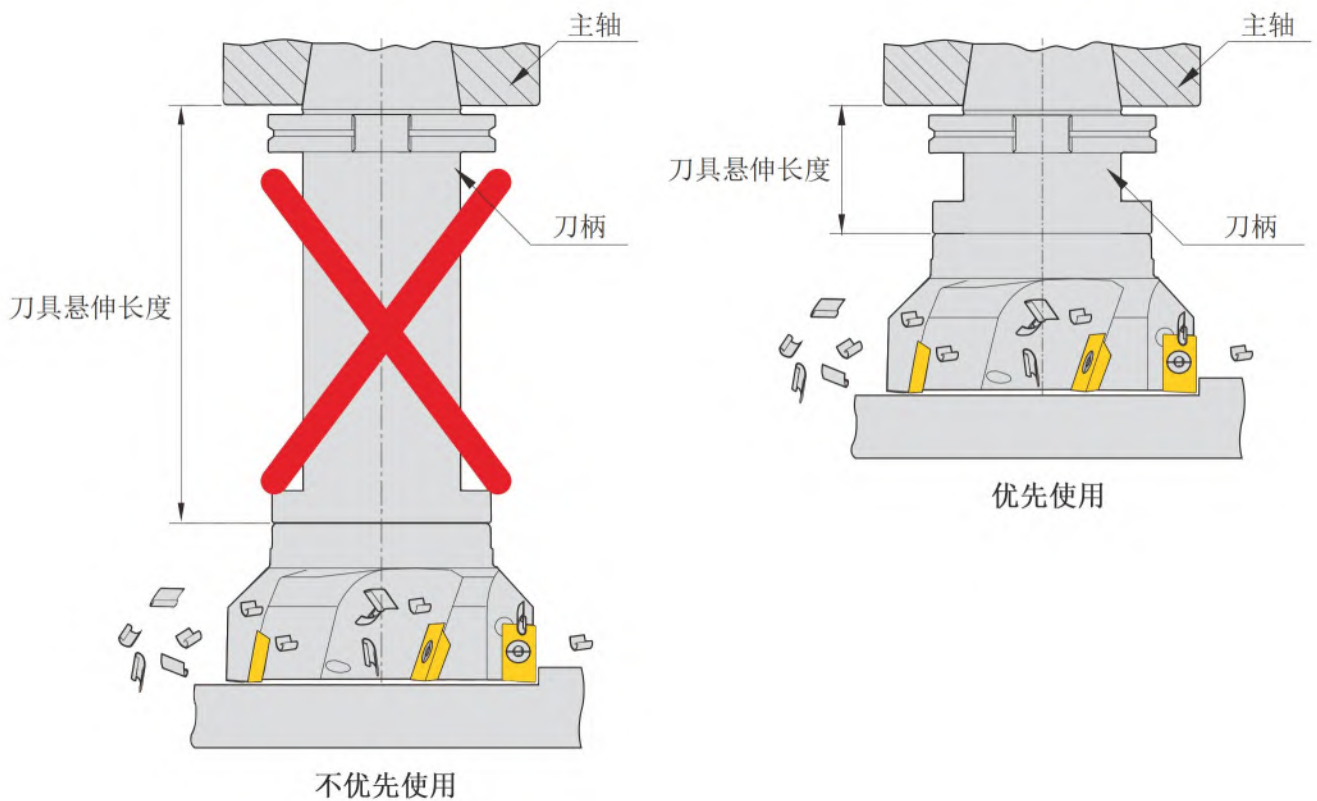
刀柄及刀具通常为了达到最好的使用刚性，选择短系列产品通常是最好的。

但是深型腔的加工往往需要长刀柄或刀具，在这时降低主轴转速，进给，切深可以减小切削过程中所产生的振动。

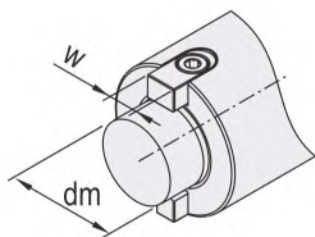
● 刀柄存放

刀柄需存放在干燥的环境中，长期保存时，锥柄及工作部位需涂抹防锈油。

注意：优先使用短系列产品

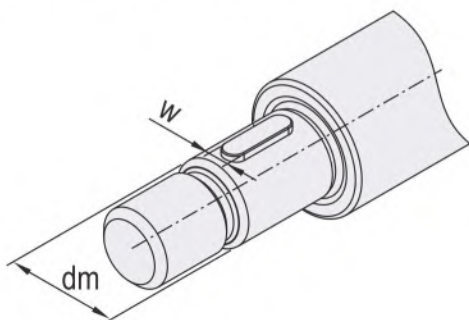


● 面铣刀刀柄键槽尺寸



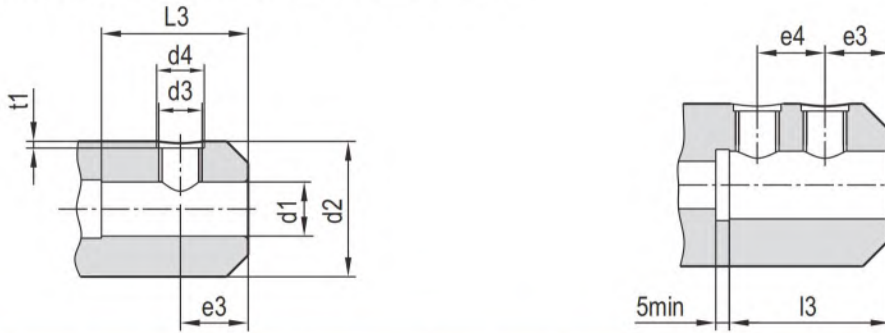
公 制			英 制		
型号	dm(mm)	w(mm)	型号	dm(mm)	w(mm)
FMB16	16	8	FMA12.7	12.7	6.35
FMB22	22	10	FMA19.05	19.05	7.93
FMB27	27	12	FMA25.4	25.4	9.52
FMB32	32	14	FMA31.75	31.75	12.7
FMB40	40	16	FMA38.1	38.1	15.87
FMB60	60	25.4	FMA50.8	50.8	19.05
-	-	-	FMA63.5	63.5	25.4

● 三面铣刀刀柄键槽尺寸



公 制			英 制		
型号	dm(mm)	w(mm)	型号	dm(mm)	w(mm)
SCA13	13	-	SCA12.7	12.7	-
SCA16	16	4	SCA19.05	19.05	-
SCA22	22	6	SCA25.4	25.4	6.35
SCA27	27	7	SCA31.75	31.75	7.92
SCA32	32	8	SCA38.1	38.1	9.52
SCA40	40	10	SCA50.8	50.8	-

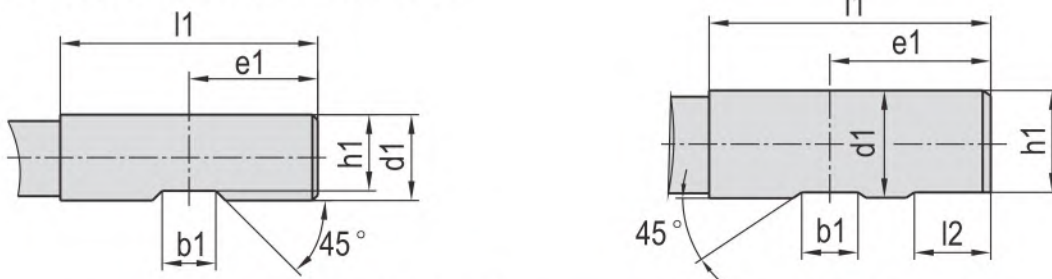
● 侧固式刀柄接口型式 (DIN 1835-B)



尺寸 (mm)

d1 (H5)	d2 ($\frac{0}{-1}$)	d3 (6H)	d4 min	e3 ($\frac{0}{-1}$)	e4 (± 0.5)	l3 (± 1)	t1	压紧整体硬质合金 刀具推荐扭矩
6	25	M6	8	18.0	-	35	1.0	5Nm
8	28	M8	10	18.0	-	35	1.3	10Nm
10	35	M10	12	20.0	-	39	1.5	16Nm
12	42	M12	14	22.5	-	44	1.6	28Nm
14	44	M12	14	22.5	-	44	1.6	28Nm
16	48	M14	16	24.0	-	47	1.7	42Nm
18	50	M14	16	24.0	-	47	1.7	42Nm
20	52	M16	18	25.0	-	49	2.1	50Nm
25	65	M18x2	20	24.0	25	54	2.1	60Nm
32	72	M20x2	22	24.0	28	58	2.2	60Nm
40	84	M20x2	22	30.0	32	68	2.2	60Nm

● 削平柄刀具型式 (DIN 1835-B)



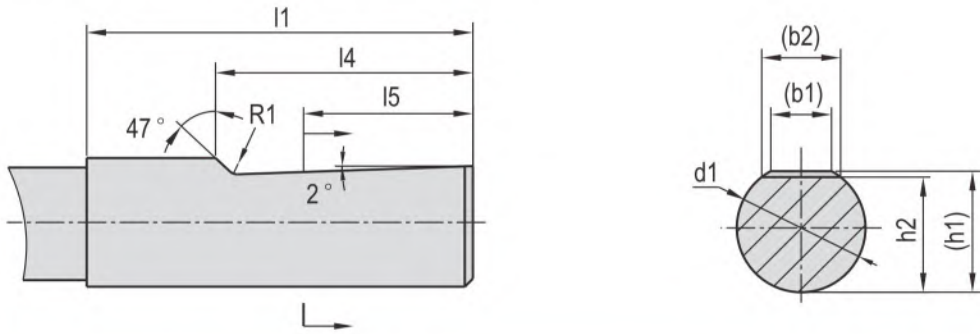
尺寸 (mm)

● 适用于 d1=φ6~φ20

● 适用于 d1=φ20~φ40

d1 (h6)	l1 ($^{+0.05}$)	b1 ($^{+0.05}$)	l2 ($^{+1}$)	e1 ($\frac{0}{-1}$)	h1 (h11)
6	36	4.2	-	18.0	5.1
8	36	5.5	-	18.0	6.9
10	40	7.0	-	20.0	8.5
12	45	8.0	-	22.5	10.4
14	45	8.0	-	22.5	12.7
16	48	10.0	-	24.0	14.2
18	48	10.0	-	24.0	16.2
20	50	11.0	-	25.0	18.2
25	56	12.0	17	32.0	23.0
32	60	14.0	19	35.0	30.0
40	70	14.0	19	40.0	38.0

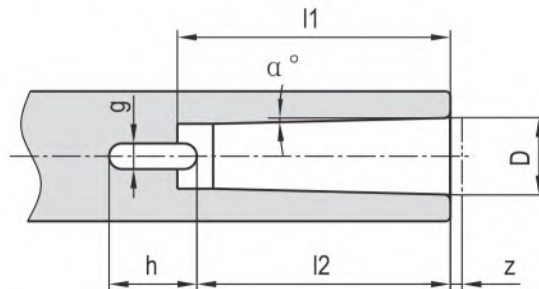
● 2° 侧固式刀具型式 (DIN 1835-E)



尺寸 (mm)

d1 (h6)	(b1) ≈	(b2)	(h1)	h2 (h13)	l1 (+0)	l4 (-0.1)	l5	R1 min
6	3.5	4.8	5.4	4.8	36	25	18	1.2
8	4.7	6.1	7.2	6.6	36	25	18	1.2
10	5.7	7.3	9.1	8.4	40	28	20	1.2
12	6.0	8.2	11.2	10.4	45	33	22.5	1.2
16	7.6	10.1	15.0	14.2	48	36	24	1.6
20	8.4	11.5	19.1	18.2	50	38	25	1.6
25	9.3	13.6	24.1	23.0	56	44	32	1.6
32	9.9	15.5	31.2	30.0	60	48	35	1.6
40	12.4	18.2	39.0	37.8	68	56	41	1.6

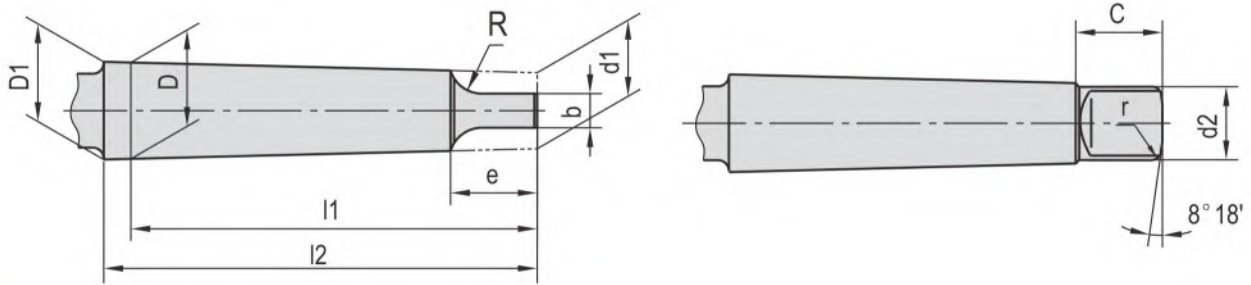
● 扁尾型莫氏锥柄连接尺寸 (DIN 228-D)



尺寸 (mm)

锥度号	锥度		锥角 (α°)	D	l1(min)	l2	g	h	z	对应钻头直径范围 (mm)
MT0	1/19.212	0.05205	1° 29' 27"	9.045	52	49	4.1	15	1	-
MT1	1/20.047	0.04988	1° 25' 43"	12.065	56	52	5.4	19	1	3.00-14.00
MT2	1/20.020	0.04995	1° 25' 50"	17.780	67	62	6.6	22	1	14.00-23.00
MT3	1/19.922	0.05020	1° 26' 16"	23.825	84	78	8.2	27	1	23.00-32.00
MT4	1/19.254	0.05194	1° 29' 15"	31.267	107	98	12.2	32	1.5	32.00-50.00
MT5	1/19.002	0.05263	1° 30' 26"	44.399	135	125	16.2	38	1.5	50.00-75.00
MT6	1/19.180	0.05214	1° 29' 36"	63.348	188	177	19.3	47	2	75.00-100.00
MT7	1/19.231	0.05200	1° 29' 22"	83.058	258	241	28.8	69	2	-

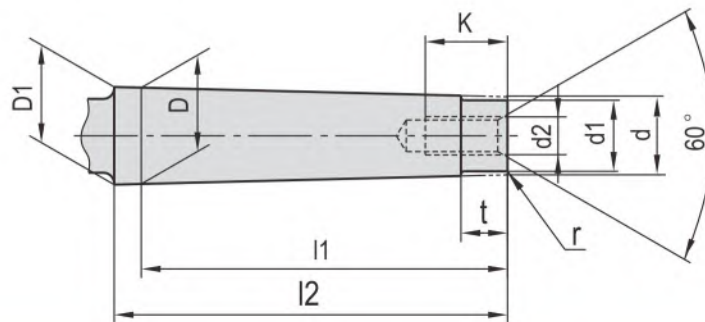
●有扁尾莫氏锥柄 (DIN 228-B)



尺寸(mm)

锥度号	D	D1	d1	d2	l1	l2	b	c	e	R	r	对应钻头直径范围(mm)
MT0	9.045	9.201	6.104	6	56.5	59.5	3.9	6.5	10.5	4	1	-
MT1	12.065	12.240	8.972	8.7	62.0	65.5	5.2	8.5	13.5	5	1.2	3.00-14.00
MT2	17.780	18.030	14.034	13.5	75.0	80.0	6.3	10.0	16.0	6	1.6	14.00-23.00
MT3	23.825	24.076	19.107	18.5	94.0	99.0	7.9	13.0	20.0	7	2	23.00-32.00
MT4	31.267	31.605	25.164	24.5	117.5	124.0	11.9	16.0	24.0	8	2.5	32.00-50.00
MT5	44.399	44.741	36.531	35.7	149.5	156.0	15.9	19.0	29.0	10	3	50.00-75.00
MT6	63.348	63.765	52.399	51.0	210.0	218.0	19.0	27.0	40.0	13	4	75.00-100.00
MT7	83.058	83.578	68.185	66.8	286.0	296.0	28.6	35.0	54.0	19	5	-

●无扁尾莫氏锥柄 (DIN 228-A)

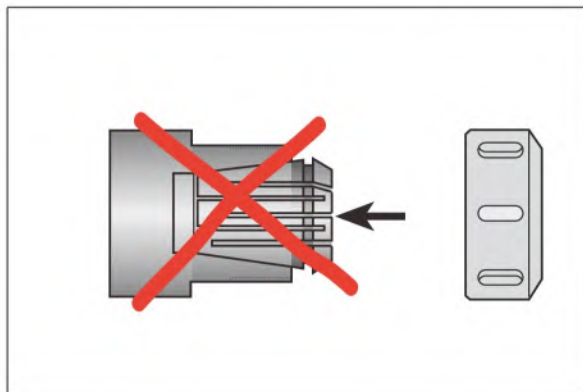
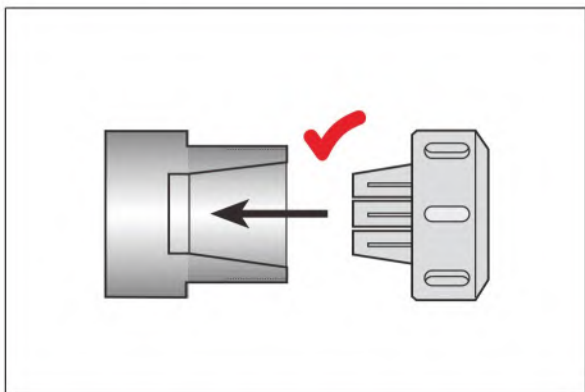


尺寸(mm)

锥度号	D	D1	d	d1	l1	l2	t	r	d2	K	对应铣刀直径范围(mm)
MT0	9.045	9.201	6.442	6	50	53	4	0.2	-	-	-
MT1	12.065	12.240	9.396	9	53.5	57	5	0.2	M6	16	6.00-12.00
MT2	17.780	18.030	14.583	14	64	69	5	0.2	M10	24	14.00-20.00
MT3	23.825	24.076	19.759	19	81	86	7	0.6	M12	28	22.00-36.00
MT4	31.267	31.605	25.943	25	102.5	109	9	1.0	M16	32	32.00-56.00
MT5	44.399	44.741	37.584	25.7	129.5	136	9	2.5	M20	40	40.00-63.00
MT6	63.348	63.765	53.859	51	182	190	12	4.0	M24	50	-
MT7	83.058	83.578	70.052	65	250	260	18.5	5.0	M33	60	-

● 弹簧夹头的安装

※在安装弹簧夹头之前，必须先将ER卡簧装入螺母之中。如图所示，为了获得最好的性能，在安装弹簧夹头之前，必须将ER卡簧、ER螺母螺纹部分及定位面、夹套锥面清理干净！



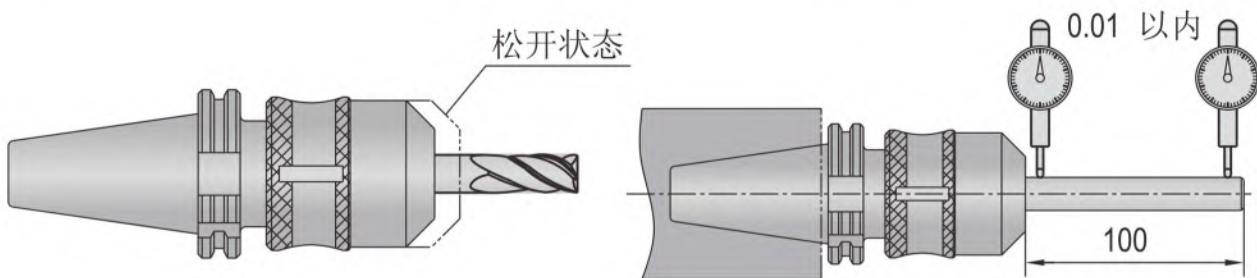
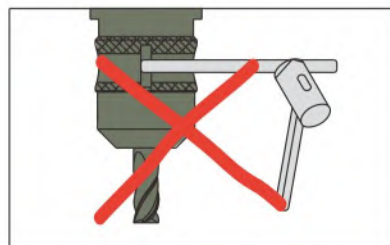
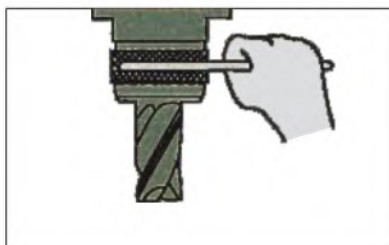
● ER夹紧螺母推荐使用扭矩：

螺母型号	ER11M	ER11A	ER16M	ER16A	ER20M	ER20A	ER25UM	ER32UM	ER40UM
扭矩 (Nm)	16	24	24	56	28	80	100	130	170

※表中扭矩是以ER卡簧夹持最大直径能力计算的，当使用较小尺寸的刀柄时，其扭矩应该适当减小。

● 强力铣夹头刀柄的特点：

※夹紧力最大，使用简单-夹紧安全可靠



- 精度高，寿命长——更有利于保护刀具，延长刀具寿命
- 刚性高——适于大切削量加工
- 优良的耐久性——压力分散于保持架的滚针上

海纳精密切削科技股份有限公司

HEINER PRECISION MACHINING TECHNOLOGY CO., LTD.

海纳精密机械有限公司

HEINER PRECISION MACHINERY CO., LTD.

地址：陕西省西安市莲湖区大庆路3号

Add: No.3 Daqing Road, Lianhu District, Xi'an, Shaanxi Province

电话: 029-81333283 14729292929 传真: 029-84110636

邮箱: nc360@vip.163.com 网址: www.nc360.net