



MG

DIA
Coating



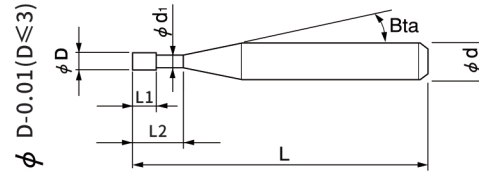
SD
0-0.005

Highly recommend★○○
/Recommend/Suggest

DIE STEEL	Grade
Carbon steels (S45C/S55C)	
Alloy steels (SK/SCM/SUS)	
Prehardened steels (NAK/HPM)	
Hardened steels (~55/~60/~70HRC)	
SPECIAL MATERIAL	
Aluminum alloys	
Graphite	★
Copper	
Plastics	
Carbon fiber	
Titanium alloys	
Heat resistant alloys	
Cemented carbide	
Hard brittle (non-metallic) material	

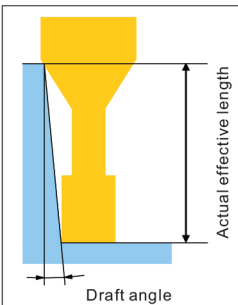
Specialty

*2 flutes long neck square end mills for milling graphite;
*New diamond coating offers excellent wear resistance.



The shank taper angle shown is not an exact value and to avoid contact with the workpiece, we recommend the user controls the precise value of this angle. Shank taper angle should not make contact with the workpiece.

2 Flutes



Long Neck
Square

Total 30 models

Unit (mm)

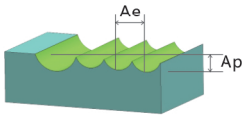
Model Number	D Outside Diameter	L1 Length of Cut	L2 Effective Length	Bta Shank Taper Angle	L Overall Length	T Number of Flutes	d Shank Diameter	In Stock
GRALS2-002010	0.2	0.4	1	15°	50	2	4	○
GRALS2-003020	0.3	0.6	2	15°	50	2	4	○
GRALS2-004020	0.4	0.8	2	15°	50	2	4	○
GRALS2-004040	0.4	0.8	4	15°	50	2	4	○
GRALS2-004060	0.4	0.8	6	15°	50	2	4	○
GRALS2-005020	0.5	1	2	15°	50	2	4	○
GRALS2-005040	0.5	1	4	15°	50	2	4	○
GRALS2-005060	0.5	1	6	15°	50	2	4	○
GRALS2-006020	0.6	1.2	2	15°	50	2	4	○
GRALS2-006040	0.6	1.2	4	15°	50	2	4	○

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Model Number	D Outside Diameter	L1 Length of Cut	L2 Effective Length	Bta Shank Taper Angle	L Overall Length	T Number of Flutes	d Shank Diameter	In Stock
GRALS2-006060	0.6	1.2	6	15°	50	2	4	○
GRALS2-006080	0.6	1.2	8	15°	50	2	4	○
GRALS2-006100	0.6	1.2	10	15°	50	2	4	○
GRALS2-010040	1	2	4	15°	50	2	4	○
GRALS2-010060	1	2	6	15°	50	2	4	○
GRALS2-010080	1	2	8	15°	50	2	4	○
GRALS2-010100	1	2	10	15°	50	2	4	○
GRALS2-010160	1	2	16	15°	50	2	4	○
GRALS2-010210	1	2	21	15°	55	2	4	○
GRALS2-015060	1.5	3	6	15°	50	2	4	○
GRALS2-015100	1.5	3	10	15°	50	2	4	○
GRALS2-015160	1.5	3	16	15°	50	2	4	○
GRALS2-015210	1.5	3	21	15°	55	2	4	○
GRALS2-020060	2	4	6	15°	50	2	4	○
GRALS2-020100	2	4	10	15°	50	2	4	○
GRALS2-020160	2	4	16	15°	50	2	4	○
GRALS2-020210	2	4	21	15°	55	2	4	○
GRALS2-020260	2	4	26	15°	55	2	4	○
GRALS2-030160	3	6	16	15°	70	2	3/4	○
GRALS2-030320	3	6	32	15°	80	2	3/4	○

*New size added from this series.

*Stocked items.



Work Material		Graphite					
(mm) Diameter	(mm) Effective Length	(min-1) Speed	(mm/min) Feed	Side Milling		Slotting	
				Ap(mm)	Ae(mm)	Ap(mm)	Ae(mm)
D0.2	1	32000	300	0.2	0.01	0.006	--
D0.3	2	32000	300	0.3	0.015	0.01	--
D0.4	2	32000	350	0.4	0.02	0.02	--
D0.4	4	32000	200	0.4	0.02	0.02	--
D0.4	6	32000	150	0.4	0.02	0.02	--
D0.5	2	32000	600	0.5	0.02	0.02	--
D0.5	4	32000	450	0.5	0.02	0.02	--
D0.5	6	32000	300	0.5	0.02	0.02	--
D0.6	2	32000	700	0.6	0.03	0.03	--
D0.6	4	32000	600	0.6	0.03	0.03	--
D0.6	6	32000	400	0.6	0.03	0.03	--
D0.6	8	26000	200	0.6	0.03	0.03	--
D0.6	10	24000	100	0.6	0.03	0.03	--
D1	4	32000	1000	1	0.05	0.05	--
D1	6	26000	800	1	0.05	0.05	--
D1	8	20000	600	1	0.05	0.05	--
D1	10	20000	400	1	0.05	0.05	--
D1	16	15000	300	1	0.05	0.05	--
D1	21	12000	150	1	0.05	0.05	--
D1.5	6	22000	1500	1.5	0.075	0.1	--
D1.5	10	18000	1200	1.5	0.075	0.1	--
D1.5	16	15000	600	1.5	0.075	0.075	--
D1.5	21	10000	300	1.5	0.075	0.075	--
D2	6	24000	1800	2	0.1	0.15	--
D2	10	20000	1800	2	0.1	0.15	--
D2	16	18000	1200	2	0.1	0.15	--
D2	21	15000	600	2	0.1	0.1	--
D2	26	12000	400	2	0.1	0.1	--
D3	16	22000	2000	3	0.15	0.3	--
D3	32	15000	1000	3	0.15	0.2	--

2 Flutes

Long Neck
Square

Notes:

*Use a milling machine dedicated for graphite;

*Recommend air blow for graphite.