



MG

DIA
Coating

30
SD
0-0.005R
±0.005

D≤6

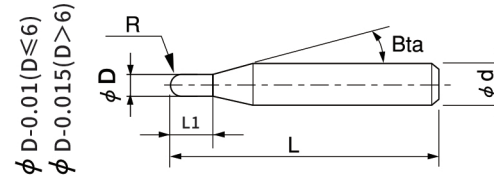
R
±0.007

D8~12

Highly recommend★○○○
/Recommend/Suggest

Specialty

- * 2 flutes ball type for graphite machining;
- * New diamond coating offers excellent resistance to wear and abrasion;
- * Ultra-fine diamond coating particles.



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	

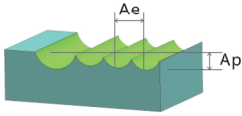
Total 20 models

Unit (mm)

Model Number	D Radius of Ball Nose	L1 Length of Cut	L2 Effective Length	Bta Shank Taper Angle	L Overall Length	T Number of flutes	d Shank Diameter	In Stock
GRAR2-0100300	R0.5	3	-	15°	50	2	4	○
GRAR2-0150500	R0.75	5	-	15°	50	2	4	○
GRAR2-0200600	R1	6	-	15°	50	2	4	○
GRAR2-0300600	R1.5	6	-	15°	60	2	3/4	○
GRAR2-0301000	R1.5	10	-	15°	75	2	3/4	○
GRAR2-0301500	R1.5	15	-	15°	100	2	3/4	○
GRAR2-0400800	R2	8	-	-	60	2	4	○
GRAR2-0401000	R2	10	-	-	75	2	4	○
GRAR2-0401500	R2	15	-	-	100	2	4	○
GRAR2-0601200	R3	12	-	-	75	2	6	○
GRAR2-0601500	R3	15	-	-	100	2	6	○
GRAR2-0801800	R4	18	-	-	75	2	6	○
GRAR2-0801800-100	R4	18	-	-	100	2	8	○
GRAR2-0802500	R4	25	-	-	150	2	8	○
GRAR2-1002000	R5	20	-	-	100	2	10	○
GRAR2-1003000	R5	30	-	-	150	2	10	○
GRAR2-1003000-180	R5	30	-	-	180	2	10	○
GRAR2-1203000	R6	30	-	-	100	2	12	○
GRAR2-1203000-150	R6	30	-	-	150	2	12	○
GRAR2-1203000-180	R6	30	-	-	180	2	12	○

* New size added from this series.

* Stocked items.



Work Material		Graphite							
(mm) Diameter /Radius	(mm) Overhang	Roughing				Finishing			
		(min-1) Speed	(mm/min) Feed	Ap(mm)	Ae(mm)	(min-1) Speed	(mm/min) Feed	Ap(mm)	Ae(mm)
R0.5	3	22000	800	0.07	0.2	22000	1500	0.1	0.06
R0.75	5	22000	1200	0.15	0.4	22000	1800	0.1	0.06
R1	6	18000	2500~1800	0.15	0.5	18000	2000	0.1	0.08
R1.5	16~40	18000~10000	3500~2000	0.3	0.9	18000~10000	3500~2000	0.1	0.1
R1.5	16~40	18000~10000	3500~2000	0.3	0.9	18000~10000	3500~2000	0.1	0.1
R1.5	40~70	10000~5500	2000~1200	0.2	0.7	10000~5500	2000~1200	0.1	0.1
R2	16~40	18000~10000	3500~2000	0.4	1.2	18000~10000	3500~2000	0.1	0.1
R2	16~40	18000~10000	3500~2000	0.4	1.2	18000~10000	3500~2000	0.1	0.1
R2	40~70	10000~5500	2000~1200	0.25	0.8	10000~5500	2000~1200	0.1	0.1
R3	24~36	17000~10000	3500~3000	0.6	1.8	17000~10000	3500~3000	0.15	0.12
R3	36~70	10000~5500	3000~1600	0.4	1.5	9000~5500	3000~1600	0.15	0.12
R4	20~40	15000~12000	4000~3000	0.8	2.5	15000~12000	4000~3000	0.18	0.15
R4	40~70	12000~6000	3000~2500	0.8	2.5	12000~6000	3500~2500	0.18	0.15
R4	70~110	6000~4000	2500~1200	0.4	1.2	6000~4000	2500~1200	0.18	0.15
R5	40~60	12000~6000	3500~2500	1	3	12000~6000	4000~2500	0.2	0.2
R5	60~110	6000~4000	2500~1800	0.8	2.5	6000~4000	2500~1800	0.2	0.2
R5	110~150	4000~2000	1500~450	0.6	1.9	4000~2000	1800~900	0.2	0.2
R6	48~72	10000~6000	3500~2500	1.2	3.6	10000~6000	4000~2500	0.2	0.24
R6	72~110	6000~4000	2500~1800	1.2	3.6	6000~4000	2500~1800	0.2	0.24
R6	110~150	4000~2000	1800~450	0.9	2.8	4000~2000	2000~1000	0.2	0.24

2 Flutes

Ball

Remark:

*Decrease both spindle speed and feed rate proportionally when the milling parameters exceed the machine's maximum spindle speed;

*Decrease feed rate by 50% when slot machining;

*Recommend air blow.