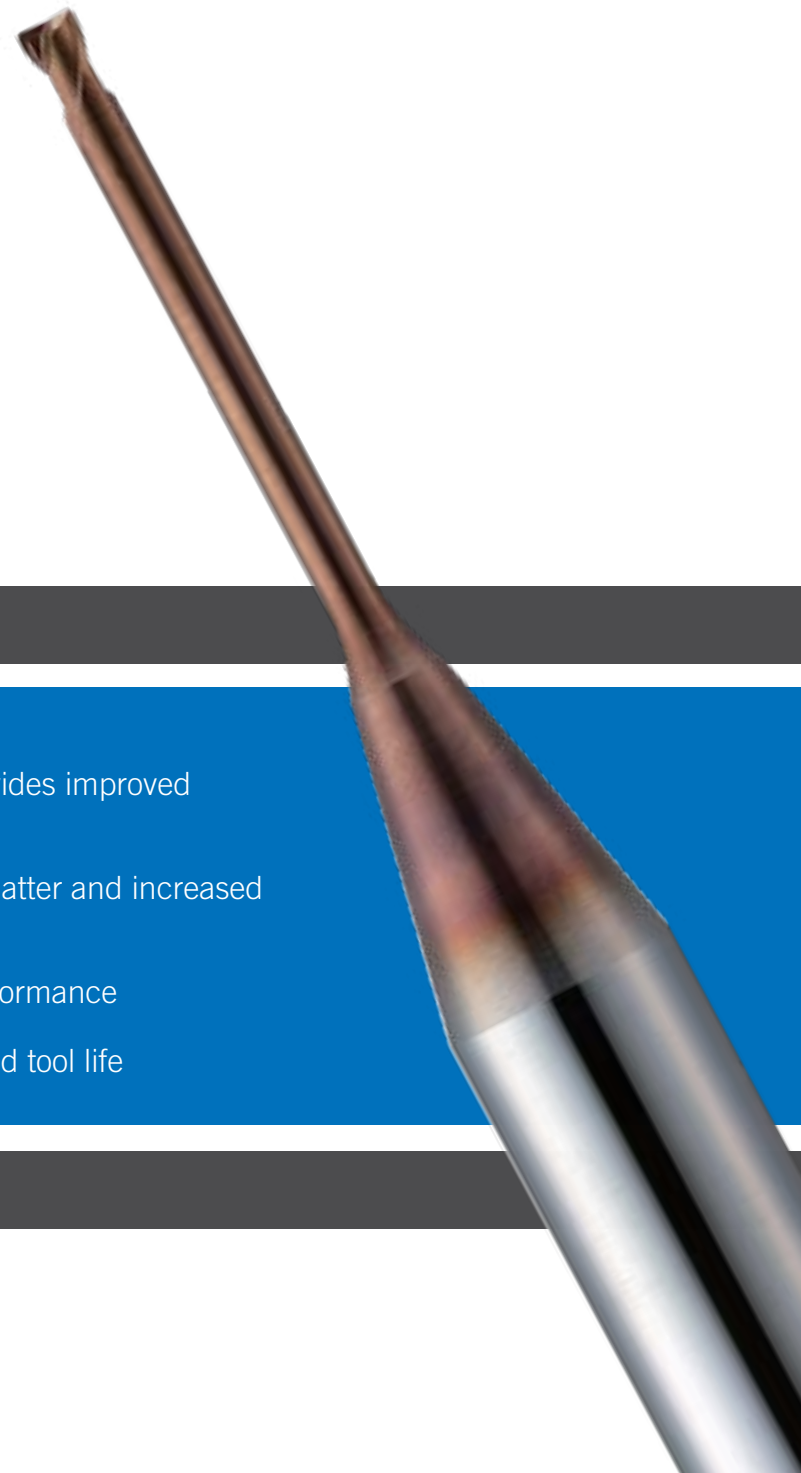
EPDRE

High-Precision Corner Radius End Mills for Deep Machining



FEATURES

Flute shape with increased flute tip strength provides improved stability

Improved compound neck design for reduced chatter and increased strength

Stronger R flute helix angle improves cutting performance

ATH and PN Coatings for maximum efficiency and tool life

EPDRE

INTRODUCTION

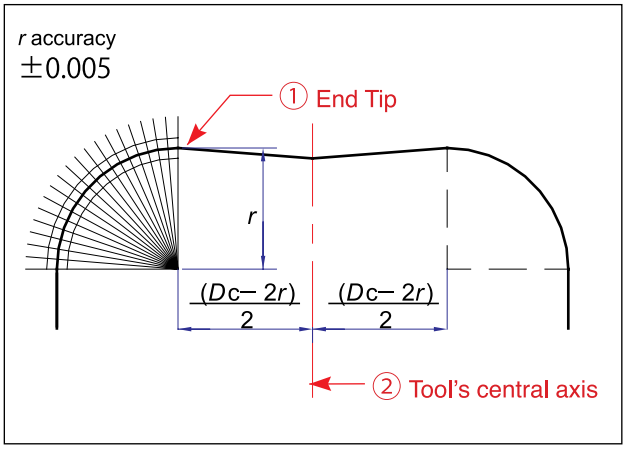
The EPDRE Epoch Series Radius End Mills have been designed for cutting deep ribs and slots in molds, as well as machining deep corners and precision features that were previously possible only by EDM (electrical discharge machining).

Featuring an improved compound neck design, these end mills exhibit greater breakage resistance and less vibration during high speed machining than competitors' tools. New cutting geometries as well as the advanced ATH and PN Coatings help to maximize machining performance as well as tool life.

FEATURES

1. Guaranteed R Accuracy for High-Accuracy Machining

Corner R accuracy guaranteed with tool center as reference point. Enables more accurate finishing when finishing molds.



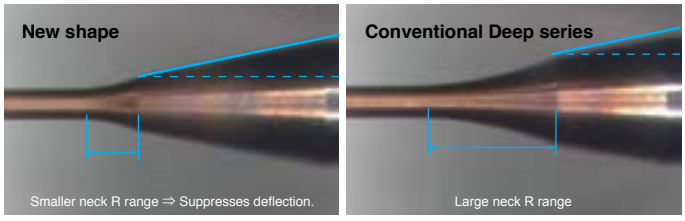
Accuracy basis

① End Tip ② Tool's central axis

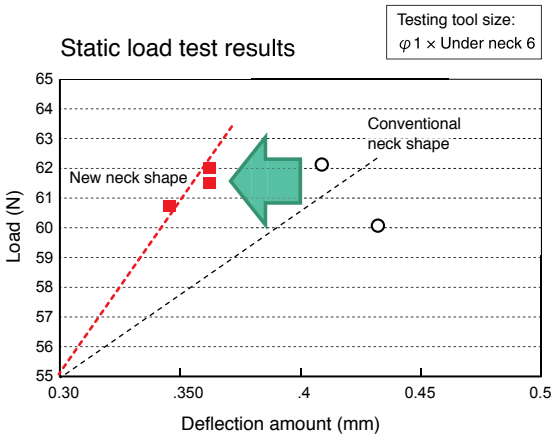
Like ball end mills, corner radius accuracy is kept to within ±0.005mm relative to the tool's central axis, achieving a high corner radius accuracy. This enables high-accuracy finish machining to be performed, something which has been difficult to do with previous corner radius end mills.

2. Improved Compound Neck Shape

Further improves the conventional compound shape of R and taper to both resist breakage and suppress deflection.



Caution: The interference region has changed due to changes in the neck shape. Be sure to check for interference before starting machining.

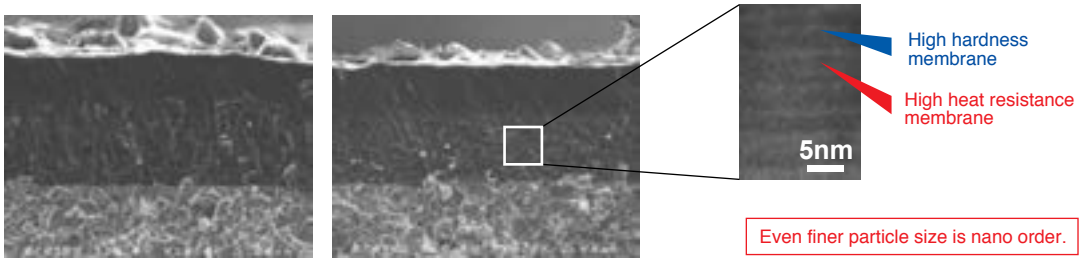


Deflection suppression effect is high even under the same load. Enables machining with even higher accuracy.

3. New PVD Coating Technology

Advanced TH (ATH) Coating: With a hardness of 3800Hv and oxidation temperature of 1200°, our new ATH Coating enables longer life and higher efficiency when cutting high-hardness materials (55HRC or higher). Compared with our previous generation coating, double the tool life and more than double the machining efficiency can be achieved. The ATH Coating is ideal for both dry cutting and wet cutting in a variety of materials including cold-worked die steel, HSS, tool steel, composite materials, carbide alloys and more.

Cross-section photograph of ATH coating layer structure

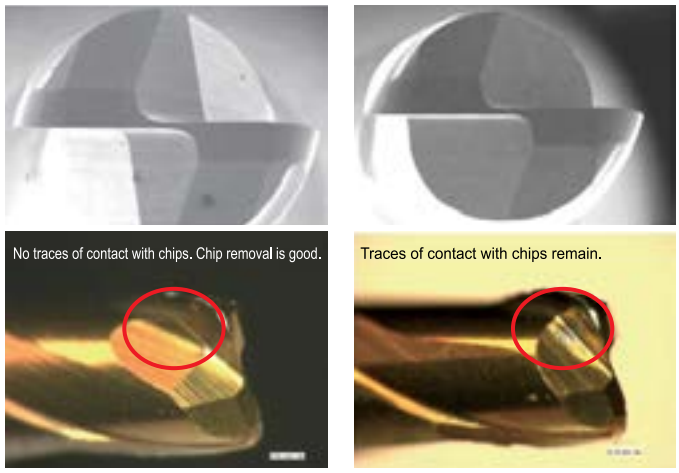


Pat.No. 3 9 3 4 1 3 6

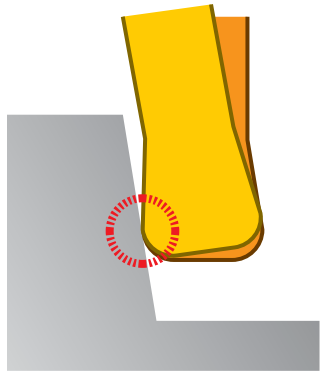
4. Flute Shape Increases Stability

High chip removal characteristics effective when performing deep cutting.

Double-gash shape | Conventional gash shape



Inherits the reliable backdraft shape (Strong backtaper)! Can reduce chattering when doing point cutting.



Back draft effect

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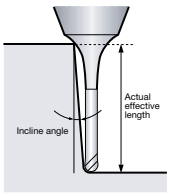

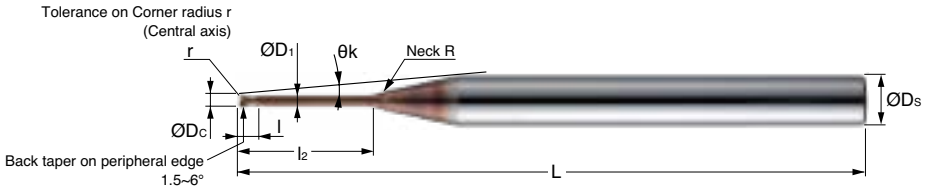

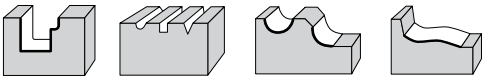

Helix Angle	30°	ϕDs	h5
r	±0.005		

		Size (mm)							Neck		Actual Effective Length in Incline Angles				
Part No.	Stock	D_c	r	l_2	l	D_1	L	D_s	R	θk	0.5°	1°	1.5°	2°	3°
EPDRE2002-0.5-002-ATH	□	0.20	0.02	0.5	0.15	0.17	50	4	1	11.33	0.70	0.73	0.75	0.78	0.83
EPDRE2002-1-002-ATH	□	0.20	0.02	1.0	0.15	0.17	50	4	1	10.77	1.22	1.26	1.30	1.34	1.41
EPDRE2002-2-002-ATH	□	0.20	0.02	2.0	0.15	0.17	50	4	1	9.81	2.26	2.32	2.38	2.47	2.74
EPDRE2002-0.5-005-ATH	●	0.20	0.05	0.5	0.15	0.17	50	4	1	11.36	0.70	0.73	0.75	0.78	0.82
EPDRE2002-1-005-ATH	●	0.20	0.05	1.0	0.15	0.17	50	4	1	10.81	1.22	1.26	1.30	1.34	1.40
EPDRE2002-1.5-005-ATH	□	0.20	0.05	1.5	0.15	0.17	50	4	1	10.30	1.74	1.79	1.84	1.89	2.06
EPDRE2002-2-005-ATH	●	0.20	0.05	2.0	0.15	0.17	50	4	1	9.84	2.25	2.32	2.38	2.46	2.73
EPDRE2003-1-002-ATH	□	0.30	0.02	1.0	0.25	0.27	50	4	2	10.74	1.32	1.39	1.45	1.51	1.62
EPDRE2003-2-002-ATH	□	0.30	0.02	2.0	0.25	0.27	50	4	2	9.77	2.37	2.47	2.56	2.64	2.78
EPDRE2003-3-002-ATH	□	0.30	0.02	3.0	0.25	0.27	50	4	2	8.95	3.42	3.54	3.65	3.74	4.06
EPDRE2003-1-005-ATH	●	0.30	0.05	1.0	0.25	0.27	50	4	2	10.78	1.32	1.39	1.45	1.50	1.61
EPDRE2003-1.5-005-ATH	□	0.30	0.05	1.5	0.25	0.27	50	4	2	10.26	1.84	1.93	2.01	2.07	2.20
EPDRE2003-2-005-ATH	●	0.30	0.05	2.0	0.25	0.27	50	4	2	9.79	2.37	2.47	2.56	2.64	2.77
EPDRE2003-2.5-005-ATH	□	0.30	0.05	2.5	0.25	0.27	50	4	2	9.36	2.89	3.01	3.10	3.19	3.39
EPDRE2003-3-005-ATH	●	0.30	0.05	3.0	0.25	0.27	50	4	2	8.97	3.41	3.54	3.65	3.74	4.05
EPDRE2004-1-002-ATH	□	0.40	0.02	1.0	0.30	0.37	50	4	2	10.71	1.32	1.39	1.45	1.51	1.62
EPDRE2004-2-002-ATH	□	0.40	0.02	2.0	0.30	0.37	50	4	2	9.72	2.37	2.47	2.56	2.64	2.78
EPDRE2004-3-002-ATH	□	0.40	0.02	3.0	0.30	0.37	50	4	2	8.89	3.42	3.54	3.65	3.74	4.06
EPDRE2004-4-002-ATH	□	0.40	0.02	4.0	0.30	0.37	50	4	2	8.19	4.46	4.60	4.73	4.86	5.39
EPDRE2004-1-005-ATH	●	0.40	0.05	1.0	0.30	0.37	50	4	2	10.75	1.32	1.39	1.45	1.50	1.61
EPDRE2004-1.5-005-ATH	□	0.40	0.05	1.5	0.30	0.37	50	4	2	10.22	1.84	1.93	2.01	2.07	2.20
EPDRE2004-2-005-ATH	●	0.40	0.05	2.0	0.30	0.37	50	4	2	9.74	2.37	2.47	2.56	2.64	2.77
EPDRE2004-2.5-005-ATH	□	0.40	0.05	2.5	0.30	0.37	50	4	2	9.31	2.89	3.01	3.10	3.19	3.39
EPDRE2004-3-005-ATH	●	0.40	0.05	3.0	0.30	0.37	50	4	2	8.91	3.41	3.54	3.65	3.74	4.05
EPDRE2004-3.5-005-ATH	□	0.40	0.05	3.5	0.30	0.37	50	4	2	8.54	3.93	4.07	4.19	4.29	4.72
EPDRE2004-4-005-ATH	●	0.40	0.05	4.0	0.30	0.37	50	4	2	8.21	4.45	4.60	4.72	4.86	5.38
EPDRE2004-1-01-ATH	□	0.40	0.10	1.0	0.30	0.37	50	4	2	10.80	1.31	1.38	1.44	1.50	1.60
EPDRE2004-2-01-ATH	●	0.40	0.10	2.0	0.30	0.37	50	4	2	9.79	2.37	2.47	2.55	2.63	2.77
EPDRE2004-3-01-ATH	●	0.40	0.10	3.0	0.30	0.37	50	4	2	8.95	3.41	3.54	3.64	3.74	4.04
EPDRE2004-4-01-ATH	●	0.40	0.10	4.0	0.30	0.37	50	4	2	8.24	4.45	4.60	4.72	4.85	5.37

□ = Stocked items in Japan

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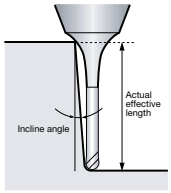

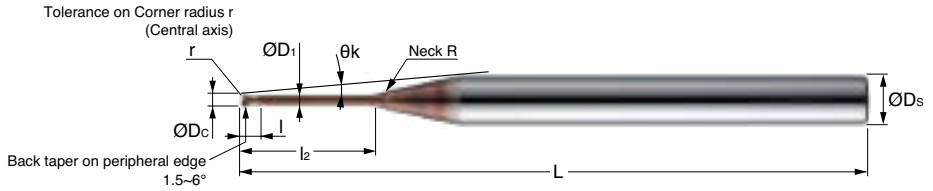

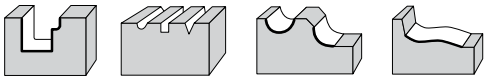

Helix Angle	30°	ϕDs	h5
r	±0.005		

Part No.	Stock	Size (mm) D_c	r	l_2	l	D_1	L	D_s	Neck R	θk	Actual Effective Length in Incline Angles 0.5°	1°	1.5°	2°	3°
EPDRE2005-1-002-ATH	□	0.50	0.02	1	0.35	0.47	50	4	2	10.68	1.32	1.39	1.45	1.51	1.62
EPDRE2005-2-002-ATH	□	0.50	0.02	2	0.35	0.47	50	4	2	9.66	2.37	2.47	2.56	2.64	2.78
EPDRE2005-3-002-ATH	□	0.50	0.02	3	0.35	0.47	50	4	2	8.82	3.42	3.54	3.65	3.74	4.06
EPDRE2005-4-002-ATH	□	0.50	0.02	4	0.35	0.47	50	4	2	8.11	4.46	4.60	4.73	4.86	5.39
EPDRE2005-6-002-ATH	□	0.50	0.02	6	0.35	0.47	50	4	2	6.99	6.53	6.71	6.92	7.26	8.05
EPDRE2005-1-005-ATH	●	0.50	0.05	1	0.35	0.47	50	4	2	10.71	1.32	1.39	1.45	1.50	1.61
EPDRE2005-2-005-ATH	●	0.50	0.05	2	0.35	0.47	50	4	2	9.69	2.37	2.47	2.56	2.64	2.77
EPDRE2005-3-005-ATH	●	0.50	0.05	3	0.35	0.47	50	4	2	8.84	3.41	3.54	3.65	3.74	4.05
EPDRE2005-4-005-ATH	●	0.50	0.05	4	0.35	0.47	50	4	2	8.13	4.45	4.60	4.72	4.86	5.38
EPDRE2005-5-005-ATH	●	0.50	0.05	5	0.35	0.47	50	4	2	7.53	5.49	5.66	5.79	6.05	6.71
EPDRE2005-6-005-ATH	●	0.50	0.05	6	0.35	0.47	50	4	2	7.00	6.53	6.71	6.91	7.25	8.04
EPDRE2005-1-01-ATH	●	0.50	0.10	1	0.35	0.47	50	4	2	10.77	1.31	1.38	1.44	1.50	1.60
EPDRE2005-2-01-ATH	●	0.50	0.10	2	0.35	0.47	50	4	2	9.74	2.37	2.47	2.55	2.63	2.77
EPDRE2005-3-01-ATH	●	0.50	0.10	3	0.35	0.47	50	4	2	8.88	3.41	3.54	3.64	3.74	4.04
EPDRE2005-4-01-ATH	●	0.50	0.10	4	0.35	0.47	50	4	2	8.17	4.45	4.60	4.72	4.85	5.37
EPDRE2005-5-01-ATH	●	0.50	0.10	5	0.35	0.47	50	4	2	7.55	5.49	5.66	5.79	6.04	6.69
EPDRE2005-6-01-ATH	●	0.50	0.10	6	0.35	0.47	50	4	2	7.03	6.52	6.71	6.90	7.24	8.02
EPDRE2006-2-002-ATH	□	0.60	0.02	2	0.40	0.57	50	4	4	9.61	2.54	2.70	2.83	2.96	3.19
EPDRE2006-4-002-ATH	□	0.60	0.02	4	0.40	0.57	50	4	4	8.04	4.66	4.88	5.07	5.24	5.52
EPDRE2006-6-002-ATH	□	0.60	0.02	6	0.40	0.57	50	4	4	6.90	6.76	7.03	7.26	7.45	8.05
EPDRE2006-2-005-ATH	●	0.60	0.05	2	0.40	0.57	50	4	4	9.64	2.54	2.69	2.83	2.95	3.18
EPDRE2006-4-005-ATH	●	0.60	0.05	4	0.40	0.57	50	4	4	8.06	4.66	4.88	5.07	5.23	5.52
EPDRE2006-6-005-ATH	□	0.60	0.05	6	0.40	0.57	50	4	4	6.92	6.76	7.03	7.26	7.45	8.04
EPDRE2006-8-005-ATH	□	0.60	0.05	8	0.40	0.57	50	4	4	6.06	8.85	9.16	9.41	9.64	10.69
EPDRE2006-10-005-ATH	□	0.60	0.05	10	0.40	0.57	50	4	4	5.39	10.93	11.28	11.55	12.04	13.35
EPDRE2006-2-01-ATH	●	0.60	0.10	2	0.40	0.57	50	4	4	9.68	2.53	2.69	2.82	2.95	3.17
EPDRE2006-4-01-ATH	●	0.60	0.10	4	0.40	0.57	50	4	4	8.09	4.65	4.88	5.06	5.23	5.51
EPDRE2006-6-01-ATH	●	0.60	0.10	6	0.40	0.57	50	4	4	6.94	6.76	7.03	7.25	7.44	8.02
EPDRE2006-8-01-ATH	●	0.60	0.10	8	0.40	0.57	50	4	4	6.08	8.85	9.16	9.41	9.63	10.67
EPDRE2006-10-01-ATH	□	0.60	0.10	10	0.40	0.57	50	4	4	5.41	10.92	11.27	11.55	12.03	13.33

□ = Stocked items in Japan

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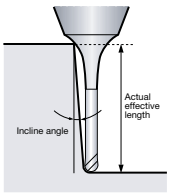

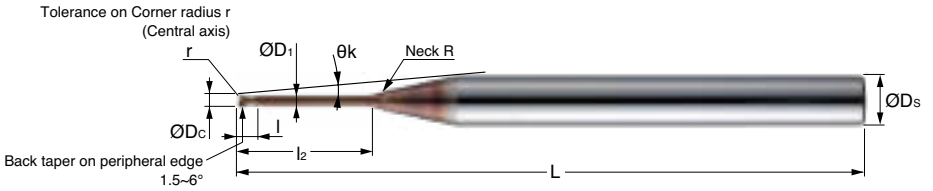

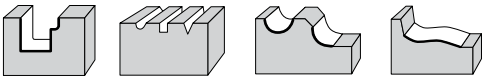

Helix Angle	30°	ϕDs	h5
r	±0.005		

		Size (mm)							Neck		Actual Effective Length in Incline Angles				
Part No.	Stock	D_c	r	l_2	l	D_1	L	D_s	R	θk	0.5°	1°	1.5°	2°	3°
EPDRE2007-4-005-ATH	□	0.70	0.05	4	0.45	0.67	50	4	4	7.98	4.66	4.88	5.07	5.23	5.52
EPDRE2007-6-005-ATH	□	0.70	0.05	6	0.45	0.67	50	4	4	6.83	6.76	7.03	7.26	7.45	8.04
EPDRE2007-4-01-ATH	□	0.70	0.10	4	0.45	0.67	50	4	4	8.01	4.65	4.88	5.06	5.23	5.51
EPDRE2007-6-01-ATH	□	0.70	0.10	6	0.45	0.67	50	4	4	6.86	6.76	7.03	7.25	7.44	8.02
EPDRE2008-4-002-ATH	□	0.80	0.02	4	0.50	0.77	50	4	4	7.87	4.66	4.88	5.07	5.24	5.52
EPDRE2008-6-002-ATH	□	0.80	0.02	6	0.50	0.77	50	4	4	6.73	6.76	7.03	7.26	7.45	8.05
EPDRE2008-4-005-ATH	●	0.80	0.05	4	0.50	0.77	50	4	4	7.89	4.66	4.88	5.07	5.23	5.52
EPDRE2008-6-005-ATH	●	0.80	0.05	6	0.50	0.77	50	4	4	6.74	6.76	7.03	7.26	7.45	8.04
EPDRE2008-8-005-ATH	□	0.80	0.05	8	0.50	0.77	50	4	4	5.88	8.85	9.16	9.41	9.64	10.69
EPDRE2008-12-005-ATH	□	0.80	0.05	12	0.50	0.77	55	4	4	4.68	13.00	13.38	13.75	14.43	16.00
EPDRE2008-4-01-ATH	●	0.80	0.10	4	0.50	0.77	50	4	4	7.93	4.65	4.88	5.06	5.23	5.51
EPDRE2008-6-01-ATH	●	0.80	0.10	6	0.50	0.77	50	4	4	6.77	6.76	7.03	7.25	7.44	8.02
EPDRE2008-8-01-ATH	●	0.80	0.10	8	0.50	0.77	50	4	4	5.90	8.85	9.16	9.41	9.63	10.67
EPDRE2008-12-01-ATH	□	0.80	0.10	12	0.50	0.77	55	4	4	4.70	13.00	13.38	13.75	14.42	15.98
EPDRE2008-4-02-ATH	●	0.80	0.20	4	0.50	0.77	50	4	4	8.00	4.65	4.87	5.05	5.21	5.50
EPDRE2008-6-02-ATH	●	0.80	0.20	6	0.50	0.77	50	4	4	6.82	6.75	7.02	7.24	7.43	7.99
EPDRE2008-8-02-ATH	□	0.80	0.20	8	0.50	0.77	50	4	4	5.94	8.84	9.15	9.40	9.62	10.64
EPDRE2008-12-02-ATH	□	0.80	0.20	12	0.50	0.77	55	4	4	4.72	12.99	13.37	13.73	14.40	15.95
EPDRE2010-2-002-ATH	□	1.00	0.02	2	0.80	0.94	50	4	4	9.29	2.64	2.78	2.91	3.03	3.24
EPDRE2010-4-002-ATH	□	1.00	0.02	4	0.80	0.94	50	4	4	7.65	4.75	4.95	5.13	5.29	5.56
EPDRE2010-6-002-ATH	□	1.00	0.02	6	0.80	0.94	50	4	4	6.50	6.84	7.09	7.31	7.49	8.14
EPDRE2010-8-002-ATH	□	1.00	0.02	8	0.80	0.94	50	4	4	5.65	8.92	9.21	9.46	9.73	10.79
EPDRE2010-10-002-ATH	□	1.00	0.02	10	0.80	0.94	50	4	4	5.00	10.99	11.32	11.59	12.13	13.45
EPDRE2010-12-002-ATH	□	1.00	0.02	12	0.80	0.94	55	4	4	4.48	13.06	13.42	13.84	14.52	16.10
EPDRE2010-2-005-ATH	●	1.00	0.05	2	0.80	0.94	50	4	4	9.32	2.64	2.78	2.91	3.02	3.24
EPDRE2010-3-005-ATH	□	1.00	0.05	3	0.80	0.94	50	4	4	8.41	3.70	3.87	4.02	4.16	4.41
EPDRE2010-4-005-ATH	●	1.00	0.05	4	0.80	0.94	50	4	4	7.67	4.75	4.95	5.13	5.28	5.56
EPDRE2010-5-005-ATH	□	1.00	0.05	5	0.80	0.94	50	4	4	7.04	5.79	6.02	6.22	6.39	6.80
EPDRE2010-6-005-ATH	●	1.00	0.05	6	0.80	0.94	50	4	4	6.51	6.84	7.09	7.30	7.49	8.13
EPDRE2010-8-005-ATH	●	1.00	0.05	8	0.80	0.94	50	4	4	5.66	8.92	9.21	9.46	9.73	10.78

□ = Stocked items in Japan

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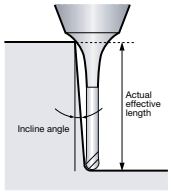

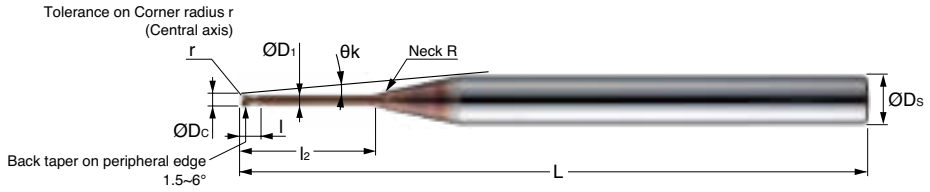

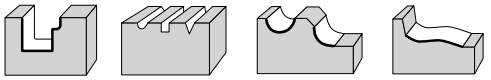

Helix Angle	30°	ϕDs	h5
r	±0.005		

Part No.	Stock	Size (mm) D_c	r	l_2	l	D_1	L	D_s	Neck R	θk	Actual Effective Length in Incline Angles 0.5°	1°	1.5°	2°	3°
EPDRE2010-10-005-ATH	□	1.00	0.05	10	0.8	0.94	50	4	4	5.00	10.99	11.32	11.59	12.12	13.44
EPDRE2010-12-005-ATH	□	1.00	0.05	12	0.8	0.94	55	4	4	4.48	13.06	13.42	13.84	14.51	16.09
EPDRE2010-16-005-ATH	□	1.00	0.05	16	0.8	0.94	60	4	4	3.71	17.18	17.60	18.40	19.30	21.40
EPDRE2010-20-005-ATH	□	1.00	0.05	20	0.8	0.94	60	4	4	3.17	21.29	21.93	22.96	24.09	26.71
EPDRE2010-2-01-ATH	□	1.00	0.10	2	0.8	0.94	50	4	4	9.37	2.64	2.78	2.90	3.01	3.23
EPDRE2010-3-01-ATH	□	1.00	0.10	3	0.8	0.94	50	4	4	8.45	3.69	3.87	4.02	4.15	4.40
EPDRE2010-4-01-ATH	●	1.00	0.10	4	0.8	0.94	50	4	4	7.70	4.74	4.95	5.12	5.28	5.55
EPDRE2010-5-01-ATH	□	1.00	0.10	5	0.8	0.94	50	4	4	7.07	5.79	6.02	6.21	6.39	6.79
EPDRE2010-6-01-ATH	●	1.00	0.10	6	0.8	0.94	50	4	4	6.54	6.83	7.09	7.30	7.49	8.11
EPDRE2010-8-01-ATH	●	1.00	0.10	8	0.8	0.94	50	4	4	5.68	8.91	9.21	9.45	9.72	10.77
EPDRE2010-10-01-ATH	●	1.00	0.10	10	0.8	0.94	50	4	4	5.02	10.99	11.32	11.59	12.11	13.42
EPDRE2010-12-01-ATH	●	1.00	0.10	12	0.8	0.94	55	4	4	4.50	13.06	13.42	13.83	14.50	16.08
EPDRE2010-16-01-ATH	□	1.00	0.10	16	0.8	0.94	60	4	4	3.72	17.18	17.60	18.39	19.29	21.39
EPDRE2010-20-01-ATH	□	1.00	0.10	20	0.8	0.94	60	4	4	3.17	21.29	21.93	22.95	24.08	26.70
EPDRE2010-2-02-ATH	□	1.00	0.20	2	0.8	0.94	50	4	4	9.47	2.63	2.77	2.89	3.00	3.21
EPDRE2010-3-02-ATH	□	1.00	0.20	3	0.8	0.94	50	4	4	8.54	3.69	3.86	4.01	4.14	4.39
EPDRE2010-4-02-ATH	●	1.00	0.20	4	0.8	0.94	50	4	4	7.77	4.74	4.94	5.11	5.27	5.54
EPDRE2010-5-02-ATH	□	1.00	0.20	5	0.8	0.94	50	4	4	7.13	5.79	6.01	6.21	6.38	6.75
EPDRE2010-6-02-ATH	●	1.00	0.20	6	0.8	0.94	50	4	4	6.59	6.83	7.08	7.29	7.48	8.08
EPDRE2010-8-02-ATH	●	1.00	0.20	8	0.8	0.94	50	4	4	5.72	8.91	9.20	9.45	9.70	10.74
EPDRE2010-10-02-ATH	●	1.00	0.20	10	0.8	0.94	50	4	4	5.05	10.98	11.32	11.58	12.09	13.39
EPDRE2010-12-02-ATH	●	1.00	0.20	12	0.8	0.94	55	4	4	4.52	13.05	13.42	13.81	14.48	16.05
EPDRE2010-16-02-ATH	□	1.00	0.20	16	0.8	0.94	60	4	4	3.74	17.18	17.59	18.38	19.27	21.35
EPDRE2010-20-02-ATH	□	1.00	0.20	20	0.8	0.94	60	4	4	3.19	21.29	21.92	22.94	24.06	26.66
EPDRE2010-2-03-ATH	□	1.00	0.30	2	0.8	0.94	50	4	4	9.57	2.63	2.76	2.87	2.98	3.19
EPDRE2010-3-03-ATH	□	1.00	0.30	3	0.8	0.94	50	4	4	8.62	3.68	3.85	3.99	4.13	4.37
EPDRE2010-4-03-ATH	□	1.00	0.30	4	0.8	0.94	50	4	4	7.84	4.73	4.93	5.10	5.25	5.53
EPDRE2010-5-03-ATH	□	1.00	0.30	5	0.8	0.94	50	4	4	7.19	5.78	6.01	6.20	6.37	6.72
EPDRE2010-6-03-ATH	●	1.00	0.30	6	0.8	0.94	50	4	4	6.64	6.82	7.07	7.28	7.47	8.05
EPDRE2010-8-03-ATH	□	1.00	0.30	8	0.8	0.94	50	4	4	5.75	8.91	9.20	9.44	9.68	10.70

□ = Stocked items in Japan

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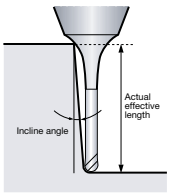

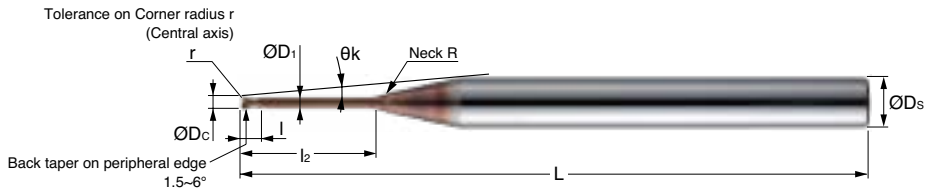

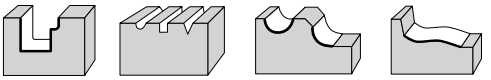

Helix Angle	30°	ϕDs	h5
r	±0.005		

		Size (mm)							Neck		Actual Effective Length in Incline Angles				
Part No.	Stock	D_c	r	l_2	l	D_1	L	D_s	R	θk	0.5°	1°	1.5°	2°	3°
EPDRE2010-10-03-ATH	●	1.00	0.3	10	0.80	0.94	50	4	4	5.08	10.98	11.31	11.58	12.07	13.36
EPDRE2010-12-03-ATH	□	1.00	0.3	12	0.80	0.94	55	4	4	4.54	13.05	13.41	13.80	14.46	16.01
EPDRE2010-16-03-ATH	□	1.00	0.3	16	0.80	0.94	60	4	4	3.75	17.17	17.59	18.36	19.25	21.32
EPDRE2010-20-03-ATH	□	1.00	0.3	20	0.80	0.94	60	4	4	3.20	21.28	21.91	22.92	24.04	26.63
EPDRE20125-5-01-ATH	□	1.25	0.1	5	1.15	1.18	50	4	4	6.80	5.81	6.04	6.23	6.40	6.82
EPDRE20125-10-01-ATH	□	1.25	0.1	10	1.15	1.18	50	4	4	4.76	11.01	11.34	11.60	12.14	13.45
EPDRE20125-15-01-ATH	□	1.25	0.1	15	1.15	1.18	55	4	4	3.66	16.17	16.57	17.28	18.12	20.09
EPDRE20125-20-01-ATH	□	1.25	0.1	20	1.15	1.18	60	4	4	2.97	21.30	21.95	22.98	24.10	-
EPDRE20125-5-02-ATH	□	1.25	0.2	5	1.15	1.18	50	4	4	6.86	5.81	6.03	6.22	6.39	6.79
EPDRE20125-10-02-ATH	□	1.25	0.2	10	1.15	1.18	50	4	4	4.79	11.00	11.33	11.59	12.12	13.42
EPDRE20125-15-02-ATH	□	1.25	0.2	15	1.15	1.18	55	4	4	3.68	16.16	16.56	17.26	18.10	20.06
EPDRE20125-20-02-ATH	□	1.25	0.2	20	1.15	1.18	60	4	4	2.98	21.30	21.95	22.97	24.09	-
EPDRE20125-5-03-ATH	□	1.25	0.3	5	1.15	1.18	50	4	4	6.92	5.81	6.03	6.21	6.38	6.75
EPDRE20125-10-03-ATH	□	1.25	0.3	10	1.15	1.18	50	4	4	4.82	11.00	11.32	11.59	12.10	13.39
EPDRE20125-15-03-ATH	□	1.25	0.3	15	1.15	1.18	55	4	4	3.69	16.16	16.56	17.25	18.08	20.03
EPDRE20125-20-03-ATH	□	1.25	0.3	20	1.15	1.18	60	4	4	2.99	21.30	21.94	22.95	24.07	-
EPDRE2015-4-01-ATH	●	1.50	0.1	4	1.35	1.42	50	4	4	7.15	4.80	4.99	5.16	5.31	5.58
EPDRE2015-6-01-ATH	□	1.50	0.1	6	1.35	1.42	50	4	4	5.97	6.88	7.12	7.33	7.51	8.18
EPDRE2015-8-01-ATH	●	1.50	0.1	8	1.35	1.42	50	4	4	5.12	8.96	9.24	9.48	9.77	10.83
EPDRE2015-12-01-ATH	●	1.50	0.1	12	1.35	1.42	55	4	4	3.98	13.09	13.45	13.88	14.56	16.14
EPDRE2015-15-01-ATH	●	1.50	0.1	15	1.35	1.42	55	4	4	3.42	16.18	16.58	17.30	18.15	20.12
EPDRE2015-20-01-ATH	●	1.50	0.1	20	1.35	1.42	60	4	4	2.76	21.32	21.98	23.01	24.13	-
EPDRE2015-4-02-ATH	●	1.50	0.2	4	1.35	1.42	50	4	4	7.22	4.79	4.98	5.15	5.30	5.57
EPDRE2015-6-02-ATH	□	1.50	0.2	6	1.35	1.42	50	4	4	6.02	6.88	7.12	7.32	7.50	8.14
EPDRE2015-8-02-ATH	●	1.50	0.2	8	1.35	1.42	50	4	4	5.16	8.95	9.24	9.47	9.75	10.80
EPDRE2015-12-02-ATH	●	1.50	0.2	12	1.35	1.42	55	4	4	4.01	13.09	13.44	13.87	14.54	16.11
EPDRE2015-15-02-ATH	●	1.50	0.2	15	1.35	1.42	55	4	4	3.43	16.18	16.58	17.29	18.13	20.09
EPDRE2015-20-02-ATH	●	1.50	0.2	20	1.35	1.42	60	4	4	2.77	21.32	21.97	22.99	24.11	-
EPDRE2015-4-03-ATH	□	1.50	0.3	4	1.35	1.42	50	4	4	7.30	4.79	4.97	5.14	5.29	5.55
EPDRE2015-6-03-ATH	□	1.50	0.3	6	1.35	1.42	50	4	4	6.07	6.87	7.11	7.31	7.49	8.11

□ = Stocked items in Japan

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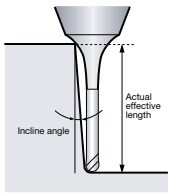

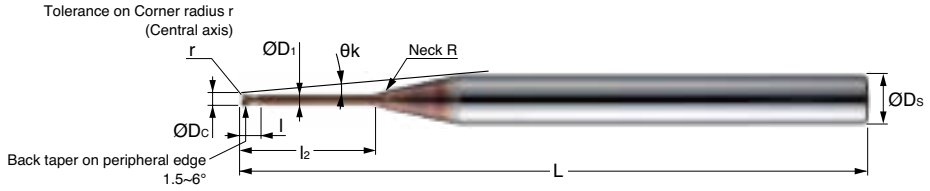

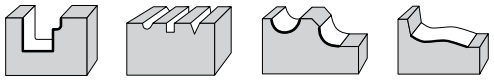

Helix Angle	30°	ϕDs	h5
r	±0.005		

Part No.	Stock	Size (mm) D_c	r	l_2	l	D_1	L	D_s	Neck R	θk	Actual Effective Length in Incline Angles 0.5°	1°	1.5°	2°	3°
EPDRE2015-8-03-ATH	●	1.50	0.3	8	1.35	1.42	50	4	4	5.19	8.95	9.23	9.47	9.73	10.77
EPDRE2015-12-03-ATH	□	1.50	0.3	12	1.35	1.42	55	4	4	4.03	13.09	13.44	13.85	14.52	16.08
EPDRE2015-15-03-ATH	●	1.50	0.3	15	1.35	1.42	55	4	4	3.45	16.18	16.57	17.28	18.11	20.06
EPDRE2015-20-03-ATH	●	1.50	0.3	20	1.35	1.42	60	4	4	2.78	21.31	21.96	22.98	24.09	-
EPDRE2015-4-05-ATH	□	1.50	0.5	4	1.35	1.42	50	4	4	7.45	4.78	4.96	5.12	5.26	5.53
EPDRE2015-6-05-ATH	□	1.50	0.5	6	1.35	1.42	50	4	4	6.17	6.86	7.10	7.30	7.48	8.05
EPDRE2015-8-05-ATH	□	1.50	0.5	8	1.35	1.42	50	4	4	5.27	8.94	9.22	9.45	9.70	10.70
EPDRE2015-12-05-ATH	□	1.50	0.5	12	1.35	1.42	55	4	4	4.07	13.08	13.43	13.83	14.48	16.01
EPDRE2015-15-05-ATH	□	1.50	0.5	15	1.35	1.42	55	4	4	3.48	16.17	16.56	17.25	18.07	19.99
EPDRE2015-20-05-ATH	□	1.50	0.5	20	1.35	1.42	60	4	4	2.80	21.31	21.95	22.95	24.06	-
EPDRE20175-5-01-ATH	□	1.75	0.1	5	1.55	1.67	50	4	4	6.19	5.84	6.06	6.25	6.42	6.85
EPDRE20175-10-01-ATH	□	1.75	0.1	10	1.55	1.67	50	4	4	4.19	11.03	11.35	11.61	12.17	13.49
EPDRE20175-15-01-ATH	□	1.75	0.1	15	1.55	1.67	55	4	4	3.16	16.18	16.58	17.30	18.15	20.12
EPDRE20175-20-01-ATH	□	1.75	0.1	20	1.55	1.67	60	4	4	2.54	21.32	21.98	23.01	24.13	-
EPDRE20175-5-02-ATH	□	1.75	0.2	5	1.55	1.67	50	4	4	6.25	5.84	6.05	6.24	6.41	6.82
EPDRE20175-10-02-ATH	□	1.75	0.2	10	1.55	1.67	50	4	4	4.22	11.02	11.34	11.61	12.15	13.45
EPDRE20175-15-02-ATH	□	1.75	0.2	15	1.55	1.67	55	4	4	3.18	16.18	16.58	17.29	18.13	20.09
EPDRE20175-20-02-ATH	□	1.75	0.2	20	1.55	1.67	60	4	4	2.55	21.32	21.97	22.99	24.11	-
EPDRE20175-5-03-ATH	□	1.75	0.3	5	1.55	1.67	50	4	4	6.31	5.83	6.05	6.23	6.40	6.79
EPDRE20175-10-03-ATH	□	1.75	0.3	10	1.55	1.67	50	4	4	4.24	11.02	11.34	11.60	12.13	13.42
EPDRE20175-15-03-ATH	□	1.75	0.3	15	1.55	1.67	55	4	4	3.20	16.18	16.57	17.28	18.11	20.06
EPDRE20175-20-03-ATH	□	1.75	0.3	20	1.55	1.67	60	4	4	2.56	21.31	21.96	22.98	24.09	-
EPDRE2020-4-01-ATH	□	2.00	0.1	4	1.70	1.92	50	4	4	6.49	4.80	4.99	5.16	5.31	5.58
EPDRE2020-6-01-ATH	□	2.00	0.1	6	1.70	1.92	50	4	4	5.30	6.88	7.12	7.33	7.51	8.18
EPDRE2020-8-01-ATH	□	2.00	0.1	8	1.70	1.92	50	4	4	4.47	8.96	9.24	9.48	9.77	10.83
EPDRE2020-12-01-ATH	□	2.00	0.1	12	1.70	1.92	55	4	4	3.41	13.09	13.45	13.88	14.56	16.14
EPDRE2020-16-01-ATH	□	2.00	0.1	16	1.70	1.92	55	4	4	2.76	17.21	17.62	18.44	19.35	-
EPDRE2020-20-01-ATH	□	2.00	0.1	20	1.70	1.92	60	4	4	2.31	21.32	21.98	23.01	24.13	-
EPDRE2020-25-01-ATH	□	2.00	0.1	25	1.70	1.92	65	4	4	1.93	26.44	27.43	28.71	-	-
EPDRE2020-30-01-ATH	□	2.00	0.1	30	1.70	1.92	70	4	4	1.65	31.55	32.88	34.41	-	-

□ = Stocked items in Japan

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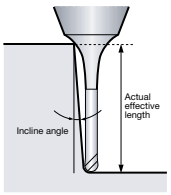

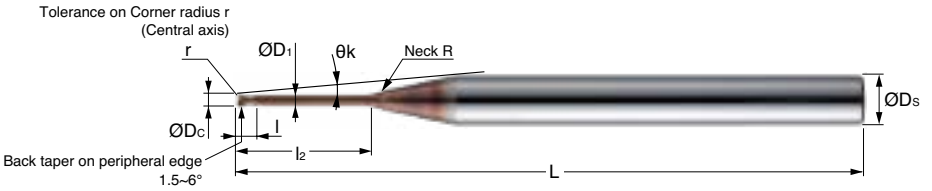

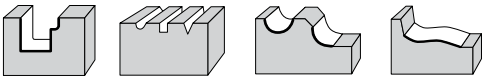

Helix Angle	30°	ϕDs	h5
r	±0.005		

		Size (mm)							Neck		Actual Effective Length in Incline Angles				
Part No.	Stock	D_c	r	l_2	l	D_1	L	D_s	R	θk	0.5°	1°	1.5°	2°	3°
EPDRE2020-4-02-ATH	□	2.00	0.2	4	1.7	1.92	50	4	4	6.57	4.79	4.98	5.15	5.30	5.57
EPDRE2020-6-02-ATH	●	2.00	0.2	6	1.7	1.92	50	4	4	5.35	6.88	7.12	7.32	7.50	8.14
EPDRE2020-8-02-ATH	●	2.00	0.2	8	1.7	1.92	50	4	4	4.51	8.95	9.24	9.47	9.75	10.80
EPDRE2020-12-02-ATH	●	2.00	0.2	12	1.7	1.92	55	4	4	3.43	13.09	13.44	13.87	14.54	16.11
EPDRE2020-16-02-ATH	●	2.00	0.2	16	1.7	1.92	55	4	4	2.77	17.21	17.62	18.43	19.33	-
EPDRE2020-20-02-ATH	●	2.00	0.2	20	1.7	1.92	60	4	4	2.32	21.32	21.97	22.99	24.11	-
EPDRE2020-25-02-ATH	●	2.00	0.2	25	1.7	1.92	65	4	4	1.93	26.44	27.42	28.69	-	-
EPDRE2020-30-02-ATH	□	2.00	0.2	30	1.7	1.92	70	4	4	1.66	31.55	32.87	34.40	-	-
EPDRE2020-4-03-ATH	□	2.00	0.3	4	1.7	1.92	50	4	4	6.64	4.79	4.97	5.14	5.29	5.55
EPDRE2020-6-03-ATH	□	2.00	0.3	6	1.7	1.92	50	4	4	5.40	6.87	7.11	7.31	7.49	8.11
EPDRE2020-8-03-ATH	●	2.00	0.3	8	1.7	1.92	50	4	4	4.55	8.95	9.23	9.47	9.73	10.77
EPDRE2020-12-03-ATH	□	2.00	0.3	12	1.7	1.92	55	4	4	3.45	13.09	13.44	13.85	14.52	16.08
EPDRE2020-16-03-ATH	●	2.00	0.3	16	1.7	1.92	55	4	4	2.79	17.21	17.61	18.42	19.31	-
EPDRE2020-20-03-ATH	●	2.00	0.3	20	1.7	1.92	60	4	4	2.33	21.31	21.96	22.98	24.09	-
EPDRE2020-25-03-ATH	□	2.00	0.3	25	1.7	1.92	65	4	4	1.94	26.43	27.41	28.68	-	-
EPDRE2020-30-03-ATH	□	2.00	0.3	30	1.7	1.92	70	4	4	1.66	31.55	32.86	34.38	-	-
EPDRE2020-6-05-ATH	●	2.00	0.5	6	1.7	1.92	50	4	4	5.50	6.86	7.10	7.30	7.48	8.05
EPDRE2020-8-05-ATH	●	2.00	0.5	8	1.7	1.92	50	4	4	4.62	8.94	9.22	9.45	9.70	10.70
EPDRE2020-12-05-ATH	●	2.00	0.5	12	1.7	1.92	55	4	4	3.50	13.08	13.43	13.83	14.48	16.01
EPDRE2020-16-05-ATH	●	2.00	0.5	16	1.7	1.92	55	4	4	2.81	17.20	17.61	18.39	19.27	-
EPDRE2020-20-05-ATH	●	2.00	0.5	20	1.7	1.92	60	4	4	2.35	21.31	21.95	22.95	24.06	-
EPDRE2020-25-05-ATH	●	2.00	0.5	25	1.7	1.92	65	4	4	1.95	26.43	27.39	28.65	-	-
EPDRE2020-30-05-ATH	□	2.00	0.5	30	1.7	1.92	70	4	4	1.67	31.54	32.84	34.36	-	-
EPDRE2020-6-08-ATH	□	2.00	0.8	6	1.7	1.92	50	4	4	5.66	6.85	7.08	7.27	7.45	7.95
EPDRE2020-8-08-ATH	●	2.00	0.8	8	1.7	1.92	50	4	4	4.73	8.93	9.20	9.43	9.64	10.61
EPDRE2020-12-08-ATH	□	2.00	0.8	12	1.7	1.92	55	4	4	3.56	13.07	13.41	13.78	14.42	15.92
EPDRE2020-16-08-ATH	●	2.00	0.8	16	1.7	1.92	55	4	4	2.85	17.19	17.59	18.35	19.21	-
EPDRE2020-20-08-ATH	●	2.00	0.8	20	1.7	1.92	60	4	4	2.38	21.30	21.92	22.91	24.00	-
EPDRE2020-25-08-ATH	□	2.00	0.8	25	1.7	1.92	65	4	4	1.97	26.42	27.37	28.61	-	-
EPDRE2020-30-08-ATH	□	2.00	0.8	30	1.7	1.92	70	4	4	1.69	31.53	32.81	34.31	-	-

□ = Stocked items in Japan

EPDRE

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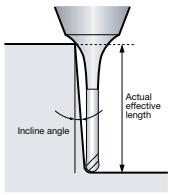

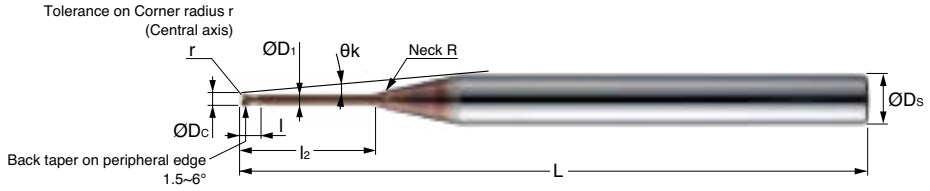

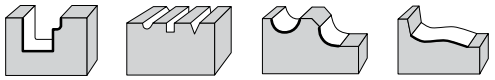

Helix Angle	30°	ϕDs	h5
r	±0.005		

Part No.	Stock	Size (mm) D_c	r	l_2	l	D_1	L	D_s	Neck R	θk	Actual Effective Length in Incline Angles 0.5°	1°	1.5°	2°	3°
EPDRE2025-10-01-ATH	□	2.50	0.1	10	2.0	2.39	50	4	4	3.14	11.08	11.39	11.68	12.25	13.58
EPDRE2025-20-01-ATH	□	2.50	0.1	20	2.0	2.39	60	4	4	1.82	21.36	22.06	23.09	-	-
EPDRE2025-30-01-ATH	□	2.50	0.1	30	2.0	2.39	70	4	4	1.28	31.59	32.95	-	-	-
EPDRE2025-10-02-ATH	□	2.50	0.2	10	2.0	2.39	50	4	4	3.16	11.08	11.39	11.67	12.23	13.55
EPDRE2025-20-02-ATH	□	2.50	0.2	20	2.0	2.39	60	4	4	1.83	21.36	22.05	23.07	-	-
EPDRE2025-30-02-ATH	□	2.50	0.2	30	2.0	2.39	70	4	4	1.28	31.58	32.94	-	-	-
EPDRE2025-10-03-ATH	□	2.50	0.3	10	2.0	2.39	50	4	4	3.19	11.08	11.38	11.65	12.21	13.52
EPDRE2025-20-03-ATH	□	2.50	0.3	20	2.0	2.39	60	4	4	1.83	21.36	22.04	23.06	-	-
EPDRE2025-30-03-ATH	□	2.50	0.3	30	2.0	2.39	70	4	4	1.29	31.58	32.93	-	-	-
EPDRE2025-10-05-ATH	□	2.50	0.5	10	2.0	2.39	50	4	4	3.24	11.07	11.37	11.63	12.17	13.45
EPDRE2025-20-05-ATH	□	2.50	0.5	20	2.0	2.39	60	4	4	1.85	21.35	22.02	23.03	-	-
EPDRE2025-30-05-ATH	□	2.50	0.5	30	2.0	2.39	70	4	4	1.30	31.58	32.92	-	-	-
EPDRE2030-6-01-ATH	□	3.00	0.1	6	2.5	2.86	50	6	4	6.45	7.01	7.23	7.42	7.59	8.36
EPDRE2030-8-01-ATH	□	3.00	0.1	8	2.5	2.86	55	6	4	5.61	9.07	9.34	9.56	9.94	11.02
EPDRE2030-12-01-ATH	□	3.00	0.1	12	2.5	2.86	60	6	4	4.45	13.20	13.53	14.04	14.73	16.33
EPDRE2030-16-01-ATH	□	3.00	0.1	16	2.5	2.86	60	6	4	3.69	17.30	17.78	18.60	19.52	21.64
EPDRE2030-18-01-ATH	□	3.00	0.1	18	2.5	2.86	65	6	4	3.40	19.35	19.96	20.89	21.91	24.29
EPDRE2030-20-01-ATH	□	3.00	0.1	20	2.5	2.86	65	6	4	3.15	21.40	22.13	23.17	24.30	26.95
EPDRE2030-30-01-ATH	□	3.00	0.1	30	2.5	2.86	75	6	4	2.31	31.62	33.03	34.57	36.27	-
EPDRE2030-35-01-ATH	□	3.00	0.1	35	2.5	2.86	80	6	4	2.04	36.83	38.48	40.27	42.25	-
EPDRE2030-6-02-ATH	□	3.00	0.2	6	2.5	2.86	50	6	4	6.49	7.00	7.22	7.41	7.58	8.33
EPDRE2030-8-02-ATH	●	3.00	0.2	8	2.5	2.86	55	6	4	5.65	9.07	9.33	9.55	9.92	10.99
EPDRE2030-12-02-ATH	●	3.00	0.2	12	2.5	2.86	60	6	4	4.48	13.19	13.52	14.03	14.71	16.30
EPDRE2030-16-02-ATH	●	3.00	0.2	16	2.5	2.86	60	6	4	3.71	17.30	17.77	18.59	19.50	21.60
EPDRE2030-18-02-ATH	□	3.00	0.2	18	2.5	2.86	65	6	4	3.41	19.35	19.95	20.87	21.89	24.26
EPDRE2030-20-02-ATH	●	3.00	0.2	20	2.5	2.86	65	6	4	3.16	21.40	22.13	23.15	24.28	26.91
EPDRE2030-30-02-ATH	●	3.00	0.2	30	2.5	2.86	75	6	4	2.31	31.62	33.02	34.56	36.25	-
EPDRE2030-35-02-ATH	●	3.00	0.2	35	2.5	2.86	80	6	4	2.04	36.83	38.47	40.26	42.23	-
EPDRE2030-6-03-ATH	□	3.00	0.3	6	2.5	2.86	50	6	4	6.54	7.00	7.22	7.40	7.57	8.30
EPDRE2030-8-03-ATH	●	3.00	0.3	8	2.5	2.86	55	6	4	5.68	9.07	9.33	9.54	9.90	10.95

□ = Stocked items in Japan

EPDRE

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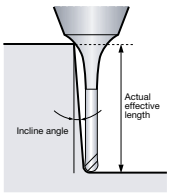

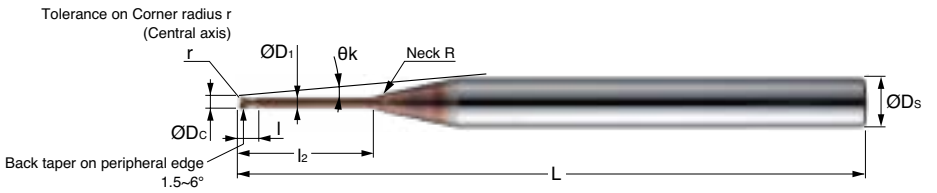

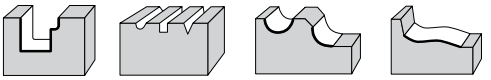

Helix Angle	30°	ϕDs	h5
r	±0.005		

Part No.	Stock	Size (mm) D_c	r	l_2	l	D_1	L	D_s	Neck R	θk	Actual Effective Length in Incline Angles 0.5°	1°	1.5°	2°	3°
EPDRE2030-12-03-ATH	□	3.00	0.3	12	2.5	2.86	60	6	4	4.50	13.19	13.52	14.02	14.69	16.26
EPDRE2030-16-03-ATH	●	3.00	0.3	16	2.5	2.86	60	6	4	3.72	17.30	17.76	18.58	19.48	21.57
EPDRE2030-18-03-ATH	□	3.00	0.3	18	2.5	2.86	65	6	4	3.43	19.35	19.94	20.86	21.87	24.23
EPDRE2030-20-03-ATH	●	3.00	0.3	20	2.5	2.86	65	6	4	3.17	21.40	22.12	23.14	24.26	26.88
EPDRE2030-30-03-ATH	●	3.00	0.3	30	2.5	2.86	75	6	4	2.32	31.62	33.01	34.54	36.23	-
EPDRE2030-35-03-ATH	□	3.00	0.3	35	2.5	2.86	80	6	4	2.05	36.82	38.46	40.25	42.21	-
EPDRE2030-8-05-ATH	●	3.00	0.5	8	2.5	2.86	55	6	4	5.76	9.06	9.31	9.53	9.87	10.89
EPDRE2030-12-05-ATH	●	3.00	0.5	12	2.5	2.86	60	6	4	4.55	13.18	13.51	13.99	14.65	16.20
EPDRE2030-16-05-ATH	●	3.00	0.5	16	2.5	2.86	60	6	4	3.75	17.29	17.74	18.55	19.44	21.51
EPDRE2030-18-05-ATH	□	3.00	0.5	18	2.5	2.86	65	6	4	3.45	19.34	19.92	20.83	21.83	24.16
EPDRE2030-20-05-ATH	●	3.00	0.5	20	2.5	2.86	65	6	4	3.20	21.39	22.10	23.11	24.22	26.82
EPDRE2030-30-05-ATH	●	3.00	0.5	30	2.5	2.86	75	6	4	2.33	31.61	32.99	34.52	36.19	-
EPDRE2030-35-05-ATH	●	3.00	0.5	35	2.5	2.86	80	6	4	2.06	36.82	38.44	40.22	42.17	-
EPDRE2030-8-1-ATH	□	3.00	1.0	8	2.5	2.86	55	6	4	5.96	9.05	9.29	9.50	9.77	10.73
EPDRE2030-12-1-ATH	□	3.00	1.0	12	2.5	2.86	60	6	4	4.67	13.17	13.49	13.92	14.55	16.04
EPDRE2030-16-1-ATH	□	3.00	1.0	16	2.5	2.86	60	6	4	3.84	17.28	17.70	18.48	19.34	21.35
EPDRE2030-18-1-ATH	□	3.00	1.0	18	2.5	2.86	65	6	4	3.52	19.33	19.88	20.76	21.73	24.00
EPDRE2030-20-1-ATH	□	3.00	1.0	20	2.5	2.86	65	6	4	3.26	21.38	22.05	23.04	24.13	26.66
EPDRE2030-30-1-ATH	□	3.00	1.0	30	2.5	2.86	75	6	4	2.37	31.60	32.95	34.45	36.09	-
EPDRE2030-35-1-ATH	□	3.00	1.0	35	2.5	2.86	80	6	4	2.08	36.79	38.40	40.15	42.08	-
EPDRE2040-8-01-ATH	□	4.00	0.1	8	3.5	3.80	55	6	4	4.38	9.18	9.42	9.64	10.11	11.21
EPDRE2040-12-01-ATH	□	4.00	0.1	12	3.5	3.80	60	6	4	3.36	13.29	13.60	14.20	14.90	16.51
EPDRE2040-16-01-ATH	□	4.00	0.1	16	3.5	3.80	60	6	4	2.72	17.39	17.93	18.77	19.68	-
EPDRE2040-20-01-ATH	□	4.00	0.1	20	3.5	3.80	65	6	4	2.29	21.48	22.29	23.33	24.47	-
EPDRE2040-30-01-ATH	□	4.00	0.1	30	3.5	3.80	75	6	4	1.64	31.77	33.18	34.73	-	-
EPDRE2040-35-01-ATH	□	4.00	0.1	35	3.5	3.80	80	6	4	1.43	36.98	38.63	-	-	-
EPDRE2040-45-01-ATH	□	4.00	0.1	45	3.5	3.80	90	6	4	1.15	47.41	49.52	-	-	-
EPDRE2040-8-02-ATH	□	4.00	0.2	8	3.5	3.80	55	6	4	4.41	9.18	9.42	9.63	10.09	11.17
EPDRE2040-12-02-ATH	□	4.00	0.2	12	3.5	3.80	60	6	4	3.38	13.29	13.59	14.19	14.88	16.48
EPDRE2040-16-02-ATH	□	4.00	0.2	16	3.5	3.80	60	6	4	2.73	17.39	17.92	18.75	19.66	-

□ = Stocked items in Japan

EPDRE

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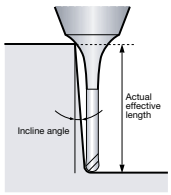

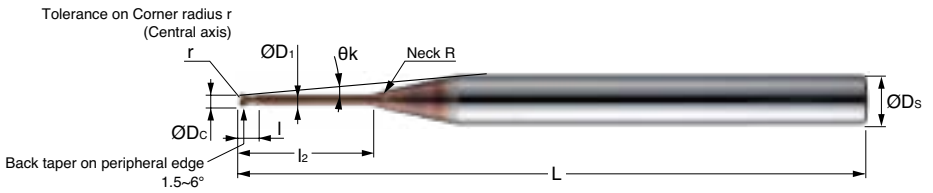

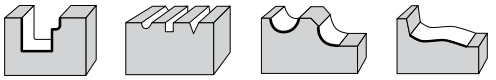

Helix Angle	30°	ϕDs	h5
r	±0.005		

Part No.	Stock	Size (mm) D_c	r	l_2	l	D_1	L	D_s	Neck R	θk	Actual Effective Length in Incline Angles 0.5°	1°	1.5°	2°	3°
EPDRE2040-20-02-ATH	☐	4.00	0.2	20	3.5	3.80	65	6	4	2.30	21.48	22.28	23.31	24.45	-
EPDRE2040-30-02-ATH	☐	4.00	0.2	30	3.5	3.80	75	6	4	1.64	31.76	33.17	34.72	-	-
EPDRE2040-35-02-ATH	☐	4.00	0.2	35	3.5	3.80	80	6	4	1.44	36.98	38.62	-	-	-
EPDRE2040-45-02-ATH	☐	4.00	0.2	45	3.5	3.80	90	6	4	1.15	47.40	49.52	-	-	-
EPDRE2040-8-03-ATH	☐	4.00	0.3	8	3.5	3.80	55	6	4	4.45	9.17	9.41	9.62	10.07	11.14
EPDRE2040-12-03-ATH	☐	4.00	0.3	12	3.5	3.80	60	6	4	3.40	13.28	13.59	14.18	14.86	16.45
EPDRE2040-16-03-ATH	☐	4.00	0.3	16	3.5	3.80	60	6	4	2.75	17.38	17.91	18.74	19.65	-
EPDRE2040-20-03-ATH	☐	4.00	0.3	20	3.5	3.80	65	6	4	2.31	21.48	22.27	23.30	24.43	-
EPDRE2040-30-03-ATH	☐	4.00	0.3	30	3.5	3.80	75	6	4	1.65	31.76	33.16	34.71	-	-
EPDRE2040-35-03-ATH	☐	4.00	0.3	35	3.5	3.80	80	6	4	1.44	36.97	38.61	-	-	-
EPDRE2040-45-03-ATH	☐	4.00	0.3	45	3.5	3.80	90	6	4	1.15	47.40	49.51	-	-	-
EPDRE2040-12-05-ATH	☐	4.00	0.5	12	3.5	3.80	60	6	4	3.44	13.28	13.58	14.15	14.82	16.39
EPDRE2040-16-05-ATH	☐	4.00	0.5	16	3.5	3.80	60	6	4	2.77	17.38	17.89	18.71	19.61	-
EPDRE2040-20-05-ATH	☐	4.00	0.5	20	3.5	3.80	65	6	4	2.33	21.47	22.25	23.27	24.39	-
EPDRE2040-30-05-ATH	☐	4.00	0.5	30	3.5	3.80	75	6	4	1.66	31.75	33.15	34.68	-	-
EPDRE2040-35-05-ATH	☐	4.00	0.5	35	3.5	3.80	80	6	4	1.45	36.96	38.59	-	-	-
EPDRE2040-45-05-ATH	☐	4.00	0.5	45	3.5	3.80	90	6	4	1.16	47.39	49.49	-	-	-
EPDRE2040-12-1-ATH	☐	4.00	1.0	12	3.5	3.80	60	6	4	3.54	13.27	13.56	14.08	14.72	16.23
EPDRE2040-16-1-ATH	☐	4.00	1.0	16	3.5	3.80	60	6	4	2.84	17.37	17.85	18.64	19.51	-
EPDRE2040-20-1-ATH	☐	4.00	1.0	20	3.5	3.80	65	6	4	2.37	21.46	22.21	23.20	24.30	-
EPDRE2040-30-1-ATH	☐	4.00	1.0	30	3.5	3.80	75	6	4	1.68	31.73	33.10	34.61	-	-
EPDRE2040-35-1-ATH	☐	4.00	1.0	35	3.5	3.80	80	6	4	1.47	36.94	38.55	-	-	-
EPDRE2040-45-1-ATH	☐	4.00	1.0	45	3.5	3.80	90	6	4	1.17	47.37	49.44	-	-	-
EPDRE2050-20-01-ATH	☐	5.00	0.1	20	4.0	4.75	65	6	4	1.26	21.54	22.42	-	-	-
EPDRE2050-40-01-ATH	☐	5.00	0.1	40	4.0	4.75	85	6	4	0.67	42.32	-	-	-	-
EPDRE2050-20-02-ATH	☐	5.00	0.2	20	4.0	4.75	65	6	4	1.26	21.54	22.41	-	-	-
EPDRE2050-40-02-ATH	☐	5.00	0.2	40	4.0	4.75	85	6	4	0.68	42.31	-	-	-	-
EPDRE2050-20-03-ATH	☐	5.00	0.3	20	4.0	4.75	65	6	4	1.27	21.54	22.40	-	-	-
EPDRE2050-40-03-ATH	☐	5.00	0.3	40	4.0	4.75	85	6	4	0.68	42.31	-	-	-	-
EPDRE2050-20-05-ATH	☐	5.00	0.5	20	4.0	4.75	65	6	4	1.28	21.54	22.38	-	-	-

☐ = Stocked items in Japan

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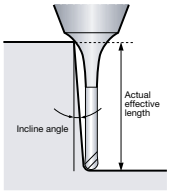

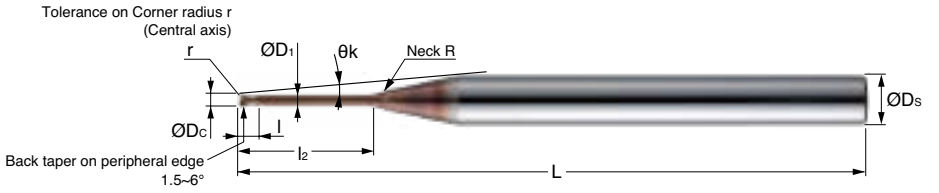

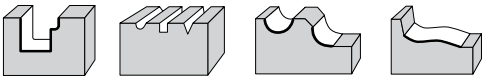

Helix Angle	30°	ϕDs	h5
r	±0.005		

Part No.	Stock	Size (mm)							Neck		Actual Effective Length in Incline Angles				
		D_c	r	l_2	l	D_1	L	D_s	R	θk	0.5°	1°	1.5°	2°	3°
EPDRE2050-40-05-ATH	☐	5.00	0.5	40	4	4.75	85	6	4	0.68	42.30	-	-	-	-
EPDRE2050-20-1-ATH	☐	5.00	1.0	20	4	4.75	65	6	4	1.31	21.53	22.34	-	-	-
EPDRE2050-40-1-ATH	☐	5.00	1.0	40	4	4.75	85	6	4	0.69	42.28	-	-	-	-
EPDRE2060-12-01-ATH	☐	6.00	0.1	12	5	5.70	50	6	-	0.01	-	-	-	-	-
EPDRE2060-18-01-ATH	☐	6.00	0.1	18	5	5.70	60	6	-	0.01	-	-	-	-	-
EPDRE2060-24-01-ATH	☐	6.00	0.1	24	5	5.70	70	6	-	0.01	-	-	-	-	-
EPDRE2060-35-01-ATH	☐	6.00	0.1	35	5	5.70	80	6	-	0.01	-	-	-	-	-
EPDRE2060-55-01-ATH	☐	6.00	0.1	55	5	5.70	100	6	-	0.01	-	-	-	-	-
EPDRE2060-12-02-ATH	☐	6.00	0.2	12	5	5.70	50	6	-	0.01	-	-	-	-	-
EPDRE2060-18-02-ATH	☐	6.00	0.2	18	5	5.70	60	6	-	0.01	-	-	-	-	-
EPDRE2060-24-02-ATH	☐	6.00	0.2	24	5	5.70	70	6	-	0.01	-	-	-	-	-
EPDRE2060-35-02-ATH	☐	6.00	0.2	35	5	5.70	80	6	-	0.01	-	-	-	-	-
EPDRE2060-55-02-ATH	☐	6.00	0.2	55	5	5.70	100	6	-	0.01	-	-	-	-	-
EPDRE2060-12-03-ATH	☐	6.00	0.3	12	5	5.70	50	6	-	0.01	-	-	-	-	-
EPDRE2060-18-03-ATH	☐	6.00	0.3	18	5	5.70	60	6	-	0.01	-	-	-	-	-
EPDRE2060-24-03-ATH	☐	6.00	0.3	24	5	5.70	70	6	-	0.01	-	-	-	-	-
EPDRE2060-35-03-ATH	☐	6.00	0.3	35	5	5.70	80	6	-	0.01	-	-	-	-	-
EPDRE2060-55-03-ATH	☐	6.00	0.3	55	5	5.70	100	6	-	0.01	-	-	-	-	-
EPDRE2060-18-05-ATH	☐	6.00	0.5	18	5	5.70	60	6	-	0.01	-	-	-	-	-
EPDRE2060-24-05-ATH	☐	6.00	0.5	24	5	5.70	70	6	-	0.01	-	-	-	-	-
EPDRE2060-35-05-ATH	☐	6.00	0.5	35	5	5.70	80	6	-	0.01	-	-	-	-	-
EPDRE2060-55-05-ATH	☐	6.00	0.5	55	5	5.70	100	6	-	0.01	-	-	-	-	-
EPDRE2060-18-1-ATH	☐	6.00	1.0	18	5	5.70	60	6	-	0.01	-	-	-	-	-
EPDRE2060-24-1-ATH	☐	6.00	1.0	24	5	5.70	70	6	-	0.01	-	-	-	-	-
EPDRE2060-35-1-ATH	☐	6.00	1.0	35	5	5.70	80	6	-	0.01	-	-	-	-	-
EPDRE2060-55-1-ATH	☐	6.00	1.0	55	5	5.70	100	6	-	0.01	-	-	-	-	-

☐ = Stocked items in Japan

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High Efficiency (Metric)

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Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
0.2	**0.02**	0.5	0.016	50,000	922	50,000	922	45,000	829	42,500	705	37,500	553	35,000	452
0.2	**0.02**	1.0	0.011	50,000	922	50,000	922	45,000	829	42,500	705	37,500	553	35,000	452
0.2	**0.02**	2.0	0.007	50,000	809	42,000	774	40,500	746	38,250	635	33,750	498	31,500	406
0.2	**0.05**	0.5	0.020	50,000	922	50,000	922	45,000	829	42,500	705	37,500	553	35,000	452
0.2	**0.05**	1.0	0.014	50,000	922	50,000	922	45,000	829	42,500	705	37,500	553	35,000	452
0.2	**0.05**	1.5	0.008	50,000	809	47,000	866	42,750	788	40,375	670	35,625	525	33,250	429
0.2	**0.05**	2.0	0.008	50,000	809	42,000	774	40,500	746	38,250	635	33,750	498	31,500	406
0.3	**0.02**	1.0	0.016	50,000	1,208	48,000	1,161	43,200	1,045	40,800	733	36,000	547	33,600	441
0.3	**0.02**	2.0	0.011	45,000	998	38,880	860	34,992	774	33,048	594	29,160	443	27,216	357
0.3	**0.02**	3.0	0.007	42,750	881	36,936	760	33,242	684	31,396	525	27,702	392	25,855	316
0.3	**0.05**	1.0	0.021	50,000	1,208	48,000	1,161	43,200	1,045	40,800	733	36,000	547	33,600	441
0.3	**0.05**	1.5	0.016	47,500	1,147	45,600	1,103	41,040	993	38,760	697	34,200	520	31,920	419
0.3	**0.05**	2.0	0.012	45,000	998	38,880	860	34,992	774	33,048	594	29,160	443	27,216	357
0.3	**0.05**	2.5	0.010	45,000	998	38,880	860	34,992	774	33,048	594	29,160	443	27,216	357
0.3	**0.05**	3.0	0.008	42,750	881	36,936	760	33,242	684	31,396	525	27,702	392	25,855	316
0.4	**0.02**	1.0	0.016	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.4	**0.02**	2.0	0.013	46,080	1,115	38,300	929	34,560	836	32,256	714	28,800	557	26,726	457
0.4	**0.02**	3.0	0.010	35,250	780	29,325	649	26,437	585	24,675	499	22,031	390	20,445	320
0.4	**0.02**	4.0	0.007	29,029	642	24,150	535	21,772	481	20,320	411	18,143	321	16,837	263
0.4	**0.05**	1.0	0.025	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.4	**0.05**	1.5	0.020	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.4	**0.05**	2.0	0.016	46,080	1,115	38,300	929	34,560	836	32,256	714	28,800	557	26,726	457
0.4	**0.05**	2.5	0.015	43,200	1,062	36,000	885	32,400	796	30,600	677	27,000	531	25,200	434
0.4	**0.05**	3.0	0.014	35,250	780	29,325	649	26,437	585	24,675	499	22,031	390	20,445	320
0.4	**0.05**	3.5	0.012	33,048	731	27,540	609	24,786	548	23,409	467	20,655	365	19,278	299
0.4	**0.05**	4.0	0.008	29,029	642	24,150	535	21,772	481	20,320	411	18,143	321	16,837	263
0.4	**0.10**	1.0	0.033	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.4	**0.10**	2.0	0.028	46,080	1,115	38,300	929	34,560	836	32,256	714	28,800	557	26,726	457
0.4	**0.10**	3.0	0.016	35,250	780	29,325	649	26,437	585	24,675	499	22,031	390	20,445	320
0.4	**0.10**	4.0	0.010	29,029	642	24,150	535	21,772	481	20,320	411	18,143	321	16,837	263
0.5	**0.02**	1.0	0.016	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.5	**0.02**	2.0	0.013	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.5	**0.02**	3.0	0.010	37,325	1,000	31,104	839	27,994	750	26,438	634	23,328	473	21,773	381
0.5	**0.02**	4.0	0.008	33,178	889	27,648	746	24,883	666	23,501	563	20,736	420	19,354	339
0.5	**0.02**	6.0	0.006	25,805	666	21,504	555	19,354	499	18,278	320	16,128	282	15,053	222
0.5	**0.05**	1.0	0.030	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.5	**0.05**	2.0	0.023	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.5	**0.05**	3.0	0.017	37,325	1,000	31,104	839	27,994	750	26,438	634	23,328	473	21,773	381
0.5	**0.05**	4.0	0.017	33,178	889	27,648	746	24,883	666	23,501	563	20,736	420	19,354	339
0.5	**0.05**	5.0	0.011	29,030	778	24,192	653	21,773	583	20,563	493	18,144	368	16,934	297
0.5	**0.05**	6.0	0.008	25,805	666	21,504	555	19,354	499	18,278	320	16,128	282	15,053	222

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Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
0.5	**0.10**	1	0.035	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.5	**0.10**	2	0.030	46,080	1,239	38,300	1,032	34,560	929	32,256	793	28,800	620	26,726	508
0.5	**0.10**	3	0.020	37,325	1,000	31,104	839	27,994	750	26,438	634	23,328	473	21,773	381
0.5	**0.10**	4	0.020	33,178	889	27,648	746	24,883	666	23,501	563	20,736	420	19,354	339
0.5	**0.10**	5	0.013	29,030	778	24,192	653	21,773	583	20,563	493	18,144	368	16,934	297
0.5	**0.10**	6	0.013	25,805	666	21,504	555	19,354	499	18,278	320	16,128	282	15,053	222
0.6	**0.02**	2	0.016	46,080	1,751	38,300	1,455	34,560	1,313	32,256	991	28,800	774	26,726	635
0.6	**0.02**	4	0.013	37,325	1,376	31,104	1,147	27,994	1,032	26,438	792	23,328	591	21,773	477
0.6	**0.02**	6	0.010	29,030	1,070	24,192	892	21,773	803	20,563	616	18,144	460	16,934	371
0.6	**0.05**	2	0.028	46,080	1,751	38,300	1,455	34,560	1,313	32,256	991	28,800	774	26,726	635
0.6	**0.05**	4	0.019	37,325	1,376	31,104	1,147	27,994	1,032	26,438	792	23,328	591	21,773	477
0.6	**0.05**	6	0.012	29,030	1,070	24,192	892	21,773	803	20,563	616	18,144	460	16,934	371
0.6	**0.05**	8	0.010	27,579	1,017	22,982	847	20,684	763	19,535	585	17,237	437	16,088	352
0.6	**0.05**	10	0.007	24,676	814	20,563	678	18,507	610	17,479	489	15,422	355	14,394	287
0.6	**0.10**	2	0.035	46,080	1,751	38,300	1,455	34,560	1,313	32,256	991	28,800	774	26,726	635
0.6	**0.10**	4	0.024	37,325	1,376	31,104	1,147	27,994	1,032	26,438	792	23,328	591	21,773	477
0.6	**0.10**	6	0.015	29,030	1,070	24,192	892	21,773	803	20,563	616	18,144	460	16,934	371
0.6	**0.10**	8	0.013	27,579	1,017	22,982	847	20,684	763	19,535	585	17,237	437	16,088	352
0.6	**0.10**	10	0.009	24,676	814	20,563	678	18,507	610	17,479	489	15,422	355	14,394	287
0.7	**0.05**	4	0.024	37,325	1,376	31,104	1,147	27,994	1,032	26,438	792	23,328	591	21,773	477
0.7	**0.05**	6	0.015	29,030	1,070	24,192	892	21,773	803	20,563	616	18,144	460	16,934	371
0.7	**0.10**	4	0.029	37,325	1,376	31,104	1,147	27,994	1,032	26,438	792	23,328	591	21,773	477
0.7	**0.10**	6	0.018	29,030	1,070	24,192	892	21,773	803	20,563	616	18,144	460	16,934	371
0.8	**0.02**	4	0.016	48,000	1,769	40,000	1,475	36,000	1,327	34,000	1,128	30,000	885	28,000	723
0.8	**0.02**	6	0.013	36,720	1,218	30,600	1,015	27,540	914	26,010	863	22,950	677	21,420	553
0.8	**0.05**	4	0.026	48,000	1,769	40,000	1,475	36,000	1,327	34,000	1,128	30,000	885	28,000	723
0.8	**0.05**	6	0.015	36,720	1,218	30,600	1,015	27,540	914	26,010	863	22,950	677	21,420	553
0.8	**0.05**	8	0.012	29,376	906	24,480	755	22,032	680	20,808	642	18,360	504	17,136	411
0.8	**0.05**	12	0.010	26,438	759	22,032	632	19,829	569	18,727	537	16,524	421	15,422	344
0.8	**0.10**	4	0.032	48,000	1,769	40,000	1,475	36,000	1,327	34,000	1,128	30,000	885	28,000	723
0.8	**0.10**	6	0.019	36,720	1,218	30,600	1,015	27,540	914	26,010	863	22,950	677	21,420	553
0.8	**0.10**	8	0.015	29,376	906	24,480	755	22,032	680	20,808	642	18,360	504	17,136	411
0.8	**0.10**	12	0.012	26,438	759	22,032	632	19,829	569	18,727	537	16,524	421	15,422	344
0.8	**0.20**	4	0.056	48,000	1,769	40,000	1,475	36,000	1,327	34,000	1,128	30,000	885	28,000	723
0.8	**0.20**	6	0.032	36,720	1,218	30,600	1,015	27,540	914	26,010	863	22,950	677	21,420	553
0.8	**0.20**	8	0.018	29,376	906	24,480	755	22,032	680	20,808	642	18,360	504	17,136	411
0.8	**0.20**	12	0.015	26,438	759	22,032	632	19,829	569	18,727	537	16,524	421	15,422	344
1.0	**0.02**	2	0.016	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1.0	**0.02**	4	0.013	43,200	2,588	36,000	2,157	32,400	1,941	30,600	1,650	27,000	1,294	25,200	1,057
1.0	**0.02**	6	0.010	34,992	1,887	29,160	1,572	29,299	1,757	24,786	1,336	21,870	1,048	20,412	856
1.0	**0.02**	8	0.008	31,104	1,677	25,920	1,397	26,244	1,415	22,032	1,188	19,440	932	18,144	761

EPDRE

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Cutting Conditions
High Efficiency (Metric)

MOLDINO
The Edge To Innovation

Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
1	**0.02**	10	0.006	27,216	1,467	22,680	1,223	23,328	1,258	19,278	1,039	17,010	815	15,876	666
1	**0.02**	12	0.005	24,192	1,159	20,160	966	20,412	1,100	17,136	719	15,120	634	14,112	507
1	**0.05**	2	0.046	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.05**	3	0.035	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.05**	4	0.027	43,200	2,588	36,000	2,157	32,400	1,941	30,600	1,650	27,000	1,294	25,200	1,057
1	**0.05**	5	0.021	39,808	2,388	31,847	1,910	29,299	1,757	27,707	1,496	24,522	1,177	22,929	963
1	**0.05**	6	0.017	34,992	1,887	29,160	1,572	26,244	1,415	24,786	1,336	21,870	1,048	20,412	856
1	**0.05**	8	0.016	31,104	1,677	25,920	1,397	23,328	1,258	22,032	1,188	19,440	932	18,144	761
1	**0.05**	10	0.011	27,216	1,467	22,680	1,223	20,412	1,100	19,278	1,039	17,010	815	15,876	666
1	**0.05**	12	0.010	24,192	1,159	20,160	966	18,144	870	17,136	719	15,120	634	14,112	507
1	**0.05**	16	0.006	24,192	1,014	20,160	845	18,144	761	17,136	667	15,120	543	14,112	423
1	**0.05**	20	0.004	18,144	761	15,120	634	13,608	571	12,852	500	11,340	408	10,584	317
1	**0.10**	2	0.065	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.10**	3	0.050	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.10**	4	0.038	43,200	2,588	36,000	2,157	32,400	1,941	30,600	1,650	27,000	1,294	25,200	1,057
1	**0.10**	5	0.030	39,808	2,388	31,847	1,910	29,299	1,757	27,707	1,496	24,522	1,177	22,929	963
1	**0.10**	6	0.024	34,992	1,887	29,160	1,572	26,244	1,415	24,786	1,336	21,870	1,048	20,412	856
1	**0.10**	8	0.024	31,104	1,677	25,920	1,397	23,328	1,258	22,032	1,188	19,440	932	18,144	761
1	**0.10**	10	0.015	27,216	1,467	22,680	1,223	20,412	1,100	19,278	1,039	17,010	815	15,876	666
1	**0.10**	12	0.015	24,192	1,159	20,160	966	18,144	870	17,136	719	15,120	634	14,112	507
1	**0.10**	16	0.009	24,192	1,014	20,160	845	18,144	761	17,136	667	15,120	543	14,112	423
1	**0.10**	20	0.006	18,144	761	15,120	634	13,608	571	12,852	500	11,340	408	10,584	317
1	**0.20**	2	0.110	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.20**	3	0.090	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.20**	4	0.070	43,200	2,588	36,000	2,157	32,400	1,941	30,600	1,650	27,000	1,294	25,200	1,057
1	**0.20**	5	0.050	39,808	2,388	31,847	1,910	29,299	1,757	27,707	1,496	24,522	1,177	22,929	963
1	**0.20**	6	0.040	34,992	1,887	29,160	1,572	26,244	1,415	24,786	1,336	21,870	1,048	20,412	856
1	**0.20**	8	0.040	31,104	1,677	25,920	1,397	23,328	1,258	22,032	1,188	19,440	932	18,144	761
1	**0.20**	10	0.025	27,216	1,467	22,680	1,223	20,412	1,100	19,278	1,039	17,010	815	15,876	666
1	**0.20**	12	0.025	24,192	1,159	20,160	966	18,144	870	17,136	719	15,120	634	14,112	507
1	**0.20**	16	0.015	24,192	1,014	20,160	845	18,144	761	17,136	667	15,120	543	14,112	423
1	**0.20**	20	0.010	18,144	761	15,120	634	13,608	571	12,852	500	11,340	408	10,584	317
1	**0.30**	2	0.110	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.30**	3	0.090	47,770	2,866	39,490	2,369	35,668	2,140	33,439	1,805	29,617	1,421	27,707	1,163
1	**0.30**	4	0.070	43,200	2,588	36,000	2,157	32,400	1,941	30,600	1,650	27,000	1,294	25,200	1,057
1	**0.30**	5	0.050	39,808	2,388	31,847	1,910	29,299	1,757	27,707	1,496	24,522	1,177	22,929	963
1	**0.30**	6	0.040	34,992	1,887	29,160	1,572	26,244	1,415	24,786	1,336	21,870	1,048	20,412	856
1	**0.30**	8	0.040	31,104	1,677	25,920	1,397	23,328	1,258	22,032	1,188	19,440	932	18,144	761
1	**0.30**	10	0.025	27,216	1,467	22,680	1,223	20,412	1,100	19,278	1,039	17,010	815	15,876	666
1	**0.30**	12	0.025	24,192	1,159	20,160	966	18,144	870	17,136	719	15,120	634	14,112	507
1	**0.30**	16	0.015	24,192	1,014	20,160	845	18,144	761	17,136	667	15,120	543	14,112	423
1	**0.30**	20	0.010	18,144	761	15,120	634	13,608	571	12,852	500	11,340	408	10,584	317

EPDRE

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Cutting Conditions
High Efficiency (Metric)

MOLDINO
The Edge To Innovation

Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
1.25	**0.1**	5	0.030	39,808	2,388	31,847	1,910	29,299	1,757	27,707	1,496	24,522	1,177	22,929	963
1.25	**0.1**	10	0.015	27,216	1,467	25,920	1,397	20,412	1,100	19,278	1,039	17,010	815	15,876	666
1.25	**0.1**	15	0.010	24,192	1,014	20,160	845	18,144	761	17,136	667	15,120	543	14,112	423
1.25	**0.1**	20	0.006	18,144	761	15,120	634	13,608	571	12,852	500	11,340	408	10,584	317
1.25	**0.2**	5	0.050	39,808	2,388	31,847	1,910	29,299	1,757	27,707	1,496	24,522	1,177	22,929	963
1.25	**0.2**	10	0.025	27,216	1,467	25,920	1,397	20,412	1,100	19,278	1,039	17,010	815	15,876	666
1.25	**0.2**	15	0.016	24,192	1,014	20,160	845	18,144	761	17,136	667	15,120	543	14,112	423
1.25	**0.2**	20	0.010	18,144	761	15,120	634	13,608	571	12,852	500	11,340	408	10,584	317
1.25	**0.3**	5	0.050	39,808	2,388	31,847	1,910	29,299	1,757	27,707	1,496	24,522	1,177	22,929	963
1.25	**0.3**	10	0.025	27,216	1,467	25,920	1,397	20,412	1,100	19,278	1,039	17,010	815	15,876	666
1.25	**0.3**	15	0.016	24,192	1,014	20,160	845	18,144	761	17,136	667	15,120	543	14,112	423
1.25	**0.3**	20	0.010	18,144	761	15,120	634	13,608	571	12,852	500	11,340	408	10,584	317
1.50	**0.1**	4	0.042	33,264	2,153	27,700	1,793	24,948	1,614	23,285	1,378	20,790	1,076	19,293	883
1.50	**0.1**	6	0.040	31,847	2,057	26,539	1,714	23,779	1,536	22,505	1,332	19,957	1,033	18,471	845
1.50	**0.1**	8	0.036	30,240	1,956	25,200	1,630	22,680	1,467	21,420	1,268	18,900	979	17,640	807
1.50	**0.1**	12	0.036	24,192	1,565	20,160	1,304	18,144	1,174	17,136	1,014	15,120	783	14,112	646
1.50	**0.1**	15	0.023	18,816	1,082	15,680	902	14,112	812	13,328	671	11,760	592	10,976	473
1.50	**0.1**	20	0.018	18,816	978	15,680	815	14,112	733	13,328	613	11,760	540	10,976	428
1.50	**0.2**	4	0.070	33,264	2,153	27,700	1,793	24,948	1,614	23,285	1,378	20,790	1,076	19,293	883
1.50	**0.2**	6	0.065	31,847	2,057	26,539	1,714	23,779	1,536	22,505	1,332	19,957	1,033	18,471	845
1.50	**0.2**	8	0.060	30,240	1,956	25,200	1,630	22,680	1,467	21,420	1,268	18,900	979	17,640	807
1.50	**0.2**	12	0.060	24,192	1,565	20,160	1,304	18,144	1,174	17,136	1,014	15,120	783	14,112	646
1.50	**0.2**	15	0.038	18,816	1,082	15,680	902	14,112	812	13,328	671	11,760	592	10,976	473
1.50	**0.2**	20	0.030	18,816	978	15,680	815	14,112	733	13,328	613	11,760	540	10,976	428
1.50	**0.3**	4	0.070	33,264	2,153	27,700	1,793	24,948	1,614	23,285	1,378	20,790	1,076	19,293	883
1.50	**0.3**	6	0.065	31,847	2,057	26,539	1,714	23,779	1,536	22,505	1,332	19,957	1,033	18,471	845
1.50	**0.3**	8	0.060	30,240	1,956	25,200	1,630	22,680	1,467	21,420	1,268	18,900	979	17,640	807
1.50	**0.3**	12	0.060	24,192	1,565	20,160	1,304	18,144	1,174	17,136	1,014	15,120	783	14,112	646
1.50	**0.3**	15	0.038	18,816	1,082	15,680	902	14,112	812	13,328	671	11,760	592	10,976	473
1.50	**0.3**	20	0.030	18,816	978	15,680	815	14,112	733	13,328	613	11,760	540	10,976	428
1.50	**0.5**	4	0.085	33,264	2,153	27,700	1,793	24,948	1,614	23,285	1,378	20,790	1,076	19,293	883
1.50	**0.5**	6	0.080	31,847	2,057	26,539	1,714	23,779	1,536	22,505	1,332	19,957	1,033	18,471	845
1.50	**0.5**	8	0.070	30,240	1,956	25,200	1,630	22,680	1,467	21,420	1,268	18,900	979	17,640	807
1.50	**0.5**	12	0.065	24,192	1,565	20,160	1,304	18,144	1,174	17,136	1,014	15,120	783	14,112	646
1.50	**0.5**	15	0.045	18,816	1,082	15,680	902	14,112	812	13,328	671	11,760	592	10,976	473
1.50	**0.5**	20	0.035	18,816	978	15,680	815	14,112	733	13,328	613	11,760	540	10,976	428
1.75	**0.1**	5	0.040	31,847	2,057	26,539	1,714	23,779	1,536	22,505	1,332	19,957	1,033	18,471	845
1.75	**0.1**	10	0.036	24,192	1,565	20,160	1,304	18,144	1,174	17,136	1,014	15,120	783	14,112	646
1.75	**0.1**	15	0.023	18,816	1,082	15,680	902	14,112	812	13,328	671	11,760	592	10,976	473
1.75	**0.1**	20	0.018	18,816	978	15,680	815	14,112	733	13,328	613	11,760	540	10,976	428
1.75	**0.2**	5	0.065	31,847	2,057	26,539	1,714	23,779	1,536	22,505	1,332	19,957	1,033	18,471	845
1.75	**0.2**	10	0.060	24,192	1,565	20,160	1,304	18,144	1,174	17,136	1,014	15,120	783	14,112	646

EPDRE

EPDRE
Cutting Conditions
High Efficiency (Metric)

MOLDINO
The Edge To Innovation

Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
1.75	**0.2**	15	0.038	18,816	1,082	15,680	902	14,112	812	13,328	671	11,760	592	10,976	473
1.75	**0.2**	20	0.030	18,816	978	15,680	815	14,112	733	13,328	613	11,760	540	10,976	428
1.75	**0.3**	5	0.065	31,847	2,057	26,539	1,714	23,779	1,536	22,505	1,332	19,957	1,033	18,471	845
1.75	**0.3**	10	0.060	24,192	1,565	20,160	1,304	18,144	1,174	17,136	1,014	15,120	783	14,112	646
1.75	**0.3**	15	0.038	18,816	1,082	15,680	902	14,112	812	13,328	671	11,760	592	10,976	473
1.75	**0.3**	20	0.030	18,816	978	15,680	815	14,112	733	13,328	613	11,760	540	10,976	428
1.75	**0.1**	4	0.080	28,662	3,221	24,203	2,720	21,815	2,452	20,541	2,308	18,152	1,630	17,038	1,339
1.75	**0.1**	6	0.070	27,720	3,114	23,100	2,595	20,790	2,335	19,635	2,205	17,325	1,557	16,170	1,271
1.75	**0.1**	8	0.055	25,200	2,830	21,000	2,359	18,900	2,123	17,850	2,005	15,750	1,415	14,700	1,156
1.75	**0.1**	12	0.030	20,412	2,063	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
1.75	**0.1**	16	0.030	18,144	1,834	15,120	1,528	13,608	1,376	12,852	1,299	11,340	1,019	10,584	832
1.75	**0.1**	20	0.025	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
1.75	**0.1**	25	0.015	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
1.75	**0.1**	30	0.010	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.00	**0.2**	4	0.100	28,662	3,221	24,203	2,720	21,815	2,452	20,541	2,308	18,152	1,630	17,038	1,339
2.00	**0.2**	6	0.080	27,720	3,114	23,100	2,595	20,790	2,335	19,635	2,205	17,325	1,557	16,170	1,271
2.00	**0.2**	8	0.070	25,200	2,830	21,000	2,359	18,900	2,123	17,850	2,005	15,750	1,415	14,700	1,156
2.00	**0.2**	12	0.040	20,412	2,063	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.00	**0.2**	16	0.040	18,144	1,834	15,120	1,528	13,608	1,376	12,852	1,299	11,340	1,019	10,584	832
2.00	**0.2**	20	0.035	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.00	**0.2**	25	0.025	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.00	**0.2**	30	0.017	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.00	**0.3**	4	0.130	28,662	3,221	24,203	2,720	21,815	2,452	20,541	2,308	18,152	1,630	17,038	1,339
2.00	**0.3**	6	0.110	27,720	3,114	23,100	2,595	20,790	2,335	19,635	2,205	17,325	1,557	16,170	1,271
2.00	**0.3**	8	0.090	25,200	2,830	21,000	2,359	18,900	2,123	17,850	2,005	15,750	1,415	14,700	1,156
2.00	**0.3**	12	0.060	20,412	2,063	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.00	**0.3**	16	0.060	18,144	1,834	15,120	1,528	13,608	1,376	12,852	1,299	11,340	1,019	10,584	832
2.00	**0.3**	20	0.037	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.00	**0.3**	25	0.030	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.00	**0.3**	30	0.021	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.00	**0.5**	6	0.170	27,720	3,114	23,100	2,595	20,790	2,335	19,635	2,205	17,325	1,557	16,170	1,271
2.00	**0.5**	8	0.140	25,200	2,830	21,000	2,359	18,900	2,123	17,850	2,005	15,750	1,415	14,700	1,156
2.00	**0.5**	12	0.080	20,412	2,063	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.00	**0.5**	16	0.080	18,144	1,834	15,120	1,528	13,608	1,376	12,852	1,299	11,340	1,019	10,584	832
2.00	**0.5**	20	0.050	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.00	**0.5**	25	0.050	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.00	**0.5**	30	0.030	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.00	**0.8**	6	0.220	27,720	3,114	23,100	2,595	20,790	2,335	19,635	2,205	17,325	1,557	16,170	1,271
2.00	**0.8**	8	0.200	25,200	2,830	21,000	2,359	18,900	2,123	17,850	2,005	15,750	1,415	14,700	1,156
2.00	**0.8**	12	0.130	20,412	2,063	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.00	**0.8**	16	0.100	18,144	1,834	15,120	1,528	13,608	1,376	12,852	1,299	11,340	1,019	10,584	832
2.00	**0.8**	20	0.060	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653

EPDRE

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Cutting Conditions
High Efficiency (Metric)

MOLDINO
The Edge To Innovation

Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
2.0	**0.8**	25	0.057	15,876	1,605	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.0	**0.8**	30	0.045	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.5	**0.1**	10	0.050	20,412	2,293	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.5	**0.1**	20	0.030	15,876	1,783	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.5	**0.1**	30	0.015	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.5	**0.2**	10	0.070	20,412	2,293	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.5	**0.2**	20	0.040	15,876	1,783	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.5	**0.2**	30	0.025	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.5	**0.3**	10	0.090	20,412	2,293	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.5	**0.3**	20	0.060	15,876	1,783	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.5	**0.3**	30	0.030	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
2.5	**0.5**	10	0.120	20,412	2,293	17,010	1,720	15,309	1,548	14,459	1,462	12,758	1,146	11,907	936
2.5	**0.5**	20	0.080	15,876	1,783	13,230	1,337	11,907	1,204	11,246	1,137	9,923	801	9,261	653
2.5	**0.5**	30	0.050	15,082	1,525	12,569	1,271	11,312	1,143	10,683	1,080	9,426	761	8,798	621
3.0	**0.1**	6	0.080	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.1**	8	0.070	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.1**	12	0.050	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.1**	16	0.035	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.1**	18	0.035	16,985	2,384	14,331	2,012	12,738	1,788	12,208	1,714	10,615	1,193	10,084	992
3.0	**0.1**	20	0.035	15,552	2,184	12,960	1,820	11,664	1,638	11,016	1,547	9,720	1,092	9,072	892
3.0	**0.1**	30	0.027	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3.0	**0.1**	35	0.020	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3.0	**0.2**	6	0.100	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.2**	8	0.090	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.2**	12	0.070	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.2**	16	0.050	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.2**	18	0.050	16,985	2,384	14,331	2,012	12,738	1,788	12,208	1,714	10,615	1,193	10,084	992
3.0	**0.2**	20	0.050	15,552	2,184	12,960	1,820	11,664	1,638	11,016	1,547	9,720	1,092	9,072	892
3.0	**0.2**	30	0.040	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3.0	**0.2**	35	0.035	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3.0	**0.3**	6	0.145	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.3**	8	0.130	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.3**	12	0.100	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.3**	16	0.075	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.3**	18	0.075	16,985	2,384	14,331	2,012	12,738	1,788	12,208	1,714	10,615	1,193	10,084	992
3.0	**0.3**	20	0.075	15,552	2,184	12,960	1,820	11,664	1,638	11,016	1,547	9,720	1,092	9,072	892
3.0	**0.3**	30	0.060	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3.0	**0.3**	35	0.050	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3.0	**0.5**	8	0.180	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.5**	12	0.130	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.5**	16	0.100	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3.0	**0.5**	18	0.100	16,985	2,384	14,331	2,012	12,738	1,788	13,600	1,909	10,615	1,193	10,084	992

EPDRE

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Cutting Conditions
High Efficiency (Metric)

MOLDINO
The Edge To Innovation

Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
3	**0.5**	20	0.100	15,552	2,184	12,960	1,820	11,664	1,638	11,016	1,547	9,720	1,092	9,072	892
3	**0.5**	30	0.080	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3	**0.5**	35	0.065	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3	**1.0**	8	0.200	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3	**1.0**	12	0.150	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3	**1.0**	16	0.120	19,200	2,696	16,000	2,246	14,400	2,022	13,600	1,909	12,000	1,348	11,200	1,101
3	**1.0**	18	0.110	16,985	2,384	14,331	2,012	12,738	1,788	13,600	1,909	10,615	1,193	10,084	992
3	**1.0**	20	0.110	15,552	2,184	12,960	1,820	11,664	1,638	11,016	1,547	9,720	1,092	9,072	892
3	**1.0**	30	0.090	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
3	**1.0**	35	0.075	12,096	1,524	10,080	1,270	9,072	1,143	8,568	1,079	7,560	771	7,056	621
4	**0.1**	8	0.080	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**0.1**	12	0.065	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**0.1**	16	0.060	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.1**	20	0.055	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.1**	30	0.045	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.1**	35	0.040	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.1**	45	0.030	8,789	1,100	7,324	917	6,592	825	6,226	780	5,494	554	5,127	446
4	**0.2**	8	0.160	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**0.2**	12	0.140	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**0.2**	16	0.130	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.2**	20	0.110	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.2**	30	0.100	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.2**	35	0.080	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.2**	45	0.060	8,789	1,100	7,324	917	6,592	825	6,226	780	5,494	554	5,127	446
4	**0.3**	8	0.240	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**0.3**	12	0.220	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**0.3**	16	0.200	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.3**	20	0.180	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.3**	30	0.160	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.3**	35	0.140	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.3**	45	0.120	8,789	1,100	7,324	917	6,592	825	6,226	780	5,494	554	5,127	446
4	**0.5**	12	0.350	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**0.5**	16	0.250	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.5**	20	0.200	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**0.5**	30	0.150	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.5**	35	0.100	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**0.5**	45	0.050	8,789	1,100	7,324	917	6,592	825	6,226	780	5,494	554	5,127	446
4	**1.0**	12	0.400	16,560	2,880	13,800	2,400	12,420	2,160	11,730	2,040	10,350	1,440	9,660	1,176
4	**1.0**	16	0.290	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**1.0**	20	0.230	13,733	2,388	11,445	1,990	10,071	1,751	9,613	1,671	8,240	1,146	7,782	947
4	**1.0**	30	0.170	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**1.0**	35	0.120	10,985	1,719	9,154	1,433	8,239	1,290	7,781	1,218	6,866	860	6,408	702
4	**1.0**	45	0.060	8,789	1,100	7,324	917	6,592	825	6,226	780	5,494	554	5,127	446

EPDRE

EPDRE
Cutting Conditions
High Efficiency (Metric)

MOLDINO
The Edge To Innovation

Work Material				Copper (Cu)		Carbon steels Alloy steel (180 - 250HB)		Stainless steels Tool steels (25 - 35HRC)		Pre-harden steels (35 - 45HRC)		Hardened steel (45 - 55HRC)		Hardened steel (55 - 65HRC)	
Ratio to standard depth of cut				120%		100%		90%		80%		65%		60%	
Mill dia.	r	Under neck length	a_p	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)	n (RPM)	vf (mm/min)
5	**0.1**	20	0.080	13,179	2,865	10,983	2,388	9,884	2,149	9,336	2,029	8,237	1,433	7,688	1,170
5	**0.1**	40	0.060	11,868	2,312	9,890	1,926	8,901	1,734	8,407	1,637	7,418	1,156	6,923	944
5	**0.2**	20	0.160	13,179	2,865	10,983	2,388	9,884	2,149	9,336	2,029	8,237	1,433	7,688	1,170
5	**0.2**	40	0.130	11,868	2,312	9,890	1,926	8,901	1,734	8,407	1,637	7,418	1,156	6,923	944
5	**0.3**	20	0.240	13,179	2,865	10,983	2,388	9,884	2,149	9,336	2,029	8,237	1,433	7,688	1,170
5	**0.3**	40	0.200	11,868	2,312	9,890	1,926	8,901	1,734	8,407	1,637	7,418	1,156	6,923	944
5	**0.5**	20	0.350	13,179	2,865	10,983	2,388	9,884	2,149	9,336	2,029	8,237	1,433	7,688	1,170
5	**0.5**	40	0.135	11,868	2,312	9,890	1,926	8,901	1,734	8,407	1,637	7,418	1,156	6,923	944
5	**1.0**	20	0.400	13,179	2,865	10,983	2,388	9,884	2,149	9,336	2,029	8,237	1,433	7,688	1,170
5	**1.0**	40	0.150	11,868	2,312	9,890	1,926	8,901	1,734	8,407	1,637	7,418	1,156	6,923	944
6	**0.1**	12	0.080	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.1**	18	0.065	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.1**	24	0.060	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.1**	35	0.050	9,881	2,320	8,234	1,933	7,411	1,740	6,999	1,643	6,176	1,160	5,764	947
6	**0.1**	55	0.040	7,687	1,805	6,406	1,504	5,765	1,354	5,445	1,278	4,805	902	4,484	737
6	**0.2**	12	0.160	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.2**	18	0.140	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.2**	24	0.130	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.2**	35	0.110	9,881	2,320	8,234	1,933	7,411	1,740	6,999	1,643	6,176	1,160	5,764	947
6	**0.2**	55	0.080	7,687	1,805	6,406	1,504	5,765	1,354	5,445	1,278	4,805	902	4,484	737
6	**0.3**	12	0.240	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.3**	18	0.220	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.3**	24	0.200	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.3**	35	0.180	9,881	2,320	8,234	1,933	7,411	1,740	6,999	1,643	6,176	1,160	5,764	947
6	**0.3**	55	0.140	7,687	1,805	6,406	1,504	5,765	1,354	5,445	1,278	4,805	902	4,484	737
6	**0.5**	18	0.350	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.5**	24	0.290	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**0.5**	35	0.240	9,881	2,320	8,234	1,933	7,411	1,740	6,999	1,643	6,176	1,160	5,764	947
6	**0.5**	55	0.165	7,687	1,805	6,406	1,504	5,765	1,354	5,445	1,278	4,805	902	4,484	737
6	**1.0**	18	0.400	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**1.0**	24	0.350	10,985	2,866	9,154	2,388	8,239	2,149	7,781	2,030	6,866	1,433	6,408	1,170
6	**1.0**	35	0.280	9,881	2,320	8,234	1,933	7,411	1,740	6,999	1,643	6,176	1,160	5,764	947
6	**1.0**	55	0.200	7,687	1,805	6,406	1,504	5,765	1,354	5,445	1,278	4,805	902	4,484	737