



EMB78 SERIES

PLAIN SHANK  
GLATTER ZYLINDERSCHAFT

EMB79 SERIES

FLAT SHANK  
SEITLICHE MITNAHMEFLÄCHEN

## CARBIDE, 4 FLUTE REGULAR LENGTH BALL NOSE VOLLHARTMETALL, 4 SCHNEIDEN STANDARD STIRNRADIUS

- ▶ Special flute geometry eliminates vibrations
- ▶ Designed to mild steels, stainless steel, cast iron, tool steels, titanium alloys, prehardened steels and low hardness material 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 : inch

| EDP No.  |          | Radius of Ball Nose | Mill Diameter | Shank Diameter h6 | Length of Cut | Overall Length |
|----------|----------|---------------------|---------------|-------------------|---------------|----------------|
| PLAIN    | FLAT     | R (±0.0004")        |               |                   |               |                |
| EMB78008 | -        | R1/16               | 1/8           | 1/8               | 3/8           | 1-1/2          |
| EMB78010 | -        | R5/64               | 5/32          | 3/16              | 7/16          | 2              |
| EMB78012 | -        | R3/32               | 3/16          | 3/16              | 7/16          | 2              |
| EMB78016 | -        | R1/8                | 1/4           | 1/4               | 1/2           | 2-1/2          |
| EMB78020 | -        | R5/32               | 5/16          | 5/16              | 13/16         | 2-1/2          |
| EMB78024 | EMB79024 | R3/16               | 3/8           | 3/8               | 7/8           | 2-1/2          |
| EMB78032 | EMB79032 | R1/4                | 1/2           | 1/2               | 1             | 3              |
| EMB78040 | EMB79040 | R5/16               | 5/8           | 5/8               | 1-1/4         | 3-1/2          |
| EMB78048 | EMB79048 | R3/8                | 3/4           | 3/4               | 1-1/2         | 4              |
| EMB78064 | EMB79064 | R1/2                | 1             | 1                 | 1-1/2         | 4              |

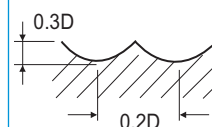
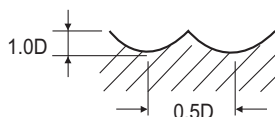
| Mill Dia.<br>Tolerance(inch) | Shank Dia.<br>Tolerance |
|------------------------------|-------------------------|
| 0~-.0012                     | h6                      |

◎ : 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             |        |          |           |          |                  |          |         |
| ○             | ◎            | ○                  |                 |          |                      |        |          |           |          | ◎                | ◎        | ○       |

**CARBIDE, 4 FLUTE BALL NOSE**  
**VOLLHARTMETALL, 4 SCHNEIDEN STIRNRADIUS**
**EMB74, EMB75, EMB78, EMB79 SERIES**

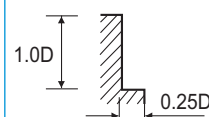
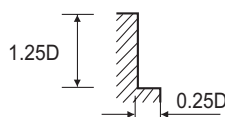
| MATERIAL     | ALLOY STEELS<br>CAST IRON |      | STAINLESS STEELS<br>300SERIES |      | STAINLESS STEELS<br>400SERIES |      | TITANIUM |      | INCONEL |      |
|--------------|---------------------------|------|-------------------------------|------|-------------------------------|------|----------|------|---------|------|
| HARDNESS     | ~HB 230                   |      |                               |      |                               |      |          |      |         |      |
| STRENGTH     | ~1000N/mm <sup>2</sup>    |      |                               |      |                               |      |          |      |         |      |
| DIAMETER     | RPM                       | FEED | RPM                           | FEED | RPM                           | FEED | RPM      | FEED | RPM     | FEED |
| R1.5 × 3.0   | 14324                     | 1430 | 8220                          | 650  | 7420                          | 440  | 5830     | 280  | 3180    | 140  |
| R2.0 × 4.0   | 10740                     | 1070 | 6160                          | 490  | 5570                          | 330  | 4370     | 210  | 2380    | 100  |
| R2.5 × 5.0   | 8590                      | 1030 | 4930                          | 490  | 4450                          | 440  | 3500     | 210  | 1910    | 80   |
| R3.0 × 6.0   | 7460                      | 1140 | 4110                          | 670  | 3710                          | 440  | 2910     | 230  | 1590    | 100  |
| R4.0 × 8.0   | 5370                      | 1280 | 3080                          | 550  | 2780                          | 440  | 2180     | 260  | 1190    | 120  |
| R5.0 × 10.0  | 4290                      | 1030 | 2460                          | 490  | 2220                          | 400  | 1750     | 210  | 950     | 100  |
| R6.0 × 12.0  | 3580                      | 1000 | 2050                          | 450  | 1850                          | 370  | 1450     | 230  | 790     | 120  |
| R8.0 × 16.0  | 2680                      | 800  | 1540                          | 370  | 1390                          | 300  | 1090     | 190  | 590     | 110  |
| R9.0 × 18.0  | 2380                      | 760  | 1370                          | 350  | 1230                          | 290  | 970      | 190  | 530     | 110  |
| R10.0 × 20.0 | 2140                      | 770  | 1230                          | 320  | 1110                          | 260  | 870      | 210  | 470     | 100  |
| R12.5 × 25.0 | 1710                      | 680  | 980                           | 270  | 890                           | 210  | 700      | 190  | 380     | 80   |



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

**CARBIDE, 5 FLUTE**  
**VOLLHARTMETALL, 5 SCHNEIDEN**
**EMB72, EMB73, EMB76, EMB77 SERIES**

| MATERIAL | ALLOY STEELS<br>CAST IRON |      | STAINLESS STEELS<br>300SERIES |      | STAINLESS STEELS<br>400SERIES |      | TITANIUM |      | INCONEL |      |
|----------|---------------------------|------|-------------------------------|------|-------------------------------|------|----------|------|---------|------|
| HARDNESS | ~HB 230                   |      |                               |      |                               |      |          |      |         |      |
| STRENGTH | ~1000N/mm <sup>2</sup>    |      |                               |      |                               |      |          |      |         |      |
| DIAMETER | RPM                       | FEED | RPM                           | FEED | RPM                           | FEED | RPM      | FEED | RPM     | FEED |
| 6.0      | 7270                      | 1240 | 6060                          | 920  | 5660                          | 860  | 4440     | 670  | 1450    | 120  |
| 8.0      | 5450                      | 1040 | 4540                          | 720  | 4240                          | 670  | 3330     | 520  | 1090    | 110  |
| 10.0     | 4360                      | 1100 | 3630                          | 690  | 3390                          | 640  | 2660     | 500  | 870     | 110  |
| 12.0     | 3630                      | 1150 | 3030                          | 960  | 3830                          | 820  | 2220     | 560  | 720     | 130  |
| 14.0     | 3110                      | 1080 | 2600                          | 850  | 2420                          | 770  | 1900     | 540  | 620     | 140  |
| 16.0     | 2720                      | 1040 | 2270                          | 780  | 2120                          | 720  | 1660     | 520  | 540     | 130  |
| 18.0     | 2420                      | 1000 | 2020                          | 710  | 1880                          | 670  | 1480     | 510  | 480     | 130  |
| 20.0     | 2180                      | 970  | 1810                          | 690  | 1690                          | 640  | 1330     | 500  | 430     | 130  |
| 25.0     | 1740                      | 880  | 1450                          | 640  | 1350                          | 600  | 1060     | 470  | 340     | 130  |



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