



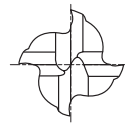
PLAIN SHANK
GLATTER ZYLINDERSCHAFT

FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 4 FLUTE SHORT LENGTH
VOLLHARTMETALL, 4 SCHNEDEN KURZ

- ▶ Special flute geometry eliminates vibrations
- ▶ Designed to mild steels, stainless steels, cast iron, tool steels, titanium alloys, prehardened steels and low hardness materials under HRc 40
- ▶ Excellent work piece finishes
- ▶ Higher speeds, deeper cuts and metal removal rates

- ▶ Spezielle Schneidengeometrie verhindert Vibrationen
- ▶ Geeignet für Baustähle, Rostfreie Stähle, Grauguss, Werkzeugstähle, Titanlegierungen, hochfeste Stähle und Werkstoffe unter 40 HRc
- ▶ Bessere Werkstückoberflächen.
- ▶ Höhere Schnittgeschwindigkeiten, größere Profiltiefe und größeres Zerspanungsvolumen



Unit : mm

| EDP No. | | Mill Diameter | Shank Diameter h6 | Length of Cut | Overall Length |
|----------|----------|---------------|----------------------|---------------|----------------|
| PLAIN | FLAT | | | | |
| EMB41030 | EMB42030 | 3.0 | 6 | 7 | 54 |
| EMB41040 | EMB42040 | 4.0 | 6 | 8 | 54 |
| EMB41050 | EMB42050 | 5.0 | 6 | 10 | 54 |
| EMB41060 | EMB42060 | 6.0 | 6 | 10 | 54 |
| EMB41080 | EMB42080 | 8.0 | 8 | 12 | 58 |
| EMB41100 | EMB42100 | 10.0 | 10 | 14 | 66 |
| EMB41120 | EMB42120 | 12.0 | 12 | 16 | 73 |
| EMB41140 | EMB42140 | 14.0 | 14 | 18 | 75 |
| EMB41160 | EMB42160 | 16.0 | 16 | 22 | 82 |
| EMB41180 | EMB42180 | 18.0 | 18 | 24 | 84 |
| EMB41200 | EMB42200 | 20.0 | 20 | 26 | 92 |

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

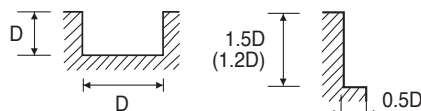
◎ : Excellent ○ : Good

| 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 | | | | | | | | | |
| ◎ | ○ | ○ | | | | | | | | ◎ | ◎ | ○ | | |

CARBIDE, 4 FLUTE
VOLLHARTMETALL, 4 SCHNEIDEN

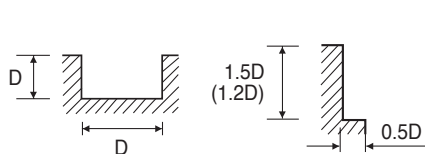
EMB41, EMB42, EMB43, EMB44, EMB14, EMB39, EMB15, EMB40, EMC84, EMC85, EME31, EME32 SERIES

| MATERIAL | ALLOY STEELS CAST IRON | | | | STAINLESS STEELS 300SERIES | | | | STAINLESS STEELS 400SERIES | | | |
|----------|---------------------------|------|-----|-------|-------------------------------|------|----|-------|-------------------------------|------|-----|-------|
| HARDNESS | ~HB230 | | | | HRc30 ~ HRc45 | | | | | | | |
| STRENGTH | ~1000N/mm ² | | | | 1000 ~ 1500N/mm ² | | | | | | | |
| DIAMETER | RPM | FEED | Vc | Fz | RPM | FEED | Vc | Fz | RPM | FEED | Vc | Fz |
| 3.0 | 13475 | 275 | 125 | 0.005 | 10185 | 195 | 95 | 0.005 | 14260 | 205 | 135 | 0.004 |
| 4.0 | 10105 | 330 | 125 | 0.008 | 7600 | 250 | 95 | 0.008 | 14260 | 255 | 180 | 0.004 |
| 5.0 | 8085 | 370 | 125 | 0.011 | 6110 | 310 | 95 | 0.013 | 8655 | 310 | 135 | 0.009 |
| 6.0 | 6735 | 435 | 125 | 0.016 | 5095 | 360 | 95 | 0.018 | 7130 | 360 | 135 | 0.013 |
| 8.0 | 5050 | 555 | 125 | 0.027 | 3820 | 435 | 95 | 0.028 | 5345 | 465 | 135 | 0.022 |
| 10.0 | 4455 | 690 | 140 | 0.039 | 3055 | 590 | 95 | 0.048 | 4275 | 585 | 135 | 0.034 |
| 12.0 | 3710 | 695 | 140 | 0.047 | 2545 | 565 | 95 | 0.056 | 3565 | 565 | 135 | 0.040 |
| 14.0 | 3180 | 620 | 140 | 0.049 | 2180 | 520 | 95 | 0.060 | 3055 | 520 | 135 | 0.043 |
| 16.0 | 2785 | 590 | 140 | 0.053 | 1910 | 480 | 95 | 0.063 | 2670 | 480 | 135 | 0.045 |
| 18.0 | 2475 | 585 | 140 | 0.059 | 1695 | 475 | 95 | 0.070 | 2375 | 475 | 135 | 0.050 |
| 20.0 | 2225 | 580 | 140 | 0.065 | 1525 | 470 | 95 | 0.077 | 2140 | 470 | 135 | 0.055 |
| 25.0 | 1780 | 450 | 140 | 0.063 | 1215 | 380 | 95 | 0.078 | 1710 | 380 | 135 | 0.056 |

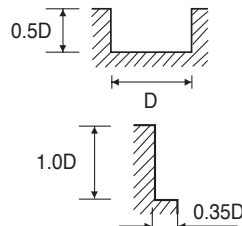


*() : short length type
1.2 x D Axial cutting depth should be applied for Short length series diameter over 8mm

| MATERIAL | TITANIUM | | | | INCONEL | | | |
|----------|----------|------|----|-------|---------|------|----|-------|
| HARDNESS | | | | | | | | |
| STRENGTH | | | | | | | | |
| DIAMETER | RPM | FEED | Vc | Fz | RPM | FEED | Vc | Fz |
| 3.0 | 10185 | 205 | 95 | 0.005 | 2715 | 55 | 25 | 0.005 |
| 4.0 | 7600 | 255 | 95 | 0.008 | 2005 | 55 | 25 | 0.007 |
| 5.0 | 6110 | 310 | 95 | 0.013 | 1630 | 80 | 25 | 0.012 |
| 6.0 | 5095 | 360 | 95 | 0.018 | 1355 | 95 | 25 | 0.018 |
| 8.0 | 3280 | 465 | 80 | 0.035 | 1015 | 125 | 25 | 0.031 |
| 10.0 | 3055 | 585 | 95 | 0.048 | 815 | 155 | 25 | 0.048 |
| 12.0 | 2545 | 565 | 95 | 0.056 | 675 | 150 | 25 | 0.056 |
| 14.0 | 2180 | 520 | 95 | 0.060 | 580 | 140 | 25 | 0.060 |
| 16.0 | 1910 | 480 | 95 | 0.063 | 505 | 130 | 25 | 0.064 |
| 18.0 | 1695 | 475 | 95 | 0.070 | 450 | 125 | 25 | 0.069 |
| 20.0 | 1525 | 470 | 95 | 0.077 | 405 | 125 | 25 | 0.077 |
| 25.0 | 1215 | 380 | 95 | 0.078 | 320 | 110 | 25 | 0.086 |



1.2 x D Axial cutting depth should be applied for Short length series diameter over 8mm



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