X5070 END MILLS

G8A45 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE for RIB PROCESSING
VOLLHARTMETALL, 2 SCHNEIDEN für SCHMALE RIPPEN

- Designed to machine high hardened materials
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- Geeignet zum Fräsen hochgehärteter Stähle.
- Geeignet zum Trockenfrasen und HSC-Frasen dank neuentwickeltem Material und Beschichtung.
- Excellente Werkstückoberflächen.
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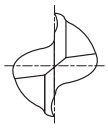
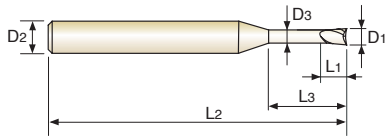
- Höhere Verschleißfestigkeit.





NG HM | 2 | BLUE | 30° | PLAIN

P.696

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A45863	0.1	4	0.15	0.3	45	0.085
G8A45864	0.1	4	0.15	0.5	45	0.085
G8A45002	0.2	4	0.3	0.5	45	0.17
G8A45815	0.2	4	0.3	1	45	0.17
G8A45816	0.2	4	0.3	1.5	45	0.17
G8A45003	0.3	4	0.45	1	45	0.27
G8A45844	0.3	4	0.45	1.5	45	0.27
G8A45817	0.3	4	0.45	2	45	0.27
G8A45818	0.3	4	0.45	3	45	0.27
G8A45842	0.3	4	0.45	4	45	0.27
G8A45843	0.4	4	0.6	1	45	0.37
G8A45004	0.4	4	0.6	2	45	0.37
G8A45984	0.4	4	0.6	3	45	0.37
G8A45985	0.4	4	0.6	4	45	0.37
G8A45986	0.4	4	0.6	5	45	0.37
G8A45005	0.5	4	0.7	2	45	0.45
G8A45861	0.5	4	0.7	2.5	45	0.45
G8A45988	0.5	4	0.7	4	45	0.45
G8A45989	0.5	4	0.7	6	45	0.45
G8A45990	0.5	4	0.7	8	45	0.45
G8A45006	0.6	4	0.9	2	45	0.55
G8A45860	0.6	4	0.9	3	45	0.55
G8A45991	0.6	4	0.9	4	45	0.55
G8A45992	0.6	4	0.9	6	45	0.55
G8A45993	0.6	4	0.9	8	45	0.55
G8A45819	0.6	4	0.9	10	45	0.55
G8A45862	0.8	4	1.2	2	45	0.75
G8A45008	0.8	4	1.2	4	45	0.75
G8A45908	0.8	4	1.2	6	45	0.75

Due to the characteristics of blue decoration layer which might be erased during short term using, the color layer might not be uniform moreover.
However, it doesn't effect on performance of tool.

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
		○	○	◎	◎									

X5070 END MILLS

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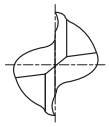

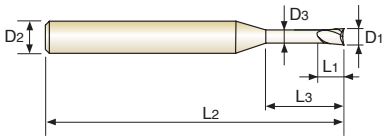

NG HM | 2 | BLUE | 30° | PLAIN

P.696

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A45909	0.8	4	1.2	8	45	0.75
G8A45994	0.8	4	1.2	10	45	0.75
G8A45995	0.8	4	1.2	12	45	0.75
G8A45996	1.0	4	1.5	4	45	0.95
G8A45010	1.0	4	1.5	6	45	0.95
G8A45912	1.0	4	1.5	8	45	0.95
G8A45913	1.0	4	1.5	10	45	0.95
G8A45914	1.0	4	1.5	12	45	0.95
G8A45997	1.0	4	1.5	16	50	0.95
G8A45998	1.0	4	1.5	20	55	0.95
G8A45012	1.2	4	1.8	6	45	1.15
G8A45915	1.2	4	1.8	8	45	1.15
G8A45916	1.2	4	1.8	10	45	1.15
G8A45917	1.2	4	1.8	12	45	1.15
G8A45999	1.2	4	1.8	16	50	1.15
G8A45015	1.5	4	2.3	6	45	1.45
G8A45923	1.5	4	2.3	8	45	1.45
G8A45924	1.5	4	2.3	10	45	1.45
G8A45925	1.5	4	2.3	12	45	1.45
G8A45926	1.5	4	2.3	14	50	1.45
G8A45927	1.5	4	2.3	16	50	1.45
G8A45928	1.5	4	2.3	18	55	1.45
G8A45810	1.5	4	2.3	20	55	1.45
G8A45958	2.0	4	3.0	6	45	1.95
G8A45020	2.0	4	3.0	8	45	1.95
G8A45959	2.0	4	3.0	10	45	1.95
G8A45960	2.0	4	3.0	12	45	1.95
G8A45961	2.0	4	3.0	14	50	1.95
G8A45962	2.0	4	3.0	16	50	1.95

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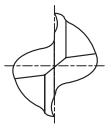

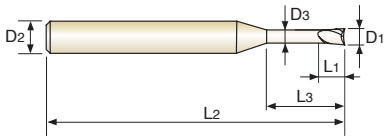

NG HM | 2 | BLUE | 30° | PLAIN

P.696

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
G8A45963	2.0	4	3.0	18	55	1.95
G8A45964	2.0	4	3.0	20	55	1.95
G8A45966	2.0	4	3.0	25	60	1.95
G8A45814	2.0	4	3.0	30	70	1.95
G8A45975	3.0	6	4.5	10	45	2.85
G8A45976	3.0	6	4.5	12	45	2.85
G8A45977	3.0	6	4.5	14	50	2.85
G8A45978	3.0	6	4.5	16	55	2.85
G8A45979	3.0	6	4.5	18	55	2.85
G8A45980	3.0	6	4.5	20	60	2.85
G8A45981	3.0	6	4.5	25	65	2.85
G8A45832	3.0	6	4.5	30	70	2.85
G8A45833	3.0	6	4.5	35	80	2.85
G8A45983	3.0	6	4.5	40	90	2.85
G8A45040	4.0	6	6	12	50	3.85
G8A45801	4.0	6	6	16	60	3.85
G8A45802	4.0	6	6	20	60	3.85
G8A45803	4.0	6	6	25	70	3.85
G8A45834	4.0	6	6	30	70	3.85
G8A45835	4.0	6	6	35	80	3.85
G8A45836	4.0	6	6	40	90	3.85
G8A45837	4.0	6	6	45	90	3.85
G8A45838	4.0	6	6	50	100	3.85

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Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.012	h6

◎ : Excellent ○ : Good

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		○	○	◎	◎									

X5070 END MILLS

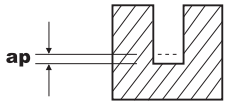
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE for RIB PROCESSING
VOLLHARTMETALL, 2 SCHNEIDEN für SCHMALE RIPPEN

G8A45 SERIES

MATERIAL	ALLOY STEELS HEAT RESISTANT STEELS					HARDENED STEELS				
HARDNESS	HRc 30 ~ HRc 45					HRc 45 ~ HRc 55				
DIAMETER	RPM	FEED	ap(mm)	Vc	fz	RPM	FEED	ap(mm)	Vc	fz
0.2	50000	300~350	0.006~0.016	31	0.003~0.004	50000	265~310	0.005~0.013	31	0.003~0.003
0.3	43000~50000	330~420	0.006~0.015	41~47	0.004~0.004	39900~46200	265~310	0.004~0.011	38~44	0.003~0.003
0.4	31400~50000	350~590	0.005~0.028	39~63	0.006~0.006	30500~35200	295~340	0.003~0.020	38~44	0.005~0.005
0.5	25650~33000	370~470	0.006~0.035	40~52	0.007~0.007	23750~26000	285~315	0.004~0.025	37~41	0.006~0.006
0.6	20900~35200	330~560	0.007~0.030	39~66	0.008~0.008	19900~22000	260~290	0.005~0.021	38~41	0.007~0.007
0.8	16150~26400	360~590	0.009~0.040	41~66	0.011~0.011	15200~16700	280~310	0.006~0.028	38~42	0.009~0.009
1.0	12300~18700	350~540	0.011~0.028	39~59	0.014~0.014	10500~11500	250~280	0.008~0.020	33~36	0.012~0.012
1.2	10450~17600	350~590	0.025~0.070	39~66	0.017~0.017	9100~10000	250~280	0.015~0.042	34~38	0.014~0.014
1.5	9100~17600	430~830	0.017~0.077	43~83	0.024~0.024	7000~8000	250~280	0.012~0.055	33~38	0.018~0.018
2.0	6350~10550	340~570	0.021~0.140	40~66	0.027~0.027	6100~6700	270~300	0.015~0100	38~42	0.022~0.022
3.0	4300~7050	550~900	0.056~0.210	41~66	0.064~0.064	3990~4600	445~515	0.040~0.150	38~43	0.056~0.056
4.0	3200~5300	400~675	0.074~0.280	40~67	0.063~0.064	3000~3400	335~380	0.053~0.200	38~43	0.056~0.056

MATERIAL	HARDENED STEELS					COPPER				
HARDNESS	HRc 55 ~ HRc 65									
DIAMETER	RPM	FEED	ap(mm)	Vc	fz	RPM	FEED	ap(mm)	Vc	fz
0.2	50000	225~265	0.005~0.012	31	0.002~0.003	50000	455~530	0.010~0.022	31	0.005~0.005
0.3	23900~32300	105~185	0.003~0.007	23~30	0.002~0.003	48000~50000	550~640	0.010~0.025	45~47	0.006~0.006
0.4	18300~24600	120~200	0.002~0.012	23~31	0.003~0.004	48000~50000	790~920	0.008~0.048	60~63	0.008~0.009
0.5	14200~18000	115~130	0.003~0.015	22~28	0.004~0.004	44000~50000	800~1150	0.010~0.060	69~79	0.009~0.012
0.6	11900~15500	100~120	0.003~0.013	22~29	0.004~0.004	37500~50000	770~1250	0.011~0.051	71~94	0.01~0.013
0.8	9000~11700	110~125	0.004~0.017	23~29	0.006~0.005	28500~47000	770~1300	0.015~0.068	72~118	0.014~0.014
1.0	6300~8050	100~115	0.005~0.012	20~25	0.008~0.007	22500~34000	810~1300	0.018~0.048	71~107	0.018~0.019
1.2	5400~7000	100~115	0.009~0.026	20~26	0.009~0.008	22500~31500	950~1350	0.036~0.101	85~119	0.021~0.021
1.5	4300~5500	100~115	0.007~0.033	20~26	0.012~0.01	14500~25000	770~1320	0.028~0.132	68~118	0.027~0.026
2.0	3600~4700	100~120	0.009~0.060	23~30	0.014~0.013	11500~18500	770~1250	0.036~0.240	72~116	0.033~0.034
3.0	2400~3200	105~310	0.024~0.090	23~30	0.022~0.048	9000~13000	1400~2110	0.096~0.360	85~123	0.078~0.081
4.0	1800~2400	75~230	0.032~0.120	23~30	0.021~0.048	6750~9750	1050~1575	0.128~0.480	85~123	0.078~0.081



RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t