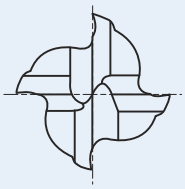
CARBIDE, 4FLUTE END MILL



P.5

Unit : inch

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
UGMF89004	1/16	1/8	3/16	1-1/2
UGMF89005	5/64	1/8	3/16	1-1/2
UGMF89006	3/32	1/8	3/8	1-1/2
UGMF89007	7/64	1/8	3/8	1-1/2
UGMF89008	1/8	1/8	1/2	1-1/2
UGMF89009	9/64	3/16	1/2	2
UGMF89010	5/32	3/16	9/16	2
UGMF89011	11/64	3/16	5/8	2
UGMF89012	3/16	3/16	5/8	2
UGMF89013	13/64	1/4	5/8	2-1/2
UGMF89014	7/32	1/4	5/8	2-1/2
UGMF89015	15/64	1/4	3/4	2-1/2
UGMF89016	1/4	1/4	3/4	2-1/2
UGMF89018	9/32	5/16	3/4	2-1/2
UGMF89020	5/16	5/16	13/16	2-1/2
UGMF89024	3/8	3/8	1	2-1/2
UGMF89028	7/16	7/16	1	2-3/4
UGMF89032	1/2	1/2	1	3
UGMF89036	9/16	9/16	1-1/4	3-1/2
UGMF89040	5/8	5/8	1-1/4	3-1/2
UGMF89048	3/4	3/4	1-1/2	4
UGMF89056	7/8	7/8	1-1/2	4
UGMF89064	1	1	1-1/2	4

Mill Dia. Tolerance(inch)	Shank Dia.Tolerance
0~−.0012	0~−.0005

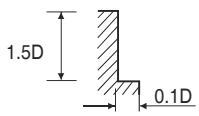
◎ : Excellent ○ : Good

P						M	K	N	
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		Mild Steels	Stainless Steels	Cast Iron	Aluminum	CFRP
~HB225	HB225~325	HRc30~45	HRc45~55	HRc55~					
◎	◎	○			○	○	○	○	

CARBIDE, 4 FLUTE - SIDE CUTTING - *UGMF89* SERIES

WORK MATERIAL	P												M			
	CARBON STEELS ALLOY STEELS TOOL STEELS				CARBON STEELS ALLOY STEELS TOOL STEELS				CARBON STEELS ALLOY STEELS TOOL STEELS				STAINLESS STEELS TITANIUM ALLOYS			
HARDNESS	~ HRc 20				HRc 20 ~ HRc 30				HRc 30 ~ HRc 40							
STRENGTH	500 ~ 800N/mm²				800N/mm² ~ 1000N/mm²				1000/mm² ~ 1300N/mm²							
DIAMETER	RPM	FEED	SFM	Fz	RPM	FEED	SFM	Fz	RPM	FEED	SFM	Fz	RPM	FEED	SFM	Fz
1/16	11200	15.38	183	.0003	9640	13.40	158	.0003	8090	10.42	132	.0003	15560	12.90	255	.0002
5/64	10080	15.38	206	.0004	8680	13.40	178	.0004	7280	10.42	149	.0004	14000	12.90	287	.0002
3/32	9070	15.38	223	.0004	7810	13.40	192	.0004	6550	10.42	161	.0004	12600	12.90	309	.0003
7/64	7560	16.37	217	.0005	6550	14.39	188	.0005	5420	10.91	155	.0005	10650	12.90	305	.0003
1/8	6050	17.37	198	.0007	5290	15.37	173	.0007	4280	11.41	140	.0007	8690	12.90	285	.0004
9/64	5320	17.37	196	.0008	4600	15.37	169	.0008	3780	11.41	139	.0008	7620	12.90	281	.0004
5/32	4590	17.37	188	.0009	3910	15.37	160	.0010	3280	11.41	134	.0009	6550	12.90	268	.0005
11/64	4100	17.37	185	.0011	3530	15.37	159	.0011	2900	11.41	131	.0010	5920	12.90	267	.0005
3/16	3600	17.37	177	.0012	3150	15.37	155	.0012	2520	11.41	124	.0011	5290	12.90	260	.0006
13/64	3460	17.37	184	.0013	2990	15.37	159	.0013	2430	11.41	129	.0012	5040	12.90	268	.0006
7/32	3310	17.37	190	.0013	2840	15.37	162	.0014	2330	11.41	134	.0012	4790	12.90	275	.0007
15/64	3170	17.37	195	.0014	2680	15.37	164	.0014	2240	11.41	138	.0013	4540	12.90	279	.0007
1/4	3020	17.37	198	.0014	2520	15.37	165	.0015	2140	11.41	140	.0013	4280	12.90	280	.0008
9/32	2650	17.37	195	.0016	2210	15.37	162	.0017	1890	11.41	139	.0015	3780	12.90	279	.0009
5/16	2270	17.37	186	.0019	1890	15.37	155	.0020	1640	11.41	134	.0017	3280	12.90	269	.0010
3/8	1760	17.37	173	.0025	1510	15.37	149	.0025	1260	11.41	124	.0023	2520	12.90	248	.0013
7/16	1640	17.37	188	.0026	1390	15.37	159	.0028	1170	11.41	134	.0024	2330	12.90	267	.0014
1/2	1510	17.37	198	.0029	1260	15.37	165	.0031	1080	11.41	141	.0026	2140	12.90	280	.0015
9/16	1260	17.37	186	.0034	1130	15.37	167	.0034	930	11.41	137	.0031	1760	12.90	259	.0018
5/8	1130	19.34	185	.0043	1010	16.87	165	.0042	820	14.39	134	.0044	1640	14.39	269	.0022
3/4	980	19.34	193	.0049	830	16.87	164	.0051	690	14.39	136	.0052	1350	15.37	265	.0028
7/8	830	17.41	190	.0052	700	16.87	160	.0054	590	12.95	135	.0055	1130	13.83	259	.0031
1	750	15.67	197	.0052	630	16.87	165	.0054	530	11.65	139	.0055	1020	12.45	267	.0031

WORK MATERIAL	K				N							
	CAST IRON				ALUMINIUM ALLOYS				COPPER, BRASS NON-FERROUS METALS			
HARDNESS												
STRENGTH												
DIAMETER	RPM	FEED	SFM	Fz	RPM	FEED	SFM	Fz	RPM	FEED	SFM	Fz
1/16	13220	28.77	216	.0005	31110	59.52	509	.0005	23330	46.63	382	.0005
5/64	11900	28.77	244	.0006	28000	59.52	573	.0005	21000	46.63	430	.0006
3/32	10710	28.77	263	.0007	25200	59.52	619	.0006	18900	46.63	464	.0006
7/64	8820	28.77	253	.0008	21420	59.52	614	.0007	15750	46.63	451	.0007
1/8	6930	28.77	227	.0010	17640	59.52	578	.0008	12600	46.63	413	.0009
9/64	6110	28.77	225	.0012	15120	59.52	557	.0010	11340	46.63	418	.0010
5/32	5290	28.77	217	.0014	12600	59.52	516	.0012	10080	46.63	413	.0012
11/64	4730	28.77	213	.0015	11530	59.52	519	.0013	8950	46.63	403	.0013
3/16	4160	28.77	204	.0017	10460	59.52	514	.0014	7810	46.63	384	.0015
13/64	3970	30.26	211	.0019	10020	60.77	533	.0015	7500	47.37	399	.0016
7/32	3780	31.75	217	.0021	9580	62.01	549	.0016	7180	48.12	412	.0017
15/64	3590	33.24	220	.0023	9140	63.25	561	.0017	6870	48.86	422	.0018
1/4	3400	34.72	223	.0026	8690	64.49	569	.0019	6550	49.60	429	.0019
9/32	2960	35.72	218	.0030	7620	64.49	561	.0021	5800	49.60	427	.0021
5/16	2520	36.71	206	.0036	6550	64.49	536	.0025	5040	49.60	413	.0025
3/8	2140	38.69	210	.0045	5290	64.49	520	.0030	3910	49.60	384	.0032
7/16	1890	39.68	217	.0052	4790	64.49	549	.0034	3590	49.60	412	.0035
1/2	1640	40.68	215	.0062	4280	64.49	561	.0038	3280	49.60	430	.0038
9/16	1510	42.66	223	.0071	3780	64.49	557	.0043	2770	49.60	408	.0045
5/8	1260	43.66	206	.0087	3280	64.49	537	.0049	2520	49.60	413	.0049
3/4	1100	38.69	216	.0088	2710	64.49	533	.0059	2100	49.60	413	.0059
7/8	950	34.82	218	.0092	2270	58.04	520	.0064	1770	44.64	406	.0063
1	850	31.34	223	.0092	2040	52.24	534	.0064	1590	40.18	417	.0063



RPM = rev./min.
Feed = inch/min.
SFM = ft/min
Fz = inch/tooth