



MG

HB
Coating

30
SD
0-0.003R
±0.005R
±0.007

R≤3

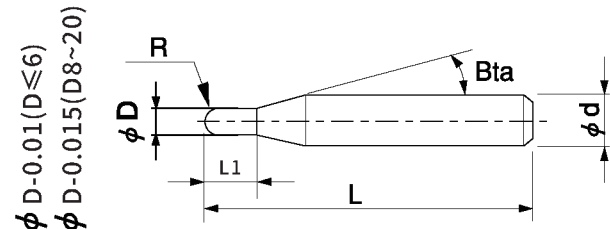
R4~10

Highly recommend ★ ○ ○
/Recommend/Suggest

Specialty

- *Unique variable rake angle design;
- *Tungsten steel with ultra-fine particles;
- *Suitable for Automotive Mold milling.

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	



2 Flutes

Total 32 models

Unit (mm)

Model Number	D Outside Diameter	L1 Length Of Cut	BTa Shank Taper Angle	L Overall Length	T Number Of Flutes	d Shank Diameter	In Stock
SHBR2-002003	R0.1	0.3	12°	50	2	4	○
SHBR2-0030045	R0.15	0.45	12°	50	2	4	○
SHBR2-004006	R0.2	0.6	12°	50	2	4	○
SHBR2-005008	R0.25	0.8	12°	50	2	4	○
SHBR2-006009	R0.3	0.9	12°	50	2	4	○
SHBR2-008012	R0.4	1.2	12°	50	2	4	○
SHBR2-010015	R0.5	1.5	12°	50	2	4	○
SHBR2-015023	R0.75	2.3	12°	50	2	4	○
SHBR2-020030	R1	3	12°	50	2	4	○
SHBR2-030045-3	R1.5	4.5	-	50	2	3	○
SHBR2-030045-4	R1.5	4.5	12°	50	2	4	○
SHBR2-030045-6	R1.5	4.5	12°	50	2	6	○
SHBR2-040060-4	R2	6	-	50	2	4	○
SHBR2-040060-6	R2	6	12°	50	2	6	○
SHBR2-050075	R2.5	7.5	12°	50	2	6	○
SHBR2-060090	R3	9	-	50	2	6	○
SHBR2-060090-75	R3	9	-	75	2	6	○
SHBR2-060090-100	R3	9	-	100	2	6	○
SHBR2-080120	R4	12	-	60	2	8	○
SHBR2-080120-75	R4	12	-	75	2	8	○

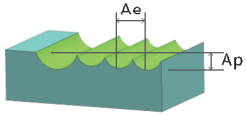
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Ball

Model Number	D Outside Diameter	L1 Length Of Cut	BTa Shank Taper Angle	L Overall Length	T Number Of Flutes	d Shank Diameter	In Stock
SHBR2-080120-100	R4	12	-	100	2	8	○
SHBR2-080120-150	R4	12	-	150	2	8	○
SHBR2-100150	R5	15	-	75	2	10	○
SHBR2-100150-100	R5	15	-	100	2	10	○
SHBR2-100150-150	R5	15	-	150	2	10	○
SHBR2-120180	R6	18	-	75	2	12	○
SHBR2-120180-100	R6	18	-	100	2	12	○
SHBR2-120180-150	R6	18	-	150	2	12	○
SHBR2-140200-150	R7	20	-	150	2	14	○
SHBR2-160240-150	R8	24	-	150	2	16	○
SHBR2-180250-150	R9	25	-	150	2	18	○
SHBR2-200300-150	R10	30	-	150	2	20	○

*New size added from this series.

○ Stocked items.



Work Material	Oxygen-free Copper Red Copper				HRC30-45 carbon steel and prehardened steel				HRC45-55 hardened steel			
Radius of Ball Nose	(min-1) Speed	(mm/min) Feed	Ap (mm) Axial depth	Ae (mm) Radial depth	(min-1) Speed	(mm/min) Feed	Ap (mm) Axial depth	Ae (mm) Radial depth	(min-1) Speed	(mm/min) Feed	Ap (mm) Axial depth	Ae (mm) Radial depth
R1	30000	150	0.006	0.006	30000	150	0.006	0.006	30000	150	0.006	0.006
R0.15	26000	300	0.01	0	26000	300	0.01	0	24000	200	0.008	0.008
R0.2	22000	400	0.015	0.015	22000	400	0.015	0.015	22000	300	0.01	0.01
R0.25	20000	400	0.015	0.015	20000	400	0.015	0.015	22000	400	0.015	0.015
R0.3	20000	800	0.02	0.02	20000	800	0.02	0.02	20000	600	0.015	0.015
R0.4	18000	1200	0.02	0.03	18000	1200	0.02	0.03	20000	800	0.02	0.02
R0.5	16000	1200	0.03	0.04	16000	1200	0.03	0.04	18000	1000	0.02	0.03
R0.75	16000	1500	0.03	0.05	16000	1500	0.03	0.05	16000	1200	0.02	0.04
R1	15000	1800	0.03	0.05	15000	1800	0.03	0.05	14000	1800	0.02	0.05
R1	15000	1800	0.04	0.05	15000	1800	0.04	0.05	14000	1800	0.02	0.05
R1.5	14000	2200	0.04	0.07	14000	2200	0.04	0.07	13000	2200	0.03	0.06
R1.5	14000	2200	0.05	0.07	14000	2200	0.05	0.07	13000	2200	0.03	0.06
R1.5	14000	2200	0.04	0.07	14000	2200	0.04	0.07	13000	2200	0.03	0.06
R2	14000	2400	0.04	0.08	14000	2400	0.04	0.08	12000	2400	0.03	0.06
R2	14000	2400	0.05	0.08	14000	2400	0.05	0.08	12000	2400	0.03	0.06
R2.5	12000	2600	0.05	0.08	12000	2600	0.05	0.08	12000	2400	0.03	0.06
R3	12000	2600	0.05	0.08	12000	2600	0.05	0.08	10000	2600	0.03	0.08
R4	10000	3000	0.05	0.1	10000	3000	0.05	0.1	9000	2800	0.03	0.1
R5	9000	3000	0.05	0.12	9000	3000	0.05	0.12	8000	2800	0.03	0.12
R6	9000	3000	0.05	0.15	9000	3000	0.05	0.15	7000	2800	0.03	0.12
R7	7000	3000	0.08	0.15	7000	3000	0.08	0.15	6000	2800	0.03	0.15
R8	6000	3000	0.08	0.15	6000	3000	0.08	0.15	5500	2800	0.03	0.15
R9	5000	3000	0.08	0.15	5000	3000	0.08	0.15	4500	2800	0.03	0.15
R10	4500	3000	0.08	0.15	4500	3000	0.08	0.15	4000	2800	0.03	0.15

2 Flutes

Ball

Note:

*The above milling parameters are calculated based on 3D. Decrease both spindle speed and feed rate proportionally if the overhang length exceeds 3xD;

*Recommend oil coolant for Stainless Steels and Heat Resistance Alloys;

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