DrillLine

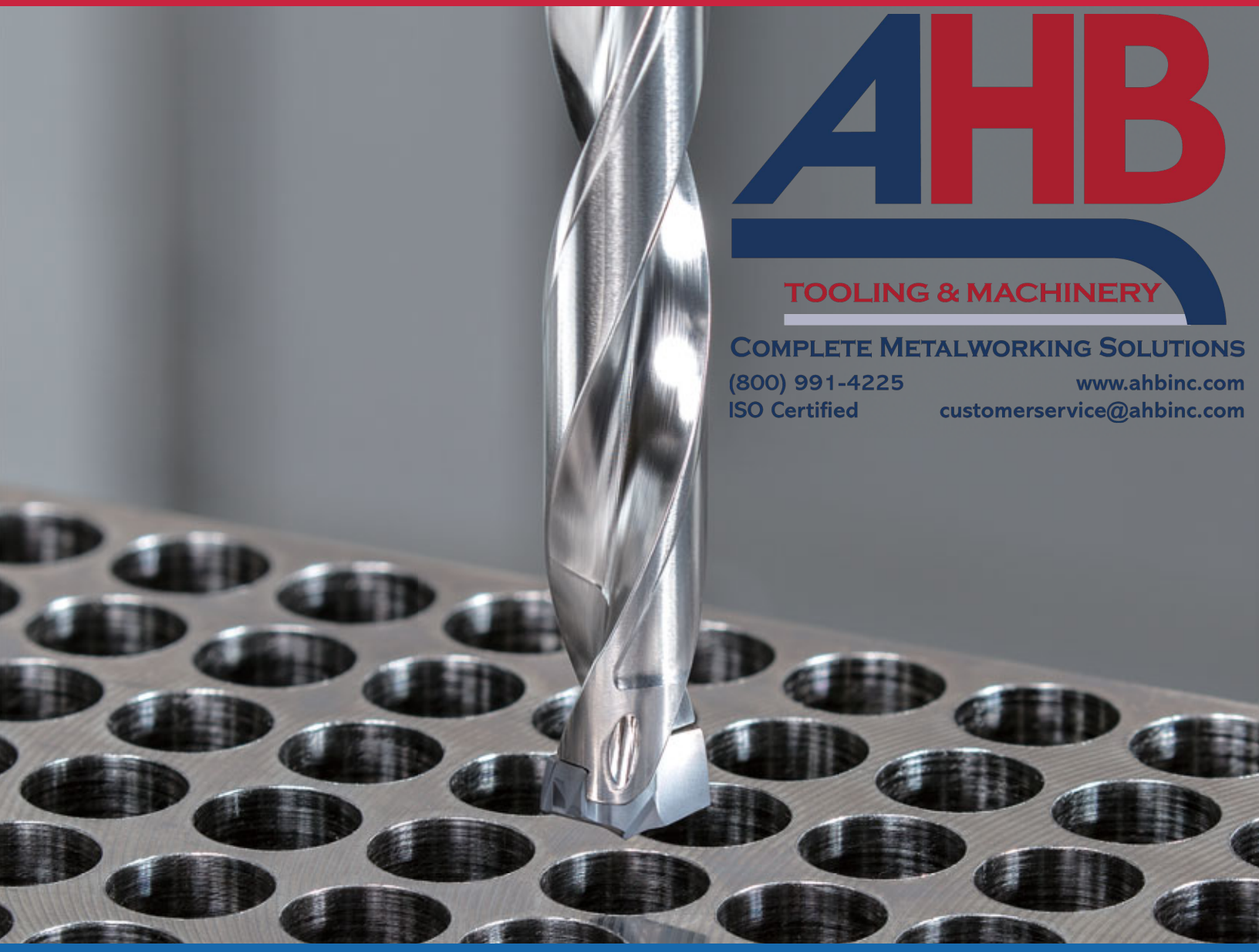
# DRILLMEISTER

www.tungaloy.com/us

Tungaloy Report No. 412-US

# High Productivity Head-Changeable Drill

## New DMC drill head available for added stability





INDUSTRY 4.0
*FEED the SPEED!*


ACCELERATED MACHINING

DrillLine

# DRILLMEISTER

## TUNG FORCE DRILL

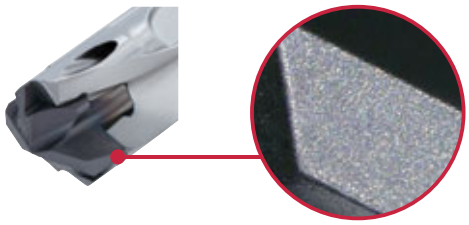
ACCELERATED MACHINING

Stable performance, long tool life and significant cost-savings, while eliminating tool reconditioning and reducing inventory

# Head-changeable drills for unparalleled machining performance and tool life

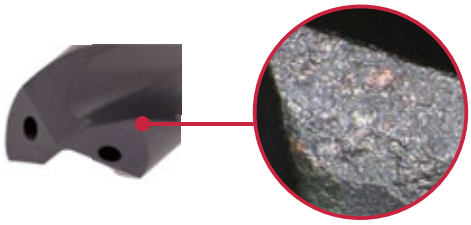
## Changeable drill head provides stability and long tool life, while eliminating the need for tool reconditioning

Margin of DrillMeister drill head



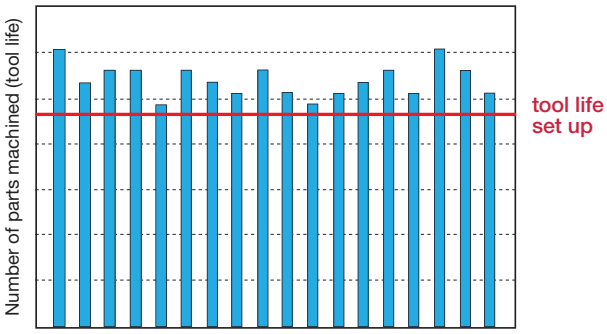
- Cutting head is always new and reliable
- Optimized coating thickness provides extended tool life
- Constant coating quality provides superior tool life predictability

Margin of solid carbide drill (after reconditioning)



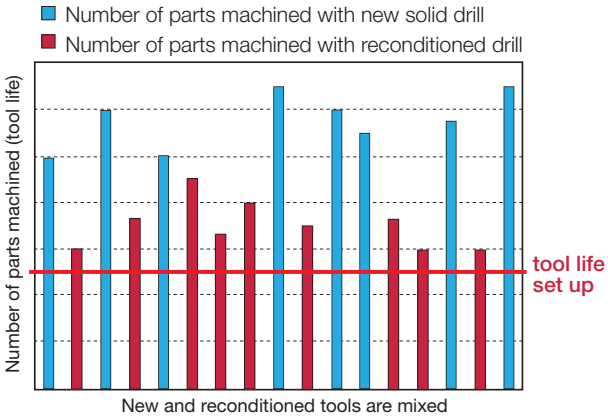
- Excess coating thickness due to multiple re-coating processes
- Fragile coating layer due to excess re-coating
- Result: unpredictable tool life

Tool life fluctuations of head-changeable tools




- Long and predictable tool life allows the tool change counter to be set higher

Tool life fluctuations of solid carbide drills

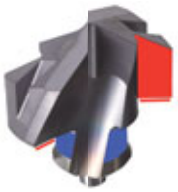



- Tool life prediction is set according to the lowest tool life

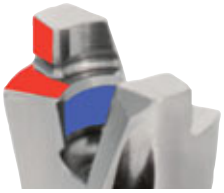
## **High accuracy**, rigidity and productivity

- Unique clamping structure provides high repeatability and reliability
- No regrinding cost and reduced tool inventory requirements

Drill head

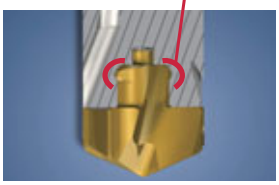


Drill body



- Contact area that supports the drill head against cutting force
- Contact area that maintains the accurate drill position

Groove to prevent the head from falling off



## TID type shank

- Optimized helical flute design enables fast chip evacuation in deep hole drilling
- Ample supply of internal coolant is delivered through the twisted holes
- Longer shank lengths of the 3.5xD, 6xD, and 8xD cylindrical shank drills allow the drill overhang to be adjusted more freely than conventional drills when clamped in the tool holder.

Flanged shank

| Diameter range | L/D |
|---|---|
| ø6 mm - ø6.9 mm (ø0.236" - ø0.272") | 1.5, 3, 5 |
| ø7 mm - ø25.9 mm (ø0.276" - ø1.020") | 1.5, 3, 5, 8 |

New

Cylindrical shank

| Diameter range | L/D |
|---|---|
| ø10 mm - ø19.9 mm (ø0.394" - ø0.783") | 3.5, 6, 8 |
| ø8 mm - ø25.9 mm (ø0.314" - ø1.020") | 12 |

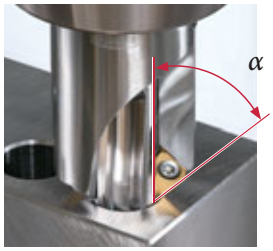
## TIDC type shank

- The chamfering adapter can be mounted easily on the straight drill shank with no flange in the way

| Diameter range | L/D |
|---|---|
| ø10.0 mm - 19.9 mm (ø0.394" - ø0.783") | 3, 5 |


**Drilling and chamfering in one shot**

Three different chamfering angles are available




$\alpha = 60°$ 

$\alpha = 45°$ 

$\alpha = 30°$ 

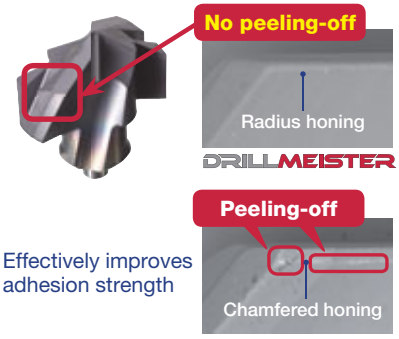
# Enhanced drill head variations for higher performance

## DMP Drill head - general purpose

- Versatile drill head
- Suitable for various materials and applications
- Light cutting due to sharp cutting edge

**Unique edge preparation**

Close-up of edges (new head)

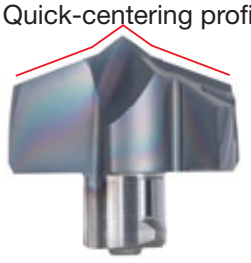


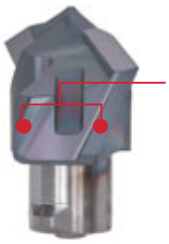

Effectively improves adhesion strength

Competitor

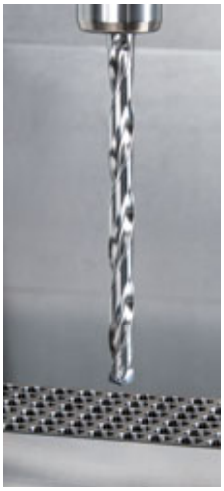
## New DMC drill head - high accuracy drilling

Quick-centering profile






- Innovative chiseled edge for smooth drill entry. No pre-drilling needed in 12xD drilling operation
- Superior hole diameter accuracy and circularity
- Double margins provides superior surface finish and hole drilling straightness

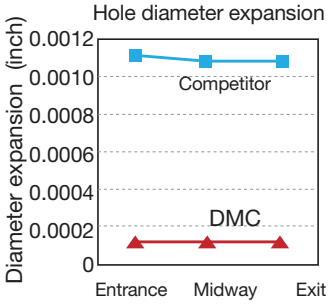


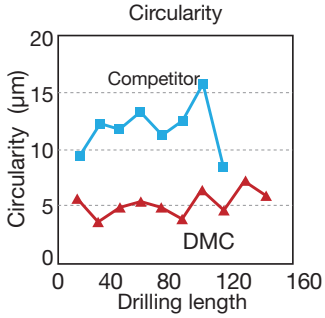
DRILLMEISTER DMC

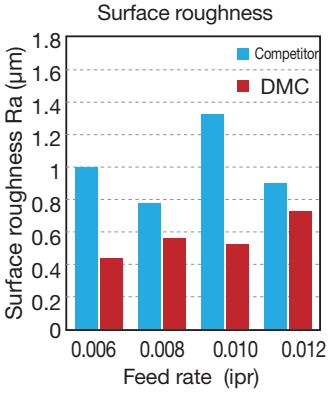

Competitor


Parameters : *Vc* = 328 sfm, *f* = 0.012 ipr
Drill diameter : ø0.512", L/D = 12 (No pilot hole)
Workpiece : 1055

## Hole accuracy



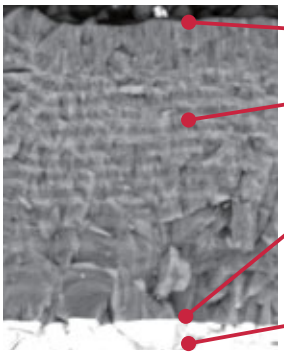




Cutting conditions : *Vc* = 328 sfm, *f* = 0.010 ipr
Tool : ø0.551", L/D = 5
Measured at : 1.2" depth
Workpiece : 1055

# Latest coating optimized for extended tool life

## New AH9130

- Unique nano-multilayered coating is made possible by Tungaloy's latest coating technology, providing 3 principal features



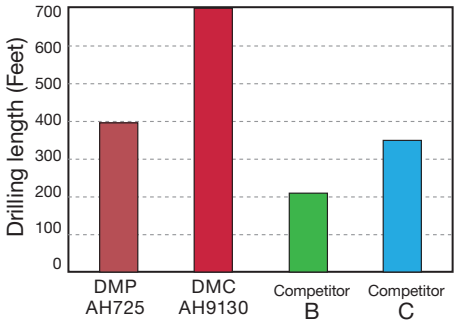
**Feature 1: Resistance to built up edge**
Coating layer to resist built up edge

**Feature 2: Resistance to wear, oxidation and fracture**
2 coating layers for wear and oxidation resistance
Layered alternatively to prevent crack from propagating to fracture

**Feature 3: Strong coating-substrate adhesion**
Coating is provided with strong adhesion between the coating layer and carbide substrate to prevent coating delamination

**Substrate**
Carbide substrate features wear and fracture resistance

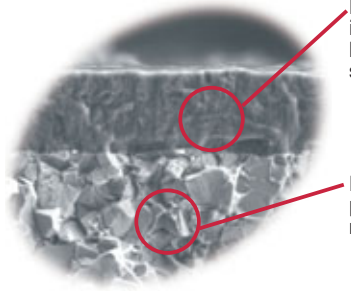
### Tool life in machining carbon steel




| | |
|---|---|
| Tool | : ø 0.551", L/D = 5 |
| Workpiece | : 1055 |
| Cutting speed | : *Vc* = 328 sfm |
| Feed | : *f* = 0.01 ipr |
| Hole depth | : H = 2.362" (blind hole) |

## AH725 PREMIUMTEC

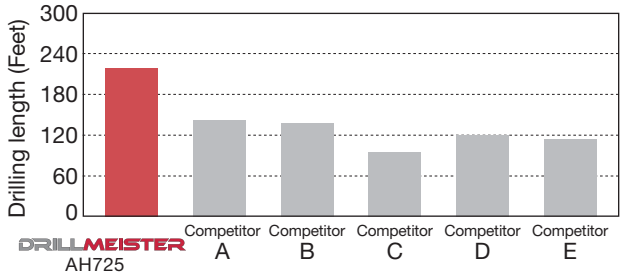
- Reliable PVD grade is suitable for various materials



New coating layer drastically improves adhesion strength between the coating and the substrate.

Micro-grain alloy substrate provides plastic deformation resistance and toughness.

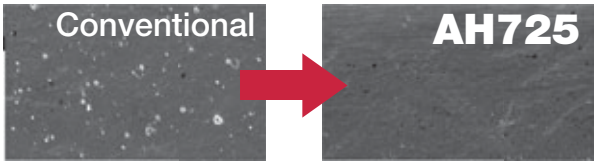
### Tool life in machining carbon steel



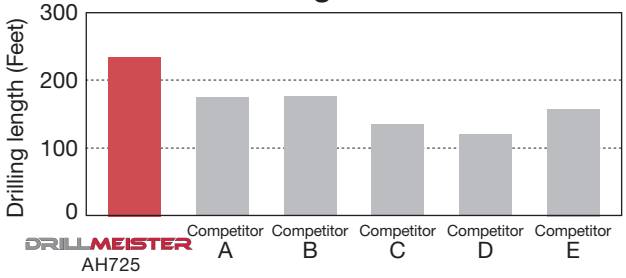

| | |
|---|---|
| Tool | : ø 0.472", L/D = 3 |
| Workpiece | : 1055 |
| Cutting speed | : *Vc* = 328 sfm |
| Feed | : *f* = 0.01 ipr |
| Hole depth | : *H* = 1.417" (blind hole) |

**Super flash coating**

"Premiumtec" improves overall coating surface quality.



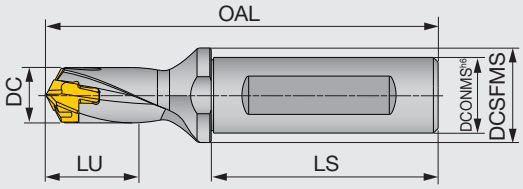

### Tool life in machining ductile cast iron




| | |
|---|---|
| Tool | : ø 0.472", L/D = 3 |
| Workpiece | : 60-40-18 |
| Cutting speed | : *Vc* = 492 sfm |
| Feed | : *f* = 0.010 ipr |
| Hole depth | : *H* = 1.417"(blind hole) |

## TIDU-F L/D=1.5 Flanged shank

Head-changeable drill




| | | | | | | OAL | | | |
|---|---|---|---|---|---|---|---|---|---|
| Inch | DC | DCONMS | DCSFMS | LU | LS | DMP | DMC | Pocket size | Head |
| TIDU0394F0625-1.5 | 0.394 - 0.429 | 0.625 | 0.787 | 0.591 | 1.890 | 3.118 | 3.142 | 10 | DM*100 - DM*109 |
| TIDU0433F0625-1.5 | 0.433 - 0.468 | 0.625 | 0.787 | 0.669 | 1.890 | 3.193 | 3.217 | 11 | DM*110 - DM*119 |
| TIDU0472F0625-1.5 | 0.472 - 0.508 | 0.625 | 0.787 | 0.709 | 1.890 | 3.268 | 3.292 | 12 | DM*120 - DM*129 |
| TIDU0512F0625-1.5 | 0.512 - 0.547 | 0.625 | 0.787 | 0.787 | 1.890 | 3.350 | 3.381 | 13 | DM*130 - DM*139 |
| TIDU0551F0625-1.5 | 0.551 - 0.587 | 0.625 | 0.787 | 0.827 | 1.890 | 3.508 | 3.539 | 14 | DM*140 - DM*149 |
| TIDU0591F0750-1.5 | 0.591 - 0.625 | 0.750 | 0.984 | 0.906 | 1.969 | 3.787 | 3.822 | 15 | DM*150 - DM*159 |
| TIDU0630F0750-1.5 | 0.630 - 0.665 | 0.750 | 0.984 | 0.945 | 1.969 | 3.909 | 3.948 | 16 | DM*160 - DM*169 |
| TIDU0669F0750-1.5 | 0.669 - 0.705 | 0.750 | 0.984 | 1.024 | 1.969 | 4.031 | 4.07 | 17 | DM*170 - DM*179 |
| TIDU0709F1000-1.5 | 0.709 - 0.744 | 1.000 | 1.260 | 1.063 | 2.205 | 4.390 | 4.433 | 18 | DM*180 - DM*189 |
| TIDU0748F1000-1.5 | 0.748 - 0.783 | 1.000 | 1.260 | 1.142 | 2.205 | 4.508 | 4.551 | 19 | DM*190 - DM*199 |
| TIDU0787F1000-1.5 | 0.787- 0.823 | 1.000 | 1.260 | 1.181 | 2.205 | 4.630 | 4.677 | 20 | DMP200 - DMP209 |
| TIDU0827F1000-1.5 | 0.827- 0.862 | 1.000 | 1.260 | 1.240 | 2.205 | 4.752 | 4.800 | 21 | DMP210 - DMP219 |
| TIDU0866F1000-1.5 | 0.866 - 0.902 | 1.000 | 1.260 | 1.299 | 2.205 | 4.874 | 4.924 | 22 | DMP220 - DMP229 |
| TIDU0906F1250-1.5 | 0.906 - 0.941 | 1.250 | 1.654 | 1.358 | 2.362 | 5.150 | 5.204 | 23 | DMP230 - DMP239 |
| TIDU0945F1250-1.5 | 0.945 - 0.980 | 1.250 | 1.654 | 1.417 | 2.362 | 5.272 | 5.327 | 24 | DMP240 - DMP249 |
| TIDU0984F1250-1.5 | 0.984 - 1.020 | 1.250 | 1.654 | 1.476 | 2.362 | 5.394 | 5.453 | 25 | DMP250 - DMP259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø0.394 - ø1.020 | +0.0020 / 0 |

* Just for reference.

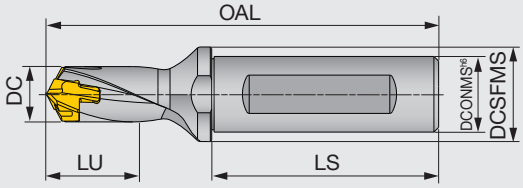
Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TIDU0394 - TIDU0748 | K-TID10-19.99 |
| TIDU0787 - TIDU0984 | K-TID20-26.99 |

## TID-F L/D=1.5 Flanged shank

Head-changeable drill




| Metric | DC | DCONMS | DCSFMS | LU | LS | OAL | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP | DMC | | |
| TID060F12-1.5 | 6 - 6.4 | 12 | 16 | 10 | 45 | 68 | 68.2 | 6 | DM*060-DM*064 |
| TID065F12-1.5 | 6.5 - 6.9 | 12 | 16 | 11 | 45 | 69.1 | 69.6 | 6.5 | DM*065-DM*069 |
| TID070F12-1.5 | 7 - 7.4 | 12 | 16 | 12 | 45 | 70.1 | 70.3 | 7 | DM*070-DM*074 |
| TID075F12-1.5 | 7.5 - 7.9 | 12 | 16 | 13 | 45 | 70.9 | 71.1 | 7 | DM*075-DM*079 |
| TID080F12-1.5 | 8 - 8.9 | 12 | 16 | 14 | 45 | 72.4 | 73 | 8 | DM*080-DM*089 |
| TID090F12-1.5 | 9 - 9.9 | 12 | 16 | 16 | 45 | 74.3 | 74.9 | 9 | DM*090-DM*099 |
| TID100F16-1.5 | 10 - 10.9 | 16 | 20 | 17 | 48 | 79.2 | 79.8 | 10 | DM*100 - DM*109 |
| TID110F16-1.5 | 11 - 11.9 | 16 | 20 | 19 | 48 | 81.1 | 81.7 | 11 | DM*110 - DM*119 |
| TID120F16-1.5 | 12 - 12.9 | 16 | 20 | 20 | 48 | 83 | 83.6 | 12 | DM*120 - DM*129 |
| TID130F16-1.5 | 13 - 13.9 | 16 | 20 | 22 | 48 | 85.1 | 85.9 | 13 | DM*130 - DM*139 |
| TID140F16-1.5 | 14 - 14.9 | 16 | 20 | 24 | 48 | 89.1 | 89.9 | 14 | DM*140 - DM*149 |
| TID150F20-1.5 | 15 - 15.9 | 20 | 25 | 26 | 50 | 96.2 | 97.1 | 15 | DM*150 - DM*159 |
| TID160F20-1.5 | 16 - 16.9 | 20 | 25 | 27 | 50 | 99.3 | 100.3 | 16 | DM*160 - DM*169 |
| TID170F20-1.5 | 17 - 17.9 | 20 | 25 | 29 | 50 | 102.4 | 103.4 | 17 | DM*170 - DM*179 |
| TID180F25-1.5 | 18 - 18.9 | 25 | 32 | 30 | 56 | 111.5 | 112.6 | 18 | DM*180 - DM*189 |
| TID190F25-1.5 | 19 - 19.9 | 25 | 32 | 33 | 56 | 114.5 | 115.6 | 19 | DM*190 - DM*199 |
| TID200F25-1.5 | 20 - 20.9 | 25 | 32 | 34 | 56 | 117.6 | 118.8 | 20 | DM*200 - DM*209 |
| TID210F25-1.5 | 21 - 21.9 | 25 | 32 | 36 | 56 | 120.7 | 121.9 | 21 | DM*210 - DM*219 |
| TID220F25-1.5 | 22 - 22.9 | 25 | 32 | 37 | 56 | 123.8 | 125.1 | 22 | DM*220 - DM*229 |
| TID230F32-1.5 | 23 - 23.9 | 32 | 42 | 39 | 60 | 130.8 | 132.8 | 23 | DM*230 - DM*239 |
| TID240F32-1.5 | 24 - 24.9 | 32 | 42 | 40 | 60 | 133.9 | 135.3 | 24 | DM*240 - DM*249 |
| TID250F32-1.5 | 25 - 25.9 | 32 | 42 | 43 | 60 | 137 | 138.5 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø25.9 | +0.05 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.

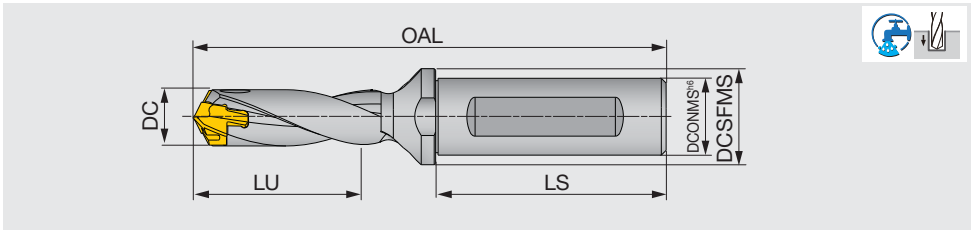
· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-090 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-250 | K-TID20-26.99 |

## TIDU-F L/D=3 Flanged shank

### Head-changeable drill




| Inch | DC | DCONMS | DCSFMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| TIDU0394F0625-3 | 0.394 - 0.409 | 0.625 | 0.787 | 1.181 | 1.890 | 3.709 | 3.733 | 10 | DM*100 - DM*104 |
| TIDU0413F0625-3 | 0.413 - 0.429 | 0.625 | 0.787 | 1.260 | 1.890 | 3.768 | 3.792 | 10 | DM*105 - DM*109 |
| TIDU0433F0625-3 | 0.433 - 0.449 | 0.625 | 0.787 | 1.299 | 1.890 | 3.843 | 3.867 | 11 | DM*110 - DM*114 |
| TIDU0453F0625-3 | 0.453 - 0.469 | 0.625 | 0.787 | 1.378 | 1.890 | 3.902 | 3.926 | 11 | DM*115 - DM*119 |
| TIDU0472F0625-3 | 0.472 - 0.488 | 0.625 | 0.787 | 1.417 | 1.890 | 3.976 | 4.000 | 12 | DM*120 - DM*124 |
| TIDU0492F0625-3 | 0.492 - 0.508 | 0.625 | 0.787 | 1.457 | 1.890 | 4.035 | 4.059 | 12 | DM*125 - DM*129 |
| TIDU0512F0625-3 | 0.512 - 0.528 | 0.625 | 0.787 | 1.535 | 1.890 | 4.118 | 4.149 | 13 | DM*130 - DM*134 |
| TIDU0532F0625-3 | 0.532 - 0.547 | 0.625 | 0.787 | 1.614 | 1.890 | 4.177 | 4.208 | 13 | DM*135 - DM*139 |
| TIDU0551F0625-3 | 0.551 - 0.567 | 0.625 | 0.787 | 1.654 | 1.890 | 4.335 | 4.366 | 14 | DM*140 - DM*144 |
| TIDU0571F0625-3 | 0.571 - 0.587 | 0.625 | 0.787 | 1.732 | 1.890 | 4.394 | 4.425 | 14 | DM*145 - DM*149 |
| TIDU0591F0750-3 | 0.591 - 0.626 | 0.750 | 0.984 | 1.772 | 1.969 | 4.673 | 4.708 | 15 | DM*150 - DM*159 |
| TIDU0630F0750-3 | 0.630 - 0.665 | 0.750 | 0.984 | 1.890 | 1.969 | 4.854 | 4.893 | 16 | DM*160 - DM*169 |
| TIDU0669F0750-3 | 0.669 - 0.705 | 0.750 | 0.984 | 2.008 | 1.969 | 5.035 | 5.074 | 17 | DM*170 - DM*179 |
| TIDU0709F1000-3 | 0.709 - 0.744 | 1.000 | 1.260 | 2.126 | 2.205 | 5.453 | 5.496 | 18 | DM*180 - DM*189 |
| TIDU0748F1000-3 | 0.748 - 0.783 | 1.000 | 1.260 | 2.244 | 2.205 | 5.630 | 5.673 | 19 | DM*190 - DM*199 |
| TIDU0787F1000-3 | 0.787 - 0.823 | 1.000 | 1.260 | 2.362 | 2.205 | 5.811 | 5.838 | 20 | DMP200 - DMP209 |
| TIDU0827F1000-3 | 0.827 - 0.862 | 1.000 | 1.260 | 2.480 | 2.205 | 5.992 | 6.040 | 21 | DMP210 - DMP219 |
| TIDU0866F1000-3 | 0.866 - 0.902 | 1.000 | 1.260 | 2.598 | 2.205 | 6.173 | 6.223 | 22 | DMP220 - DMP229 |
| TIDU0906F1250-3 | 0.906 - 0.941 | 1.250 | 1.654 | 2.718 | 2.362 | 6.508 | 6.562 | 23 | DMP230 - DMP239 |
| TIDU0945F1250-3 | 0.945 - 0.980 | 1.250 | 1.654 | 2.835 | 2.362 | 6.689 | 6.744 | 24 | DMP240 - DMP249 |
| TIDU0984F1250-3 | 0.984 - 1.020 | 1.250 | 1.654 | 2.953 | 2.362 | 6.870 | 6.939 | 25 | DMP250 - DMP259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø0.394 - ø1.020 | +0.0020 / 0 |

* Just for reference.

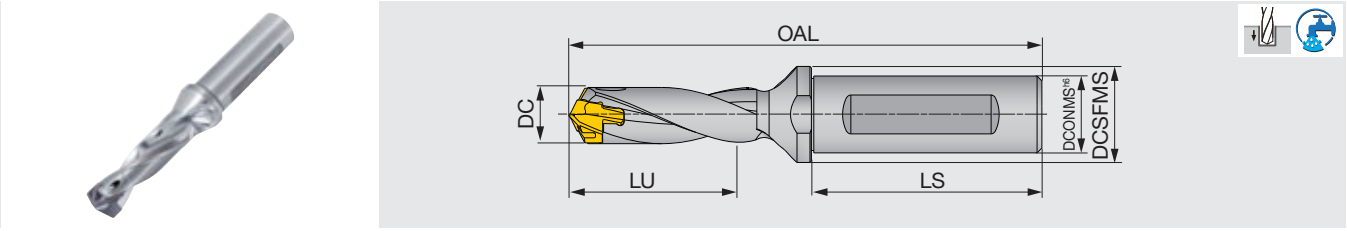
Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TIDU0394 - TIDU0748 | K-TID10-19.99 |
| TIDU0787 - TIDU0984 | K-TID20-26.99 |

## TID-F L/D=3 Flanged shank

### Head-changeable drill




| Metric | DC | DCONMS | DCSFMS | LU | LS | OAL | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP | DMC | | |
| TID060F12-3 | 6 - 6.4 | 12 | 16 | 19 | 45 | 77 | 77.2 | 6 | DM*060-DM*064 |
| TID065F12-3 | 6.5 - 6.9 | 12 | 16 | 21 | 45 | 78.8 | 79 | 6.5 | DM*065-DM*069 |
| TID070F12-3 | 7 - 7.4 | 12 | 16 | 22 | 45 | 80.6 | 81.1 | 7 | DM*070-DM*074 |
| TID075F12-3 | 7.5 - 7.9 | 12 | 16 | 24 | 45 | 82.1 | 82.6 | 7 | DM*075-DM*079 |
| TID080F12-3 | 8 - 8.4 | 12 | 16 | 26 | 45 | 84.4 | 84.6 | 8 | DM*080-DM*084 |
| TID085F12-3 | 8.5 - 8.9 | 12 | 16 | 28 | 45 | 85.9 | 86.1 | 8 | DM*085-DM*089 |
| TID090F12-3 | 9 - 9.4 | 12 | 16 | 29 | 45 | 87.8 | 88 | 9 | DM*090-DM*094 |
| TID095F12-3 | 9.5 - 9.9 | 12 | 16 | 31 | 45 | 89.3 | 89.5 | 9 | DM*095-DM*099 |
| TID100F16-3 | 10 - 10.4 | 16 | 20 | 32 | 48 | 94.2 | 94.8 | 10 | DM*100 - DM*104 |
| TID105F16-3 | 10.5 - 10.9 | 16 | 20 | 34 | 48 | 95.7 | 96.3 | 10 | DM*105 - DM*109 |
| TID110F16-3 | 11 - 11.4 | 16 | 20 | 35 | 48 | 97.6 | 98.2 | 11 | DM*110 - DM*114 |
| TID115F16-3 | 11.5 - 11.9 | 16 | 20 | 37 | 48 | 99.1 | 99.7 | 11 | DM*115 - DM*119 |
| TID120F16-3 | 12 - 12.4 | 16 | 20 | 38 | 48 | 101 | 101.6 | 12 | DM*120 - DM*124 |
| TID125F16-3 | 12.5 - 12.9 | 16 | 20 | 39 | 48 | 102.5 | 103.1 | 12 | DM*125 - DM*129 |
| TID130F16-3 | 13 - 13.4 | 16 | 20 | 41 | 48 | 104.6 | 105.4 | 13 | DM*130 - DM*134 |
| TID135F16-3 | 13.5 - 13.9 | 16 | 20 | 44 | 48 | 106.1 | 106.9 | 13 | DM*135 - DM*139 |
| TID140F16-3 | 14 - 14.4 | 16 | 20 | 45 | 48 | 110.1 | 110.9 | 14 | DM*140 - DM*144 |
| TID145F16-3 | 14.5 - 14.9 | 16 | 20 | 47 | 48 | 111.6 | 112.4 | 14 | DM*145 - DM*149 |
| TID150F20-3 | 15 - 15.9 | 20 | 25 | 48 | 50 | 118.7 | 119.6 | 15 | DM*150 - DM*159 |
| TID160F20-3 | 16 - 16.9 | 20 | 25 | 51 | 50 | 123.3 | 124.3 | 16 | DM*160 - DM*169 |
| TID170F20-3 | 17 - 17.9 | 20 | 25 | 54 | 50 | 127.9 | 128.9 | 17 | DM*170 - DM*179 |
| TID180F25-3 | 18 - 18.9 | 25 | 32 | 57 | 56 | 138.5 | 139.6 | 18 | DM*180 - DM*189 |
| TID190F25-3 | 19 - 19.9 | 25 | 32 | 61 | 56 | 143 | 144.1 | 19 | DM*190 - DM*199 |
| TID200F25-3 | 20 - 20.9 | 25 | 32 | 64 | 56 | 147.6 | 148.8 | 20 | DM*200 - DM*209 |
| TID210F25-3 | 21 - 21.9 | 25 | 32 | 67 | 56 | 152.2 | 153.4 | 21 | DM*210 - DM*219 |
| TID220F25-3 | 22 - 22.9 | 25 | 32 | 70 | 56 | 156.8 | 158.1 | 22 | DM*220 - DM*229 |
| TID230F32-3 | 23 - 23.9 | 32 | 42 | 73 | 60 | 165.3 | 166.7 | 23 | DM*230 - DM*239 |
| TID240F32-3 | 24 - 24.9 | 32 | 42 | 76 | 60 | 169.9 | 171.3 | 24 | DM*240 - DM*249 |
| TID250F32-3 | 25 - 25.9 | 32 | 42 | 80 | 60 | 174.5 | 176 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø25.9 | +0.05 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.

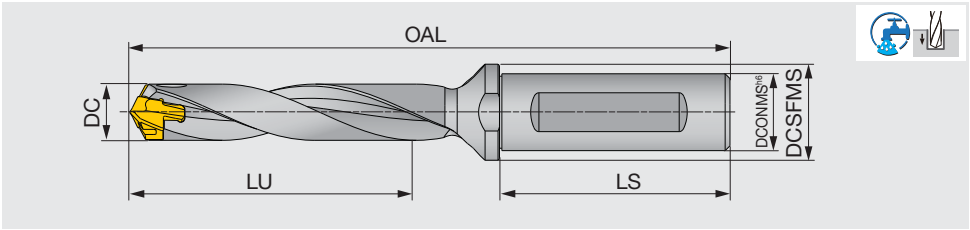
· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-250 | K-TID20-26.99 |

## TIDU-F L/D=5 Flanged shank

Head-changeable drill




| Inch | DC | DCONMS | DCSFMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| TIDU0394F0625-5 | 0.394 - 0.409 | 0.625 | 0.787 | 1.969 | 1.890 | 4.496 | 4.514 | 10 | DM*100 - DM*104 |
| TIDU0413F0625-5 | 0.413 - 0.429 | 0.625 | 0.787 | 2.087 | 1.890 | 4.594 | 4.618 | 10 | DM*105 - DM*109 |
| TIDU0433F0625-5 | 0.433 - 0.449 | 0.625 | 0.787 | 2.165 | 1.890 | 4.709 | 4.733 | 11 | DM*110 - DM*114 |
| TIDU0453F0625-5 | 0.453 - 0.469 | 0.625 | 0.787 | 2.283 | 1.890 | 4.807 | 4.831 | 11 | DM*115 - DM*119 |
| TIDU0472F0625-5 | 0.472 - 0.488 | 0.625 | 0.787 | 2.362 | 1.890 | 4.921 | 4.945 | 12 | DM*120 - DM*124 |
| TIDU0492F0625-5 | 0.492 - 0.508 | 0.625 | 0.787 | 2.441 | 1.890 | 5.020 | 5.044 | 12 | DM*125 - DM*129 |
| TIDU0512F0625-5 | 0.512 - 0.528 | 0.625 | 0.787 | 2.559 | 1.890 | 5.142 | 5.173 | 13 | DM*130 - DM*134 |
| TIDU0532F0625-5 | 0.532 - 0.547 | 0.625 | 0.787 | 2.677 | 1.890 | 5.240 | 5.271 | 13 | DM*135 - DM*139 |
| TIDU0551F0625-5 | 0.551 - 0.567 | 0.625 | 0.787 | 2.756 | 1.890 | 5.440 | 5.471 | 14 | DM*140 - DM*144 |
| TIDU0571F0625-5 | 0.571 - 0.587 | 0.625 | 0.787 | 2.874 | 1.890 | 5.539 | 5.570 | 14 | DM*145 - DM*149 |
| TIDU0591F0750-5 | 0.591 - 0.626 | 0.750 | 0.984 | 2.953 | 1.969 | 5.854 | 5.889 | 15 | DM*150 - DM*159 |
| TIDU0630F0750-5 | 0.630 - 0.665 | 0.750 | 0.984 | 3.150 | 1.969 | 6.114 | 6.153 | 16 | DM*160 - DM*169 |
| TIDU0669F0750-5 | 0.669 - 0.705 | 0.750 | 0.984 | 3.346 | 1.969 | 6.374 | 6.413 | 17 | DM*170 - DM*179 |
| TIDU0709F1000-5 | 0.709 - 0.744 | 1.000 | 1.260 | 3.543 | 2.205 | 6.870 | 6.913 | 18 | DM*180 - DM*189 |
| TIDU0748F1000-5 | 0.748 - 0.783 | 1.000 | 1.260 | 3.740 | 2.205 | 7.126 | 7.169 | 19 | DM*190 - DM*199 |
| TIDU0787F1000-5 | 0.787 - 0.823 | 1.000 | 1.260 | 3.937 | 2.205 | 7.386 | 7.432 | 20 | DMP200 - DMP209 |
| TIDU0827F1000-5 | 0.827 - 0.862 | 1.000 | 1.260 | 4.134 | 2.205 | 7.646 | 7.694 | 21 | DMP210 - DMP219 |
| TIDU0866F1000-5 | 0.866 - 0.902 | 1.000 | 1.260 | 4.331 | 2.205 | 7.906 | 7.956 | 22 | DMP220 - DMP229 |
| TIDU0906F1250-5 | 0.906 - 0.941 | 1.250 | 1.654 | 4.528 | 2.362 | 8.319 | 8.373 | 23 | DMP230 - DMP239 |
| TIDU0945F1250-5 | 0.945 - 0.980 | 1.250 | 1.654 | 4.724 | 2.362 | 8.579 | 8.634 | 24 | DMP240 - DMP249 |
| TIDU0984F1250-5 | 0.984 - 1.020 | 1.250 | 1.654 | 4.921 | 2.362 | 8.839 | 8.898 | 25 | DMP250 - DMP259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø0.394 - ø0.783 | +0.0024 / 0 |
| ø0.787 - ø1.020 | +0.0026 / 0 |

* Just for reference.

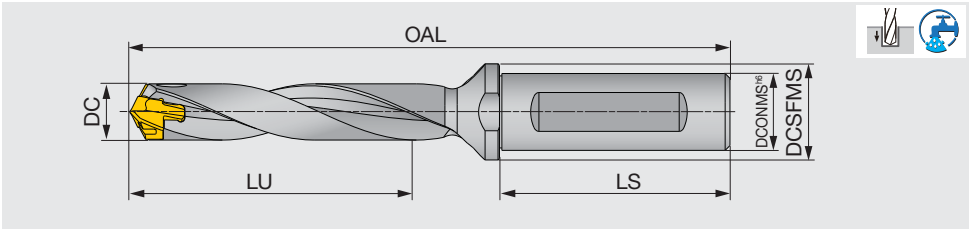
Notes : · An overall length (OAL) differs when the DMP insert is mounted and when the DMC is mounted. (No difference for the drill shoulder)

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TIDU0394 - TIDU0748 | K-TID10-19.99 |
| TIDU0787 - TIDU0984 | K-TID20-26.99 |

## TID-F L/D=5 Flanged shank

### Head-changeable drill




| Metric | DC | DCONMS | DCSFMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| TID060F12-5 | 6 - 6.4 | 12 | 16 | 31 | 45 | 89 | 89.2 | 6 | DM*060-DM*064 |
| TID065F12-5 | 6.5 - 6.9 | 12 | 16 | 34 | 45 | 91.8 | 92 | 6.5 | DM*065-DM*069 |
| TID070F12-5 | 7 - 7.4 | 12 | 16 | 36 | 45 | 94.6 | 95.1 | 7 | DM*070-DM*074 |
| TID075F12-5 | 7.5 - 7.9 | 12 | 16 | 39 | 45 | 97.1 | 97.6 | 7 | DM*075-DM*079 |
| TID080F12-5 | 8 - 8.4 | 12 | 16 | 42 | 45 | 100.4 | 100.6 | 8 | DM*080-DM*084 |
| TID085F12-5 | 8.5 - 8.9 | 12 | 16 | 45 | 45 | 102.9 | 103.1 | 8 | DM*085-DM*089 |
| TID090F12-5 | 9 - 9.4 | 12 | 16 | 47 | 45 | 105.8 | 106 | 9 | DM*090-DM*094 |
| TID095F12-5 | 9.5 - 9.9 | 12 | 16 | 50 | 45 | 108.3 | 108.5 | 9 | DM*095-DM*099 |
| TID100F16-5 | 10 - 10.4 | 16 | 20 | 52 | 48 | 114.2 | 114.8 | 10 | DM*100 - DM*104 |
| TID105F16-5 | 10.5 - 10.9 | 16 | 20 | 55 | 48 | 116.7 | 117.3 | 10 | DM*105 - DM*109 |
| TID110F16-5 | 11 - 11.4 | 16 | 20 | 57 | 48 | 119.6 | 120.2 | 11 | DM*110 - DM*114 |
| TID115F16-5 | 11.5 - 11.9 | 16 | 20 | 60 | 48 | 122.1 | 122.7 | 11 | DM*115 - DM*119 |
| TID120F16-5 | 12 - 12.4 | 16 | 20 | 62 | 48 | 125 | 125.6 | 12 | DM*120 - DM*124 |
| TID125F16-5 | 12.5 - 12.9 | 16 | 20 | 64 | 48 | 127.5 | 128.1 | 12 | DM*125 - DM*129 |
| TID130F16-5 | 13 - 13.4 | 16 | 20 | 67 | 48 | 130.6 | 131.4 | 13 | DM*130 - DM*134 |
| TID135F16-5 | 13.5 - 13.9 | 16 | 20 | 71 | 48 | 133.1 | 133.9 | 13 | DM*135 - DM*139 |
| TID140F16-5 | 14 - 14.4 | 16 | 20 | 73 | 48 | 138.2 | 139 | 14 | DM*140 - DM*144 |
| TID145F16-5 | 14.5 - 14.9 | 16 | 20 | 76 | 48 | 140.7 | 141.5 | 14 | DM*145 - DM*149 |
| TID150F20-5 | 15 - 15.9 | 20 | 25 | 78 | 50 | 148.7 | 149.6 | 15 | DM*150 - DM*159 |
| TID160F20-5 | 16 - 16.9 | 20 | 25 | 83 | 50 | 155.3 | 156.3 | 16 | DM*160 - DM*169 |
| TID170F20-5 | 17 - 17.9 | 20 | 25 | 88 | 50 | 161.9 | 162.9 | 17 | DM*170 - DM*179 |
| TID180F25-5 | 18 - 18.9 | 25 | 32 | 93 | 56 | 174.5 | 175.6 | 18 | DM*180 - DM*189 |
| TID190F25-5 | 19 - 19.9 | 25 | 32 | 99 | 56 | 181 | 182.1 | 19 | DM*190 - DM*199 |
| TID200F25-5 | 20 - 20.9 | 25 | 32 | 104 | 56 | 187.6 | 188.8 | 20 | DM*200 - DM*209 |
| TID210F25-5 | 21 - 21.9 | 25 | 32 | 109 | 56 | 194.2 | 195.4 | 21 | DM*210 - DM*219 |
| TID220F25-5 | 22 - 22.9 | 25 | 32 | 114 | 56 | 200.8 | 202.1 | 22 | DM*220 - DM*229 |
| TID230F32-5 | 23 - 23.9 | 32 | 42 | 119 | 60 | 211.3 | 212.7 | 23 | DM*230 - DM*239 |
| TID240F32-5 | 24 - 24.9 | 32 | 42 | 124 | 60 | 217.9 | 219.3 | 24 | DM*240 - DM*249 |
| TID250F32-5 | 25 - 25.9 | 32 | 42 | 130 | 60 | 224.5 | 226 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø17.9 | +0.06 / 0 |
| ø18 - ø25.9 | +0.065 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.

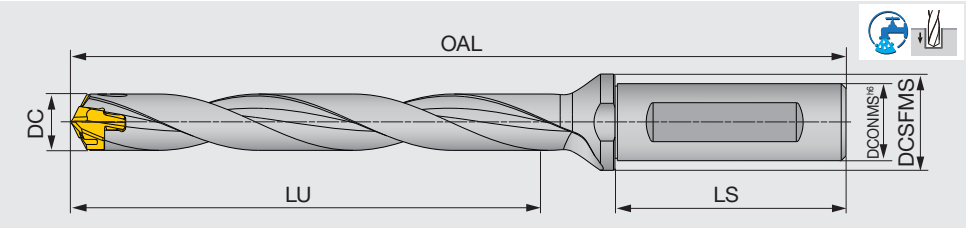
· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-250 | K-TID20-26.99 |

## TIDU-F L/D=8 Flanged shank

### Head-changeable drill




| Inch | DC | DCONMS | DCSFMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| TIDU0394F0625-8 | 0.394 - 0.409 | 0.625 | 0.787 | 3.150 | 1.890 | 5.677 | 5.701 | 10 | DM*100 - DM*104 |
| TIDU0413F0625-8 | 0.413 - 0.429 | 0.625 | 0.787 | 3.307 | 1.890 | 5.835 | 5.859 | 10 | DM*105 - DM*109 |
| TIDU0433F0625-8 | 0.433 - 0.449 | 0.625 | 0.787 | 3.465 | 1.890 | 6.008 | 6.032 | 11 | DM*110 - DM*114 |
| TIDU0453F0625-8 | 0.453 - 0.469 | 0.625 | 0.787 | 3.622 | 1.890 | 6.165 | 6.189 | 11 | DM*115 - DM*119 |
| TIDU0472F0625-8 | 0.472 - 0.488 | 0.625 | 0.787 | 3.780 | 1.890 | 6.339 | 6.363 | 12 | DM*120 - DM*124 |
| TIDU0492F0625-8 | 0.492 - 0.508 | 0.625 | 0.787 | 3.937 | 1.890 | 6.496 | 6.52 | 12 | DM*125 - DM*129 |
| TIDU0512F0625-8 | 0.512 - 0.528 | 0.625 | 0.787 | 4.094 | 1.890 | 6.677 | 6.708 | 13 | DM*130 - DM*134 |
| TIDU0532F0625-8 | 0.532 - 0.547 | 0.625 | 0.787 | 4.252 | 1.890 | 6.835 | 6.866 | 13 | DM*135 - DM*139 |
| TIDU0551F0625-8 | 0.551 - 0.567 | 0.625 | 0.787 | 4.409 | 1.890 | 7.091 | 7.122 | 14 | DM*140 - DM*144 |
| TIDU0571F0625-8 | 0.571 - 0.587 | 0.625 | 0.787 | 4.567 | 1.890 | 7.252 | 7.283 | 14 | DM*145 - DM*149 |
| TIDU0591F0750-8 | 0.591 - 0.626 | 0.750 | 0.984 | 4.724 | 1.969 | 7.626 | 7.661 | 15 | DM*150 - DM*159 |
| TIDU0630F0750-8 | 0.630 - 0.665 | 0.750 | 0.984 | 5.039 | 1.969 | 8.004 | 8.043 | 16 | DM*160 - DM*169 |
| TIDU0669F0750-8 | 0.669 - 0.705 | 0.750 | 0.984 | 5.354 | 1.969 | 8.382 | 8.421 | 17 | DM*170 - DM*179 |
| TIDU0709F1000-8 | 0.709 - 0.744 | 1.000 | 1.260 | 5.669 | 2.205 | 8.996 | 9.039 | 18 | DM*180 - DM*189 |
| TIDU0748F1000-8 | 0.748 - 0.783 | 1.000 | 1.260 | 5.984 | 2.205 | 9.370 | 9.413 | 19 | DM*190 - DM*199 |
| TIDU0787F1000-8 | 0.787 - 0.823 | 1.000 | 1.260 | 6.299 | 2.205 | 9.748 | 9.795 | 20 | DMP200 - DMP209 |
| TIDU0827F1000-8 | 0.827 - 0.862 | 1.000 | 1.260 | 6.614 | 2.205 | 10.126 | 10.174 | 21 | DMP210 - DMP219 |
| TIDU0866F1000-8 | 0.866 - 0.902 | 1.000 | 1.260 | 6.929 | 2.205 | 10.504 | 10.554 | 22 | DMP220 - DMP229 |
| TIDU0906F1250-8 | 0.906 - 0.941 | 1.250 | 1.654 | 7.244 | 2.362 | 11.035 | 11.089 | 23 | DMP230 - DMP239 |
| TIDU0945F1250-8 | 0.945 - 0.980 | 1.250 | 1.654 | 7.559 | 2.362 | 11.413 | 11.468 | 24 | DMP240 - DMP249 |
| TIDU0984F1250-8 | 0.984 - 1.020 | 1.250 | 1.654 | 7.874 | 2.362 | 11.791 | 11.850 | 25 | DMP250 - DMP259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø0.394 - ø0.783 | +0.0030 / 0 |
| ø0.787 - ø1.020 | +0.0033 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.

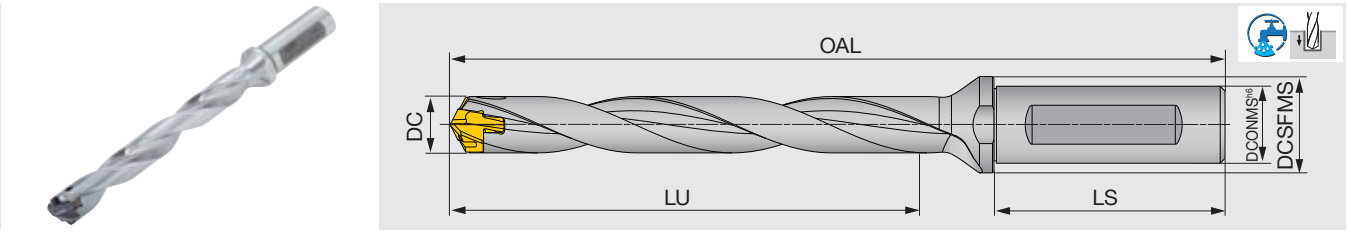
· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TIDU0394 - TIDU0748 | K-TID10-19.99 |
| TIDU0787 - TIDU0984 | K-TID20-26.99 |

## TID-F L/D=8 Flanged shank

### Head-changeable drill




| Metric | DC | DCONMS | DCSFMS | LU | LS | OAL | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP | DMC | | |
| TID070F12-8 | 7 - 7.4 | 12 | 16 | 57 | 45 | 115.6 | 115.8 | 7 | DM*070-DM*074 |
| TID075F12-8 | 7.5 - 7.9 | 12 | 16 | 61 | 45 | 119.6 | 119.8 | 7 | DM*075-DM*079 |
| TID080F12-8 | 8 - 8.4 | 12 | 16 | 66 | 45 | 124.4 | 124.9 | 8 | DM*080-DM*084 |
| TID085F12-8 | 8.5 - 8.9 | 12 | 16 | 70 | 45 | 128.4 | 128.9 | 8 | DM*085-DM*089 |
| TID090F12-8 | 9 - 9.4 | 12 | 16 | 74 | 45 | 132.8 | 133 | 9 | DM*090-DM*094 |
| TID095F12-8 | 9.5 - 9.9 | 12 | 16 | 78 | 45 | 136.8 | 137 | 9 | DM*095-DM*099 |
| TID100F16-8 | 10 - 10.4 | 16 | 20 | 82 | 48 | 144.2 | 144.4 | 10 | DM*100 - DM*104 |
| TID105F16-8 | 10.5 - 10.9 | 16 | 20 | 86 | 48 | 148.2 | 148.4 | 10 | DM*105 - DM*109 |
| TID110F16-8 | 11 - 11.4 | 16 | 20 | 90 | 48 | 152.6 | 153.2 | 11 | DM*110 - DM*114 |
| TID115F16-8 | 11.5 - 11.9 | 16 | 20 | 94 | 48 | 156.6 | 157.2 | 11 | DM*115 - DM*119 |
| TID120F16-8 | 12 - 12.4 | 16 | 20 | 98 | 48 | 161 | 161.6 | 12 | DM*120 - DM*124 |
| TID125F16-8 | 12.5 - 12.9 | 16 | 20 | 102 | 48 | 165 | 165.6 | 12 | DM*125 - DM*129 |
| TID130F16-8 | 13 - 13.4 | 16 | 20 | 106 | 48 | 169.6 | 170.2 | 13 | DM*130 - DM*134 |
| TID135F16-8 | 13.5 - 13.9 | 16 | 20 | 111 | 48 | 173.6 | 174.2 | 13 | DM*135 - DM*139 |
| TID140F16-8 | 14 - 14.4 | 16 | 20 | 115 | 48 | 180.1 | 180.9 | 14 | DM*140 - DM*144 |
| TID145F16-8 | 14.5 - 14.9 | 16 | 20 | 119 | 48 | 184.2 | 185 | 14 | DM*145 - DM*149 |
| TID150F20-8 | 15 - 15.9 | 20 | 25 | 123 | 50 | 193.7 | 194.5 | 15 | DM*150 - DM*159 |
| TID160F20-8 | 16 - 16.9 | 20 | 25 | 131 | 50 | 203.3 | 204.1 | 16 | DM*160 - DM*169 |
| TID170F20-8 | 17 - 17.9 | 20 | 25 | 139 | 50 | 212.9 | 213.8 | 17 | DM*170 - DM*179 |
| TID180F25-8 | 18 - 18.9 | 25 | 32 | 147 | 56 | 228.5 | 229.5 | 18 | DM*180 - DM*189 |
| TID190F25-8 | 19 - 19.9 | 25 | 32 | 156 | 56 | 238 | 239 | 19 | DM*190 - DM*199 |
| TID200F25-8 | 20 - 20.9 | 25 | 32 | 164 | 56 | 247.6 | 248.8 | 20 | DM*200 - DM*209 |
| TID210F25-8 | 21 - 21.9 | 25 | 32 | 172 | 56 | 257.2 | 258.4 | 21 | DM*210 - DM*219 |
| TID220F25-8 | 22 - 22.9 | 25 | 32 | 180 | 56 | 266.8 | 268.2 | 22 | DM*220 - DM*229 |
| TID230F32-8 | 23 - 23.9 | 32 | 42 | 188 | 60 | 280.3 | 281.7 | 23 | DM*230 - DM*239 |
| TID240F32-8 | 24 - 24.9 | 32 | 42 | 196 | 60 | 289.9 | 291.3 | 24 | DM*240 - DM*249 |
| TID250F32-8 | 25 - 25.9 | 32 | 42 | 205 | 60 | 299.5 | 301 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø7 - ø17.9 | +0.07 / 0 |
| ø18 - ø25.9 | +0.085 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

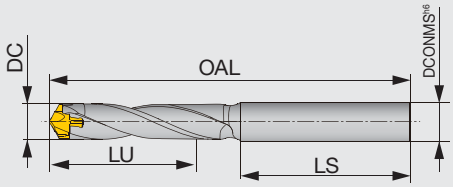
### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-250 | K-TID20-26.99 |

New

## TID-R L/D=3.5 Cylindrical shank

Head-changeable drill




| Metric | DC | DCONMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|
| TID100R12-3.5 | 10 - 10.4 | 12 | 42 | 60 | 114.0 | 114.6 | 10 | DM*100-DM*104 |
| TID105R12-3.5 | 10.5 - 10.9 | 12 | 44 | 60 | 115.7 | 116.3 | 10 | DM*105-DM*109 |
| TID110R12-3.5 | 11 - 11.4 | 12 | 46 | 65 | 123.1 | 123.7 | 11 | DM*110-DM*114 |
| TID115R12-3.5 | 11.5 - 11.9 | 12 | 48 | 65 | 124.8 | 125.4 | 11 | DM*115-DM*119 |
| TID120R14-3.5 | 12 - 12.4 | 14 | 50 | 65 | 127.2 | 127.8 | 12 | DM*120-DM*124 |
| TID125R14-3.5 | 12.5 - 12.9 | 14 | 52 | 65 | 128.8 | 129.4 | 12 | DM*125-DM*129 |
| TID130R14-3.5 | 13 - 13.4 | 14 | 54 | 65 | 132.7 | 133.5 | 13 | DM*130-DM*134 |
| TID135R14-3.5 | 13.5 - 13.9 | 14 | 56 | 65 | 134.4 | 135.2 | 13 | DM*135-DM*139 |
| TID140R16-3.5 | 14 - 14.4 | 16 | 58 | 70 | 142.2 | 143.0 | 14 | DM*140-DM*144 |
| TID145R16-3.5 | 14.5 - 14.9 | 16 | 60 | 70 | 143.8 | 144.6 | 14 | DM*145-DM*149 |
| TID150R16-3.5 | 15 - 15.9 | 16 | 64 | 70 | 148.4 | 149.3 | 15 | DM*150-DM*159 |
| TID160R18-3.5 | 16 - 16.9 | 18 | 68 | 70 | 153.9 | 154.9 | 16 | DM*160-DM*169 |
| TID170R18-3.5 | 17 - 17.9 | 18 | 72 | 70 | 158.5 | 159.5 | 17 | DM*170-DM*179 |
| TID180R20-3.5 | 18 - 18.9 | 20 | 76 | 70 | 164.0 | 165.1 | 18 | DM*180-DM*189 |
| TID190R20-3.5 | 19 - 19.9 | 20 | 80 | 70 | 168.4 | 169.5 | 19 | DM*190-DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø10 - ø17.9 | +0.08 / 0 |
| ø18 - ø19.9 | +0.095 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.

· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

· When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.

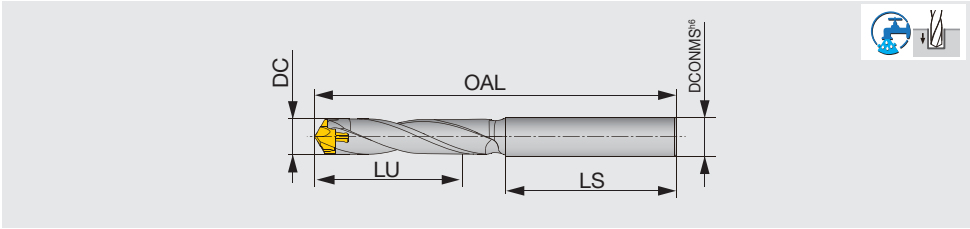
### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-220 | K-TID20-26.99 |

New

## TID-R L/D=3.5 Cylindrical shank

Head-changeable drill




| Metric | DC | DCONMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|
| TID100R12-3.5 | 10 - 10.4 | 12 | 42 | 60 | 114.0 | 114.6 | 10 | DM*100-DM*104 |
| TID105R12-3.5 | 10.5 - 10.9 | 12 | 44 | 60 | 115.7 | 116.3 | 10 | DM*105-DM*109 |
| TID110R12-3.5 | 11 - 11.4 | 12 | 46 | 65 | 123.1 | 123.7 | 11 | DM*110-DM*114 |
| TID115R12-3.5 | 11.5 - 11.9 | 12 | 48 | 65 | 124.8 | 125.4 | 11 | DM*115-DM*119 |
| TID120R14-3.5 | 12 - 12.4 | 14 | 50 | 65 | 127.2 | 127.8 | 12 | DM*120-DM*124 |
| TID125R14-3.5 | 12.5 - 12.9 | 14 | 52 | 65 | 128.8 | 129.4 | 12 | DM*125-DM*129 |
| TID130R14-3.5 | 13 - 13.4 | 14 | 54 | 65 | 132.7 | 133.5 | 13 | DM*130-DM*134 |
| TID135R14-3.5 | 13.5 - 13.9 | 14 | 56 | 65 | 134.4 | 135.2 | 13 | DM*135-DM*139 |
| TID140R16-3.5 | 14 - 14.4 | 16 | 58 | 70 | 142.2 | 143.0 | 14 | DM*140-DM*144 |
| TID145R16-3.5 | 14.5 - 14.9 | 16 | 60 | 70 | 143.8 | 144.6 | 14 | DM*145-DM*149 |
| TID150R16-3.5 | 15 - 15.9 | 16 | 64 | 70 | 148.4 | 149.3 | 15 | DM*150-DM*159 |
| TID160R18-3.5 | 16 - 16.9 | 18 | 68 | 70 | 153.9 | 154.9 | 16 | DM*160-DM*169 |
| TID170R18-3.5 | 17 - 17.9 | 18 | 72 | 70 | 158.5 | 159.5 | 17 | DM*170-DM*179 |
| TID180R20-3.5 | 18 - 18.9 | 20 | 76 | 70 | 164.0 | 165.1 | 18 | DM*180-DM*189 |
| TID190R20-3.5 | 19 - 19.9 | 20 | 80 | 70 | 168.4 | 169.5 | 19 | DM*190-DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø10 - ø17.9 | +0.08 / 0 |
| ø18 - ø19.9 | +0.095 / 0 |

* Just for reference.

Notes :
- An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
- For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.

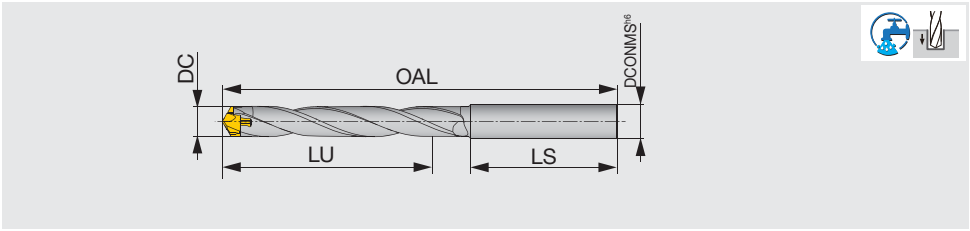
### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-220 | K-TID20-26.99 |

New

## TID-R L/D=6 Cylindrical shank

Head-changeable drill




| Metric | DC | DCONMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|
| TID100R12-6 | 10 - 10.4 | 12 | 68 | 60 | 140.0 | 140.6 | 10 | DM*100-DM*104 |
| TID105R12-6 | 10.5 - 10.9 | 12 | 71 | 60 | 142.9 | 143.5 | 10 | DM*105-DM*109 |
| TID110R12-6 | 11 - 11.4 | 12 | 75 | 65 | 151.6 | 152.2 | 11 | DM*110-DM*114 |
| TID115R12-6 | 11.5 - 11.9 | 12 | 78 | 65 | 154.5 | 155.1 | 11 | DM*115-DM*119 |
| TID120R14-6 | 12 - 12.4 | 14 | 81 | 65 | 158.2 | 158.8 | 12 | DM*120-DM*124 |
| TID125R14-6 | 12.5 - 12.9 | 14 | 84 | 65 | 161.1 | 161.7 | 12 | DM*125-DM*129 |
| TID130R14-6 | 13 - 13.4 | 14 | 88 | 65 | 166.2 | 167.0 | 13 | DM*130-DM*134 |
| TID135R14-6 | 13.5 - 13.9 | 14 | 91 | 65 | 169.2 | 170.0 | 13 | DM*135-DM*139 |
| TID140R16-6 | 14 - 14.4 | 16 | 94 | 70 | 178.2 | 179.0 | 14 | DM*140-DM*144 |
| TID145R16-6 | 14.5 - 14.9 | 16 | 97 | 70 | 181.1 | 181.9 | 14 | DM*145-DM*149 |
| TID150R16-6 | 15 - 15.9 | 16 | 104 | 70 | 188.2 | 189.1 | 15 | DM*150-DM*159 |
| TID160R18-6 | 16 - 16.9 | 18 | 110 | 70 | 196.2 | 197.2 | 16 | DM*160-DM*169 |
| TID170R18-6 | 17 - 17.9 | 18 | 117 | 70 | 203.2 | 204.2 | 17 | DM*170-DM*179 |
| TID180R20-6 | 18 - 18.9 | 20 | 124 | 70 | 211.3 | 212.4 | 18 | DM*180-DM*189 |
| TID190R20-6 | 19 - 19.9 | 20 | 130 | 70 | 218.1 | 219.2 | 19 | DM*190-DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø10 - ø17.9 | +0.08 / 0 |
| ø18 - ø19.9 | +0.095 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.

· For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.

· When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.

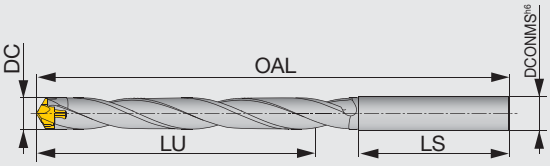
### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-220 | K-TID20-26.99 |

New

## TID-R L/D=8 Cylindrical shank

Head-changeable drill




| Metric | DC | DCONMS | LU | LS | OAL | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|
| | | | | | DMP | DMC | | |
| TID100R12-8 | 10 - 10.4 | 12 | 89 | 60 | 160.8 | 161.4 | 10 | DM*100-DM*104 |
| TID105R12-8 | 10.5 - 10.9 | 12 | 93 | 60 | 164.7 | 165.3 | 10 | DM*105-DM*109 |
| TID110R12-8 | 11 - 11.4 | 12 | 98 | 65 | 174.4 | 175.0 | 11 | DM*110-DM*114 |
| TID115R12-8 | 11.5 - 11.9 | 12 | 102 | 65 | 178.3 | 178.9 | 11 | DM*115-DM*119 |
| TID120R14-8 | 12 - 12.4 | 14 | 106 | 65 | 183.0 | 183.6 | 12 | DM*120-DM*124 |
| TID125R14-8 | 12.5 - 12.9 | 14 | 110 | 65 | 186.9 | 187.5 | 12 | DM*125-DM*129 |
| TID130R14-8 | 13 - 13.4 | 14 | 115 | 65 | 193.0 | 193.8 | 13 | DM*130-DM*134 |
| TID135R14-8 | 13.5 - 13.9 | 14 | 119 | 65 | 197.0 | 197.8 | 13 | DM*135-DM*139 |
| TID140R16-8 | 14 - 14.4 | 16 | 123 | 70 | 207.0 | 207.8 | 14 | DM*140-DM*144 |
| TID145R16-8 | 14.5 - 14.9 | 16 | 127 | 70 | 210.9 | 211.7 | 14 | DM*145-DM*149 |
| TID150R16-8 | 15 - 15.9 | 16 | 136 | 70 | 220.0 | 220.9 | 15 | DM*150-DM*159 |
| TID160R18-8 | 16 - 16.9 | 18 | 144 | 70 | 230.0 | 231.0 | 16 | DM*160-DM*169 |
| TID170R18-8 | 17 - 17.9 | 18 | 153 | 70 | 239.0 | 240.0 | 17 | DM*170-DM*179 |
| TID180R20-8 | 18 - 18.9 | 20 | 162 | 70 | 249.1 | 250.2 | 18 | DM*180-DM*189 |
| TID190R20-8 | 19 - 19.9 | 20 | 170 | 70 | 257.9 | 259.0 | 19 | DM*190-DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø10 - ø17.9 | +0.08 / 0 |
| ø18 - ø19.9 | +0.095 / 0 |

* Just for reference.

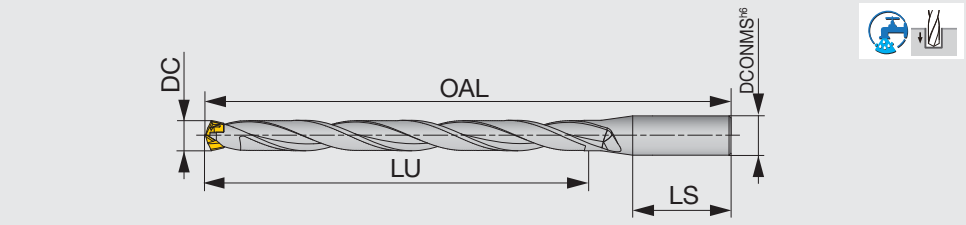
Notes :
- An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
- For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-220 | K-TID20-26.99 |

## TIDU-R L/D=12 Cylindrical shank

### Head-changeable drill




| | Inch | DC | DCONMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| New | TIDU0394R0625-12 | 0.394 - 0.409 | 0.625 | 4.803 | 1.890 | 7.244 | 7.252 | 10 | DM*100 – 104 |
| New | TIDU0413R0625-12 | 0.413 - 0.429 | 0.625 | 5.039 | 1.890 | 7.480 | 7.488 | 10 | DM*105 – 109 |
| New | TIDU0433R0625-12 | 0.433 - 0.449 | 0.625 | 5.276 | 1.890 | 7.717 | 7.724 | 11 | DM*110 – 114 |
| | TIDU0472R0625-12 | 0.472 - 0.488 | 0.625 | 5.669 | 1.890 | 8.228 | 8.252 | 12 | DM*120 - 124 |
| | TIDU0492R0625-12 | 0.492 - 0.508 | 0.625 | 5.906 | 1.890 | 8.465 | 8.489 | 12 | DM*125 - 129 |
| | TIDU0512R0625-12 | 0.512 - 0.528 | 0.625 | 6.142 | 1.890 | 8.701 | 8.732 | 13 | DM*130 - 134 |
| | TIDU0532R0625-12 | 0.531 - 0.547 | 0.625 | 6.378 | 1.890 | 8.937 | 8.968 | 13 | DM*135 - 139 |
| | TIDU0551R0625-12 | 0.551 - 0.567 | 0.625 | 6.614 | 1.890 | 9.291 | 9.322 | 14 | DM*140 - 144 |
| | TIDU0571R0625-12 | 0.571 - 0.587 | 0.625 | 6.850 | 1.890 | 9.528 | 9.559 | 14 | DM*145 - 149 |
| | TIDU0591R0750-12 | 0.591 - 0.626 | 0.750 | 7.087 | 1.969 | 10.000 | 10.035 | 15 | DM*150 - 159 |
| | TIDU0630R0750-12 | 0.630 - 0.665 | 0.750 | 7.559 | 1.969 | 10.512 | 10.551 | 16 | DM*160 - 169 |
| | TIDU0669R0750-12 | 0.669 - 0.705 | 0.750 | 8.031 | 1.969 | 11.063 | 11.102 | 17 | DM*170 - 179 |
| | TIDU0709R1000-12 | 0.709 - 0.744 | 1.000 | 8.504 | 2.205 | 11.811 | 11.854 | 18 | DM*180 - 189 |
| | TIDU0748R1000-12 | 0.748 - 0.783 | 1.000 | 8.976 | 2.205 | 12.362 | 12.405 | 19 | DM*190 - 199 |
| | TIDU0787R1000-12 | 0.787 - 0.823 | 1.000 | 9.449 | 2.205 | 12.874 | 12.921 | 20 | DMP200 - 209 |
| | TIDU0827R1000-12 | 0.827 - 0.862 | 1.000 | 9.921 | 2.205 | 13.425 | 13.473 | 21 | DMP210 - 219 |
| | TIDU0866R1000-12 | 0.866 - 0.902 | 1.000 | 10.394 | 2.205 | 13.976 | 14.026 | 22 | DMP220 - 229 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø0.394 - ø0.705 | +0.0031 / 0 |
| ø0.709 - ø0.902 | +0.0037 / 0 |

* Just for reference.

Notes : · An overall length (OAL) differs when the DMP insert is mounted and when the DMC is mounted. (No difference for the drill shoulder)

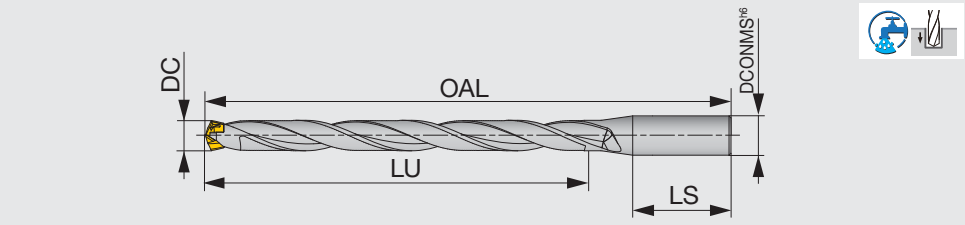
· When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TIDU0394 - TIDU0748 | K-TID10-19.99 |
| TIDU0787 - TIDU0866 | K-TID20-26.99 |

## TID-R L/D=12 Cylindrical shank

### Head-changeable drill




| | | | | | OAL | | | |
|---|---|---|---|---|---|---|---|---|
| Metric | DC | DCONMS | LU | LS | DMP | DMC | Pocket size | Head |
| New TID080R12-12 | 8 - 8.4 | 12 | 98 | 45 | 156.4 | 156.6 | 8 | DM*080-DM*084 |
| New TID085R12-12 | 8.5 - 8.9 | 12 | 104 | 45 | 162.4 | 162.6 | 8 | DM*085-DM*089 |
| New TID090R12-12 | 9 - 9.4 | 12 | 110 | 45 | 168.8 | 169.3 | 9 | DM*090-DM*094 |
| New TID095R12-12 | 9.5 - 9.9 | 12 | 116 | 45 | 174.8 | 175.3 | 9 | DM*095-DM*099 |
| New TID100R16-12 | 10 - 10.4 | 16 | 122 | 48 | 184.2 | 184.4 | 10 | DM*100-DM*104 |
| New TID105R16-12 | 10.5 - 10.9 | 16 | 128 | 48 | 190.2 | 190.4 | 10 | DM*105-DM*109 |
| New TID110R16-12 | 11 - 11.4 | 16 | 134 | 48 | 196.6 | 196.8 | 11 | DM*110-DM*114 |
| TID115R16-12 | 11.5 - 11.9 | 16 | 140 | 48 | 202 | 202 | 11 | DM*115-DM*119 |
| TID120R16-12 | 12 - 12.4 | 16 | 146 | 48 | 209 | 209.6 | 12 | DM*120 - DM*124 |
| TID125R16-12 | 12.5 - 12.9 | 16 | 152 | 48 | 215 | 215.6 | 12 | DM*125 - DM*129 |
| TID130R16-12 | 13 - 13.4 | 16 | 158 | 48 | 221.6 | 222.2 | 13 | DM*130 - DM*134 |
| TID135R16-12 | 13.5 - 13.9 | 16 | 165 | 48 | 227.6 | 228.2 | 13 | DM*135 - DM*139 |
| TID140R16-12 | 14 - 14.4 | 16 | 171 | 48 | 236.2 | 236.8 | 14 | DM*140 - DM*144 |
| TID145R16-12 | 14.5 - 14.9 | 16 | 177 | 48 | 242.2 | 242.8 | 14 | DM*145 - DM*149 |
| TID150R20-12 | 15 - 15.9 | 20 | 183 | 50 | 253.7 | 254.5 | 15 | DM*150 - DM*159 |
| TID160R20-12 | 16 - 16.9 | 20 | 195 | 50 | 267.3 | 268.1 | 16 | DM*160 - DM*169 |
| TID170R20-12 | 17 - 17.9 | 20 | 207 | 50 | 280.9 | 281.7 | 17 | DM*170 - DM*179 |
| TID180R25-12 | 18 - 18.9 | 25 | 219 | 56 | 300.5 | 301.3 | 18 | DM*180 - DM*189 |
| TID190R25-12 | 19 - 19.9 | 25 | 232 | 56 | 314 | 314.9 | 19 | DM*190 - DM*199 |
| TID200R25-12 | 20 - 20.9 | 25 | 244 | 56 | 327.6 | 328.8 | 20 | DM*200 - DM*209 |
| TID210R25-12 | 21 - 21.9 | 25 | 256 | 56 | 341.2 | 342.4 | 21 | DM*210 - DM*219 |
| TID220R25-12 | 22 - 22.9 | 25 | 267 | 56 | 354.8 | 356.1 | 22 | DM*220 - DM*229 |
| TID230R32-12(1) | 23 - 23.9 | 32 | 276 | 60 | 372.3 | 373.7 | 23 | DM*230 - DM*239 |
| TID240R32-12(1) | 24 - 24.9 | 32 | 288 | 60 | 385.9 | 387.3 | 24 | DM*240 - DM*249 |
| TID250R32-12(1) | 25 - 25.9 | 32 | 300 | 60 | 399.5 | 401 | 25 | DM*250 - DM*259 |

(1) To be released in 2020

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø8 - ø17.9 | +0.08 / 0 |
| ø18 - ø25.9 | +0.095 / 0 |

* Just for reference.

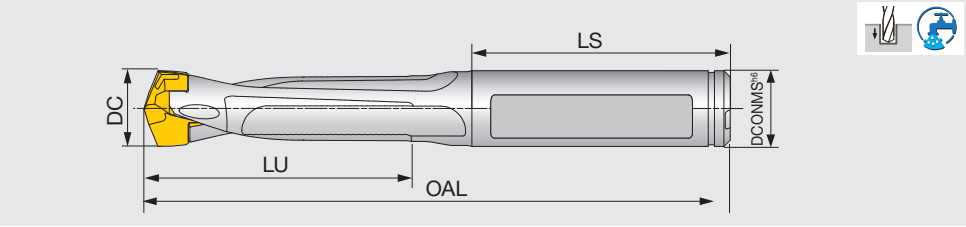
Notes :
- An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
- For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060-095 | K-TID6-9.99 |
| TID100-190 | K-TID10-19.99 |
| TID200-220 | K-TID20-26.99 |

## TIDC L/D=3

### Head-changeable drill




| | Metric | DC | DCONMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| New | TIDC075C8-3 | 7.5 - 7.9 | 8 | 23 | 36 | 70.1 | 70.6 | 7 | DMP075-DMP079 |
| New | TIDC080C8-3 | 8 - 8.4 | 8 | 24 | 36 | 70.6 | 71.1 | 8 | DMP080-DMP084 |
| New | TIDC085C9-3 | 8.5 - 8.9 | 9 | 26 | 36 | 72.8 | 73 | 8 | DMP085-DMP089 |
| New | TIDC090C9-3 | 9 - 9.4 | 9 | 27 | 36 | 74.7 | 74.9 | 9 | DMP090-DMP094 |
| New | TIDC095C10-3 | 9.5 - 9.9 | 10 | 29 | 36 | 76.2 | 76.4 | 9 | DMP095-DMP099 |
| | TIDC100C10-3 | 10 - 10.4 | 10 | 32 | 41 | 86.1 | 86.7 | 10 | DM*100 - DM*104 |
| | TIDC105C11-3 | 10.5 - 10.9 | 11 | 33 | 41 | 87.6 | 88.2 | 10 | DM*105 - DM*109 |
| | TIDC110C11-3 | 11 - 11.4 | 11 | 35 | 41 | 89.5 | 90.1 | 11 | DM*110 - DM*114 |
| | TIDC115C12-3 | 11.5 - 11.9 | 12 | 37 | 41 | 91 | 91.6 | 11 | DM*115 - DM*119 |
| | TIDC120C12-3 | 12 - 12.4 | 12 | 38 | 41 | 92.8 | 93.4 | 12 | DM*120 - DM*124 |
| | TIDC125C13-3 | 12.5 - 12.9 | 13 | 40 | 46 | 98.3 | 98.9 | 12 | DM*125 - DM*129 |
| | TIDC130C13-3 | 13 - 13.4 | 13 | 41 | 47 | 102.4 | 103.2 | 13 | DM*130 - DM*134 |
| | TIDC135C14-3 | 13.5 - 13.9 | 14 | 43 | 43 | 99.9 | 100.7 | 13 | DM*135 - DM*139 |
| | TIDC140C14-3 | 14 - 14.4 | 14 | 45 | 44 | 103 | 103.8 | 14 | DM*140 - DM*144 |
| | TIDC145C15-3 | 14.5 - 14.9 | 15 | 46 | 45 | 105.5 | 106.3 | 14 | DM*145 - DM*149 |
| | TIDC150C15-3 | 15 - 15.9 | 15 | 48 | 45 | 107.5 | 108.4 | 15 | DM*150 - DM*159 |
| | TIDC160C16-3 | 16 - 16.9 | 16 | 51 | 48 | 117.5 | 118.5 | 16 | DM*160 - DM*169 |
| | TIDC170C17-3 | 17 - 17.9 | 17 | 54 | 48 | 119.7 | 120.7 | 17 | DM*170 - DM*179 |
| | TIDC180C18-3 | 18 - 18.9 | 18 | 57 | 48 | 123.3 | 124.4 | 18 | DM*180 - DM*189 |
| | TIDC190C19-3 | 19 - 19.9 | 19 | 61 | 54 | 132.4 | 133.5 | 19 | DM*190 - DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø7.5 - ø19.9 | +0.05 / 0 |

* Just for reference.

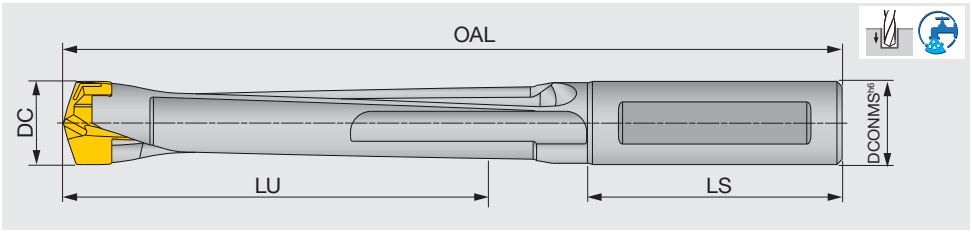
Notes :
- An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
- For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.
- When axially adjusting the shank inside the holder to obtain a required drill overhang, make sure the shank length remaining inside the holder does not come short of the minimum clamping length (LSCN) specified by the holder supplier.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TIDC075-095 | K-TID6-9.99 |
| TIDC100-190 | K-TID10-19.99 |

## TIDC L/D=5

Head-changeable drill




| | Metric | DC | DCONMS | LU | LS | OAL DMP | OAL DMC | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| New | TIDC075C8-5 | 7.5 - 7.9 | 8 | 38 | 36 | 85.1 | 85.6 | 7 | DMP075-DMP079 |
| New | TIDC080C8-5 | 8 - 8.4 | 8 | 40 | 36 | 92.3 | 92.8 | 8 | DMP080-DMP084 |
| New | TIDC085C9-5 | 8.5 - 8.9 | 9 | 43 | 36 | 89.8 | 90.0 | 8 | DMP085-DMP089 |
| New | TIDC090C9-5 | 9 - 9.4 | 9 | 45 | 36 | 92.7 | 92.9 | 9 | DMP090-DMP094 |
| New | TIDC095C10-5 | 9.5 - 9.9 | 10 | 48 | 36 | 95.2 | 95.4 | 9 | DMP095-DMP099 |
| | TIDC100C10-5 | 10 - 10.4 | 10 | 52 | 41 | 106.1 | 106.7 | 10 | DM*100 - DM*104 |
| | TIDC105C11-5 | 10.5 - 10.9 | 11 | 54 | 41 | 108.6 | 109.2 | 10 | DM*105 - DM*109 |
| | TIDC110C11-5 | 11 - 11.4 | 11 | 57 | 41 | 111.5 | 112.1 | 11 | DM*110 - DM*114 |
| | TIDC115C12-5 | 11.5 - 11.9 | 12 | 60 | 41 | 114 | 114.6 | 11 | DM*115 - DM*119 |
| | TIDC120C12-5 | 12 - 12.4 | 12 | 62 | 41 | 116.8 | 117.4 | 12 | DM*120 - DM*124 |
| | TIDC125C13-5 | 12.5 - 12.9 | 13 | 65 | 46 | 124.3 | 124.9 | 12 | DM*125 - DM*129 |
| | TIDC130C13-5 | 13 - 13.4 | 13 | 67 | 47 | 128.4 | 129.2 | 13 | DM*130 - DM*134 |
| | TIDC135C14-5 | 13.5 - 13.9 | 14 | 70 | 43 | 126.9 | 127.7 | 13 | DM*135 - DM*139 |
| | TIDC140C14-5 | 14 - 14.4 | 14 | 73 | 44 | 131 | 131.8 | 14 | DM*140 - DM*144 |
| | TIDC145C15-5 | 14.5 - 14.9 | 15 | 75 | 45 | 134.5 | 135.3 | 14 | DM*145 - DM*149 |
| | TIDC150C15-5 | 15 - 15.9 | 15 | 78 | 45 | 137.5 | 138.4 | 15 | DM*150 - DM*159 |
| | TIDC160C16-5 | 16 - 16.9 | 16 | 83 | 48 | 149.5 | 150.5 | 16 | DM*160 - DM*169 |
| | TIDC170C17-5 | 17 - 17.9 | 17 | 88 | 48 | 153.7 | 154.7 | 17 | DM*170 - DM*179 |
| | TIDC180C18-5 | 18 - 18.9 | 18 | 93 | 48 | 159.3 | 160.4 | 18 | DM*180 - DM*189 |
| | TIDC190C19-5 | 19 - 19.9 | 19 | 99 | 54 | 170.4 | 171.5 | 19 | DM*190 - DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø7.5 - ø19.9 | +0.05 / 0 |

* Just for reference.

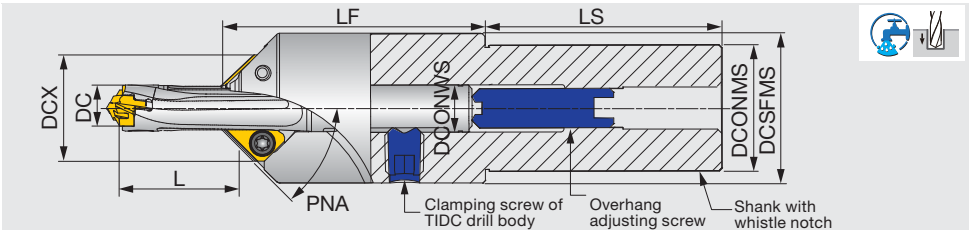
Notes :
- An overall length (OAL) differs for when the DMP insert is mounted and when the DMC is mounted.
- For drill diameters from ø8.0 mm - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP drill heads in other diameters than the above.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.
- When axially adjusting the shank inside the holder to obtain a required drill overhang, make sure the shank length remaining inside the holder does not come short of the minimum clamping length (LSCN) specified by the holder supplier.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TIDC075-095 | K-TID6-9.99 |
| TIDC100-190 | K-TID10-19.99 |

## TIDCF

### TIDC TYPE




| Inch | DC | DCONMS | DCSFMS | DCX | LF | LS | *L** L/D = 3 | *L** L/D = 5 | Drill body | DCONWS |
|---|---|---|---|---|---|---|---|---|---|---|
| TIDCF100-WU1.00-.394-.409 | 0.374 - 0.409 | 1.000 | 0.984 | 0.980 | 2.65 | 2.56 | 0.571 - 1.252 | 1.248 - 2.039 | TIDC100C10-... | 0.394 |
| TIDCF110-WU1.00-.413-.449 | 0.413 - 0.449 | 1.000 | 0.984 | 1.020 | 2.65 | 2.56 | 0.618 -1.311 | 1.228 - 2.134 | TIDC105C11-..., TIDC110C11-... | 0.433 |
| TIDCF120-WU1.00-.453-.488 | 0.453 - 0.488 | 1.000 | 1.496 | 1.060 | 2.65 | 2.21 | 0.638 - 1.390 | 1.343 - 2.256 | TIDC115C12-..., TIDC120C12-... | 0.472 |
| TIDCF130-WU1.00-.492-.528 | 0.492 - 0.528 | 1.000 | 1.496 | 1.100 | 2.65 | 2.56 | 0.594 - 1.447 | 1.331 - 2.339 | TIDC125C13-..., TIDC130C13-... | 0.512 |
| TIDCF140-WU1.25-.531-.567 | 0.531 - 0.567 | 1.250 | 1.496 | 1.120 | 2.65 | 2.56 | 0.650 - 1.484 | 1.441 - 2.425 | TIDC135C14-..., TIDC140C14-... | 0.551 |
| TIDCF150-WU1.25-.571-.626 | 0.571 - 0.626 | 1.250 | 1.496 | 1.160 | 2.65 | 2.56 | 0.634 - 1.559 | 1.563 - 2.551 | TIDC145C15-..., TIDC150C15-... | 0.591 |
| TIDCF160-WU1.25-.630-.665 | 0.630 - 0.665 | 1.250 | 1.496 | 1.200 | 2.65 | 2.56 | 0.689 - 1.634 | 1.681 - 2.677 | TIDC160C16-... | 0.630 |
| TIDCF170-WU1.25-.669-.705 | 0.669 - 0.705 | 1.250 | 1.496 | 1.240 | 2.65 | 2.56 | 0.697 - 1.689 | 1.630 - 2.768 | TIDC170C17-... | 0.669 |
| TIDCF180-WU1.25-.709-.744 | 0.709 - 0.744 | 1.250 | 1.496 | 1.280 | 2.65 | 2.56 | 0.713 - 1.772 | 1.764 - 2.878 | TIDC180C18-... | 0.709 |
| TIDCF190-WU1.25-.748-.783 | 0.748 - 0.783 | 1.250 | 1.496 | 1.320 | 2.95 | 2.56 | 0.756 - 1.756 | 1.732 - 2.909 | TIDC190C19-... | 0.748 |

| Metric | DC | DCONMS | DCSFMS | DCX | LF | LS | *L** L/D = 3 | *L** L/D = 5 | Drill body | DCONWS | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| New TIDCF080-W20 | 7.5 - 7.9 | 20 | 25 | 18.8 | 47.4 | 50 | 12.6 - 24 | 17.3 - 38 | TIDC075C8-... | 8 | XCGT06... |
| New TIDCF080-W20 | 8.0 - 8.4 | 20 | 25 | 18.8 | 47.4 | 50 | 13.5 - 24.6 | 24.7 - 45 | TIDC080C8-... | 8 | XCGT06... |
| New TIDCF090-W20 | 8.5 - 8.9 | 20 | 25 | 19.8 | 47.4 | 50 | 12.6 - 26.2 | 18.5 - 43 | TIDC085C9-... | 9 | XCGT06... |
| New TIDCF090-W20 | 9.0 - 9.4 | 20 | 25 | 19.8 | 47.4 | 50 | 13 - 29.2 | 22.9 - 46.8 | TIDC090C9-... | 9 | XCGT06... |
| TIDCF100-W32 | 9.5 - 9.9 | 32 | 38 | 24.9 | 67.3 | 60 | 12.9 - 27.8 | 26 - 47 | TIDC095C10-... | 10 | XHG**09... |
| TIDCF100-W32 | 10 - 10.4 | 32 | 38 | 24.9 | 67.3 | 60 | 14.5 - 31.8 | 31.7 - 51.8 | TIDC100C10-... | 10 | XHG**09... |
| TIDCF110-W32 | 10.5 - 10.9 | 32 | 38 | 25.9 | 67.3 | 60 | 15.7 - 33.3 | 31.2 - 54.2 | TIDC105C11-... | 11 | XHG**09... |
| TIDCF110-W32 | 11 - 11.4 | 32 | 38 | 25.9 | 67.3 | 60 | 16.2 - 35.3 | 34.1 - 57.3 | TIDC110C11-... | 11 | XHG**09... |
| TIDCF120-W32 | 11.5 - 11.9 | 32 | 38 | 26.9 | 67.3 | 60 | 15.1 - 36.7 | 33.8 - 59.4 | TIDC115C12-... | 12 | XHG**09... |
| TIDCF120-W32 | 12 - 12.4 | 32 | 38 | 26.9 | 67.3 | 60 | 16.5 - 37.7 | 36.6 - 61.6 | TIDC120C12-... | 12 | XHG**09... |
| TIDCF130-W32 | 12.5 - 12.9 | 32 | 38 | 27.9 | 67.3 | 60 | 16.1 - 39.6 | 39.7 - 64.8 | TIDC125C13-... | 13 | XHG**09... |
| TIDCF130-W32 | 13 - 13.4 | 32 | 38 | 27.9 | 67.3 | 60 | 17.5 - 41.5 | 42.7 - 68 | TIDC130C13-... | 13 | XHG**09... |
| TIDCF140-W32 | 13.5 - 13.9 | 32 | 38 | 28.4 | 67.3 | 60 | 17.7 - 42.9 | 41.4 - 70.3 | TIDC135C14-... | 14 | XHG**09... |
| TIDCF140-W32 | 14 - 14.4 | 32 | 38 | 28.4 | 67.3 | 60 | 18.1 - 45 | 44.8 - 73.1 | TIDC140C14-... | 14 | XHG**09... |
| TIDCF150-W32 | 14.5 - 14.9 | 32 | 38 | 29.4 | 67.3 | 60 | 19.2 - 44.6 | 44 - 73.9 | TIDC145C15-... | 15 | XHG**09... |
| TIDCF150-W32 | 15 - 15.9 | 32 | 38 | 29.4 | 67.3 | 60 | 19.7 - 47.4 | 47.6 - 80.7 | TIDC150C15-... | 15 | XHG**09... |
| TIDCF160-W32 | 16 - 16.9 | 32 | 38 | 30.4 | 67.3 | 60 | 19.5 - 55.3 | 57 - 87.5 | TIDC160C16-... | 16 | XHG**09... |
| TIDCF170-W32 | 17 - 17.9 | 32 | 38 | 31.4 | 67.3 | 60 | 21.4 - 54.9 | 55.9 - 88.5 | TIDC170C17-... | 17 | XHG**09... |
| TIDCF180-W32 | 18 - 18.9 | 32 | 38 | 32.4 | 67.3 | 60 | 24.2 - 65.2 | 60 - 93 | TIDC180C18-... | 18 | XHG**09... |
| TIDCF190-W32 | 19 - 19.9 | 32 | 38 | 33.4 | 75 | 60 | 28.5 - 62.3 | 67 - 100 | TIDC190C19-... | 19 | XHG**09... |

• L* is the dimension when using 45° chamfering insert.

### SPARE PARTS



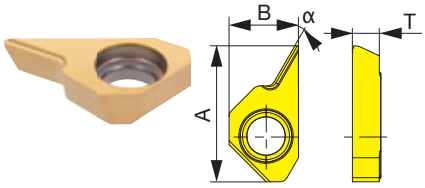




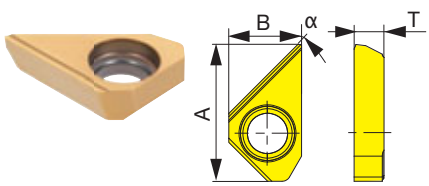
| Designation | Insert screw | Grip | Clamping screw of TIDC drill body | Overhang adjusting screw | Torx bit | Wrench | Wrench |
|---|---|---|---|---|---|---|---|
| TIDCF080-090 | SR14-500/S | - | SRM6X6DIN916 | SRM6X1.5S | - | HW3.0 | T-8D |
| TIDCF100-190 | SR14-544/S | SW6-SD | SRM10X10DIN916 | SRM10X1.5S | BT15S | HW5.0 | - |

# CHAMFERING INSERT

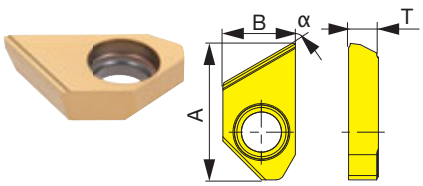
**XHGT-30A**




**XHGR-45A**




**XHGR-60A**



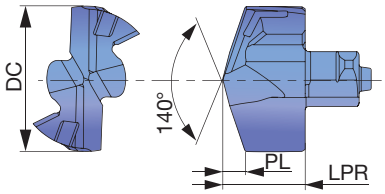

| Metric | Grade GH730 | INSL | W1 | S | Chamfering angle PNA | Maximum width of chamfer ** |
|---|---|---|---|---|---|---|
| XCGT060300-30DT | ● | 12.3 | 6.18 | 2.8 | 30° | 2 |
| XCGT060300-45DT | ● | 12.3 | 6.18 | 2.8 | 45° | 4 |
| XCGT060300-60DT | ● | 12.3 | 6.18 | 2.8 | 60° | 4 |
| XHGT090300-30A | ● | 16 | 8.5 | 3.3 | 30° | 3 |
| XHGR090300-45A | ● | 16 | 8.5 | 3.3 | 45° | 6 |
| XHGR090300-60A | ● | 16 | 8.5 | 3.3 | 60° | 6 |

** Please reduce the feed rate to half when chamfering over 60% of maximum width of chamfer

●: Line up
Package quantity = 2 pcs.

# DRILL HEAD

## DMP




| Tool diameter (Inch) | ø0.236" - ø0.705" | ø0.709" - ø1.020" |
|---|---|---|
| Head diameter tolerance | +0.0007" / 0 | +0.0008" / 0 |
| **Tool diameter (mm)** | **ø6 - ø17.9** | **ø18 - ø25.9** |
| Head diameter tolerance | +0.018 / 0 | +0.021 / 0 |

| Designation | DC (in) | DC (mm) | Grade AH725 | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|---|
| DMP060 | 0.236 | 6 | ● | | 3.9 | 1.09 | 6 | TID*060* |
| DMP061 | 0.240 | 6.1 | ● | | 3.9 | 1.11 | 6 | TID*060* |
| DMP062 | 0.244 | 6.2 | ● | | 3.9 | 1.13 | 6 | TID*060* |
| DMP063 | 0.248 | 6.3 | ● | | 3.9 | 1.14 | 6 | TID*060* |
| DMP064 | 0.252 | 6.4 | ● | | 3.9 | 1.16 | 6 | TID*060* |
| DMP065 | 0.256 | 6.5 | ● | | 4.2 | 1.27 | 6.5 | TID*065* |
| DMP066 | 0.260 | 6.6 | ● | | 4.2 | 1.29 | 6.5 | TID*065* |
| DMP067 | 0.264 | 6.7 | ● | | 4.2 | 1.31 | 6.5 | TID*065* |
| DMP068 | 0.268 | 6.8 | ● | | 4.2 | 1.33 | 6.5 | TID*065* |
| DMP069 | 0.272 | 6.9 | ● | | 4.2 | 1.34 | 6.5 | TID*065* |
| DMP070 | 0.276 | 7 | ● | | 4.5 | 1.03 | 7 | TID*070* |
| DMP071 | 0.280 | 7.1 | ● | | 4.5 | 1.05 | 7 | TID*070* |
| DMP072 | 0.283 | 7.2 | ● | | 4.5 | 1.07 | 7 | TID*070* |
| DMP073 | 0.287 | 7.3 | ● | | 4.5 | 1.08 | 7 | TID*070* |
| DMP074 | 0.291 | 7.4 | ● | | 4.5 | 1.1 | 7 | TID*070* |
| DMP075 | 0.295 | 7.5 | ● | | 4.5 | 1.12 | 7 | TID*075* |
| DMP076 | 0.299 | 7.6 | ● | | 4.5 | 1.14 | 7 | TID*075* |
| DMP077 | 0.303 | 7.7 | ● | | 4.5 | 1.16 | 7 | TID*075* |
| DMP078 | 0.307 | 7.8 | ● | | 4.5 | 1.18 | 7 | TID*075* |
| DMP079 | 0.311 | 7.9 | ● | | 4.5 | 1.19 | 7 | TID*075* |
| DMP080 | 0.315 | 8 | ● | | 5.3 | 1.2 | 8 | TID*080* |
| DMP081 | 0.319 | 8.1 | ● | | 5.3 | 1.22 | 8 | TID*080* |
| DMP082 | 0.323 | 8.2 | ● | | 5.3 | 1.24 | 8 | TID*080* |
| DMP083 | 0.327 | 8.3 | ● | | 5.3 | 1.25 | 8 | TID*080* |
| DMP084 | 0.331 | 8.4 | ● | | 5.3 | 1.27 | 8 | TID*080* |
| DMP085 | 0.335 | 8.5 | ● | | 5.3 | 1.29 | 8 | TID*085* |
| DMP086 | 0.339 | 8.6 | ● | | 5.3 | 1.31 | 8 | TID*085* |
| DMP087 | 0.343 | 8.7 | ● | | 5.3 | 1.33 | 8 | TID*085* |
| DMP088 | 0.346 | 8.8 | ● | | 5.3 | 1.35 | 8 | TID*085* |
| DMP089 | 0.350 | 8.9 | ● | | 5.3 | 1.36 | 8 | TID*085* |
| DMP090 | 0.354 | 9 | ● | | 5.7 | 1.37 | 9 | TID*090* |
| DMP091 | 0.358 | 9.1 | ● | | 5.7 | 1.39 | 9 | TID*090* |
| DMP092 | 0.362 | 9.2 | ● | | 5.7 | 1.41 | 9 | TID*090* |
| DMP093 | 0.366 | 9.3 | ● | | 5.7 | 1.42 | 9 | TID*090* |
| DMP094 | 0.370 | 9.4 | ● | | 5.7 | 1.44 | 9 | TID*090* |
| DMP095 | 0.374 | 9.5 | ● | | 5.7 | 1.46 | 9 | TID*095* |
| DMP096 | 0.378 | 9.6 | ● | | 5.7 | 1.48 | 9 | TID*095* |
| DMP097 | 0.382 | 9.7 | ● | | 5.7 | 1.5 | 9 | TID*095* |
| DMP098 | 0.386 | 9.8 | ● | | 5.7 | 1.52 | 9 | TID*095* |
| DMP099 | 0.390 | 9.9 | ● | | 5.7 | 1.53 | 9 | TID*095* |

| Designation | DC (in) | DC (mm) | Grade AH725 | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|---|
| DMP100 | 0.394 | 10 | ● | ● | 6.1 | 1.47 | 10 | TID*100* |
| DMP101 | 0.398 | 10.1 | ● | | 6.1 | 1.49 | 10 | TID*100* |
| DMP102 | 0.402 | 10.2 | ● | | 6.1 | 1.51 | 10 | TID*100* |
| DMP103 | 0.406 | 10.3 | ● | ★ | 6.1 | 1.52 | 10 | TID*100* |
| DMP104 | 0.409 | 10.4 | ● | ★ | 6.1 | 1.54 | 10 | TID*100* |
| DMP105 | 0.413 | 10.5 | ● | ● | 6.1 | 1.56 | 10 | TID*105* |
| DMP106 | 0.417 | 10.6 | ● | | 6.1 | 1.58 | 10 | TID*105* |
| DMP107 | 0.421 | 10.7 | ● | | 6.1 | 1.6 | 10 | TID*105* |
| DMP108 | 0.425 | 10.8 | ● | ● | 6.1 | 1.62 | 10 | TID*105* |
| DMP109 | 0.429 | 10.9 | ● | | 6.1 | 1.63 | 10 | TID*105* |
| DMP110 | 0.433 | 11 | ● | ● | 6.5 | 1.67 | 11 | TID*110* |
| DMP111 | 0.437 | 11.1 | ● | | 6.5 | 1.69 | 11 | TID*110* |
| DMP112 | 0.441 | 11.2 | ● | | 6.5 | 1.71 | 11 | TID*110* |
| DMP113 | 0.445 | 11.3 | ● | ★ | 6.5 | 1.72 | 11 | TID*110* |
| DMP114 | 0.449 | 11.4 | ● | | 6.5 | 1.74 | 11 | TID*110* |
| DMP115 | 0.453 | 11.5 | ● | ● | 6.5 | 1.76 | 11 | TID*115* |
| DMP116 | 0.457 | 11.6 | ● | | 6.5 | 1.78 | 11 | TID*115* |
| DMP117 | 0.461 | 11.7 | ● | | 6.5 | 1.8 | 11 | TID*115* |
| DMP118 | 0.465 | 11.8 | ● | | 6.5 | 1.82 | 11 | TID*115* |
| DMP119 | 0.469 | 11.9 | ● | | 6.5 | 1.83 | 11 | TID*115* |
| DMP120 | 0.472 | 12 | ● | ● | 6.8 | 1.82 | 12 | TID*120* |
| DMP121 | 0.476 | 12.1 | ● | ★ | 6.8 | 1.84 | 12 | TID*120* |
| DMP122 | 0.480 | 12.2 | ● | | 6.8 | 1.86 | 12 | TID*120* |
| DMP123 | 0.484 | 12.3 | ● | ★ | 6.8 | 1.87 | 12 | TID*120* |
| DMP124 | 0.488 | 12.4 | ● | ★ | 6.8 | 1.89 | 12 | TID*120* |
| DMP125 | 0.492 | 12.5 | ● | ● | 6.8 | 1.91 | 12 | TID*125* |
| DMP126 | 0.496 | 12.6 | ● | ● | 6.8 | 1.93 | 12 | TID*125* |
| DMP127 | 0.500 | 12.7 | ● | ★ | 6.8 | 1.95 | 12 | TID*125* |
| DMP128 | 0.504 | 12.8 | ● | | 6.8 | 1.97 | 12 | TID*125* |
| DMP129 | 0.508 | 12.9 | ● | | 6.8 | 1.98 | 12 | TID*125* |
| DMP130 | 0.512 | 13 | ● | ● | 7.4 | 1.96 | 13 | TID*130* |
| DMP131 | 0.516 | 13.1 | ● | | 7.4 | 1.98 | 13 | TID*130* |
| DMP132 | 0.520 | 13.2 | ● | | 7.4 | 2 | 13 | TID*130* |
| DMP133 | 0.524 | 13.3 | ● | ★ | 7.4 | 2.01 | 13 | TID*130* |
| DMP134 | 0.528 | 13.4 | ● | | 7.4 | 2.03 | 13 | TID*130* |
| DMP135 | 0.531 | 13.5 | ● | ● | 7.4 | 2.05 | 13 | TID*135* |
| DMP136 | 0.535 | 13.6 | ● | | 7.4 | 2.07 | 13 | TID*135* |
| DMP137 | 0.539 | 13.7 | ● | | 7.4 | 2.09 | 13 | TID*135* |
| DMP138 | 0.543 | 13.8 | ● | ● | 7.4 | 2.11 | 13 | TID*135* |
| DMP139 | 0.547 | 13.9 | ● | ★ | 7.4 | 2.12 | 13 | TID*135* |

★: New ●: Line-up
Package Quantity: ø0.236 - ø0.783 = 2 pcs.
ø0.787 - ø1.020 = 1 pc.

| Designation | DC (in) | DC (mm) | Grade AH725 | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|---|
| DMP140 | 0.551 | 14 | ● | ● | 8 | 2.12 | 14 | TID*140* |
| DMP141 | 0.555 | 14.1 | ● | | 8 | 2.14 | 14 | TID*140* |
| DMP142 | 0.559 | 14.2 | ● | ● | 8 | 2.16 | 14 | TID*140* |
| DMP143 | 0.563 | 14.3 | ● | ★ | 8 | 2.17 | 14 | TID*140* |
| DMP144 | 0.567 | 14.4 | ● | | 8 | 2.19 | 14 | TID*140* |
| DMP145 | 0.571 | 14.5 | ● | ● | 8 | 2.21 | 14 | TID*145* |
| DMP146 | 0.575 | 14.6 | ● | | 8 | 2.23 | 14 | TID*145* |
| DMP147 | 0.579 | 14.7 | ● | | 8 | 2.25 | 14 | TID*145* |
| DMP148 | 0.583 | 14.8 | ● | | 8 | 2.27 | 14 | TID*145* |
| DMP149 | 0.587 | 14.9 | ● | | 8 | 2.28 | 14 | TID*145* |
| DMP150 | 0.591 | 15 | ● | ● | 8.5 | 2.27 | 15 | TID*150* |
| DMP151 | 0.594 | 15.1 | ● | | 8.5 | 2.29 | 15 | TID*150* |
| DMP152 | 0.598 | 15.2 | ● | ● | 8.5 | 2.31 | 15 | TID*150* |
| DMP153 | 0.602 | 15.3 | ● | ★ | 8.5 | 2.32 | 15 | TID*150* |
| DMP154 | 0.606 | 15.4 | ● | | 8.5 | 2.34 | 15 | TID*150* |
| DMP155 | 0.610 | 15.5 | ● | ● | 8.5 | 2.36 | 15 | TID*150* |
| DMP156 | 0.614 | 15.6 | ● | | 8.5 | 2.38 | 15 | TID*150* |
| DMP157 | 0.618 | 15.7 | ● | | 8.5 | 2.4 | 15 | TID*150* |
| DMP158 | 0.622 | 15.8 | ● | ● | 8.5 | 2.42 | 15 | TID*150* |
| DMP159 | 0.626 | 15.9 | ● | | 8.5 | 2.43 | 15 | TID*150* |
| DMP160 | 0.630 | 16 | ● | ● | 9.1 | 2.42 | 16 | TID*160* |
| DMP161 | 0.634 | 16.1 | ● | ★ | 9.1 | 2.44 | 16 | TID*160* |
| DMP162 | 0.638 | 16.2 | ● | | 9.1 | 2.46 | 16 | TID*160* |
| DMP163 | 0.642 | 16.3 | ● | ★ | 9.1 | 2.47 | 16 | TID*160* |
| DMP164 | 0.646 | 16.4 | ● | | 9.1 | 2.49 | 16 | TID*160* |
| DMP165 | 0.650 | 16.5 | ● | ● | 9.1 | 2.51 | 16 | TID*160* |
| DMP166 | 0.654 | 16.6 | ● | ★ | 9.1 | 2.53 | 16 | TID*160* |
| DMP1666 | 0.656 | 16.66 | ● | | 9.1 | 2.54 | 16 | TID160 |
| DMP167 | 0.657 | 16.7 | ● | ★ | 9.1 | 2.55 | 16 | TID*160* |
| DMP168 | 0.661 | 16.8 | ● | | 9.1 | 2.57 | 16 | TID*160* |
| DMP169 | 0.665 | 16.9 | ● | | 9.1 | 2.58 | 16 | TID*160* |
| DMP170 | 0.669 | 17 | ● | ● | 9.7 | 2.59 | 17 | TID*170* |
| DMP171 | 0.673 | 17.1 | ● | | 9.7 | 2.61 | 17 | TID*170* |
| DMP172 | 0.677 | 17.2 | ● | | 9.7 | 2.63 | 17 | TID*170* |
| DMP173 | 0.681 | 17.3 | ● | | 9.7 | 2.64 | 17 | TID*170* |
| DMP174 | 0.685 | 17.4 | ● | | 9.7 | 2.66 | 17 | TID*170* |
| DMP175 | 0.689 | 17.5 | ● | ● | 9.7 | 2.68 | 17 | TID*170* |
| DMP176 | 0.693 | 17.6 | ● | | 9.7 | 2.7 | 17 | TID*170* |
| DMP177 | 0.697 | 17.7 | ● | | 9.7 | 2.72 | 17 | TID*170* |
| DMP178 | 0.701 | 17.8 | ● | | 9.7 | 2.74 | 17 | TID*170* |
| DMP179 | 0.705 | 17.9 | ● | ★ | 9.7 | 2.75 | 17 | TID*170* |
| DMP180 | 0.709 | 18 | ● | ● | 10.3 | 2.73 | 18 | TID*180* |
| DMP181 | 0.713 | 18.1 | ● | | 10.3 | 2.75 | 18 | TID*180* |
| DMP182 | 0.717 | 18.2 | ● | | 10.3 | 2.77 | 18 | TID*180* |
| DMP183 | 0.720 | 18.3 | ● | | 10.3 | 2.78 | 18 | TID*180* |
| DMP184 | 0.724 | 18.4 | ● | | 10.3 | 2.8 | 18 | TID*180* |
| DMP185 | 0.728 | 18.5 | ● | ● | 10.3 | 2.82 | 18 | TID*180* |
| DMP186 | 0.732 | 18.6 | ● | | 10.3 | 2.84 | 18 | TID*180* |
| DMP187 | 0.736 | 18.7 | ● | | 10.3 | 2.86 | 18 | TID*180* |
| DMP188 | 0.740 | 18.8 | ● | | 10.3 | 2.88 | 18 | TID*180* |
| DMP189 | 0.744 | 18.9 | ● | | 10.3 | 2.89 | 18 | TID*180* |
| DMP190 | 0.748 | 19 | ● | ● | 10.8 | 2.88 | 19 | TID*190* |
| DMP1905 | 0.750 | 19.05 | ● | | 10.8 | 2.89 | 19 | TID*190* |
| DMP191 | 0.752 | 19.1 | ● | | 10.8 | 2.9 | 19 | TID*190* |
| DMP192 | 0.756 | 19.2 | ● | | 10.8 | 2.92 | 19 | TID*190* |
| DMP1927 | 0.759 | 19.27 | ● | | 10.8 | 2.93 | 19 | TID*190* |
| DMP193 | 0.760 | 19.3 | ● | ★ | 10.8 | 2.93 | 19 | TID*190* |
| DMP194 | 0.764 | 19.4 | ● | ★ | 10.8 | 2.95 | 19 | TID*190* |
| DMP1946 | 0.766 | 19.46 | ● | | 10.8 | 2.96 | 19 | TID*190* |
| DMP195 | 0.768 | 19.5 | ● | ● | 10.8 | 2.97 | 19 | TID*190* |
| DMP196 | 0.772 | 19.6 | ● | | 10.8 | 2.99 | 19 | TID*190* |
| DMP197 | 0.776 | 19.7 | ● | | 10.8 | 3.01 | 19 | TID*190* |
| DMP198 | 0.780 | 19.8 | ● | ★ | 10.8 | 3.03 | 19 | TID*190* |
| DMP1984 | 0.781 | 19.84 | ● | | 10.8 | 3.03 | 19 | TID*190* |
| DMP199 | 0.783 | 19.9 | ● | | 10.8 | 3.04 | 19 | TID*190* |
| DMP200 | 0.787 | 20 | ● | | 11.4 | 3.02 | 20 | TID*200* |
| DMP201 | 0.791 | 20.1 | ● | | 11.4 | 3.04 | 20 | TID*200* |
| DMP202 | 0.795 | 20.2 | ● | | 11.4 | 3.06 | 20 | TID*200* |
| DMP203 | 0.799 | 20.3 | ● | | 11.4 | 3.07 | 20 | TID*200* |
| DMP204 | 0.803 | 20.4 | ● | | 11.4 | 3.09 | 20 | TID*200* |
| DMP205 | 0.807 | 20.5 | ● | | 11.4 | 3.11 | 20 | TID*200* |
| DMP206 | 0.811 | 20.6 | ● | | 11.4 | 3.13 | 20 | TID*200* |
| DMP207 | 0.815 | 20.7 | ● | | 11.4 | 3.15 | 20 | TID*200* |
| DMP208 | 0.819 | 20.8 | ● | | 11.4 | 3.17 | 20 | TID*200* |
| DMP209 | 0.823 | 20.9 | ● | | 11.4 | 3.18 | 20 | TID*200* |
| DMP210 | 0.827 | 21 | ● | | 12 | 3.18 | 21 | TID*210* |
| DMP211 | 0.831 | 21.1 | ● | | 12 | 3.2 | 21 | TID*210* |
| DMP212 | 0.835 | 21.2 | ● | | 12 | 3.22 | 21 | TID*210* |
| DMP213 | 0.839 | 21.3 | ● | | 12 | 3.23 | 21 | TID*210* |
| DMP214 | 0.843 | 21.4 | ● | | 12 | 3.25 | 21 | TID*210* |

★: New ●: Line-up

Package Quantity: ø0.236 - ø0.783 = 2 pcs.
ø0.787 - ø1.020 = 1 pc.

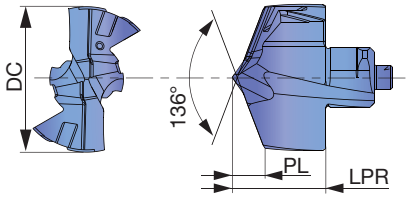
| Designation | DC (in) | DC (mm) | Grade AH725 | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|---|
| DMP215 | 0.846 | 21.5 | ● | | 12 | 3.27 | 21 | TID*210* |
| DMP216 | 0.850 | 21.6 | ● | | 12 | 3.29 | 21 | TID*210* |
| DMP217 | 0.854 | 21.7 | ● | | 12 | 3.31 | 21 | TID*210* |
| DMP218 | 0.858 | 21.8 | ● | | 12 | 3.33 | 21 | TID*210* |
| DMP219 | 0.862 | 21.9 | ● | | 12 | 3.34 | 21 | TID*210* |
| DMP220 | 0.866 | 22 | ● | | 12.6 | 3.32 | 22 | TID*220* |
| DMP221 | 0.870 | 22.1 | ● | | 12.6 | 3.34 | 22 | TID*220* |
| DMP222 | 0.874 | 22.2 | ● | | 12.6 | 3.36 | 22 | TID*220* |
| DMP223 | 0.878 | 22.3 | ● | | 12.6 | 3.37 | 22 | TID*220* |
| DMP224 | 0.882 | 22.4 | ● | | 12.6 | 3.39 | 22 | TID*220* |
| DMP225 | 0.886 | 22.5 | ● | | 12.6 | 3.41 | 22 | TID*220* |
| DMP226 | 0.890 | 22.6 | ● | | 12.6 | 3.43 | 22 | TID*220* |
| DMP227 | 0.894 | 22.7 | ● | | 12.6 | 3.45 | 22 | TID*220* |
| DMP228 | 0.898 | 22.8 | ● | | 12.6 | 3.47 | 22 | TID*220* |
| DMP229 | 0.902 | 22.9 | ● | | 12.6 | 3.48 | 22 | TID*220* |
| DMP230 | 0.906 | 23 | ● | | 13.1 | 3.46 | 23 | TID*230* |
| DMP231 | 0.909 | 23.1 | ● | | 13.1 | 3.48 | 23 | TID*230* |
| DMP232 | 0.913 | 23.2 | ● | | 13.1 | 3.5 | 23 | TID*230* |
| DMP233 | 0.917 | 23.3 | ● | | 13.1 | 3.51 | 23 | TID*230* |
| DMP234 | 0.921 | 23.4 | ● | | 13.1 | 3.53 | 23 | TID*230* |
| DMP235 | 0.925 | 23.5 | ● | | 13.1 | 3.55 | 23 | TID*230* |
| DMP236 | 0.929 | 23.6 | ● | | 13.1 | 3.57 | 23 | TID*230* |
| DMP237 | 0.933 | 23.7 | ● | | 13.1 | 3.59 | 23 | TID*230* |
| DMP238 | 0.937 | 23.8 | ● | | 13.1 | 3.61 | 23 | TID*230* |
| DMP239 | 0.941 | 23.9 | ● | | 13.1 | 3.62 | 23 | TID*230* |
| DMP240 | 0.945 | 24 | ● | | 13.7 | 3.62 | 24 | TID*240* |
| DMP241 | 0.949 | 24.1 | ● | | 13.7 | 3.64 | 24 | TID*240* |
| DMP242 | 0.953 | 24.2 | ● | | 13.7 | 3.66 | 24 | TID*240* |
| DMP243 | 0.957 | 24.3 | ● | | 13.7 | 3.67 | 24 | TID*240* |
| DMP244 | 0.961 | 24.4 | ● | | 13.7 | 3.69 | 24 | TID*240* |
| DMP245 | 0.965 | 24.5 | ● | | 13.7 | 3.71 | 24 | TID*240* |
| DMP246 | 0.969 | 24.6 | ● | | 13.7 | 3.73 | 24 | TID*240* |
| DMP247 | 0.972 | 24.7 | ● | | 13.7 | 3.75 | 24 | TID*240* |
| DMP248 | 0.976 | 24.8 | ● | | 13.7 | 3.77 | 24 | TID*240* |
| DMP249 | 0.980 | 24.9 | ● | | 13.7 | 3.78 | 24 | TID*240* |
| DMP250 | 0.984 | 25 | ● | | 14.3 | 3.8 | 25 | TID*250* |
| DMP251 | 0.988 | 25.1 | ● | | 14.3 | 3.82 | 25 | TID*250* |
| DMP252 | 0.992 | 25.2 | ● | | 14.3 | 3.84 | 25 | TID*250* |
| DMP253 | 0.996 | 25.3 | ● | | 14.3 | 3.85 | 25 | TID*250* |
| DMP254 | 1.000 | 25.4 | ● | | 14.3 | 3.87 | 25 | TID*250* |

| Designation | DC (in) | DC (mm) | Grade AH725 | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|---|
| DMP255 | 1.004 | 25.5 | ● | | 14.3 | 3.89 | 25 | TID*250* |
| DMP256 | 1.008 | 25.6 | ● | | 14.3 | 3.91 | 25 | TID*250* |
| DMP2567 | 1.011 | 25.67 | ● | | 14.3 | 3.92 | 25 | TID*250* |
| DMP257 | 1.016 | 25.7 | ● | | 14.3 | 3.93 | 25 | TID*250* |
| DMP258 | 1.016 | 25.8 | ● | | 14.3 | 3.95 | 25 | TID*250* |
| DMP259 | 1.020 | 25.9 | ● | | 14.3 | 3.96 | 25 | TID*250* |

●: Line up

Package Quantity: ø0.236 - ø0.783 = 2 pcs.
ø0.787 - ø1.020 = 1 pc.

## New DMC




| Tool diameter (Inch) | ø0.394" - ø0.705" | ø0.709" - ø0.783 " |
|---|---|---|
| Head diameter tolerance | +0.018 / 0 | +0.021 / 0 |

| Tool diameter (mm) | ø10 - ø17.9 | ø18 - ø19.9 |
|---|---|---|
| Head diameter tolerance | +0.018 / 0 | +0.021 / 0 |

| Designation | DC (in) | DC (mm) | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|
| DMC060 | 0.236 | 6.0 | ★ | 4 | 1.24 | 6 | TID*060* |
| DMC061 | 0.240 | 6.1 | ★ | 4 | 1.26 | 6 | TID*060* |
| DMC062 | 0.244 | 6.2 | ★ | 4 | 1.28 | 6 | TID*060* |
| DMC063 | 0.248 | 6.3 | ★ | 4 | 1.3 | 6 | TID*060* |
| DMC064 | 0.252 | 6.4 | ★ | 4 | 1.32 | 6 | TID*060* |
| DMC065 | 0.256 | 6.5 | ★ | 4.3 | 1.43 | 6.5 | TID*065* |
| DMC066 | 0.260 | 6.6 | ★ | 4.3 | 1.45 | 6.5 | TID*065* |
| DMC067 | 0.264 | 6.7 | ★ | 4.3 | 1.47 | 6.5 | TID*065* |
| DMC068 | 0.268 | 6.8 | ★ | 4.3 | 1.49 | 6.5 | TID*065* |
| DMC069 | 0.272 | 6.9 | ★ | 4.3 | 1.51 | 6.5 | TID*065* |
| DMC070 | 0.276 | 7.0 | ★ | 4.9 | 1.5 | 7 | TID*070* |
| DMC071 | 0.280 | 7.1 | ★ | 4.9 | 1.52 | 7 | TID*070* |
| DMC072 | 0.283 | 7.2 | ★ | 4.9 | 1.54 | 7 | TID*070* |
| DMC073 | 0.287 | 7.3 | ★ | 4.9 | 1.56 | 7 | TID*070* |
| DMC074 | 0.291 | 7.4 | ★ | 4.9 | 1.58 | 7 | TID*070* |
| DMC075 | 0.295 | 7.5 | ★ | 4.9 | 1.6 | 7 | TID*075* |
| DMC076 | 0.299 | 7.6 | ★ | 4.9 | 1.62 | 7 | TID*075* |
| DMC077 | 0.303 | 7.7 | ★ | 4.9 | 1.64 | 7 | TID*075* |
| DMC078 | 0.307 | 7.8 | ★ | 4.9 | 1.66 | 7 | TID*075* |
| DMC079 | 0.311 | 7.9 | ★ | 4.9 | 1.68 | 7 | TID*075* |
| DMC080 | 0.315 | 8.0 | ★ | 5.4 | 1.62 | 8 | TID*080* |
| DMC081 | 0.319 | 8.1 | ★ | 5.4 | 1.64 | 8 | TID*080* |
| DMC082 | 0.323 | 8.2 | ★ | 5.4 | 1.66 | 8 | TID*080* |
| DMC083 | 0.327 | 8.3 | ★ | 5.4 | 1.68 | 8 | TID*080* |
| DMC084 | 0.331 | 8.4 | ★ | 5.4 | 1.7 | 8 | TID*080* |
| DMC085 | 0.335 | 8.5 | ★ | 5.4 | 1.72 | 8 | TID*085* |
| DMC086 | 0.339 | 8.6 | ★ | 5.4 | 1.74 | 8 | TID*085* |
| DMC087 | 0.343 | 8.7 | ★ | 5.4 | 1.76 | 8 | TID*085* |
| DMC088 | 0.346 | 8.8 | ★ | 5.4 | 1.78 | 8 | TID*085* |
| DMC089 | 0.350 | 8.9 | ★ | 5.4 | 1.8 | 8 | TID*085* |
| DMC090 | 0.354 | 9.0 | ★ | 5.8 | 1.91 | 9 | TID*090* |
| DMC091 | 0.358 | 9.1 | ★ | 5.8 | 1.93 | 9 | TID*090* |
| DMC092 | 0.362 | 9.2 | ★ | 5.8 | 1.95 | 9 | TID*090* |
| DMC093 | 0.366 | 9.3 | ★ | 5.8 | 1.97 | 9 | TID*090* |
| DMC094 | 0.370 | 9.4 | ★ | 5.8 | 1.99 | 9 | TID*090* |
| DMC095 | 0.374 | 9.5 | ★ | 5.8 | 2.01 | 9 | TID*095* |
| DMC096 | 0.378 | 9.6 | ★ | 5.8 | 2.03 | 9 | TID*095* |
| DMC097 | 0.382 | 9.7 | ★ | 5.8 | 2.05 | 9 | TID*095* |
| DMC098 | 0.386 | 9.8 | ★ | 5.8 | 2.07 | 9 | TID*095* |
| DMC099 | 0.390 | 9.9 | ★ | 5.8 | 2.09 | 9 | TID*095* |

| Designation | DC (in) | DC (mm) | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|
| DMC100 | 0.394 | 10 | ● | 6.7 | 2.09 | 10 | TID*100* |
| DMC101 | 0.398 | 10.1 | ● | 6.7 | 2.11 | 10 | TID*100* |
| DMC102 | 0.402 | 10.2 | ● | 6.7 | 2.13 | 10 | TID*100* |
| DMC103 | 0.406 | 10.3 | ● | 6.7 | 2.15 | 10 | TID*100* |
| DMC104 | 0.409 | 10.4 | ● | 6.7 | 2.17 | 10 | TID*100* |
| DMC105 | 0.413 | 10.5 | ● | 6.7 | 2.19 | 10 | TID*105* |
| DMC106 | 0.417 | 10.6 | ● | 6.7 | 2.21 | 10 | TID*105* |
| DMC107 | 0.421 | 10.7 | ● | 6.7 | 2.23 | 10 | TID*105* |
| DMC108 | 0.425 | 10.8 | ● | 6.7 | 2.25 | 10 | TID*105* |
| DMC109 | 0.429 | 10.9 | ● | 6.7 | 2.27 | 10 | TID*105* |
| DMC110 | 0.433 | 11 | ● | 7.1 | 2.32 | 11 | TID*110* |
| DMC111 | 0.437 | 11.1 | ● | 7.1 | 2.34 | 11 | TID*110* |
| DMC112 | 0.441 | 11.2 | ● | 7.1 | 2.36 | 11 | TID*110* |
| DMC113 | 0.445 | 11.3 | ● | 7.1 | 2.38 | 11 | TID*110* |
| DMC114 | 0.449 | 11.4 | ● | 7.1 | 2.4 | 11 | TID*110* |
| DMC115 | 0.453 | 11.5 | ● | 7.1 | 2.42 | 11 | TID*115* |
| DMC116 | 0.457 | 11.6 | ● | 7.1 | 2.44 | 11 | TID*115* |
| DMC117 | 0.461 | 11.7 | ● | 7.1 | 2.46 | 11 | TID*115* |
| DMC118 | 0.465 | 11.8 | ● | 7.1 | 2.48 | 11 | TID*115* |
| DMC119 | 0.469 | 11.9 | ● | 7.1 | 2.5 | 11 | TID*115* |
| DMC120 | 0.472 | 12 | ● | 7.4 | 2.45 | 12 | TID*120* |
| DMC121 | 0.476 | 12.1 | ● | 7.4 | 2.47 | 12 | TID*120* |
| DMC122 | 0.480 | 12.2 | ● | 7.4 | 2.49 | 12 | TID*120* |
| DMC123 | 0.484 | 12.3 | ● | 7.4 | 2.51 | 12 | TID*120* |
| DMC124 | 0.488 | 12.4 | ● | 7.4 | 2.53 | 12 | TID*120* |
| DMC125 | 0.492 | 12.5 | ● | 7.4 | 2.55 | 12 | TID*125* |
| DMC126 | 0.496 | 12.6 | ● | 7.4 | 2.57 | 12 | TID*125* |
| DMC127 | 0.500 | 12.7 | ● | 7.4 | 2.59 | 12 | TID*125* |
| DMC128 | 0.504 | 12.8 | ● | 7.4 | 2.61 | 12 | TID*125* |
| DMC129 | 0.508 | 12.9 | ● | 7.4 | 2.63 | 12 | TID*125* |
| DMC130 | 0.512 | 13 | ● | 8.2 | 2.71 | 13 | TID*130* |
| DMC131 | 0.516 | 13.1 | ● | 8.2 | 2.73 | 13 | TID*130* |
| DMC132 | 0.520 | 13.2 | ● | 8.2 | 2.75 | 13 | TID*130* |
| DMC133 | 0.524 | 13.3 | ● | 8.2 | 2.77 | 13 | TID*130* |
| DMC134 | 0.528 | 13.4 | ● | 8.2 | 2.79 | 13 | TID*130* |
| DMC135 | 0.531 | 13.5 | ● | 8.2 | 2.81 | 13 | TID*135* |
| DMC136 | 0.535 | 13.6 | ● | 8.2 | 2.83 | 13 | TID*135* |
| DMC137 | 0.539 | 13.7 | ● | 8.2 | 2.85 | 13 | TID*135* |
| DMC138 | 0.543 | 13.8 | ● | 8.2 | 2.87 | 13 | TID*135* |
| DMC139 | 0.547 | 13.9 | ● | 8.2 | 2.89 | 13 | TID*135* |

★: To be released in Q2 2020 ●: Line up

Package Quantity: ø10 - ø19.9 = 2 pcs.
ø20 - ø25.9 = 1 pcs.

| Designation | DC (in) | DC (mm) | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|
| DMC140 | 0.551 | 14 | ● | 8.8 | 2.93 | 14 | TID*140* |
| DMC141 | 0.555 | 14.1 | ● | 8.8 | 2.95 | 14 | TID*140* |
| DMC142 | 0.559 | 14.2 | ● | 8.8 | 2.97 | 14 | TID*140* |
| DMC143 | 0.563 | 14.3 | ● | 8.8 | 2.99 | 14 | TID*140* |
| DMC144 | 0.567 | 14.4 | ● | 8.8 | 3.01 | 14 | TID*140* |
| DMC145 | 0.571 | 14.5 | ● | 8.8 | 3.03 | 14 | TID*145* |
| DMC146 | 0.575 | 14.6 | ● | 8.8 | 3.05 | 14 | TID*145* |
| DMC147 | 0.579 | 14.7 | ● | 8.8 | 3.07 | 14 | TID*145* |
| DMC148 | 0.583 | 14.8 | ● | 8.8 | 3.09 | 14 | TID*145* |
| DMC149 | 0.587 | 14.9 | ● | 8.8 | 3.11 | 14 | TID*145* |
| DMC150 | 0.591 | 15 | ● | 9.4 | 3.18 | 15 | TID*150* |
| DMC151 | 0.594 | 15.1 | ● | 9.4 | 3.2 | 15 | TID*150* |
| DMC152 | 0.598 | 15.2 | ● | 9.4 | 3.22 | 15 | TID*150* |
| DMC153 | 0.602 | 15.3 | ● | 9.4 | 3.24 | 15 | TID*150* |
| DMC154 | 0.606 | 15.4 | ● | 9.4 | 3.26 | 15 | TID*150* |
| DMC155 | 0.610 | 15.5 | ● | 9.4 | 3.28 | 15 | TID*150* |
| DMC156 | 0.614 | 15.6 | ● | 9.4 | 3.3 | 15 | TID*150* |
| DMC157 | 0.618 | 15.7 | ● | 9.4 | 3.32 | 15 | TID*150* |
| DMC158 | 0.622 | 15.8 | ● | 9.4 | 3.34 | 15 | TID*150* |
| DMC159 | 0.626 | 15.9 | ● | 9.4 | 3.36 | 15 | TID*150* |
| DMC160 | 0.630 | 16 | ● | 10.1 | 3.39 | 16 | TID*160* |
| DMC161 | 0.634 | 16.1 | ● | 10.1 | 3.41 | 16 | TID*160* |
| DMC162 | 0.638 | 16.2 | ● | 10.1 | 3.43 | 16 | TID*160* |
| DMC163 | 0.642 | 16.3 | ● | 10.1 | 3.45 | 16 | TID*160* |
| DMC164 | 0.646 | 16.4 | ● | 10.1 | 3.47 | 16 | TID*160* |
| DMC165 | 0.650 | 16.5 | ● | 10.1 | 3.49 | 16 | TID*160* |
| DMC166 | 0.654 | 16.6 | ● | 10.1 | 3.51 | 16 | TID*160* |
| DMC167 | 0.657 | 16.7 | ● | 10.1 | 3.53 | 16 | TID*160* |
| DMC168 | 0.661 | 16.8 | ● | 10.1 | 3.55 | 16 | TID*160* |
| DMC169 | 0.665 | 16.9 | ● | 10.1 | 3.57 | 16 | TID*160* |
| DMC170 | 0.669 | 17 | ● | 10.7 | 3.57 | 17 | TID*170* |
| DMC171 | 0.673 | 17.1 | ● | 10.7 | 3.59 | 17 | TID*170* |
| DMC172 | 0.677 | 17.2 | ● | 10.7 | 3.61 | 17 | TID*170* |
| DMC173 | 0.681 | 17.3 | ● | 10.7 | 3.63 | 17 | TID*170* |
| DMC174 | 0.685 | 17.4 | ● | 10.7 | 3.65 | 17 | TID*170* |
| DMC175 | 0.689 | 17.5 | ● | 10.7 | 3.67 | 17 | TID*170* |
| DMC176 | 0.693 | 17.6 | ● | 10.7 | 3.69 | 17 | TID*170* |
| DMC177 | 0.697 | 17.7 | ● | 10.7 | 3.71 | 17 | TID*170* |
| DMC178 | 0.701 | 17.8 | ● | 10.7 | 3.73 | 17 | TID*170* |
| DMC179 | 0.705 | 17.9 | ● | 10.7 | 3.75 | 17 | TID*170* |

| Designation | DC (in) | DC (mm) | Grade AH9130 | LPR | PL | Pocket size | Body |
|---|---|---|---|---|---|---|---|
| DMC180 | 0.709 | 18 | ● | 11.4 | 3.78 | 18 | TID*180* |
| DMC181 | 0.713 | 18.1 | ● | 11.4 | 3.8 | 18 | TID*180* |
| DMC182 | 0.717 | 18.2 | ● | 11.4 | 3.82 | 18 | TID*180* |
| DMC183 | 0.720 | 18.3 | ● | 11.4 | 3.84 | 18 | TID*180* |
| DMC184 | 0.724 | 18.4 | ● | 11.4 | 3.86 | 18 | TID*180* |
| DMC185 | 0.728 | 18.5 | ● | 11.4 | 3.88 | 18 | TID*180* |
| DMC186 | 0.732 | 18.6 | ● | 11.4 | 3.9 | 18 | TID*180* |
| DMC187 | 0.736 | 18.7 | ● | 11.4 | 3.92 | 18 | TID*180* |
| DMC188 | 0.740 | 18.8 | ● | 11.4 | 3.94 | 18 | TID*180* |
| DMC189 | 0.744 | 18.9 | ● | 11.4 | 3.96 | 18 | TID*180* |
| DMC190 | 0.748 | 19 | ● | 11.9 | 3.99 | 19 | TID*190* |
| DMC191 | 0.752 | 19.1 | ● | 11.9 | 4.01 | 19 | TID*190* |
| DMC192 | 0.756 | 19.2 | ● | 11.9 | 4.03 | 19 | TID*190* |
| DMC1927 | 0.759 | 19.27 | ● | 11.9 | 4.04 | 19 | TID*190* |
| DMC193 | 0.760 | 19.3 | ● | 11.9 | 4.05 | 19 | TID*190* |
| DMC194 | 0.764 | 19.4 | ● | 11.9 | 4.07 | 19 | TID*190* |
| DMC195 | 0.768 | 19.5 | ● | 11.9 | 4.09 | 19 | TID*190* |
| DMC196 | 0.772 | 19.6 | ● | 11.9 | 4.11 | 19 | TID*190* |
| DMC197 | 0.776 | 19.7 | ● | 11.9 | 4.13 | 19 | TID*190* |
| DMC198 | 0.780 | 19.8 | ● | 11.9 | 4.15 | 19 | TID*190* |
| DMC199 | 0.783 | 19.9 | ★ | 11.9 | 4.17 | 19 | TID*190* |
| DMC200 | 0.787 | 20.0 | ★ | 12.6 | 4.2 | 20 | TID*200* |
| DMC205 | 0.807 | 20.5 | ★ | 12.6 | 4.31 | 20 | TID*200* |
| DMC210 | 0.827 | 21.0 | ★ | 13.2 | 4.41 | 21 | TID*210* |
| DMC215 | 0.846 | 21.5 | ★ | 13.2 | 4.52 | 21 | TID*210* |
| DMC220 | 0.866 | 22.0 | ★ | 13.8 | 4.62 | 22 | TID*220* |
| DMC225 | 0.886 | 22.5 | ★ | 13.8 | 4.72 | 22 | TID*220* |
| DMC230 | 0.906 | 23.0 | ★ | 14.5 | 4.83 | 23 | TID*230* |
| DMC235 | 0.925 | 23.5 | ★ | 14.5 | 4.93 | 23 | TID*230* |
| DMC240 | 0.945 | 24.0 | ★ | 15.1 | 5.04 | 24 | TID*240* |
| DMC245 | 0.965 | 24.5 | ★ | 15.1 | 5.14 | 24 | TID*240* |
| DMC250 | 0.984 | 25.0 | ★ | 15.8 | 5.25 | 25 | TID*250* |
| DMC255 | 1.004 | 25.5 | ★ | 15.8 | 5.35 | 25 | TID*250* |
| DMC2567 | 1.011 | 25.67 | ● | 15.8 | 5.39 | 25 | TID*250* |

★: To be released in Q2 2020 ●: Line up

Package Quantity: ø10 - ø19.9 = 2 pcs.
ø20 - ø25.9 = 1 pcs.

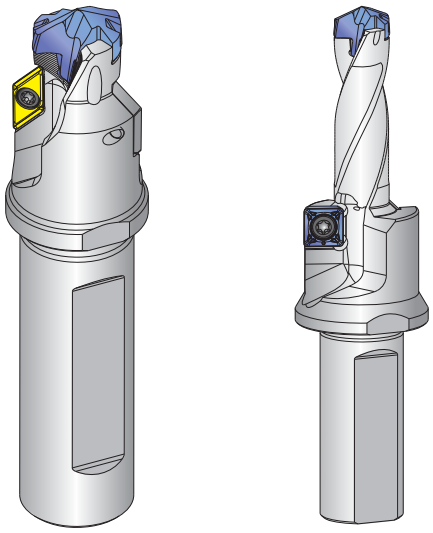
# STANDARD CUTTING CONDITIONS

| ISO | Workpiece materials | Cutting speed | Feed: *f* (ipr) DC (Inch) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | *Vc* (sfm) | ø0.236 - 0.311 | ø0.315 - 0.390 | ø0.394 - ø0.469 | ø0.472 - ø0.547 | ø0.551 - ø0.626 | ø0.630 - ø0.783 | ø0.787 - ø1.020 |
| P | Low carbon steel (C < 0.3) 1018, 1020, 1026, etc. | 262 - 459 | 0.004 - 0.005 | 0.005 - 0.010 | 0.006 - 0.011 | 0.007 - 0.012 | 0.008 - 0.014 | 0.010 - 0.018 | 0.010 - 0.018 |
| P | High carbon steel (C > 0.3) 1045, 1055, etc. | 230 - 394 | 0.004 - 0.005 | 0.005 - 0.010 | 0.006 - 0.011 | 0.007 - 0.012 | 0.008 - 0.014 | 0.010 - 0.018 | 0.010 - 0.018 |
| P | Low alloy steel 5120, etc. | 230 - 394 | 0.003 - 0.005 | 0.004 - 0.010 | 0.006 - 0.011 | 0.006 - 0.013 | 0.007 - 0.014 | 0.009 - 0.016 | 0.010 - 0.018 |
| P | Alloy steel 4140, 8620, etc. | 131 - 295 | 0.003 - 0.005 | 0.004 - 0.010 | 0.006 - 0.011 | 0.006 - 0.013 | 0.007 - 0.014 | 0.009 - 0.016 | 0.010 - 0.018 |
| M | Stainless steel 304SS, 316SS, 17-4PH, etc. | 98 - 230 | 0.003 - 0.004 | 0.004 - 0.006 | 0.005 - 0.007 | 0.006 - 0.008 | 0.006 - 0.009 | 0.006 - 0.010 | 0.007 - 0.012 |
| K | Gray cast iron Class 25, Class 30, etc. | 262 - 591 | 0.005 - 0.007 | 0.006 - 0.012 | 0.008 - 0.014 | 0.010 - 0.016 | 0.012 - 0.018 | 0.014 - 0.022 | 0.014 - 0.024 |
| K | Ductile cast iron 60-40-18, 60-55-06, etc. | 262 - 459 | 0.005 - 0.007 | 0.006 - 0.012 | 0.008 - 0.014 | 0.010 - 0.016 | 0.012 - 0.018 | 0.014 - 0.022 | 0.014 - 0.024 |
| N | Aluminum alloys 6061, 7075, etc. | 262 - 722 | 0.004 - 0.008 | 0.008 - 0.014 | 0.010 - 0.016 | 0.012 - 0.018 | 0.014 - 0.020 | 0.016 - 0.024 | 0.020 - 0.030 |
| S | Titanium alloys Ti-6Al-4V, etc. | 66 - 164 | 0.002 - 0.003 | 0.002 - 0.005 | 0.003 - 0.006 | 0.004 - 0.011 | 0.005 - 0.008 | 0.006 - 0.009 | 0.007 - 0.011 |
| S | Nickel-based alloys | 66 - 164 | 0.002 - 0.003 | 0.002 - 0.004 | 0.003 - 0.005 | 0.004 - 0.006 | 0.005 - 0.007 | 0.005 - 0.009 | 0.006 - 0.009 |
| H | Hardened steel | 66 - 164 | 0.002 - 0.003 | 0.002 - 0.005 | 0.003 - 0.006 | 0.004 - 0.007 | 0.005 - 0.008 | 0.006 - 0.009 | 0.006 - 0.010 |

- Cutting conditions in the above table show standard cutting conditions.
- Cutting conditions may change due to the rigidity and power of the machine and the workpiece material.
- Machined hole diameter may change depending upon the rigidity of the machine tool or cutting conditions.
- In case of L/D = 8 & 12 drill, the recommended range of cutting speeds and feeds is between the minimum and median values listed above.

# SPECIALLY-DESIGNED DRILL BODY

Special drill bodies, such as the one featuring chamfering or counter boring capabilities, will be available upon request. Please contact your sales representative for details.



## Typical components

Hub

Knuckle

Bearing caps

Brake disc

Tie rod

Steering rack part

Diff case

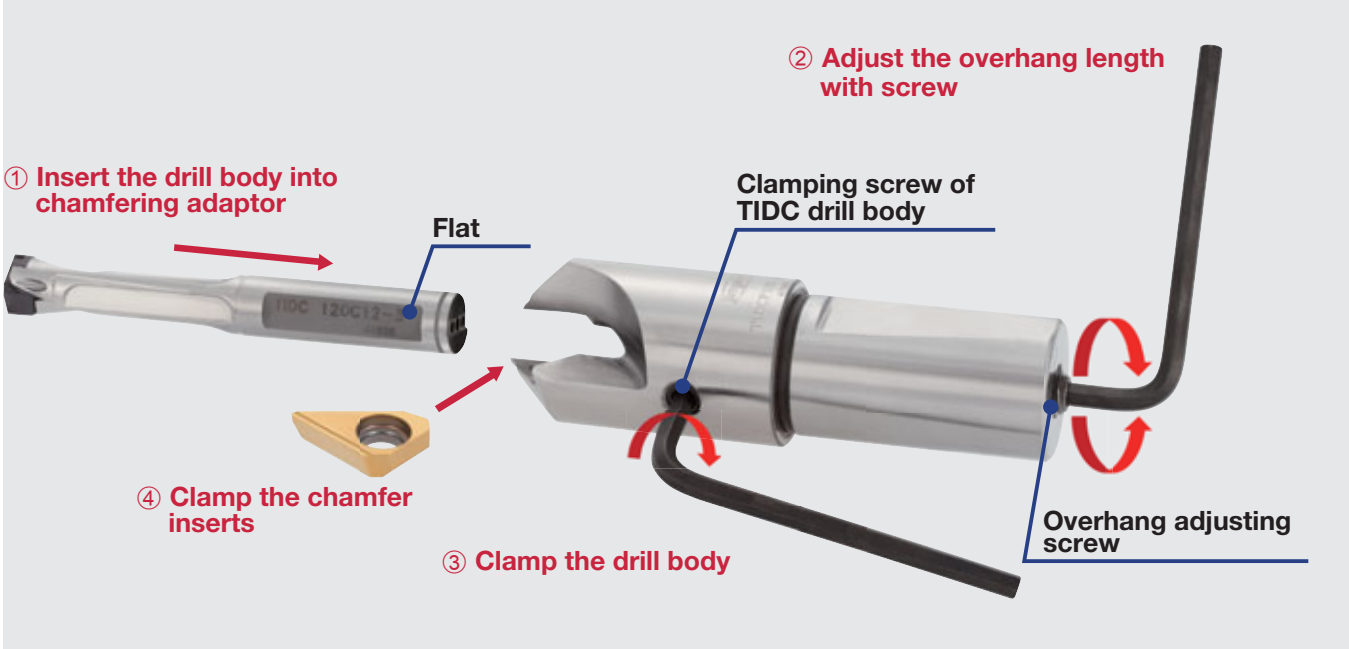
Crank shaft

Shafts

Turbine housing

## HOW TO MOUNT THE TIDC DRILL BODY INTO THE CHAMFER ADAPTOR

The overhang length of the drill can be changed by the adjusting screw at the bottom of the adaptor. The rear end of the drill body must be in contact with the adjusting screw as the screw supports the drill against thrust force when drilling.




### Procedure

① Place the TIDC drill body into the chamfer adaptor without chamfer inserts.
② Adjust the overhang length of the drill body with the adjusting screw at the bottom of the adaptor.
③ Adjust the position of the drill body so that the drill body is fixed at the flat and tighten the clamping screw of the drill body. This aligns the flutes of the TIDC drill body with the chamfer inserts.
④ To clamp the chamfer inserts, tighten the clamping screw of the insert while pushing the insert into the insert pocket.

### Notice

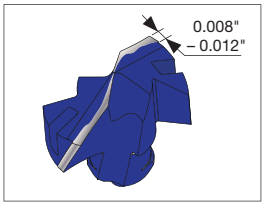
Before removing the drill body from the adaptor, chamfer inserts must be unclamped.

The overhang adjusting screw can be handled from the top of the adaptor with a flat-blade screwdriver. The overhang length of the drill body can be adjusted after the adaptor is positioned on the drill shank.

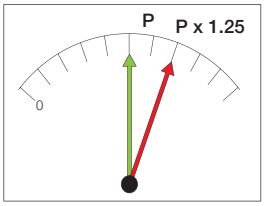
# TECHNICAL GUIDELINES

## ● When to change drill heads (Criteria for the end of tool life)

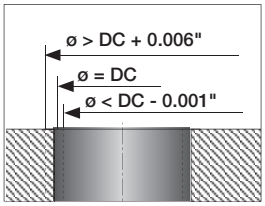
The criteria to identify the time for tool change are as follows:



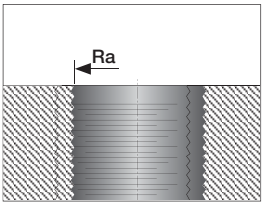

Width of corner wear reaches 0.008" – 0.012".



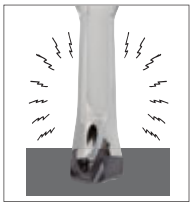

Spindle load exceeds 125% of the normal value.




Hole diameter is 0.006" larger or 0.001" smaller than the drill diameter.



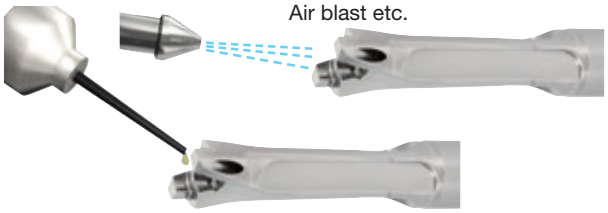

Surface roughness deteriorates.



Vibration or unusual noise occurs.

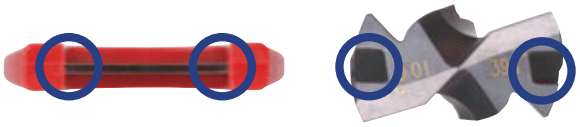
## ● How to clamp the drill head

### ① Clean and lubricate the pocket.




### ② Set the drill head into the pocket.

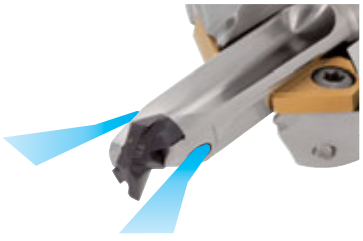
### ③ Set the clamping key on the drill head



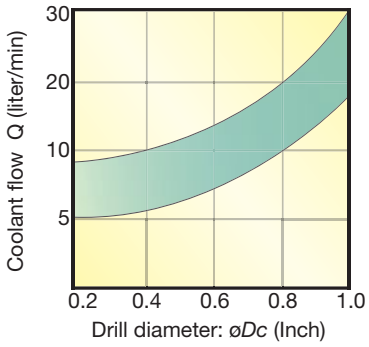
### ④ Clamp

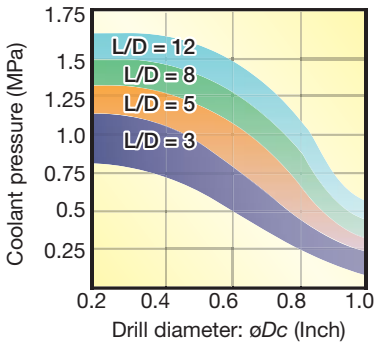
## ● Coolant supply

Internal coolant supply is recommended.

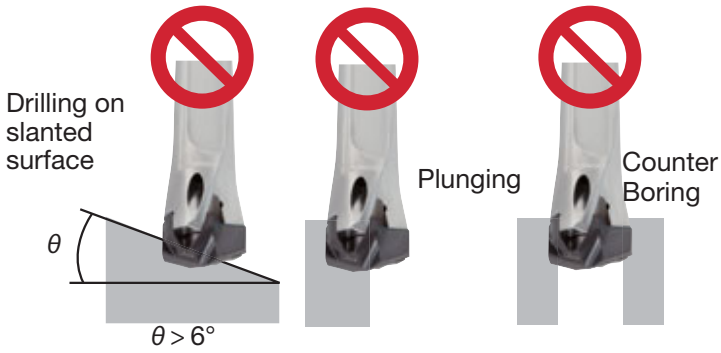


### ■ The required coolant flow and pressure



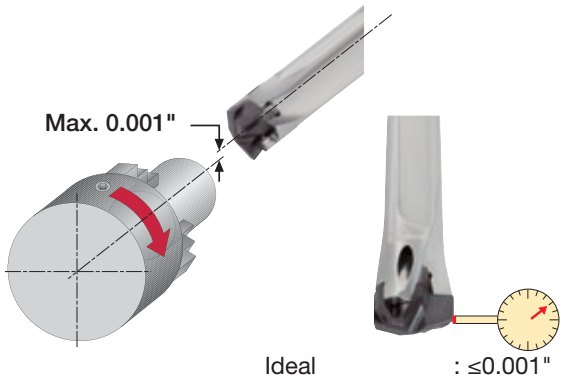



● **Applications that are not recommended**




● **Run-out**

Run-out should be less than 0.001".




| | |
|---|---|
| Ideal | : ≤0.001" |
| Acceptable | : ≤0.002" |
| Not acceptable | : >0.002" |

## INSTRUCTIONS FOR CLAMPING HEAD

Fig. #1

Fig. #2

Fig. #3

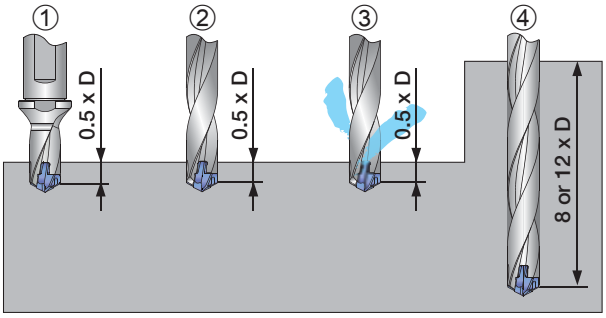
### Procedure

① Clean the clamping areas on the drill body and the head with an air blast, lubricate them and put the drill head in the pocket.
② Set the clamping key in the groove on the drill head. Push the head toward the pocket with equal torque on the right and the left sides, and turn the clamping key to clamp the head completely. (Fig. #1)
③ Be sure that there is no gap between the bottom of the head and the drill body. A shim in the thickness of around 0.004" is useful to check the gap. (Fig. #2)
④ If there is a gap thicker than 0.004", unclamp the head and return to procedure No. ①
⑤ Check the run-out at the margin of the drill head. Run-out must be less than 0.002". (Fig. #3) (Recommended value: less than 0.001")
If the run-out exceeds 0.002", unclamp the head and return to procedure No. ① .

Note #1: If the clamping torque is not equally applied on the right and the left sides of the drill head, there may be a gap between the head and the body, which increases the run-out of the head.

Note #2: Low accuracy in holding the drill body may affect the run-out. If the run-out is large, check the accuracy in holding the drill body.

## CAUTION FOR USING DRILLS WITH L/D = 8 & 12




① Drill a pilot hole in the depth of 0.5 x D.
② Rotate the drill at a low speed, such as 100 $min^{-1}$, and feed it slowly into the pilot hole until the drill reaches several millimeters from the bottom.
③ Supply the coolant and rotate the drill at the recommended speed.
④ Drill the required depth under the recommended cutting conditions.

Use the DMC drill head when using a long overhang drill (8xD-12xD) without a pilot hole.

## HOLDERS RECOMMENDED FOR M/C

**First recommendation**


Power chuck


Collet chuck


Side lock

Note: If you need to use a 12xD body with a side-lock holder, the shank will need to have a flat area which may be placed additionally.

## CLAMPING KEY FOR MEASURING UN-CLAMPING TORQUE

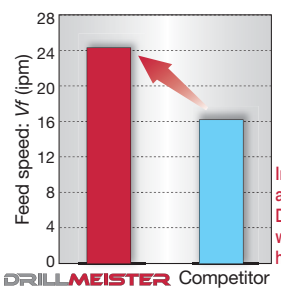
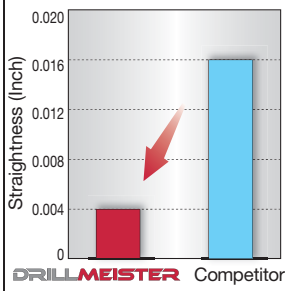
To check drill body duration, measure un-clamping torque by using a torque-driver
Recommended value of un-clamping torque that means usable limit of a drill body shown in below table.

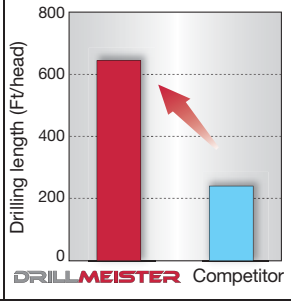
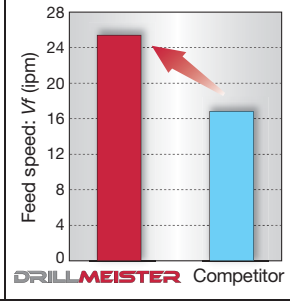
Clamping key for measuring un-clamping torque:
**KHS-TID10-19.99**

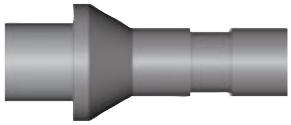
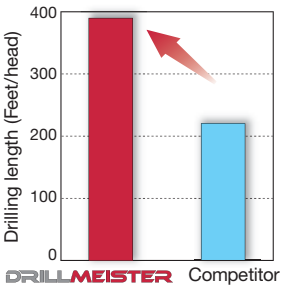
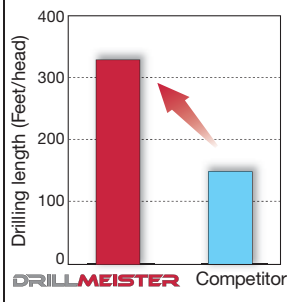
* The clamping key can be connected with general torque drivers.

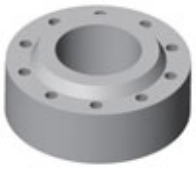
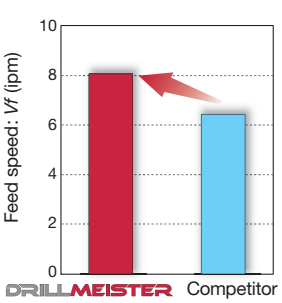
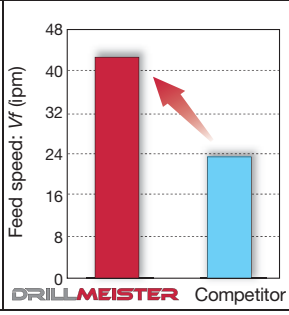
| Head Designation | Recommended value of un-clamping torque that means usable limit of a drill body (N·m) | (cN·m) |
|---|---|---|
| DM*100-109 | 0.2 | 20 |
| DM*110-119 | 0.2 | 20 |
| DM*120-129 | 0.25 | 25 |
| DM*130-139 | 0.25 | 25 |
| DM*140-149 | 0.3 | 30 |
| DM*150-159 | 0.3 | 30 |
| DM*160-169 | 0.35 | 35 |
| DM*170-179 | 0.35 | 35 |
| DM*180-189 | 0.4 | 40 |
| DM*190-199 | 0.4 | 40 |

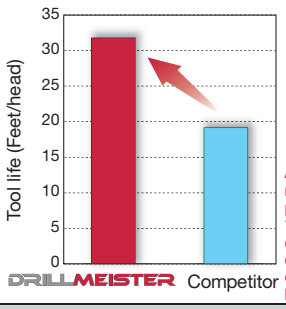
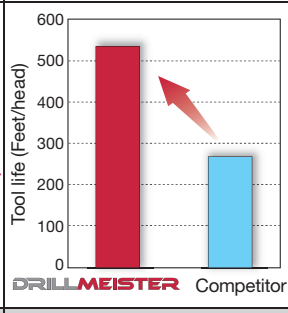
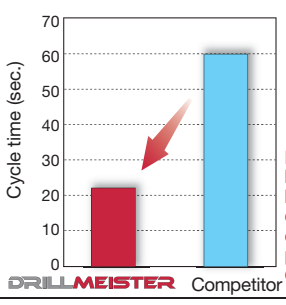
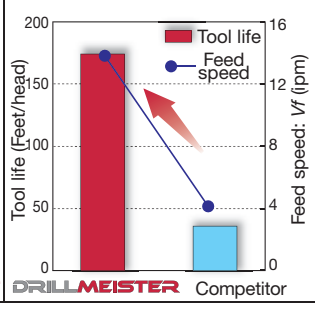
# PRACTICAL EXAMPLES

| Workpiece type | | Slewing ring | Drive pinion shaft |
|---|---|---|---|
| Drill body | | TIDU0551F0625-5 | TIDU0551F0625-8 |
| Head | | DMC140 AH9130 | DMC140 AH9130 |
| Workpiece material | | 4140(H) | Low carbon alloy |
| | |  P |  P |
| Cutting conditions | Cutting speed: *Vc* (sfm) | 295 | 394 |
| | Feed : *f* (ipr) | 0.012 | 0.012 |
| | Feed speed : *Vf* (ipm) | 24 | 24 |
| | Drill diameter : *øDc* (Inch) | 0.551 | 0.551 |
| | Hole depth : *H* (Inch) | 2.362 | 3.150 |
| | Machine | Vertical M/C | Horizontal M/C |
| | Coolant | Wet (Internal) | Wet (Internal) |
| Results | |   **Productivity 1.5 times!** Irregular hole diameters were an issue with competitor's drill. DrillMeister's DMC drill head was able to drill highly accurate hole diameters. |   **Improved straightness** With the competitor's drill, the hole quality could not satisfy the straightness required. DrillMeister's DMC drill head improved the hole straightness to 1/4 of the competitor's. |

| Workpiece type | | Wheel hub | Brake disk |
|---|---|---|---|
| Drill body | | TIDU0532F0625-3 | TIDU0492F0625-3 |
| Head | | DMP138 AH725 | DMP126 AH725 |
| Workpiece material | | 1055 | class25 |
| | |  P |  K |
| Cutting conditions | Cutting speed: *Vc* (sfm) | 295 | 328 |
| | Feed : *f* (ipr) | 0.008 | 0.008 |
| | Feed speed : *Vf* (ipm) | 16 | 25 |
| | Drill diameter : *øDc* (Inch) | 0.543 | 0.496 |
| | Hole depth : *H* (Inch) | 0.591 | 0.236 |
| | Machine | Horizontal M/C | Vertical M/C |
| | Coolant | Wet (External) | Wet (External) |
| Results | |   **Tool life 3 times!** AH725 grade with high fracture resistance extends tool life by 3 times compared to the competitor. |   **Productivity 1.5 times!** As DrillMeister allows machining at high feed, the productivity is increased by 1.5 times and the tool life is tripled compared to the competitor. |

| Workpiece type | | Out put shaft | Drive pinion shaft |
|---|---|---|---|
| Drill body | | TIDC160C16-5 | TIDU0630F0750-5 |
| Head | | DMP165 AH9130 | DMP160 AH9130 |
| Workpiece material | | 4142 | Low carbon alloy |
| | |  P |  P |
| Cutting conditions | Cutting speed: *Vc* (sfm) | 262 | 361 |
| | Feed : *f* (ipr) | 0.007 | 0.010 |
| | Feed speed : *Vf* (ipm) | 11 | 22 |
| | Drill diameter : *øDc* (Inch) | 0.618 | 0.630 |
| | Hole depth : *H* (Inch) | 1.181 | 2.843 |
| | Machine | Vertical M/C | NC lathe |
| | Coolant | Wet (Internal) | Wet (Internal) |
| Results | |  Tool life 1.7 times! Compared to the competitor's similar product, DrillMeister extends tool life by 1.7 times. |  Tool life 2 times! DrillMeister's tool life is 2 times longer than the competitor's similar product. |

| Workpiece type | | Ball valve | Ring gear |
|---|---|---|---|
| Drill body | | TIDC100C10-3 | TIDC100C10-3 |
| Head | | DMP105 AH725 | DMP100 AH725 |
| Workpiece material | | 304 | 4140(H) |
| | |  M |  P |
| Cutting conditions | Cutting speed: *Vc* (sfm) | 150 | 400 |
| | Feed : *f* (ipr) | 0.006 | 0.011 |
| | Feed speed : *Vf* (ipm) | 8 | 41 |
| | Drill diameter : *øDc* (Inch) | 0.413 | 0.394 |
| | Hole depth : *H* (Inch) | 0.91 | 1.378 |
| | Machine | Horizontal M/C | Vertical M/C |
| | Coolant | Wet (Internal supply) | Wet (Internal supply) |
| Results | |  Productivity 1.3 times! DrillMeister allows high-feed machining and increases productivity by 1.3 times. AH725 with good chipping resistance extends tool life by 30%. |  Productivity 2 times! DrillMeister allows machining at double the feed rate compared to the competitor, which drastically improves productivity. No sudden fracture occurs, extending tool life by 20%. |

| | Workpiece type | Turbine housing | Cylinder block |
|---|---|---|---|
| | Drill body | TIDU0413F0625-3 | TIDU0453F0625-8 |
| | Head | DMP106 AH725 | DMC115 AH9130 |
| | Workpiece material | 1.4848  M | No.25  K |
| Cutting conditions | Cutting speed: *Vc* (sfm) | 213 | 328 |
| | Feed : *f* (ipr) | 0.006 | 0.008 |
| | Feed speed : *Vf* (ipm) | 11 | 22 |
| | Drill diameter : ø*Dc* (Inch) | 0.417 | 0.453 |
| | Hole depth : *H* (Inch) | 0.394 | 3.150 |
| | Machine | Vertical M/C | Horizontal M/C |
| | Coolant | Internal | Internal |
| | Results |   **Tool life 1.5 times!** AH725 grade with excellent wear resistance and R-shape edge preparation improves tool life by 1.5 times compared to the competitor even in machining difficult to cut material, such as cast stainless steel for turbine housing. |   **Tool life 2 times!** Competitor' tool has breakage due to bending holes. DMC heads provides the machining stability by self centering geometry and double margins. AH9130 grade achieved 2 times longer tool life than competitor even in higher cutting speed. |
| | Workpiece type | Mold base | Tie rod |
| | Drill body | TIDU0709R1000-12 | TIDU0413F0625-5 |
| | Head | DMC180 AH9130 | DMP107 AH725 |
| | Workpiece material | 1055  P | 1035  P |
| Cutting conditions | Cutting speed: *Vc* (sfm) | 394 | 197 |
| | Feed : *f* (ipr) | 0.010 | 0.008 |
| | Feed speed : *Vf* (ipm) | 21 | 14 |
| | Drill diameter : ø*Dc* (Inch) | 0.709 | 0.421 |
| | Hole depth : *H* (Inch) | 7.874 | 1.378 |
| | Machine | Horizontal M/C | Vertical M/C |
| | Coolant | Internal | Internal |
| | Results |   **Cycle time 1/3** DMC does not need a guide hole.DMC achieved 3 times higher productivity than current process by eliminating a guide hole process and increasing cutting speed and feed rate. |   **Productivity 6 times!** Current HSS drill was not able to increase cutting speed , but DrillMeister can increase cutting speed and quadruplicated the productivity.Due to applying the coating carbide head, the tool life quintupled compared to the current HSS-drill. |

MEMO

# **Check our site** and **our App** to get more info!

# Tungaloy America, Inc.

3726 N Ventura Drive, Arlington Heights, IL 60004, U.S.A.
Inside Sales: +1-888-554-8394
Technical Support: +1-888-554-8391
Fax: +1-888-554-8392
www.tungaloy.com/us

## Tungaloy Canada

432 Elgin St. Unit 3, Brantford, Ontario N3S 7P7, Canada
Phone: +1-519-758-5779 Fax: +1-519-758-5791
www.tungaloy.com/ca

## Tungaloy de Mexico S.A.

C Los Arellano 113, Parque Industrial Siglo XXI
Aguascalientes, AGS, Mexico 20290
Phone:+52-449-929-5410 Fax:+52-449-929-5411
www.tungaloy.com/mx

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