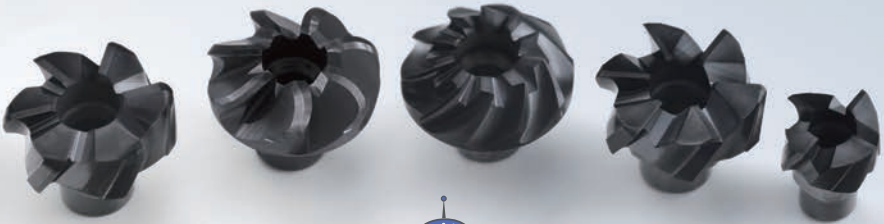




SINCE 1977



UFO MILL[®]

Simple _ Speed _ Smart



Design of UFO Mill

Taper polygon + Centralizing cylinder



Taper Polygon

▶ Taper polygon



▶ Centra cylinder concentricity:

$\pm 0.005\text{mm}$



• All grinded milling head

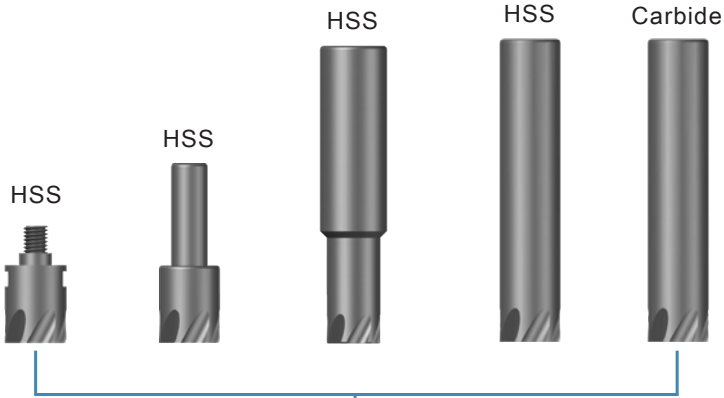


The UFO MILL patented taper polygon design enhances the tight fit of insert joint. It gives a better resistance to the impacts from prolonged machining and solves the cutter slippery issue. The robust tri-face contact design makes the machining stable and durable.

Tri-face contact design



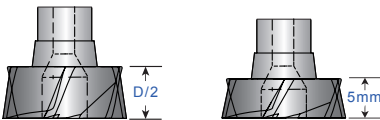
Design of UFO Mill



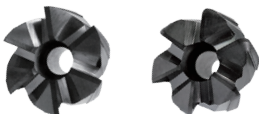
288 different carbide heads
41 different patented shanks
1680 different combinations

Square Milling Heads

3B (M/ME/E)



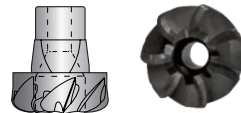
Ø10 - 25



R0 / R0.5 / R1.0 / R1.5 / R2.0

High Feed Milling Heads

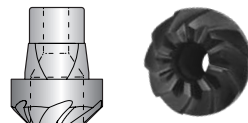
3BH Ø10 - 25



R0.5 / R0.8

High Feed Chamfer Milling Heads

3BC Ø10,13,16



30° / 45° / 60°

Product competitive advantages

- The best cost - saving solution

- High feed design

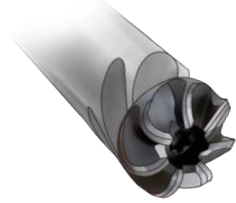
Optional length



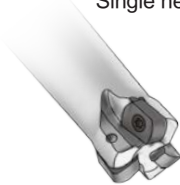
Step Diameter




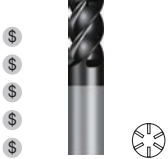


Customized Size



(Y.T. Design) $\varnothing 20$ - 7 flutes
Single head with multi - flutes



(Other brand) $\varnothing 16$ - 3 flutes

| | | | | |
|---|---|--|---|--|
| Tools comparison |  |  |  |  |
| Productivity ($\varnothing 16$) | 6 teeth+patented geometry achieves high metal removal 😊 | 2-6 teeth | 2-3 teeth 😞 | 2-6 teeth |
| Accuracy | Concentricity $\pm 0.005\text{mm}$ 😊 | | 😞 | |
| Accuracy on the corner radius | 😊 | | 😞 | |
| Regrinding | Not necessary, less tool inventory and management cost | could be regrind but quality might not be equal | not necessary | not necessary |
| Tool length resetting | not necessary, can be changed directly from M/C | necessary, shrink fit arbor takes longer time to reset | re-setup is necessary in finishing process | not necessary |
| Price | 😊 | high quality end mill is very expensive | 😊 | 😞 |
| Flexibility | 😊 | 😞 | | |
| Disadvantage | not economical for the user who only make side milling | 1.long shank and big dia. end mill is expensive 2.poor flexibility, one size-one tool | less no. of teeth | 1. expensive 2. thread breaks sometimes inside the shank |



Applications of UFO Mill

Applicable industries

1 Difficult material : hardened steel / stainless steel / inconel/titanium



Aerospace parts

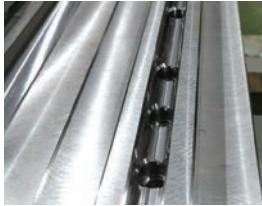


Mould & Die

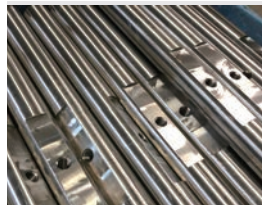


Medical parts

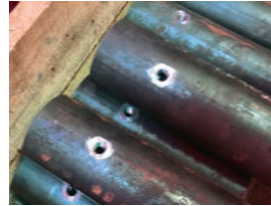
2 General machining



Milling



Flat surface



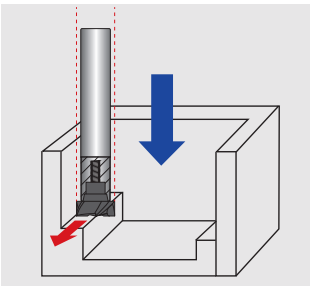
Screw hole plane

3 Casting / forging parts by mass production



Smooth finish texture by high feed machining
(Toolholders BB3 / Insert 3B 16)

4 Deep Cavity Milling



Step diameter avoids body interference



Steel workpiece

Common Holders



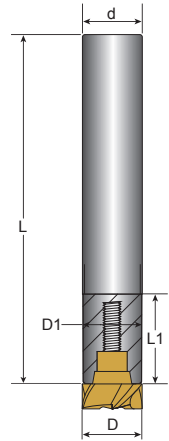
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$

BB3

• HSS



Tolerances (mm)
D: $+0.0$
-0.01~-0.02 d: h6



| Part No. | Dimensions (mm) | | | | | KG | Carbide Head | Screw | Key |
|--------------|-----------------|------|----|-----|----|------|--------------|--------|------|
| | D | D1 | d | L | L1 | | | | |
| BB3-1010-60 | 10 | 9.7 | 10 | 60 | 23 | 0.11 | $\phi 10$ | C03016 | T09P |
| BB3-1010-90 | 11 | | | 90 | | 0.13 | $\phi 11$ | | |
| BB3-1212-70 | 12 | 11.5 | 12 | 70 | 25 | 0.13 | $\phi 12$ | C03517 | T10P |
| BB3-1212-100 | 13 | | | 100 | | 0.15 | $\phi 13$ | | |
| BB3-1414-80 | 14 | 13.5 | 14 | 80 | 29 | 0.14 | $\phi 14$ | C04020 | T15P |
| BB3-1414-110 | 15 | | | 110 | | 0.16 | $\phi 15$ | | |
| BB3-1616-80 | 16 | 15.5 | 16 | 80 | 32 | 0.15 | $\phi 16$ | C05021 | T20P |
| BB3-1616-110 | | | | 110 | | 0.18 | $\phi 17$ | | |
| BB3-1616-160 | | | | 160 | | 0.2 | $\phi 18$ | | |
| BB3-1818-80 | 18 | 17.5 | 18 | 80 | 35 | 0.16 | $\phi 18$ | C05021 | T20P |
| BB3-1818-120 | | | | 120 | | 0.18 | | | |
| BB3-2020-90 | 20 | 19.5 | 20 | 90 | 43 | 0.17 | $\phi 20$ | C05021 | T20P |
| BB3-2020-120 | | | | 120 | | 0.2 | $\phi 21$ | | |
| BB3-2020-180 | | | | 180 | | 0.23 | | | |
| BB3-2525-100 | 25 | 24.5 | 25 | 100 | 43 | 0.4 | $\phi 25$ | C05021 | T20P |
| BB3-2525-130 | | | | 130 | | 0.5 | | | |
| BB3-2525-180 | | | | 180 | | 0.7 | | | |

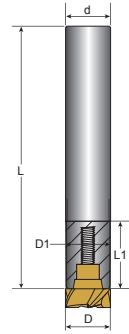
• Not available in shrink fit arbor



Common Holders



Taper Polygon
Concentricity: $\pm 0.005\text{mm}$



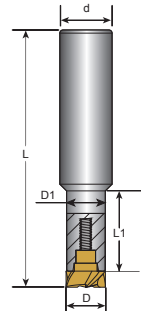
BB3W • Carbide

Tolerances (mm)
D : $+0.0$
-0.01~-0.02 d : h6

| Part No. | Dimensions (mm) | | | | | KG | Carbide Head | Screw | Key |
|---------------|-----------------|------|----|-----|----|------|------------------------|--------|------|
| | D | D1 | d | L | L1 | | | | |
| BB3W-1010-60 | 10 | 9.7 | 10 | 60 | 25 | 0.20 | $\phi 10$ $\phi 11$ | C03016 | T09P |
| BB3W-1010-90 | | | | 90 | | 0.25 | | | |
| BB3W-1010-120 | | | | 120 | | 0.35 | | | |
| BB3W-1212-70 | 12 | 11.5 | 12 | 70 | 27 | 0.26 | $\phi 12$ $\phi 13$ | C03517 | T10P |
| BB3W-1212-100 | | | | 100 | | 0.30 | | | |
| BB3W-1212-140 | | | | 140 | | 0.40 | | | |
| BB3W-1414-80 | 14 | 13.5 | 14 | 80 | 28 | 0.30 | $\phi 14$ $\phi 15$ | C03517 | T10P |
| BB3W-1414-110 | | | | 110 | | 0.40 | | | |
| BB3W-1616-80 | 16 | 15.5 | 16 | 80 | 31 | 0.40 | $\phi 16$ $\phi 17$ | C04020 | T15P |
| BB3W-1616-110 | | | | 110 | | 0.50 | | | |
| BB3W-1616-170 | | | | 170 | | 0.70 | | | |



Taper Polygon
Concentricity: $\pm 0.005\text{mm}$



BB3 • HSS

Tolerances (mm)
D : $+0.0$
-0.01~-0.02 d : h6

| Part No. | Dimensions (mm) | | | | | KG | Carbide Head | Screw | Key |
|-------------|-----------------|------|----|----|----|------|--------------|--------|------|
| | D | D1 | d | L | L1 | | | | |
| BB3-1610-70 | 10 11 | 9.7 | 16 | 70 | 20 | 0.20 | $\phi 10-11$ | C03016 | T09P |
| BB3-1612-80 | 12 13 | | | 80 | | | | | |
| BB3-2014-90 | 14 15 | 13.5 | 20 | 90 | 28 | 0.50 | $\phi 14-15$ | C04020 | T15P |
| BB3-2016-90 | 16 17 | | | | | | | | |

• Not available in shrink fit arbor

Common Holders



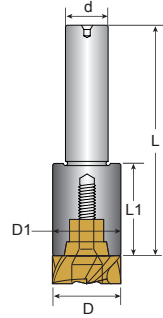
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$

BB3

• HSS



Tolerances (mm)
D : $+0.0$
-0.01~-0.02 d : h6



| Part No. | Dimensions (mm) | | | | | KG | Carbide Head | Screw | Key |
|----------|-----------------|------|----|----|------|------------------|------------------|--------|------|
| | D | D1 | d | L | L1 | | | | |
| BB3-1012 | 12 | 11.5 | 10 | 55 | 25 | 0.09 | $\varnothing 12$ | C03517 | T10P |
| | 13 | | | | | | $\varnothing 13$ | | |
| BB3-1016 | 16 | 15.5 | 10 | | 27 | 0.10 | $\varnothing 16$ | C04020 | T15P |
| | 17 | | | | | | $\varnothing 17$ | | |
| BB3-1220 | 20 | 19.5 | 12 | 31 | 0.11 | $\varnothing 20$ | C05021 | T20P | |
| | 21 | | | | | $\varnothing 21$ | | | |
| BB3-1225 | 25 | 24.5 | 12 | 31 | 0.12 | $\varnothing 25$ | C05021 | T20P | |

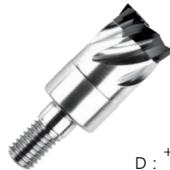
• Not available in shrink fit arbor



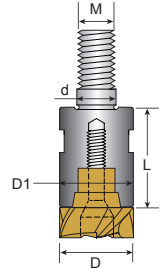
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$

BB3

• HSS



Tolerances (mm)
D : $+0.0$
-0.01~-0.02



| Part No. | Dimensions (mm) | | | | | KG | Carbide Head | Screw | Key |
|----------|-----------------|------|------|----|----|------|------------------|--------|------|
| | D | D1 | d | L | M | | | | |
| BB3-10 | 10 | 9.7 | 6.5 | 22 | 6 | 0.05 | $\varnothing 10$ | C03016 | T09P |
| | 11 | | | | | | $\varnothing 11$ | | |
| BB3-12 | 12 | 11.5 | 6.5 | 24 | 6 | 0.06 | $\varnothing 12$ | C03517 | T10P |
| | 13 | | | | | | $\varnothing 13$ | | |
| BB3-16 | 16 | 15.5 | 8.5 | 26 | 8 | 0.08 | $\varnothing 16$ | C04020 | T15P |
| | 17 | | | | | | $\varnothing 17$ | | |
| BB3-20 | 20 | 19.5 | 10.5 | 26 | 10 | 0.09 | $\varnothing 20$ | C05021 | T20P |
| | 21 | | | | | | $\varnothing 21$ | | |
| BB3-25 | 25 | 24.5 | 12.5 | 26 | 12 | 0.10 | $\varnothing 25$ | C05021 | T20P |





Patent pending

Taiwan invention patent (Authorized)

No. I647036

Chinese invention patent(Authorized)

No. 201810214725.9

EPC EU invention patent

EPC EP18174847.6

PCT International Patent Priority

International patent priority PCT/CN2019/076867

Canadian patent

Application number: 3,095,794

U.S. Patent

16979282

Japanese patent

2020-549028

Korean Patent

10-2020-7029188

Indian patent

2020470 43994

Russian patent (Authorized)

2020131841

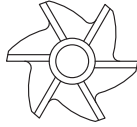
Milling Heads - M

Flute length : D/2

Applicable to Steel / Hardened steel / Cast iron



4 flutes
D:10-15mm

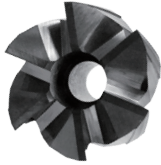


6 flutes
D:16-25mm

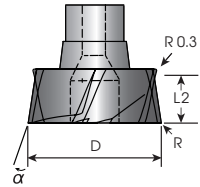


Taper Polygon
Concentricity: ± 0.005mm

3B


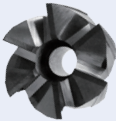


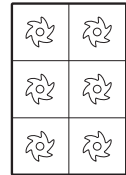
| Dimensions (mm) | | | |
|-----------------|-----|-----|----------|
| D | L2 | R | α |
| 10 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 11 | 5.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 12 | 6 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 13 | 6.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



Tolerances (mm)

D : $\begin{matrix} +0.0 \\ -0.01 \sim -0.02 \end{matrix}$ L2 : ± 0.03

| Milling Heads | Part No. | Grades | | | | | | | |  | | |
|---|--------------|---------|------|------|-----|-----|--------------|------|----------|---|----|--|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | |
|  | 3B1005-M | ⊙ | | | | | | | | | | |
| | 3B1005R0.5-M | ⊙ | | | | | | | | | | |
| | 3B1005R1.0-M | ⊙ | | | | | | | | | | |
| | 3B1005R1.5-M | ⊙ | | | | | | | | | | |
| | 3B1005R2.0-M | ⊙ | | | | | | | | | | |
| | 3B1105-M | ⊙ | | | | | | | | | | |
| | 3B1105R0.5-M | ⊙ | | | | | | | | | | |
| | 3B1105R1.0-M | ⊙ | | | | | | | | | | |
| | 3B1105R1.5-M | ⊙ | | | | | | | | | | |
| | 3B1105R2.0-M | ⊙ | | | | | | | | | | |
| | 3B1206-M | ⊙ | | | | | | | | | | |
| | 3B1206R0.5-M | ⊙ | | | | | | | | | | |
| | 3B1206R1.0-M | ⊙ | | | | | | | | | | |
| | 3B1206R1.5-M | ⊙ | | | | | | | | | | |
| | 3B1206R2.0-M | ⊙ | | | | | | | | | | |
| | 3B1306-M | ⊙ | | | | | | | | | | |
| | 3B1306R0.5-M | ⊙ | | | | | | | | | | |
| | 3B1306R1.0-M | ⊙ | | | | | | | | | | |
| | 3B1306R1.5-M | ⊙ | | | | | | | | | | |
| | 3B1306R2.0-M | ⊙ | | | | | | | | | | |



Inserts 6 PCS / Box

- ⊙ Steel / Hardened steel / Cast iron
- Ⓟ Price and stock are based on current situation
- Ⓜ Please specify model number and grade of insert, ie.: 3B1005R0.5-M, B100



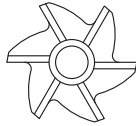
Milling Heads - M

Flute length : D/2

Applicable to Steel / Hardened steel / Cast iron



4 flutes
D:10-15mm



6 flutes
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|-----|-----|----------|
| D | L2 | R | α |
| 14 | 7 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 15 | 7.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 16 | 8 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 17 | 8.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



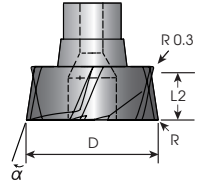
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$

3B

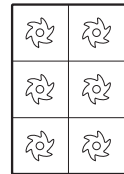


Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | | |
|---|--------------|---------|------|------|-----|-----|--------------|------|----------|---|----|--|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F80 | CE25 | CE60 | K10 | | CE | |
|  | 3B1407-M | ⊗ | | | | | | | | | | |
| | 3B1407R0.5-M | ⊗ | | | | | | | | | | |
| | 3B1407R1.0-M | ⊗ | | | | | | | | | | |
| | 3B1407R1.5-M | ⊗ | | | | | | | | | | |
| | 3B1407R2.0-M | ⊗ | | | | | | | | | | |
| | 3B1507-M | ⊗ | | | | | | | | | | |
| | 3B1507R0.5-M | ⊗ | | | | | | | | | | |
| | 3B1507R1.0-M | ⊗ | | | | | | | | | | |
| | 3B1507R1.5-M | ⊗ | | | | | | | | | | |
| | 3B1507R2.0-M | ⊗ | | | | | | | | | | |
| | 3B1608-M | ⊗ | | | | | | | | | | |
| | 3B1608R0.5-M | ⊗ | | | | | | | | | | |
| | 3B1608R1.0-M | ⊗ | | | | | | | | | | |
| | 3B1608R1.5-M | ⊗ | | | | | | | | | | |
| | 3B1608R2.0-M | ⊗ | | | | | | | | | | |
| | 3B1708-M | ⊗ | | | | | | | | | | |
| | 3B1708R0.5-M | ⊗ | | | | | | | | | | |
| | 3B1708R1.0-M | ⊗ | | | | | | | | | | |
| 3B1708R1.5-M | ⊗ | | | | | | | | | | | |
| 3B1708R2.0-M | ⊗ | | | | | | | | | | | |



Inserts 6 PCS / Box

- ⊗ Steel / Hardened steel / Cast iron ⊕ ⊖ ⊗
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie: 3B1407R0.5-M, B100

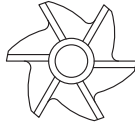
Milling Heads - M

Flute length : D/2

Applicable to Steel / Hardened steel / Cast iron



4 flutes
D:10-15mm



6 flutes
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|------|-----|----------|
| D | L2 | R | α |
| 18 | 9 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 20 | 10 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 21 | 10.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 25 | 12.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



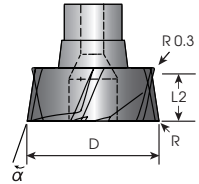
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$



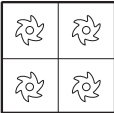
3B



Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | |
|---|---------------|---------|------|------|-----|-----|---------------|------|----------|---|--|
| | | Carbide | | | | | Metal cermets | | Uncoated | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE |
|  | 3B1809-M | Ⓞ | | | | | | | | |  Inserts 4 PCS / Box |
| | 3B1809R0.5-M | Ⓞ | | | | | | | | | |
| | 3B1809R1.0-M | Ⓞ | | | | | | | | | |
| | 3B1809R1.5-M | Ⓞ | | | | | | | | | |
| | 3B1809R2.0-M | Ⓞ | | | | | | | | | |
| | 3B2010-M | Ⓞ | | | | | | | | | |
| | 3B2010R0.5-M | Ⓞ | | | | | | | | | |
| | 3B2010R1.0-M | Ⓞ | | | | | | | | | |
| | 3B2010R1.5-M | Ⓞ | | | | | | | | | |
| | 3B2010R2.0-M | Ⓞ | | | | | | | | | |
| | 3B2110-M | Ⓞ | | | | | | | | | |
| | 3B2110-R0.5-M | Ⓞ | | | | | | | | | |
| | 3B2110R1.0-M | Ⓞ | | | | | | | | | |
| | 3B2110R1.5-M | Ⓞ | | | | | | | | | |
| | 3B2110R2.0-M | Ⓞ | | | | | | | | | |
| | 3B2512-M | Ⓞ | | | | | | | | | |
| | 3B2512R0.5-M | Ⓞ | | | | | | | | | |
| | 3B2512R1.0-M | Ⓞ | | | | | | | | | |
| 3B2512R1.5-M | Ⓞ | | | | | | | | | | |
| 3B2512R2.0-M | Ⓞ | | | | | | | | | | |

- Ⓞ Steel / Hardened steel / Cast iron Ⓟ Ⓜ Ⓝ
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1809R0.5-M, B100



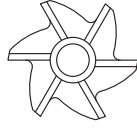
Milling Heads - M E

Flute length : D/2

Applicable to Stainless steel / Titanium alloy / Cast iron



4 flutes
D:10-15mm

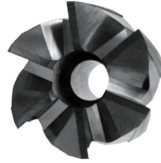


6 flutes
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|-----|-----|----------|
| D | L2 | R | α |
| 10 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 11 | 5.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 12 | 6 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 13 | 6.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |

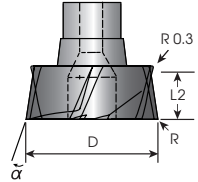

Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


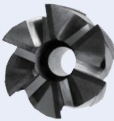
3B

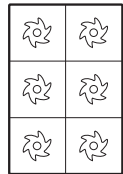


Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | | |
|---|---------------|---------|------|------|-----|-----|--------------|------|----------|---|----|--|
| | | Carbide | | | | | Metal Cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | |
|  | 3B1005-ME | ⊙ | | | | | | | | | | |
| | 3B1005R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1005R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1005R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1005R2.0-ME | ⊙ | | | | | | | | | | |
| | 3B1105-ME | ⊙ | | | | | | | | | | |
| | 3B1105R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1105R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1105R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1105R2.0-ME | ⊙ | | | | | | | | | | |
| | 3B1206-ME | ⊙ | | | | | | | | | | |
| | 3B1206R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1206R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1206R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1206R2.0-ME | ⊙ | | | | | | | | | | |
| | 3B1306-ME | ⊙ | | | | | | | | | | |
| | 3B1306R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1306R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1306R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1306R2.0-ME | ⊙ | | | | | | | | | | |



Inserts 6 PCS / Box

- ⊙ Stainless steel / Titanium alloy / Cast iron (M S X)
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1005R0.5-ME, B100

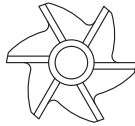
Milling Heads - M E

Flute length : D/2

Applicable to Stainless steel / Titanium alloy / Cast iron



4 flutes
D:10-15mm



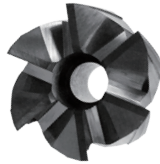
6 flutes
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|-----|-----|----------|
| D | L2 | R | α |
| 14 | 7 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 15 | 7.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 16 | 8 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 17 | 8.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



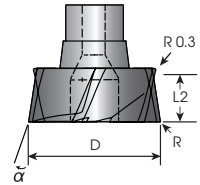
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


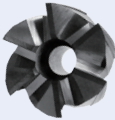
3B

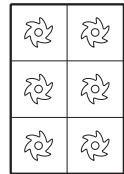


Tolerances (mm)

D : $+0.0$
 $-0.01 \sim -0.02$ L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | | |
|---|---------------|---------|------|------|-----|-----|--------------|------|----------|---|----|--|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | |
|  | 3B1407-ME | ⊙ | | | | | | | | | | |
| | 3B1407R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1407R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1407R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1407R2.0-ME | ⊙ | | | | | | | | | | |
| | 3B1507-ME | ⊙ | | | | | | | | | | |
| | 3B1507R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1507R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1507R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1507R2.0-ME | ⊙ | | | | | | | | | | |
| | 3B1608-ME | ⊙ | | | | | | | | | | |
| | 3B1608R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1608R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1608R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1608R2.0-ME | ⊙ | | | | | | | | | | |
| | 3B1708-ME | ⊙ | | | | | | | | | | |
| | 3B1708R0.5-ME | ⊙ | | | | | | | | | | |
| | 3B1708R1.0-ME | ⊙ | | | | | | | | | | |
| | 3B1708R1.5-ME | ⊙ | | | | | | | | | | |
| | 3B1708R2.0-ME | ⊙ | | | | | | | | | | |



Inserts 6 PCS / Box

- ⊙ Stainless steel / Titanium alloy / Cast iron
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1407R0.5-ME, B100



Milling Heads - M E

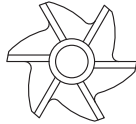
Flute length : D/2

Applicable to Stainless steel / Titanium alloy / Cast iron

| Dimensions (mm) | | | |
|-----------------|------|-----|----------|
| D | L2 | R | α |
| 18 | 9 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 20 | 10 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 21 | 10.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 25 | 12.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



4 flutes
D:10-15mm

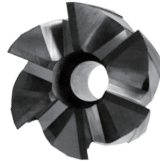


6 flutes
D:16-25mm



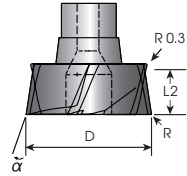
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


3B

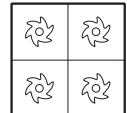


Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | | | |
|---|---------------|---------|------|------|-----|-----|--------------|------|----------|---|----|--|--|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | | |
|  | 3B1809-ME | ⊙ | | | | | | | | | | | |
| | 3B1809R0.5-ME | ⊙ | | | | | | | | | | | |
| | 3B1809R1.0-ME | ⊙ | | | | | | | | | | | |
| | 3B1809R1.5-ME | ⊙ | | | | | | | | | | | |
| | 3B1809R2.0-ME | ⊙ | | | | | | | | | | | |
| | 3B2010-ME | ⊙ | | | | | | | | | | | |
| | 3B2010R0.5-ME | ⊙ | | | | | | | | | | | |
| | 3B2010R1.0-ME | ⊙ | | | | | | | | | | | |
| | 3B2010R1.5-ME | ⊙ | | | | | | | | | | | |
| | 3B2010R2.0-ME | ⊙ | | | | | | | | | | | |
| | 3B2110-ME | ⊙ | | | | | | | | | | | |
| | 3B2110R0.5-ME | ⊙ | | | | | | | | | | | |
| | 3B2110R1.0-ME | ⊙ | | | | | | | | | | | |
| | 3B2110R1.5-ME | ⊙ | | | | | | | | | | | |
| | 3B2110R2.0-ME | ⊙ | | | | | | | | | | | |
| | 3B2512-ME | ⊙ | | | | | | | | | | | |
| | 3B2512R0.5-ME | ⊙ | | | | | | | | | | | |
| | 3B2512R1.0-ME | ⊙ | | | | | | | | | | | |
| 3B2512R1.5-ME | ⊙ | | | | | | | | | | | | |
| 3B2512R2.0-ME | ⊙ | | | | | | | | | | | | |



Inserts 4 PCS / Box

- ⊙ Stainless steel / Titanium alloy / Cast iron (M S K)
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1809R0.5-ME, B100

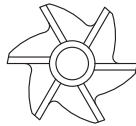
Milling Heads - E

Flute length : D/2

Applicable to Aluminum / Copper



4 flutes
D:10-15mm



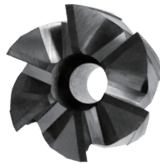
6 flutes
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|-----|-----|----------|
| D | L2 | R | α |
| 10 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 11 | 5.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 12 | 6 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 13 | 6.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



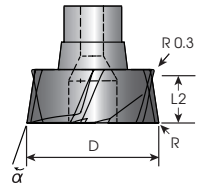
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


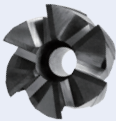
3B

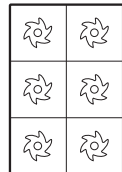


Tolerances (mm)



D : $+0.0$
 $-0.01 \sim -0.02$ L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | | |  | |
|---|--------------|---------|------|------|-----|-----|------|-----------------|----------|----|---|--|
| | | Carbide | | | | | | Metal cermet | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | CE | | |
|  | 3B1005-E | | | | | | | | | | | |
| | 3B1005R0.5-E | | | | | | | | | | | |
| | 3B1005R1.0-E | | | | | | | | | | | |
| | 3B1005R1.5-E | | | | | | | | | | | |
| | 3B1005R2.0-E | | | | | | | | | | | |
| | 3B1105-E | | | | | | | | | | | |
| | 3B1105R0.5-E | | | | | | | | | | | |
| | 3B1105R1.0-E | | | | | | | | | | | |
| | 3B1105R1.5-E | | | | | | | | | | | |
| | 3B1105R2.0-E | | | | | | | | | | | |
| | 3B1206-E | | | | | | | | | | | |
| | 3B1206R0.5-E | | | | | | | | | | | |
| | 3B1206R1.0-E | | | | | | | | | | | |
| | 3B1206R1.5-E | | | | | | | | | | | |
| | 3B1206R2.0-E | | | | | | | | | | | |
| | 3B1306-E | | | | | | | | | | | |
| | 3B1306R0.5-E | | | | | | | | | | | |
| | 3B1306R1.0-E | | | | | | | | | | | |
| | 3B1306R1.5-E | | | | | | | | | | | |
| | 3B1306R2.0-E | | | | | | | | | | | |



Inserts 6 PCS / Box

-  Aluminum / Copper 
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1005R0.5-E, K10



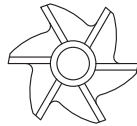
Milling Heads - E

Flute length : D/2

Applicable to Aluminum / Copper



4 flutes
D:10-15mm



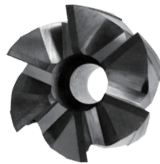
6 flutes
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|-----|-----|----------|
| D | L2 | R | α |
| 14 | 7 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 15 | 7.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 16 | 8 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 17 | 8.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



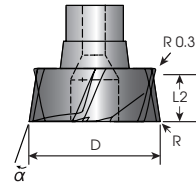
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


3B

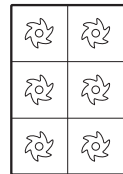
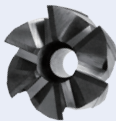


Tolerances (mm)



D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | |
|---------------|--------------|---------|------|------|-----|-----|-----------------|----------|-----|---|----|
| | | Carbide | | | | | Metal cermet | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE |
| | 3B1407-E | | | | | | | | | | |
| | 3B1407R0.5-E | | | | | | | | | | |
| | 3B1407R1.0-E | | | | | | | | | | |
| | 3B1407R1.5-E | | | | | | | | | | |
| | 3B1407R2.0-E | | | | | | | | | | |
| | 3B1507-E | | | | | | | | | | |
| | 3B1507R0.5-E | | | | | | | | | | |
| | 3B1507R1.0-E | | | | | | | | | | |
| | 3B1507R1.5-E | | | | | | | | | | |
| | 3B1507R2.0-E | | | | | | | | | | |
| | 3B1608-E | | | | | | | | | | |
| | 3B1608R0.5-E | | | | | | | | | | |
| | 3B1608R1.0-E | | | | | | | | | | |
| | 3B1608R1.5-E | | | | | | | | | | |
| | 3B1608R2.0-E | | | | | | | | | | |
| | 3B1708-E | | | | | | | | | | |
| | 3B1708R0.5-E | | | | | | | | | | |
| | 3B1708R1.0-E | | | | | | | | | | |
| | 3B1708R1.5-E | | | | | | | | | | |
| | 3B1708R2.0-E | | | | | | | | | | |



Inserts 6 PCS / Box

-  Aluminum / Copper 
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1407R0.5-E, K10

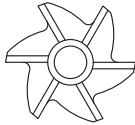
Milling Heads - E

Flute length : D/2

Applicable to Aluminum / Copper



4 flutes
D:10-15mm



6 flutes
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|------|-----|----------|
| D | L2 | R | α |
| 18 | 9 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 20 | 10 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 21 | 10.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 25 | 12.5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



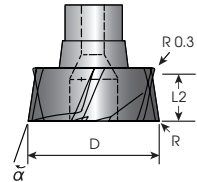
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


3B

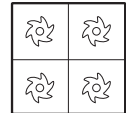


Tolerances (mm)

D : $+0.0$
 $-0.01 \sim -0.02$ L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | |
|---------------|--------------|---------|------|------|-----|-----|------------------|----------|-----|---|----|
| | | Carbide | | | | | Metall cermet | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE |
| | 3B1809-E | | | | | | | | | | |
| | 3B1809R0.5-E | | | | | | | | | | |
| | 3B1809R1.0-E | | | | | | | | | | |
| | 3B1809R1.5-E | | | | | | | | | | |
| | 3B1809R2.0-E | | | | | | | | | | |
| | 3B2010-E | | | | | | | | | | |
| | 3B2010R0.5-E | | | | | | | | | | |
| | 3B2010R1.0-E | | | | | | | | | | |
| | 3B2010R1.5-E | | | | | | | | | | |
| | 3B2010R2.0-E | | | | | | | | | | |
| | 3B2110-E | | | | | | | | | | |
| | 3B2110R0.5-E | | | | | | | | | | |
| | 3B2110R1.0-E | | | | | | | | | | |
| | 3B2110R1.5-E | | | | | | | | | | |
| | 3B2110R2.0-E | | | | | | | | | | |
| | 3B2512-E | | | | | | | | | | |
| | 3B2512R0.5-E | | | | | | | | | | |
| | 3B2512R1.0-E | | | | | | | | | | |
| | 3B2512R1.5-E | | | | | | | | | | |
| | 3B2512R2.0-E | | | | | | | | | | |



Inserts 4 PCS / Box

- Aluminum / Copper
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1809R0.5-E, K10

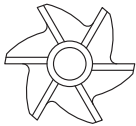


Milling Heads - M

Flute length : 5mm

Applicable to Steel / Hardened steel / Cast iron

| Dimensions (mm) | | | |
|-----------------|----|-----|----------|
| D | L2 | R | α |
| 16 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 17 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |

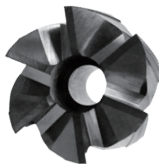


6 flutes
D:16-25mm

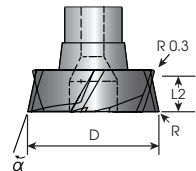



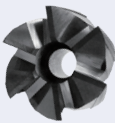
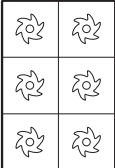
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$

3B



Tolerances (mm)
D : $+0.0$
 $-0.01 \sim -0.02$ L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | | |
|---|--------------|---------|------|------|-----|-----|--------------|------|----------|---|----|---|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | |
|  | 3B1605-M | ⊙ | | | | | | | | | |  |
| | 3B1605R0.5-M | ⊙ | | | | | | | | | | |
| | 3B1605R1.0-M | ⊙ | | | | | | | | | | |
| | 3B1605R1.5-M | ⊙ | | | | | | | | | | |
| | 3B1605R2.0-M | ⊙ | | | | | | | | | | |
| | 3B1705-M | ⊙ | | | | | | | | | | |
| | 3B1705R0.5-M | ⊙ | | | | | | | | | | |
| | 3B1705R1.0-M | ⊙ | | | | | | | | | | |
| | 3B1705R1.5-M | ⊙ | | | | | | | | | | |
| | 3B1705R2.0-M | ⊙ | | | | | | | | | | |

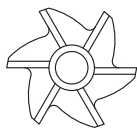
Inserts 6 PCS / Box

- ⊙ Steel / Hardened steel / Cast iron
- ⊕ Price and stock are based on current situation
- Ⓜ Please specify model number and grade of insert, ie.: 3B1605R0.5-M,B100

Milling Heads - M

Flute length : 5mm

Applicable to Steel / Hardened steel / Cast iron



6 flutes
D:16-25mm



Taper Polygon
Concentricity: ± 0.005mm

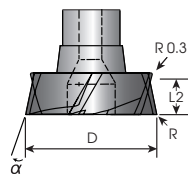
3B





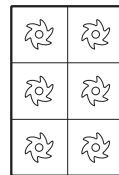
| Dimensions (mm) | | | |
|-----------------|----|-----|----------|
| D | L2 | R | α |
| 18 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 20 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 21 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 25 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |

Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | |  M | | | |
|---|--------------|---------|------|------|-----|--------------|----------|------|---|-----|----|--|
| | | Carbide | | | | Metal cermet | Uncoated | | | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | | K10 | CE | |
|  | 3B1805-M | ⊙ | | | | | | | | | | |
| | 3B1805R0.5-M | ⊙ | | | | | | | | | | |
| | 3B1805R1.0-M | ⊙ | | | | | | | | | | |
| | 3B1805R1.5-M | ⊙ | | | | | | | | | | |
| | 3B1805R2.0-M | ⊙ | | | | | | | | | | |
| | 3B2005-M | ⊙ | | | | | | | | | | |
| | 3B2005R0.5-M | ⊙ | | | | | | | | | | |
| | 3B2005R1.0-M | ⊙ | | | | | | | | | | |
| | 3B2005R1.5-M | ⊙ | | | | | | | | | | |
| | 3B2005R2.0-M | ⊙ | | | | | | | | | | |
| | 3B2105-M | ⊙ | | | | | | | | | | |
| | 3B2105R0.5-M | ⊙ | | | | | | | | | | |
| | 3B2105R1.0-M | ⊙ | | | | | | | | | | |
| | 3B2105R1.5-M | ⊙ | | | | | | | | | | |
| | 3B2105R2.0-M | ⊙ | | | | | | | | | | |
| | 3B2505-M | ⊙ | | | | | | | | | | |
| | 3B2505R0.5-M | ⊙ | | | | | | | | | | |
| | 3B2505R1.0-M | ⊙ | | | | | | | | | | |
| 3B2505R1.5-M | ⊙ | | | | | | | | | | | |
| 3B2505R2.0-M | ⊙ | | | | | | | | | | | |



Inserts 6 PCS / Box

- ⊙ Steel / Hardened steel / Cast iron
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1805R0.5-M,B100

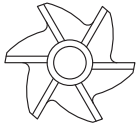


Milling Heads - M E

Flute length : 5mm

Applicable to Stainless steel / Titanium alloy
/ Cast iron

| Dimensions (mm) | | | |
|-----------------|----|-----|----------|
| D | L2 | R | α |
| 16 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 17 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |

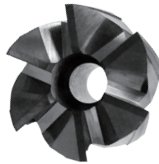


6 flutes
D:16-25mm



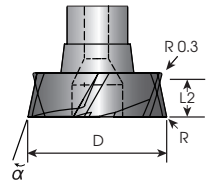
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


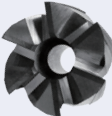
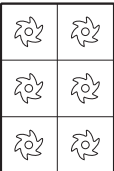
3B



Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | | |
|---|---------------|---------|------|------|-----|-----|--------------|------|----------|---|----|---|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | |
|  | 3B1605-ME | ☉ | | | | | | | | | |  |
| | 3B1605R0.5-ME | ☉ | | | | | | | | | | |
| | 3B1605R1.0-ME | ☉ | | | | | | | | | | |
| | 3B1605R1.5-ME | ☉ | | | | | | | | | | |
| | 3B1605R2.0-ME | ☉ | | | | | | | | | | |
| | 3B1705-ME | ☉ | | | | | | | | | | |
| | 3B1705R0.5-ME | ☉ | | | | | | | | | | |
| | 3B1705R1.0-ME | ☉ | | | | | | | | | | |
| | 3B1705R1.5-ME | ☉ | | | | | | | | | | |
| | 3B1705R2.0-ME | ☉ | | | | | | | | | | |

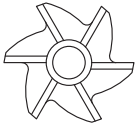
Inserts 6 PCS / Box

- ☉ Stainless steel / Titanium alloy / Cast iron
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1605R0.5-ME, B100

Milling Heads - M E

Flute length : 5mm

Applicable to Stainless steel / Titanium alloy / Cast iron



6 刃
D:16-25mm

| Dimensions (mm) | | | |
|-----------------|----|-----|----------|
| D | L2 | R | α |
| 18 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 20 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 21 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 25 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |



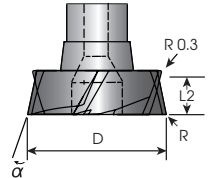
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$



3B

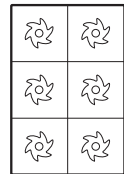


Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | |  | | | |
|---|---------------|---------|------|------|-----|--------------|----------|------|---|-----|----|--|
| | | Carbide | | | | Metal cermet | Uncoated | | | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | | K10 | CE | |
|  | 3B1805-ME | ☉ | | | | | | | | | | |
| | 3B1805R0.5-ME | ☉ | | | | | | | | | | |
| | 3B1805R1.0-ME | ☉ | | | | | | | | | | |
| | 3B1805R1.5-ME | ☉ | | | | | | | | | | |
| | 3B1805R2.0-ME | ☉ | | | | | | | | | | |
| | 3B2005-ME | ☉ | | | | | | | | | | |
| | 3B2005R0.5-ME | ☉ | | | | | | | | | | |
| | 3B2005R1.0-ME | ☉ | | | | | | | | | | |
| | 3B2005R1.5-ME | ☉ | | | | | | | | | | |
| | 3B2005R2.0-ME | ☉ | | | | | | | | | | |
| | 3B2105-ME | ☉ | | | | | | | | | | |
| | 3B2105R0.5-ME | ☉ | | | | | | | | | | |
| | 3B2105R1.0-ME | ☉ | | | | | | | | | | |
| | 3B2105R1.5-ME | ☉ | | | | | | | | | | |
| | 3B2105R2.0-ME | ☉ | | | | | | | | | | |
| | 3B2505-ME | ☉ | | | | | | | | | | |
| | 3B2505R0.5-ME | ☉ | | | | | | | | | | |
| | 3B2505R1.0-ME | ☉ | | | | | | | | | | |
| | 3B2505R1.5-ME | ☉ | | | | | | | | | | |
| | 3B2505R2.0-ME | ☉ | | | | | | | | | | |



Inserts 6 PCS / Box

- ☉ Stainless steel / Titanium alloy / Cast iron
- ☉ Price and stock are based on current situation
- ☉ Please specify model number and grade of insert, ie.: 3B1805R0.5-ME, B100

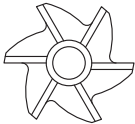


Milling Heads - E

Flute length : 5mm

Applicable to Aluminum / Copper

| Dimensions (mm) | | | |
|-----------------|----|-----|----------|
| D | L2 | R | α |
| 16 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 17 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |

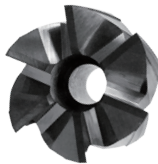


6 flutes
D:16-25mm



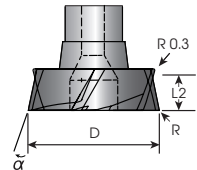
Taper Polygon
Concentricity: $\pm 0.005\text{mm}$


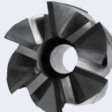
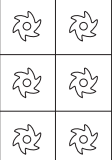
3B



Tolerances (mm)

D : $+0.0$
 $-0.01 \sim -0.02$ L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | | |  | | |
|---|--------------|---------|------|------|-----|-----|--------------|------|----------|----|---|--|---|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | CE | | | |
|  | 3B1605-E | | | | | | | | | | | |  |
| | 3B1605R0.5-E | | | | | | | | | | | | |
| | 3B1605R1.0-E | | | | | | | | | | | | |
| | 3B1605R1.5-E | | | | | | | | | | | | |
| | 3B1605R2.0-E | | | | | | | | | | | | |
| | 3B1705-E | | | | | | | | | | | | |
| | 3B1705R0.5-E | | | | | | | | | | | | |
| | 3B1705R1.0-E | | | | | | | | | | | | |
| | 3B1705R1.5-E | | | | | | | | | | | | |
| | 3B1705R2.0-E | | | | | | | | | | | | |

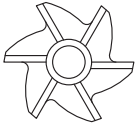
Inserts 6 PCS / Box

- Aluminum / Copper
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1605R0.5-E, K10

Milling Heads - E

Flute length : 5mm

Applicable to Aluminum / Copper



6 flutes
D:16-25mm



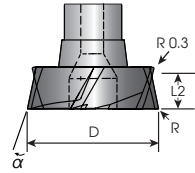
Taper Polygon
Concentricity: ± 0.005mm


3B

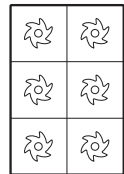


| Dimensions (mm) | | | |
|-----------------|----|-----|----------|
| D | L2 | R | α |
| 18 | 5 | 0 | 48° |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 20 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 21 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |
| 25 | 5 | 0 | |
| | | 0.5 | |
| | | 1 | |
| | | 1.5 | |
| | | 2 | |

Tolerances (mm)
D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | |
|---------------|--------------|---------|------|------|-----|-----|-----------------|------|----------|---|----|
| | | Carbide | | | | | Metal cermet | | Uncoated | | |
| | | B100 | C200 | C250 | F20 | F80 | CE25 | CE60 | K10 | | CE |
| | 3B1805-E | | | | | | | | | | |
| | 3B1805R0.5-E | | | | | | | | | | |
| | 3B1805R1.0-E | | | | | | | | | | |
| | 3B1805R1.5-E | | | | | | | | | | |
| | 3B1805R2.0-E | | | | | | | | | | |
| | 3B2005-E | | | | | | | | | | |
| | 3B2005R0.5-E | | | | | | | | | | |
| | 3B2005R1.0-E | | | | | | | | | | |
| | 3B2005R1.5-E | | | | | | | | | | |
| | 3B2005R2.0-E | | | | | | | | | | |
| | 3B2105-E | | | | | | | | | | |
| | 3B2105R0.5-E | | | | | | | | | | |
| | 3B2105R1.0-E | | | | | | | | | | |
| | 3B2105R1.5-E | | | | | | | | | | |
| | 3B2105R2.0-E | | | | | | | | | | |
| | 3B2505-E | | | | | | | | | | |
| | 3B2505R0.5-E | | | | | | | | | | |
| | 3B2505R1.0-E | | | | | | | | | | |
| | 3B2505R1.5-E | | | | | | | | | | |
| | 3B2505R2.0-E | | | | | | | | | | |



Inserts 6 PCS / Box

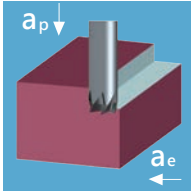



- Aluminum / Copper (N)
- Price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3B1805R0.5-E, K10

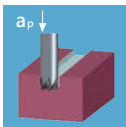


Cutting Parameter **3B-M**

Applicable to Steel / Hardened steel / Cast iron

- Keep $Fz \geq 0.03\text{mm}$

| 3B-M | Materials | D (mm) | Z | Vc (m/min) | f_z (mm/tooth) | a_p (mm) | a_e (mm) | S (rev/min) | F (mm/min) |
|--|---|--------|-----|------------|------------------|------------|------------|-------------|------------|
|  | Steel 24-32 HRC  | 10 | 4 | 140 | 0.035 | 2 | 7 | 4500 | 630 |
| | | 12 | 4 | 180 | 0.06 | 2 | 8 | 4850 | 1160 |
| | | 16 | 6 | 180 | 0.06 | 2 | 11 | 3600 | 1300 |
| | | 20 | 6 | 180 | 0.07 | 2 | 14 | 2900 | 1200 |
| | | 25 | 6 | 180 | 0.07 | 2 | 17 | 2300 | 960 |
| Steel 32-42 HRC  | 10 | 4 | 100 | 0.035 | 2 | 7 | 3200 | 450 | |
| | 12 | 4 | 150 | 0.05 | 2 | 8 | 4000 | 800 | |
| | 16 | 6 | 150 | 0.06 | 2 | 11 | 3000 | 1080 | |
| | 20 | 6 | 150 | 0.06 | 2 | 14 | 2400 | 840 | |
| | 25 | 6 | 150 | 0.06 | 2 | 17 | 1900 | 680 | |
| Hardened steel 50-58 HRC  | 10 | 4 | 70 | 0.06 | 0.1 | 7 | 2250 | 540 | |
| | 12 | 4 | 70 | 0.06 | 0.1 | 8 | 1840 | 440 | |
| | 16 | 6 | 70 | 0.06 | 0.1 | 11 | 1370 | 490 | |
| | 20 | 6 | 70 | 0.06 | 0.1 | 14 | 1130 | 400 | |
| | 25 | 6 | 70 | 0.06 | 0.1 | 17 | 890 | 320 | |
| Cast Iron  | 10 | 4 | 75 | 0.08 | 4 | 7 | 2400 | 770 | |
| | 12 | 4 | 75 | 0.1 | 4 | 8 | 2000 | 800 | |
| | 16 | 6 | 75 | 0.1 | 4 | 11 | 1550 | 930 | |
| | 20 | 6 | 75 | 0.1 | 4 | 14 | 1200 | 720 | |
| | 25 | 6 | 75 | 0.1 | 4 | 17 | 950 | 570 | |

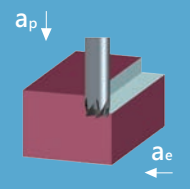





- Set RPM 30% lower for slot milling, except for cast iron materials.

Cutting Parameter **3B-ME**

Applicable to Stainless steel / Titanium alloy / Cast iron

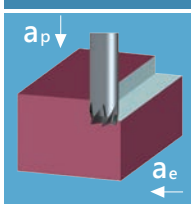
- Keep $Fz \geq 0.025\text{mm}$

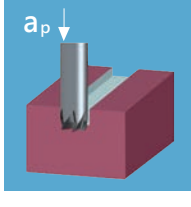
| 3B-ME | Materials | D (mm) | Z | Vc (m/min) | fz (mm/tooth) | a _p (mm) | a _e (mm) | S (rev/min) | F (mm/min) |
|---|--|-----------|----|---------------|------------------|------------------------|------------------------|----------------|---------------|
|  | Stainless steel  | 10 | 4 | 55 | 0.04 | 2 | 7 | 1770 | 280 |
| | | 12 | 4 | 75 | 0.05 | 2 | 8 | 1950 | 468 |
| | | 16 | 6 | 75 | 0.05 | 2 | 11 | 1500 | 630 |
| | | 20 | 6 | 75 | 0.05 | 2 | 14 | 1200 | 500 |
| | | 25 | 6 | 75 | 0.05 | 2 | 17 | 960 | 400 |
| Titanium alloy  | 10 | 4 | 45 | 0.05 | 1.5 | 7 | 1450 | 340 | |
| | 12 | 4 | 45 | 0.05 | 1.5 | 8 | 1180 | 280 | |
| | 16 | 6 | 45 | 0.05 | 1.5 | 11 | 900 | 380 | |
| | 20 | 6 | 45 | 0.05 | 1.5 | 14 | 720 | 300 | |
| | 25 | 6 | 45 | 0.05 | 1.5 | 17 | 570 | 240 | |
| Cast iron  | 10 | 4 | 75 | 0.08 | 4 | 7 | 2400 | 770 | |
| | 12 | 4 | 75 | 0.1 | 4 | 8 | 2000 | 800 | |
| | 16 | 6 | 75 | 0.1 | 4 | 11 | 1550 | 930 | |
| | 20 | 6 | 75 | 0.1 | 4 | 14 | 1200 | 720 | |
| | 25 | 6 | 75 | 0.1 | 4 | 17 | 950 | 570 | |



Cutting Parameter 3B-E

Applicable to Aluminum / Copper

| 3B-E | Materials | D (mm) | Z | Vc (m/min) | fz (mm/tooth) | a _p (mm) | a _e (mm) | S (rev/min) | F (mm/min) |
|---|-----------|--------|---|------------|---------------|---------------------|---------------------|-------------|------------|
|  | Aluminum | 10 | 4 | 800 | 0.13 | 4 | 7 | 25800 | 13400 |
| | | 12 | 4 | 800 | 0.13 | 4 | 8 | 21000 | 10900 |
| | | 16 | 6 | 800 | 0.16 | 4 | 11 | 16000 | 15300 |
| | | 20 | 6 | 800 | 0.16 | 4 | 14 | 13000 | 12500 |
| | | 25 | 6 | 800 | 0.16 | 4 | 17 | 10000 | 9600 |
| | Copper | 10 | 4 | 280 | 0.10 | 4 | 7 | 9000 | 3600 |
| | | 12 | 4 | 280 | 0.10 | 4 | 8 | 7500 | 3000 |
| | | 16 | 6 | 280 | 0.10 | 4 | 11 | 5700 | 3400 |
| | | 20 | 6 | 280 | 0.10 | 4 | 14 | 4500 | 2700 |
| | | 25 | 6 | 280 | 0.10 | 4 | 17 | 3600 | 2160 |

| 3B-E | Materials | D (mm) | Z | Vc (m/min) | fz (mm/tooth) | a _p (mm) | a _e (mm) | S (rev/min) | F (mm/min) |
|---|-----------|--------|---|------------|---------------|---------------------|---------------------|-------------|------------|
|  | Aluminum | 10 | 4 | 700 | 0.12 | 4 | 10 | 22500 | 10800 |
| | | 12 | 4 | 700 | 0.12 | 4 | 12 | 18500 | 8880 |
| | | 16 | 6 | 700 | 0.15 | 4 | 16 | 14000 | 12600 |
| | | 20 | 6 | 700 | 0.15 | 4 | 20 | 11000 | 9900 |
| | | 25 | 6 | 700 | 0.15 | 4 | 25 | 9000 | 8100 |
| | Copper | 10 | 4 | 250 | 0.08 | 2.5 | 10 | 8000 | 2500 |
| | | 12 | 4 | 250 | 0.08 | 2.5 | 12 | 6700 | 2150 |
| | | 16 | 6 | 250 | 0.08 | 2.5 | 16 | 5100 | 2400 |
| | | 20 | 6 | 250 | 0.08 | 2.5 | 20 | 4000 | 1900 |
| | | 25 | 6 | 250 | 0.08 | 2.5 | 25 | 3160 | 1500 |

Screw & Key & Torque Values

| Screw Code | Key Code | Torque Value(Nm) |
|------------|----------|------------------|
| C03016 | T9P | 2.0 |
| C03517 | T10P | 3.0 |
| C04020 | T15P | 4.0 |
| C05021 | T20P | 6.0 |



UFO High-Feed Cutter

Cutting force vs. Tool life

The direction of cutting force influences directly and significantly on the machining life and efficiency. The following are three different types of cutting force commonly seen in milling cutters:

(Cutter 1) Radial force = Axial force

There are limitations inherent in milling cutters designed with round insert; to apply it on deep Ap milling or a cavity corner milling, the radial force is nearly same as the axial force, it produces great vibrations and performs in low feed. The next, round inserts take up big space and cause the cutter carries lesser flutes.

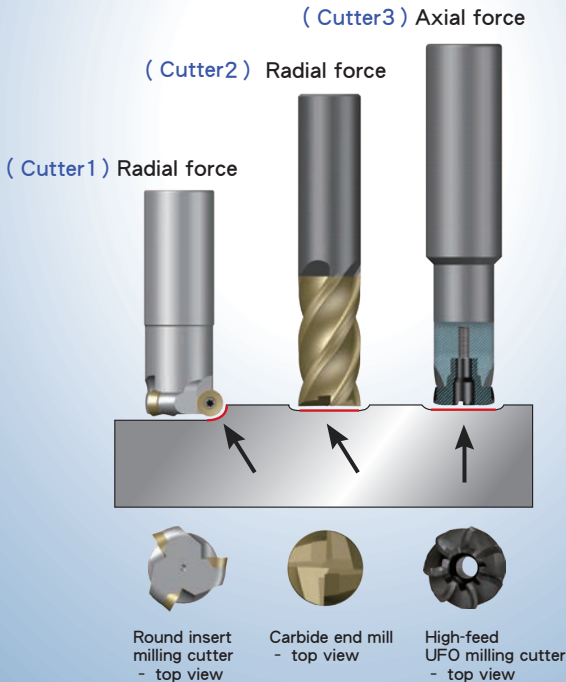
(Cutter 2) Radial force > Axial force

The carbide end mill cutter which is mostly used for finishing and semi-finishing machining. The large helix angle satisfies small cutting area and surface roughness. However, it is not cost-effective to have it removing a large amount of materials.

(Cutter 3) Radial force < Axial force

Y.T. high-feed UFO milling cutter has unique design of curvature and point contact, it is effective in keeping the radial force lesser than axial force.

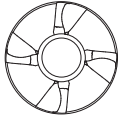
The cutting force is transferred to the spindle, it brings machining process in stable conditions and carries out a high removal rate.



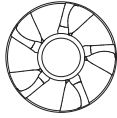
High Feed Milling Heads

- 3BH

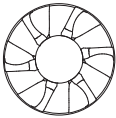
Applicable to Steel / Stainless steel / Titanium alloy



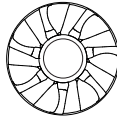
4 flutes
D:10-11mm



5 flutes
D:12-13mm



6 flutes
D:16-25mm



7 flutes
D:20-25mm



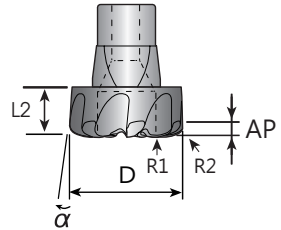
Taper Polygon
Concentricity: ± 0.005mm

3BH



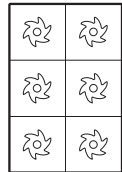
Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Dimensions (mm) | | | | | |
|-----------------|----|----|-----|-----|----------|
| D | L2 | R1 | R2 | AP | α |
| 10 | 5 | 3 | 0.5 | 0.8 | 3° |
| 11 | | | | | |
| 12 | | | 1.2 | | |
| 13 | | | | | |
| 16 | | 4 | 0.8 | 1.3 | |
| 17 | | | | | |
| 20 | | | | | |
| 21 | | | | | |
| 25 | | | | | |

| Milling Heads | Part No. | Grades | | | | | | | | | | |
|---------------|-----------|---------|------|------|-----|-----|--------------|------|----------|--|----|--|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | |
| | 3BH1005-M | ⊙ | | | | | | | | | | |
| | 3BH1105-M | ⊙ | | | | | | | | | | |
| | 3BH1205-M | ⊙ | | | | | | | | | | |
| | 3BH1305-M | ⊙ | | | | | | | | | | |
| | 3BH1605-M | ⊙ | | | | | | | | | | |
| | 3BH1705-M | ⊙ | | | | | | | | | | |
| | 3BH2005-M | ⊙ | | | | | | | | | | |
| | 3BH2105-M | ⊙ | | | | | | | | | | |
| | 3BH2505-M | ⊙ | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

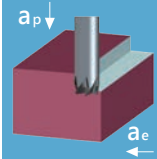






Inserts 6 PCS / Box

- ⊙ Steel / Stainless steel / Titanium alloy
- Ⓜ Correct price and stock are based on current situation
- Please specify model number and grade of insert, ie.: 3BH1005-M, B100

Cutting Parameter - 3BH

• Keep $Fz \geq 0.02\text{mm}$

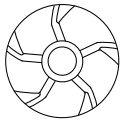
| 3BH | Materials | D (mm) | Z | Vc (m/min) | fz (mm/tooth) | a_p (mm) | a_e (mm) | S (rev/min) | F (mm/min) |
|---|---|--------|---|------------|---------------|------------|------------|-------------|------------|
|  | Steel 24-32 HRC  | 10 | 4 | 200 | 0.25 | 0.3 | 7 | 6450 | 6400 |
| | | 12 | 5 | 300 | 0.25 | 0.3 | 8 | 7900 | 9800 |
| | | 16 | 6 | 300 | 0.25 | 0.3 | 11 | 6000 | 9000 |
| | | 20 | 7 | 300 | 0.25 | 0.3 | 14 | 4800 | 8400 |
| | | 25 | 7 | 300 | 0.25 | 0.3 | 17 | 3850 | 6700 |
| | Steel 32-42 HRC  | 10 | 4 | 100 | 0.25 | 0.3 | 7 | 3200 | 3200 |
| | | 12 | 5 | 130 | 0.25 | 0.3 | 8 | 3400 | 4200 |
| | | 16 | 6 | 130 | 0.25 | 0.3 | 11 | 2600 | 3900 |
| | | 20 | 7 | 130 | 0.25 | 0.3 | 14 | 2100 | 3700 |
| | | 25 | 7 | 130 | 0.25 | 0.3 | 17 | 1650 | 1900 |
| | Stainless steel  | 10 | 4 | 160 | 0.25 | 0.3 | 7 | 5160 | 5160 |
| | | 12 | 5 | 180 | 0.25 | 0.3 | 8 | 4700 | 5800 |
| | | 16 | 6 | 180 | 0.25 | 0.3 | 11 | 3600 | 5400 |
| | | 20 | 7 | 180 | 0.25 | 0.3 | 14 | 2900 | 5000 |
| | Titanium alloy  | 10 | 4 | 60 | 0.3 | 0.3 | 7 | 1900 | 2280 |
| | | 12 | 5 | 60 | 0.3 | 0.3 | 8 | 1600 | 2400 |
| | | 16 | 6 | 60 | 0.3 | 0.3 | 11 | 1200 | 2160 |
| | | 20 | 7 | 60 | 0.3 | 0.3 | 14 | 950 | 2000 |
| | | 25 | 7 | 60 | 0.3 | 0.3 | 17 | 770 | 1600 |



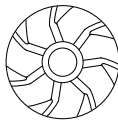
High Feed Chamfer Milling Heads - 3BC

Applicable to all Materials

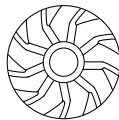
| Dimensions (mm) | | | | | |
|-----------------|----|----|------|-----|---------------|
| D | L2 | d | AP | C | Angle Chamfer |
| 10 | 5 | 6 | 3.4 | 4.0 | 30° |
| | | | 2.0 | 2.7 | 45° |
| | | | 1.15 | 2.3 | 60° |
| 13 | | 9 | 3.4 | 4.0 | 30° |
| | | | 2.0 | 2.7 | 45° |
| | | | 1.15 | 2.3 | 60° |
| 16 | | 11 | 4.3 | 5.0 | 30° |
| | | | 2.5 | 3.5 | 45° |
| | | | 1.4 | 2.8 | 60° |



5 flutes
D: 10mm



7 flutes
D: 13mm



9 flutes
D: 16mm



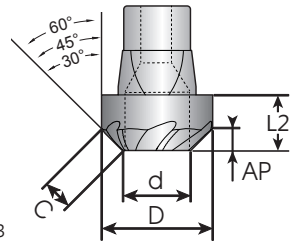
Taper Polygon
Concentricity: ± 0.005mm





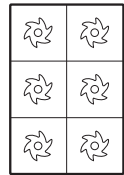
3BC

Tolerances (mm)

D : +0.0
-0.01~-0.02 L2 : ± 0.03



| Milling Heads | Part No. | Grades | | | | | | | |  | | |
|---|----------------|---------|------|------|-----|-----|--------------|------|----------|---|----|--|
| | | Carbide | | | | | Metal cermet | | Uncoated | | | |
| | | B100 | C200 | C250 | F20 | F30 | CE25 | CE60 | K10 | | CE | |
|  | 3BC1005-30°-ME | ★ | | | | | | | | | | |
| | 3BC1005-45°-ME | ★ | | | | | | | | | | |
| | 3BC1005-60°-ME | ★ | | | | | | | | | | |
| | 3BC1305-30°-ME | ★ | | | | | | | | | | |
| | 3BC1305-45°-ME | ★ | | | | | | | | | | |
| | 3BC1305-60°-ME | ★ | | | | | | | | | | |
| | 3BC1605-30°-ME | ★ | | | | | | | | | | |
| | 3BC1605-45°-ME | ★ | | | | | | | | | | |
| | 3BC1605-60°-ME | ★ | | | | | | | | | | |
| | | | | | | | | | | | | |



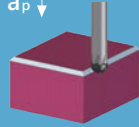






Inserts 6 PCS / Box

★ Applicable to all Materials

• Correct price and stock are based on current situation

• Please specify model number and grade of insert, ie.: 3BC1005-30°-ME,B100

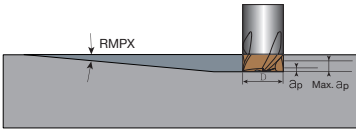
Cutting Parameter **3BC**

| 3BC | Materials | D (mm) | Z | Vc (m/min) | fz (mm/tooth) | a _p (mm) | S (rev/min) | F (mm/min) |
|---|---|-----------|-----|---------------|------------------|------------------------|----------------|---------------|
|  | Steel 24-32 HRC  | 10 | 5 | 230 | 0.07 | 1C | 7400 | 2600 |
| | | 13 | 7 | 230 | 0.07 | 1C | 5700 | 2800 |
| | | 16 | 9 | 230 | 0.07 | 1C | 4600 | 2900 |
| | Steel 32-42 HRC  | 10 | 5 | 130 | 0.06 | 1C | 4200 | 1260 |
| | | 13 | 7 | 130 | 0.06 | 1C | 3250 | 1360 |
| | | 16 | 9 | 130 | 0.06 | 1C | 2650 | 1460 |
| | Stainless steel  | 10 | 5 | 180 | 0.06 | 1C | 5800 | 1740 |
| | | 13 | 7 | 180 | 0.06 | 1C | 4500 | 1800 |
| | | 16 | 9 | 180 | 0.06 | 1C | 3600 | 1950 |
| Titanium alloy  | 10 | 5 | 70 | 0.06 | 1C | 2250 | 670 | |
| | 13 | 7 | 70 | 0.06 | 1C | 1750 | 730 | |
| | 16 | 9 | 70 | 0.06 | 1C | 1400 | 750 | |
| Aluminum  | 10 | 5 | 500 | 0.07 | 1C | 16000 | 5600 | |
| | 13 | 7 | 500 | 0.07 | 1C | 12500 | 6100 | |
| | 16 | 9 | 500 | 0.07 | 1C | 10200 | 6400 | |
| Cast iron  | 10 | 5 | 75 | 0.07 | 1C | 2400 | 840 | |
| | 13 | 7 | 75 | 0.07 | 1C | 1900 | 920 | |
| | 16 | 9 | 75 | 0.07 | 1C | 1500 | 950 | |



Technical Data

• Ramping

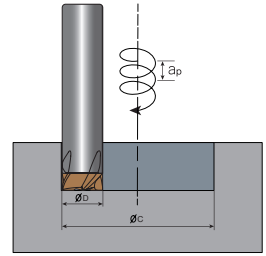


Unit : mm

| ϕD | RMPX | Max. a_p |
|----------|------|------------|
| 10 | 1.5° | 1 |
| 12 | 1.5° | 1 |
| 16 | 1.5° | 1 |
| 20 | 1.5° | 1 |
| 25 | 1.5° | 1 |

• It's calculated with exchangeable milling head R0.

• Helical milling



Unit : mm

| ϕD | Min. ϕC / Max. a_p | | | |
|----------|----------------------------|------------------|---------------|------------------|
| | Min. ϕC | Max. a_p mm | Max. ϕC | Max. a_p mm |
| 10 | 15 | 0.4 | 19 | 0.7 |
| 12 | 17 | 0.4 | 23 | 0.7 |
| 16 | 25 | 0.7 | 31 | 1.2 |
| 20 | 33 | 1.0 | 39 | 1.5 |
| 25 | 43 | 1.4 | 49 | 1.9 |

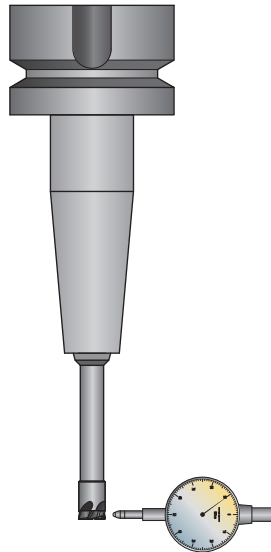
• It's calculated with exchangeable milling head R0.

Arbor and chuck

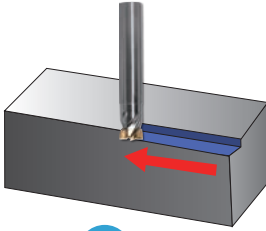
Precise arbor and chuck will improve the tool life in high speed machining.

Arbor recommendation:

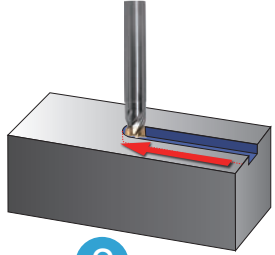
Hydraulic chuck, shrink fit chuck or highly precision chuck.



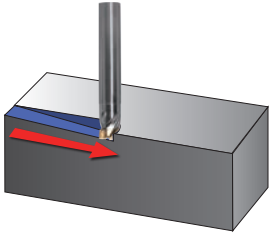
Different Applications



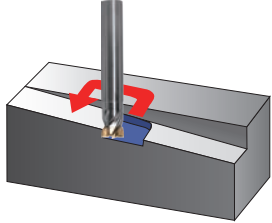
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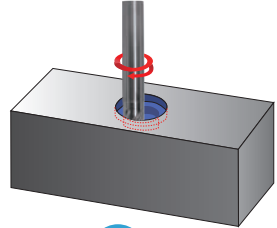
2



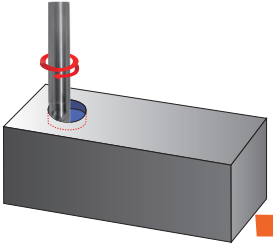
3



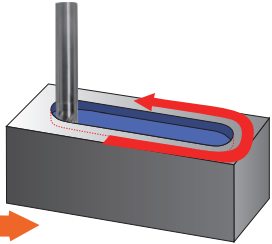
4



5



6



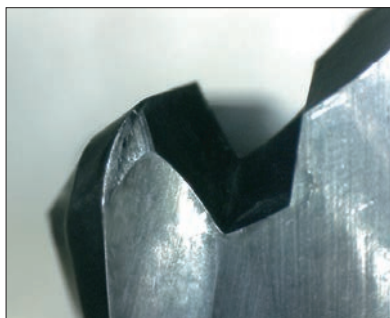
7



Test Report

| 3B | Material | D (mm) | Z | Vc (m/min) | f _z (mm/tooth) | a _p (mm) | a _e (mm) | S (rev/min) | F (mm/min) |
|----|---------------------|-----------|---|---------------|------------------------------|------------------------|------------------------|----------------|---------------|
| | Stainless steel | 12 | 4 | 60 | 0.06 | 4.5 | 4.5 | 1600 | 400 |

- Life time: 240 minutes
- 200 x magnification
- Tested tool:
Milling head (3B1206R0.5-ME, B100)
HSS shank (BB3-1212-70)



| 3B | Material | D (mm) | Z | Vc (m/min) | f _z (mm/tooth) | a _p (mm) | a _e (mm) | S (rev/min) | F (mm/min) |
|----|------------------------|-----------|---|---------------|------------------------------|------------------------|------------------------|----------------|---------------|
| | Steel 24-32 HRC | 12 | 4 | 120 | 0.06 | 4.5 | 4.5 | 3200 | 770 |

- Life time: 80 minutes
- 200 x magnification
- Tested tool:
Milling head (3B1206R0.5-M, B100)
HSS shank (BB3-1212-70)



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40 years specialist experience

With over 40 years professional experience R&D team and 30 patents approval, we provide you a total tool solution by customizing to your needs

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About 2-4 weeks lead time to enhance customer competitiveness

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Indexable design tool brings customer an effective cost-saving solution





UFO Double chamfer Double corner rounding

Smallest dia from 10mm with 4 teeth design in high productivity.
Same shank can fit both 45° insert and radius insert.



45°



R0.5~R2



UFO Chamfer Insert

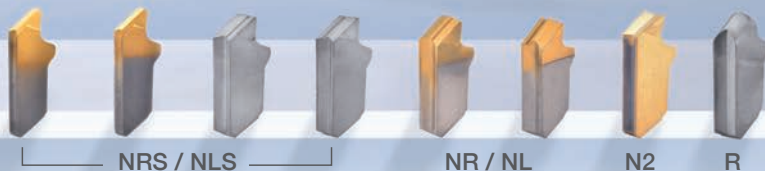


UFO Corner Radius Insert

Multifunctional Saw Blade



Whole range from dia 32mm~300mm,
thickness 1.4~8mm. Available in all
materials and different clamping systems.



Insert series



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