

DLC COATED DRILLS NHGS TYPE

DLC Coated Drills



Internal Coolant Supply (NHGS Type)



Characteristics

High efficiency drilling

AURORA COAT (DLC Coat) and low cutting resistance WL (Wide L) thinning drastically reduces cutting resistance.

Stable Drilling Performance

Special cutting edge design and WW (Wide W) margin improves hole quality.

Longer tool life

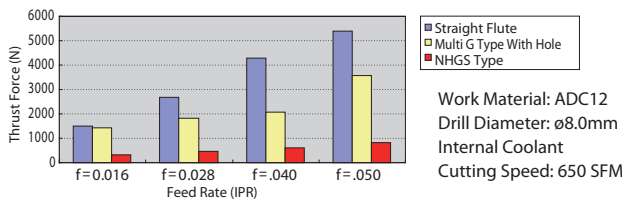
With AURORA COAT coupled with the cutting edge design, long and stable tool life can be achieved.

Deep hole drilling possible

Drills for deep hole drilling can be custom-made.
(Production range: Drill diameters: ϕ 3.0 to ϕ 16.0mm
Total length: Available on inquiry)

Comparison of Cutting Resistance (Thrust Force)

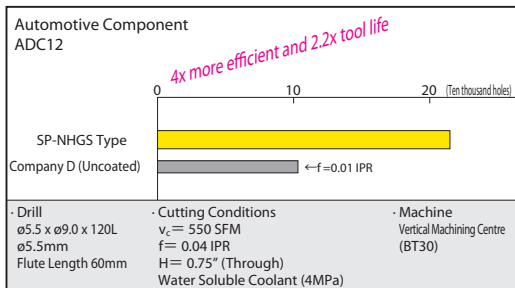
Drastic reduction in cutting resistance



Application Examples

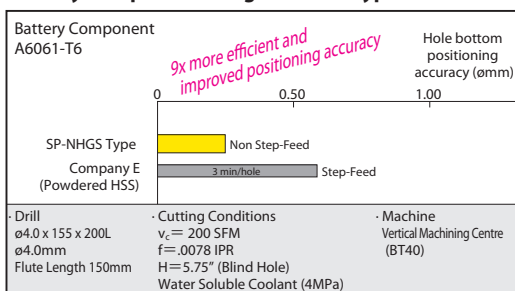
High Feed Drilling of Aluminium Alloy

Automotive Component using SP-NHGS Type



Deep Hole Drilling of Aluminium Alloy

Battery Component using SP-NHGS Type



Diameter ϕ 3.0 to ϕ 8.0mm

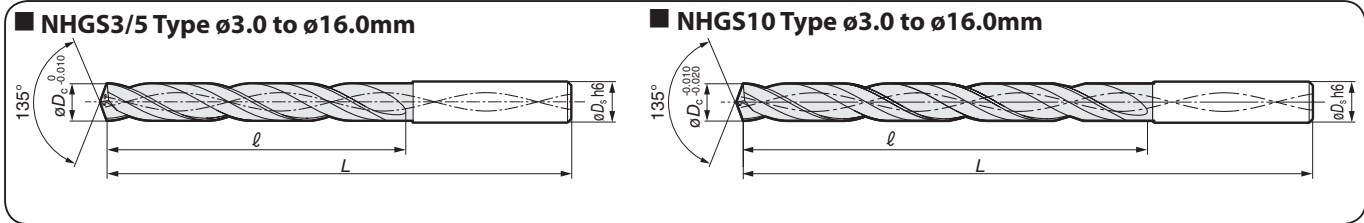
Diameter ϕD_c (mm)	Shank ϕD_s (mm)	Cat. No.	3D Type		5D Type		10D Type	
			Stock	Dimensions	Stock	Dimensions	Stock	Dimensions
		3, 5, 10	3	L L	5	L L	10	L L
3.0	3.0	MDW0300NHGS	★	68 17.5	★	78 28	★	92 42
3.1		MDW0310NHGS	★		★		★	
3.2		MDW0320NHGS	★		★		★	
3.3	4.0	MDW0330NHGS	★	72 20	★	86 32	★	106 49
3.4		MDW0340NHGS	★		★		★	
3.5		MDW0350NHGS	★		★		★	
3.6		MDW0360NHGS	★		★		★	
3.65		MDW0365NHGS	★		★		★	
3.66		MDW0366NHGS	★		★		★	
3.7	4.0	MDW0370NHGS	★	72 22.5	★	86 36	★	106 56
3.8		MDW0380NHGS	★		★		★	
3.9		MDW0390NHGS	★		★		★	
4.0		MDW0400NHGS	★		★		★	
4.1		MDW0410NHGS	★		★		★	
4.2		MDW0420NHGS	★		★		★	
4.3	5.0	MDW0430NHGS	★	80 25	★	98 40	★	124 63
4.4		MDW0440NHGS	★		★		★	
4.5		MDW0450NHGS	★		★		★	
4.6		MDW0460NHGS	★		★		★	
4.7		MDW0470NHGS	★		★		★	
4.8	5.0	MDW0480NHGS	★	80 27.5	★	98 44	★	124 70
4.9		MDW0490NHGS	★		★		★	
5.0		MDW0500NHGS	★		★		★	
5.1		MDW0510NHGS	★		★		★	
5.2		MDW0520NHGS	★		★		★	
5.3	6.0	MDW0530NHGS	★	82 27.5	★	100 44	★	136 77
5.4		MDW0540NHGS	★		★		★	
5.5		MDW0550NHGS	★		★		★	
5.6		MDW0560NHGS	★		★		★	
5.7		MDW0570NHGS	★		★		★	
5.8	6.0	MDW0580NHGS	★	82 30	★	100 48	★	136 84
5.9		MDW0590NHGS	★		★		★	
6.0		MDW0600NHGS	★		★		★	
6.1		MDW0610NHGS	★		★		★	
6.2		MDW0620NHGS	★		★		★	
6.3	7.0	MDW0630NHGS	★	88 32.5	★	109 52	★	151 91
6.4		MDW0640NHGS	★		★		★	
6.5		MDW0650NHGS	★		★		★	
6.6		MDW0660NHGS	★		★		★	
6.7		MDW0670NHGS	★		★		★	
6.8	7.0	MDW0680NHGS	★	88 35	★	109 56	★	151 98
6.9		MDW0690NHGS	★		★		★	
7.0		MDW0700NHGS	★		★		★	
7.1		MDW0710NHGS	★		★		★	
7.2		MDW0720NHGS	★		★		★	
7.3	8.0	MDW0730NHGS	★	94 37.5	★	118 60	★	166 105
7.35		MDW0735NHGS	★		★		★	
7.4		MDW0740NHGS	★		★		★	
7.5		MDW0750NHGS	★		★		★	
7.6		MDW0760NHGS	★		★		★	
7.7		MDW0770NHGS	★		★		★	
7.8	8.0	MDW0780NHGS	★	94 40	★	118 64	★	166 112
7.9		MDW0790NHGS	★		★		★	
8.0		MDW0800NHGS	★		★		★	



DLC Coated Drills



DLC COATED DRILLS NHGS TYPE



■ Diameter ø8.1 to ø13.0mm

Diameter øD _c (mm)	Shank øD _s (mm)	Cat. No.	3D Type		5D Type		10D Type				
			Stock	Dimensions	Stock	Dimensions	Stock	Dimensions			
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		3, 5, 10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
8.1	9.0	MDW0810NHGS <input type="checkbox"/>			★						
8.2		MDW0820NHGS <input type="checkbox"/>			★						
8.3		MDW0830NHGS <input type="checkbox"/>		100	42.5	★	127	68	181	119	
8.4		MDW0840NHGS <input type="checkbox"/>				★					
8.5		MDW0850NHGS <input type="checkbox"/>	★			★			★		
8.6	9.0	MDW0860NHGS <input type="checkbox"/>	★			★					
8.7		MDW0870NHGS <input type="checkbox"/>				★					
8.8		MDW0880NHGS <input type="checkbox"/>	★	100	45	★	127	72		181	126
8.9		MDW0890NHGS <input type="checkbox"/>				★					
9.0		MDW0900NHGS <input type="checkbox"/>	★			★			★		
9.1	10.0	MDW0910NHGS <input type="checkbox"/>				★					
9.2		MDW0920NHGS <input type="checkbox"/>				★					
9.21		MDW0921NHGS <input type="checkbox"/>	★	106	47.5	★	136	76		196	133
9.3		MDW0930NHGS <input type="checkbox"/>				★					
9.4		MDW0940NHGS <input type="checkbox"/>	★			★					
9.5	MDW0950NHGS <input type="checkbox"/>	★			★			★			
9.6	10.0	MDW0960NHGS <input type="checkbox"/>				★					
9.7		MDW0970NHGS <input type="checkbox"/>				★					
9.8		MDW0980NHGS <input type="checkbox"/>		106	50	★	136	80	★	196	140
9.9		MDW0990NHGS <input type="checkbox"/>				★					
10.0		MDW1000NHGS <input type="checkbox"/>	★			★			★		
10.1	11.0	MDW1010NHGS <input type="checkbox"/>	★			★					
10.2		MDW1020NHGS <input type="checkbox"/>				★					
10.3		MDW1030NHGS <input type="checkbox"/>	★	116	52.5	★	149	84		215	147
10.4		MDW1040NHGS <input type="checkbox"/>				★					
10.5		MDW1050NHGS <input type="checkbox"/>	★			★			★		
10.6	11.0	MDW1060NHGS <input type="checkbox"/>	★			★					
10.7		MDW1070NHGS <input type="checkbox"/>				★					
10.8		MDW1080NHGS <input type="checkbox"/>		116	55	★	149	88		215	154
10.9		MDW1090NHGS <input type="checkbox"/>				★					
11.0		MDW1100NHGS <input type="checkbox"/>	★			★			★		
11.08	12.0	MDW1108NHGS <input type="checkbox"/>	★			★					
11.1		MDW1110NHGS <input type="checkbox"/>	★			★					
11.2		MDW1120NHGS <input type="checkbox"/>	★	122	57.5	★	158	92		230	161
11.3		MDW1130NHGS <input type="checkbox"/>				★					
11.4		MDW1140NHGS <input type="checkbox"/>	★			★					
11.5	MDW1150NHGS <input type="checkbox"/>	★			★			★			
11.6	12.0	MDW1160NHGS <input type="checkbox"/>				★					
11.7		MDW1170NHGS <input type="checkbox"/>				★					
11.8		MDW1180NHGS <input type="checkbox"/>		122	60	★	158	96		230	168
11.9		MDW1190NHGS <input type="checkbox"/>				★					
12.0		MDW1200NHGS <input type="checkbox"/>	★			★			★		
12.1	13.0	MDW1210NHGS <input type="checkbox"/>	★			★					
12.2		MDW1220NHGS <input type="checkbox"/>				★					
12.3		MDW1230NHGS <input type="checkbox"/>	★	128	62.5	★	167	100		245	175
12.4		MDW1240NHGS <input type="checkbox"/>				★					
12.5		MDW1250NHGS <input type="checkbox"/>	★			★			★		
12.6	13.0	MDW1260NHGS <input type="checkbox"/>				★					
12.7		MDW1270NHGS <input type="checkbox"/>				★					
12.8		MDW1280NHGS <input type="checkbox"/>		128	65	★	167	104		245	182
12.9		MDW1290NHGS <input type="checkbox"/>				★					
12.96		MDW1296NHGS <input type="checkbox"/>	★			★					
13.0	MDW1300NHGS <input type="checkbox"/>	★			★			★			

■ Diameter ø13.1 to ø16.0mm

Diameter øD _c (mm)	Shank øD _s (mm)	Cat. No.	3D Type		5D Type		10D Type				
			Stock	Dimensions	Stock	Dimensions	Stock	Dimensions			
			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
		3, 5, 10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
13.1	14.0	MDW1310NHGS <input type="checkbox"/>									
13.2		1320NHGS <input type="checkbox"/>									
13.3		1330NHGS <input type="checkbox"/>		134	68		176	108		260	189
13.4		1340NHGS <input type="checkbox"/>									
13.5		1350NHGS <input type="checkbox"/>	★				★				
13.6	14.0	MDW1360NHGS <input type="checkbox"/>									
13.7		1370NHGS <input type="checkbox"/>									
13.8		1380NHGS <input type="checkbox"/>		134	70		176	112		260	196
13.9		1390NHGS <input type="checkbox"/>									
14.0		1400NHGS <input type="checkbox"/>	★				★				
14.1	15.0	MDW1410NHGS <input type="checkbox"/>	★			★					
14.2		1420NHGS <input type="checkbox"/>									
14.3		1430NHGS <input type="checkbox"/>		140	72.5		185	116		275	203
14.4		1440NHGS <input type="checkbox"/>									
14.5		1450NHGS <input type="checkbox"/>	★				★				
14.6	15.0	MDW1460NHGS <input type="checkbox"/>									
14.7		1470NHGS <input type="checkbox"/>									
14.8		1480NHGS <input type="checkbox"/>		140	75		185	120		275	210
14.9		1490NHGS <input type="checkbox"/>	★				★				
14.96		1496NHGS <input type="checkbox"/>	★				★				
15.0	1500NHGS <input type="checkbox"/>	★				★					
15.1	16.0	MDW1510NHGS <input type="checkbox"/>									
15.2		1520NHGS <input type="checkbox"/>									
15.3		1530NHGS <input type="checkbox"/>		146	77.5		194	124		290	217
15.4		1540NHGS <input type="checkbox"/>									
15.5		1550NHGS <input type="checkbox"/>	★				★				
15.6	16.0	MDW1560NHGS <input type="checkbox"/>									
15.7		1570NHGS <input type="checkbox"/>									
15.8		1580NHGS <input type="checkbox"/>		146	80		194	128		290	224
15.9		1590NHGS <input type="checkbox"/>									
16.0		1600NHGS <input type="checkbox"/>	★				★				

Grade: DL1300

Please indicate 3, 5 or 10 in the when ordering.
(Example: MDW0850NHGS10)

■ Recommended Cutting Conditions

Drill Diameter øD _c (mm)	Cutting Conditions	Aluminium Casting/ Die Cast Aluminium	Wrought Aluminium Alloy
Up to ø6.0	V _c	260 - 460 - 650	260 - 400 - 650
	f	0.008 - 0.016 - 0.024	0.008 - 0.012 - 0.016
Up to ø10.0	V _c	330 - 600 - 820	330 - 500 - 820
	f	0.016 - 0.024 - 0.032	0.008 - 0.015 - 0.02
Up to ø16.0	V _c	400 - 650 - 820	400 - 590 - 820
	f	0.016 - 0.028 - .04	0.012 - 0.018 - 0.024

(V_c: Cutting Speed (m/min) f: Feed Rate (mm/rev)) Min. - Optimum - Max.

