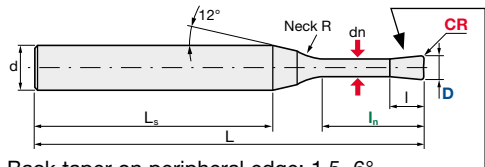


Ultra Micro Grain Solid Carbide End Mill

EPDRE-ATH | Epoch Deep Radius Evolution ATH

V max High Speed		HRC 70		No. of Teeth 2	
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A (D0.2–D5.0)

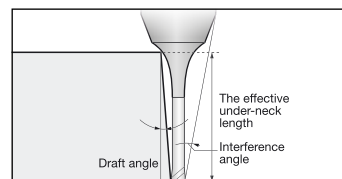


Back taper on peripheral edge: 1.5–6°

※ Back Draft is not available for Diameters 4–6 mm

Carbide Micro Grain	TH60+ Nano-PVD Coating	Rake Angle Positive
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Helix angle	30°
CR	± 0.005 mm
D	(0/-0.01 mm)
d	h5



Size												Actual Effective Length in Incline angles				
ID Code	Item Code	Z	D	CR	ln	l	dn	Ls	L	d	Neck R	0.5°	1°	1.5°	2°	3°
EP793	EPDRE-2002-0.5-005-ATH	2	0.2	0.05	0.5	0.15	0.17	40.56	50	4	1	0.70	0.73	0.75	0.78	0.82
EP795	EPDRE-2002-1-005-ATH				1			40.06				1.22	1.26	1.30	1.34	1.40
EP794	EPDRE-2002-1.5-005-ATH				1.5			39.56				1.74	1.79	1.84	1.89	2.06
EP796	EPDRE-2002-2-005-ATH				2			39.06				2.25	2.32	2.38	2.46	2.73
EP797	EPDRE-2003-1-005-ATH				1			40.30				1.32	1.39	1.45	1.50	1.61
EP798	EPDRE-2003-2-005-ATH				2			39.30				2.37	2.47	2.56	2.64	2.77
EP799	EPDRE-2003-3-005-ATH		3	38.30	3.41	3.54	3.65	3.74				4.05				
EP800	EPDRE-2004-1-005-ATH		1	39.59	1.32	1.39	1.45	1.50				1.61				
EP802	EPDRE-2004-2-005-ATH		2	39.53	2.37	2.47	2.56	2.64				2.77				
EP804	EPDRE-2004-3-005-ATH		3	38.53	3.41	3.54	3.65	3.74				4.05				
EP806	EPDRE-2004-4-005-ATH		4	37.53	4.45	4.60	4.72	4.86				5.38				
EP801	EPDRE-2004-1-01-ATH		1	40.53	1.31	1.38	1.44	1.50				1.60				
EP803	EPDRE-2004-2-01-ATH		2	39.53	2.37	2.47	2.55	2.63				2.77				
EP805	EPDRE-2004-3-01-ATH		3	38.53	3.41	3.54	3.64	3.74				4.04				
EP807	EPDRE-2004-4-01-ATH		4	37.53	4.45	4.60	4.72	4.85				5.37				
EP808	EPDRE-2005-1-005-ATH		1	40.77	1.32	1.39	1.45	1.50				1.61				
EP810	EPDRE-2005-2-005-ATH		2	39.77	2.37	2.47	2.56	2.64				2.77				
EP812	EPDRE-2005-3-005-ATH		3	38.77	3.41	3.54	3.65	3.74				4.05				
EP814	EPDRE-2005-4-005-ATH		4	37.77	4.45	4.60	4.72	4.86				5.38				
EP816	EPDRE-2005-5-005-ATH		5	36.77	5.49	5.66	5.79	6.05				6.71				
EP818	EPDRE-2005-6-005-ATH		6	35.77	6.53	6.71	6.91	7.25				8.04				
EP809	EPDRE-2005-1-01-ATH		1	40.77	1.31	1.38	1.44	1.50				1.60				
EP811	EPDRE-2005-2-01-ATH		2	39.77	2.37	2.47	2.55	2.63				2.77				
EP813	EPDRE-2005-3-01-ATH		3	38.77	3.41	3.54	3.64	3.74				4.04				
EP815	EPDRE-2005-4-01-ATH	4	37.77	4.45	4.60	4.72	4.85	5.37								
EP817	EPDRE-2005-5-01-ATH	5	36.77	5.49	5.66	5.79	6.04	6.69								
EP819	EPDRE-2005-6-01-ATH	6	35.77	6.52	6.71	6.90	7.24	8.02								
EP821	EPDRE-2006-2-01-ATH	2	40.00	2.53	2.69	2.82	2.95	3.17								
EP822	EPDRE-2006-4-01-ATH	4	38.00	4.65	4.88	5.06	5.23	5.51								
EP823	EPDRE-2006-6-01-ATH	6	36.00	6.76	7.03	7.25	7.44	8.02								
EP824	EPDRE-2006-8-01-ATH	8	34.00	8.85	9.16	9.41	9.63	10.67								
EP820	EPDRE-2006-10-01-ATH	10	32.00	10.92	11.27	11.55	12.03	13.33								
EP825	EPDRE-2007-4-01-ATH	4	38.24	4.65	4.88	5.06	5.23	5.51								
EP826	EPDRE-2007-6-01-ATH	6	36.24	6.76	7.03	7.25	7.44	8.02								
EP831	EPDRE-2008-2-01-ATH	2	40.47	2.53	2.69	2.82	2.95	3.17								
EP833	EPDRE-2008-4-01-ATH	4	38.47	4.65	4.88	5.06	5.23	5.51								
EP835	EPDRE-2008-6-01-ATH	6	36.47	6.76	7.03	7.25	7.44	8.02								
EP837	EPDRE-2008-8-01-ATH	8	34.47	8.85	9.16	9.41	9.63	10.67								
EP827	EPDRE-2008-10-01-ATH	10	32.47	10.92	11.27	11.55	12.03	13.33								
EP829	EPDRE-2008-12-01-ATH	12	30.47	13.00	13.38	13.75	14.42	15.98								
EP832	EPDRE-2008-2-02-ATH	2	40.47	2.53	2.68	2.81	2.93	3.15								
EP834	EPDRE-2008-4-02-ATH	4	38.47	4.65	4.87	5.05	5.21	5.50								
EP836	EPDRE-2008-6-02-ATH	6	36.47	6.75	7.02	7.24	7.43	7.99								

Ultra Micro Grain Solid Carbide End Mill

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ID Code	Item Code	Z	Size							Actual Effective Length in Incline angles																				
			D	CR	I _n	l	dn	L _s	L	d	Neck R	0.5°	1°	1.5°	2°	3°														
EP838	EPDRE-2008-8-02-ATH	2	0.8	0.2	8	0.5	0.77	34.47	50	4	4	8.84	9.15	9.40	9.62	10.64														
EP828	EPDRE-2008-10-02-ATH				10			32.47				10.92	11.27	11.54	12.01	13.30														
EP830	EPDRE-2008-12-02-ATH				12			30.47	12.99			13.37	13.73	14.40	15.95															
EP839	EPDRE-2009-4-02-ATH				4			38.71	4.65			4.87	5.05	5.21	5.50															
EP840	EPDRE-2009-8-02-ATH		8	34.71	8.84	9.15	9.40	9.62	10.64																					
EP1236	EPDRE-2010-2-01-ATH		2	40.94	2.64	2.78	2.90	3.01	3.23																					
EP1239	EPDRE-2010-4-01-ATH		4	38.94	4.74	4.95	5.12	5.28	5.55																					
EP1242	EPDRE-2010-6-01-ATH		6	36.94	6.83	7.09	7.30	7.49	8.11																					
EP1245	EPDRE-2010-8-01-ATH		8	34.94	8.91	9.21	9.45	9.72	10.77																					
EP841	EPDRE-2010-10-01-ATH		10	32.94	10.99	11.32	11.59	12.11	13.42																					
EP1227	EPDRE-2010-12-01-ATH		12	35.94	13.06	13.42	13.83	14.50	16.08																					
EP1230	EPDRE-2010-16-01-ATH		16	36.94	17.18	17.60	18.39	19.29	21.39																					
EP1233	EPDRE-2010-20-01-ATH		20	32.94	21.29	21.93	22.95	24.08	26.70																					
EP1237	EPDRE-2010-2-02-ATH		2	40.94	2.63	2.77	2.89	3.00	3.21																					
EP1240	EPDRE-2010-4-02-ATH		4	38.94	4.74	4.94	5.11	5.27	5.54																					
EP1243	EPDRE-2010-6-02-ATH		6	36.94	6.83	7.08	7.29	7.48	8.08																					
EP1246	EPDRE-2010-8-02-ATH		8	34.94	8.91	9.20	9.45	9.70	10.74																					
EP842	EPDRE-2010-10-02-ATH		10	32.94	10.98	11.32	11.58	12.09	13.39																					
EP1228	EPDRE-2010-12-02-ATH		12	35.94	13.05	13.42	13.81	14.48	16.05																					
EP1231	EPDRE-2010-16-02-ATH		16	36.94	17.18	17.59	18.38	19.27	21.35																					
EP1234	EPDRE-2010-20-02-ATH		20	32.94	21.29	21.92	22.94	24.06	26.66																					
EP1238	EPDRE-2010-2-03-ATH		2	40.94	2.63	2.76	2.87	2.98	3.19																					
EP1241	EPDRE-2010-4-03-ATH		4	38.94	4.73	4.93	5.10	5.25	5.53																					
EP1244	EPDRE-2010-6-03-ATH		6	36.94	6.82	7.07	7.28	7.47	8.05																					
EP1247	EPDRE-2010-8-03-ATH		8	34.94	8.91	9.20	9.44	9.68	10.70																					
EP1226	EPDRE-2010-10-03-ATH		10	32.94	10.98	11.31	11.58	12.07	13.36																					
EP1229	EPDRE-2010-12-03-ATH		12	35.94	13.05	13.41	13.80	14.46	16.01																					
EP1232	EPDRE-2010-16-03-ATH		16	36.94	17.17	17.59	18.36	19.25	21.32																					
EP1235	EPDRE-2010-20-03-ATH		20	32.94	21.28	21.91	22.92	24.04	26.63																					
EP1251	EPDRE-20125-5-02-ATH		5	1.25	0.2	5	1.15	1.18	38.53			50	4	4	5.81	6.03	6.22	6.39	6.79											
EP1248	EPDRE-20125-10-02-ATH		10			33.53			11.00						11.33	11.59	12.12	13.42												
EP1249	EPDRE-20125-15-02-ATH		15			33.53			16.16			16.56			17.26	18.10	20.06													
EP1250	EPDRE-20125-20-02-ATH		20			33.53			21.30			21.95			22.97	24.09	x													
EP1258	EPDRE-2015-4-02-ATH		4	1.5	0.2	4	1.35	1.42	540.12			50			4	4	4.79	4.98	5.15	5.30	5.57									
EP1260	EPDRE-2015-6-02-ATH		6			38.12			6.88								7.12	7.32	7.50	8.14										
EP1262	EPDRE-2015-8-02-ATH		8			36.12			8.95			9.24					9.47	9.75	10.80											
EP1252	EPDRE-2015-12-02-ATH		12			37.12			13.09			13.44					13.87	14.54	16.11											
EP1254	EPDRE-2015-15-02-ATH		15			34.12			16.18			16.58					17.29	18.13	20.09											
EP1256	EPDRE-2015-20-02-ATH		20			34.12			21.32			21.97					22.99	24.11	x											
EP1259	EPDRE-2015-4-05-ATH		4			1.5			0.5			4					1.35	1.42	40.12	50	4	4	4.78	4.96	5.12	5.26	5.53			
EP1261	EPDRE-2015-6-05-ATH	6	38.12							6.86	7.10	7.30							7.48				8.05							
EP1263	EPDRE-2015-8-05-ATH	8	36.12							8.94	9.22	9.45							9.70	10.70										
EP1253	EPDRE-2015-12-05-ATH	12	37.12							13.08	13.43	13.83							14.48	16.01										
EP1255	EPDRE-2015-15-05-ATH	15	34.12							16.17	16.56	17.25							18.07	19.99										
EP1257	EPDRE-2015-20-05-ATH	20	34.12							21.31	21.95	22.95							24.06	x										
EP1267	EPDRE-20175-5-02-ATH	5	1.75	0.2	5		1.55	1.67		39.71	50	4							4	5.84			6.05	6.24	6.41	6.82				
EP1264	EPDRE-20175-10-02-ATH	10			34.71					11.02										11.34			11.61	12.15	13.45					
EP1265	EPDRE-20175-15-02-ATH	15			34.71					16.18	16.58									17.29			18.13	20.09						
EP1266	EPDRE-20175-20-02-ATH	20			34.71					21.32	21.97									22.99			24.11	x						
EP1278	EPDRE-2020-4-02-ATH	4	2	0.2	4		1.7	1.92		41.30	50									4			4	4.79	4.98	5.15	5.30	5.57		
EP1280	EPDRE-2020-6-02-ATH	6			39.30					6.88														7.12	7.32	7.50	8.14			
EP1282	EPDRE-2020-8-02-ATH	8			37.30	8.95			9.24	9.47	9.75						10.80													
EP1268	EPDRE-2020-12-02-ATH	12			38.30	13.09			13.44	13.87	14.54						16.11													
EP1270	EPDRE-2020-16-02-ATH	16			34.30	17.21			17.62	18.43	19.33						x													
EP1272	EPDRE-2020-20-02-ATH	20			35.30	21.32			21.97	22.99	24.11						x													
EP1274	EPDRE-2020-25-02-ATH	25			35.30	26.44			27.42	28.69	x						x													
EP1276	EPDRE-2020-30-02-ATH	30			35.30	31.55			32.87	34.40	x						x													
EP1279	EPDRE-2020-4-05-ATH	4			2	0.5			4	1.7	1.92						41.30	50						4	4	4.78	4.96	5.12	5.26	5.53
EP1281	EPDRE-2020-6-05-ATH	6							39.30								6.86									7.10	7.30	7.48	8.05	
EP1283	EPDRE-2020-8-05-ATH	8							37.30								8.94	9.22								9.45	9.70	10.70		
EP1269	EPDRE-2020-12-05-ATH	12							38.30								13.08	13.43								13.83	14.48	16.01		
EP1271	EPDRE-2020-16-05-ATH	16	34.30	17.20			17.61	18.39	19.27								x													
EP1273	EPDRE-2020-20-05-ATH	20	35.30	21.31			21.95	22.95	24.06								x													
EP1275	EPDRE-2020-25-05-ATH	25	35.30	26.43			27.39	28.65	x								x													
EP1277	EPDRE-2020-30-05-ATH	30	35.30	31.54			32.84	34.36	x								x													

D2.5-
D6

Ultra Micro Grain Solid Carbide End Mill

EPDRE-ATH | Epoch Deep Radius Evolution ATH

ID Code	Item Code	Z	Size						Actual Effective Length in Incline angles													
			D	CR	I _n	l	dn	L _s	L	d	Neck R	0.5°	1°	1.5°	2°	3°						
EP1284	EPDRE-2025-10-02-ATH	2	2.5	0.2	10	2	2.39	36.47	50	4	4	11.08	11.39	11.67	12.23	13.55						
EP1286	EPDRE-2025-20-02-ATH				20			36.47	60			21.36	22.05	23.07	x	x						
EP1288	EPDRE-2025-30-02-ATH				30			36.47	70			31.58	32.94	x	x	x						
EP1285	EPDRE-2025-10-05-ATH				10			36.47	50			11.07	11.37	11.63	12.17	13.45						
EP1287	EPDRE-2025-20-05-ATH				20			36.47	60			21.35	22.02	23.03	x	x						
EP1289	EPDRE-2025-30-05-ATH				30			36.47	70			31.58	32.92	x	x	x						
EP1300	EPDRE-2030-8-02-ATH		3	0.2	8	2.5	2.86	39.94	55	4		9.07	9.33	9.55	9.92	10.99						
EP1290	EPDRE-2030-12-02-ATH				12			40.94	60			13.19	13.52	14.03	14.71	16.30						
EP1292	EPDRE-2030-16-02-ATH				16			36.94	60			17.30	17.77	18.59	19.50	21.60						
EP1294	EPDRE-2030-20-02-ATH				20			37.94	65			21.40	22.13	23.15	24.28	26.91						
EP1296	EPDRE-2030-30-02-ATH				30			37.94	75			31.62	33.02	34.56	36.25	x						
EP1298	EPDRE-2030-35-02-ATH				35			37.94	80			36.83	38.47	40.26	42.23	x						
EP1301	EPDRE-2030-8-05-ATH				8			39.94	55			9.06	9.31	9.53	9.87	10.89						
EP1291	EPDRE-2030-12-05-ATH				12			40.94	60			13.18	13.51	13.99	14.65	16.20						
EP1293	EPDRE-2030-16-05-ATH				16			36.94	60			17.29	17.74	18.55	19.44	21.51						
EP1295	EPDRE-2030-20-05-ATH				20			37.94	65			21.39	22.10	23.11	24.22	26.82						
EP1297	EPDRE-2030-30-05-ATH				30			37.94	75			31.61	32.99	34.52	36.19	x						
EP1299	EPDRE-2030-35-05-ATH				35			37.94	80			36.82	38.44	40.22	42.17	x						
EP1302	EPDRE-2040-12-05-ATH				4			0.5	12			3.5	3.8	43.30	60	6	13.28	13.58	14.15	14.82	16.39	
EP1304	EPDRE-2040-16-05-ATH								16					39.30			60	17.38	17.89	18.71	19.61	x
EP1306	EPDRE-2040-20-05-ATH								20					40.30			65	21.47	22.25	23.27	24.39	x
EP1308	EPDRE-2040-24-05-ATH								24					41.30			70	25.56	26.61	27.83	x	x
EP1310	EPDRE-2040-30-05-ATH								30					40.30			75	31.75	33.15	34.68	x	x
EP1312	EPDRE-2040-36-05-ATH								36					39.30			80	38.01	39.68	x	x	x
EP1314	EPDRE-2040-45-05-ATH		45	40.30		90	47.39		49.49	x				x			x					
EP1303	EPDRE-2040-12-1-ATH		12	43.30		60	13.27		13.56	14.08				14.72			16.23					
EP1305	EPDRE-2040-16-1-ATH		16	39.30		60	17.37		17.85	18.64				19.51			x					
EP1307	EPDRE-2040-20-1-ATH		20	40.30		65	21.46		22.21	23.20				24.30			x					
EP1309	EPDRE-2040-24-1-ATH		24	41.30		70	25.55		26.57	27.77				29.08			x					
EP1311	EPDRE-2040-30-1-ATH		30	40.30		75	31.73		33.10	34.61				x			x					
EP1313	EPDRE-2040-36-1-ATH	36	39.30	80	37.98	39.64	x	x	x													
EP1315	EPDRE-2040-45-1-ATH	45	40.30	90	47.37	49.44	x	x	x													
EP1316	EPDRE-2050-20-05-ATH	5	0.5	20	4	4.75	42.65	65	4	21.54	22.38	x	x	x								
EP1318	EPDRE-2050-40-05-ATH			40			42.65	85		42.30	x	x	x	x								
EP1317	EPDRE-2050-20-1-ATH			20			42.65	65		21.53	22.34	x	x	x								
EP1319	EPDRE-2050-40-1-ATH	40	42.65	85	42.28	x	x	x	x													
EP1320	EPDRE-2060-18-05-ATH	6	0.5	18	5	5.7	42.00	60	-	x	x	x	x	x								
EP1322	EPDRE-2060-24-05-ATH			24			46.00	70		x	x	x	x	x								
EP1324	EPDRE-2060-36-05-ATH			36			44.00	80		x	x	x	x	x								
EP1326	EPDRE-2060-54-05-ATH			54			46.00	100		x	x	x	x	x								
EP1321	EPDRE-2060-18-1-ATH			18			42.00	60		x	x	x	x	x								
EP1323	EPDRE-2060-24-1-ATH			24			46.00	70		x	x	x	x	x								
EP1325	EPDRE-2060-36-1-ATH	36	44.00	80	x	x	x	x	x													

Cutting Conditions Schnittwerte Condizioni di taglio Condiciones de Corte Conditions de coupe Valores de corte:					
High Efficient Roughing		Page 6-11	High Precision Finishing		Page 12-17
High Efficient Roughing		Page 18-23	High Efficient Roughing (Rib Applications)		Page 18-23