MHRH430R 增加规格

规格 Size φ0.1 × R0.01 ～ φ6 × R1

Premium ≦65 HRC

无限白金涂层 高硬度钢材用4刃长颈圆鼻铣刀

MUGEN COATING PREMIUM 4-Flute Long Neck Corner Radius End Mill for Hardened Steel

共有450种规格
Total 450 sizes

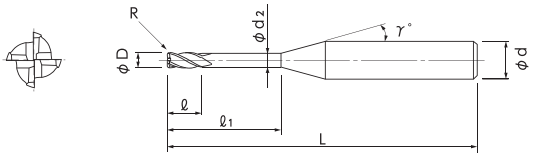
MG | 4 | 30° | Corner R ±0.003 (D≦0.15) | Corner R ±0.005 (0.15<D≦2.5)

φd −0.001 −0.003 (D ≦ 0.15) | φd h5 (0.15<D) | Side | Slot | Face

可对应调质钢、高硬度钢（～65HRC）的长颈圆鼻铣刀
丰富的尺寸规格增加至共450种规格

Long neck corner radius end mill supports machining from prehardened steels to hardened steels (～ 65HRC)
Abundant size variations with total 450 sizes

圆鼻 Corner Radius
长颈 Long Neck
涂层 Coating



- 采用高硬度钢用的无限白金涂层与新刀具设计提升耐崩损性、抑制振刀现象进而提升精加工面品质。
- 可进行高效率加工的4刃造型铣刀。
- 4刃造型最小径从φ0.1 ～φ6，共450种规格。
- MUGEN COATING PREMIUM for hardened steels and unique new design excel in chipping prevention and resolve chattering to realize excellent finished surface.
- 4 flutes end mill for higher efficiency.
- 4 flute end mill has 450 sizes in total that lineup from the smallest diameter φ 0.1 to φ 6.

φ0.1～φ0.3为底刃中心没有刃口。请留意此设计并注意加工余量。
Beware of stocks because there is no blade to the shaft center of end teeth of φ0.1 to φ0.3.

规格 Size	外径公差 Diameter Tolerance	角半径公差 Corner R Tolerance	柄径公差 Shank Dia. Tolerance
D≦0.15	0 -0.007	±0.003	-0.001 -0.003
0.15<D<0.5	0 -0.01	±0.005	h5
0.5≦D≦2.5	0 -0.02		
D>2.5		±0.01	

◆ 新增加规格
★ 返修对应（柄长须在15mm以上。详情请咨询本公司。）

单位 [规格：mm／价格：日元]
Unit [Size : mm / Retail Price : JPY]

产品代码 Code No.	(D)外径 Dia.	(R)角半径 Corner Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	定价(日元) Retail Price	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece 30´	1°	1°30´	2°	3°
08-00237-01013	0.1	R0.01	0.3	0.08	0.085	12°	4	45	15,400	0.34	0.36	0.38	0.39	0.44
08-00237-01015			0.5					45	16,200	0.55	0.58	0.60	0.63	0.70
08-00237-01512	0.15	R0.01	0.3	0.12	0.135	12°	4	45	14,300	0.34	0.36	0.38	0.39	0.44
08-00237-01513			0.5					45	14,800	0.55	0.58	0.60	0.63	0.70
08-00237-01515			0.75					45	15,300	0.81	0.85	0.89	0.93	1.03
08-00237-01517			1					45	15,900	1.07	1.12	1.17	1.23	1.37
08-00237-01522		R0.02	0.3					45	14,300	0.34	0.36	0.37	0.39	0.43
08-00237-01523			0.5					45	14,800	0.55	0.58	0.60	0.63	0.70
08-00237-01525			0.75					45	15,300	0.81	0.85	0.89	0.93	1.03
08-00237-01527			1					45	15,900	1.07	1.12	1.17	1.23	1.36
◆ 08-00237-02020	0.2	R0.02	0.3	0.15	0.18	12°	4	45	14,300	0.36	0.37	0.39	0.41	0.45
08-00237-02021			0.5					45	14,300	0.56	0.59	0.62	0.65	0.71
08-00237-02023			1					45	14,300	1.09	1.13	1.19	1.24	1.38
08-00237-02025			1.5					45	16,800	1.61	1.68	1.76	1.84	2.04
08-00237-02027			2					45	18,400	2.13	2.22	2.33	2.44	2.71
◆ 08-00237-02050		R0.05	0.3					45	14,300	0.35	0.37	0.38	0.40	0.44
08-00237-02051			0.5					45	14,300	0.56	0.59	0.61	0.64	0.71
08-00237-02053			1					45	14,300	1.08	1.13	1.18	1.24	1.37
08-00237-02055			1.5					45	16,800	1.61	1.68	1.75	1.84	2.03
08-00237-02057			2					45	18,400	2.13	2.22	2.32	2.43	2.70
◆ 08-00237-03020	0.3	R0.02	0.5	0.25	0.28	12°	4	45	13,900	0.56	0.59	0.62	0.65	0.71
08-00237-03021			1					45	13,900	1.09	1.13	1.19	1.24	1.38
08-00237-03022			1.5					45	13,900	1.61	1.68	1.76	1.84	2.04
08-00237-03023			2					45	13,900	2.13	2.22	2.33	2.44	2.71
08-00237-03024			2.5					45	17,300	2.65	2.77	2.90	3.04	3.37
08-00237-03025			3					45	17,300	3.17	3.31	3.47	3.64	4.03
◆ 08-00237-03050		R0.05	0.5					45	13,900	0.56	0.59	0.61	0.64	0.71
08-00237-03051			1					45	13,900	1.08	1.13	1.18	1.24	1.37
08-00237-03052			1.5					45	13,900	1.61	1.68	1.75	1.84	2.03
08-00237-03053			2					45	13,900	2.13	2.22	2.32	2.43	2.70
08-00237-03054			2.5					45	17,300	2.65	2.77	2.89	3.03	3.36
08-00237-03055			3					45	17,300	3.17	3.31	3.46	3.63	4.02

调质钢 Prehardened Steel P
高硬度钢～52 Hardened Steel HRC H
高硬度钢～60 Hardened Steel HRC H
高硬度钢～65 Hardened Steel HRC H
不锈钢 Stainless Steel M
钛合金 耐热合金 Titanium Alloy Heat Resistant Alloy S

订购方法 How to Order

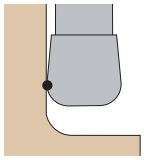
请指定MHRH430R 外径(D)×角半径(R)×颈长(ℓ1)。
When you order, indicate MHRH430R (D)×(R)×(ℓ1).

※(γ)为参考值。
※(γ) is reference value.

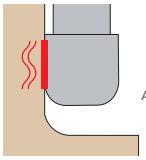
常规系列
无限白金涂层
长颈造型
Regular Line
MUGEN PREMIUM
Long Neck Type

无限白金涂层 高硬度钢材用4刃长颈圆鼻铣刀

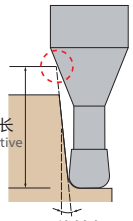
MUGEN COATING PREMIUM 4-Flute Long Neck Corner Radius End Mill for Hardened Steel



单点切削，不易振刀！
Suppress chattering by point milling



普通铣刀
General End Mill



工件斜度
Inclined Angle

◆ 新增加规格
★ 返修对应（柄长须在15mm以上。详情请咨询本公司。）

单位 [规格：mm/价格：日元] Unit [Size : mm / Retail Price : JPY]

产品代码 Code No.	(D)外径 Dia.	(R)角半径 Corner Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	定价(日元) Retail Price	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30´	1°	1°30´	2°	3°
◆ 08-00237-04020	0.4	R0.02	0.5	0.3	0.37	12°	4	45	9,200	0.59	0.61	0.64	0.67	0.75
08-00237-04021			1					45	9,200	1.11	1.16	1.21	1.27	1.41
08-00237-04022			1.5					45	9,200	1.63	1.70	1.78	1.87	2.07
08-00237-04023			2					45	9,200	2.15	2.25	2.35	2.47	2.74
08-00237-04024			2.5					45	9,200	2.67	2.79	2.92	3.07	3.40
08-00237-04025			3					45	9,200	3.20	3.34	3.49	3.67	4.06
08-00237-04027			4					45	9,200	4.24	4.43	4.63	4.86	5.39
◆ 08-00237-04050		R0.05	0.5					45	9,200	0.59	0.61	0.64	0.67	0.74
08-00237-04051			1					45	9,200	1.11	1.16	1.21	1.27	1.40
08-00237-04052			1.5					45	9,200	1.63	1.70	1.78	1.86	2.06
08-00237-04053			2					45	9,200	2.15	2.25	2.35	2.46	2.73
08-00237-04054			2.5					45	9,200	2.67	2.79	2.92	3.06	3.39
08-00237-04055			3					45	9,200	3.19	3.34	3.49	3.66	4.05
08-00237-04057			4					45	9,200	4.24	4.43	4.63	4.86	5.38
08-00237-04101		R0.1	1					45	9,200	1.11	1.15	1.20	1.26	1.38
08-00237-04103			2					45	9,200	2.15	2.24	2.34	2.45	2.71
08-00237-04105			3					45	9,200	3.19	3.33	3.48	3.65	4.04
08-00237-04107			4					45	9,200	4.24	4.42	4.62	4.85	5.37
08-00237-05021	0.5	R0.02	1	0.4	0.46	12°	4	45	7,600	1.14	1.19	1.24	1.30	1.44
08-00237-05022			2					45	7,600	2.18	2.27	2.38	2.50	2.77
08-00237-05023			3					45	7,600	3.22	3.36	3.52	3.69	4.10
08-00237-05024			4					45	7,600	4.26	4.45	4.66	4.89	5.42
08-00237-05025			5					45	7,600	5.31	5.54	5.80	6.09	6.75
08-00237-05026			6					45	7,600	6.35	6.63	6.94	7.28	8.08
08-00237-05051		R0.05	1					45	7,600	1.13	1.18	1.24	1.29	1.43
08-00237-05052			2					45	7,600	2.18	2.27	2.38	2.49	2.76
08-00237-05053			3					45	7,600	3.22	3.36	3.52	3.69	4.09
08-00237-05054			4					45	7,600	4.26	4.45	4.66	4.88	5.41
08-00237-05055			5					45	7,600	5.31	5.54	5.80	6.08	6.74
08-00237-05056			6					45	7,600	6.35	6.63	6.94	7.28	8.07
08-00237-05101		R0.1	1					45	7,600	1.13	1.18	1.23	1.28	1.42
08-00237-05102			2					45	7,600	2.17	2.27	2.37	2.48	2.74
08-00237-05103			3					45	7,600	3.22	3.36	3.51	3.68	4.07
08-00237-05104			4					45	7,600	4.26	4.45	4.65	4.87	5.40
08-00237-05105			5					45	7,600	5.30	5.54	5.79	6.07	6.72
08-00237-05106			6					45	7,600	6.35	6.63	6.93	7.27	8.05
08-00237-06021	0.6	R0.02	2	0.5	0.56	12°	4	45	8,100	2.18	2.27	2.38	2.50	2.77
08-00237-06023			4					45	8,100	4.26	4.45	4.66	4.89	5.42
08-00237-06025			6					45	8,100	6.35	6.63	6.94	7.28	8.08
08-00237-06027			8					50	8,400	8.43	8.81	9.22	9.68	10.73
08-00237-06029			10					50	8,400	10.52	10.99	11.50	12.07	13.39
08-00237-06051		R0.05	2					45	8,100	2.18	2.27	2.38	2.49	2.76
08-00237-06053			4					45	8,100	4.26	4.45	4.66	4.88	5.41
08-00237-06055			6					45	8,100	6.35	6.63	6.94	7.28	8.07
08-00237-06057			8					50	8,400	8.43	8.81	9.22	9.67	10.72
08-00237-06059			10					50	8,400	10.52	10.99	11.50	12.06	13.38
08-00237-06101		R0.1	2					45	7,600	2.17	2.27	2.37	2.48	2.74
08-00237-06103			4					45	7,600	4.26	4.45	4.65	4.87	5.40
08-00237-06105			6					45	7,600	6.35	6.63	6.93	7.27	8.05
08-00237-06107			8					50	7,800	8.43	8.80	9.21	9.66	10.71
08-00237-06109			10					50	7,800	10.52	10.98	11.49	12.05	13.36
08-00237-07020	0.7	R0.02	2	0.55	0.66	12°	4	45	8,500	2.18	2.27	2.38	2.50	2.77
08-00237-07021			4					45	8,500	4.26	4.45	4.66	4.89	5.42
08-00237-07023			6					45	8,500	6.35	6.63	6.94	7.28	8.08
08-00237-07050		R0.05	2					45	8,500	2.18	2.27	2.38	2.49	2.76
08-00237-07051			4					45	8,500	4.26	4.45	4.66	4.88	5.41
08-00237-07053			6					45	8,500	6.35	6.63	6.94	7.28	8.07
08-00237-07100		R0.1	2					45	8,500	2.17	2.27	2.37	2.48	2.74
08-00237-07101			4					45	8,500	4.26	4.45	4.65	4.87	5.40
08-00237-07103			6					45	8,500	6.35	6.63	6.93	7.27	8.05

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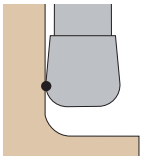

单点切削，不易振刀！
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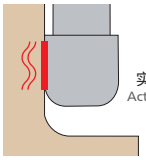
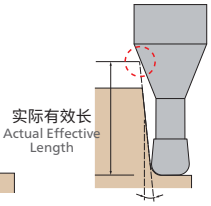


普通铣刀
General End Mill



工件斜度
Inclined Angle

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08-00237-08020	0.8	R0.02	2	0.65	0.76	12°	4	45	8,500	2.18	2.27	2.38	2.50	2.77
08-00237-08021			4					45	8,500	4.26	4.45	4.66	4.89	5.42
08-00237-08023			6					45	8,500	6.35	6.63	6.94	7.28	8.08
08-00237-08025			8					50	8,800	8.43	8.81	9.22	9.68	10.73
08-00237-08050		R0.05	2					45	8,500	2.18	2.27	2.38	2.49	2.76
08-00237-08051			4					45	8,500	4.26	4.45	4.66	4.88	5.41
08-00237-08053			6					45	8,500	6.35	6.63	6.94	7.28	8.07
08-00237-08055			8					50	8,800	8.43	8.81	9.22	9.67	10.72
08-00237-08059			12					50	8,800	12.60	13.17	13.78	14.46	16.03
08-00237-08100		R0.1	2					45	8,500	2.17	2.27	2.37	2.48	2.74
08-00237-08101			4					45	8,500	4.26	4.45	4.65	4.87	5.40
08-00237-08103			6					45	8,500	6.35	6.63	6.93	7.27	8.05
08-00237-08105			8					50	8,800	8.43	8.80	9.21	9.66	10.71
08-00237-08109			12					50	8,800	12.60	13.16	13.77	14.45	16.01
08-00237-08200		R0.2	2					45	8,500	2.17	2.26	2.36	2.46	2.71
08-00237-08201			4					45	8,500	4.26	4.44	4.64	4.86	5.37
08-00237-08203			6					45	8,500	6.34	6.62	6.92	7.25	8.02
08-00237-08205			8					50	8,800	8.43	8.80	9.20	9.64	10.67
08-00237-08209			12					50	8,800	12.60	13.15	13.76	14.43	15.98
08-00237-09101	0.9	R0.1	4	0.7	0.85	12°	4	45	9,700	4.28	4.47	4.68	4.90	5.43
08-00237-09105			8					50	9,700	8.46	8.83	9.24	9.69	10.74
◆ 08-00237-10024	1	R0.02	1.5	0.8	0.95	12°	4	50	6,500	1.68	1.76	1.84	1.93	2.14
08-00237-10028			2					50	6,500	2.20	2.30	2.41	2.53	2.80
◆ 08-00237-10026			2.5					50	6,500	2.72	2.85	2.98	3.12	3.46
08-00237-10020			3					50	6,500	3.25	3.39	3.55	3.72	4.13
08-00237-10021			4					50	6,500	4.29	4.48	4.69	4.92	5.45
08-00237-10022			5					50	7,100	5.33	5.57	5.83	6.11	6.78
08-00237-10023			6					50	7,100	6.37	6.66	6.97	7.31	8.11
08-00237-10025			8					50	7,100	8.46	8.84	9.25	9.70	10.76
08-00237-10027			10					50	7,100	10.54	11.02	11.53	12.10	13.42
◆ 08-00237-10054		R0.05	1.5					50	6,500	1.68	1.75	1.83	1.92	2.13
08-00237-10058			2					50	6,500	2.20	2.30	2.40	2.52	2.79
◆ 08-00237-10056			2.5					50	6,500	2.72	2.84	2.97	3.12	3.45
08-00237-10050			3					50	6,500	3.24	3.39	3.54	3.72	4.12
08-00237-10051			4					50	6,500	4.29	4.48	4.68	4.91	5.44
08-00237-10052			5					50	7,100	5.33	5.57	5.82	6.11	6.77
08-00237-10053			6					50	7,100	6.37	6.66	6.97	7.31	8.10
08-00237-10055			8					50	7,100	8.46	8.83	9.25	9.70	10.75
08-00237-10057			10					50	7,100	10.54	11.01	11.53	12.09	13.41
◆ 08-00237-10104		R0.1	1.5					50	6,500	1.68	1.75	1.83	1.91	2.11
08-00237-10108			2					50	6,500	2.20	2.29	2.40	2.51	2.77
◆ 08-00237-10106			2.5					50	6,500	2.72	2.84	2.97	3.11	3.44
08-00237-10100			3					50	6,500	3.24	3.38	3.54	3.71	4.10
08-00237-10101			4					50	6,500	4.28	4.47	4.68	4.90	5.43
08-00237-10102			5					50	7,100	5.33	5.56	5.82	6.10	6.76
08-00237-10103			6					50	7,100	6.37	6.65	6.96	7.30	8.08
08-00237-10105			8					50	7,100	8.46	8.83	9.24	9.69	10.74
08-00237-10107			10					50	7,100	10.54	11.01	11.52	12.08	13.39
◆ 08-00237-10204		R0.2	1.5					50	6,500	1.67	1.74	1.81	1.89	2.08
08-00237-10208			2					50	6,500	2.19	2.28	2.38	2.49	2.74
◆ 08-00237-10206			2.5					50	6,500	2.72	2.83	2.95	3.09	3.41
08-00237-10200			3					50	6,500	3.24	3.37	3.52	3.69	4.07
08-00237-10201			4					50	6,500	4.28	4.46	4.66	4.88	5.40
08-00237-10202			5					50	7,100	5.32	5.55	5.80	6.08	6.72
08-00237-10203			6					50	7,100	6.37	6.64	6.94	7.28	8.05
08-00237-10205			8					50	7,100	8.45	8.82	9.23	9.67	10.71
08-00237-10207			10					50	7,100	10.54	11.00	11.51	12.06	13.36

圆鼻 长颈 Long Neck
Corner Radius 涂层 Coating

调质钢 Prehardened Steel P
高硬度钢～52 Hardened Steel HRC H
高硬度钢～60 Hardened Steel HRC H
高硬度钢～65 Hardened Steel HRC H
不锈钢 Stainless Steel M
钛合金 耐热合金 Titanium Alloy Heat Resistant Alloy S

常规系列
无限白金涂层 长颈造型
Regular Line
MUGEN PREMIUM Long Neck Type

订购方法 How to Order

请指定MHRH430R 外径(D)×角半径(R)×颈长(ℓ1)。
When you order, indicate MHRH430R (D)×(R)×(ℓ1).

※(γ)为参考值。
※(γ) is reference value.

无限白金涂层 高硬度钢材用4刃长颈圆鼻铣刀

MUGEN COATING PREMIUM 4-Flute Long Neck Corner Radius End Mill for Hardened Steel

◆ 新增加规格
★ 返修对应（柄长须在15mm以上。详情请咨询本公司。）

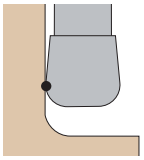
单位 [规格：mm／价格：日元]
Unit [Size : mm / Retail Price : JPY]

产品代码 Code No.	(D)外径 Dia.	(R)角半径 Corner Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	定价(日元) Retail Price	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece 30´	1°	1°30´	2°	3°
◆ 08-00237-10304	1	R0.3	1.5	0.8	0.95	12°	4	50	6,500	1.67	1.73	1.80	1.87	2.05
08-00237-10308			2					50	6,500	2.19	2.28	2.37	2.47	2.71
◆ 08-00237-10306			2.5					50	6,500	2.71	2.82	2.94	3.07	3.37
08-00237-10300			3					50	6,500	3.23	3.36	3.51	3.67	4.04
08-00237-10301			4					50	6,500	4.28	4.45	4.65	4.86	5.36
08-00237-10302			5					50	7,100	5.32	5.54	5.79	6.06	6.69
08-00237-10303			6					50	7,100	6.36	6.63	6.93	7.26	8.02
08-00237-10305			8					50	7,100	8.45	8.81	9.21	9.65	10.67
08-00237-10307			10					50	7,100	10.53	10.99	11.49	12.04	13.33
08-00237-12101	1.2	R0.1	5	1	1.14	12°	4	50	7,400	5.35	5.59	5.84	6.13	6.79
08-00237-12103			10					50	7,400	10.57	11.03	11.55	12.11	13.42
08-00237-12201		R0.2	5					50	7,400	5.35	5.58	5.83	6.11	6.75
08-00237-12203			10					50	7,400	10.56	11.03	11.53	12.09	13.39
08-00237-12301		R0.3	5					50	7,400	5.34	5.57	5.82	6.09	6.72
08-00237-12303			10					50	7,400	10.56	11.02	11.52	12.07	13.36
08-00237-15020	1.5	R0.02	3	1.2	1.43	12°	4	50	6,900	3.29	3.44	3.60	3.78	4.19
08-00237-15021			4					50	6,900	4.34	4.53	4.74	4.97	5.52
08-00237-15023			6					50	6,900	6.42	6.71	7.02	7.37	8.17
08-00237-15025			8					50	7,400	8.51	8.89	9.30	9.76	10.83
◆ 08-00237-15026			10					50	7,400	10.59	11.07	11.59	12.15	13.48
08-00237-15027			12					50	7,400	12.68	13.25	13.87	14.55	16.13
08-00237-15029			15					50	7,400	15.81	16.51	17.29	18.14	20.12
08-00237-15050		R0.05	3					50	6,900	3.29	3.44	3.60	3.77	4.18
08-00237-15051			4					50	6,900	4.34	4.53	4.74	4.97	5.51
08-00237-15053			6					50	6,900	6.42	6.71	7.02	7.36	8.16
08-00237-15055			8					50	7,400	8.51	8.89	9.30	9.76	10.82
◆ 08-00237-15056			10					50	7,400	10.59	11.06	11.58	12.15	13.47
08-00237-15057			12					50	7,400	12.68	13.24	13.86	14.54	16.12
08-00237-15059			15					50	7,400	15.81	16.51	17.28	18.13	20.11
08-00237-15100		R0.1	3					50	6,900	3.29	3.43	3.59	3.76	4.16
08-00237-15101			4					50	6,900	4.33	4.52	4.73	4.96	5.49
08-00237-15103			6					50	6,900	6.42	6.70	7.01	7.35	8.15
08-00237-15105			8					50	7,400	8.50	8.88	9.29	9.75	10.80
◆ 08-00237-15106			10					50	7,400	10.59	11.06	11.57	12.14	13.45
08-00237-15107			12					50	7,400	12.68	13.24	13.85	14.53	16.11
08-00237-15109			15					60	7,400	15.80	16.51	17.28	18.12	20.09
08-00237-15200		R0.2	3					50	6,900	3.29	3.43	3.58	3.74	4.13
08-00237-15201			4					50	6,900	4.33	4.51	4.72	4.94	5.46
08-00237-15203			6					50	6,900	6.42	6.69	7.00	7.33	8.11
08-00237-15205			8					50	7,400	8.50	8.87	9.28	9.73	10.77
◆ 08-00237-15206			10					50	7,400	10.59	11.05	11.56	12.12	13.42
08-00237-15207			12					50	7,400	12.67	13.23	13.84	14.51	16.08
08-00237-15209			15					60	7,400	15.80	16.50	17.26	18.10	20.06
08-00237-15300		R0.3	3					50	6,900	3.28	3.42	3.56	3.72	4.10
08-00237-15301			4					50	6,900	4.33	4.51	4.70	4.92	5.43
08-00237-15303			6					50	6,900	6.41	6.68	6.98	7.31	8.08
08-00237-15305			8					50	7,400	8.50	8.86	9.27	9.71	10.74
◆ 08-00237-15306			10					50	7,400	10.58	11.04	11.55	12.10	13.39
08-00237-15307			12					50	7,400	12.67	13.22	13.83	14.49	16.04
08-00237-15309			15					60	7,400	15.80	16.49	17.25	18.08	20.03
08-00237-15500		R0.5	3					50	6,900	3.27	3.40	3.53	3.69	4.04
08-00237-15501			4					50	6,900	4.32	4.49	4.68	4.88	5.36
08-00237-15503			6					50	6,900	6.40	6.67	6.96	7.27	8.02
08-00237-15505			8					50	7,400	8.49	8.85	9.24	9.67	10.67
◆ 08-00237-15506			10					50	7,400	10.57	11.02	11.52	12.06	13.33
08-00237-15507			12					50	7,400	12.66	13.20	13.80	14.45	15.98
08-00237-15509			15					60	7,400	15.79	16.47	17.22	18.04	19.96

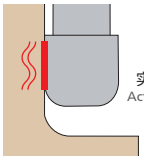
MHRH430R 增加规格

无限白金涂层 高硬度钢材用4刃长颈圆鼻铣刀

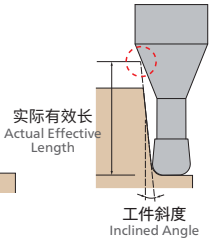
MUGEN COATING PREMIUM 4-Flute Long Neck Corner Radius End Mill for Hardened Steel



单点切削，不易振刀！
Suppress chattering by point milling



普通铣刀
General End Mill



◆ 新增加规格
★ 返修对应（柄长须在15mm以上。详情请咨询本公司。）

单位 [规格：mm／价格：日元]
Unit [Size : mm / Retail Price : JPY]

产品代码 Code No.	(D)外径 Dia.	(R)角半径 Corner Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	定价(日元) Retail Price	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
◆ 08-00237-20022	2	R0.02	3	1.6	1.91	12°	4	50	6,900	3.34	3.49	3.66	3.83	4.25
08-00237-20020			4					50	6,900	4.39	4.58	4.80	5.03	5.58
08-00237-20021			6					50	6,900	6.47	6.76	7.08	7.42	8.23
08-00237-20023			8					50	7,400	8.56	8.94	9.36	9.82	10.89
◆ 08-00237-20024			10					50	7,400	10.64	11.12	11.64	12.21	13.54
08-00237-20025			12					50	7,400	12.73	13.30	13.92	14.60	16.20
08-00237-20027			16					60	7,400	16.90	17.66	18.48	19.39	Free
08-00237-20029			20					60	7,400	21.07	22.01	23.04	24.18	Free
◆ 08-00237-20052		R0.05	3					50	6,900	3.34	3.49	3.65	3.83	4.24
08-00237-20050			4					50	6,900	4.38	4.58	4.79	5.03	5.57
08-00237-20051			6					50	6,900	6.47	6.76	7.07	7.42	8.22
08-00237-20053			8					50	7,400	8.56	8.94	9.35	9.81	10.88
◆ 08-00237-20054			10					50	7,400	10.64	11.12	11.63	12.20	13.53
08-00237-20055			12					50	7,400	12.73	13.29	13.92	14.60	16.19
08-00237-20057			16					60	7,400	16.90	17.65	18.48	19.38	Free
08-00237-20059			20					60	7,400	21.07	22.01	23.04	24.17	Free
◆ 08-00237-20102		R0.1	3					50	6,900	3.34	3.49	3.64	3.82	4.23
08-00237-20100			4					50	6,900	4.38	4.57	4.78	5.02	5.55
08-00237-20101			6					50	6,900	6.47	6.75	7.07	7.41	8.21
08-00237-20103			8					50	7,400	8.55	8.93	9.35	9.80	10.86
◆ 08-00237-20104			10					50	7,400	10.64	11.11	11.63	12.19	13.52
08-00237-20105			12					50	7,400	12.73	13.29	13.91	14.59	16.17
08-00237-20107			16					60	7,400	16.90	17.65	18.47	19.37	Free
08-00237-20109			20					60	7,400	21.07	22.01	23.03	24.16	Free
◆ 08-00237-20202		R0.2	3					50	6,900	3.34	3.48	3.63	3.80	4.19
08-00237-20200			4					50	6,900	4.38	4.57	4.77	5.00	5.52
08-00237-20201			6					50	6,900	6.46	6.74	7.05	7.39	8.18
08-00237-20203			8					50	7,400	8.55	8.92	9.33	9.78	10.83
◆ 08-00237-20204			10					50	7,400	10.64	11.10	11.61	12.18	13.48
08-00237-20205			12					50	7,400	12.72	13.28	13.89	14.57	16.14
08-00237-20207			16					60	7,400	16.89	17.64	18.46	19.36	Free
08-00237-20209			20					60	7,400	21.06	22.00	23.02	24.14	Free
◆ 08-00237-20302		R0.3	3					50	6,900	3.33	3.47	3.62	3.78	4.16
08-00237-20300			4					50	6,900	4.37	4.56	4.76	4.98	5.49
08-00237-20301			6					50	6,900	6.46	6.74	7.04	7.37	8.14
08-00237-20303			8					50	7,400	8.55	8.91	9.32	9.76	10.80
◆ 08-00237-20304			10					50	7,400	10.63	11.09	11.60	12.16	13.45
08-00237-20305			12					50	7,400	12.72	13.27	13.88	14.55	16.11
08-00237-20307			16					60	7,400	16.89	17.63	18.44	19.34	Free
08-00237-20309			20					60	7,400	21.06	21.99	23.00	24.12	Free
◆ 08-00237-20502		R0.5	3					50	6,900	3.32	3.45	3.59	3.74	4.10
08-00237-20500			4					50	6,900	4.37	4.54	4.73	4.94	5.43
08-00237-20501			6					50	6,900	6.45	6.72	7.01	7.33	8.08
08-00237-20503			8					50	7,400	8.54	8.90	9.29	9.72	10.73
◆ 08-00237-20504			10					50	7,400	10.62	11.08	11.57	12.12	13.39
08-00237-20505			12					50	7,400	12.71	13.25	13.85	14.51	16.04
08-00237-20507			16					60	7,400	16.88	17.61	18.42	19.30	Free
08-00237-20509			20					60	7,400	21.05	21.97	22.98	24.08	Free
◆ 08-00237-25100	2.5	R0.1	5	2	2.39	12°	4	50	7,600	5.47	5.72	5.98	6.27	6.94
08-00237-25101			10					50	7,600	10.69	11.16	11.68	12.25	13.58
◆ 08-00237-25102			15					60	7,900	15.90	16.61	17.38	18.23	Free
08-00237-25103			20					60	7,900	21.12	22.06	23.09	Free	Free
08-00237-25105			30					70	8,100	31.55	32.95	Free	Free	Free

圆鼻 长颈 Long Neck / Corner Radius / 涂层 Coating

调质钢 Prehardened Steel P
高硬度钢～52 Hardened Steel HRC H
高硬度钢～60 Hardened Steel HRC H
高硬度钢～65 Hardened Steel HRC H
不锈钢 Stainless Steel M
钛合金 耐热合金 Titanium Alloy Heat Resistant Alloy S

常规系列
无限白金涂层 长颈造型
Regular Line
MUGEN PREMIUM Long Neck Type

订购方法 How to Order

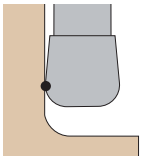
请指定MHRH430R 外径(D)×角半径(R)×颈长(ℓ1)。
When you order, indicate MHRH430R (D)×(R)×(ℓ1).

※(γ)为参考值。
※(γ) is reference value.

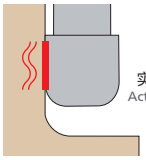
MHRH430R

无限白金涂层 高硬度钢材用4刃长颈圆鼻铣刀

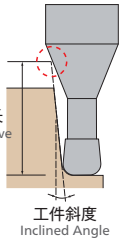
MUGEN COATING PREMIUM 4-Flute Long Neck Corner Radius End Mill for Hardened Steel



单点切削，不易振刀！
Suppress chattering by point milling



普通铣刀
General End Mill



工件斜度
Inclined Angle

◆ 新增加规格
★ 返修对应（柄长须在15mm以上。详情请咨询本公司。）

产品代码 Code No.	(D)外径 Dia.	(R)角半径 Corner Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	定价(日元) Retail Price	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30´	1°	1°30´	2°	3°
◆ 08-00237-25200	2.5	R0.2	5	2	2.39	12°	4	50	7,600	5.47	5.71	5.96	6.25	6.91
08-00237-25201			10					50	7,600	10.68	11.15	11.67	12.23	13.55
◆ 08-00237-25202			15					60	7,900	15.90	16.60	17.37	18.21	Free
08-00237-25203			20					60	7,900	21.11	22.05	23.07	Free	Free
08-00237-25205			30					70	8,100	31.54	32.94	Free	Free	Free
◆ 08-00237-25300		R0.3	5					50	7,600	5.47	5.70	5.95	6.23	6.88
08-00237-25301			10					50	7,600	10.68	11.14	11.65	12.21	13.52
◆ 08-00237-25302			15					60	7,900	15.89	16.59	17.36	18.20	Free
08-00237-25303			20					60	7,900	21.11	22.04	23.06	Free	Free
08-00237-25305			30					70	8,100	31.54	32.93	Free	Free	Free
◆ 08-00237-25500		R0.5	5					50	7,600	5.46	5.68	5.92	6.19	6.82
08-00237-25501			10					50	7,600	10.67	11.13	11.63	12.17	13.45
◆ 08-00237-25502			15					60	7,900	15.89	16.57	17.33	18.16	Free
08-00237-25503			20					60	7,900	21.10	22.02	23.03	Free	Free
08-00237-25505			30					70	8,100	31.53	32.92	Free	Free	Free
★ 08-00237-30058	3	R0.05	4	2.5	2.85	12°	6	50	6,600	4.53	4.73	4.95	5.19	5.76
★ 08-00237-30050			6					50	6,600	6.62	6.91	7.23	7.59	8.41
★ 08-00237-30051			8					50	6,600	8.70	9.09	9.51	9.98	11.07
◆★ 08-00237-30052			10					50	6,600	10.79	11.27	11.80	12.37	13.72
★ 08-00237-30053			12					50	7,900	12.87	13.45	14.08	14.77	16.37
◆★ 08-00237-30054			14					50	7,900	14.96	15.63	16.36	17.16	19.03
★ 08-00237-30055			16					60	9,900	17.05	17.81	18.64	19.55	21.68
★ 08-00237-30057			20					60	9,900	21.22	22.16	23.20	24.34	26.99
★ 08-00237-30112		R0.1	4					50	6,600	4.53	4.73	4.95	5.18	5.74
★ 08-00237-30100			6					50	6,600	6.62	6.91	7.23	7.58	8.39
★ 08-00237-30101			8					50	6,600	8.70	9.09	9.51	9.97	11.05
◆★ 08-00237-30102			10					50	6,600	10.79	11.27	11.79	12.36	13.70
★ 08-00237-30103			12					50	7,900	12.87	13.44	14.07	14.76	16.36
◆★ 08-00237-30104			14					50	7,900	14.96	15.62	16.35	17.15	19.01
★ 08-00237-30105			16					60	9,900	17.04	17.80	18.63	19.54	21.67
★ 08-00237-30107			20					60	9,900	21.21	22.16	23.19	24.33	26.98
★ 08-00237-30109			25					70	9,900	26.43	27.61	28.90	30.31	Free
★ 08-00237-30111			30					70	11,100	31.64	33.05	34.60	36.30	Free
★ 08-00237-30212		R0.2	4					50	6,600	4.53	4.72	4.93	5.16	5.71
★ 08-00237-30200			6					50	6,600	6.61	6.90	7.21	7.56	8.36
★ 08-00237-30201			8					50	6,600	8.70	9.08	9.49	9.95	11.02
◆★ 08-00237-30202			10					50	6,600	10.78	11.26	11.77	12.34	13.67
★ 08-00237-30203			12					50	7,900	12.87	13.44	14.06	14.74	16.33
◆★ 08-00237-30204			14					50	7,900	14.95	15.61	16.34	17.13	18.98
★ 08-00237-30205			16					60	9,900	17.04	17.79	18.62	19.52	21.64
★ 08-00237-30207			20					60	9,900	21.21	22.15	23.18	24.31	26.94
★ 08-00237-30209			25					70	9,900	26.42	27.60	28.88	30.29	Free
★ 08-00237-30211			30					70	11,100	31.64	33.05	34.58	36.28	Free
★ 08-00237-30312		R0.3	4					50	6,600	4.52	4.71	4.92	5.15	5.68
★ 08-00237-30300			6					50	6,600	6.61	6.89	7.20	7.54	8.33
★ 08-00237-30301			8					50	6,600	8.69	9.07	9.48	9.93	10.99
◆★ 08-00237-30302			10					50	6,600	10.78	11.25	11.76	12.33	13.64
★ 08-00237-30303			12					50	7,900	12.86	13.43	14.04	14.72	16.29
◆★ 08-00237-30304			14					50	7,900	14.95	15.61	16.32	17.11	18.95
★ 08-00237-30305			16					60	9,900	17.04	17.78	18.60	19.50	21.60
★ 08-00237-30307			20					60	9,900	21.21	22.14	23.17	24.29	26.91
★ 08-00237-30309			25					70	9,900	26.42	27.59	28.87	30.27	Free
★ 08-00237-30311			30					70	11,100	31.63	33.04	34.57	36.26	Free
★ 08-00237-30512		R0.5	4					50	6,600	4.51	4.69	4.89	5.11	5.61
★ 08-00237-30500			6					50	6,600	6.60	6.87	7.17	7.50	8.27
★ 08-00237-30501			8					50	6,600	8.68	9.05	9.45	9.89	10.92

MHRH430R 增加规格

无限白金涂层 高硬度钢材用4刃长颈圆鼻铣刀

MUGEN COATING PREMIUM 4-Flute Long Neck Corner Radius End Mill for Hardened Steel

◆ 新增加规格

产品代码 Code No.	(D)外径 Dia.	(R)角半径 Corner Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	定价(日元) Retail Price	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30′	1°	1°30′	2°	3°
◆★ 08-00237-30502	3	R0.5	10	2.5	2.85	12°	6	50	6,600	10.77	11.23	11.73	12.29	13.58
★ 08-00237-30503			12					50	7,900	12.86	13.41	14.01	14.68	16.23
◆★ 08-00237-30504			14					50	7,900	14.94	15.59	16.30	17.07	18.89
★ 08-00237-30505			16					60	9,900	17.03	17.77	18.58	19.47	21.54
★ 08-00237-30507			20					60	9,900	21.20	22.12	23.14	24.25	26.85
★ 08-00237-30509			25					70	9,900	26.41	27.57	28.84	30.24	Free
★ 08-00237-30511			30					70	11,100	31.63	33.02	34.54	36.22	Free
◆★ 08-00237-31000		R1	6					50	6,600	6.58	6.83	7.10	7.40	8.11
★ 08-00237-31001			8					50	6,600	8.66	9.01	9.38	9.80	10.76
◆★ 08-00237-31002			10					50	6,600	10.75	11.19	11.66	12.19	13.42
★ 08-00237-31003			12					50	7,900	12.83	13.36	13.94	14.58	16.07
◆★ 08-00237-31004			14					50	7,900	14.92	15.54	16.23	16.98	18.73
★ 08-00237-31005			16					60	9,900	17.01	17.72	18.51	19.37	21.38
★ 08-00237-31007			20					60	9,900	21.18	22.08	23.07	24.16	26.69
★ 08-00237-31009			25					70	9,900	26.39	27.53	28.77	30.14	Free
★ 08-00237-31011			30					70	11,100	31.60	32.97	34.47	36.12	Free
◆★ 08-00237-40051	4	R0.05	8	3.2	3.8	12°	6	60	9,900	8.83	9.22	9.65	10.12	11.22
◆★ 08-00237-40053			12					60	9,900	13.00	13.58	14.21	14.91	16.53
◆★ 08-00237-40054			16					60	9,900	17.17	17.93	18.77	19.69	Free
◆★ 08-00237-40055			20					65	11,000	21.34	22.29	23.33	24.48	Free
◆★ 08-00237-40056			24					70	11,000	25.51	26.65	27.90	Free	Free
◆★ 08-00237-40057			28					70	11,000	29.68	31.01	32.46	Free	Free
◆★ 08-00237-40058			32					70	11,000	33.85	35.37	37.02	Free	Free
★ 08-00237-40106		R0.1	8					60	9,900	8.82	9.21	9.64	10.11	11.21
◆★ 08-00237-40107			10					60	9,900	10.91	11.39	11.92	12.50	13.86
★ 08-00237-40100			12					60	9,900	13.00	13.57	14.20	14.90	16.51
★ 08-00237-40101			16					60	9,900	17.17	17.93	18.77	19.68	Free
◆★ 08-00237-40102			20					65	11,000	21.34	22.29	23.33	24.47	Free
★ 08-00237-40103			24					70	11,000	25.51	26.65	27.89	Free	Free
◆★ 08-00237-40104			28					70	11,000	29.68	31.00	32.45	Free	Free
★ 08-00237-40105			32					70	11,000	33.85	35.36	37.01	Free	Free
◆★ 08-00237-40108			40					80	12,100	42.19	44.08	Free	Free	Free
★ 08-00237-40206		R0.2	8					60	9,900	8.82	9.21	9.63	10.09	11.17
◆★ 08-00237-40207			10					60	9,900	10.91	11.38	11.91	12.49	13.83
★ 08-00237-40200			12					60	9,900	12.99	13.56	14.19	14.88	16.48
★ 08-00237-40201			16					60	9,900	17.16	17.92	18.75	19.66	Free
◆★ 08-00237-40202			20					65	11,000	21.33	22.28	23.31	24.45	Free
★ 08-00237-40203			24					70	11,000	25.50	26.64	27.88	Free	Free
◆★ 08-00237-40204			28					70	11,000	29.68	30.99	32.44	Free	Free
★ 08-00237-40205			32					70	11,000	33.85	35.35	37.00	Free	Free
◆★ 08-00237-40208			40					80	12,100	42.19	44.07	Free	Free	Free
★ 08-00237-40306		R0.3	8					60	9,900	8.82	9.20	9.61	10.07	11.14
◆★ 08-00237-40307			10					60	9,900	10.90	11.38	11.90	12.47	13.80
★ 08-00237-40300			12					60	9,900	12.99	13.55	14.18	14.86	16.45
★ 08-00237-40301			16					60	9,900	17.16	17.91	18.74	19.65	Free
◆★ 08-00237-40302			20					65	11,000	21.33	22.27	23.30	24.43	Free
★ 08-00237-40303			24					70	11,000	25.50	26.63	27.86	Free	Free
◆★ 08-00237-40304			28					70	11,000	29.67	30.99	32.42	Free	Free
★ 08-00237-40305			32					70	11,000	33.84	35.34	36.99	Free	Free
◆★ 08-00237-40308			40					80	12,100	42.19	44.06	Free	Free	Free
★ 08-00237-40506		R0.5	8					60	9,900	8.81	9.18	9.59	10.03	11.08
◆★ 08-00237-40507			10					60	9,900	10.89	11.36	11.87	12.43	13.73
★ 08-00237-40500			12					60	9,900	12.98	13.54	14.15	14.82	16.39
★ 08-00237-40501			16					60	9,900	17.15	17.89	18.71	19.61	Free
◆★ 08-00237-40502			20					65	11,000	21.32	22.25	23.27	24.39	Free
★ 08-00237-40503			24					70	11,000	25.49	26.61	27.83	Free	Free
◆★ 08-00237-40504			28					70	11,000	29.66	30.97	32.40	Free	Free
★ 08-00237-40505			32					70	11,000	33.83	35.33	36.96	Free	Free
◆★ 08-00237-40508			40					80	12,100	42.18	44.04	Free	Free	Free
★ 08-00237-41006		R1	8					60	9,900	8.79	9.13	9.52	9.94	10.92
◆★ 08-00237-41007			10					60	9,900	10.87	11.31	11.80	12.33	13.57
★ 08-00237-41000			12					60	9,900	12.96	13.49	14.08	14.72	16.23
★ 08-00237-41001			16					60	9,900	17.13	17.85	18.64	19.51	Free
◆★ 08-00237-41002			20					65	11,000	21.30	22.21	23.20	24.30	Free
★ 08-00237-41003			24					70	11,000	25.47	26.57	27.77	29.08	Free
◆★ 08-00237-41004			28					70	11,000	29.64	30.92	32.33	Free	Free
★ 08-00237-41005			32					70	11,000	33.81	35.28	36.89	Free	Free
◆★ 08-00237-41008			40					80	12,100	42.16	44.00	Free	Free	Free

圆鼻 长颈 Long Neck Corner Radius 涂层 Coating

调质钢 Prehardened Steel P

高硬度钢~52 Hardened Steel HRC H

高硬度钢~60 Hardened Steel HRC H

高硬度钢~65 Hardened Steel HRC H

不锈钢 Stainless Steel M

钛合金 耐热合金 Titanium Alloy Heat Resistant Alloy S

常规系列 无限白金涂层 长颈造型 Regular Line MUGEN PREMIUM Long Neck Type

订购方法 How to Order

请指定MHRH430R 外径(D)×角半径(R)×颈长(ℓ1)。
When you order, indicate MHRH430R (D)×(R)×(ℓ1).

※(γ)为参考值。
※(γ) is reference value.

无限白金涂层 高硬度钢材用4刃长颈圆鼻铣刀

MUGEN COATING PREMIUM 4-Flute Long Neck Corner Radius End Mill for Hardened Steel

◆ 新增加规格

产品代码 Code No.	(D)外径 Dia.	(R)角半径 Corner Radius	(ℓ1)颈长 Under Neck Length	(ℓ)刃长 Length of Cut	(d2)颈径 Neck Dia.	(γ)颈角 Neck Taper Angle	(d)柄径 Shank Dia.	(L)全长 Overall Length	定价(日元) Retail Price	相对于工件斜度的有效长 Actual effective length depending on inclined angle of workpiece				
										30´	1°	1°30´	2°	3°
◆★ 08-00237-50104	5	R0.1	10	4	4.75	12°	6	70	14,100	11.03	11.52	12.06	12.65	Free
★ 08-00237-50100			15					70	14,100	16.25	16.97	17.76	Free	Free
★ 08-00237-50101			20					70	14,100	21.46	22.42	Free	Free	Free
◆★ 08-00237-50102			30					80	15,600	31.89	Free	Free	Free	Free
★ 08-00237-50103			40					90	17,600	42.32	Free	Free	Free	Free
◆★ 08-00237-50204		R0.2	10					70	14,100	11.03	11.51	12.04	12.63	Free
★ 08-00237-50200			15					70	14,100	16.24	16.96	17.75	Free	Free
★ 08-00237-50201			20					70	14,100	21.46	22.41	Free	Free	Free
◆★ 08-00237-50202			30					80	15,600	31.88	Free	Free	Free	Free
★ 08-00237-50203			40					90	17,600	42.31	Free	Free	Free	Free
◆★ 08-00237-50304		R0.3	10					70	14,100	11.02	11.50	12.03	12.61	Free
★ 08-00237-50300			15					70	14,100	16.24	16.95	17.73	Free	Free
★ 08-00237-50301			20					70	14,100	21.45	22.40	Free	Free	Free
◆★ 08-00237-50302			30					80	15,600	31.88	Free	Free	Free	Free
★ 08-00237-50303			40					90	17,600	42.31	Free	Free	Free	Free
◆★ 08-00237-50504		R0.5	10					70	14,100	11.02	11.49	12.00	12.57	Free
★ 08-00237-50500			15					70	14,100	16.23	16.93	17.70	Free	Free
★ 08-00237-50501			20					70	14,100	21.44	22.38	Free	Free	Free
◆★ 08-00237-50502			30					80	15,600	31.87	Free	Free	Free	Free
★ 08-00237-50503			40					90	17,600	42.30	Free	Free	Free	Free
◆★ 08-00237-51004		R1	10					70	14,100	10.99	11.44	11.93	12.47	Free
★ 08-00237-51000			15					70	14,100	16.21	16.89	17.63	Free	Free
★ 08-00237-51001			20					70	14,100	21.42	22.34	Free	Free	Free
◆★ 08-00237-51002			30					80	15,600	31.85	Free	Free	Free	Free
★ 08-00237-51003			40					90	17,600	42.28	Free	Free	Free	Free
◆★ 08-00237-60051	6	R0.05	12	5	5.7	–	6	70	14,300	Free	Free	Free	Free	Free
◆★ 08-00237-60052			15					70	14,300	Free	Free	Free	Free	Free
◆★ 08-00237-60053			18					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60054			24					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60055			30					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60056			40					100	19,900	Free	Free	Free	Free	Free
◆★ 08-00237-60057			48					110	22,100	Free	Free	Free	Free	Free
★ 08-00237-60104		R0.1	12					70	14,300	Free	Free	Free	Free	Free
◆★ 08-00237-60105			15					70	14,300	Free	Free	Free	Free	Free
★ 08-00237-60100			18					90	18,200	Free	Free	Free	Free	Free
★ 08-00237-60101			24					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60102			30					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60106			40					100	19,900	Free	Free	Free	Free	Free
★ 08-00237-60103			48					110	22,100	Free	Free	Free	Free	Free
★ 08-00237-60204		R0.2	12					70	14,300	Free	Free	Free	Free	Free
◆★ 08-00237-60205			15					70	14,300	Free	Free	Free	Free	Free
★ 08-00237-60200			18					90	18,200	Free	Free	Free	Free	Free
★ 08-00237-60201			24					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60202			30					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60206			40					100	19,900	Free	Free	Free	Free	Free
★ 08-00237-60203			48					110	22,100	Free	Free	Free	Free	Free
★ 08-00237-60304		R0.3	12					70	14,300	Free	Free	Free	Free	Free
◆★ 08-00237-60305			15					70	14,300	Free	Free	Free	Free	Free
★ 08-00237-60300			18					90	18,200	Free	Free	Free	Free	Free
★ 08-00237-60301			24					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60302			30					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60306			40					100	19,900	Free	Free	Free	Free	Free
★ 08-00237-60303			48					110	22,100	Free	Free	Free	Free	Free
★ 08-00237-60504		R0.5	12					70	14,300	Free	Free	Free	Free	Free
◆★ 08-00237-60505			15					70	14,300	Free	Free	Free	Free	Free
★ 08-00237-60500			18					90	18,200	Free	Free	Free	Free	Free
★ 08-00237-60501			24					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60502			30					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-60506			40					100	19,900	Free	Free	Free	Free	Free
★ 08-00237-60503			48					110	22,100	Free	Free	Free	Free	Free
★ 08-00237-61004		R1	12					70	14,300	Free	Free	Free	Free	Free
◆★ 08-00237-61005			15					70	14,300	Free	Free	Free	Free	Free
★ 08-00237-61000			18					90	18,200	Free	Free	Free	Free	Free
★ 08-00237-61001			24					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-61002			30					90	18,200	Free	Free	Free	Free	Free
◆★ 08-00237-61006			40					100	19,900	Free	Free	Free	Free	Free
★ 08-00237-61003			48					110	22,100	Free	Free	Free	Free	Free