

金刚石涂层  
石墨刀具

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We are manufacturer for carbide endmills,  
Carbide drills, taps and carbide reamers  
We warmly welcome all dealers or  
distributors for coperation.

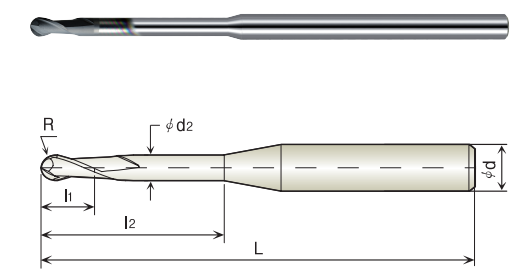
DM TOOLS



优质工具供应商



## 2FLUTES BALL END MILLS FOR DEEP RIB WITH LONG NECK



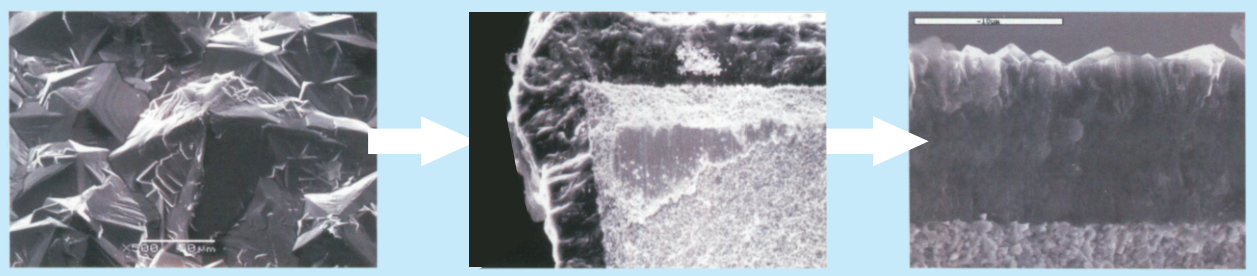
Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

### GPRB0



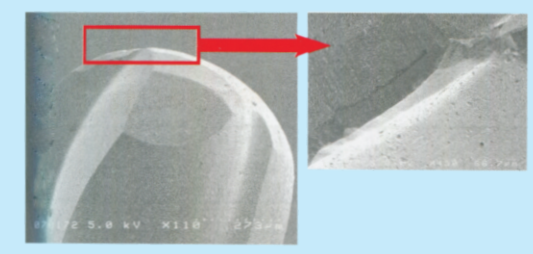
Model No. 型号	Radius of Ball Nose 半径 R	Effective Length 有效长 L <sub>2</sub>	Length of cut 刃长 L <sub>1</sub>	Neck Diameter 颈径 D <sub>2</sub>	Overall Length 总长 L	Shank Diameter 柄径 D
GPRB001003	R0.05	0.3	0.1	0.09	50	4
GPRB001005		0.5				
GPRB002005	R0.1	0.5	0.4	0.18	50	
GPRB00201		1				
GPRB002015		1.5				
GPRB00202		2				
GPRB00301	R0.15	1	0.5	0.27	50	
GPRB003015		1.5				
GPRB00302		2				
GPRB00303		3				
GPRB003045		4.5				
GPRB00306		6				
GPRB00401	R0.2	1	0.6	0.36	50	
GPRB00402		2				
GPRB00403		3				
GPRB00404		4				
GPRB00405		5				
GPRB00406		6				
GPRB00408		8				
GPRB00503	R0.25	3	0.7	0.45	50	
GPRB00504		4				
GPRB00505		5				
GPRB00506		6				
GPRB00508		8				
GPRB00510		10				
GPRB00603	R0.3	3	1	0.55	50	
GPRB00604		4				
GPRB00605		5				
GPRB00606		6				
GPRB00609		9				
GPRB00610		10				
GPRB00612		12				

### DIA coating

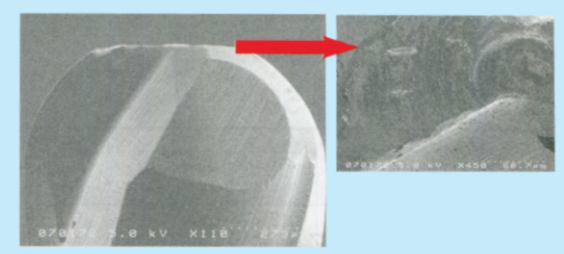


- Special parent material of the diamond coating
- High-purity diamond coating material, Hardness can reach more than 80Gpa
- Wear resistance, superior performance, the most suitable for machining graphite, high-silicon aluminum alloy, fiber resin (FRP).

### DIA coating

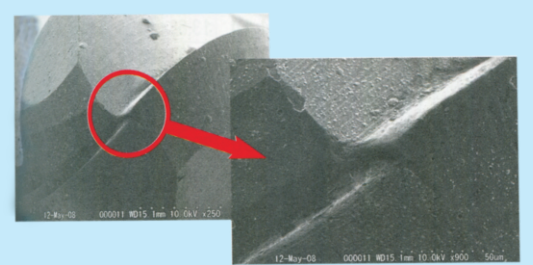


G-PRO Diamond coating

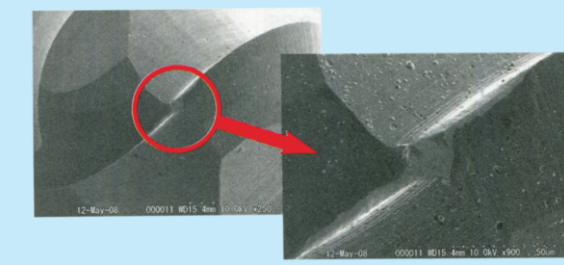


Other companies coating

### DIA coating

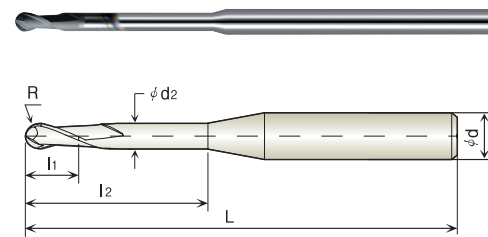


G-PRO Diamond coating



Other companies coating





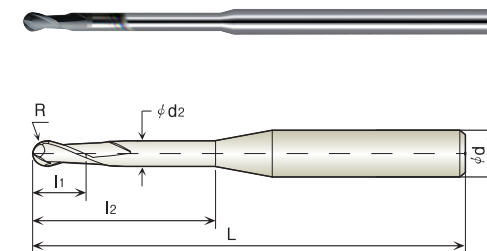
Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

## GPRB0



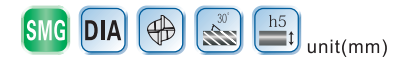
unit(mm)

Model No. 型号	Radius of Ball Nose 半径R	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRB00804	R0.4	4	1.2	0.75	50	4
GPRB00806		6				
GPRB00808		8				
GPRB00810		10				
GPRB00812		12				
GPRB00816		16				
GPRB01004	R0.5	4	1.6	0.95	50	4
GPRB01006		6			60	
GPRB01008		8				
GPRB01010		10				
GPRB01012		12				
GPRB01015		15				
GPRB01016		16				
GPRB01018		18				
GPRB01020		20				
GPRB01025		25			75	
GPRB01206	R0.6	6	1.8	1.15	60	4
GPRB01208		8				
GPRB01210		10				
GPRB01212		12				
GPRB01505	R0.75	5	2.4	1.45	60	4
GPRB01510		10				
GPRB01512		12				
GPRB01515		15				
GPRB01520		20				
GPRB01525		25			75	
GPRB02006	R1.0	6	3.0	1.95	60	4
GPRB02008		8				
GPRB02010		10				
GPRB02012		12				
GPRB02014		14				
GPRB02016		16				
GPRB02020		20				
GPRB02025		25			75	
GPRB02030		30				



Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

## GPRB0

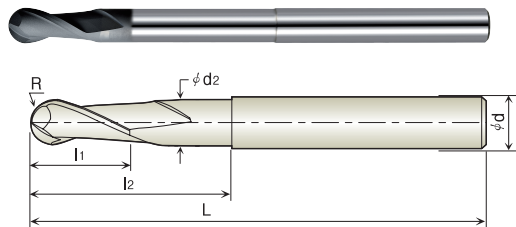


unit(mm)

Model No. 型号	Radius of Ball Nose 半径 R	Effective Length 有效长 L <sub>2</sub>	Length of cut 刃长 L <sub>1</sub>	Neck Diameter 颈径 D <sub>2</sub>	Overall Length 总长 L	Shank Diameter 柄径 D
GPRB03010	R1.5	10	3.5	2.9	60	4
GPRB03012		12				
GPRB03014		14				
GPRB03016		16				
GPRB03018		18				
GPRB03020		20				
GPRB03025		25				
GPRB03030		30				
GPRB03035		35				
GPRB03045		45			100	

## 2FLUTES BALL FOR DIR 6 END MILLS FOR DEEP RIB WITH LONG NECK

GPRB02006-6	R1.0	6	3.0	1.95	50	6
GPRB02016-6		16			60	
GPRB02020-6		20				
GPRB02025-6		25				
GPRB02030-6		30			75	
GPRB03010-6	R1.5	10	3.5	2.9	60	6
GPRB03014-6		14				
GPRB03020-6		20				
GPRB03025-6		25			75	
GPRB03030-6		30				
GPRB03035-6		35				
GPRB03045-6		45			100	
GPRB04012-6	R2	12	5.0	3.9	60	6
GPRB04016-6		16				
GPRB04024-6		24				
GPRB04030-6		30			75	
GPRB04035-6		35			75	
GPRB04040-6		40			100	
GPRB05015-6		R2.5			15	
GPRB05035-6	35		75			
GPRB05050-6	50		100			

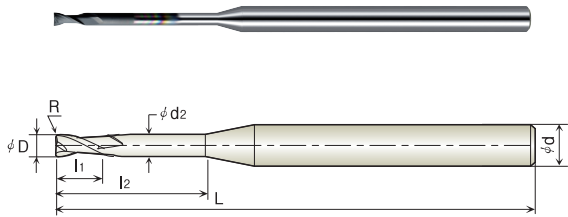


Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

SMG DIA 30° h5 unit(mm)

GPB20○○-○○○○

Model No. 型号	Radius of Ball Nose 半径R	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPB2006-050	R0.3	—	1.2	50	4
GPB2008-050	R0.4	—	1.5	50	4
GPB2010-050	R0.5	—	2	50	4
GPB2010-060		6		60	6
GPB2015-050	R0.75	—	3	50	4
GPB2015-060		6		60	6
GPB2020-060	R1.0	—	5	60	4
GPB2020-060		8		60	6
GPB2030-060	R1.5	12	6	60	3
GPB2030-075				75	3
GPB2030-090-6				90	6
GPB2030-100	R2.0	12	8	100	3
GPB2040-060				60	4
GPB2040-075				75	4
GPB2040-090-6				90	6
GPB2040-100	R2.5	20	10	100	4
GPB2050-060				60	6
GPB2050-075				75	6
GPB2050-100	R3.0	35	12	100	6
GPB2060-060				60	
GPB2060-075				75	
GPB2060-100				100	
GPB2060-150	R4.0	60	16	150	8
GPB2060-200				200	
GPB2080-080				80	
GPB2080-110	R5.0	85	20	110	10
GPB2080-150				150	
GPB2080-200				200	
GPB2100-080	R6.0	40	24	80	12
GPB2100-110				110	
GPB2100-150				150	
GPB2100-200				200	
GPB2120-080	R8.0	65	32	80	16
GPB2120-110				110	
GPB2120-150				150	
GPB2120-200				200	
GPB2160-110	R8.0	85	32	110	16
GPB2160-150				150	
GPB2160-200				200	

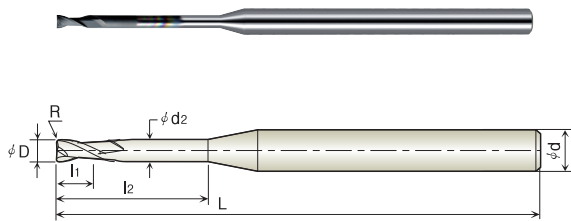


Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

SMG DIA 30° h5 unit(mm)

GPRE20○○R○○-○○○○

Model No. 型号	Outside Diameter 直径D	Corner Radius R角	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE2004R002-020	0.4	R0.02	2.0	0.6	0.36	50	4
GPRE2004R002-040			4.0				
GPRE2004R002-060			6.0				
GPRE2004R002-080			8.0				
GPRE2004R005-020		R0.05	2.0				
GPRE2004R005-040			4.0				
GPRE2004R005-060			6.0				
GPRE2004R005-080			8.0				
GPRE2005R005-025	0.5	R0.05	2.5	0.7	0.45	50	4
GPRE2005R005-035			3.5				
GPRE2005R005-050			5.0				
GPRE2005R005-075			7.5				
GPRE2005R005-100			10.0				
GPRE2006R005-030	0.6	R0.05	3.0	1	0.55	50	4
GPRE2006R005-060			6.0				
GPRE2006R005-090			9.0				
GPRE2006R005-120			12.0				
GPRE2006R01-030		R0.1	3.0				
GPRE2006R01-060			6.0				
GPRE2006R01-090			9.0				
GPRE2006R01-120			12.0				
GPRE2008R005-040	0.8	R0.05	4.0	1.2	0.75	50	4
GPRE2008R005-080			8.0				
GPRE2008R005-120			12.0				
GPRE2008R005-160			16.0				
GPRE2008R01-040		R0.1	4.0				
GPRE2008R01-080			8.0				
GPRE2008R01-120			12.0				
GPRE2008R01-160			16.0				
GPRE2008R02-040		R0.2	4.0				
GPRE2008R02-080			8.0				
GPRE2008R02-120			12.0				
GPRE2008R02-160			16.0				

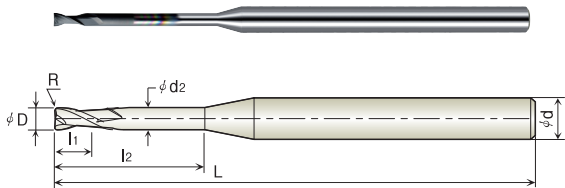


Size	D Tolerance
< ϕ 6	0~-0.010
ϕ 6 ≤	0~-0.015

GPRE20○○R○○-○○○○

SMG DIA 30° h5 unit(mm)

Model No. 型号	Outside Diameter 直径D	Corner Radius R角	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE2010R005-040	1.0	R0.05	4.0	1.6	0.95	60	4
GPRE2010R005-060			6.0				
GPRE2010R005-080			8.0				
GPRE2010R005-100			10.0				
GPRE2010R005-120			12.0				
GPRE2010R005-150			15.0				
GPRE2010R01-040		R0.1	4.0				
GPRE2010R01-060			6.0				
GPRE2010R01-080			8.0				
GPRE2010R01-100			10.0				
GPRE2010R01-120			12.0				
GPRE2010R01-150			15.0				
GPRE2010R01-200			20.0				
GPRE2010R02-040		R0.2	4.0				
GPRE2010R02-060			6.0				
GPRE2010R02-080			8.0				
GPRE2010R02-100			10.0				
GPRE2010R02-120			12.0				
GPRE2010R02-150			15.0				
GPRE2010R02-200			20.0				
GPRE2010R03-040		R0.3	4.0				
GPRE2010R03-060			6.0				
GPRE2010R03-080			8.0				
GPRE2010R03-100			10.0				
GPRE2010R03-120			12.0				
GPRE2010R03-150			15.0				
GPRE2010R03-200			20.0				
GPRE2015R01-040	1.5	R0.1	4.0	2.4	1.45	60	4
GPRE2015R01-060			6.0				
GPRE2015R01-080			8.0				
GPRE2015R01-100			10.0				
GPRE2015R01-160			16.0				
GPRE2015R01-200			20.0				



Size	D Tolerance
< ϕ 6	0~-0.010
ϕ 6 ≤	0~-0.015

GPRE20○○R○○-○○○○

SMG DIA 30° h5 unit(mm)

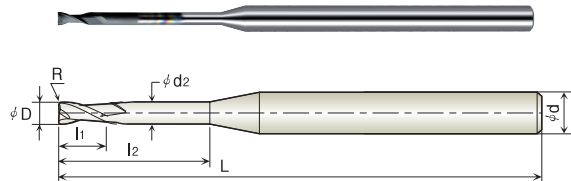
Model No. 型号	Outside Diameter 直径D	Corner Radius R角	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE2015R015-040	1.5	R0.15	4.0	2.4	1.45	60	4
GPRE2015R015-060			6.0				
GPRE2015R015-080			8.0				
GPRE2015R015-100			10.0				
GPRE2015R015-160			16.0				
GPRE2015R015-200			20.0				
GPRE2015R02-040		R0.2	4.0				
GPRE2015R02-060			6.0				
GPRE2015R02-080			8.0				
GPRE2015R02-100			10.0				
GPRE2015R02-160			16.0				
GPRE2015R02-200			20.0				
GPRE2020R01-060	2.0	R0.1	6.0	3	1.95	60	4
GPRE2020R01-100			10.0				
GPRE2020R01-160			16.0				
GPRE2020R01-200			20.0				
GPRE2020R01-240			24.0				
GPRE2020R01-300			30.0				
GPRE2020R015-060		R0.15	6.0				
GPRE2020R015-100			10.0				
GPRE2020R015-160			16.0				
GPRE2020R015-200			20.0				
GPRE2020R015-240			24.0				
GPRE2020R015-300			30.0				
GPRE2020R02-040		R0.2	4.0				
GPRE2020R02-060			6.0				
GPRE2020R02-080			8.0				
GPRE2020R02-100			10.0				
GPRE2020R02-160			16.0				
GPRE2020R02-200			20.0				
GPRE2020R05-060		R0.5	6.0				
GPRE2020R05-100			10.0				
GPRE2020R05-160			16.0				
GPRE2020R05-200			20.0				
GPRE2020R05-240			24.0				
GPRE2020R05-300			30.0				



GPRE2000R



2FLUTES CORNER RADIUS END MILLS WITH LONG NECK



Size	D Tolerance
< ϕ 6	0~-0.010
ϕ 6 ≤	0~-0.015

GPRE2000R00-0000

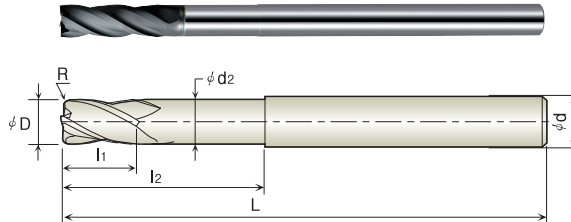


Model No. 型号	Outside Diameter 直径 D	Corner Radius R 角	Effective Length 有效长 L <sub>2</sub>	Length of cut 刃长 L <sub>1</sub>	Neck Diameter 颈径 D <sub>2</sub>	Overall Length 总长 L	Shank Diameter 柄径 D
GPRE2030R010-040	3.0	R0.1	4.0	4.5	2.9	60	4/6
GPRE2030R010-060			6.0				
GPRE2030R010-080			8.0				
GPRE2030R010-100			10.0				
GPRE2030R010-160			16.0				
GPRE2030R010-200			20.0				
GPRE2030R02-060		R0.2	6.0			100	
GPRE2030R02-100			10.0				
GPRE2030R02-160			16.0				
GPRE2030R02-200			20.0				
GPRE2030R02-300			30.0				
GPRE2030R02-450			45.0				
GPRE2030R03-060		R0.3	6.0			60	
GPRE2030R03-100			10.0				
GPRE2030R03-160			16.0				
GPRE2030R03-200			20.0				
GPRE2030R03-300			30.0				
GPRE2030R03-450			45.0				
GPRE2030R05-060		R0.5	6.0			60	
GPRE2030R05-100			10.0				
GPRE2030R05-160			16.0				
GPRE2030R05-200			20.0				
GPRE2030R05-300			30.0				
GPRE2030R05-045			45.0				

GPRE4000R



4 FLUTES CORNER RADIUS END MILLS WITH LONG NECK



Size	D Tolerance
< ϕ 6	0~-0.010
ϕ 6 ≤	0~-0.015

GPRE4000R00-0000

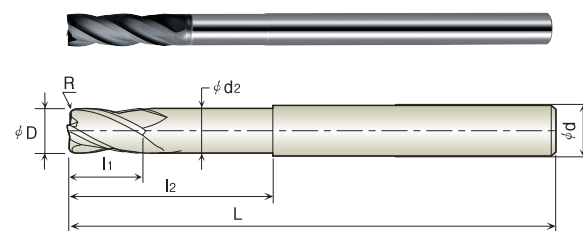


Model No. 型号	Outside Diameter 直径D	Corner Radius R角	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE4030R01-060	3.0	R0.1	12	9	2.9	60	3
GPRE4030R01-075						75	
GPRE4030R01-100						100	
GPRE4030R02-060		R0.2				60	
GPRE4030R02-075						75	
GPRE4030R02-100						100	
GPRE4030R03-060		R0.3				60	
GPRE4030R03-075						75	
GPRE4030R03-100						100	
GPRE4030R05-060		R0.5				60	
GPRE4030R05-075						75	
GPRE4030R05-100						100	
GPRE4040R01-060	4.0	R0.1	20	16	3.9	60	4
GPRE4040R01-075						75	
GPRE4040R01-100						100	
GPRE4040R02-060		R0.2				60	
GPRE4040R02-075						75	
GPRE4040R02-100						100	
GPRE4040R03-060		R0.3				60	
GPRE4040R03-075						75	
GPRE4040R03-100						100	
GPRE4040R05-060		R0.5				60	
GPRE4040R05-075						75	
GPRE4040R05-100						100	
GPRE4040R10-060		R1.0				60	
GPRE4040R10-075						75	
GPRE4040R10-100						100	
GPRE4050R01-060	5.0	R0.1	20	15	4.8	60	6
GPRE4050R01-075			30			75	
GPRE4050R01-100			50			100	
GPRE4050R02-060		R0.2	20			60	
GPRE4050R02-075			30			75	
GPRE4050R02-100			50			100	

# GPRE4000R



4 FLUTES CORNER RADIUS END MILLS WITH LONG NECK



Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

GPRE4000R00-0000

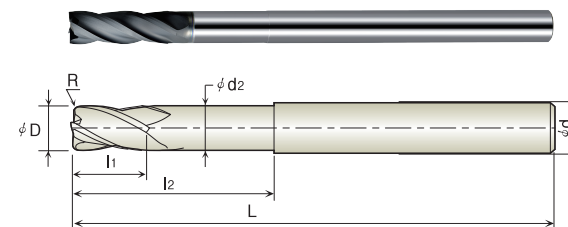


Model No. 型号	Outside Diameter 直径D	Corner Radius R角	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE4050R03-060	5.0	R0.3	20	15	4.8	60	6
GPRE4050R03-075			30			75	
GPRE4050R03-100			50			100	
GPRE4050R05-060		R0.5	20			60	
GPRE4050R05-075			30			75	
GPRE4050R05-100			50			100	
GPRE4050R10-060		R1.0	20			60	
GPRE4050R10-075			30			75	
GPRE4050R10-100			50			100	
GPRE4060R02-060	6.0	R0.2	30	24	5.8	60	6
GPRE4060R02-075			35			75	
GPRE4060R02-100			60			100	
GPRE4060R02-150			150			150	
GPRE4060R02-200			200			200	
GPRE4060R03-060		R0.3	30			60	
GPRE4060R03-075			35			75	
GPRE4060R03-100			60			100	
GPRE4060R03-150			150			150	
GPRE4060R03-200			200			200	
GPRE4060R05-060		R0.5	30			60	
GPRE4060R05-075			35			75	
GPRE4060R05-100			60			100	
GPRE4060R05-150			150			150	
GPRE4060R05-200			200			200	
GPRE4060R10-060		R1.0	30			60	
GPRE4060R10-075			35			75	
GPRE4060R10-100			60			100	
GPRE4060R10-150			150			150	
GPRE4060R10-200			200			200	
GPRE4080R02-080	8.0	R0.2	40	32	7.8	80	8
GPRE4080R02-110			60			110	
GPRE4080R02-150			150			150	
GPRE4080R02-200			200			200	

# GPRE4000R



4 FLUTES CORNER RADIUS END MILLS WITH LONG NECK



Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

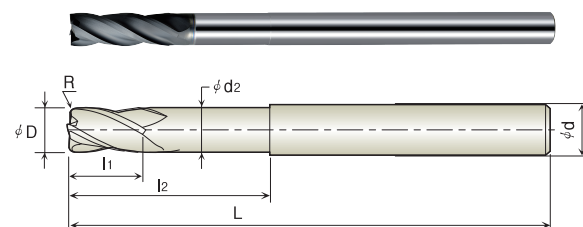
GPRE4000R00-0000



Model No. 型号	Outside Diameter 直径D	Corner Radius R角	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE4080R03-080	8.0	R0.3	40	32	7.8	80	8
GPRE4080R03-110			60			110	
GPRE4080R03-150			150			150	
GPRE4080R03-200			200			200	
GPRE4080R05-080		R0.5	40			80	
GPRE4080R05-110			60			110	
GPRE4080R05-150			150			150	
GPRE4080R05-200			200			200	
GPRE4080R10-080		R1.0	40			80	
GPRE4080R10-110			60			110	
GPRE4080R10-150			150			150	
GPRE4080R10-200			200			200	
GPRE4080R15-080		R1.5	40			80	
GPRE4080R15-110			60			110	
GPRE4080R15-150			150			150	
GPRE4080R15-200			200			200	
GPRE4080R20-080		R2.0	40			80	
GPRE4080R20-110			60			110	
GPRE4080R20-150			150			150	
GPRE4080R20-200			200			200	
GPRE4100R02-080	10.0	R0.2	40	35	9.8	80	10
GPRE4100R02-110			60			110	
GPRE4100R02-150			150			150	
GPRE4100R02-200			200			200	
GPRE4100R03-080		R0.3	40			80	
GPRE4100R03-110			60			110	
GPRE4100R03-150			150			150	
GPRE4100R03-200			200			200	
GPRE4100R05-080		R0.5	40			80	
GPRE4100R05-110			60			110	
GPRE4100R05-150			150			150	
GPRE4100R05-200			200			200	
GPRE4100R10-080		R1.0	40			80	
GPRE4100R10-110			60			110	
GPRE4100R10-150			150			150	
GPRE4100R10-200			200			200	



## 4 FLUTES CORNER RADIUS END MILLS WITH LONG NECK



Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015

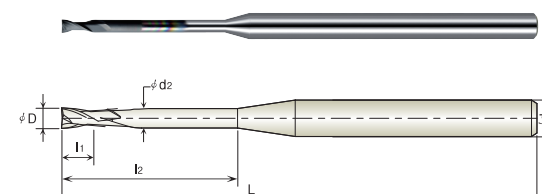


GPRE40○○R○○-○○○

Model No. 型号	Outside Diameter 直径 D	Corner Radius R角	Effective Length 有效长 L <sub>2</sub>	Length of cut 刃长 L <sub>1</sub>	Neck Diameter 颈径 D <sub>2</sub>	Overall Length 总长 L	Shank Diameter 柄径 D
GPRE4100R15-080	10.0	R1.5	40	35	9.8	80	10
GPRE4100R15-110			60			110	
GPRE4100R15-150			60			150	
GPRE4100R15-200			60			200	
GPRE4100R20-080		R2.0	40			80	
GPRE4100R20-110			60			110	
GPRE4100R20-150			60			150	
GPRE4100R20-200			60			200	
GPRE4120R02-080	12.0	R0.2	45	40	11.8	80	12
GPRE4120R02-110			60			110	
GPRE4120R02-150			60			150	
GPRE4120R02-200			60			200	
GPRE4120R03-080		R0.3	45			80	
GPRE4120R03-110			60			110	
GPRE4120R03-150			60			150	
GPRE4120R03-200			60			200	
GPRE4120R05-080		R0.5	45			80	
GPRE4120R05-110			60			110	
GPRE4120R05-150			60			150	
GPRE4120R05-200			60			200	
GPRE4120R10-080		R1.0	45			80	
GPRE4120R10-110			60			110	
GPRE4120R10-150			60			150	
GPRE4120R10-200			60			200	
GPRE4120R15-080		R1.5	45			80	
GPRE4120R15-110			60			110	
GPRE4120R15-150			60			150	
GPRE4120R15-200			60			200	
GPRE4120R20-080		R2.0	45			80	
GPRE4120R20-110			60			110	
GPRE4120R20-150			60			150	
GPRE4120R20-200			60			200	
GPRE4160R05-110	16.0	R0.5	50	40	15.8	110	16
GPRE4160R05-150			80			150	
GPRE4160R05-200			85			200	



## 2 FLUTES SQUARE END MILLS FOR DEEP RIB WITH LONG NECK



Size	D Tolerance
< φ 6	0~-0.010
φ 6 ≤	0~-0.015



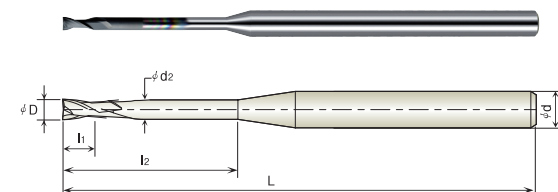
GPRE0○○○○

Model No. 型号	Outside Diameter 直径D	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE00201	0.2	1	0.3	0.18	50	4
GPRE002015		1.5				
GPRE00202		2				
GPRE003015	0.3	1.5	0.5	0.27	50	
GPRE00302		2				
GPRE00303		3				
GPRE003045		4.5				
GPRE00306		6				
GPRE00402	0.4	2	0.6	0.37	50	
GPRE00404		4				
GPRE00406		6				
GPRE00408		8				
GPRE005025	0.5	2.5	0.7	0.45	50	
GPRE00503		3				
GPRE00504		4				
GPRE00505		5				
GPRE00506		6				
GPRE00508		8				
GPRE00510		10				
GPRE00603	0.6	3	1	0.55	50	
GPRE00606		6				
GPRE00609		9				
GPRE00612		12				
GPRE00802	0.8	2	1.2	0.75	50	
GPRE00804		4				
GPRE00806		6				
GPRE00808		8				
GPRE00810		10				
GPRE00812		12				
GPRE00816		16				





## 2FLUTES SQUARE END MILLS FOR DEEP RIB WITH LONG NECK



Size	D Tolerance
< $\phi$ 6	0~-0.010
$\phi$ 6 $\leq$	0~-0.015

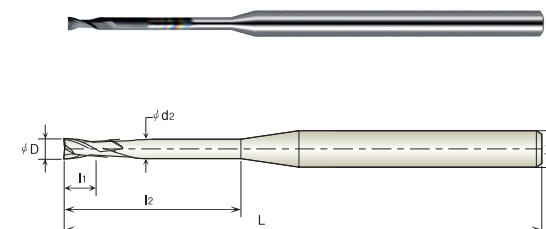


### GPRE0

Model No. 型号	Outside Diameter 直径D	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE01003	1.0	3	1.5	0.95	60	4
GPRE01004		4				
GPRE01005		5				
GPRE01006		6				
GPRE01008		8				
GPRE01010		10				
GPRE01012		12				
GPRE01015		15				
GPRE01020		20				
GPRE01506	1.5	6	2.4	1.45	60	4
GPRE01508		8				
GPRE01510		10				
GPRE01512		12				
GPRE01514		14				
GPRE01516		16				
GPRE01518		18				
GPRE01520		20				
GPRE01525		25			75	
GPRE02006	2.0	6	4	1.95	60	4
GPRE02008		8				
GPRE02010		10				
GPRE02012		12				
GPRE02014		14				
GPRE02016		16				
GPRE02020		20			75	
GPRE02025		25				
GPRE02030		30				
GPRE02040		40				
GPRE03008	3.0	8	5.5	2.9	60	4
GPRE03012		12				
GPRE03014		14				
GPRE03016		16				
GPRE03018		18				
GPRE03020		20				
GPRE03025		25				
GPRE03030		30				
GPRE03045		45			100	



## 2FLUTES SQUARE END MILLS FOR DEEP RIB WITH LONG NECK

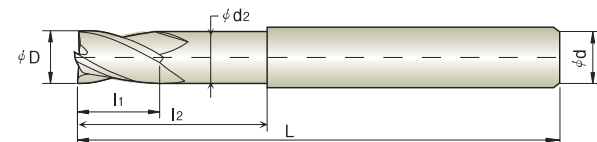


Size	D Tolerance
< $\phi$ 6	0~-0.010
$\phi$ 6 $\leq$	0~-0.015



### GPRE0 - 6

Model No. 型号	Outside Diameter 直径D	Effective Length 有效长L <sub>2</sub>	Length of cut 刃长L <sub>1</sub>	Neck Diameter 颈径D <sub>2</sub>	Overall Length 总长L	Shank Diameter 柄径D
GPRE02006-6	2.0	6	4	1.95	60	6
GPRE02010-6		10				
GPRE02016-6		16				
GPRE02020-6		20				
GPRE02025-6		25				
GPRE02030-6		30				
GPRE03008-6	3.0	8	5.5	2.9	60	6
GPRE03020-6		20				
GPRE03030-6		30				
GPRE03045-6		45			100	
GPRE04012-6	4.0	12	6	3.85	60	6
GPRE04016-6		16				
GPRE04020-6		20				
GPRE04025-6		25				
GPRE04030-6		30			75	
GPRE04035-6		35			100	
GPRE04040-6		40				
GPRE04015-6	5.0	15	6	4.85	60	6
GPRE04020-6		20				
GPRE04025-6		25				
GPRE04030-6		30			75	
GPRE04035-6		35			100	
GPRE04040-6		40				
GPRE04050-6		50				

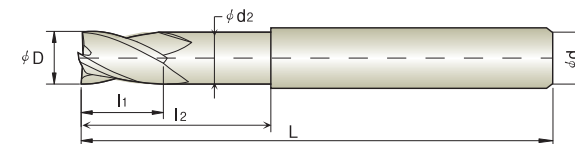


Size	D Tolerance
< $\phi 6$	0~-0.010
$\phi 6 \leq$	0~-0.015

### GPE40 - - - -



Model No. 型号	Outside Diameter 刃径 D	Length of cut 刃长 L <sub>1</sub>	Effective Length 有效长 L <sub>2</sub>	Neck Diameter 颈径 D <sub>2</sub>	Overall Length 总长 L	Shank Diameter 柄径 D
GPE4030-060	3.0	9	12	2.9	60	3
GPE4030-075					75	
GPE4030-100					100	
GPE4040-060	4.0	16	20	3.9	60	4
GPE4040-075					75	
GPE4040-100					100	
GPE4040-150					150	
GPE4060-060	6.0	20	20	5.8	60	6
GPE4060-075			30		75	
GPE4060-100			35		100	
GPE4060-150			60		150	
GPE4060-200	8.0	30	60	7.8	200	8
GPE4080-080					80	
GPE4080-110					110	
GPE4080-150					150	
GPE4080-200	10.0	35	60	9.8	200	10
GPE4100-080					80	
GPE4100-110					110	
GPE4100-150					150	
GPE4100-200	12.0	40	60	11.8	200	12
GPE4120-080					80	
GPE4120-110					110	
GPE4120-150					150	
GPE4120-200	16.0	50	100	15.8	200	16
GPE4160-110					110	
GPE4160-150					180	
GPE4160-200					200	



Size	D Tolerance
< $\phi 6$	0~-0.010
$\phi 6 \leq$	0~-0.015

### GPX - - - -



Model No. 型号	Outside Diameter 刃径 D	Length of cut 刃长 L <sub>1</sub>	Effective Length 有效长 L <sub>2</sub>	Neck Diameter 颈径 D <sub>2</sub>	Overall Length 总长 L	Shank Diameter 柄径 D
GPX 010-060	1.0	3			60	4
GPX 020-060	2.0	6			60	4
GPX 030-060	3.0	9	12	2.9	60	3
GPX 030-075					75	
GPX 030-100					100	
GPX 040-060	4.0	16	20	3.9	60	4
GPX 040-075					75	
GPX 040-100					100	
GPX 040-150					150	
GPX 060-060	6.0	20	20	5.8	60	6
GPX 060-075			30		75	
GPX 060-100			35		100	
GPX 060-150			60		150	
GPX 060-200	8.0	30	60	7.8	200	8
GPX 080-080					80	
GPX 080-110					110	
GPX 080-150					150	
GPX 080-200	10.0	35	60	9.8	200	10
GPX 100-080					80	
GPX 100-110					110	
GPX 100-150					150	
GPX 100-200	12.0	40	60	11.8	200	12
GPX 120-080					80	
GPX 120-110					110	
GPX 120-150					150	
GPX 120-200	16.0	50	100	15.8	200	16
GPX 160-110					110	
GPX 160-150					180	
GPX 160-200					200	



Danger of fire by spark incidence or heat caused by tool breakage can happen during processing.  
Confirm fire prevention countermeasure beforehand necessarily before use.

Work Material	GRAPHITE		COPPER ALLOYS		ALUMINIUM ALLOYS	
Radius of Ball Nose	SPEED (min <sup>-1</sup> )	FEED (mm/min)	SPEED (min <sup>-1</sup> )	FEED (mm/min)	SPEED (min <sup>-1</sup> )	FEED (mm/min)
R0.5	28,000	230	50,000	400	50,000	500
R0.75	20,000	250	36,000	450	36,000	550
R1.0	16,000	260	30,000	450	30,000	580
R1.5	11,000	260	21,000	650	20,000	600
R2.0	8,000	270	16,000	550	16,000	680
R3.0	5,500	290	11,000	590	11,000	740
R4.0	4,000	300	8,000	600	8,000	780
R5.0	3,200	320	6,500	650	6,500	780
R6.0	2,800	350	5,500	650	6,300	780

DEPTH OF CUT

Ad = 0.1D  
Pf = 0.2D

1. Use a rigid and precise machine and holder.
2. Use a water soluble fluid.

Work Material	GRAPHITE		COPPER ALLOYS		ALUMINIUM ALLOYS	
Outside Diameter	SPEED (min <sup>-1</sup> )	FEED (mm/min)	SPEED (min <sup>-1</sup> )	FEED (mm/min)	SPEED (min <sup>-1</sup> )	FEED (mm/min)
1.0	15,000	700	32,000	850	32,000	1,000
1.5	15,000	900	31,000	1,100	31,000	1,300
2.0	15,000	1,100	24,000	1,200	30,000	1,600
3.0	15,000	1,600	16,000	1,200	21,000	1,600
4.0	15,000	1,800	12,000	1,200	15,500	1,600
5.0	15,000	2,000	10,000	1,200	12,000	1,500
6.0	15,000	2,200	8,000	1,200	10,000	1,500
8.0	14,000	2,500	6,000	1,200	8,000	1,800
10.0	11,000	2,000	5,000	1,400	6,500	1,600
12.0	9,000	2,000	4,000	1,200	5,500	1,500

DEPTH OF CUT

Ad = 0.25D (D ≤ Ø3)  
Ad = 0.5 D (D > Ø3)

1. Use a rigid and precise machine and holder.
2. Use a water soluble fluid.

计算公式 Fomular

主轴转速(rpm) $N = \frac{V_c \cdot 1000}{\pi \cdot D}$	每刃切削量(Fz) $F_z = \frac{V_f}{N \cdot Z}$	主轴负载(kw) $P = \frac{A_e \cdot A_p \cdot V_f}{18000}$	刀具有效直径(Dw)球刀 $D_w = 2 \cdot (R^2 - R \cdot A_p)^{1/2}$
切削速度( m/min) $V_c = \frac{\pi \cdot D \cdot N}{1000}$	进给(mm/min) $V_f = N \cdot Z \cdot F_z$	移除率( cm3/min ) $P = \frac{A_e \cdot A_p \cdot V_f}{1000}$	刀具有效直径(Dw)圆鼻刀 $D_w = 2 \cdot (R^2 - R \cdot A_p)^{1/2} + (D - 2 \cdot R)$
A <sub>e</sub> :切削宽度( mm)    F <sub>z</sub> :每刃切削量(mm)    V <sub>f</sub> :进给 ( mm/min)    D <sub>w</sub> : 刀具有效直径(mm)			
A <sub>p</sub> :切削宽度( mm)    N:主轴转速(rpm)    Z:铣刀刃数    D:刀具直径(mm)			
P:主轴负载(kw)    V <sub>c</sub> :切削速度( m/min)    R:刀具R角 (mm)    Q:移除率( cm3/min)			

公差 Tolerance

直径/Diameter	h6	h8
0.2mm- 3mm	+0.000-0.006mm	+0.000-0.014mm
> 3mm-6mm	+0.000 -0.008mm	+0.000-0.018mm
>6mm-10mm	+0.000- 0.009mm	+0.000-0.022mm
>10mm-18mm	+0.000-0.011mm	+0.000-0.027mm