



EM811 SERIES

PLAIN SHANK
GLATTER ZYLINDERSCHAFT

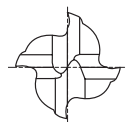
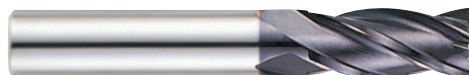
EM821 SERIES

FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 4 FLUTE SHORT LENGTH VOLLHARTMETALL, 4 SCHNEIDEN KURZ

- Designed to machine tool steels, alloy steels, mold steels and other hardened materials.
- 4 flute allows for better workpiece finishes.
- Increased production.

- Zur Bearbeitung: Werkzeugstählen, Legierten Stählen, Stahlguß und gehärteten Stählen.
- 4 Schneiden erzeugen eine bessere Oberfläche des Werkstücks.
- Höhere Produktivität.



P.888

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT				
EM811020	—	2.0	4	6	40
EM811901	EM821901	2.0	6	6	40
EM811025	—	2.5	4	8	40
EM811902	EM821902	2.5	6	8	40
EM811030	EM821030	3.0	6	8	45
EM811035	EM821035	3.5	6	10	45
EM811040	EM821040	4.0	6	11	45
EM811045	EM821045	4.5	6	11	45
EM811050	EM821050	5.0	6	13	50
EM811055	EM821055	5.5	6	13	50
EM811060	EM821060	6.0	6	13	50
EM811065	EM821065	6.5	8	16	60
EM811070	EM821070	7.0	8	16	60
EM811075	EM821075	7.5	8	16	60
EM811080	EM821080	8.0	8	19	60
EM811085	EM821085	8.5	10	19	70
EM811090	EM821090	9.0	10	19	70
EM811095	EM821095	9.5	10	19	70
EM811100	EM821100	10.0	10	22	70
EM811105	EM821105	10.5	12	22	75
EM811110	EM821110	11.0	12	22	75
EM811115	EM821115	11.5	12	22	75
EM811120	EM821120	12.0	12	26	75
EM811904	EM821904	13.0	12	26	85

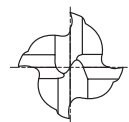
◎ : Excellent ○ : Good

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									
○	◎	◎	◎	○				○		○				

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EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT				
EM811140	EM821140	14.0	14	26	85
EM811905	EM821905	14.0	12	26	85
EM811903	EM821903	14.0	16	26	85
EM811906	EM821906	15.0	16	26	90
EM811160	EM821160	16.0	16	32	100
EM811907	EM821907	17.0	16	32	100
EM811180	EM821180	18.0	18	32	100
EM811908	EM821908	18.0	16	32	100
EM811909	EM821909	19.0	20	32	100
EM811200	EM821200	20.0	20	38	105
EM811220	EM821220	22.0	20	38	105
EM811240	EM821240	24.0	25	45	120
EM811250	EM821250	25.0	25	45	120

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~-0.03	h6

◎ : 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									
○	◎	◎	◎	○				○		○				



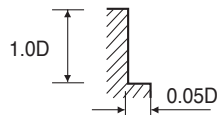
RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 4 FLUTE SHORT - SIDE CUTTING VOLLHARTMETALL, 4 SCHNEIDEN KURZ - SEITENFRÄSEN

EM811, EM821 SERIES

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON				ALLOY STEELS HEAT RESISTANT STEELS				STAINLESS STEELS			
HARDNESS	~ HRC30				HRC30 ~ HRC45							
STRENGTH	~ 1000N/mm²				1000 ~ 1500N/mm²							
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz
2.0	11560	280	75	0.006	7560	170	50	0.006	6300	140	40	0.006
3.0	8920	320	85	0.009	5560	200	50	0.009	4620	170	45	0.009
4.0	7560	570	95	0.019	4620	350	60	0.019	3880	280	50	0.018
5.0	6300	600	100	0.024	3780	360	60	0.024	3160	300	50	0.024
6.0	5560	660	105	0.030	3360	410	65	0.031	2840	330	55	0.029
8.0	4200	710	105	0.042	2520	380	65	0.038	2100	350	55	0.042
10.0	3260	610	100	0.047	2000	300	65	0.038	1680	300	55	0.045
12.0	2740	520	105	0.047	1680	250	65	0.037	1360	240	50	0.044
16.0	2200	410	110	0.047	1360	200	70	0.037	1100	200	55	0.045
20.0	1680	320	105	0.048	1060	160	65	0.038	840	150	55	0.045
25.0	1360	250	105	0.046	840	130	65	0.039	680	120	55	0.044

MATERIAL	HARDENED STEELS					HARDENED STEELS			
HARDNESS	HRc45 ~ HRc55					HRc55 ~ HRc65			
STRENGTH	1500 ~ 2000N/mm²					2000N/mm² ~			
DIAMETER	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	
2.0	5040	50	30	0.002					
3.0	3360	60	30	0.004	1900	50	20	0.007	
4.0	2940	60	35	0.005	1480	50	20	0.008	
5.0	2320	70	35	0.008	1260	50	20	0.010	
6.0	2000	80	40	0.010	1100	50	20	0.011	
8.0	1680	110	40	0.016	840	50	20	0.015	
10.0	1360	90	45	0.017	680	40	20	0.015	
12.0	1160	80	45	0.017	560	40	20	0.018	
16.0	900	60	45	0.017	440	25	20	0.014	
20.0	680	40	45	0.015	320	25	20	0.020	
25.0	540	30	40	0.014	260	20	20	0.019	



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