



Exchangeable head drill

DRILLMEISTER

Tungaloy Report No. 412S10-US

New long reach drilling solution with modular body



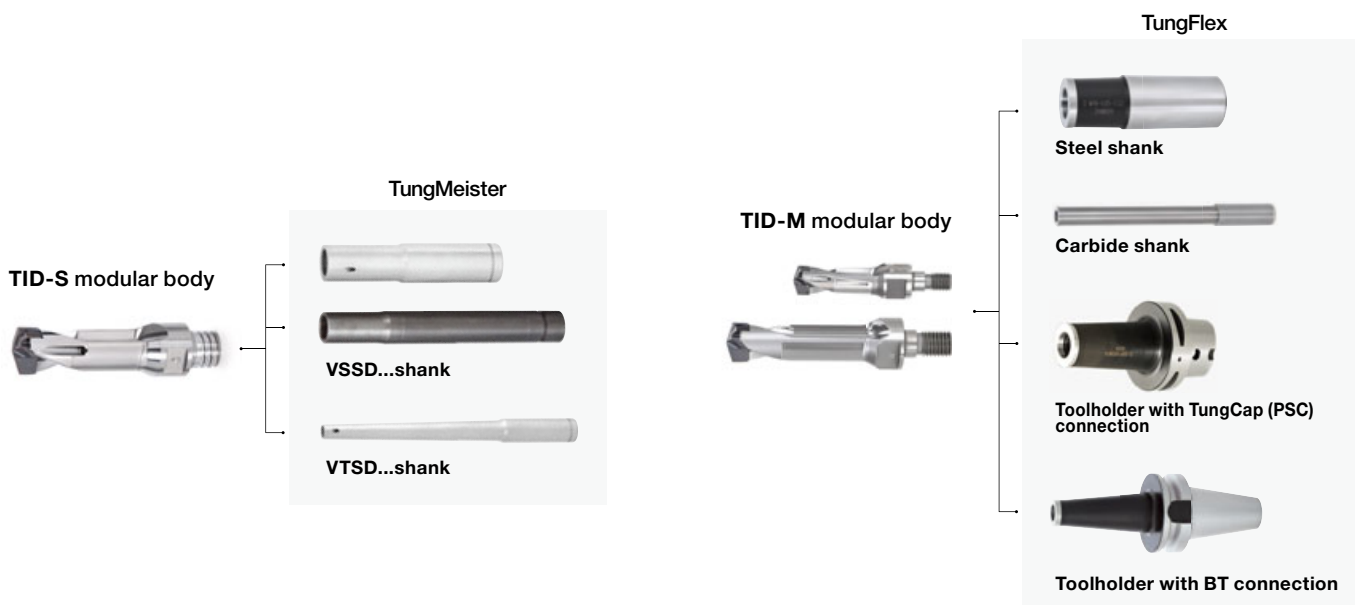
Modular System

- TungFlex and TungMeister tooling systems ensure optimal toolholder combination, allowing stable drilling operation even with long overhang tool set up.
- Quick change capability in the machine helps minimize machine downtime
- Standard drilling depth of 2xD or 3xD



Modular body	Maximum drilling depth	Shank type	Drilling diameter range (mm)
TID-M	2xD	TungFlex connection	ø6 (0.236") - ø14.4 (0.567")
	3xD		ø6 (0.236") - ø18.9 (0.744")
TID-S	2xD	TungMeister connection	ø6.9 (0.272") - ø10.9 (0.429")

A broad tooling range of TungFlex and TungMeister systems



Enhanced body strength for accurate hole positioning with TungFlex

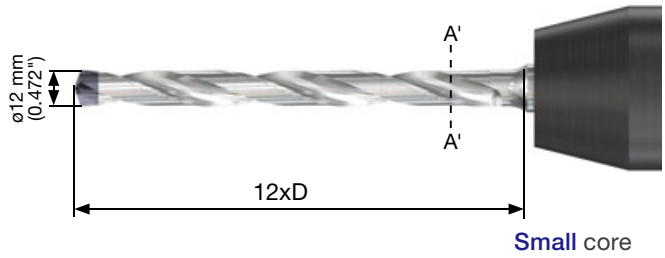
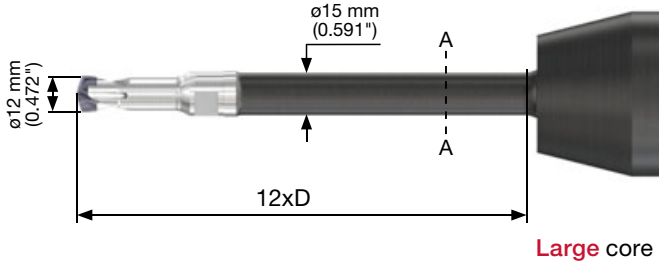
New

DRILLMEISTER

Drill: **TID120M8-2** modular body + carbide shank
 Drill head: **DMP120** drill head in AH9130 grade

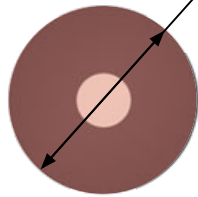
Competitor

Drill: Exchangeable head drill, 12xD
 Drill head: 140° point angle drill tip



Area moment of inertia for the cross section A-A

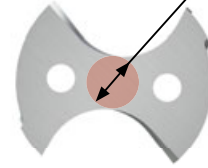
248.1 mm⁴
(9.768 in⁴)



A - A cross section

Area moment of inertia for the cross section A'-A'

19.6 mm⁴
(0.772 in⁴)



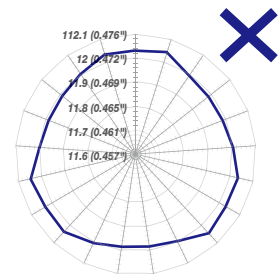
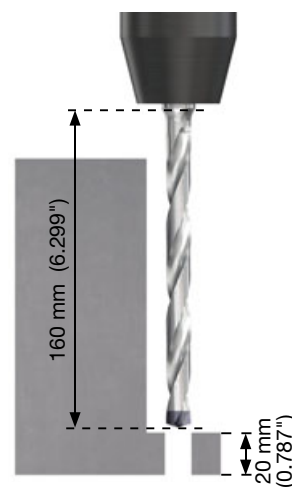
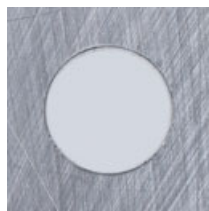
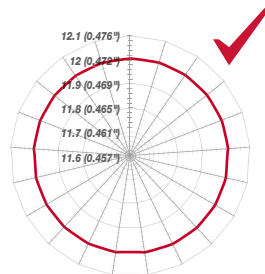
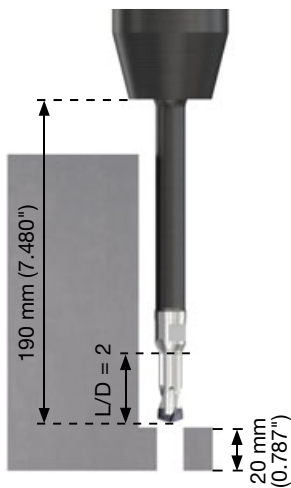
A' - A' cross section

Excellent hole quality vs. competitors

New

DRILLMEISTER

Competitor



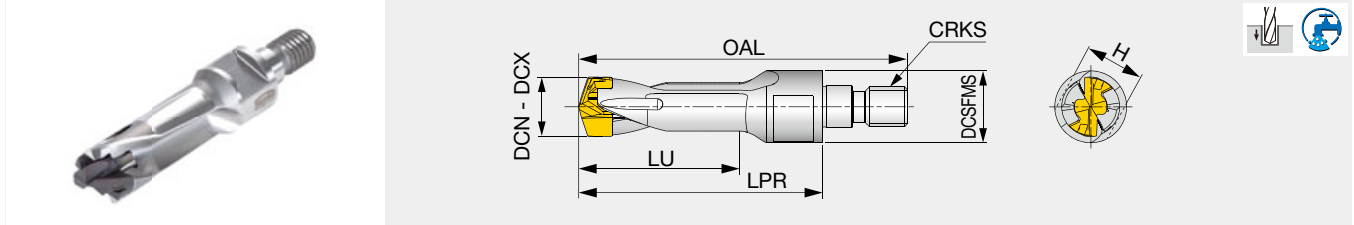
Drill	: 12 mm (0.472") , L/D = 2
Drill head	: DMP120
Grade	: AH9130
Workpiece material	: High carbon steel / S55C,C55 (1055)
Cutting speed	: Vc = 100 m/min (328 sfm)
Feed	: f = 0.3 mm/rev (0.012 ipr)
Hole depth	: H = 20 mm (0.787")
Coolant	: Wet (Internal)

MODULAR BODIES

New

TID-M L/D=2

Modular body with "TungFlex" connection



Metric	DC	DCSFMS	LU	LPR	OAL			CRKS	Pocket size	H	Head
					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

Tool diameter	Hole diameter tolerance*
ø6 - ø14.4	+0.04 / 0

*Just for reference

SPARE PARTS

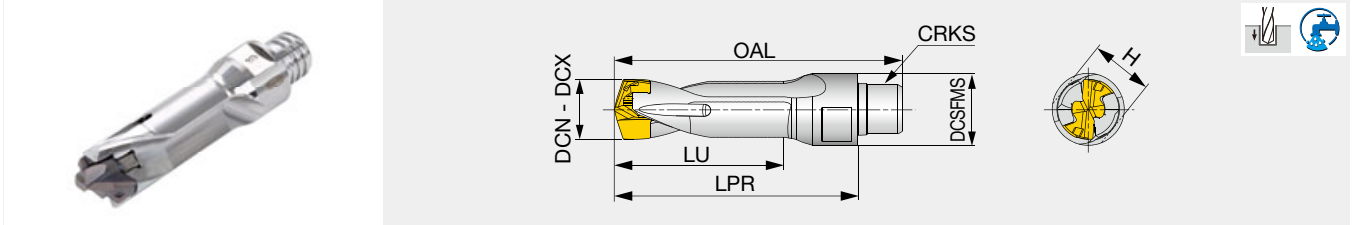


Designation	Clamping key
TID060M6-2 - TID095M6-2	K-TID6-9.99
TID100M8-2 - TID140M10-2	K-TID10-19.99

New

TID-S L/D=2

Modular body with "TungMeister" connection



Metric	DC	DCSFMS	LU	LPR	OAL			CRKS	Pocket size	H	Head
					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

Tool diameter	Hole diameter tolerance*
ø6.5 - ø10.9	+0.04 / 0

*Just for reference

SPARE PARTS



Designation	Clamping key
TID065S06-2, TID085S06-2	K-TID6-9.99
TID105S08-2	K-TID10-19.99

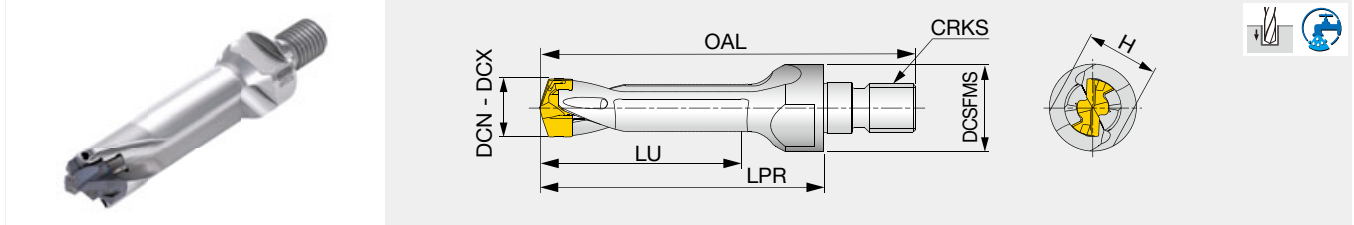
Designation	Wrench*	
TID065S06-2, TID085S06-2	KEYV-S06	
TID105S08-2	KEYV-S08	

*Sold separately

New

TID-M L/D=3

Modular body with "TungFlex" connection



Metric	DC	DCSFMS	LU	LPR	OAL				CRKS	Pocket size	H	Head
					DMP	DMC	DMF	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	

Tool diameter	Hole diameter tolerance*
ø6 - ø17.9	+0.04 / 0
ø18 - ø18.9	+0.045 / 0

*Just for reference

SPARE PARTS

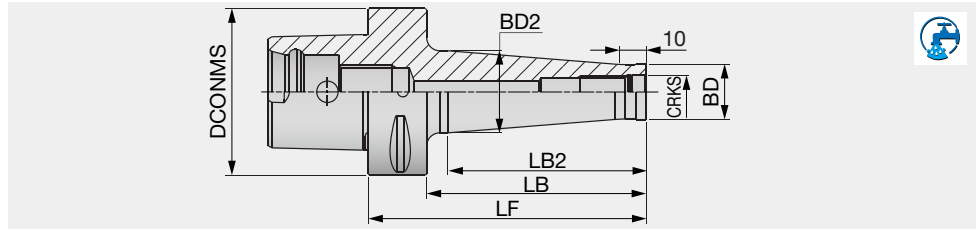
Designation	Clamping key
TID060M10-3 - TID095M10-3	K-TID6-9.99
TID100M10-3 - TID180M12-3	K-TID10-19.99

SHANKS

C-ODP

Screw-clamp holder for modular body

TUNGFLEX



Metric	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

Applicable for 7 MPa coolant

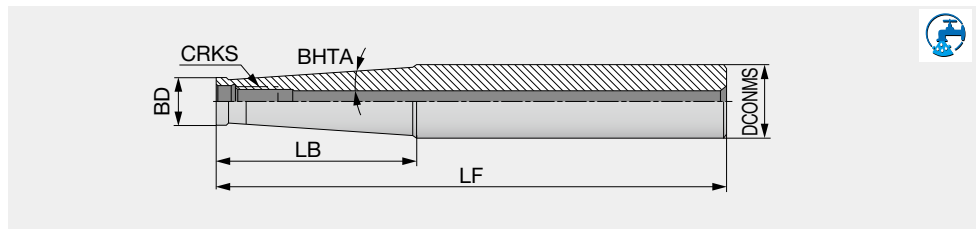
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SM

Steel modular shank

TUNGFLEX



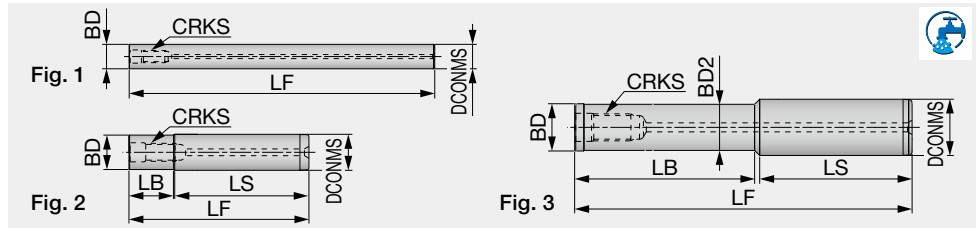
Metric	CRKS	DCONMS	LF	LB	BD	BHTA
SM06-L60C10	M6	10	60	20	9.7	0°
SM06-L105-C12	M6	12	105	60	9.7	1.2°
SM06-L125-C16	M6	16	125	60	9.7	3.3°
SM08-L73C16	M8	16	73	25	13	0°
SM08-L128-C16	M8	16	128	80	13	0.9°
SM08-L170-C20	M8	20	170	66.8	13	3.3°
SM10-L80C20	M10	20	80	30	18	0°
SM10-L130-C20	M10	20	130	80	18	0.6°
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°

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SM-C-H

Carbide modular shank



Metric	CRKS	DCONMS	LF	LB	LS	BD	BD2	Fig.
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	21	20.5	3
SM12-L150-80-C25-C-H-N	M12	25	150	80	69.5	24	-	2
SM12-L200-100-C25-C-H	M12	25	200	100	97.7	21	20.5	3
SM12-L200-100-C25-C-H-N	M12	25	200	100	99.5	24	-	2
SM12-L200-140-C25-C-H	M12	25	200	140	57.7	21	20.5	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	21	20.5	3
SM12-L300-180-C25-C-H-N	M12	25	300	180	119.5	24	-	2
SM12-L300-230-C25-C-H	M12	25	300	230	67.7	21	20.5	3

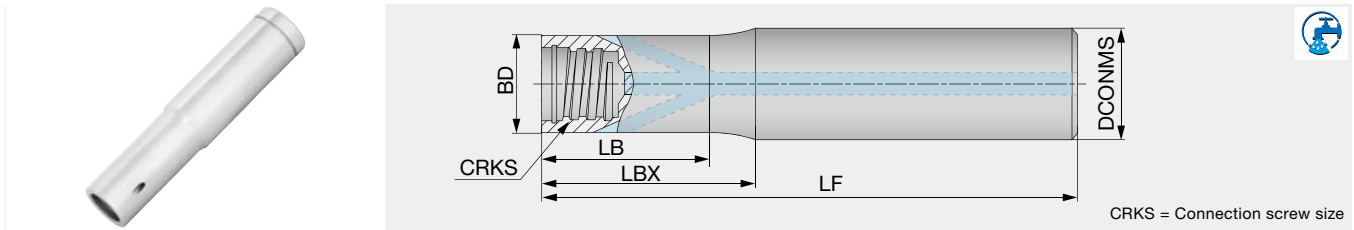
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VSSD**-W-A...

TUNGMEISTER

Straight shank and neck with coolant hole



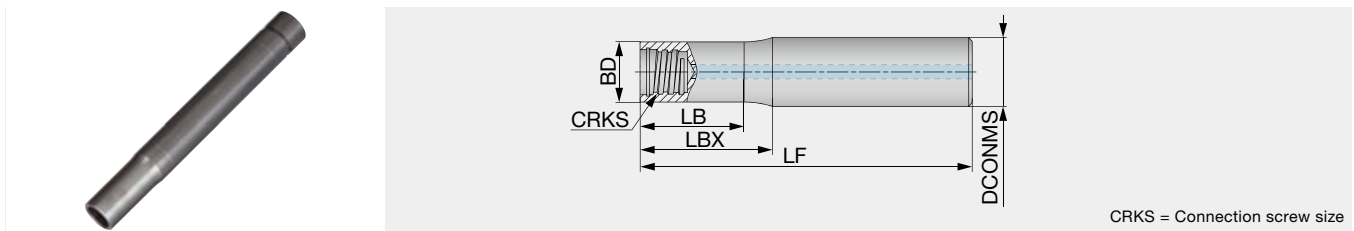
CRKS = Connection screw size

Metric	DCONMS	BD	LF	LBX	LB	CRKS	Shank material
VSSD10L070S06-W-A	10	9.6	70	20	19	S06	Tungsten
VSSD10L090S06-W-A	10	9.6	90	40	39	S06	Tungsten
VSSD10L110S06-W-A	10	9.6	110	60	59	S06	Tungsten
VSSD12L070S08-W-A	12	11.5	70	20	19	S08	Tungsten
VSSD12L090S08-W-A	12	11.5	90	40	39	S08	Tungsten
VSSD12L110S08-W-A	12	11.5	110	60	59	S08	Tungsten
VSSD12L130S08-W-A	12	11.5	130	80	79	S08	Tungsten

VSSD...

TUNGMEISTER

Straight neck and cylindrical shank



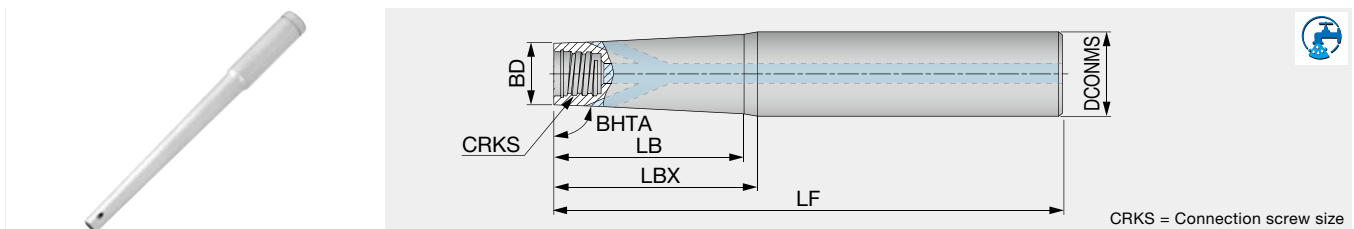
CRKS = Connection screw size

Metric	DCONMS	BD	LF	LBX	LB	CRKS	Shank shape	Shank material
VSSD12L070S08-C-A	12	11.5	70	20	17	S08	Cylindrical	Carbide
VSSD12L090S08-S-A	12	11.5	90	16	13.6	S08	Cylindrical	Steel
VSSD12L090LS08-C-A	12	11.5	90	40	37	S08	Cylindrical	Carbide
VSSD12L090LS08-S-A	12	11.5	90	42	37	S08	Cylindrical	Steel
VSSD12L110S08-C-A	12	11.5	110	60	57	S08	Cylindrical	Carbide
VSSD12L130S08-C-A	12	11.5	130	80	77	S08	Cylindrical	Carbide

VTSD**-W-A...

TUNGMEISTER


Straight shank and taper neck with coolant hole



CRKS = Connection screw size



Metric	BHTA	DCONMS	BD	LF	LBX	LB	CRKS	Shank material
VTSD12L110S06-W-A	89°	12	9.6	110	60	59	S06	Tungsten
VTSD16L170S06-W-A	89°	16	9.6	170	120	116	S06	Tungsten

WRENCH

Appearance	Designation	Connection screw size	Torque (lbs-ft)	Torque (N-m)	Applicable head
	KEYV-S06	S06	7.38	10	TID065S06-2 TID085S06-2
	KEYV-S08	S08	11.06	15	TID105S08-2

Note: Wrenches are sold separately.

TORQUE WRENCHES

Appearance	Designation	Connection screw size	Torque (lbs-ft)	Torque (N-m)
Handle 	TORQUEWRENCH5-50NM9x12	-	3.69 - 36.88	5 - 50
Open wrenches for cylindrical heads 	TM-WRENCH-8-06	S06	7.38	10
	TM-WRENCH-10-08	S08	11.06	15

STANDARD CUTTING CONDITIONS

ISO	Workpiece material	Cutting speed Vc (sfm)	Feed: <i>f</i> (ipr)					
			Tool diameter: DC (in)					
			ø0.236 - ø0.311	ø0.315 - ø0.390	ø0.394 - ø0.469	ø0.472 - ø0.547	ø0.551 - ø0.626	ø0.630 - ø0.744
P	Low carbon steels (C < 0.3) 1018, 1020, 1026, etc.	262 - 459	0.0035 - 0.005	0.005 - 0.01	0.006 - 0.011	0.007 - 0.012	0.008 - 0.014	0.01 - 0.018
	High carbon steels (C > 0.3) 1045, 1055, etc.	230 - 394	0.0035 - 0.005	0.005 - 0.01	0.006 - 0.011	0.007 - 0.012	0.008 - 0.014	0.01 - 0.018
	Low alloy steels 4140, etc.	230 - 394	0.0031 - 0.005	0.004 - 0.01	0.006 - 0.011	0.006 - 0.013	0.007 - 0.014	0.009 - 0.016
	Alloy steels 8620, etc.	131 - 295	0.0031 - 0.005	0.004 - 0.01	0.006 - 0.011	0.006 - 0.013	0.007 - 0.014	0.009 - 0.016
M	Stainless steels 304SS, 316SS, etc.	98 - 230	0.0031 - 0.004	0.004 - 0.006	0.005 - 0.007	0.006 - 0.008	0.006 - 0.009	0.006 - 0.01
K	Gray cast irons Class 25, etc.	262 - 591	0.005 - 0.007	0.006 - 0.012	0.008 - 0.014	0.01 - 0.016	0.012 - 0.018	0.014 - 0.022
	Ductile cast irons 100-70-03, etc.	262 - 459	0.005 - 0.007	0.006 - 0.012	0.008 - 0.014	0.01 - 0.016	0.012 - 0.018	0.014 - 0.022
N	Aluminum alloys	262 - 722	0.004 - 0.008	0.008 - 0.014	0.01 - 0.016	0.012 - 0.018	0.014 - 0.02	0.016 - 0.024
S	Titanium alloys Ti-6Al-4V, etc.	66 - 164	0.0020 - 0.003	0.0024 - 0.005	0.0031 - 0.006	0.004 - 0.011	0.005 - 0.008	0.006 - 0.009
	Nickel-based alloys	66 - 164	0.0020 - 0.003	0.0024 - 0.004	0.0031 - 0.005	0.004 - 0.006	0.005 - 0.007	0.006 - 0.009
H	Hardened steel	66 - 164	0.0020 - 0.003	0.0024 - 0.005	0.0031 - 0.006	0.004 - 0.007	0.005 - 0.008	0.006 - 0.009

- Use the above cutting data for reference. Adjust the data according to the machine rigidity, capability, and the workpiece material being machined.
- Machine tool rigidity and/or cutting parameters being used in the operation may influence the accuracy of the hole sizes and quality.

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