

DrillLine



**DRILLMEISTER**

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Tungaloy Report No. 412S3-G

# New DMH geometry with excellent fracture resistant design



**INDUSTRY 4.0**  
*FEED the SPEED!*

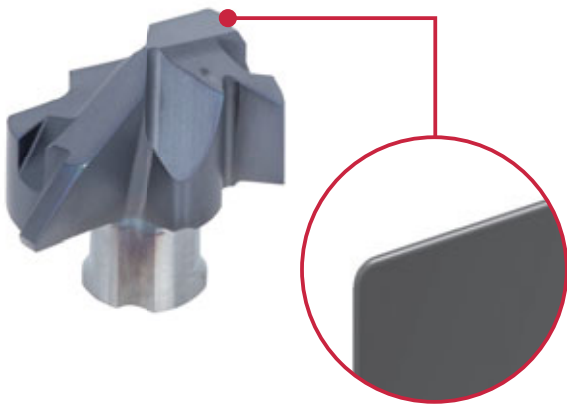


Provides long tool life in challenging hole-making operations

**New**

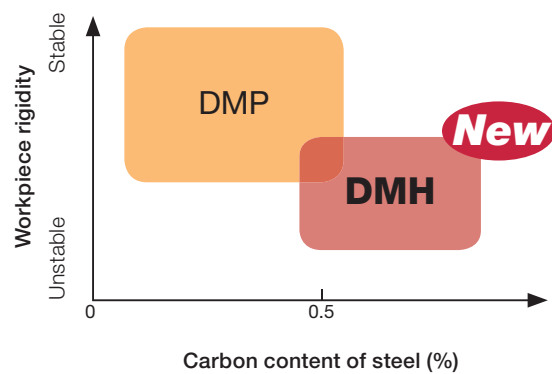
## DMH with optimized edge preparation for edge toughness

- Strong cutting edge design prevents the drill edge from fracturing during demanding processes
- Versatile and wear-resistant AH9130 grade provides extended tool life

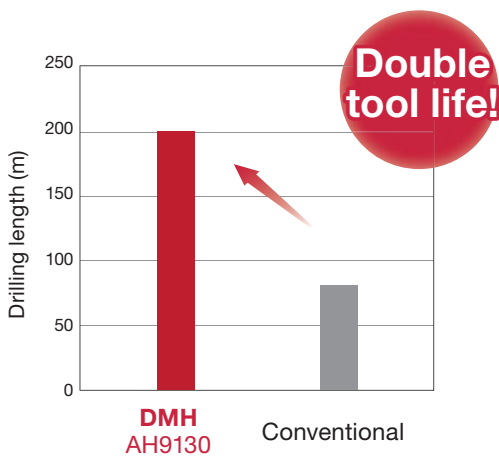


Strong cutting edge design

### Application range of DMH



Longer tool life with no edge fracture



DMH AH9130



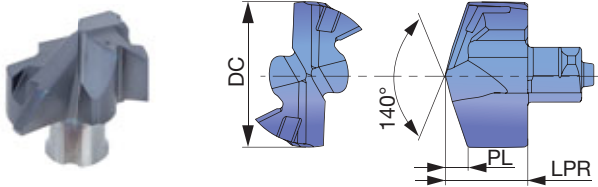
Conventional



<b>P</b>	Tool	: $\phi 13.7$ mm, L/D = 3
	Workpiece material	: High carbon steel
	Drillhead	: DMH137
	Grade	: AH9130
	Cutting speed	: $V_c = 90$ m/min
	Feed	: $f = 0.3$ mm/rev
	Hole depth	: $H = 20$ mm
Coolant	: External (Wet)	

## DRILL HEAD LINEUP

### DMH



Tool diameter	ø10 - ø19.5
Head diameter tolerance	±0.01

Designation	DC	Grade AH9130	LPR	PL	Pocket size	Body
DMH100	10	●	6.1	1.47	10	TID*100*
DMH103	10.3	●	6.1	1.52	10	TID*100*
DMH105	10.5	●	6.1	1.56	10	TID*105*
DMH108	10.8	●	6.1	1.62	10	TID*105*
DMH110	11	●	6.5	1.67	11	TID*110*
DMH115	11.5	●	6.5	1.76	11	TID*115*
DMH120	12	●	6.8	1.82	12	TID*120*
DMH125	12.5	●	6.8	1.91	12	TID*125*
DMH126	12.6	●	6.8	1.93	12	TID*125*
DMH130	13	●	7.4	1.96	13	TID*130*
DMH133	13.3	●	7.4	2.01	13	TID*130*
DMH135	13.5	●	7.4	2.05	13	TID*135*
DMH137	13.7	●	7.4	2.09	13	TID*135*
DMH138	13.8	●	7.4	2.11	13	TID*135*
DMH139	13.9	●	7.4	2.12	13	TID*135*
DMH140	14	●	8	2.12	14	TID*140*
DMH142	14.2	●	8	2.16	14	TID*142*
DMH145	14.5	●	8	2.21	14	TID*145*
DMH150	15	●	8.5	2.27	15	TID*150*
DMH152	15.2	●	8.5	2.31	15	TID*150*
DMH155	15.5	●	8.5	2.36	15	TID*150*
DMH160	16	●	9.1	2.42	16	TID*160*
DMH165	16.5	●	9.1	2.51	16	TID*160*
DMH170	17	●	9.7	2.59	17	TID*170*
DMH175	17.5	●	9.7	2.68	17	TID*170*
DMH180	18	●	10.3	2.73	18	TID*180*
DMH185	18.5	●	10.3	2.82	18	TID*180*
DMH190	19	●	10.8	2.88	19	TID*190*
DMH194	19.4	●	10.8	2.95	19	TID*190*
DMH195	19.5	●	10.8	2.97	19	TID*190*

●: Line up

## STANDARD CUTTING CONDITIONS

ISO	Workpiece materials	Cutting speed Vc (m/min)	Feed: f (mm/rev)			
			DC (mm)			
			ø10 - ø11.9	ø12 - ø13.9	ø14 - ø15.9	ø16 - ø19.9
<b>P</b>	Low carbon steel (C < 0.3) (SS400 / St42-1, SM490 / St52-3, S25C / C25, etc.)	80 - 140	0.15 - 0.28	0.18 - 0.3	0.2 - 0.35	0.25 - 0.45
	High carbon steel (C > 0.3) (S45C / C45, S55C / C55, etc.)	70 - 120	0.15 - 0.28	0.18 - 0.3	0.2 - 0.35	0.25 - 0.45
	Low alloy steel (SCM415, etc.)	70 - 120	0.14 - 0.28	0.16 - 0.32	0.18 - 0.35	0.23 - 0.4
	Alloy steel (SCM440 / 42CrMo4, SCr420 / 20Cr4, etc.)	40 - 90	0.14 - 0.28	0.16 - 0.32	0.18 - 0.35	0.23 - 0.4
<b>M</b>	Stainless steel (SUS304 / X5CrNi18-9, SUS316 / X5CrNiMo17-12-2, etc.)	30 - 70	0.12 - 0.18	0.14 - 0.2	0.16 - 0.24	0.16 - 0.26
<b>K</b>	Grey cast iron (FC250 / GG25, etc.)	80 - 180	0.2 - 0.35	0.25 - 0.4	0.3 - 0.45	0.35 - 0.55
	Ductile cast iron (FCD700 / GGG70, etc.)	80 - 140	0.2 - 0.35	0.25 - 0.4	0.3 - 0.45	0.35 - 0.55
<b>N</b>	Aluminium alloys (ADC12, etc.)	80 - 220	0.25 - 0.4	0.3 - 0.45	0.35 - 0.5	0.4 - 0.6
<b>S</b>	Titanium alloys (Ti-6Al-4V, etc.)	20 - 50	0.08 - 0.15	0.1 - 0.18	0.12 - 0.2	0.14 - 0.22
	Nickel-based alloys	20 - 50	0.08 - 0.13	0.1 - 0.15	0.12 - 0.18	0.12 - 0.22
<b>H</b>	Hardened steel	20 - 50	0.08 - 0.15	0.1 - 0.18	0.12 - 0.2	0.14 - 0.22

- Cutting conditions in the above table show standard cutting conditions.  
- Cutting conditions may change due to the rigidity and power of the machine and the workpiece material.

- Machined hole diameter may change depending upon the rigidity of the machine tool or cutting conditions.  
- In case of L/D = 8 & 12 drill, the recommended range of cutting speeds and feeds is between the minimum and median values listed above.

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