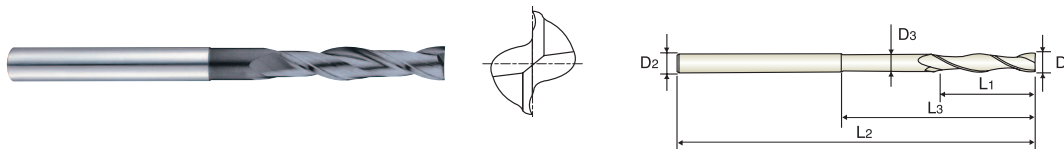


# CARBIDE, 2 FLUTE LONG LENGTH with NECK

## VOLLHARTMETALL, 2 SCHNEIDEN LANG mit ABGESETZTEM SCHAFTTETEL

- Higher hardness of film and excellent wear-resistance increase the tool life surprisingly.
- Ultra fine film of YG-1's diamond coated carbide ball end mills ensure the smooth and excellent surface on work materials.
- High performance on graphite, wrought aluminum, bakelite, plastics, wood, brass etc. YG-1's diamond coated carbide ball end mills have good result for the machining of non-ferrous metals and non-metallic materials.

- Höhere Härte der Beschichtung und ausgezeichnete Verschleißfestigkeit verlängern die Standzeit beachtlich.
- Ultrafeiner Film auf YG-1 Diamant - beschichteten Hartmetall Schaftfräser gewährleisten eine glatte und ausgezeichnete Oberflächengüte.
- Hohe Leistungsfähigkeit bei Graphit, Aluminium ohne Silicon, Bakelit, Plastik, Holz, Messing, etc. YG-1 Diamant - beschichtete Hartmetall Schaftfräser zeigen gute Ergebnisse beim Bearbeiten von NE - Metallen und Nichtmetall - Werkstoffen.



Unit : mm

| EDP No.       | Mill Diameter<br>D1 | Shank Diameter<br>D2 | Length of Cut<br>L1 | Length Below Shank<br>L3 | Overall Length<br>L2 | Neck Diameter<br>D3 |
|---------------|---------------------|----------------------|---------------------|--------------------------|----------------------|---------------------|
| EIB0400502040 | 0.5                 | 3                    | 1                   | 2                        | 40                   | 0.45                |
| EIB0400603040 | 0.6                 | 3                    | 2                   | 3                        | 40                   | 0.55                |
| EIB0400704040 | 0.7                 | 3                    | 2                   | 4                        | 40                   | 0.65                |
| EIB0400805040 | 0.8                 | 3                    | 2                   | 5                        | 40                   | 0.75                |
| EIB0400906040 | 0.9                 | 3                    | 2                   | 6                        | 40                   | 0.85                |
| EIB0401008075 | 1.0                 | 4                    | 3                   | 8                        | 75                   | 0.95                |
| EIB0401510075 | 1.5                 | 4                    | 4                   | 10                       | 75                   | 1.45                |
| EIB0402016100 | 2.0                 | 4                    | 6                   | 16                       | 100                  | 1.9                 |
| EIB0402520100 | 2.5                 | 4                    | 8                   | 20                       | 100                  | 2.4                 |
| EIB0403030100 | 3.0                 | 6                    | 8                   | 30                       | 100                  | 2.8                 |
| EIB0403535100 | 3.5                 | 6                    | 10                  | 35                       | 100                  | 3.2                 |
| EIB0404040100 | 4.0                 | 6                    | 20                  | 40                       | 100                  | 3.7                 |
| EIB0405050125 | 5.0                 | 6                    | 25                  | 50                       | 125                  | 4.6                 |
| EIB0406060140 | 6.0                 | 6                    | 30                  | 60                       | 140                  | 5.6                 |
| EIB0407000140 | 7.0                 | 6                    | 35                  | -                        | 140                  | -                   |
| EIB0408080150 | 8.0                 | 8                    | 40                  | 80                       | 150                  | 7.4                 |
| EIB0409000150 | 9.0                 | 8                    | 45                  | -                        | 150                  | -                   |
| EIB0410080150 | 10.0                | 10                   | 50                  | 80                       | 150                  | 9.4                 |
| EIB0411000150 | 11.0                | 10                   | 50                  | -                        | 150                  | -                   |
| EIB0412080150 | 12.0                | 12                   | 55                  | 80                       | 150                  | 11.4                |

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

◎ : Excellent ○ : Good

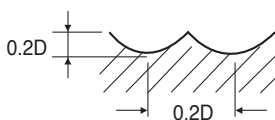
| Carbon Steels | Alloy Steels | Prehardened Steels | Hardened Steels   | High Hardened Steels | Copper | Graphite | Cast Iron | Aluminum | Stainless Steels | Titanium | Inconel | Acrylic | CFRP |
|---------------|--------------|--------------------|-------------------|----------------------|--------|----------|-----------|----------|------------------|---------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

## CARBIDE, 2 FLUTE MINIATURE BALL NOSE

VOLLHARTMETALL, 2 SCHNEIDEN MINI STIRNRADIUS

### EI997, EIB93, EIB87 SERIES

| MATERIAL    | GRAPHITE |      |     |       |
|-------------|----------|------|-----|-------|
| DIAMETER    | RPM      | FEED | Vc  | fz    |
| R0.2 × 0.4  | 40000    | 600  | 50  | 0.008 |
| R0.3 × 0.6  | 40000    | 800  | 75  | 0.010 |
| R0.4 × 0.8  | 40000    | 960  | 100 | 0.012 |
| R0.5 × 1.0  | 40000    | 1200 | 125 | 0.015 |
| R0.6 × 1.2  | 40000    | 1440 | 150 | 0.018 |
| R0.75 × 1.5 | 40000    | 1600 | 190 | 0.020 |
| R1.0 × 2.0  | 40000    | 2000 | 250 | 0.025 |
| R1.5 × 3.0  | 27000    | 2200 | 255 | 0.041 |
| R2.0 × 4.0  | 20000    | 2900 | 250 | 0.073 |
| R2.5 × 5.0  | 16000    | 2900 | 250 | 0.091 |
| R3.0 × 6.0  | 14000    | 2900 | 265 | 0.104 |



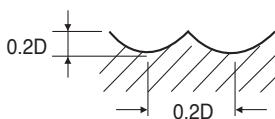
RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

## CARBIDE, 3 FLUTE BALL NOSE

VOLLHARTMETALL, 3 SCHNEIDEN STIRNRADIUS

### EI881 SERIES

| MATERIAL    | GRAPHITE |      |     |       |
|-------------|----------|------|-----|-------|
| DIAMETER    | RPM      | FEED | Vc  | fz    |
| R1.0 × 2.0  | 16000    | 1200 | 100 | 0.025 |
| R1.25 × 2.5 | 16000    | 1700 | 125 | 0.035 |
| R1.5 × 3.0  | 16000    | 2150 | 150 | 0.045 |
| R1.75 × 3.5 | 16000    | 2650 | 175 | 0.055 |
| R2.0 × 4.0  | 16000    | 3100 | 200 | 0.065 |
| R2.5 × 5.0  | 15500    | 3800 | 245 | 0.082 |
| R3.0 × 6.0  | 15000    | 4450 | 285 | 0.099 |
| R4.0 × 8.0  | 13000    | 4500 | 325 | 0.115 |
| R5.0 × 10.0 | 11500    | 4600 | 360 | 0.133 |
| R6.0 × 12.0 | 10500    | 4750 | 395 | 0.151 |



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

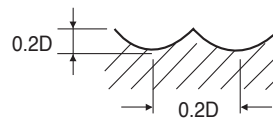
## RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

## CARBIDE, 2 FLUTE BALL NOSE

VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS

### EI880, EI451, EI450 SERIES

| MATERIAL    | GRAPHITE |      |     |       |
|-------------|----------|------|-----|-------|
| DIAMETER    | RPM      | FEED | Vc  | fz    |
| R1.0 × 2.0  | 16000    | 800  | 100 | 0.025 |
| R1.25 × 2.5 | 16000    | 1120 | 125 | 0.035 |
| R1.5 × 3.0  | 16000    | 1450 | 150 | 0.045 |
| R1.75 × 3.5 | 16000    | 1750 | 175 | 0.055 |
| R2.0 × 4.0  | 16000    | 2100 | 200 | 0.066 |
| R2.5 × 5.0  | 15500    | 2550 | 245 | 0.082 |
| R3.0 × 6.0  | 15000    | 2950 | 285 | 0.098 |
| R4.0 × 8.0  | 13000    | 3000 | 325 | 0.115 |
| R5.0 × 10.0 | 11500    | 3050 | 360 | 0.133 |
| R6.0 × 12.0 | 10500    | 3150 | 395 | 0.150 |



※ The FEED, in long & long reach types,  
should be reduced by around 50%

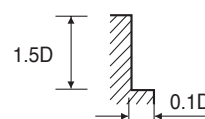
RPM = rev./min.  
FEED = mm/min.  
Vc = m/min.  
fz = mm/t

## CARBIDE, 2 FLUTE LONG LENGTH

VOLLHARTMETALL, 2 SCHNEIDEN LANG

### EIB04 SERIES

| MATERIAL | GRAPHITE |      |     |       |
|----------|----------|------|-----|-------|
| DIAMETER | RPM      | FEED | Vc  | fz    |
| 0.4      | 40000    | 200  | 50  | 0.003 |
| 0.6      | 40000    | 350  | 75  | 0.004 |
| 0.8      | 40000    | 550  | 100 | 0.007 |
| 1.0      | 40000    | 700  | 125 | 0.009 |
| 1.5      | 40000    | 800  | 190 | 0.010 |
| 2.0      | 25000    | 800  | 155 | 0.016 |
| 3.0      | 20000    | 800  | 190 | 0.020 |
| 4.0      | 18000    | 950  | 225 | 0.026 |
| 5.0      | 14000    | 1200 | 220 | 0.043 |
| 6.0      | 11000    | 1400 | 205 | 0.064 |
| 8.0      | 8000     | 1300 | 200 | 0.081 |
| 10.0     | 6500     | 1200 | 205 | 0.092 |
| 12.0     | 5500     | 1200 | 205 | 0.109 |



※ The FEED, in long & long reach types,  
should be reduced by around 50%

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