Size **R0.2～R3**

DCLB

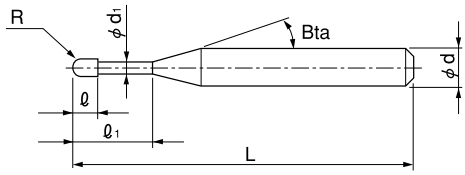
MG | DIA COAT | 35° | R ±0.01 | Shank Dia 0/-0.005

Material Applications（☆ Highly Recommended ◎ Recommended ○ Suggested）

Work Material															
Carbon Steels S45C S55C	Alloy Steels SK / SCM SUS	Prehardened Steels NAK HPM	Hardened Steels ～55HRC	Hardened Steels ～60HRC	Hardened Steels ～70HRC	Cast Iron	Aluminum Alloys	Graphite	Copper	Plastics	Glass Filled Plastics	Titanium Alloys	Heat Resistant Alloys	Cemented Carbide	Hard Brittle (Non-Metallic) Materials
							○	☆	○	○	◎				○

Features

DIA COAT 2 flute ball for Graphite electrodes.
A highly adhesive coating base, offers stability and excellent wear resistance for high efficiency milling on Graphite. With up to 20x longer tool life over uncoated tools.



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

Neck diameter / effective length by inclined angles have been changed.
Change date: From production in November, 2012.

Total 64 models

Unit（mm）

Model Number	Radius of Ball Nose R	Effective Length ℓ1	Length ℓ	Neck Diameter φd1	Shank Taper Angle Bta	Overall Length L	Shank Diameter φd	Price (¥)	Effective Length by Inclined Angles 30′	1°	1° 30′	2°	3°
DCLB 2004-0020	R0.2	2	0.32	0.37	16°	45	4	13,000	2.24	2.41	2.54	2.65	2.85
DCLB 2004-0030		3			16°	45	4	13,000	3.33	3.52	3.67	3.80	4.08
DCLB 2004-0040		4			16°	45	4	13,000	4.39	4.61	4.78	4.94	5.30
DCLB 2004-0050		5			16°	45	4	13,000	5.45	5.69	5.88	6.08	6.52
DCLB 2005-0020	R0.25	2	0.4	0.47	16°	45	4	13,000	2.29	2.49	2.64	2.78	3.01
DCLB 2005-0030		3			16°	45	4	13,000	3.39	3.61	3.79	3.95	4.24
DCLB 2005-0060		6			16°	45	4	13,000	6.59	6.89	7.13	7.37	7.91
DCLB 2005-0100		10			16°	45	4	13,000	10.78	11.16	11.53	11.93	12.80
DCLB 2006-0020	R0.3	2	0.48	0.57	16°	45	4	13,000	2.33	2.55	2.73	2.89	3.16
DCLB 2006-0030		3			16°	45	4	13,000	3.44	3.70	3.90	4.08	4.40
DCLB 2006-0040		4			16°	45	4	13,000	4.53	4.82	5.05	5.24	5.62
DCLB 2006-0060		6			16°	45	4	13,000	6.67	7.01	7.28	7.52	8.07
DCLB 2006-0100		10			16°	45	4	13,000	10.89	11.31	11.68	12.08	12.96
DCLB 2006-0120		12			16°	45	4	13,000	12.98	13.44	13.88	14.36	15.41

Next Page ➡

Unit (mm)

Model Number	Radius of Ball Nose R	Effective Length ℓ_1	Length ℓ	Neck Diameter ϕd_1	Shank Taper Angle Bta	Overall Length L	Shank Diameter ϕd	Price (¥)	Effective Length by Inclined Angles 30′	1°	1° 30′	2°	3°
DCLB 2010-0030		3			16°	45	4	13,000	3.45	3.69	3.89	4.06	4.37
DCLB 2010-0050		5	0.8		16°	45	4	13,000	5.61	5.91	6.16	6.37	6.81
DCLB 2010-0060		6			16°	45	4	13,000	6.67	7.01	7.27	7.51	8.04
DCLB 2010-0080		8			16°	45	4	13,000	8.79	9.17	9.47	9.78	10.48
DCLB 2010-0100	R0.5	10	1.5	0.96	16°	60	4	13,000	10.89	11.31	11.67	12.06	12.93
DCLB 2010-0100-08		10			16°	45	4	13,000	10.89	11.31	11.67	12.06	12.93
DCLB 2010-0120		12	0.8		16°	50	4	13,000	12.98	13.44	13.87	14.34	15.38
DCLB 2010-0160		16			16°	50	4	13,000	17.14	17.70	18.27	18.89	20.27
DCLB 2010-0200		20	1.5		16°	60	4	13,000	21.28	21.95	22.68	23.45	25.17
DCLB 2015-0060		6			16°	45	4	15,000	6.14	6.32	6.51	6.71	7.16
DCLB 2015-0100	R0.75	10	1.2	1.44	16°	45	4	15,000	10.27	10.58	10.91	11.27	12.06
DCLB 2015-0160		16			16°	50	4	15,000	16.46	16.97	17.51	18.10	19.40
DCLB 2020-0040		4			16°	45	4	13,000	4.13	4.23	4.34	4.46	4.73
DCLB 2020-0080		8			16°	45	4	13,000	8.25	8.49	8.74	9.02	9.62
DCLB 2020-0100		10	1.6		16°	45	4	13,000	10.31	10.62	10.94	11.29	12.07
DCLB 2020-0120		12			16°	45	4	13,000	12.38	12.75	13.15	13.57	14.52
DCLB 2020-0160		16			16°	50	4	13,000	16.50	17.01	17.55	18.12	19.41
DCLB 2020-0200-16		20		1.9	16°	60	4	13,000	20.63	21.27	21.95	22.68	No Interference
DCLB 2020-0200	R1	20	3		16°	70	4	13,000	20.63	21.27	21.95	22.68	No Interference
DCLB 2020-0250		25	1.6		16°	65	4	13,000	25.79	26.59	27.45	28.37	No Interference
DCLB 2020-0250-30		25	3		16°	65	4	13,000	25.79	26.59	27.45	28.37	No Interference
DCLB 2020-0300-16		30	1.6		16°	70	4	13,000	30.94	31.92	32.95	No Interference	No Interference
DCLB 2020-0300		30	3		16°	70	4	13,000	30.94	31.92	32.95	No Interference	No Interference
DCLB 2020-0350		35		1.91	16°	70	4	13,000	36.09	37.23	38.45	No Interference	No Interference
DCLB 2020-0400		40	1.6		16°	80	4	13,500	41.25	42.55	No Interference	No Interference	No Interference
DCLB 2030-0160		16			16°	60	6	15,000	16.49	16.98	17.50	18.06	19.30
DCLB 2030-0200		20	2.4		16°	60	6	15,000	20.61	21.23	21.90	22.61	24.20
DCLB 2030-0250		25			16°	70	6	17,000	25.77	26.56	27.40	28.30	30.31
DCLB 2030-0300	R1.5	30	4.5	2.9	16°	80	4	13,500	30.93	No Interference	No Interference	No Interference	No Interference
DCLB 2030-0300-S6		30	2.4		16°	80	6	17,000	30.93	31.88	32.90	34.00	No Interference
DCLB 2030-0400-S6		40			16°	80	6	18,500	41.24	42.53	43.91	No Interference	No Interference
DCLB 2030-0400		40	4.5		16°	80	4	15,000	41.24	No Interference	No Interference	No Interference	No Interference
DCLB 2040-0160		16			16°	70	6	16,500	16.47	16.94	17.45	17.99	19.19
DCLB 2040-0200		20	3.2		16°	70	6	16,500	20.60	21.20	21.85	22.54	No Interference
DCLB 2040-0250		25			16°	70	6	16,500	25.75	26.53	27.35	28.24	No Interference
DCLB 2040-0300		30			16°	70	6	16,500	30.91	31.85	32.85	No Interference	No Interference
DCLB 2040-0300-60	R2	30	6	3.9	–	100	4	18,500	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2040-0400-S6		40	3.2		16°	90	6	18,500	41.22	42.50	No Interference	No Interference	No Interference
DCLB 2040-0400		40	6		–	100	4	18,500	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2040-0500-S6		50	3.2		16°	100	6	19,800	51.54	53.15	No Interference	No Interference	No Interference
DCLB 2040-0500		50	6		–	100	4	19,000	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2040-0600		60		3.91	–	100	4	19,000	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2050-0200	R2.5	20	4	4.8	16°	70	6	16,500	20.76	21.36	21.99	No Interference	No Interference
DCLB 2050-0300		30			16°	80	6	17,000	31.08	32.00	No Interference	No Interference	No Interference
DCLB 2060-0300		30			–	80	6	17,000	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2060-0400		40		5.7	–	100	6	19,800	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2060-0500	R3	50	4.8		–	120	6	19,800	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2060-0600		60			–	120	6	23,000	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2060-0700		70		5.71	–	120	6	23,000	No Interference	No Interference	No Interference	No Interference	No Interference
DCLB 2060-0800		80			–	120	6	25,300	No Interference	No Interference	No Interference	No Interference	No Interference

Milling Conditions for DCLB

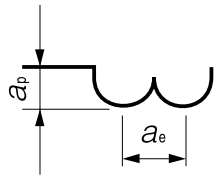
Work Material			GRAPHITE			
Model Number	Radius of Ball Nose (mm)	Effective Length (mm)	Spindle Speed (min^{-1})	Feed Rate (mm/min)	a_p Axial Depth (mm)	a_e Radial Depth (mm)
2004-0020	**R0.2**	2	33,500	1,100	0.10	0.04
2004-0030		3			0.09	
2004-0040		4			0.08	
2004-0050		5			0.06	
2005-0020	**R0.25**	2	33,500	1,200	0.11	0.05
2005-0030		3			0.10	
2005-0060		6			0.07	
2005-0100		10			0.03	
2006-0020	**R0.3**	2	33,500	1,300	0.15	0.06
2006-0030		3			0.13	
2006-0040		4			0.12	
2006-0060		6			0.10	
2006-0100		10			0.04	
2006-0120		12			0.04	
2010-0030	**R0.5**	3	33,500	1,500	0.20	0.10
2010-0050		5			0.19	
2010-0060		6			0.19	
2010-0080		8			0.18	
2010-0100(-08)		10			0.16	
2010-0120		12			0.15	
2010-0160		16			0.12	
2010-0200		20			0.10	
2015-0060	**R0.75**	6	30,000	1,500	0.35	0.15
2015-0100		10			0.30	
2015-0160		16			0.25	
2020-0040	**R1**	4	27,000	1,500	0.50	0.20
2020-0080		8			0.48	
2020-0100		10			0.46	
2020-0120		12			0.43	
2020-0160		16			0.38	
2020-0200(-16)		20			0.24	
2020-0250(-30)		25			0.19	
2020-0300(-16)		30			0.12	
2020-0350		35			0.11	
2020-0400		40			0.09	

Milling Conditions for DCLB

Work Material			GRAPHITE			
Model Number	Radius of Ball Nose (mm)	Effective Length (mm)	Spindle Speed (min^{-1})	Feed Rate (mm/min)	a_p Axial Depth (mm)	a_e Radial Depth (mm)
2030-0160	**R1.5**	16	18,000	1,650	0.50	0.45
2030-0200		20			0.44	
2030-0250		25			0.36	
2030-0300(-S6)		30			0.30	
2030-0400(-S6)		40			0.20	
2040-0160	**R2**	16	13,500	1,750	0.70	0.60
2040-0200		20			0.65	
2040-0250		25			0.55	
2040-0300		30			0.50	
2040-0300(-60)		30			0.50	
2040-0400(-S6)		40			0.40	
2040-0500(-S6)		50			0.24	
2040-0600		60			0.18	
2050-0200	**R2.5**	20	10,800	1,600	0.80	0.75
2050-0300		30			0.60	
2060-0300	**R3**	30	9,000	1,400	0.90	0.90
2060-0400		40			0.75	
2060-0500		50			0.60	
2060-0600		60			0.51	
2060-0700		70			0.40	
2060-0800		80			0.23	

Note:
・Use a milling machine dedicated for Graphite.
・Decrease the feed rate more than 50% from the milling parameters when slot milling.
・Recommend air blow for Graphite.

Milling Amount (mm)
a_p : Axial Depth (mm)
a_e : Radial Depth (mm) = P_f



SST
Single Source Technologies

Single Source Technologies
2600 Superior Court
Auburn Hills, MI 48326
(877) 228-2884
SST.MillingTeam@singlesourcetech.com
www.singlesourcetech.com