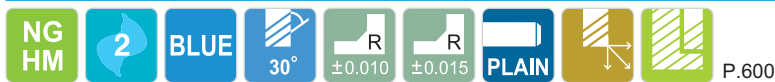
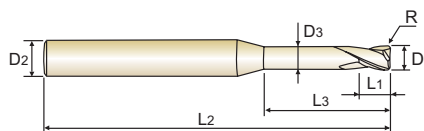




## CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS für SCHMALE RIPPEN

- ▶ Designed to machine high hardened materials.
- ▶ Suitable for dry cutting, high speed cutting thanks to newly developed raw-material and new coating.
- ▶ Excellent workpiece finish.
- ▶ Deep slotting is possible by reduced neck.
- ▶ Corner radius for preventing the chipping in high speed machining.
- ▶ Higher wear-resistance.

- ▶ Geeignet zum Fräsen hochgehärteter Stähle.
- ▶ Geeignet zum Trockenfräsen und HSC-Fräsen dank neuentwickeltem Material und Beschichtung.
- ▶ Exzellente Werkstückoberflächen.
- ▶ Abgesetzter Schaft für größere Reichweite.
- ▶ Schneidkantenschutz durch definierten Radius.
- ▶ Höhere Verschleißfestigkeit.



Ø0.5-Ø6 Ø8-Ø12

Unit : mm

| EDP No.      | Corner Radius<br>R | 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 |
|--------------|--------------------|---------------------|----------------------|---------------------|--------------------------|----------------------|---------------------|
| G8A60936     | RO.05              | 0.5                 | 4                    | 0.7                 | 1.5                      | 45                   | 0.45                |
| G8A60932     | RO.05              | 0.5                 | 4                    | 0.7                 | 2.5                      | 45                   | 0.45                |
| G8A60935     | RO.05              | 0.5                 | 4                    | 0.7                 | 4                        | 45                   | 0.45                |
| G8A60931     | RO.05              | 0.6                 | 4                    | 0.9                 | 2                        | 45                   | 0.55                |
| G8A60933     | RO.05              | 0.6                 | 4                    | 0.9                 | 3                        | 45                   | 0.55                |
| G8A60934     | RO.05              | 0.6                 | 4                    | 0.9                 | 4                        | 45                   | 0.55                |
| G8A600060102 | RO.1               | 0.6                 | 4                    | 0.9                 | 2                        | 45                   | 0.55                |
| G8A600070104 | RO.1               | 0.7                 | 4                    | 1                   | 4                        | 45                   | 0.65                |
| G8A600080102 | RO.1               | 0.8                 | 4                    | 1.2                 | 2                        | 45                   | 0.75                |
| G8A60008     | RO.1               | 0.8                 | 4                    | 1.2                 | 4                        | 45                   | 0.75                |
| G8A60924     | RO.1               | 0.8                 | 4                    | 1.2                 | 6                        | 45                   | 0.75                |
| G8A60925     | RO.1               | 1.0                 | 6                    | 1.5                 | 4                        | 50                   | 0.95                |
| G8A60926     | RO.1               | 1.0                 | 6                    | 1.5                 | 6                        | 50                   | 0.95                |
| G8A60010     | RO.2               | 1.0                 | 6                    | 1.5                 | 4                        | 50                   | 0.95                |
| G8A60910     | RO.2               | 1.0                 | 6                    | 1.5                 | 6                        | 50                   | 0.95                |
| G8A60911     | RO.2               | 1.0                 | 6                    | 1.5                 | 8                        | 50                   | 0.95                |
| G8A60912     | RO.3               | 1.0                 | 6                    | 1.5                 | 4                        | 50                   | 0.95                |
| G8A60930     | RO.3               | 1.0                 | 6                    | 1.5                 | 6                        | 50                   | 0.95                |
| G8A600100308 | RO.3               | 1.0                 | 6                    | 1.5                 | 8                        | 50                   | 0.95                |
| G8A60015     | RO.2               | 1.5                 | 6                    | 2.5                 | 4                        | 50                   | 1.45                |
| G8A600150206 | RO.2               | 1.5                 | 6                    | 2.5                 | 6                        | 50                   | 1.45                |
| G8A600150208 | RO.2               | 1.5                 | 6                    | 2.5                 | 8                        | 50                   | 1.45                |
| G8A60913     | RO.2               | 1.5                 | 6                    | 2.5                 | 10                       | 50                   | 1.45                |
| G8A60914     | RO.2               | 1.5                 | 6                    | 2.5                 | 12                       | 50                   | 1.45                |
| G8A60915     | RO.3               | 1.5                 | 6                    | 2.5                 | 4                        | 50                   | 1.45                |
| G8A600150306 | RO.3               | 1.5                 | 6                    | 2.5                 | 6                        | 50                   | 1.45                |
| G8A600150308 | RO.3               | 1.5                 | 6                    | 2.5                 | 8                        | 50                   | 1.45                |
| G8A60927     | RO.2               | 2.0                 | 6                    | 3                   | 6                        | 50                   | 1.95                |
| G8A600200208 | RO.2               | 2.0                 | 6                    | 3                   | 8                        | 50                   | 1.95                |

Due to the characteristics of blue decoration layer which might be earased during short term using, the color layer might not be uniform moreover.

However, it doesn't effect on performance of tool.

◎ : Excellent ○ : Good

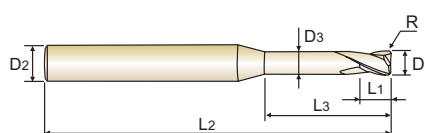
| Carbon Steels | Alloy Steels | Prehardened Steels | Hardened Steels |          | High Hardened Steels | Copper | Graphite | Cast Iron | Aluminum | Stainless Steels | Titanium | Inconel |
|---------------|--------------|--------------------|-----------------|----------|----------------------|--------|----------|-----------|----------|------------------|--------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

# CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING

## VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS für SCHMALE RIPPEN

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- ▶ Abgesetzter Schaft für größere Reichweite.
- ▶ Schneidkantenschutz durch definierten Radius.
- ▶ Höhere Verschleißfestigkeit.



Ø0.5-Ø6 Ø8-Ø12

Unit : mm

| EDP No.      | Corner Radius<br>R | 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 |
|--------------|--------------------|---------------------|----------------------|---------------------|--------------------------|----------------------|---------------------|
| G8A600200210 | RO.2               | 2.0                 | 6                    | 3                   | 10                       | 55                   | 1.95                |
| G8A600200212 | RO.2               | 2.0                 | 6                    | 3                   | 12                       | 55                   | 1.95                |
| G8A60916     | RO.3               | 2.0                 | 6                    | 3                   | 6                        | 50                   | 1.95                |
| G8A600200308 | RO.3               | 2.0                 | 6                    | 3                   | 8                        | 50                   | 1.95                |
| G8A600200310 | RO.3               | 2.0                 | 6                    | 3                   | 10                       | 55                   | 1.95                |
| G8A600200312 | RO.3               | 2.0                 | 6                    | 3                   | 12                       | 55                   | 1.95                |
| G8A600200316 | RO.3               | 2.0                 | 6                    | 3                   | 16                       | 55                   | 1.95                |
| G8A60917     | RO.5               | 2.0                 | 6                    | 3                   | 6                        | 50                   | 1.95                |
| G8A60020     | RO.5               | 2.0                 | 6                    | 3                   | 10                       | 55                   | 1.95                |
| G8A60918     | RO.5               | 2.0                 | 6                    | 3                   | 12                       | 55                   | 1.95                |
| G8A600300208 | RO.2               | 3.0                 | 6                    | 4                   | 8                        | 55                   | 2.85                |
| G8A600300210 | RO.2               | 3.0                 | 6                    | 4                   | 10                       | 55                   | 2.85                |
| G8A600300212 | RO.2               | 3.0                 | 6                    | 4                   | 12                       | 55                   | 2.85                |
| G8A600300216 | RO.2               | 3.0                 | 6                    | 4                   | 16                       | 55                   | 2.85                |
| G8A600300308 | RO.3               | 3.0                 | 6                    | 4                   | 8                        | 55                   | 2.85                |
| G8A60919     | RO.3               | 3.0                 | 6                    | 4                   | 10                       | 55                   | 2.85                |
| G8A600300312 | RO.3               | 3.0                 | 6                    | 4                   | 12                       | 55                   | 2.85                |
| G8A600300316 | RO.3               | 3.0                 | 6                    | 4                   | 16                       | 55                   | 2.85                |
| G8A60030     | RO.5               | 3.0                 | 6                    | 4                   | 10                       | 55                   | 2.85                |
| G8A600300512 | RO.5               | 3.0                 | 6                    | 4                   | 12                       | 55                   | 2.85                |
| G8A60901     | RO.5               | 3.0                 | 6                    | 4                   | 16                       | 55                   | 2.85                |
| G8A60902     | RO.5               | 3.0                 | 6                    | 4                   | 20                       | 55                   | 2.85                |
| G8A600400212 | RO.2               | 4.0                 | 6                    | 5                   | 12                       | 55                   | 3.85                |
| G8A600400216 | RO.2               | 4.0                 | 6                    | 5                   | 16                       | 55                   | 3.85                |
| G8A600400220 | RO.2               | 4.0                 | 6                    | 5                   | 20                       | 55                   | 3.85                |
| G8A600400310 | RO.3               | 4.0                 | 6                    | 5                   | 10                       | 55                   | 3.85                |
| G8A60920     | RO.3               | 4.0                 | 6                    | 5                   | 12                       | 55                   | 3.85                |
| G8A600400316 | RO.3               | 4.0                 | 6                    | 5                   | 16                       | 55                   | 3.85                |
| G8A600400320 | RO.3               | 4.0                 | 6                    | 5                   | 20                       | 55                   | 3.85                |

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◎ : Excellent ○ : Good

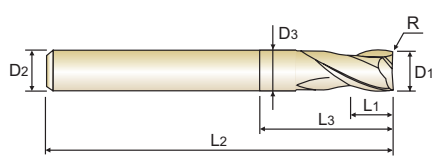
| Carbon Steels | Alloy Steels | Prehardened Steels | Hardened Steels |          | High Hardened Steels | Copper | Graphite | Cast Iron | Aluminum | Stainless Steels | Titanium | Inconel |
|---------------|--------------|--------------------|-----------------|----------|----------------------|--------|----------|-----------|----------|------------------|----------|---------|
| ~HB225        | HB225~325    | HRC30~40           | HRC40~45        | HRC45~55 | HRC55~70             |        |          |           |          |                  |          |         |
|               | ○            | ○                  | ○               | ◎        | ◎                    |        |          |           |          |                  |          |         |



## CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS für SCHMALE RIPPEN

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NG HM
2
BLUE
30°
R ±0.010
R ±0.015
PLAIN
P.600

Ø0.5-Ø6 Ø8-Ø12

Unit : mm

| EDP No.      | Corner Radius<br>R | 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 |
|--------------|--------------------|---------------------|----------------------|---------------------|--------------------------|----------------------|---------------------|
| G8A60040     | R0.5               | 4.0                 | 6                    | 5                   | 12                       | 55                   | 3.85                |
| G8A60903     | R0.5               | 4.0                 | 6                    | 5                   | 16                       | 55                   | 3.85                |
| G8A60904     | R0.5               | 4.0                 | 6                    | 5                   | 20                       | 55                   | 3.85                |
| G8A600401012 | R1.0               | 4.0                 | 6                    | 5                   | 12                       | 55                   | 3.85                |
| G8A600401016 | R1.0               | 4.0                 | 6                    | 5                   | 16                       | 55                   | 3.85                |
| G8A60921     | R0.3               | 6.0                 | 6                    | 7                   | 20                       | 60                   | 5.85                |
| G8A60060     | R0.5               | 6.0                 | 6                    | 7                   | 20                       | 60                   | 5.85                |
| G8A60905     | R1.0               | 6.0                 | 6                    | 7                   | 20                       | 60                   | 5.85                |
| G8A60906     | R1.5               | 6.0                 | 6                    | 7                   | 20                       | 60                   | 5.85                |
| G8A600602020 | R2.0               | 6.0                 | 6                    | 7                   | 20                       | 60                   | 5.85                |
| G8A60922     | R0.3               | 8.0                 | 8                    | 9                   | 25                       | 60                   | 7.7                 |
| G8A60929     | R0.5               | 8.0                 | 8                    | 9                   | 25                       | 60                   | 7.7                 |
| G8A60080     | R1.0               | 8.0                 | 8                    | 9                   | 25                       | 60                   | 7.7                 |
| G8A60907     | R1.5               | 8.0                 | 8                    | 9                   | 25                       | 60                   | 7.7                 |
| G8A600802025 | R2.0               | 8.0                 | 8                    | 9                   | 25                       | 60                   | 7.7                 |
| G8A60923     | R0.3               | 10.0                | 10                   | 11                  | 32                       | 70                   | 9.7                 |
| G8A601000532 | R0.5               | 10.0                | 10                   | 11                  | 32                       | 70                   | 9.7                 |
| G8A60100     | R1.0               | 10.0                | 10                   | 11                  | 32                       | 70                   | 9.7                 |
| G8A60908     | R1.5               | 10.0                | 10                   | 11                  | 32                       | 70                   | 9.7                 |
| G8A601002032 | R2.0               | 10.0                | 10                   | 11                  | 32                       | 70                   | 9.7                 |
| G8A601200538 | R0.5               | 12.0                | 12                   | 12                  | 38                       | 80                   | 11.7                |
| G8A60120     | R1.0               | 12.0                | 12                   | 12                  | 38                       | 80                   | 11.7                |
| G8A60909     | R1.5               | 12.0                | 12                   | 12                  | 38                       | 80                   | 11.7                |
| G8A601202038 | R2.0               | 12.0                | 12                   | 12                  | 38                       | 80                   | 11.7                |

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| Size     | Corner Radius Tolerance (mm) | Mill Dia. Tolerance (mm) | Shank Dia. Tolerance |
|----------|------------------------------|--------------------------|----------------------|
| up to Ø6 | ±0.010                       | 0~-0.012                 | h6                   |
| over Ø6  | ±0.015                       | 0~-0.015                 |                      |

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

◎ : Excellent ○ : Good

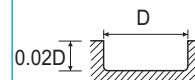
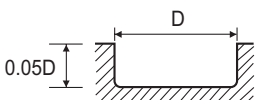


**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDKONDITIONEN**

**CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING - SLOTTING**  
**VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS für SCHMALE RIPPEN - NUTENFRÄSEN**

**G8A60** SERIES

| MATERIAL             | HARDENED STEELS<br>HEAT RESISTANT<br>STEELS |      | HARDENED STEELS |      |                 |      |                 |      |                 |      |                 |      |
|----------------------|---|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|
|                      | HRc 30 ~ HRc 40                             |      | HRc 40 ~ HRc 50 |      | HRc 50 ~ HRc 55 |      | HRc 55 ~ HRc 60 |      | HRc 60 ~ HRc 65 |      | HRc 65 ~ HRc 70 |      |
| HARDNESS<br>DIAMETER | RPM   | FEED | RPM             | FEED | RPM             | FEED | RPM             | FEED | RPM             | FEED | RPM             | FEED |
| 0.5                  | 50000                                       | 295  | 45000           | 225  | 40000           | 175  | 33000           | 110  | 25000           | 65   | 20000           | 40   |
| 0.6                  | 50000                                       | 375  | 45000           | 285  | 40000           | 225  | 30000           | 125  | 25000           | 85   | 20000           | 50   |
| 0.8                  | 50000                                       | 480  | 45000           | 350  | 30000           | 235  | 25000           | 145  | 19000           | 90   | 16000           | 55   |
| 1.0                  | 48000                                       | 600  | 38000           | 456  | 25500           | 288  | 20500           | 172  | 16000           | 108  | 12500           | 70   |
| 2.0                  | 33300                                       | 680  | 26000           | 544  | 17500           | 336  | 14500           | 208  | 11000           | 128  | 9500            | 92   |
| 3.0                  | 21800                                       | 680  | 17300           | 544  | 11500           | 336  | 9500            | 208  | 7500            | 128  | 6400            | 92   |
| 4.0                  | 16700                                       | 704  | 13200           | 560  | 8800            | 352  | 7200            | 216  | 5600            | 136  | 4750            | 94   |
| 5.0                  | 15700                                       | 800  | 12500           | 644  | 8300            | 400  | 6400            | 228  | 5100            | 144  | 4450            | 106  |
| 6.0                  | 13100                                       | 760  | 10350           | 616  | 6900            | 384  | 5300            | 224  | 4200            | 144  | 3700            | 104  |
| 8.0                  | 9880  | 744  | 7800            | 576  | 5200            | 356  | 4000            | 204  | 3200            | 132  | 2800            | 96   |
| 10.0                 | 7800  | 680  | 6150            | 544  | 4100            | 332  | 3200            | 192  | 2550            | 124  | 2200            | 90   |
| 12.0                 | 6650  | 680  | 5250            | 544  | 3500            | 332  | 2650            | 192  | 2100            | 124  | 1860            | 90   |

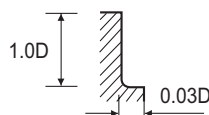


RPM = rev./min.  
FEED = mm/min.

**CARBIDE, 2 FLUTE CORNER RADIUS for RIB PROCESSING - SIDE CUTTING**  
**VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS für SCHMALE RIPPEN - SEITENFRÄSEN**

**G8A60** SERIES

| MATERIAL             | HARDENED STEELS<br>HEAT RESISTANT<br>STEELS |      | HARDENED STEELS |      |                 |      |                 |      |                 |      |                 |      |
|----------------------|---|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|-----------------|------|
|                      | HRc 30 ~ HRc 40                             |      | HRc 40 ~ HRc 50 |      | HRc 50 ~ HRc 55 |      | HRc 55 ~ HRc 60 |      | HRc 60 ~ HRc 65 |      | HRc 65 ~ HRc 70 |      |
| HARDNESS<br>DIAMETER | RPM   | FEED | RPM             | FEED | RPM             | FEED | RPM             | FEED | RPM             | FEED | RPM             | FEED |
| 0.5                  | 50000                                       | 205  | 45000           | 160  | 40000           | 125  | 33000           | 80   | 25000           | 45   | 20000           | 30   |
| 0.6                  | 50000                                       | 265  | 45000           | 200  | 40000           | 160  | 30000           | 90   | 25000           | 60   | 20000           | 35   |
| 0.8                  | 50000                                       | 335  | 40000           | 245  | 30000           | 165  | 25000           | 100  | 19000           | 65   | 16000           | 40   |
| 1.0                  | 48000                                       | 840  | 38000           | 656  | 25500           | 408  | 20500           | 248  | 16000           | 152  | 12500           | 100  |
| 2.0                  | 33300                                       | 960  | 26000           | 776  | 17500           | 480  | 14500           | 296  | 11000           | 184  | 9500            | 132  |
| 3.0                  | 21800                                       | 960  | 17300           | 776  | 11500           | 480  | 9500            | 296  | 7500            | 184  | 6400            | 132  |
| 4.0                  | 16700                                       | 1000 | 13200           | 800  | 8800            | 500  | 7200            | 308  | 5600            | 192  | 4750            | 136  |
| 5.0                  | 15700                                       | 1160 | 12500           | 920  | 8300            | 568  | 6400            | 328  | 5100            | 208  | 4450            | 152  |
| 6.0                  | 13100                                       | 1080 | 10350           | 880  | 6900            | 552  | 5300            | 320  | 4200            | 204  | 3700            | 148  |
| 8.0                  | 9880  | 1056 | 7800            | 824  | 5200            | 508  | 4000            | 292  | 3200            | 188  | 2800            | 136  |
| 10.0                 | 7800  | 960  | 6150            | 776  | 4100            | 472  | 3200            | 272  | 2550            | 176  | 2200            | 128  |
| 12.0                 | 6650  | 960  | 5250            | 776  | 3500            | 472  | 2650            | 272  | 2100            | 176  | 1860            | 128  |



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