



PLAIN SHANK  
GLATTER ZYLINDERSCHAFT

FLAT SHANK  
SEITLICHE MITNAHMEFLÄCHEN

**CARBIDE, MULTI FLUTE 20° HELIX LONG LENGTH ROUGHING- FINE**  
**VOLLHARTMETALL, MULTI SCHNEIDEN 20° RECHTSSPIRALE LANG SCHRUPPFRÄSER - FEIN**

- ▶ Designed to machine tool steel, alloy steel, mold steel and other high hardened materials.
- ▶ High velocity milling of hardened steels.
- ▶ For dry and wet milling.
- ▶ Fast chip ejection.
- ▶ Longer flute length than EM832, EM842 series.

- ▶ Zur Bearbeitung: Werkzeugstählen, Legierten Stählen, Stahlguß und gehärteten Stählen.
- ▶ Hochgeschwindigkeitsfräsen von gehärteten Stählen.
- ▶ Für Trocken - und Nabfräsen.
- ▶ Schnelle Spanausfuhr.
- ▶ Längere Schneiden als bei EM832 und EM842 Serien.



Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length	No. of Flute
PLAIN	FLAT	h10	h6			
EM814060	EM824060	6.0	6	16	57	3
EM814070	EM824070	7.0	8	16	63	3
EM814080	EM824080	8.0	8	16	63	3
EM814090	EM824090	9.0	10	19	72	4
EM814100	EM824100	10.0	10	22	72	4
EM814120	EM824120	12.0	12	26	83	4
EM814140	EM824140	14.0	14	26	83	4
EM814901	EM824901	14.0	16	26	83	4
EM814160	EM824160	16.0	16	32	92	4
EM814180	EM824180	18.0	18	32	92	4
EM814200	EM824200	20.0	20	38	104	4
EM814250	EM824250	25.0	25	45	121	5

**Tolerances according to DIN 7160 & 7161**  
**Toleranzen nach DIN 7160 & 7161**

Tolerance range in $\mu\text{m}$ / Toleranzwerte in $\mu\text{m}$					
Nominal-Diameter in mm / Nennmaßbereich in mm					
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13

◎ : Excellent ○ : Good

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

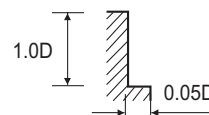
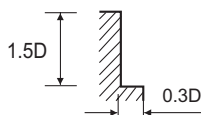


**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDKONDITIONEN**

**CARBIDE, MULTI FLUTE 20° HELIX ROUGHING - SIDE CUTTING**  
**VOLLHARTMETALL, MULTI SCHNEIDEN 20° RECHTSSPIRALE SCHRUPPFÄRER - SEITENFRÄSEN**

**EM832, EM842, EM814, EM824 SERIES**

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		STAINLESS STEELS		HARDENED STEELS		HARDENED STEELS	
HARDNESS	~ HRc30		HRc30 ~ HRc38		HRc38 ~ HRc45		HRc45 ~ HRc55		HRc55 ~ HRc65	
STRENGTH	~ 1000N/mm <sup>2</sup>		1000 ~ 1200N/mm <sup>2</sup>		1200 ~ 1400N/mm <sup>2</sup>		1400 ~ 2000N/mm <sup>2</sup>		2000N/mm <sup>2</sup> ~	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6.0	15600	2320	12400	840	8400	570	3400	260	2400	190
8.0	11600	2320	9200	840	6300	570	2400	240	1800	180
10.0	9200	2320	7600	840	5100	570	2000	290	1300	190
12.0	8000	2400	6000	800	4200	570	1680	260	1200	190
14.0	6800	2400	5200	840	3600	570	1400	200	900	130
16.0	6000	2400	4800	760	3300	510	1200	160	800	110
18.0	5200	2320	4400	720	2700	420	1100	150	700	100
20.0	4800	2160	3600	560	2400	360	1000	150	660	100
25.0	4300	2150	3200	620	2160	410	900	160	600	100

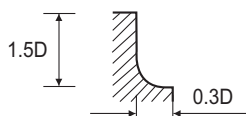


RPM = rev./min.  
FEED = mm/min.

**CARBIDE, 3&4 FLUTE 20° HELIX ROUGHING BALL NOSE - SIDE CUTTING**  
**VOLLHARTMETALL, 3&4 SCHNEIDEN 20° RECHTSSPIRALE SCHRUPPFÄRER STIRNRADIUS - SEITENFRÄSEN**

**EM833, EM843 SERIES**

MATERIAL	NON-ALLOYED STEELS ALLOY STEELS CAST IRON		ALLOY STEELS HEAT RESISTANT STEELS		ALLOY STEELS HEAT RESISTANT STEELS		HARDENED STEELS		HARDENED STEELS	
HARDNESS	~ HRc30		HRc30 ~ HRc38		HRc38 ~ HRc45		HRc45 ~ HRc55		HRc55 ~ HRc65	
STRENGTH	~ 1000N/mm <sup>2</sup>		1000 ~ 1200N/mm <sup>2</sup>		1200 ~ 1400N/mm <sup>2</sup>		1400 ~ 2000N/mm <sup>2</sup>		2000N/mm <sup>2</sup> ~	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R3.0 × 6.0	15600	2320	12400	840	8400	570	3400	260	2400	190
R4.0 × 8.0	11600	2320	9200	840	6300	570	2400	240	1800	180
R5.0 × 10.0	9200	2320	7600	840	5100	570	2000	290	1300	190
R6.0 × 12.0	8000	2400	6000	800	4200	570	1680	260	1200	190
R7.0 × 14.0	6800	2400	5200	840	3600	570	1400	200	900	130
R8.0 × 16.0	6000	2400	4800	760	3300	510	1200	160	800	110
R9.0 × 18.0	5200	2320	4400	720	2700	420	1100	150	700	100
R10.0 × 20.0	4800	2160	3600	560	2400	360	1000	150	660	100



RPM = rev./min.  
FEED = mm/min.