

DrillLine



DRILL FORCE MEISTER

www.tungaloy.com

Tungaloy Report No. 509S2-G

Expanded lineup with new SMF flat-edged drill head: $\varnothing 20 - \varnothing 40$ mm



INDUSTRY 4.0
FEED the SPEED!



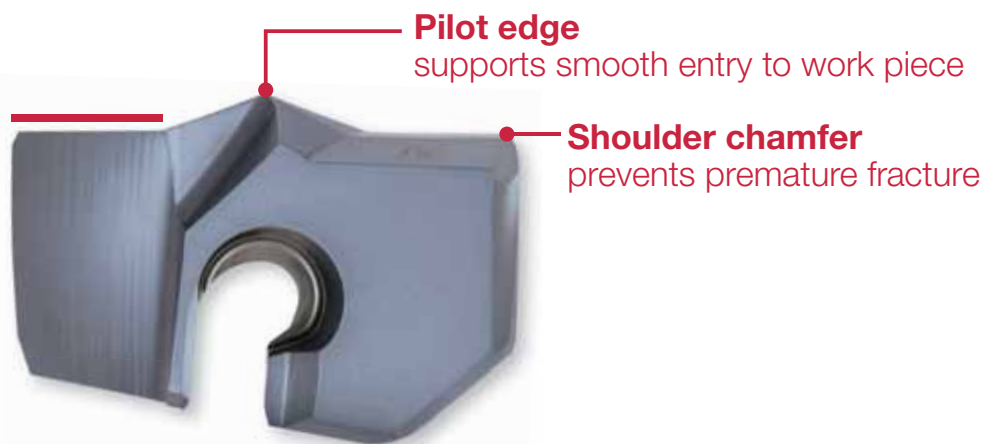
Optimized edge design for efficient drilling of flat-bottom holes

New SMF DrillForceMeister flat-edged drill head

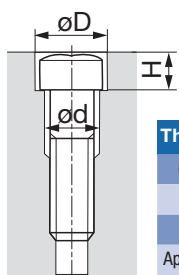
Tungaloy further expands the lineup of SMF flat-edged drill heads. All heads are coated with Tungaloy's top-notch wear resistant PVD grade, AH9130.

The flat-edge drill head is an ideal tool for counterboring bolt and screw heads.

180° flat cutting edges produces holes with flat bottom. Ideal for counterboring bolt heads.



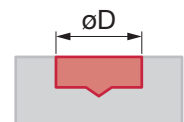
Counterbore dimensions for bolt holes



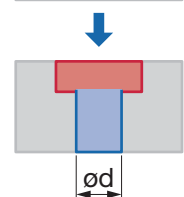
Thread size	M16	M20	M22	M24
øD (mm)	26	32	35	39
H (mm)	17.5	21.5	23.5	25.5
ød (mm)	18	22	24	26
Applicable tool	SMF260	SMF320	SMF350	SMF390

Recommended counterboring method

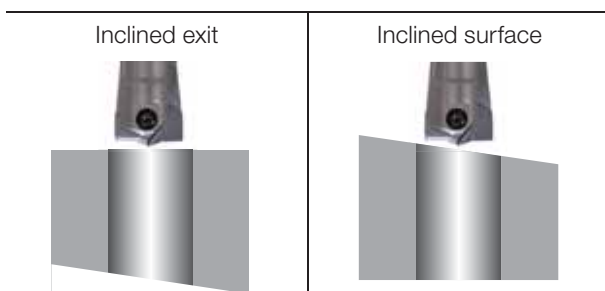
1 Use SMF to make a counterbore for the bolt head.



2 Drill a smaller diameter hole for threads.



Typical applications for irregular surfaces



Compared with a 140° drill tip, the SMF head provides greater resistance to radial forces, improving machining stability during the drilling of irregular surfaces or workpieces with low rigidity.

In addition, the drill head and holder interface is designed to provide tool reliability during demanding operations.

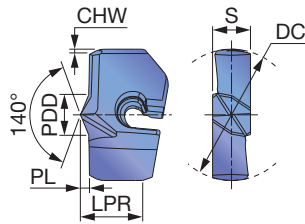


Wide contact area

* Standard DrillForceMeister body can be used

SMF

New



Tool diameter	Head diameter tolerance
ø20 - ø29.9	0 / -0.020
ø30 - ø40	0 / -0.025

P	Steel	★			
M	Stainless	★			
K	Cast iron	★			
N	Non-ferrous	☆			
S	Superalloys	★			
H	Hard materials	★			

★ : First choice
☆ : Second choice

Designation	DC	S	Coated		LPR	PL	CHW	PDD	Pocket size	Body
			AH9130							
SMF200	20	5.69	●		10.2	2.11	0.3	6	20	TIS200F25-*
SMF205	20.5	5.69	●		10	2.11	0.3	6	20	TIS200F25-*
SMF210	21	5.69	●		9.8	2.11	0.3	6	21	TIS210F25-*
SMF215	21.5	5.69	●		9.6	2.11	0.3	6	21	TIS210F25-*
SMF220	22	6.19	●		10.9	2.27	0.3	6.6	22	TIS220F25-*
SMF225	22.5	6.19	●		10.7	2.27	0.3	6.6	22	TIS220F25-*
SMF230	23	6.19	●		10.5	2.27	0.3	6.6	23	TIS230F25-*
SMF235	23.5	6.19	●		10.3	2.27	0.3	6.6	23	TIS230F25-*
SMF240	24	6.69	●		11	2.43	0.3	7.2	24	TIS240F32-*
SMF245	24.5	6.69	●		10.8	2.43	0.3	7.2	24	TIS240F32-*
SMF250	25	6.69	●		10.6	2.43	0.3	7.2	25	TIS250F32-*
SMF255	25.5	6.69	●		10.4	2.43	0.3	7.2	25	TIS250F32-*
SMF260	26	7.49	●		12.7	2.5	0.3	7.8	26	TIS260F32-*
SMF265	26.5	7.49	●		12.5	2.5	0.3	7.8	26	TIS260F32-*
SMF270	27	7.49	●		12.3	2.5	0.3	7.8	27	TIS270F32-*
SMF275	27.5	7.49	●		12.1	2.5	0.3	7.8	27	TIS270F32-*
SMF280	28	7.99	●		12.9	2.66	0.3	8.4	28	TIS280F32-*
SMF300	30	8.49	●		15.1	2.82	0.3	9	30	TIS300F32-*
SMF315	31.5	8.49	●		14.4	2.82	0.3	9	31	TIS310F32-*
SMF320	32	8.99	●		15.3	2.98	0.3	9.6	32	TIS320F40-*
SMF325	32.5	8.99	●		15.1	2.98	0.3	9.6	32	TIS320F40-*
SMF330	33	8.99	●		14.9	2.98	0.3	9.6	33	TIS330F40-*
SMF340	34	8.99	●		14.5	2.98	0.3	9.6	34	TIS340F40-*
SMF345	34.5	8.99	●		14.3	2.98	0.3	9.6	34	TIS340F40-*
SMF350	35	9.99	●		17.1	3.21	0.3	10.5	35	TIS350F40-*
SMF360	36	9.99	●		16.7	3.21	0.3	10.5	36	TIS360F40-*
SMF390	39	10.49	●		17	3.44	0.3	11.4	39	TIS390F40-*
SMF400	40	10.49	●		16.6	3.44	0.3	11.4	40	TIS400F40-*

● : New product

STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Cutting speed Vc (m/min)	Feed: f (mm/rev)		
			ø20 - ø29.9	ø30 - ø35.9	ø36 - ø40
P	Low carbon steel (C15, C20, etc.)	80 - 140	0.2 - 0.5	0.2 - 0.5	0.2 - 0.55
	Carbon steel and alloy steel (S55C / C55, SCM440 / 42CrMo4, etc.)	80 - 130	0.2 - 0.5	0.2 - 0.5	0.2 - 0.55
	Prehardend steel (NAK80, PX5, etc.)	50 - 100	0.2 - 0.5	0.2 - 0.5	0.2 - 0.55
M	Stainless steel (SUS304 / X5CrNi18-9, SUS316 / X5CrNiMo17-12-3, etc.)	40 - 70	0.15 - 0.25	0.2 - 0.3	0.2 - 0.35
K	Grey cast iron (FC250 / 250, FC300 / 300, etc.)	80 - 180	0.25 - 0.55	0.25 - 0.55	0.3 - 0.6
	Ductile cast iron (400-15, 600-3, etc.)	80 - 140	0.25 - 0.55	0.25 - 0.55	0.3 - 0.6
N	Non ferrous materials	100 - 200	0.4 - 0.6	0.4 - 0.6	0.5 - 0.7
S	Heat-resistant alloys (Inconel718, etc.)	30 - 60	0.1 - 0.2	0.1 - 0.2	0.1 - 0.25
	Titanium alloys (Ti-6Al-4V, etc.)	20 - 50	0.1 - 0.2	0.1 - 0.2	0.1 - 0.25
H	Hardened materials	20 - 60	0.1 - 0.2	0.1 - 0.2	0.1 - 0.25

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