



石墨加工系列

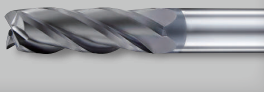
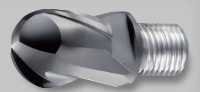
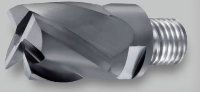
GRAPHITE CUTTING SERIES



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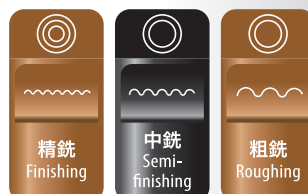


型號/頁碼 Type No. & Page	產品照片 Product Picture	鑄鐵 Cast Iron	碳鋼 Carbon Steels	合金鋼 工具鋼 Alloy Steels, Tool Steels	調質鋼 Prehardened Steels	不鏽鋼 Stainless Steels	鈦合金 Titanium Alloys	石墨 Graphite	玻璃纖維 GFRP	碳纖維 CFRP
GE P.286		----	----	----	----	----	----	★★★	★★	★★
GNE P.287		----	----	----	----	----	----	★★★	★★	★★
GB P.288		----	----	----	----	----	----	★★★	★★	★★
GNB P.289		----	----	----	----	----	----	★★★	★★	★★
GPR P.290		----	----	----	----	----	----	★★★	★★	★★
GNER P.291		----	----	----	----	----	----	★★★	★★	★★
X-GB^{2T} P.292		----	----	----	----	----	----	★★★	★★	★★
X-GB^{4T} P.293		----	----	----	----	----	----	★★★	★★	★★
X-GE P.294		----	----	----	----	----	----	★★★	★★	★★
X-GPR P.295		----	----	----	----	----	----	★★★	★★	★★

石墨加工系列
GRAPHITE CUTTING SERIES



切削性能 CUTTING PERFORMANCE

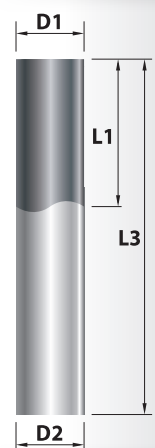


冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	直徑公差值 D1 Tolerance	柄徑 D2	柄徑公差值 D2 Tolerance
3.0	$0_{-0.04}^0$	Ø3	$0_{-0.006}^0$
4.0	$0_{-0.04}^0$	Ø4	$0_{-0.008}^0$
6.0	$0_{-0.04}^0$	Ø6	$0_{-0.008}^0$
8.0	$0_{-0.04}^0$	Ø8	$0_{-0.009}^0$
10.0	$0_{-0.04}^0$	Ø10	$0_{-0.009}^0$



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	L1 刃長 Flute Length	L3 全長 O.A.L.	D2 柄徑 Shank Dia.
GE0304	3.0	12	50	3
GE0404	4.0	15	50	4
GE0604	6.0	20	60	6
GE0804	8.0	22	60	8
GE1004	10.0	25	75	10
GE0304M	3.0	12	75	3
GE0404M	4.0	15	75	4
GE0604M	6.0	30	80	6
GE0804M	8.0	32	100	8
GE1004M	10.0	40	100	10

unit : mm



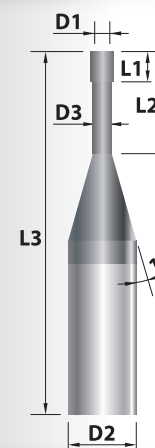
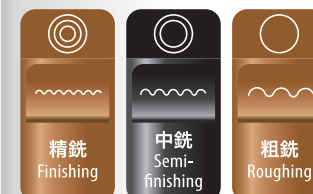
冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	直徑公差值 D1 Tolerance	柄徑 D2	柄徑公差值 D2 Tolerance
0.5	$0_{-0.04}^0$	Ø4	$0_{-0.008}^0$
0.6	$0_{-0.04}^0$	Ø6	$0_{-0.008}^0$
0.8	$0_{-0.04}^0$		
1.0	$0_{-0.04}^0$		
1.5	$0_{-0.04}^0$		
2.0	$0_{-0.04}^0$		
3.0	$0_{-0.04}^0$		
4.0	$0_{-0.04}^0$		
6.0	$0_{-0.04}^0$		

切削性能 CUTTING PERFORMANCE



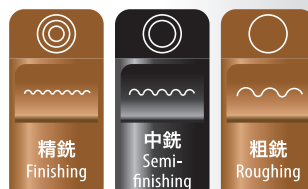
產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	D3 頸徑 Neck Dia	L1 刃長 Flute Length	L2 有效長 Effective Length	L3 全長 O.A.L.	D2 柄徑 Shank Dia.
GNE0504	0.5	0.46	1.5	4	50	4
GNE0506	0.5	0.46	1.5	6	50	4
GNE0604	0.6	0.55	2	4	50	4
GNE0606	0.6	0.55	2	6	50	4
GNE0806	0.8	0.75	2	6	50	4
GNE0808	0.8	0.75	2	8	50	4
GNE1006	1.0	0.95	2.5	6	50	4
GNE1010	1.0	0.95	2.5	10	50	4
GNE1016	1.0	0.95	2.5	16	50	4
GNE1508	1.5	1.44	3	8	50	4
GNE1512	1.5	1.44	3	12	50	4
GNE1516	1.5	1.44	3	16	50	4
GNE2010	2.0	1.92	3	10	50	4
GNE2016	2.0	1.92	3	16	50	4
GNE3015	3.0	2.90	4.5	15	50	6
GNE3030	3.0	2.90	4.5	30	75	6
GNE4035	4.0	3.90	6	35	75	6
GNE6050	6.0	5.80	9	50	100	6

unit : mm



切削性能 CUTTING PERFORMANCE

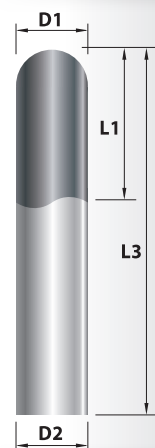


冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	球頭公差值 R Tolerance	柄徑 D2	柄徑公差值 D2 Tolerance
R1.5	±0.01	Ø3	$\begin{smallmatrix} 0 \\ -0.006 \end{smallmatrix}$
R2	±0.01	Ø4	$\begin{smallmatrix} 0 \\ -0.008 \end{smallmatrix}$
R3	±0.01	Ø6	$\begin{smallmatrix} 0 \\ -0.008 \end{smallmatrix}$
R4	±0.01	Ø8	$\begin{smallmatrix} 0 \\ -0.009 \end{smallmatrix}$
R5	±0.015	Ø10	$\begin{smallmatrix} 0 \\ -0.009 \end{smallmatrix}$



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	L1 刃長 Flute Length	L3 全長 O.A.L.	D2 柄徑 Shank Dia.
GB0304	R1.5	12	50	3
GB0404	R2.0	15	50	4
GB0604	R3.0	20	60	6
GB0804	R4.0	22	60	8
GB1004	R5.0	25	75	10
GB0304M	R1.5	12	75	3
GB0404M	R2.0	15	75	4
GB0604M	R3.0	30	80	6
GB0604L	R3.0	30	100	6
GB0804M	R4.0	32	100	8
GB1004M	R5.0	40	100	10

unit : mm



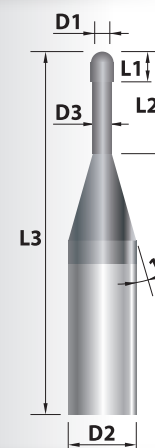
冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	球頭公差值 R Tolerance	柄徑 D2	柄徑公差值 D2 Tolerance
R0.25	±0.01	Ø4	$\begin{smallmatrix} 0 \\ -0.008 \end{smallmatrix}$
R0.3	±0.01	Ø6	$\begin{smallmatrix} 0 \\ -0.008 \end{smallmatrix}$
R0.4	±0.01		
R0.5	±0.01		
R0.75	±0.01		
R1.0	±0.01		
R1.5	±0.01		
R2.0	±0.01		
R3.0	±0.01		

切削性能 CUTTING PERFORMANCE



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	D3 頸徑 Neck Dia	L1 刃長 Flute Length	L2 有效長 Effective Length	L3 全長 O.A.L.	D2 柄徑 Shank Dia.
GNB0504	R0.25	0.46	1.5	4	50	4
GNB0506	R0.25	0.46	1.5	6	50	4
GNB0604	R0.30	0.55	2	4	50	4
GNB0606	R0.30	0.55	2	6	50	4
GNB0806	R0.40	0.75	2	6	50	4
GNB0808	R0.40	0.75	2	8	50	4
GNB1006	R0.50	0.95	2.5	6	50	4
GNB1010	R0.50	0.95	2.5	10	50	4
GNB1016	R0.50	0.95	2.5	16	50	4
GNB1508	R0.75	1.44	3	8	50	4
GNB1512	R0.75	1.44	3	12	50	4
GNB1516	R0.75	1.44	3	16	50	4
GNB1520	R0.75	1.44	3	20	50	4
GNB2010	R1.0	1.92	3	10	50	4
GNB2016	R1.0	1.92	3	16	50	4
GNB2020	R1.0	1.92	3	20	50	4
GNB3015	R1.50	2.90	4.5	15	60	4
GNB3030	R1.50	2.90	4.5	30	75	4
GNB4025	R2.0	3.90	6	25	60	6
GNB4035	R2.0	3.90	6	35	75	6
GNB6050	R3.0	5.80	9	50	100	6

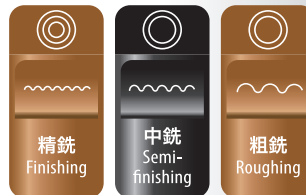
unit : mm



GPR

石墨用圓鼻角立銑刀
END MILLS

切削性能 CUTTING PERFORMANCE

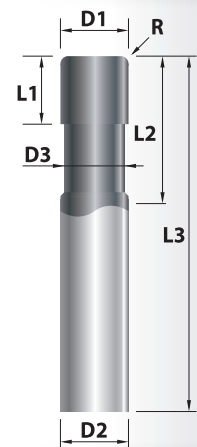


冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	R R角 Tolerance	直徑公差值 D1 Tolerance	柄徑 D2	柄徑公差值 D2 Tolerance
3.0	+0.02 0	0 -0.04		
4.0	+0.02 0	0 -0.04	Ø4	0 -0.008
6.0	+0.02 0	0 -0.04	Ø6	0 -0.008
8.0	+0.02 0	0 -0.04	Ø8	0 -0.009
10.0	+0.02 0	0 -0.04	Ø10	0 -0.009
12.0	+0.02 0	0 -0.04	Ø12	0 -0.011



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	D3 頸徑 Neck Dia	R R角 Corner R	L1 刃長 Flute Length	L2 有效長 Effective Length	L3 全長 O.A.L.	D2 柄徑 Shank Dia.
GPR0305	3.0	2.90	0.5	3	12	50	4
GPR0405	4.0	3.90	0.5	4	12	50	4
GPR0605	6.0	5.80	0.5	6	15	50	6
GPR0605ML	6.0	5.80	0.5	6	15	100	6
GPR0610	6.0	5.80	1.0	6	15	50	6
GPR0610ML	6.0	5.80	1.0	6	15	100	6
GPR0805	8.0	7.70	0.5	8	20	60	8
GPR0805ML	8.0	7.70	0.5	8	20	100	8
GPR0810	8.0	7.70	1.0	8	20	60	8
GPR0810ML	8.0	7.70	1.0	8	20	100	8
GPR1010	10.0	9.60	1.0	10	25	75	10
GPR1010ML	10.0	9.60	1.0	10	25	100	10
GPR1020	10.0	9.60	2.0	10	25	75	10
GPR1020ML	10.0	9.60	2.0	10	25	100	10
GPR1210	12.0	11.50	1.0	12	30	75	12
GPR1220	12.0	11.50	2.0	12	30	75	12

unit : mm

GNER

石墨用深溝圓鼻立銑刀
END MILLS (LONG NECK)



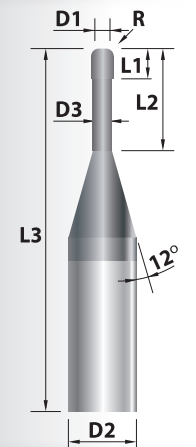
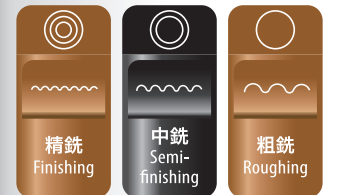
冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	R R角 Tolerance	直徑公差值 D1 Tolerance	柄徑 D2	柄徑公差值 D2 Tolerance
1.0	+0.02 0	0 -0.04		
1.5	+0.02 0	0 -0.04		
2.0	+0.02 0	0 -0.04		
2.5	+0.02 0	0 -0.04	Ø4	0 -0.008
3.0	+0.02 0	0 -0.04	Ø6	0 -0.008

切削性能 CUTTING PERFORMANCE



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	D3 頸徑 Neck Dia	R R角 Corner R	L1 刃長 Flute Length	L2 有效長 Effective Length	L3 全長 O.A.L.	D2 柄徑 Shank Dia.
GNER100602	1.0	0.95	0.2	1.5	6	50	4
GNER100802	1.0	0.95	0.2	1.5	8	50	4
GNER101002	1.0	0.95	0.2	1.5	10	50	4
GNER101202	1.0	0.95	0.2	1.5	12	50	4
GNER150802	1.5	1.44	0.2	2	8	50	4
GNER151002	1.5	1.44	0.2	2	10	50	4
GNER151202	1.5	1.44	0.2	2	12	50	4
GNER151602	1.5	1.44	0.2	2	16	50	4
GNER200802	2.0	1.92	0.2	3	8	50	4
GNER201002	2.0	1.92	0.2	3	10	50	4
GNER201202	2.0	1.92	0.2	3	12	50	4
GNER201602	2.0	1.92	0.2	3	16	50	4
GNER202002	2.0	1.92	0.2	3	20	50	4
GNER251002	2.5	2.40	0.2	3	10	50	4
GNER251202	2.5	2.40	0.2	3	12	50	4
GNER251602	2.5	2.40	0.2	3	16	50	4
GNER252002	2.5	2.40	0.2	3	20	50	4
GNER301002	3.0	2.90	0.2	4	10	50	6
GNER301202	3.0	2.90	0.2	4	12	50	6
GNER301602	3.0	2.90	0.2	4	16	50	6
GNER302002	3.0	2.90	0.2	4	20	60	6
GNER302502	3.0	2.90	0.2	4	25	60	6
GNER303002	3.0	2.90	0.2	4	30	75	6

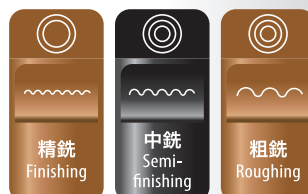
unit : mm



X-GB2T

石墨用超微粒圓頭立銑刀頭
BALL NOSE END MILLS

切削性能 CUTTING PERFORMANCE

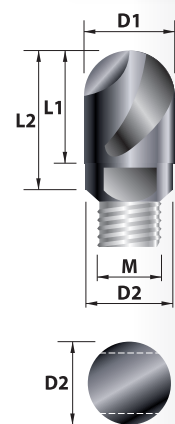


冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	球頭公差值 R Tolerance
R4.0	±0.02
R5.0	±0.02
R6.0	±0.02
R8.0	±0.02



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	L1 刃長 Flute Length	D2 頸徑 Neck Dia.	L2 全長 O.A.L.	M 螺牙 Thread Size	鎖固扳手型號 Spanner Type No.
X-GB0802	R4.0	8	7.8	12.1	M5-3P	K08
X-GB1002	R5.0	10	9.8	16.1	M7-3P	K10
X-GB1202	R6.0	12	11.7	20.3	M8-3P	K12
X-GB1602	R8.0	16	15.6	25.7	M10-3P	K16

unit : mm

X-GB4T

石墨用超微粒圓頭立銑刀頭
BALL NOSE END MILLS



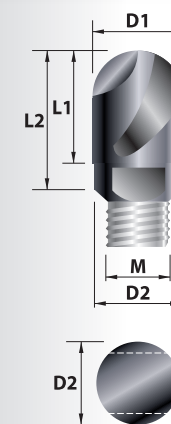
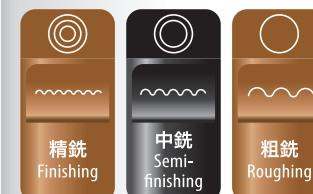
冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	球頭公差值 R Tolerance
R4.0	±0.02
R5.0	±0.02
R6.0	±0.02
R8.0	±0.02

切削性能 CUTTING PERFORMANCE



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	L1 刃長 Flute Length	D2 頸徑 Neck Dia.	L2 全長 O.A.L.	M 螺牙 Thread Size	鎖固扳手型號 Spanner Type No.
X-GB0804	R4.0	8	7.8	12.1	M5-3P	K08
X-GB1004	R5.0	10	9.8	16.1	M7-3P	K10
X-GB1204	R6.0	12	11.7	20.3	M8-3P	K12
X-GB1604	R8.0	16	15.6	25.7	M10-3P	K16

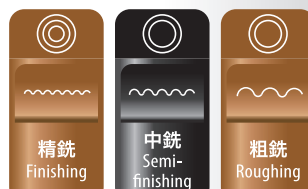
unit : mm



X-GE

石墨用超微粒立銑刀頭
END MILLS

切削性能 CUTTING PERFORMANCE

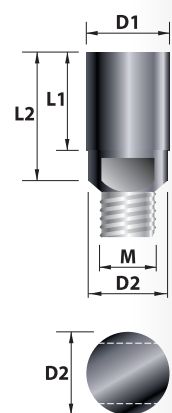


冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	直徑公差值 D1 Tolerance
8.0	0 -0.05
10.0	0 -0.05
12.0	0 -0.05
16.0	0 -0.05



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	L1 刃長 Flute Length	D2 頸徑 Neck Dia.	L2 全長 O.A.L.	M 螺牙 Thread Size	鎖固扳手型號 Spanner Type No.
X-GE0804	8.0	8	7.8	12.1	M5-3P	K08
X-GE1004	10.0	10	9.8	16.1	M7-3P	K10
X-GE1204	12.0	12	11.7	20.3	M8-3P	K12
X-GE1604	16.0	16	15.6	25.7	M10-3P	K16

unit : mm

X-GPR

石墨用圓鼻角立銑刀頭
END MILLS



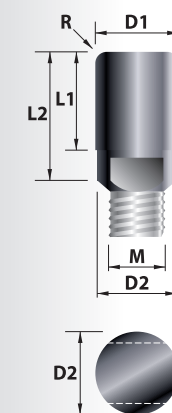
冷卻性能 COOLANT TYPE



公差表 TOLERANCE unit : mm

直徑 D1	R徑公差值 R Tolerance	直徑公差值 D1 Tolerance
8.0	+0.02 0	0 -0.05
10.0	+0.02 0	0 -0.05
12.0	+0.02 0	0 -0.05
16.0	+0.02 0	0 -0.05

切削性能 CUTTING PERFORMANCE



產品規格 SPECIFICATIONS

型號 Type No.	D1 直徑 Diameter	L1 刃長 Flute Length	D2 頸徑 Neck Dia.	R R角 Corner R	L2 全長 O.A.L.	M 螺牙 Thread Size	鎖固扳手型號 Spanner Type No.
X-GPR0805	8.0	8	7.8	0.5	12.1	M5-3P	K08
X-GPR0810	8.0	8	7.8	1.0	12.1	M5-3P	K08
X-GPR1005	10.0	10	9.8	0.5	16.1	M7-3P	K10
X-GPR1010	10.0	10	9.8	1.0	16.1	M7-3P	K10
X-GPR1210	12.0	12	11.7	1.0	20.3	M8-3P	K12
X-GPR1220	12.0	12	11.7	2.0	20.3	M8-3P	K12
X-GPR1610	16.0	16	15.6	1.0	25.7	M10-3P	K16
X-GPR1620	16.0	16	15.6	2.0	25.7	M10-3P	K16
X-GPR1630	16.0	16	15.6	3.0	25.7	M10-3P	K16

unit : mm