



Size R0.2~R3

DCLB



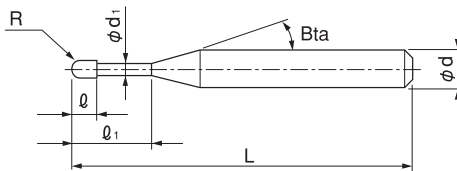
Material Applications (★ Highly Recommended ● Recommended ○ Suggested)

Work Material																	
Carbon Steels S45C S55C	Alloy Steels SK / SCM SUS	Prehardened Steels NAK HPM	Hardened Steels					Cast Iron	Aluminum Alloys	Graphite	Copper	Plastics	Glass Filled Plastics	Titanium Alloys	Heat Resistant Alloys	Cemented Carbide	Hard Brittle (Non-Metallic) Materials
			~50HRC	~55HRC	~60HRC	~65HRC	~70HRC										
									○	★	○	○	●				○

Features

Diamond coated 2 flute long neck ball end mills for Graphite Electrodes.

A highly adhesive coating base, offers long tool life and excellent wear resistance.



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.

Total 68 models

Unit (mm)

Model Number	Radius of Ball Nose R	Effective Length l_1	Length of Cut l	Neck Diameter ϕd_1	Shank Taper Angle Bta	Overall Length L	Shank Diameter ϕd	Suggested Retail 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				45	4	13,000	3.33	3.52	3.67	3.80	4.08
DCLB 2004-0040		4				45	4	13,000	4.39	4.61	4.78	4.94	5.30
DCLB 2004-0050		5				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				45	4	13,000	3.39	3.61	3.79	3.95	4.24
DCLB 2005-0060		6				45	4	13,000	6.59	6.89	7.13	7.37	7.91
DCLB 2005-0100		10				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				45	4	13,000	3.44	3.70	3.90	4.08	4.40
DCLB 2006-0040		4				45	4	13,000	4.53	4.82	5.05	5.24	5.62
DCLB 2006-0060		6				45	4	13,000	6.67	7.01	7.28	7.52	8.07
DCLB 2006-0100		10				45	4	13,000	10.89	11.31	11.68	12.08	12.96
DCLB 2006-0120		12				45	4	13,000	12.98	13.44	13.88	14.36	15.41
DCLB 2008-0100	R0.4	10	0.64	0.77	16°	45	4	13,000	10.88	11.30	11.67	12.07	12.94
DCLB 2008-0120		12				50	4	13,000	12.97	13.43	13.87	14.34	15.39
DCLB 2008-0160		16				50	4	13,000	17.13	17.69	18.27	18.90	20.28

Unit (mm)

Model Number	Radius of Ball Nose R	Effective Length l_1	Length of Cut l	Neck Diameter ϕd	Shank Taper Angle Bta	Overall Length L	Shank Diameter ϕd	Suggested Retail Price ¥	Effective Length by Inclined Angles						
									30°	1°	1° 30'	2°	3°		
DCLB 2010-0030	RO.5	3	0.8	0.96	16°	45	4	13,000	3.45	3.69	3.89	4.06	4.37		
DCLB 2010-0050		5				45	4	13,000	5.61	5.91	6.16	6.37	6.81		
DCLB 2010-0060		6				45	4	13,000	6.67	7.01	7.27	7.51	8.04		
DCLB 2010-0080		8				45	4	13,000	8.79	9.17	9.47	9.78	10.48		
DCLB 2010-0100		10	1.5			60	4	13,000	10.89	11.31	11.67	12.06	12.93		
DCLB 2010-0100-08		10	0.8			45	4	13,000	10.89	11.31	11.67	12.06	12.93		
DCLB 2010-0120		12				50	4	13,000	12.98	13.44	13.87	14.34	15.38		
DCLB 2010-0160		16				50	4	13,000	17.14	17.70	18.27	18.89	20.27		
DCLB 2010-0200		20				1.5	60	4	13,000	21.28	21.95	22.68	23.45	25.17	
DCLB 2015-0060	RO.75	6	1.2	1.44	16°	45	4	15,000	6.14	6.32	6.51	6.71	7.16		
DCLB 2015-0100		10				45	4	15,000	10.27	10.58	10.91	11.27	12.06		
DCLB 2015-0160		16				50	4	15,000	16.46	16.97	17.51	18.10	19.40		
DCLB 2020-0040	R1	4	1.6	1.9	16°	45	4	13,000	4.13	4.23	4.34	4.46	4.73		
DCLB 2020-0060		6				45	4	13,000	6.19	6.36	6.54	6.74	7.17		
DCLB 2020-0080		8				45	4	13,000	8.25	8.49	8.74	9.02	9.62		
DCLB 2020-0100		10				45	4	13,000	10.31	10.62	10.94	11.29	12.07		
DCLB 2020-0120		12				45	4	13,000	12.38	12.75	13.15	13.57	14.52		
DCLB 2020-0160		16				50	4	13,000	16.50	17.01	17.55	18.12	19.41		
DCLB 2020-0200-16		20				60	4	13,000	20.63	21.27	21.95	22.68	No Interference		
DCLB 2020-0200		20				3	70	4	13,000	20.63	21.27	21.95	22.68	No Interference	
DCLB 2020-0250		25	1.6	65	4	13,000	25.79	26.59	27.45	28.37	No Interference				
DCLB 2020-0250-30		25	3	65	4	13,000	25.79	26.59	27.45	28.37	No Interference				
DCLB 2020-0300-16		30	1.6	70	4	13,000	30.94	31.92	32.95	No Interference	No Interference				
DCLB 2020-0300		30	3	70	4	13,000	30.94	31.92	32.95	No Interference	No Interference				
DCLB 2020-0350		35	1.91	16°	1.91	16°	70	4	13,000	36.09	37.23	38.45	No Interference	No Interference	
DCLB 2020-0400		40					80	4	13,500	41.25	42.55	No Interference	No Interference	No Interference	
DCLB 2030-0160		R1.5	16	2.4	2.9	16°	60	6	15,000	16.49	16.98	17.50	18.06	19.30	
DCLB 2030-0200			20				60	6	15,000	20.61	21.23	21.90	22.61	24.20	
DCLB 2030-0250	25		70				6	17,000	25.77	26.56	27.40	28.30	30.31		
DCLB 2030-0300	30		4.5				80	4	13,500	30.93	No Interference	No Interference	No Interference	No Interference	
DCLB 2030-0300-S6	30		2.4	80			6	17,000	30.93	31.88	32.90	34.00	No Interference		
DCLB 2030-0400-S6	40			80			6	18,500	41.24	42.53	43.91	No Interference	No Interference		
DCLB 2030-0400	40		4.5	80			4	15,000	41.24	No Interference	No Interference	No Interference	No Interference		
DCLB 2040-0160	R2		16	3.2			3.9	16°	70	6	16,500	16.47	16.94	17.45	17.99
DCLB 2040-0200		20	70		6	16,500			20.60	21.20	21.85	22.54	No Interference		
DCLB 2040-0250		25	70		6	16,500			25.75	26.53	27.35	28.24	No Interference		
DCLB 2040-0300		30	70		6	16,500			30.91	31.85	32.85	No Interference	No Interference		
DCLB 2040-0300-60		30	6		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				80	6	17,000	31.08	32.00	No Interference	No Interference	No Interference		
DCLB 2060-0300	R3	30	4.8	5.7	-	80	6	17,000	No Interference	No Interference	No Interference	No Interference	No Interference		
DCLB 2060-0400		40				100	6	19,800	No Interference	No Interference	No Interference	No Interference	No Interference		
DCLB 2060-0500		50				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

Ø3mm Shank
V SeriesUDC-PCD
SeriesCBN
Series

Square

Long Neck
Square

Radius

Long Neck
RadiusTaper Neck
RadiusBall / Long
Shank BallLong Neck
BallTaper Neck
Ball

Taper

Barrel

Spiral
V Cutter

Drill

Technical Data

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	0.1	0.04
2004-0030		3	33,500	1,100	0.09	0.04
2004-0040		4	33,500	1,100	0.08	0.04
2004-0050		5	33,500	1,100	0.06	0.04
2005-0020		R0.25	2	33,500	1,200	0.11
2005-0030	3		33,500	1,200	0.1	0.05
2005-0060	6		33,500	1,200	0.07	0.05
2005-0100	10		33,500	1,200	0.03	0.05
2006-0020	R0.3	2	33,500	1,300	0.15	0.06
2006-0030		3	33,500	1,300	0.13	0.06
2006-0040		4	33,500	1,300	0.12	0.06
2006-0060		6	33,500	1,300	0.1	0.06
2006-0100		10	33,500	1,300	0.04	0.06
2006-0120	R0.4	12	33,500	1,300	0.04	0.06
2008-0100		10	33,500	1,400	0.13	0.08
2008-0120		12	33,500	1,400	0.1	0.08
2008-0160		16	33,500	1,400	0.08	0.08
2010-0030	R0.5	3	33,500	1,500	0.2	0.1
2010-0050		5	33,500	1,500	0.19	0.1
2010-0060		6	33,500	1,500	0.19	0.1
2010-0080		8	33,500	1,500	0.18	0.1
2010-0100(-08)		10	33,500	1,500	0.16	0.1
2010-0120		12	33,500	1,500	0.15	0.1
2010-0160		16	33,500	1,500	0.12	0.1
2010-0200	R0.75	20	33,500	1,500	0.1	0.1
2015-0060		6	30,000	1,500	0.35	0.15
2015-0100		10	30,000	1,500	0.3	0.15
2015-0160		16	30,000	1,500	0.25	0.15
2020-0040	R1	4	27,000	1,500	0.5	0.2
2020-0060		6	27,000	1,500	0.49	0.2
2020-0080		8	27,000	1,500	0.48	0.2
2020-0100		10	27,000	1,500	0.46	0.2
2020-0120		12	27,000	1,500	0.43	0.2
2020-0160		16	27,000	1,500	0.38	0.2
2020-0200(-16)		20	27,000	1,500	0.24	0.2
2020-0250(-30)		25	27,000	1,500	0.19	0.2
2020-0300(-16)		30	27,000	1,500	0.12	0.2
2020-0350		35	27,000	1,500	0.11	0.2
2020-0400		40	27,000	1,500	0.09	0.2

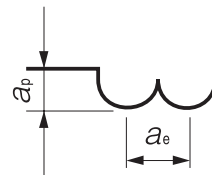
- Ø3mm Shank V Series
- UDC-PCD Series
- CBN Series
- Square
- Long Neck Square
- Radius
- Long Neck Radius
- Taper Neck Radius
- Ball / Long Shank Ball
- Long Neck Ball
- Taper Neck Ball
- Taper
- Barrel
- Spiral V Cutter
- Drill
- Technical Data

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	0.5	0.45	
2030-0200		20	18,000	1,650	0.44	0.45	
2030-0250		25	18,000	1,650	0.36	0.45	
2030-0300(-S6)		30	18,000	1,650	0.3	0.45	
2030-0400(-S6)		40	18,000	1,650	0.2	0.45	
2040-0160		R2	16	13,500	1,750	0.7	0.6
2040-0200	20		13,500	1,750	0.65	0.6	
2040-0250	25		13,500	1,750	0.55	0.6	
2040-0300	30		13,500	1,750	0.5	0.6	
2040-0300(-60)	30		13,500	1,750	0.5	0.6	
2040-0400(-S6)	40		13,500	1,750	0.4	0.6	
2040-0500(-S6)	50		13,500	1,750	0.24	0.6	
2040-0600	60		13,500	1,750	0.18	0.6	
2050-0200	R2.5		20	10,800	1,600	0.8	0.75
2050-0300			30	10,800	1,600	0.6	0.75
2060-0300	R3	30	9,000	1,400	0.9	0.9	
2060-0400		40	9,000	1,400	0.75	0.9	
2060-0500		50	9,000	1,400	0.6	0.9	
2060-0600		60	9,000	1,400	0.51	0.9	
2060-0700		70	9,000	1,400	0.4	0.9	
2060-0800		80	9,000	1,400	0.23	0.9	

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.



Ø3mm Shank
V Series

UDC-PCD
Series

CBN
Series

Square

Long Neck
Square

Radius

Long Neck
Radius

Taper Neck
Radius

Ball / Long
Shank Ball

Long Neck
Ball

Taper Neck
Ball

Taper

Barrel

Spiral
V Cutter

Drill

Technical Data