

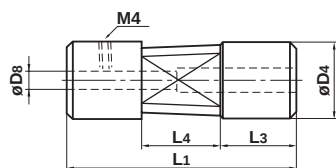
DRILLING (SOLID CARBIDE)

MICRO-MGS

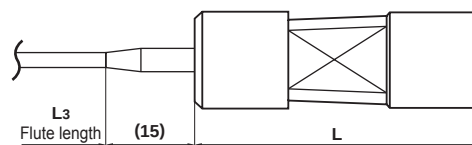
- Micro deep hole drilling is possible.
- Excellent run-out accuracy ensures high precision drilling.

CARBIDE

DRIVER



WHEN USING WITH A DRIVER



Order Number	Stock	Dimensions (mm)					Set Screw	Wrench
		D4	D8	L1	L3	L4		
MGD38	★	12.7	3.0	38.1	12.6	12.7	HSS04004	HKY20F
MGD70	★	12.7	3.0	70.0	25.0	20.0	HSS04004	HKY20F

RECOMMENDED CUTTING CONDITIONS

Work Material	Mild Steel (≤180HB)				Carbon steel, Alloy steel (180—280HB)			
	Ck10				Ck45, 42CrMo4			
Coolant type	Water insoluble cutting oil				Water insoluble cutting oil			
Drill Dia. (mm)	Cutting Speed (m/min)	Revolution (min ⁻¹)	Feed rate (Min.—Max.) (mm/rev)	Table Feed (mm/min)	Cutting Speed (m/min)	Revolution (min ⁻¹)	Feed rate (Min.—Max.) (mm/rev)	Table Feed (mm/min)
0.8	50	19800	0.01 (0.005—0.016)	195	40	15900	0.01 (0.005—0.016)	155
1.0	50	15900	0.01 (0.007—0.020)	155	40	12700	0.01 (0.007—0.020)	125
1.2	60	15900	0.015 (0.008—0.024)	235	50	13200	0.015 (0.008—0.024)	195
1.6	60	11900	0.02 (0.011—0.032)	235	50	9900	0.02 (0.011—0.032)	195
2.0	60	9500	0.025 (0.013—0.040)	235	50	7900	0.025 (0.013—0.040)	195
2.5	70	8900	0.03 (0.017—0.050)	265	60	7600	0.03 (0.017—0.050)	225
3.0	70	7400	0.04 (0.020—0.060)	295	60	6300	0.04 (0.020—0.060)	250

Work Material	Carbon steel, Alloy steel (280—350HB)				Austenitic Stainless Steel (≤200HB)			
	36CrNiMo4				X5CrNi1810, X5CrNiMo17-12-2			
Coolant type	Water insoluble cutting oil				Water insoluble cutting oil			
Drill Dia. (mm)	Cutting Speed (m/min)	Revolution (min ⁻¹)	Feed rate (Min.—Max.) (mm/rev)	Table Feed (mm/min)	Cutting Speed (m/min)	Revolution (min ⁻¹)	Feed rate (Min.—Max.) (mm/rev)	Table Feed (mm/min)
0.8	30	11900	0.005 (0.004—0.005)	55	30	11900	0.01 (0.005—0.016)	115
1.0	30	9500	0.005 (0.005—0.007)	45	30	9500	0.01 (0.007—0.020)	95
1.2	40	10600	0.005 (0.006—0.008)	50	30	7900	0.015 (0.008—0.024)	115
1.6	40	7900	0.01 (0.008—0.011)	75	40	7900	0.02 (0.011—0.032)	155
2.0	40	6300	0.01 (0.010—0.013)	60	40	6300	0.025 (0.013—0.040)	155
2.5	50	6300	0.015 (0.013—0.017)	90	40	5000	0.03 (0.017—0.050)	150
3.0	50	5300	0.015 (0.015—0.020)	75	40	4200	0.04 (0.020—0.060)	165

Work Material	Gray Cast Iron (≤350MPa)				Ductile Cast Iron (≤450MPa)			
	GG30				GGG45			
Coolant type	Water insoluble cutting oil • Water soluble cutting oil				Water insoluble cutting oil • Water soluble cutting oil			
Drill Dia. (mm)	Cutting Speed (m/min)	Revolution (min ⁻¹)	Feed rate (Min.—Max.) (mm/rev)	Table Feed (mm/min)	Cutting Speed (m/min)	Revolution (min ⁻¹)	Feed rate (Min.—Max.) (mm/rev)	Table Feed (mm/min)
0.8	50	19800	0.01 (0.008—0.016)	195	40	15900	0.005 (0.005—0.008)	75
1.0	50	15900	0.015 (0.010—0.020)	235	40	12700	0.005 (0.007—0.010)	60
1.2	60	15900	0.015 (0.012—0.024)	235	50	13200	0.01 (0.008—0.012)	130
1.6	60	11900	0.02 (0.016—0.032)	235	50	9900	0.01 (0.011—0.016)	95
2.0	60	9500	0.03 (0.020—0.040)	285	50	7900	0.015 (0.013—0.020)	115
2.5	70	8900	0.035 (0.025—0.050)	310	60	7600	0.02 (0.017—0.025)	150
3.0	70	7400	0.045 (0.030—0.060)	330	60	6300	0.025 (0.020—0.030)	155

1) For safety and success, High pressure coolant is required. (Minimum coolant pressure=1,000PSI)

2) Coolant filter must be less than 5 microns. Fine filtration is necessary to prevent blockage of the coolant holes.

3) A pilot hole or guide bushing is required.

★ : Inventory maintained in Japan.