

# CHAMFER KING SERIES



Video

# Features Description

The indexable countersink with carbide insert can be used in all kinds of machines, include drilling machine, electric hand tool...etc. The patented unique design "carbide strip" enhance the cutter tool life. Available from  $\varnothing 4$  -  $\varnothing 110$  mm.



# INDEXABLE CHAMFER KING

**PATENTED**



Video

## Features

Available in  
materials



Cost  
**300~500%**  
SAVING

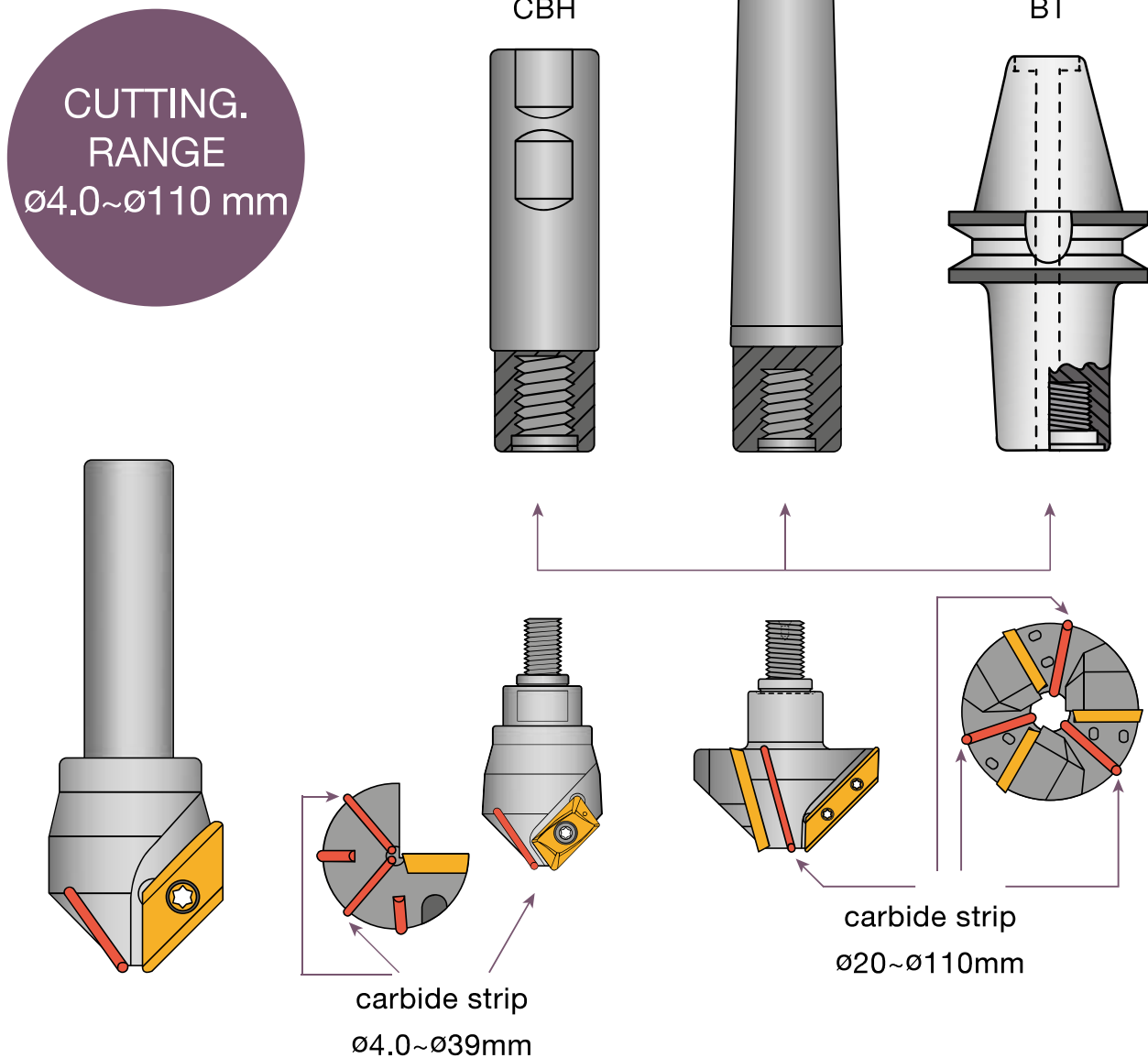
Adapter  
type is  
available  
max. 300mm

Applicable  
Machines  
Milling / drilling  
/ lathe / electric  
hand tool

Efficiency  
**300%**  
UP

Durability  
**500~1000%**  
UP

## Product Design



### Carbide Strip Cutter With Carbide Inserts:

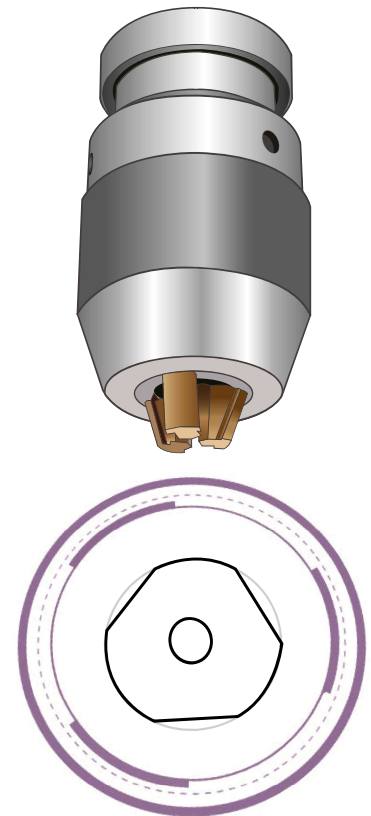
- Special design for unstable drilling machines and electric drills. It's working well even in lower RPM.
- Carbide strips support better tool life.
- The carbide insert performs a better tool life. It was designed with 2 cutting edges, one insert grade suitable for all materials, tend to be more economical.
- Patented carbide strip cutter design provides an excellent chamfering surface.

## New coming shank

The shank with three flat designs is more suitable for drilling machine (three-jaw chuck) which achieves stable clamping and longer tool life.

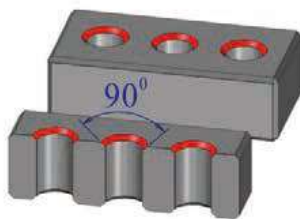


▲ Optimal surface finishing



▲ Top view of the shank

## Geometries Application



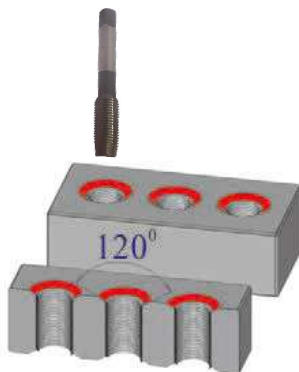
Standard chamfer with 90°



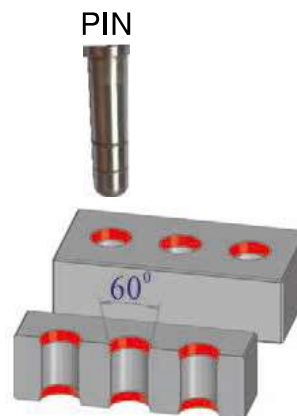
- Excellent Design
- No burrs.



Chamfer cutter with longer shank

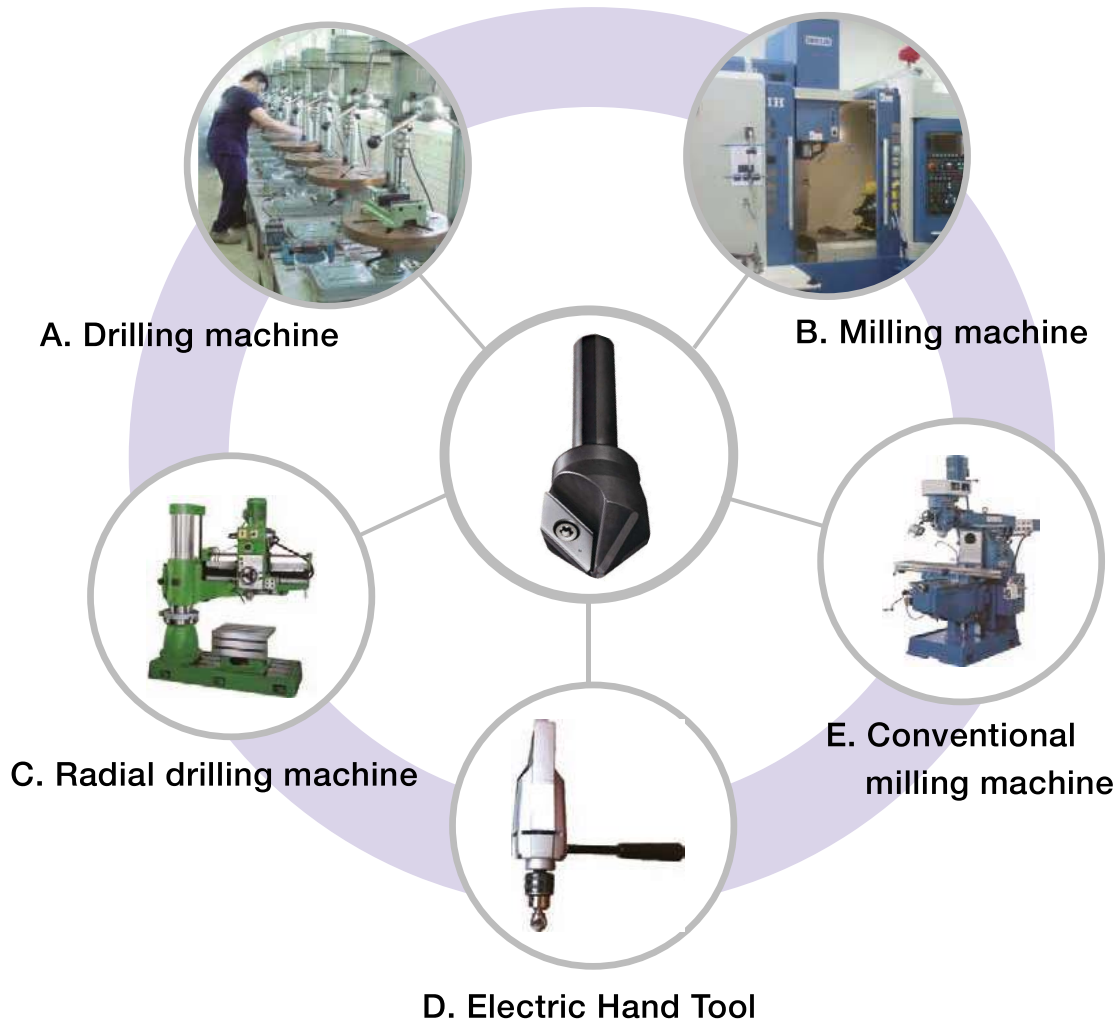


Chamfer with 120° used for tap holes, which reduce the loss of threads.



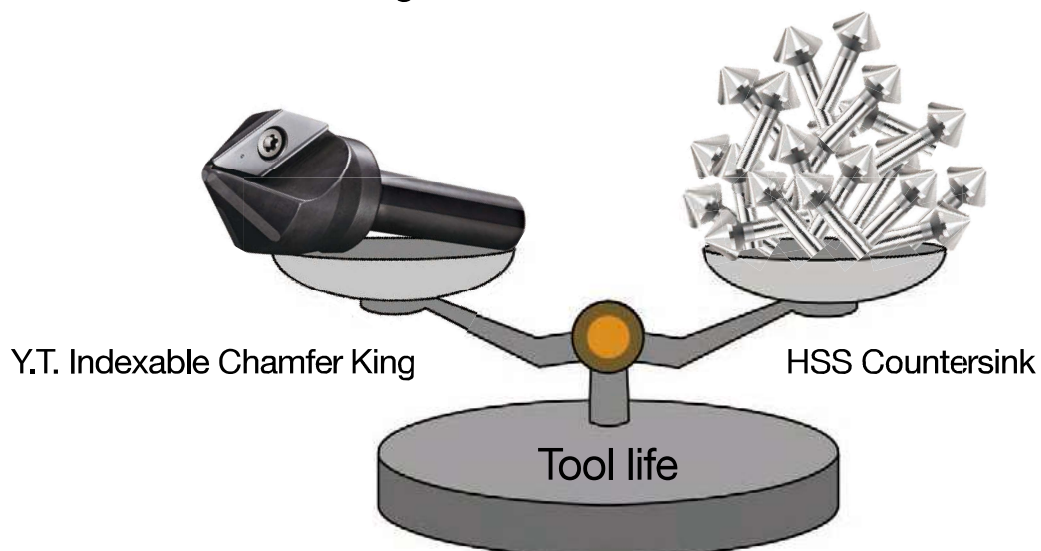
Chamfer with 60° used for deburring before "pin". 60° chamfer is easier than 90° or 120° to locate the pin.

## Applicable Machine And Tools



## Cost Effective Solution

Coated carbide insert provides excellent tool life. Insert with 2 cutting edges maximizes tool cost-saving.



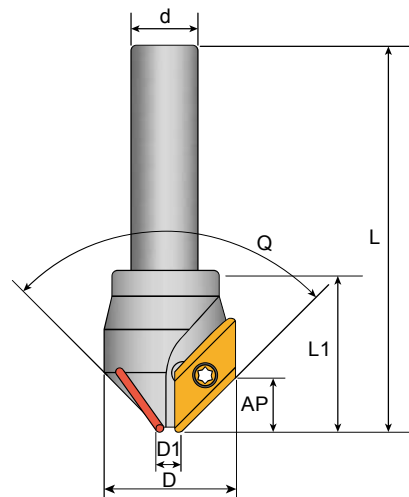
# PRODUCT SPECIFICATIONS

## Chamfer King Toolholders

- Inserts P. 257
- Cutting Data P. 258 - 259

CI

• 60°



| Order Code | Dimensions (mm) |    |    |    |     |    | Q   | Z | KG   | MAX RPM | Inserts XDGT | Screw  | Key  |
|------------|-----------------|----|----|----|-----|----|-----|---|------|---------|--------------|--------|------|
|            | D1              | D  | d  | L  | AP  | L1 |     |   |      |         |              |        |      |
| CI-17-60°  | 7               | 17 | 10 | 65 | 8.5 | 27 | 60° | 1 | 0.12 | 35000   | 120308       | C03506 | T10P |
| CI-31-60°  | 15.5            | 31 | 12 | 78 | 13  | 35 |     |   | 0.24 | 25000   | 190408       | C04011 | T15P |

• 90°

| Order Code   | Dimensions (mm) |    |    |    |    |    | Q   | Z |  | MAX<br>RPM | Inserts<br>ADGT/XDGT | Screw   | Key  |
|--------------|-----------------|----|----|----|----|----|-----|---|---------------------------------------------------------------------------------------|------------|----------------------|---------|------|
|              | D1              | D  | d  | L  | AP | L1 |     |   |                                                                                       |            |                      |         |      |
| CI-12-90°    | 4               | 10 | 10 | 60 | 3  | 14 | 90° | 1 | 0.08                                                                                  | 45000      | 060204               | C018035 | T06P |
| CI-12-90° -L |                 |    |    | 90 |    |    |     |   | 0.10                                                                                  |            |                      |         |      |
| CI-22-90°    | 5.5             | 22 |    | 65 | 8  | 27 |     |   | 0.14                                                                                  | 35000      | 120308               | C03506  | T10P |
| CI-36-90°    | 15              | 36 | 12 | 78 | 10 | 38 |     | 2 | 0.32                                                                                  | 25000      | 190408               | C04011  | T15P |
| CI-36-90° -2 |                 |    |    |    |    |    |     |   | 0.33                                                                                  |            |                      |         |      |

• 100°

| Order Code    | Dimensions(mm) |    |    |    |     |    | Q    | Z |  | MAX<br>RPM | Inserts<br>ADGT/XDGT | Screw   | Key  |
|---------------|----------------|----|----|----|-----|----|------|---|-------------------------------------------------------------------------------------|------------|----------------------|---------|------|
|               | D1             | D  | d  | L  | AP  | L1 |      |   |                                                                                     |            |                      |         |      |
| CI-12-100°    | 4              | 10 | 10 | 60 | 3   | 14 | 100° | 1 | 0.05                                                                                | 45000      | 060204               | C018035 | T06P |
| CI-24-100°    | 5              | 24 |    | 65 | 7.5 | 27 |      |   | 0.15                                                                                | 35000      | 120308               | C03506  | T10P |
| CI-38-100°    | 15             | 38 | 12 | 78 | 10  | 38 |      |   | 0.40                                                                                | 25000      | 190408               | C04011  | T15P |
| CI-38-100° -2 |                |    |    |    |     |    |      | 2 | 0.41                                                                                |            |                      |         |      |

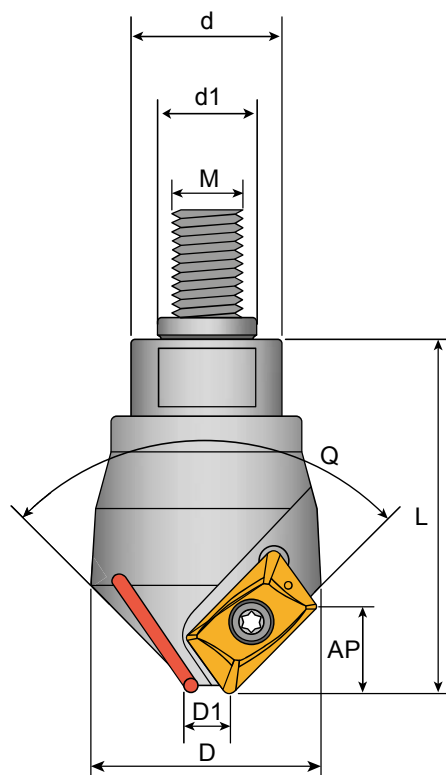
• 120°

| Order Code | Dimensions(mm) |    |    |    |    |    | Q    | Z | KG   | MAX RPM | Inserts XDGT | Screw  | Key  |
|------------|----------------|----|----|----|----|----|------|---|------|---------|--------------|--------|------|
|            | D1             | D  | d  | L  | AP | L1 |      |   |      |         |              |        |      |
| CI-26-120° | 7              | 26 | 10 | 65 | 5  | 27 | 120° | 1 | 0.18 | 35000   | 120308       | C03506 | T10P |
| CI-39-120° | 11             | 39 | 12 | 78 | 8  | 35 |      |   | 0.36 | 25000   | 190408       | C04011 | T15P |

- Insert is included with purchase of a chamfer king.

# Chamfer King Toolholders

- Combi holders P. 255 - 256
- Inserts P. 257
- Cutting Data P. 258 - 259



## HCI

### • 60°

| Order Code | Dimensions (mm) |    |    |     |    |     |   | Q   | Z | KG   | MAX RPM | Inserts XDGT | Screw  | Key  |
|------------|-----------------|----|----|-----|----|-----|---|-----|---|------|---------|--------------|--------|------|
|            | D1              | D  | d  | d1  | L  | AP  | M |     |   |      |         |              |        |      |
| HCI-17-60° | 7               | 17 | 12 | 6.5 | 37 | 8.5 | 6 | 60° | 1 | 0.12 | 35000   | 120308       | C03506 | T10P |
| HCI-31-60° | 15.5            | 31 | 16 | 8.5 | 45 | 13  | 8 |     |   | 0.24 | 25000   | 190408       | C04011 | T15P |

### • 90°

| Order Code | Dimensions(mm) |    |    |     |    |    |   | Q   | Z | KG   | MAX RPM | Inserts ADGT/XDGT | Screw   | Key  |
|------------|----------------|----|----|-----|----|----|---|-----|---|------|---------|-------------------|---------|------|
|            | D1             | D  | d  | d1  | L  | AP | M |     |   |      |         |                   |         |      |
| HCI-12-90° | 4              | 10 | 10 | 6.5 | 24 | 3  | 6 | 90° | 1 | 0.08 | 45000   | 060204            | C018035 | T06P |
| HCI-22-90° | 5.5            | 22 | 12 |     | 37 | 8  |   |     |   | 0.14 | 35000   | 120308            | C03506  | T10P |
| HCI-36-90° | 15             | 36 | 16 |     | 48 | 10 |   |     |   | 0.32 | 25000   | 190408            | C04011  | T15P |

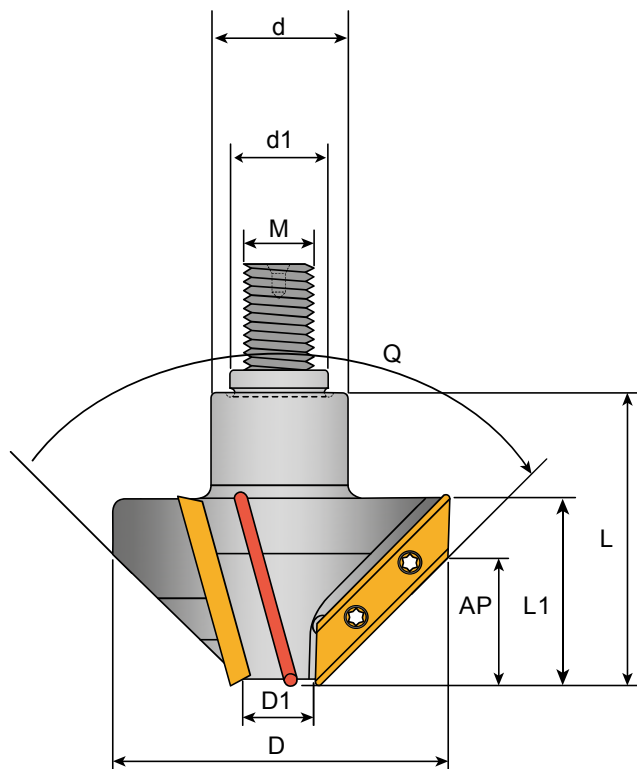
### • 120°

| Order Code  | Dimensions(mm) |    |    |     |    |    |   | Q    | Z | KG   | MAX RPM | Inserts XDGT | Screw  | Key  |
|-------------|----------------|----|----|-----|----|----|---|------|---|------|---------|--------------|--------|------|
|             | D1             | D  | d  | d1  | L  | AP | M |      |   |      |         |              |        |      |
| HCI-26-120° | 7              | 26 | 12 | 6.5 | 37 | 5  | 6 | 120° | 1 | 0.18 | 35000   | 120308       | C03506 | T10P |
| HCI-39-120° | 11             | 39 | 16 | 8.5 | 45 | 8  | 8 |      |   | 0.36 | 25000   | 190408       | C04011 | T15P |

- Insert is included with purchase of a chamfer king.

# Chamfer King Toolholders

- Combi holders P. 255 - 256
- Insert P. 257
- Cutting Data P. 258 - 259



**HCI**

- 90°

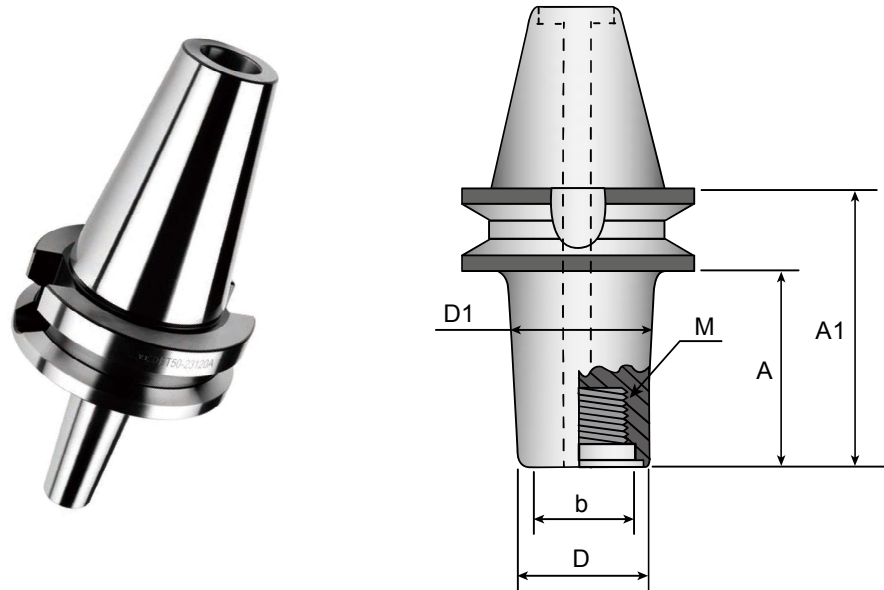
| Order Code  | Dimensions (mm) |     |    |    |    |    |    |    |     | Z | KG   | MAX RPM | Inserts XDGT | Screw  | Key  |
|-------------|-----------------|-----|----|----|----|----|----|----|-----|---|------|---------|--------------|--------|------|
|             | D1              | D   | d  | d1 | L  | AP | L1 | M  | Q   |   |      |         |              |        |      |
| HCI-76-90°  | 20              | 76  | 30 | 22 | 65 | 28 | 41 | 16 | 90° | 3 | 0.85 | 13700   | 400408       | C04011 | T15P |
| HCI-110-90° | 55              | 110 |    |    |    |    |    |    |     |   |      |         |              |        |      |

## Note:

- For clunker radial drilling machine which is too stiff to position at the hole center of workpiece it might cause vibration and poor surface finishing during machining.
- For workpieces which are heavy and difficult to align the toolcenter, it might cause vibration and results in chatter marks on the chamfering surface.



# BT Arbor ( Screw Type )



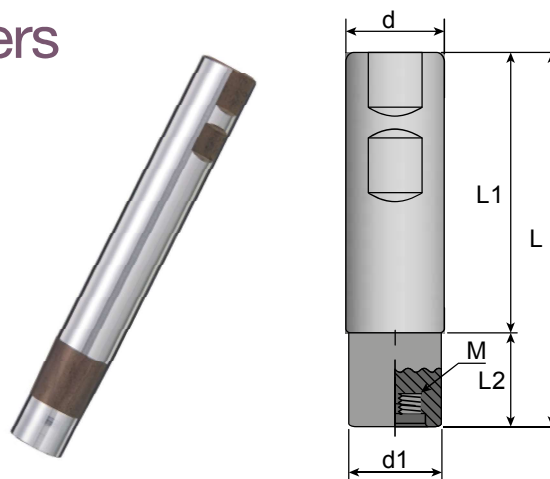
BT

| Order Code  | Dimensions (mm) |     |     |    |    |     | KG   |
|-------------|-----------------|-----|-----|----|----|-----|------|
|             | D               | A   | A1  | b  | D1 | M   |      |
| BT40-2380A  | 23              | 53  | 78  | 14 | 28 | M12 | 1.40 |
| BT40-23120A |                 | 93  | 118 |    | 31 |     | 2.00 |
| BT40-3080A  | 30              | 53  | 78  | 22 | 35 | M16 | 2.40 |
| BT40-30120A |                 | 93  | 118 |    | 38 |     | 2.90 |
| BT40-4080A  | 40              | 53  | 78  | 28 | 45 | M18 | 4.60 |
| BT40-40120A |                 | 93  | 118 |    | 48 |     | 4.80 |
| BT50-2380A  | 23              | 42  | 77  | 14 | 28 | M12 | 4.60 |
| BT50-23120A |                 | 82  | 117 |    | 31 |     | 5.50 |
| BT50-3080A  | 30              | 42  | 77  | 22 | 35 | M16 | 5.30 |
| BT50-30120A |                 | 82  | 117 |    | 38 |     | 6.30 |
| BT50-4080A  | 40              | 42  | 77  | 28 | 45 | M18 | 6.10 |
| BT50-40120A |                 | 82  | 117 |    | 48 |     | 7.00 |
| BT50-5080A  | 50              | 42  | 77  | 36 | 55 | M25 | 8.10 |
| BT50-50120A |                 | 82  | 117 |    | 58 |     |      |
| BT50-50160A |                 | 122 | 157 |    | 61 |     |      |

Chamfer

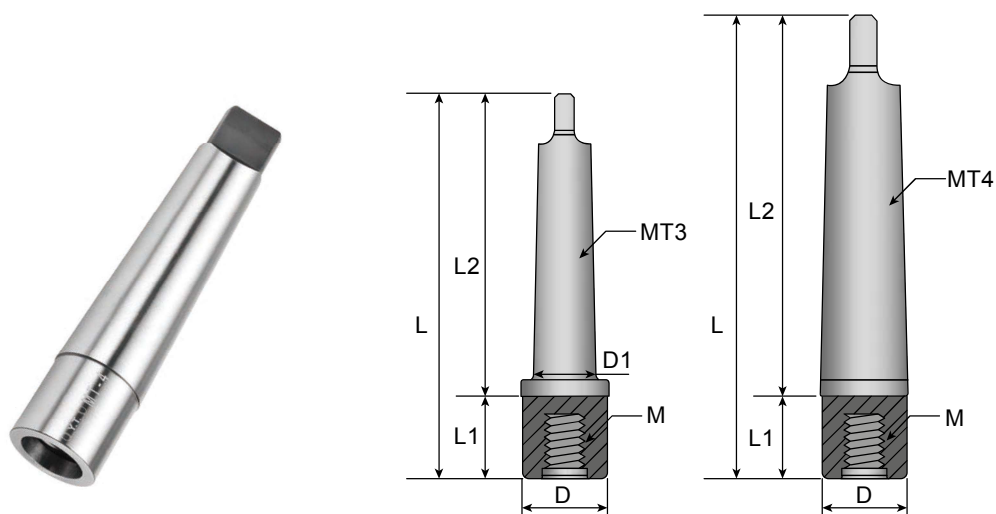
# Chamfer King Combi Toolholders

## CBH



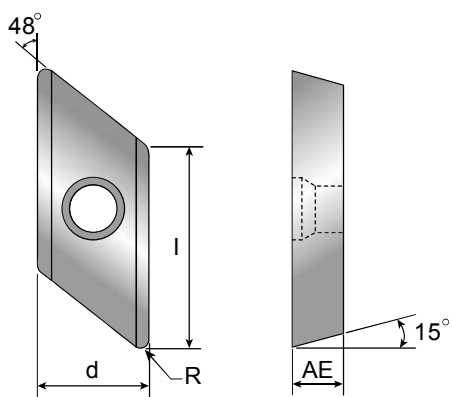
| Order Code   | Dimensions (mm) |    |     |    |     |     |      |
|--------------|-----------------|----|-----|----|-----|-----|------|
|              | d               | d1 | L1  | L2 | L   | M   | KG   |
| CBH-1009-100 | 10              | 9  | 60  | 20 | 80  | M6  | 0.05 |
| CBH-1211-120 | 12              | 11 | 80  |    | 100 |     | 0.09 |
| CBH-1211-140 |                 |    | 100 |    | 120 |     | 0.11 |
| CBH-1616-100 | 16              | 16 | -   | -  | 70  | M8  | 0.11 |
| CBH-1615-120 |                 | 15 | 70  | 20 | 90  |     | 0.14 |
| CBH-1615-150 |                 |    | 95  | 25 | 120 |     | 0.18 |
| CBH-3232-120 | 32              | 32 | -   | -  | 80  | M16 | 0.48 |
| CBH-3230-140 |                 | 30 | 80  | 20 | 100 |     | 0.56 |
| CBH-3230-200 |                 |    | 130 | 30 | 160 |     | 0.92 |
| CBH-3230-240 |                 |    | 170 |    | 200 |     | 1.16 |
| CBH-3230-300 |                 |    | 210 | 50 | 260 |     | 1.53 |

## MTH



| Order Code | Dimensions (mm) |       |     |    |     |     |    |      |
|------------|-----------------|-------|-----|----|-----|-----|----|------|
|            | D               | D1    | L   | L1 | L2  | M   | MT | KG   |
| MTH-3      | 30              | 23.83 | 140 | 40 | 100 | M16 | 3  | 0.50 |
| MTH-4      | 31.6            | -     | 165 |    | 125 | M16 | 4  | 0.60 |

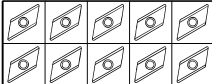
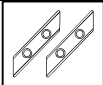
# XDGT Chamfer King Insert



Tolerances (mm)

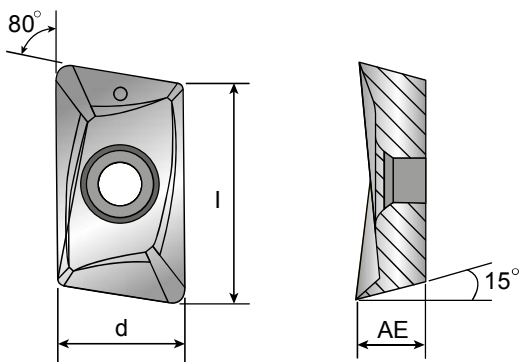
|        | d     | AE     | I     |
|--------|-------|--------|-------|
| XDGT12 | ±0.03 | ±0.025 | ±0.03 |
| XDGT19 | ±0.03 | ±0.025 | ±0.03 |
| XDGT40 | ±0.03 | ±0.025 | ±0.03 |

| Code   | Dimensions (mm) |       |      |     |    |
|--------|-----------------|-------|------|-----|----|
|        | I               | d     | AE   | Q   | Q1 |
| 120308 | 12              | 8.3   | 3.10 | 0.8 | -  |
| 190408 | 19              | 10.45 | 4.45 | 0.8 | -  |
| 400408 | 40              |       | 4.70 | 0.8 | -  |

| Inserts                                                                             | Order Code        | Grades |      |      |     |     |        |       |      |          |    |                              |
|-------------------------------------------------------------------------------------|-------------------|--------|------|------|-----|-----|--------|-------|------|----------|----|-----------------------------------------------------------------------------------------------------------------|
|                                                                                     |                   | Coated |      |      |     |     | Cermet |       |      | Uncoated |    |                                                                                                                 |
|                                                                                     |                   | B100   | C200 | C250 | F20 | F30 | CE25   | CE100 | CE60 | K10      | CE |                                                                                                                 |
|    | XDGT120308TR-ME-C | ★      |      |      |     |     |        |       |      |          |    | <br>Inserts 10 PCS / Box     |
|   | XDGT190408TR-ME   | ★      |      |      |     |     |        |       |      |          |    |                                                                                                                 |
|  | XDGT400408TR-ME   | ★      |      |      |     |     |        |       |      |          |    | <br>Inserts<br>2 PCS / Box |

★ All Materials

# ADGT Chamfer King Insert



Tolerances (mm)

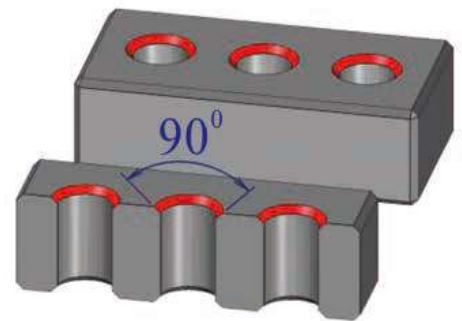
|      | d     | AE     |
|------|-------|--------|
| ADGT | ±0.03 | ±0.025 |

| Code   | Dimensions (mm) |     |     |
|--------|-----------------|-----|-----|
|        | d               | I   | AE  |
| 060204 | 4.15            | 6.5 | 2.6 |

| Inserts                                                                             | Order Code        | Grades |      |      |     |     |        |       |      |          |    |                                                                                    |    |    |    |    |    |    |    |    |    |    |
|-------------------------------------------------------------------------------------|-------------------|--------|------|------|-----|-----|--------|-------|------|----------|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|----|----|----|----|----|----|----|----|----|
|                                                                                     |                   | Coated |      |      |     |     | Cermet |       |      | Uncoated |    |                                                                                                                                                                         |    |    |    |    |    |    |    |    |    |    |
|                                                                                     |                   | B100   | C200 | C250 | F20 | F30 | CE25   | CE100 | CE60 | K10      | CE |                                                                                                                                                                         |    |    |    |    |    |    |    |    |    |    |
|  | ADGT060204TR-ME-C | ★      |      |      |     |     |        |       |      |          |    | <table><tr><td>CE</td><td>CE</td><td>CE</td><td>CE</td><td>CE</td></tr><tr><td>CE</td><td>CE</td><td>CE</td><td>CE</td><td>CE</td></tr></table><br>Inserts 10 PCS / Box | CE | CE | CE | CE | CE | CE | CE | CE | CE | CE |
| CE                                                                                  | CE                | CE     | CE   | CE   |     |     |        |       |      |          |    |                                                                                                                                                                         |    |    |    |    |    |    |    |    |    |    |
| CE                                                                                  | CE                | CE     | CE   | CE   |     |     |        |       |      |          |    |                                                                                                                                                                         |    |    |    |    |    |    |    |    |    |    |

★ All Materials

# TECHNICAL GUIDE



## • Cutting data for hole countersinking

| Material group               |                             |              |                 |                            |             |        |                            |             |        |                                                               |             |        |
|------------------------------|-----------------------------|--------------|-----------------|----------------------------|-------------|--------|----------------------------|-------------|--------|---------------------------------------------------------------|-------------|--------|
| Dia. of Hole<br>( $\phi$ mm) | Steel                       | Harden steel | Stainless steel | Cast iron                  |             |        | Aluminum                   |             |        | Titanium alloy<br>Ni based superalloy<br>Co-based superalloys |             |        |
|                              | 1 2 3 4 5 6                 | 7            | 8 9 10 11       | 12 13 14 15                |             |        | 16 17 18                   |             |        | 19 20 21 22                                                   |             |        |
|                              | Vc:20 m/min Fz:0.1 mm/tooth |              |                 | Vc:15m/min Fz:0.12mm/tooth |             |        | Vc:50m/min Fz:0.15mm/tooth |             |        | Vc:20m/min Fz:0.1mm/tooth                                     |             |        |
|                              | RPM<br>rev/min              | Feed mm/min  |                 | RPM<br>rev/min             | Feed mm/min |        | RPM<br>rev/min             | Feed mm/min |        | RPM<br>rev/min                                                | Feed mm/min |        |
|                              |                             | 1 Tooth      | 3 Teeth         |                            | 1Tooth      | 3Teeth |                            | 1Tooth      | 3Teeth |                                                               | 1Tooth      | 3Teeth |
| 5~7                          | 1062                        | 106          | -               | 796                        | 96          | -      | 2654                       | 398         | -      | 796                                                           | 80          | -      |
| 8~10                         | 708                         | 71           | -               | 531                        | 64          | -      | 1769                       | 265         | -      | 531                                                           | 53          | -      |
| 11~13                        | 531                         | 53           | -               | 398                        | 48          | -      | 1327                       | 199         | -      | 398                                                           | 40          | -      |
| 14~16                        | 425                         | 42           | -               | 318                        | 38          | -      | 1062                       | 159         | -      | 318                                                           | 32          | -      |
| 17~19                        | 354                         | 35           | -               | 265                        | 32          | -      | 885                        | 133         | -      | 265                                                           | 27          | -      |
| 20~22                        | 303                         | 30           | 91              | 227                        | 27          | 82     | 758                        | 114         | 341    | 227                                                           | 23          | 68     |
| 23~25                        | 265                         | 27           | 80              | 199                        | 24          | 72     | 663                        | 100         | 299    | 199                                                           | 20          | 60     |
| 26~28                        | 236                         | 24           | 71              | 177                        | 21          | 64     | 590                        | 88          | 265    | 177                                                           | 18          | 53     |
| 29~31                        | 212                         | 21           | 64              | 159                        | 19          | 57     | 531                        | 80          | 239    | 159                                                           | 16          | 48     |
| 32~34                        | 193                         | 19           | 58              | 145                        | 17          | 52     | 483                        | 72          | 217    | 145                                                           | 14          | 43     |
| 35~37                        | 177                         | 18           | 53              | 133                        | 16          | 48     | 442                        | 66          | 199    | 133                                                           | 13          | 40     |
| 38~40                        | 163                         | 16           | 49              | 122                        | 15          | 44     | 408                        | 61          | 184    | 122                                                           | 12          | 37     |
| 41~43                        | 152                         | -            | 45              | 114                        | -           | 41     | 379                        | -           | 171    | 114                                                           | -           | 34     |
| 44~46                        | 142                         | -            | 42              | 106                        | -           | 38     | 354                        | -           | 159    | 106                                                           | -           | 32     |
| 47~49                        | 133                         | -            | 40              | 100                        | -           | 36     | 332                        | -           | 149    | 100                                                           | -           | 30     |
| 50~52                        | 125                         | -            | 37              | 94                         | -           | 34     | 312                        | -           | 141    | 94                                                            | -           | 28     |
| 53~55                        | 118                         | -            | 35              | 88                         | -           | 32     | 295                        | -           | 133    | 88                                                            | -           | 27     |
| 56~58                        | 112                         | -            | 34              | 84                         | -           | 30     | 279                        | -           | 126    | 84                                                            | -           | 25     |

# Technical Guide

| Material group               |                               |              |                 |                              |             |        |                              |             |        |                                                               |             |        |
|------------------------------|-------------------------------|--------------|-----------------|------------------------------|-------------|--------|------------------------------|-------------|--------|---------------------------------------------------------------|-------------|--------|
| Dia. of Hole<br>( $\phi$ mm) | Steel                         | Harden steel | Stainless steel | Cast iron                    |             |        | Aluminum                     |             |        | Titanium alloy<br>Ni based superalloy<br>Co-based superalloys |             |        |
|                              | 1 2 3 4 5 6                   | 7            | 8 9 10 11       | 12 13 14 15                  |             |        | 16 17 18                     |             |        | 19 20 21 22                                                   |             |        |
|                              | Vc: 20 m/min Fz: 0.1 mm/tooth |              |                 | Vc: 15m/min Fz: 0.12mm/tooth |             |        | Vc: 50m/min Fz: 0.15mm/tooth |             |        | Vc: 20m/min Fz: 0.1mm/tooth                                   |             |        |
|                              | RPM<br>rev/min                | Feed mm/min  |                 | RPM<br>rev/min               | Feed mm/min |        | RPM<br>rev/min               | Feed mm/min |        | RPM<br>rev/min                                                | Feed mm/min |        |
|                              |                               | 1 Tooth      | 3 Teeth         |                              | 1Tooth      | 3Teeth |                              | 1Tooth      | 3Teeth |                                                               | 1Tooth      | 3Teeth |
| 59~61                        | 106                           | -            | 32              | 80                           | -           | 29     | 265                          | -           | 119    | 80                                                            | -           | 24     |
| 62~64                        | 101                           | -            | 30              | 76                           | -           | 27     | 253                          | -           | 114    | 76                                                            | -           | 23     |
| 65~67                        | 97                            | -            | 29              | 72                           | -           | 26     | 241                          | -           | 109    | 72                                                            | -           | 22     |
| 68~70                        | 92                            | -            | 28              | 69                           | -           | 25     | 231                          | -           | 104    | 69                                                            | -           | 21     |
| 71~73                        | 88                            | -            | 27              | 66                           | -           | 24     | 221                          | -           | 100    | 66                                                            | -           | 20     |
| 74~76                        | 85                            | -            | 25              | 64                           | -           | 23     | 212                          | -           | 96     | 64                                                            | -           | 19     |
| 77~79                        | 82                            | -            | 24              | 61                           | -           | -      | 204                          | -           | 92     | 61                                                            | -           | 18     |
| 80~82                        | 79                            | -            | 24              | 59                           | -           | -      | 197                          | -           | 88     | 59                                                            | -           | 18     |
| 83~85                        | 76                            | -            | 23              | 57                           | -           | -      | 190                          | -           | 85     | 57                                                            | -           | 17     |
| 86~88                        | 73                            | -            | 22              | 55                           | -           | -      | 183                          | -           | 82     | 55                                                            | -           | 16     |
| 89~91                        | 71                            | -            | 21              | 53                           | -           | -      | 177                          | -           | 80     | 53                                                            | -           | 16     |
| 92~94                        | 68                            | -            | 21              | 51                           | -           | -      | 171                          | -           | 77     | 51                                                            | -           | 15     |
| 95~97                        | 66                            | -            | 20              | 50                           | -           | -      | 166                          | -           | 75     | 50                                                            | -           | 15     |
| 98~100                       | 64                            | -            | 19              | 48                           | -           | -      | 161                          | -           | 72     | 48                                                            | -           | 14     |
| 101~103                      | 62                            | -            | 19              | 47                           | -           | -      | 156                          | -           | 70     | 47                                                            | -           | 14     |
| 104~106                      | 61                            | -            | 18              | 45                           | -           | -      | 152                          | -           | 68     | 45                                                            | -           | 14     |
| 107~109                      | 59                            | -            | 18              | 44                           | -           | -      | 147                          | -           | 66     | 44                                                            | -           | 13     |
| 110                          | 58                            | -            | 17              | 43                           | -           | -      | 145                          | -           | 65     | 43                                                            | -           | 13     |