



MG

DIA
Coating

30

SD
0-0.005

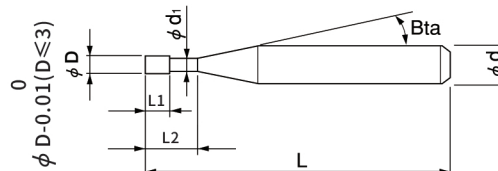
Highly recommend ★ ○ ○
/Recommend/Suggest

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

*Special blade design + newly developed diamond coating;

*Superior performance in deep cavity processing.



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.

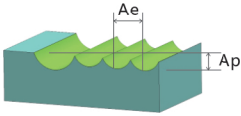
Total 23 models

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
GRALS4-010040	1	3	4	15°	50	4	4	○
GRALS4-010060	1	3	6	15°	50	4	4	○
GRALS4-010100	1	3	10	15°	50	4	4	○
GRALS4-010150	1	3	15	15°	50	4	4	○
GRALS4-010200-60	1	3	20	15°	60	4	4	○
GRALS4-010060-60	1	3	6	15°	60	4	4	○
GRALS4-010100-60	1	3	10	15°	60	4	4	○
GRALS4-010150-60	1	3	15	15°	60	4	4	○
GRALS4-010100-75	1	3	10	15°	75	4	4	○
GRALS4-010150-75	1	3	15	15°	75	4	4	○
GRALS4-010200-75	1	3	20	15°	75	4	4	○
GRALS4-015060	1.5	4	6	15°	50	4	4	○
GRALS4-015100	1.5	4	10	15°	50	4	4	○
GRALS4-015150	1.5	4	15	15°	50	4	4	○
GRALS4-015200	1.5	4	20	15°	50	4	4	○
GRALS4-020080	2	6	8	15°	50	4	4	○
GRALS4-020100	2	6	10	15°	50	4	4	○
GRALS4-020150	2	6	15	15°	50	4	4	○
GRALS4-020200	2	6	20	15°	60	4	4	○
GRALS4-020250	2	6	25	15°	60	4	4	○
GRALS4-030150	3	9	15	15°	50	4	3/4	○
GRALS4-030200	3	9	20	15°	60	4	3/4	○
GRALS4-030300	3	9	30	15°	75	4	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)
D1	4	26000	1200	1.5	0.05	0.075	--
D1	6	24000	1000	1	0.05	0.075	--
D1	10	20000	600	1	0.05	0.05	--
D1	15	15000	400	1	0.05	0.05	--
D1	20	12000	150	1	0.05	0.05	--
D1	6	24000	1000	1	0.05	0.075	--
D1	10	20000	600	1	0.05	0.05	--
D1	15	15000	400	1	0.05	0.05	--
D1	10	18000	500	1	0.05	0.05	--
D1	15	15000	300	1	0.05	0.05	--
D1	20	10000	150	1	0.05	0.05	--
D1.5	6	22000	1500	2	0.075	0.15	--
D1.5	10	18000	1200	1.5	0.075	0.1	--
D1.5	15	15000	600	1.5	0.075	0.1	--
D1.5	20	10000	300	1.5	0.075	0.1	--
D2	8	20000	1800	3	0.1	0.2	--
D2	10	20000	1800	2	0.1	0.15	--
D2	15	18000	1200	2	0.1	0.15	--
D2	20	12000	600	2	0.1	0.1	--
D2	25	10000	400	2	0.1	0.1	--
D3	15	20000	2000	3	0.15	0.3	--
D3	20	18000	1600	3	0.15	0.2	--
D3	30	15000	1000	3	0.15	0.2	--

4 Flutes

Long Neck
Square

Notes:

*Use a milling machine dedicated for graphite;

*Recommend air blow for graphite.