



MG

HG
Coating

43-45

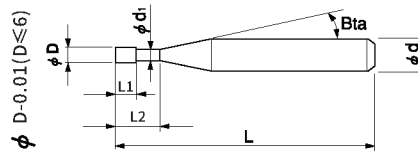
SD
0-0.003

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 coating + bar for high hard hardened materials;
- *The large arc at the clearance avoids cutter damage;
- *Long life in cutting high hardness material of HRC48-65.



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.

4 Flutes

Total 26 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
SHHLS4-010040	1.0	1.5	4	12°	50	4	4	○
SHHLS4-010060	1.0	1.5	6	12°	50	4	4	○
SHHLS4-010080	1.0	1.5	8	12°	50	4	4	○
SHHLS4-010100	1.0	1.5	10	12°	50	4	4	○
SHHLS4-010160	1.0	1.5	16	12°	50	4	4	○
SHHLS4-015040	1.5	2.3	4	12°	50	4	4	○
SHHLS4-015060	1.5	2.3	6	12°	50	4	4	○
SHHLS4-015080	1.5	2.3	8	12°	50	4	4	○
SHHLS4-015100	1.5	2.3	10	12°	50	4	4	○
SHHLS4-015160	1.5	2.3	16	12°	50	4	4	○
SHHLS4-020060	2.0	3.0	6	12°	50	4	4	○
SHHLS4-020080	2.0	3.0	8	12°	50	4	4	○
SHHLS4-020100	2.0	3.0	10	12°	50	4	4	○
SHHLS4-020120	2.0	3.0	12	12°	50	4	4	○
SHHLS4-020160	2.0	3.0	16	12°	50	4	4	○
SHHLS4-020200	2.0	3.0	20	12°	50	4	4	○
SHHLS4-030080	3.0	4.5	8	12°	50	4	4	○
SHHLS4-030100	3.0	4.5	10	12°	50	4	4	○
SHHLS4-030120	3.0	4.5	12	12°	50	4	4	○
SHHLS4-030160	3.0	4.5	16	12°	50	4	4	○
SHHLS4-030200	3.0	4.5	20	12°	50	4	4	○

Long Neck
Square

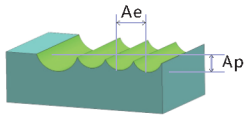
Model Number	D Outside Diameter	L1 Length Of Cut	L2 Effective Length	Bta Shank Taper Angle	L Overall Length	T Number Of Flutes	D Shank Diameter	In Stock
SHHLS4-030080-6	3.0	4.5	8	12°	50	4	6	○
SHHLS4-030100-6	3.0	4.5	10	12°	50	4	6	○
SHHLS4-030120-6	3.0	4.5	12	12°	50	4	6	○
SHHLS4-030160-6	3.0	4.5	16	12°	50	4	6	○
SHHLS4-030200-6	3.0	4.5	20	12°	50	4	6	○

*New size added from this series.

Stocked items.

4 Flutes

Long Neck
Square



Cutting Parameter

Work Material		HRC48-55 hardened steel				HRC56-62 hardened steel				HRC63-70 hardened steel			
Diameter of Ball Nose	Effective Length(mm)	(min-1) Speed	(mm/min) Feed	(mm) Axial depth	(mm) Radial depth	(min-1) Speed	(mm/min) Feed	(mm) Axial depth	(mm) Radial depth	(min-1) Speed	(mm/min) Feed	(mm) Axial depth	(mm) Radial depth
1.0	4	23000	900	0.04	0.5	18000	800	0.03	0.4	14000	500	0.02	0.3
1.0	6	18000	700	0.02	0.5	14000	600	0.01	0.4	10000	400	0.007	0.3
1.0	8	16000	600	0.02	0.5	12000	500	0.01	0.4	8000	340	0.005	0.3
1.0	10	14000	500	0.01	0.5	10000	400	0.007	0.4	6000	250	0.005	0.3
1.0	16	12000	320	0.006	0.5	9000	250	0.004	0.4	5500	150	0.003	0.3
1.5	4	20000	900	0.05	0.75	18000	800	0.04	0.6	4000	600	0.03	0.45
1.5	6	20000	800	0.04	0.75	18000	700	0.03	0.6	14000	500	0.02	0.45
1.5	8	18000	600	0.03	0.75	14000	600	0.03	0.6	10000	380	0.01	0.45
1.5	10	16000	500	0.03	0.75	14000	500	0.02	0.6	10000	350	0.01	0.45
1.5	16	10000	360	0.01	0.75	9000	300	0.007	0.6	6800	200	0.005	0.45
2.0	6	18000	900	0.06	1	15000	750	0.05	0.8	12000	600	0.03	0.6
2.0	8	16000	800	0.05	1	12000	600	0.04	0.8	9500	500	0.02	0.6
2.0	10	14000	700	0.05	1	12000	500	0.04	0.8	9500	450	0.02	0.6
2.0	12	12000	600	0.04	1	10000	500	0.03	0.8	8200	400	0.01	0.6
2.0	16	10000	500	0.03	1	9200	400	0.02	0.8	7500	340	0.007	0.6
2.0	20	9200	380	0.02	1	8500	340	0.01	0.8	6000	260	0.005	0.6
3.0	8	14000	900	0.1	1.5	10000	800	0.07	1.2	8000	600	0.05	0.9
3.0	10	14000	900	0.1	1.5	10000	800	0.07	1.2	8000	600	0.05	0.9
3.0	12	12000	800	0.08	1.5	9200	700	0.06	1.2	7200	500	0.04	0.9
3.0	16	10000	700	0.007	1.5	8500	600	0.05	1.2	6500	400	0.03	0.9
3.0	20	9000	700	0.07	1.5	7800	600	0.04	1.2	5800	400	0.02	0.9

Note:

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

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

*Recommend using a non-contact measuring device to avoid damaging the precision tip point;

*Decrease both spindle speed and feed rate proportionally in case of chattering;

*When the material hardness is higher than HRC58, it is recommended to use air blow cooling for roughing and oil mist or air blow cooling for finishing.

4 Flutes

Long Neck Square