

Exchangeable head drill

DRILL **F**ORCE MEISTER

Tungaloy Report No. 509S3-US

Expansion of **SMP** drill head with new diameters and AH9130

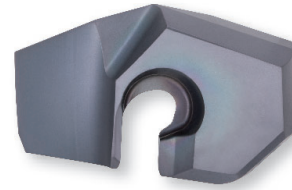




For more information

Grade

Latest coating optimized for extended tool life

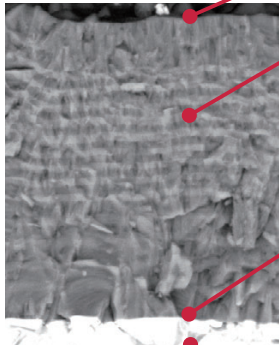


SMP

General purpose drill head

New

AH9130



Resistance to built-up edge

Coating layer to resist built-up edge

Resistance to wear, oxidation, and fracture

- 2 coating layers for wear and oxidation resistance
- Layered alternatively to prevent crack from propagating to fracture

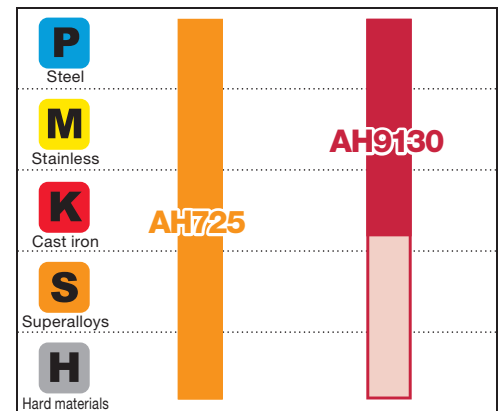
Strong coating-substrate adhesion

Coating is provided with strong adhesion between the coating layer and carbide substrate to prevent coating delamination

Substrate

Carbide substrate features wear and fracture resistance

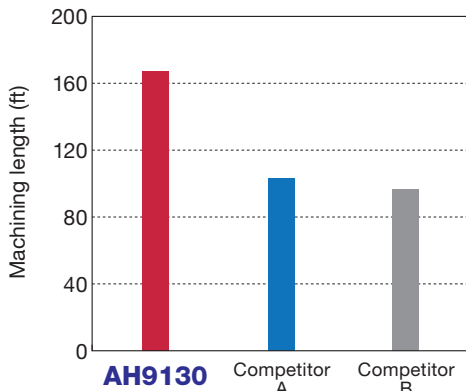
Application range



General purpose

Wear resistance

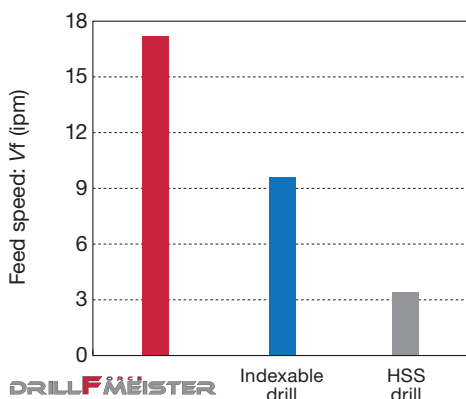
Cutting performance



Tool : $\phi 1.024''$
 Workpiece material : 1055
 Cutting speed : $V_c = 328$ sfm
 Feed : $f = 0.014$ ipr

AH9130 provided superior wear resistance, significantly increasing tool life. In addition, secure drill tip clamping system provided tool life stability.

High productivity

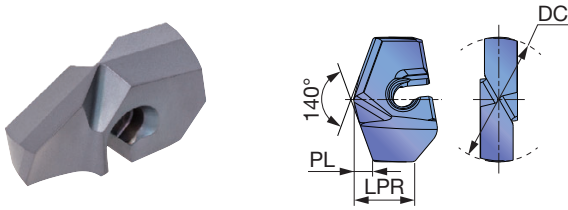


Tool : $\phi 1.299''$, L/D = 5
 Workpiece material : 1055

	Cutting speed V_c (sfm)	Feed f (ipr)	Feed speed V_f (ipm)
DRILLFORCE MEISTER	328	0.016	17
Indexable drill	492	0.006	9.5
HSS drill	66	0.016	3.35

Secure drill tip clamping and high-rigidity body provides remarkable increase in productivity.

SMP General purpose



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

★ : First choice
☆ : Second choice

Tool diameter (in)	Head diameter tolerance
ø0.787" - ø1.177"	+0.0006" / -0.0006"
ø1.181" - ø1.614"	+0.0006" / -0.0008"

Tool diameter (mm)	Head diameter tolerance
ø20 - ø29.9	+0.014 / -0.015
ø30 - ø41	+0.014 / -0.02

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

★ : First choice
☆ : Second choice

Designation	DC (in)	DC (mm)	LPR (mm)	Coated		PL (mm)	Pocket size	Body
				AH9130	AH725			
SMP200	0.787	20	9.65	●	●	3.11	20	TIS200F25-*
SMP205	0.807	20.5	9.44	●	●	3.2	20	TIS200F25-*
SMP210	0.827	21	9.23	●	●	3.29	21	TIS210F25-*
SMP215	0.846	21.5	9.02	●	●	3.38	21	TIS210F25-*
SMP220	0.866	22	10.54	●	●	3.42	22	TIS220F25-*
SMP222	0.874	22.2	10.46	●	●	3.46	22	TIS220F25-*
SMP223	0.878	22.3	10.41	●	●	3.47	22	TIS220F25-*
SMP225	0.886	22.5	10.33	●	●	3.51	22	TIS220F25-*
SMP230	0.906	23	10.12	●	●	3.6	23	TIS230F25-*
SMP235	0.925	23.5	9.91	●	●	3.69	23	TIS230F25-*
SMP238	0.937	23.8	9.78	●	●	3.75	23	TIS230F25-*
SMP240	0.945	24	10.76	●	●	3.73	24	TIS240F32-*
SMP245	0.965	24.5	10.55	●	●	3.82	24	TIS240F32-*
SMP247	0.972	24.7	10.47	●	●	3.86	24	TIS240F32-*
SMP250	0.984	25	10.34	●	●	3.91	25	TIS250F32-*
SMP255	1.004	25.5	10.13	●	●	4	25	TIS250F32-*
SMP260	1.024	26	11.55	●	●	4.04	26	TIS260F32-*
SMP261	1.028	26.1	11.51	●	●	4.06	26	TIS260F32-*
SMP262	1.031	26.2	11.47	●	●	4.08	26	TIS260F32-*
SMP263	1.035	26.3	11.42	●	●	4.09	26	TIS260F32-*
SMP264	1.039	26.4	11.38	●	●	4.11	26	TIS260F32-*
SMP265	1.043	26.5	11.34	●	●	4.13	26	TIS260F32-*
SMP266	1.047	26.6	11.3	●	●	4.15	26	TIS260F32-*
SMP267	1.051	26.7	11.26	●	●	4.17	26	TIS260F32-*
SMP270	1.063	27	11.13	●	●	4.22	27	TIS270F32-*
SMP271	1.067	27.1	11.09	●	●	4.24	27	TIS270F32-*
SMP272	1.071	27.2	11.05	●	●	4.26	27	TIS270F32-*
SMP273	1.075	27.3	11	●	●	4.28	27	TIS270F32-*
SMP275	1.083	27.5	10.92	●	●	4.31	27	TIS270F32-*
SMP276	1.087	27.6	10.88	●	●	4.33	27	TIS270F32-*
SMP280	1.102	28	11.74	●	●	4.35	28	TIS280F32-*
SMP281	1.106	28.1	11.7	●	●	4.37	28	TIS280F32-*
SMP283	1.114	28.3	11.61	●	●	4.4	28	TIS280F32-*
SMP285	1.122	28.5	11.53	●	●	4.44	28	TIS280F32-*
SMP286	1.126	28.6	11.49	●	●	4.46	28	TIS280F32-*
SMP290	1.142	29	11.32	●	●	4.53	29	TIS290F32-*
SMP291	1.146	29.1	11.28	●	●	4.55	29	TIS290F32-*
SMP293	1.154	29.3	11.19	●	●	4.59	29	TIS290F32-*
SMP295	1.161	29.5	11.11	●	●	4.62	29	TIS290F32-*
SMP296	1.165	29.6	11.07	●	●	4.64	29	TIS290F32-*
SMP297	1.169	29.7	11.03	●	●	4.66	29	TIS290F32-*
SMP298	1.173	29.8	10.98	●	●	4.68	29	TIS290F32-*
SMP299	1.177	29.9	10.94	●	●	4.7	29	TIS290F32-*
SMP300	1.181	30	14.14	●	●	4.67	30	TIS300F32-*
SMP301	1.185	30.1	14.1	●	●	4.69	30	TIS300F32-*

Designation	DC (in)	DC (mm)	LPR (mm)	Coated		PL (mm)	Pocket size	Body
				AH9130	AH725			
SMP302	1.189	30.2	14.06	●	●	4.71	30	TIS300F32-*
SMP303	1.193	30.3	14.01	●	●	4.72	30	TIS300F32-*
SMP304	1.197	30.4	13.97	●	●	4.74	30	TIS300F32-*
SMP305	1.201	30.5	13.93	●	●	4.76	30	TIS300F32-*
SMP307	1.209	30.7	13.85	●	●	4.8	30	TIS300F32-*
SMP308	1.213	30.8	13.8	●	●	4.82	30	TIS300F32-*
SMP310	1.220	31	13.72	●	●	4.85	31	TIS310F32-*
SMP311	1.224	31.1	13.68	●	●	4.87	31	TIS310F32-*
SMP313	1.232	31.3	13.59	●	●	4.91	31	TIS310F32-*
SMP315	1.240	31.5	13.51	●	●	4.94	31	TIS310F32-*
SMP318	1.252	31.8	13.38	●	●	5	31	TIS310F32-*
SMP320	1.260	32	14.53	●	●	4.98	32	TIS320F40-*
SMP321	1.264	32.1	14.49	●	●	5	32	TIS320F40-*
SMP322	1.268	32.2	14.45	●	●	5.02	32	TIS320F40-*
SMP325	1.280	32.5	14.32	●	●	5.07	32	TIS320F40-*
SMP328	1.291	32.8	14.19	●	●	5.13	32	TIS320F40-*
SMP330	1.299	33	14.11	●	●	5.16	33	TIS330F40-*
SMP331	1.303	33.1	14.07	●	●	5.18	33	TIS330F40-*
SMP333	1.311	33.3	13.98	●	●	5.22	33	TIS330F40-*
SMP335	1.319	33.5	13.9	●	●	5.25	33	TIS330F40-*
SMP339	1.335	33.9	13.73	●	●	5.33	33	TIS330F40-*
SMP340	1.339	34	13.69	●	●	5.34	34	TIS340F40-*
SMP341	1.343	34.1	13.65	●	●	5.36	34	TIS340F40-*
SMP343	1.350	34.3	13.56	●	●	5.4	34	TIS340F40-*
SMP345	1.358	34.5	13.48	●	●	5.44	34	TIS340F40-*
SMP349	1.374	34.9	13.31	●	●	5.51	34	TIS340F40-*
SMP350	1.378	35	16.56	●	●	5.44	35	TIS350F40-*
SMP351	1.382	35.1	16.52	●	●	5.46	35	TIS350F40-*
SMP352	1.386	35.2	16.48	●	●	5.48	35	TIS350F40-*
SMP355	1.398	35.5	16.35	●	●	5.53	35	TIS350F40-*
SMP357	1.406	35.7	16.27	●	●	5.57	35	TIS350F40-*
SMP360	1.417	36	16.14	●	●	5.62	36	TIS360F40-*
SMP361	1.421	36.1	16.1	●	●	5.64	36	TIS360F40-*
SMP362	1.425	36.2	16.06	●	●	5.66	36	TIS360F40-*
SMP365	1.437	36.5	15.93	●	●	5.71	36	TIS360F40-*
SMP366	1.441	36.6	15.89	●	●	5.73	36	TIS360F40-*
SMP370	1.457	37	15.72	●	●	5.8	37	TIS370F40-*
SMP371	1.461	37.1	15.68	●	●	5.82	37	TIS370F40-*
SMP373	1.469	37.3	15.59	●	●	5.86	37	TIS370F40-*
SMP374	1.472	37.4	15.55	●	●	5.88	37	TIS370F40-*
SMP375	1.476	37.5	15.51	●	●	5.9	37	TIS370F40-*
SMP380	1.496	38	17	●	●	5.91	38	TIS380F40-*

● : New product
★ : Will be released in October 2022
● : Line up
Package quantity = 1 pc

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

★ : First choice
☆ : Second choice

Designation	DC (in)	DC (mm)	LPR (mm)	Coated		PL (mm)	Pocket size	Body
				AH9130	AH725			
SMP381	1.500	38.1	16.96	●	●	5.93	38	TIS380F40-*
SMP383	1.508	38.3	16.87	★	●	5.96	38	TIS380F40-*
SMP385	1.516	38.5	16.79	●	●	6	38	TIS380F40-*
SMP388	1.528	38.8	16.66	●	●	6.06	38	TIS380F40-*
SMP390	1.535	39	16.58	●	●	6.09	39	TIS390F40-*
SMP391	1.539	39.1	16.54	●	●	6.11	39	TIS390F40-*
SMP395	1.555	39.5	16.37	●	●	6.18	39	TIS390F40-*
SMP397	1.563	39.7	16.29	●	●	6.22	39	TIS390F40-*
SMP398	1.567	39.8	16.24	●	●	6.24	39	TIS390F40-*
SMP400	1.575	40	16.16	●	●	6.27	40	TIS400F40-*

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

★ : First choice
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Designation	DC (in)	DC (mm)	LPR (mm)	Coated		PL (mm)	Pocket size	Body
				AH9130	AH725			
SMP401	1.579	40.1	16.12	●	●	6.29	40	TIS400F40-*
SMP402	1.583	40.2	16.08	★	●	6.31	40	TIS400F40-*
SMP403	1.587	40.3	16.03	★	●	6.33	40	TIS400F40-*
SMP405	1.594	40.5	15.95	●	●	6.37	40	TIS400F40-*
SMP408	1.606	40.8	15.82	★	●	6.42	40	TIS400F40-*
SMP410	1.614	41	15.74	●	●	6.46	40	TIS400F40-*

● : New product
★ : Will be released in October 2022
● : Line up
Package quantity = 1 pc

Related Items



STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Cutting speed Vc (sfm)	Feed: f (ipr)		
			ø0.787 - ø1.177	ø1.181 - ø1.413	ø1.417 - ø1.614
P	Low carbon steel 1015, 1020, etc.	262 - 459	0.008 - 0.020	0.008 - 0.020	0.008 - 0.022
	Carbon steel and alloy steel 1055, 4140, etc.	262 - 427	0.008 - 0.020	0.008 - 0.020	0.008 - 0.022
	Prehardened steel NAK80, PX5, etc.	164 - 328	0.008 - 0.020	0.008 - 0.020	0.008 - 0.022
M	Stainless steel 304SS, 316SS, etc.	131 - 262	0.006 - 0.012	0.008 - 0.012	0.008 - 0.014
K	Gray cast iron Class 25, Class 30, etc.	262 - 591	0.010 - 0.022	0.010 - 0.022	0.012 - 0.024
	Ductile cast iron 60-40-18, 80-55-06, etc.	262 - 459	0.010 - 0.022	0.010 - 0.022	0.012 - 0.024
N	Non ferrous materials	328 - 656	0.016 - 0.024	0.016 - 0.024	0.020 - 0.028
S	Heat-resistant alloys Inconel718, etc.	66 - 164	0.004 - 0.008	0.004 - 0.008	0.004 - 0.010
	Titanium alloys Ti-6Al-4V, etc.	66 - 164	0.004 - 0.008	0.004 - 0.008	0.004 - 0.010
H	Hard materials	66 - 197	0.004 - 0.008	0.004 - 0.008	0.004 - 0.010



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