

可换钻尖式钻头

DRILLMEISTER

Tungaloy Report No. 412S10-G

新的模块化钻杆，长悬伸钻孔解决方案



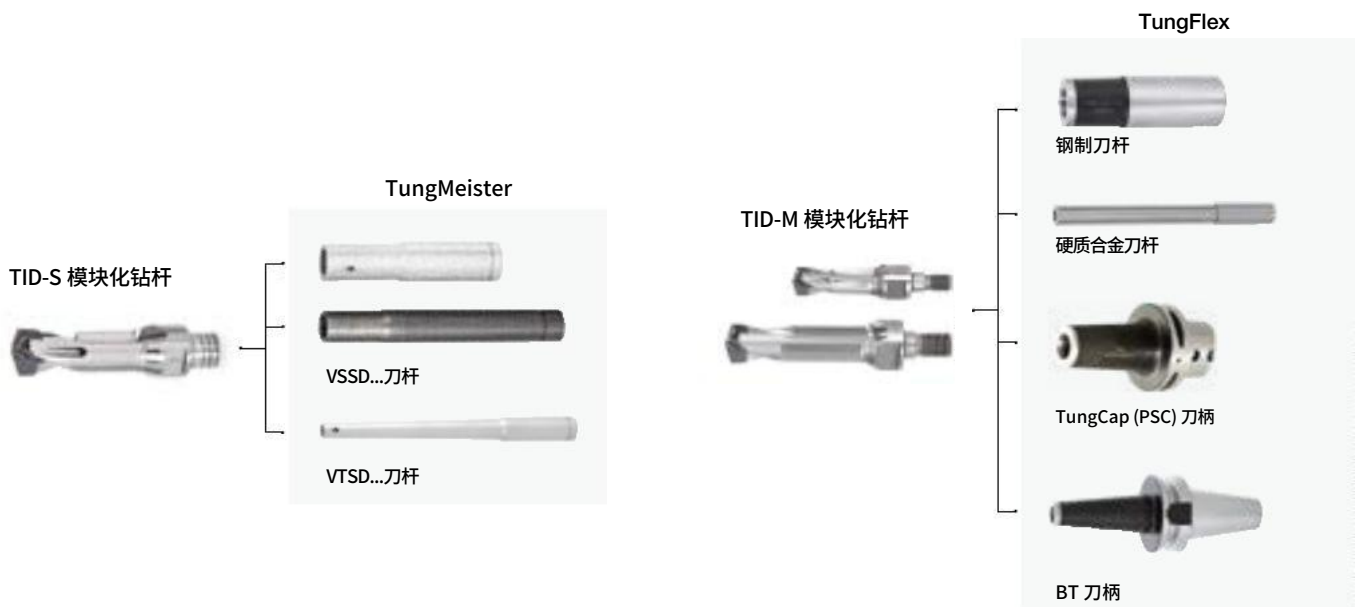
■ 模块化系统

- TungFlex 刀具系统确保最佳的刀柄组合，即使在长悬伸的情况下，也能实现稳定的钻孔加工
- 在机床上快速更换的功能能够最大限度的减少停机时间
- 标准钻孔深度 2xD 和 3xD



模块化钻杆	最大钻削深度	刀杆接口	钻孔直径范围 (mm)
TID-M	2xD	TungFlex接口	ø6 - ø14.4
	3xD		ø6 - ø18.9
TID-S	2xD	TungMeister接口	ø6.9 - ø10.9

■ 广泛的 TungFlex和TungMeister 刀具阵容

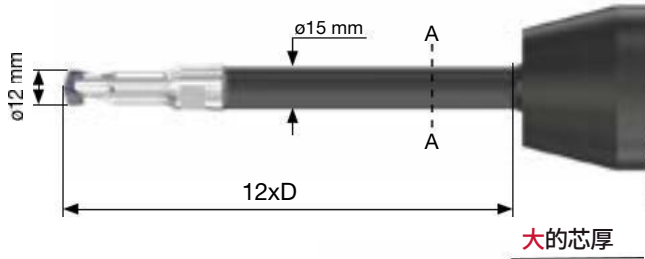


■ 使用TungFlex提高钻体刚性，实现精准的钻孔定位。

New

DRILLMEISTER

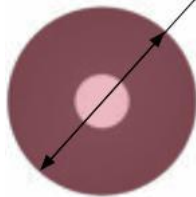
钻体：TID120M10-2 模块化钻杆 + 硬质合金刀杆
 钻尖：DMP120 AH9130



大的芯厚

A-A 横截面有效刚性面积

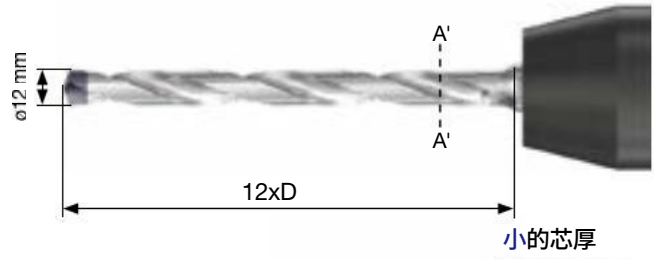
248.1 mm⁴



A - A 横截面

其它品牌

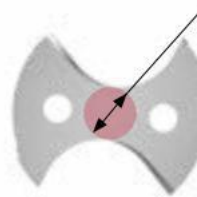
钻头：可换钻尖式钻头，12xD
 钻尖：140° 钻尖角钻头



小的芯厚

A'-A' 横截面有效刚性面积

19.6 mm⁴

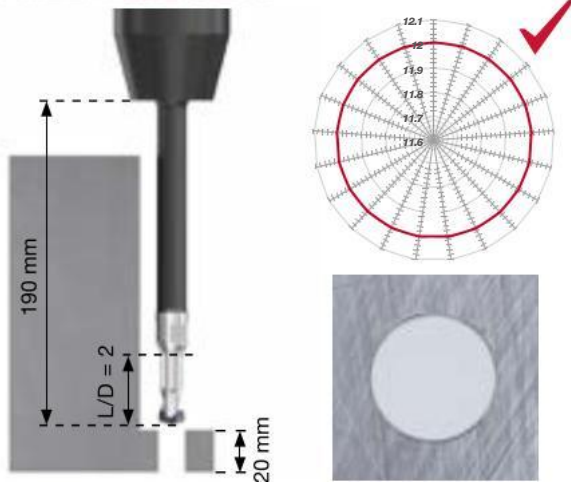


A' - A' 横截面

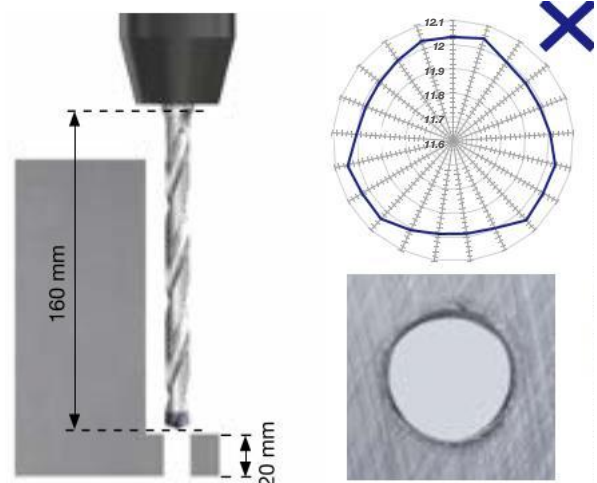
■ 出色的孔质量 vs. 竞争对手

New

DRILLMEISTER



竞争对手



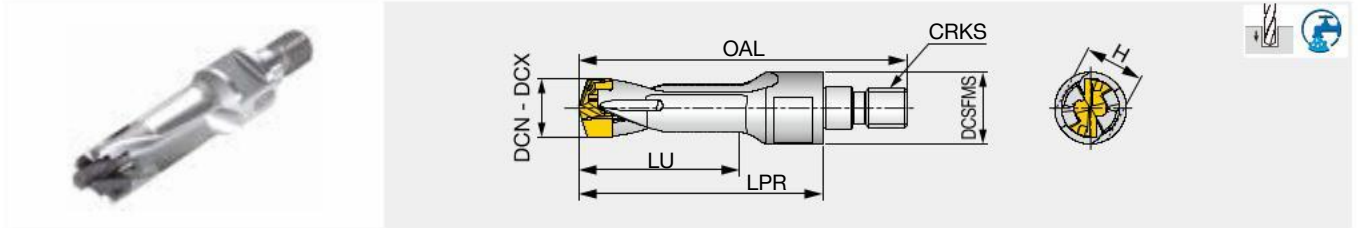
钻头	: 12 mm, L/D = 2
钻尖	: DMP120
材质	: AH9130
工件材料	: 高碳钢/ S55C, C55
切削速度	: Vc = 100 m/min
进给量	: f = 0.3 mm/rev
孔深	: H = 20 mm
冷却方式	: 湿式 (内冷)

模块化钻杆

New

TID-M L/D=2

"TungFlex"接口的模块化钻杆



型号	DC	DCSFMS	LU	LPR	OAL			CRKS	刀片座尺寸	H	刀头
					DMP	DMC	DMF				
TID060M6-2	6 - 6.4	10	13	27.55	42.05	42.2	41.21	M6	6	7	DM*060 - DM*064
TID065M6-2	6.5 - 6.9	10	14.5	29.15	43.65	43.8	42.78	M6	6.5	7	DM*065 - DM*069
TID070M6-2	7 - 7.4	10	15	30.55	45.05	45.5	44.18	M6	7	7	DM*070 - DM*074
TID075M6-2	7.5 - 7.9	10	16.5	32.05	46.55	47	45.68	M6	7	7	DM*075 - DM*079
TID080M6-2	8 - 8.4	10	18	33.65	48.15	48.3	47.29	M6	8	7	DM*080 - DM*084
TID085M6-2	8.5 - 8.9	10	19.5	35.15	49.65	49.8	48.79	M6	8	7	DM*085 - DM*089
TID090M6-2	9 - 9.4	10	20	36.85	51.35	51.5	50.31	M6	9	7	DM*090 - DM*094
TID095M6-2	9.5 - 9.9	10	21.5	38.35	52.85	53	51.81	M6	9	7	DM*095 - DM*099
TID100M8-2	10 - 10.4	14.5	22	42.95	59.95	60.57	58.62	M8	10	10	DM*100 - DM*104
TID105M8-2	10.5 - 10.9	14.5	23.5	44.55	61.55	62.17	60.22	M8	10	10	DM*105 - DM*109
TID110M8-2	11 - 11.4	14.5	24	46.15	63.15	63.8	61.6	M8	11	10	DM*110 - DM*114
TID115M8-2	11.5 - 11.9	14.5	25.5	47.75	64.75	65.4	63.2	M8	11	10	DM*115 - DM*119
TID120M8-2	12 - 12.4	14.5	26	49.3	66.3	66.93	64.71	M8	12	10	DM*120 - DM*124
TID125M8-2	12.5 - 12.9	14.5	27.5	50.9	67.9	68.53	66.31	M8	12	10	DM*125 - DM*129
TID130M10-2	13 - 13.4	18	28	49	68	68.75	66.13	M10	13	15	DM*130 - DM*134
TID135M10-2	13.5 - 13.9	18	29.5	50.5	69.5	70.25	67.63	M10	13	15	DM*135 - DM*139
TID140M10-2	14 - 14.4	18	31	52.15	71.15	71.96	69.16	M10	14	15	DM*140 - DM*144

刀具直径	孔径公差*
ø6 - ø14.4	+0.04 / 0

*仅供参考

备件

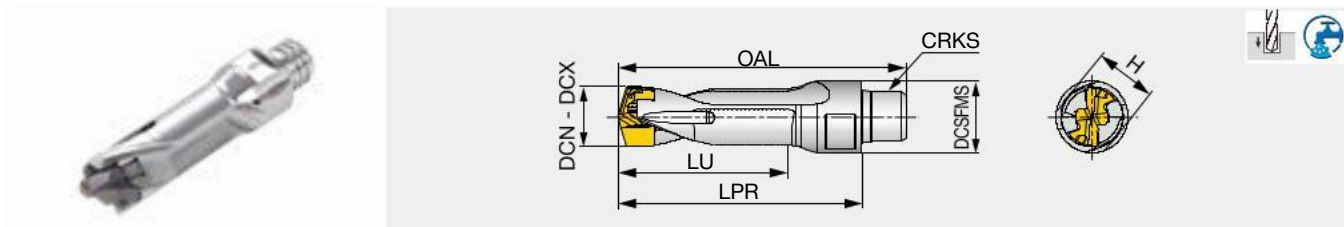


型号	锁紧扳手
TID060M6-2 - TID095M6-2	K-TID6-9.99
TID100M8-2 - TID140M10-2	K-TID10-19.99

New

TID-S L/D=2

"TungMeister"接口的模块化钻杆



型号	DC	DCSFMS	LU	LPR	OAL			CRKS	刀片座尺寸	H	刀头
					DMP	DMC	DMF				
TID065S06-2	6.5 - 6.9	10	14.5	27.15	33.45	33.6	32.58	S06	6.5	8	DM*065
TID085S06-2	8.5 - 8.9	10	19.5	33.15	39.45	39.55	38.59	S06	8.5	8	DM*085
TID105S08-2	10.5 - 10.9	12	23.5	40.55	48.05	48.67	46.72	S08	10.5	10	DM*105

刀具直径	孔径公差*
ø6.5 - ø10.9	+0.04 / 0

*仅供参考

备件



型号	锁紧扳手
TID065S06-2, TID085S06-2	K-TID6-9.99
TID105S08-2	K-TID10-19.99

型号	扳手*
TID065S06-2, TID085S06-2	KEYV-S06
TID105S08-2	KEYV-S08

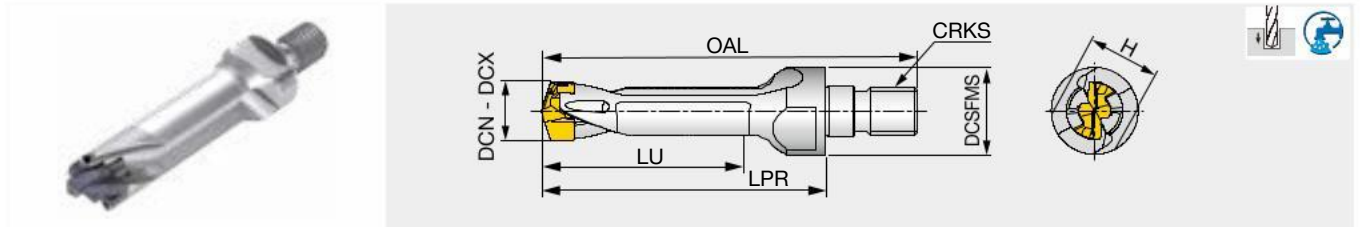


*需单独购买

New

TID-M L/D=3

"TungFlex"接口的模块化钻杆



型号	DC	DCSFMS	LU	LPR	OAL			CRKS	刀片座尺寸	H	刀头
					DMP	DMC	DMF				
TID060M10-3	6 - 6.4	18	19	37.05	56.05	56.2	55.21	M10	6	15	DM*060 - DM*064
TID065M10-3	6.5 - 6.9	18	21	38.9	57.9	58.05	57.03	M10	6.5	15	DM*065 - DM*069
TID070M10-3	7 - 7.4	18	22	40.55	59.55	60	58.68	M10	7	15	DM*070 - DM*074
TID075M10-3	7.5 - 7.9	18	24	42.3	61.3	61.75	60.43	M10	7	15	DM*075 - DM*079
TID080M10-3	8 - 8.4	18	26	44.15	63.15	63.3	62.29	M10	8	15	DM*080 - DM*084
TID085M10-3	8.5 - 8.9	18	28	45.9	64.9	65.05	64.04	M10	8	15	DM*085 - DM*089
TID090M10-3	9 - 9.4	18	29	47.85	66.85	67	65.81	M10	9	15	DM*090 - DM*094
TID095M10-3	9.5 - 9.9	18	31	49.6	68.6	68.75	67.56	M10	9	15	DM*095 - DM*099
TID100M10-3	10 - 10.4	18	32	51.45	70.45	71.07	69.12	M10	10	15	DM*100 - DM*104
TID105M10-3	10.5 - 10.9	18	34	53.3	72.3	72.92	70.97	M10	10	15	DM*105 - DM*109
TID110M10-3	11 - 11.4	18	35	55.15	74.15	74.8	72.6	M10	11	15	DM*110 - DM*114
TID115M10-3	11.5 - 11.9	18	37	57	76	76.65	74.45	M10	11	15	DM*115 - DM*119
TID120M10-3	12 - 12.4	18	38	58.8	77.8	78.43	76.21	M10	12	15	DM*120 - DM*124
TID125M10-3	12.5 - 12.9	18	40	60.65	79.65	80.28	78.06	M10	12	15	DM*125 - DM*129
TID130M10-3	13 - 13.4	18	41	62.5	81.5	82.25	79.63	M10	13	15	DM*130 - DM*134
TID135M10-3	13.5 - 13.9	18	43	64.25	83.25	84	81.38	M10	13	15	DM*135 - DM*139
TID140M10-3	14 - 14.4	18	45	66.15	85.15	85.96	83.16	M10	14	15	DM*140 - DM*144
TID145M10-3	14.5 - 14.9	18	47	68	87	87.81	85.01	M10	14	15	DM*145 - DM*149
TID150M10-3	15 - 15.9	18	48	69.73	88.73	89.64	86.63	M10	15	15	DM*150 - DM*159
TID160M12-3	16 - 16.9	23	51	75.4	97.4	98.37	95.14	M12	16	17	DM*160 - DM*169
TID170M12-3	17 - 17.9	23	54	79.1	101.1	102.08	98.55	M12	17	17	DM*170 - DM*179
TID180M12-3	18 - 18.9	23	57	82.7	104.7	105.75	101.85	M12	18	17	DM*180 - DM*189

刀具直径	孔径公差*
ø6 - ø17.9	+0.04 / 0
ø18 - ø18.9	+0.045 / 0

*仅供参考

备件



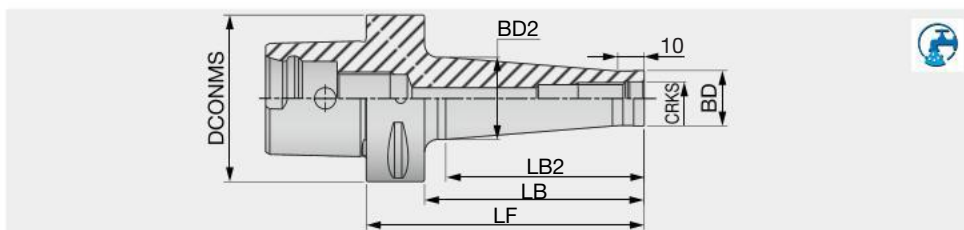
型号	锁紧扳手
TID060M10-3 - TID095M10-3	K-TID6-9.99
TID100M10-3 - TID180M12-3	K-TID10-19.99

刀柄

C-ODP

螺纹连接刀柄, 用于模块化钻杆

TUNGFLEX



型号	CRKS	DCONMS	BD	BD2	LF	LB	LB2
C4ODP10X53	M10	40	18	23	53	33	23
C4ODP12X53	M12	40	21	26	53	33	23
C4ODP16X53	M16	40	29	34	53	33	23
C5ODP10X53	M10	50	18	19.5	53	33	25
C5ODP10X103	M10	50	18	28	103	83	75
C5ODP12X53	M12	50	21	23.5	53	33	25
C5ODP12X103	M12	50	21	31	103	83	75
C5ODP16X53	M16	50	29	34	53	33	25
C5ODP16X103	M16	50	29	36	103	83	75
C6ODP10X55	M10	63	18	19.5	55	33	25
C6ODP10X105	M10	63	18	28	105	83	75
C6ODP10X130	M10	63	18	32	130	108	100
C6ODP12X55	M12	63	21	23.5	55	33	25
C6ODP12X105	M12	63	21	31	105	83	75
C6ODP12X130	M12	63	21	36	130	108	100

适用于7MPa内冷

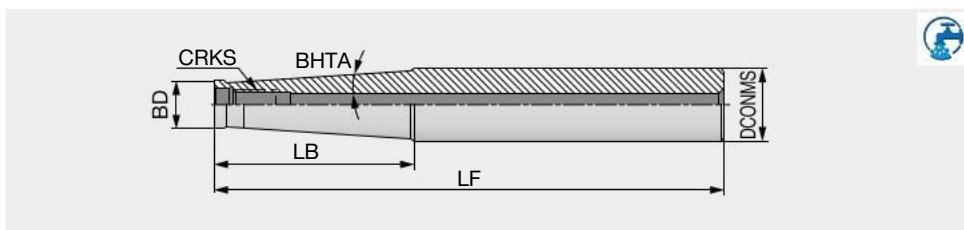
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SM

钢制模块化刀杆

TUNGFLEX



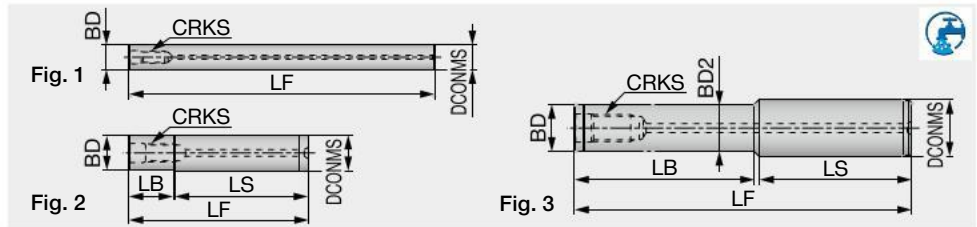
型号	CRKS	DCONMS	LF	LB	BD	BHTA
SM06-L60C10	M6	10	60	20	9.7	0°
SM06-L105-C12	M6	12	105	60	9.7	1.2°
SM06-L125-C16	M6	16	125	60	9.7	3.3°
SM08-L73C16	M8	16	73	25	13	0°
SM08-L128-C16	M8	16	128	80	13	0.9°
SM08-L170-C20	M8	20	170	66.8	13	3.3°
SM10-L80C20	M10	20	80	30	18	0°
SM10-L130-C20	M10	20	130	80	18	0.6°
SM10-L200-C25	M10	25	200	57.2	19	3.3°
SM12-L86-C25	M12	25	86	30	21	5.1°
SM12-L200-C32	M12	32	200	78	21	4.4°

e-catalog



SM-C-H

硬质合金模块化刀杆



型号	CRKS	DCONMS	LF	LB	LS	BD	BD2	图 .
SM06-L100-C10-C-H	M6	10	100	-	-	10	-	1
SM06-L150-C10-C-H	M6	10	150	-	-	10	-	1
SM06-L100-C12-C-H	M6	12	100	-	-	12	-	1
SM06-L150-C12-C-H	M6	12	150	-	-	12	-	1
SM08-L80-20-C16-C-H	M8	16	80	20	59.6	15.3	-	2
SM08-L100-40-C16-C-H	M8	16	100	40	59.6	15.3	-	2
SM08-L150-80-C16-C-H	M8	16	150	80	69.6	15.3	-	2
SM08-L200-100-C16-C-H	M8	16	200	100	98.2	13	12.5	3
SM08-L200-140-C16-C-H	M8	16	200	140	59.6	15.3	-	2
SM08-L250-180-C16-C-H	M8	16	250	180	69.6	15.3	-	2
SM10-L80-20-C20-C-H	M10	20	80	20	59.2	18.5	-	2
SM10-L100-40-C20-C-H	M10	20	100	40	59.2	18.5	-	2
SM10-L150-80-C20-C-H	M10	20	150	80	69.2	18.5	-	2
SM10-L200-100-C20-C-H	M10	20	200	100	99.2	18.5	-	2
SM10-L200-140-C20-C-H	M10	20	200	140	58.7	18	17.5	3
SM10-L200-140-C20-C-H-N	M10	20	200	140	59.2	18.5	-	2
SM10-L250-130-C20-C-H	M10	20	250	130	118.7	18	17.5	3
SM10-L250-180-C20-C-H	M10	20	250	180	68.7	18	17.5	3
SM10-L250-180-C20-C-H-N	M10	20	250	180	69.2	18.5	-	2
SM10-L300-180-C20-C-H	M10	20	300	180	118.7	18	17.5	3
SM10-L300-230-C20-C-H	M10	20	300	230	68.7	18	17.5	3
SM12-L100-40-C25-C-H	M12	25	100	40	59.5	24	-	2
SM12-L150-80-C25-C-H	M12	25	150	80	67.7	24	-	3
SM12-L150-80-C25-C-H-N	M12	25	150	80	69.5	21	20.5	2
SM12-L200-100-C25-C-H	M12	25	200	100	97.7	24	-	3
SM12-L200-100-C25-C-H-N	M12	25	200	100	99.5	21	20.5	2
SM12-L200-140-C25-C-H	M12	25	200	140	57.7	24	-	3
SM12-L250-130-C25-C-H	M12	25	250	130	117.7	21	20.5	3
SM12-L250-180-C25-C-H	M12	25	250	180	69.5	24	-	2
SM12-L300-180-C25-C-H	M12	25	300	180	117.7	24	-	3
SM12-L300-180-C25-C-H-N	M12	25	300	180	119.5	21	20.5	2
SM12-L300-230-C25-C-H	M12	25	300	180	67.7	24	-	3
				230		21	20.5	

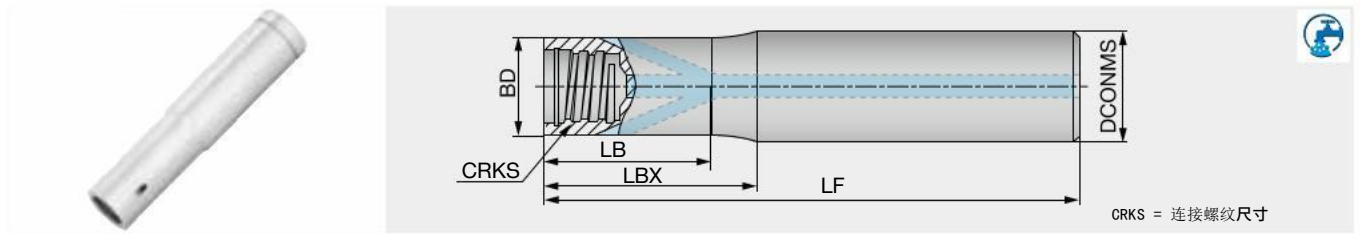
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VSSD**-W-A...

TUNGMEISTER

带内冷孔的缩颈圆柱柄刀杆



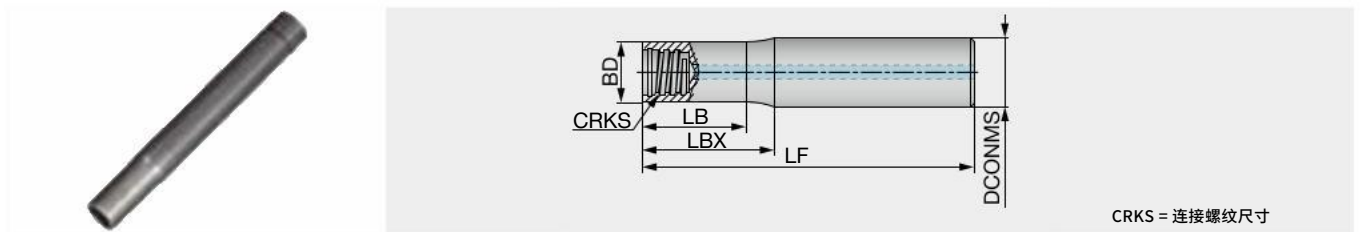
CRKS = 连接螺纹尺寸

型号	DCONMS	BD	LF	LBX	LB	CRKS	刀杆材质
VSSD10L070S06-W-A	10	9.6	70	20	19	S06	钨钢
VSSD10L090S06-W-A	10	9.6	90	40	39	S06	钨钢
VSSD10L110S06-W-A	10	9.6	110	60	59	S06	钨钢
VSSD12L070S08-W-A	12	11.5	70	20	19	S08	钨钢
VSSD12L090S08-W-A	12	11.5	90	40	39	S08	钨钢
VSSD12L110S08-W-A	12	11.5	110	60	59	S08	钨钢
VSSD12L130S08-W-A	12	11.5	130	80	79	S08	钨钢

VSSD...

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缩颈圆柱柄刀杆



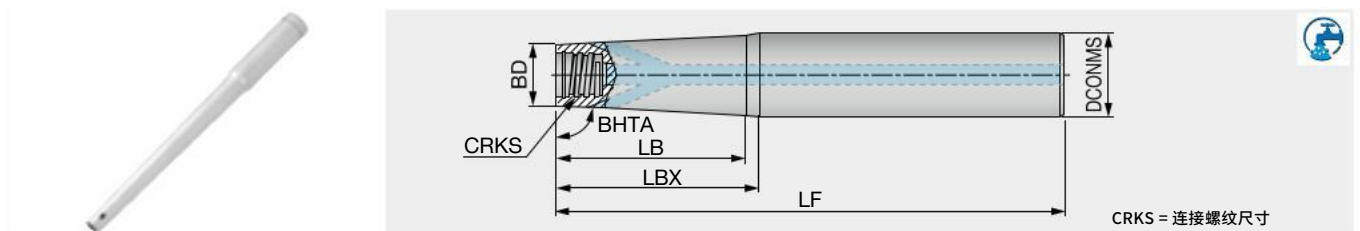
CRKS = 连接螺纹尺寸

型号	DCONMS	BD	LF	LBX	LB	CRKS	刀杆形状	刀杆材质
VSSD12L070S08-C-A	12	11.5	70	20	17	S08	圆柱柄	硬质合金
VSSD12L090S08-S-A	12	11.5	90	16	13.6	S08	圆柱柄	钢
VSSD12L090LS08-C-A	12	11.5	90	40	37	S08	圆柱柄	硬质合金
VSSD12L090LS08-S-A	12	11.5	90	42	37	S08	圆柱柄	钢
VSSD12L110S08-C-A	12	11.5	110	60	57	S08	圆柱柄	硬质合金
VSSD12L130S08-C-A	12	11.5	130	80	77	S08	圆柱柄	硬质合金

VTSD**-W-A...

TUNGMEISTER

带内冷孔的锥颈圆柱柄刀杆



CRKS = 连接螺纹尺寸



型号	BHTA	DCONMS	BD	LF	LBX	LB	CRKS	刀杆材质
VTSD12L110S06-W-A	89°	12	9.6	110	60	59	S06	钨钢
VTSD16L170S06-W-A	89°	16	9.6	170	120	116	S06	钨钢

■ 扳手

外观	型号	连接螺纹尺寸	扭矩 (N.m)	适用的钻杆型号
	KEYV-S06	S06	10	TID065S06-2 TID085S06-2
	KEYV-S08	S08	15	TID105S08-2

注：扳手需单独购买。

■ 扭矩扳手

	外观	型号	连接螺纹尺寸	扭矩(N·m)
扳手柄		TORQUEWRENCH5-50NM9x12	-	5 - 50
开口扳手头		TM-WRENCH-8-06	S06	10
		TM-WRENCH-10-08	S08	15

标准加工条件

ISO	工件材料	切削速度 Vc (m/min)	进给: f (mm/rev) 刀具直径: DC (mm)					
			ø6 - 7.9	ø8 - 9.9	ø10 - ø11.9	ø12 - ø13.9	ø14 - ø15.9	ø16 - ø18.9
P	低碳钢 (C < 0.3) SS400、SM490、S25C 等 C15E4、E275A、E355D 等。	80 - 140	0.09 - 0.13	0.12 - 0.25	0.15 - 0.28	0.18 - 0.3	0.20 - 0.35	0.25 - 0.45
	高碳钢 (C > 0.3) S45C、S55C 等 C45、C55 等	70 - 120	0.09 - 0.13	0.12 - 0.25	0.15 - 0.28	0.18 - 0.3	0.2 - 0.35	0.25 - 0.45
	低合金钢 SCM415 等 18CrMo4 等	70 - 120	0.08 - 0.13	0.11 - 0.25	0.14 - 0.28	0.16 - 0.32	0.18 - 0.35	0.23 - 0.4
	合金钢 SCM440、SCr420 等 42CrMo4、20Cr4 等。	40 - 90	0.08 - 0.13	0.11 - 0.25	0.14 - 0.28	0.16 - 0.32	0.18 - 0.35	0.23 - 0.4
M	不锈钢 SUS304、SUS316 等 X5CrNi18-9、 X5CrNiMo17-12-2 等。	30 - 70	0.08 - 0.1	0.1 - 0.15	0.12 - 0.18	0.14 - 0.2	0.16 - 0.24	0.16 - 0.26
K	灰铸铁 FC250 等 GG25 等	80 - 180	0.12 - 0.18	0.15 - 0.3	0.20 - 0.35	0.25 - 0.4	0.3 - 0.45	0.35 - 0.55
	球墨铸铁 FCD700 等 GGG70 等	80 - 140	0.12 - 0.18	0.15 - 0.3	0.20 - 0.35	0.25 - 0.4	0.3 - 0.45	0.35 - 0.55
N	铝合金 ADC12 等 AlSi11Cu3 等。	80 - 220	0.1 - 0.2	0.2 - 0.35	0.25 - 0.4	0.3 - 0.45	0.35 - 0.5	0.4 - 0.6
S	钛合金 Ti-6Al-4V 等	20 - 50	0.05 - 0.07	0.06 - 0.12	0.08 - 0.15	0.1 - 0.28	0.12 - 0.2	0.14 - 0.22
	镍基合金	20 - 50	0.05 - 0.07	0.06 - 0.11	0.08 - 0.13	0.1 - 0.15	0.12 - 0.18	0.12 - 0.22
H	淬火钢	20 - 50	0.05 - 0.07	0.06 - 0.12	0.08 - 0.15	0.1 - 0.18	0.12 - 0.2	0.14 - 0.22

- 参考上述切削条件，根据机床的刚性，性能和被加工工件材料，调整切削条件。
- 加工机床的刚性和切削条件可能会影响孔径精度和孔质量。