# NEW PRODUCT NEWS

mgt
MEGA TECH METALWORK

Tungaloy Report No. 412-G

Exchangeable head drill

## DRILLMEISTER / ADDMEISTER DRILL

## Head exchangeable drill for superior drilling performance
## DMF drill head now available from ϕ4mm


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# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

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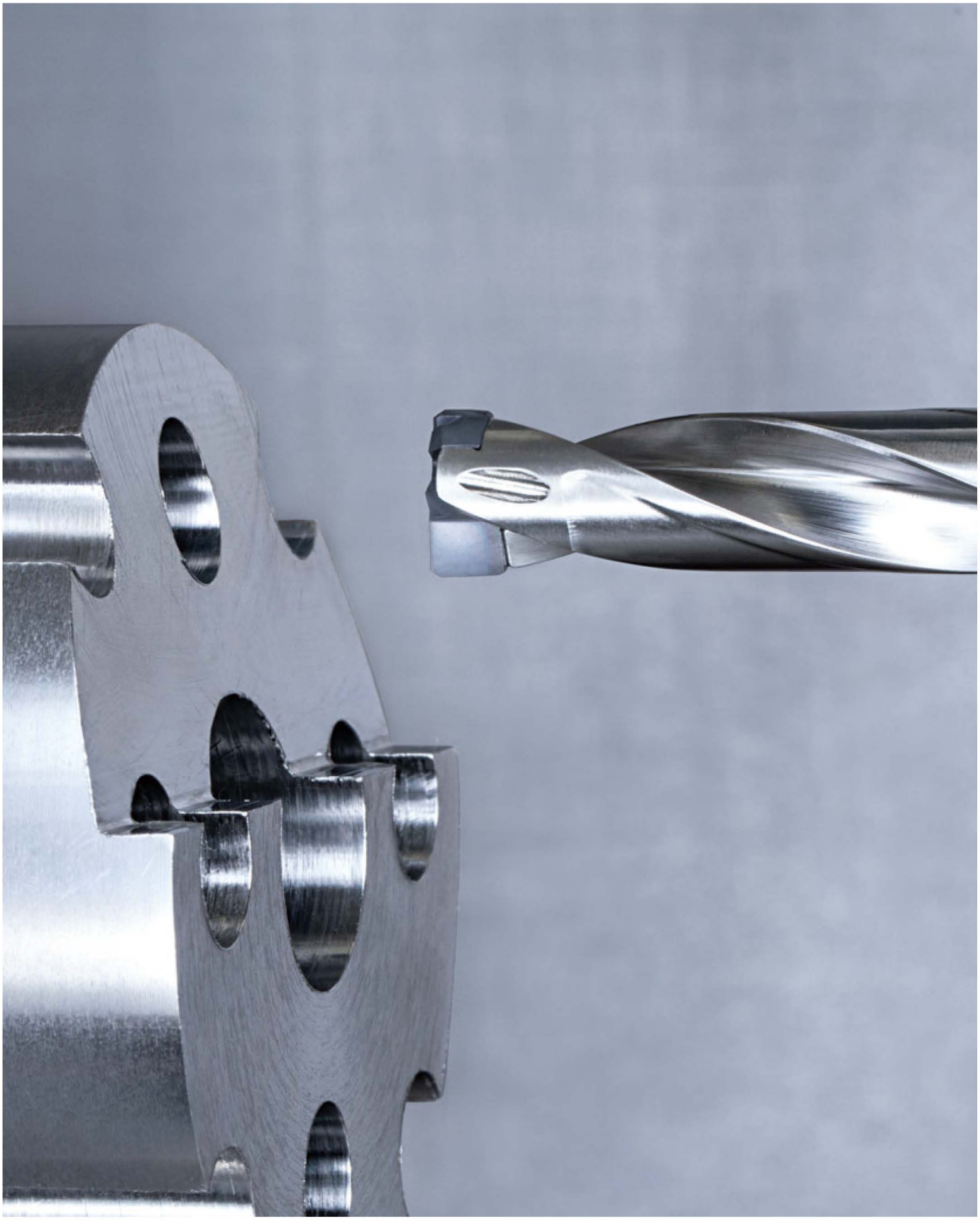
MEGA TECH METALWORK



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Tungaloy Report No. 412-G

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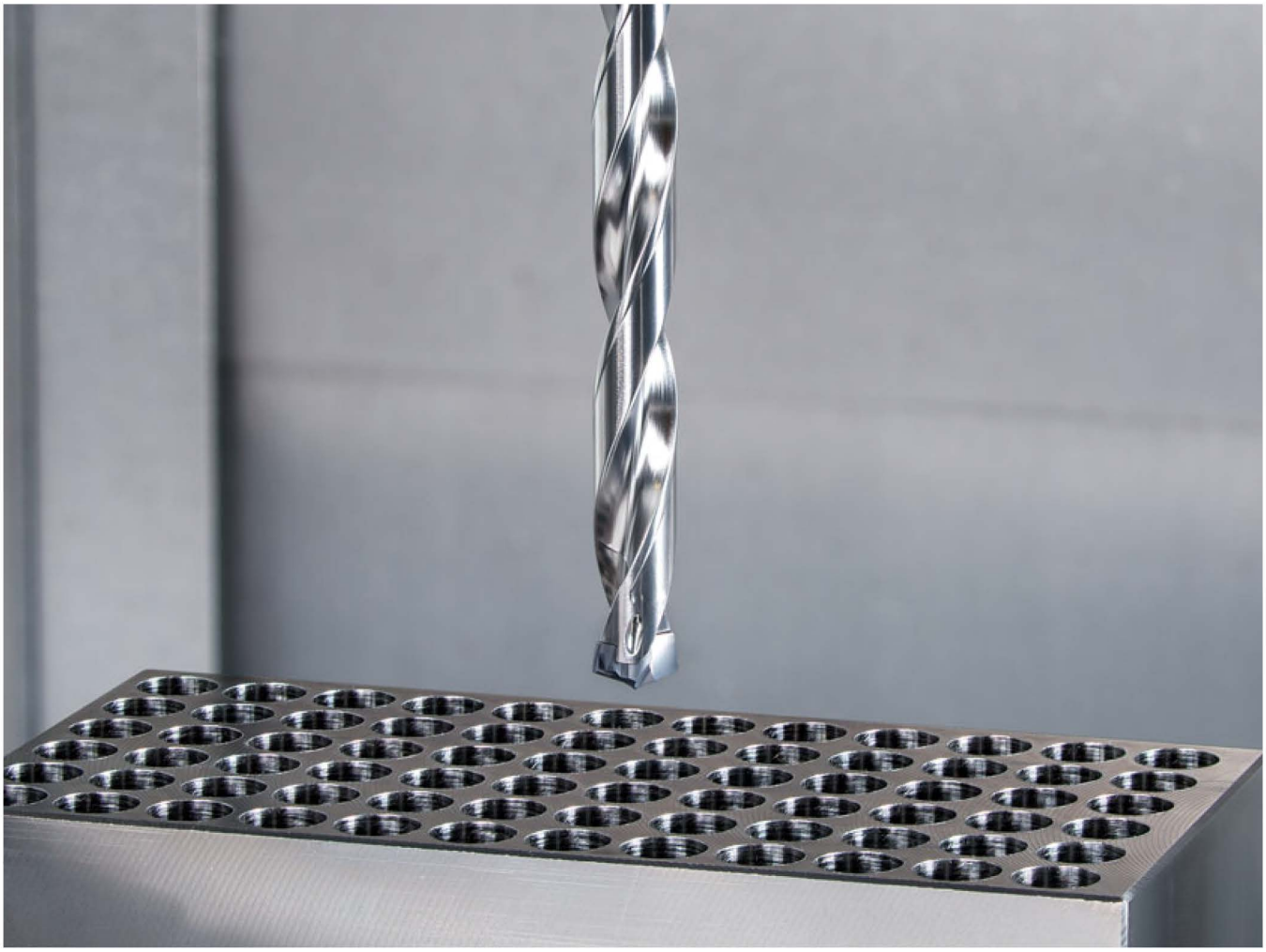
## DRILLMEISTER / ADDMEISTER DRILL



Exchangeable head drill system for superior drilling performance and long tool life.

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# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

mgt MEGA TECH METALWORK

DRILLMEISTER / ADDMEISTER DRILL

# Exchangeable head drills for unparalleled tool life and machining performance

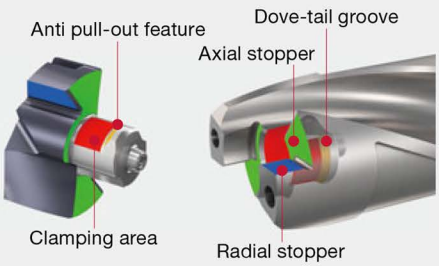
**ADDMEISTER DRILL**
Tool diameter: ø4 - ø5.9 mm

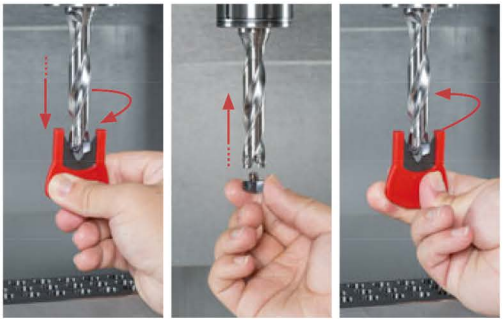
**DRILLMEISTER**
Tool diameter: ø6 - ø25.9 mm

**For Swiss machines**
Tool diameter: ø4 - ø8.4 mm

Tool spec P21

## Minimizes machine downtime due to quick head exchange system



< 15 sec.

Video

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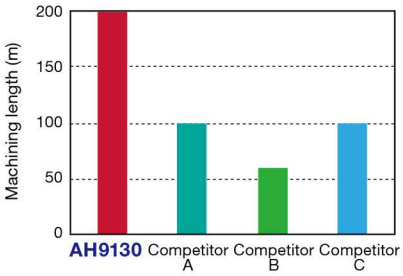
## A single drill body can hold a range of drill heads with various geometries and sizes. Drill heads are available in 0.1 mm increments.

New

| DMP | DMC | DMF | DMF-R | DMH | DMN | DMM |
|---|---|---|---|---|---|---|
|  |  |  |  |  |  |  |
| General use for any type of material. Low cutting force. | High-accuracy drilling achieved through a quick self-centering design. | Flat edge design with self centering edge. Flat bottom. | Flat drill with corner radius ideal for bolt cap holes. | Reinforced edge design to prevent corner fracture. | Uncoated sharp edge design for non-ferrous metals. | For stainless steel & exotic materials |

## Dedicated grades achieve outstanding tool life for drilling

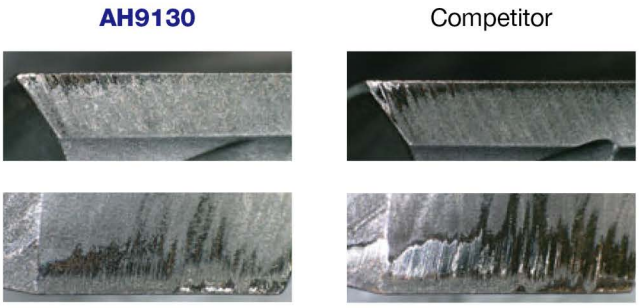
■ Tool life machining carbon steel (S55C / C55)




P

Tool : ø14 mm, L/D = 5
Cutting speed : *Vc* = 100 m/min
Feed : *f* = 0.25 mm/rev
Hole depth : *H* = 60 mm (Blind hole)

■ Edge damage after 100 m machined




## The optimal solution for solving challenges in machining

- Achieves the same machining efficiency, chip evacuation, and machining accuracy as solid drills.
- The simple head-changing system reduces machine downtime and improves on-site workability.
- Thanks to its dedicated PVD grade, it offers superior tool life compared to solid drills designed for regrinding.

| | Productivity | Tool life | Machine down time | Tool inventory management | Tooling optimization |
|---|---|---|---|---|---|
| DrillMeister | ✓ | ✓ | ✓ | ✓ | ✓ |
| Indexable insert drill | | | ✓ | ✓ | |
| Solid carbide drill | ✓ | ✓ | | | |

✓: Recommendation

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# NEW PRODUCT NEWS

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MEGA TECH METALWORK

## Tungaloy Report No. 412-G

## Tool body variations

### TID-F...

- Constant tool length due to flange support
- Flat for side-lock clamping

### TID-R...

- Tool overhang to be adjusted more freely within shank length
- Perfectly suitable for hydro holders

### TID-R..E

- Economical option for external coolant environment
- Tool overhang to be adjusted more freely within shank length

### TID-M, TID-S

- Modular bodies compatible with 2xD and 3xD hole depths
- TungFlex and TungMeister connections
- Ensures stable machining even with long overhangs

### TIDC

- Tools have peripheral flats for correct clamping of the chamfering inserts when assembled with TIDCF holder
- Flat for side-lock clamping

### TID**A**M

- Modular drill bodies with chamfering inserts for tap drill hole processing
- Tung Flex modular body
- Compatible with various overhang lengths when combined with the shank

### TIDCF

- Drilling and chamfering in one shot
- Three different chamfering angles are available on the same holder.


TIDCF

### TID**TT**

- Dedicate for TinyMini-Turn sleeve
- Application for Swiss type machine and small lathe

### BLM sleeve

- Dedicated sleeves for automatic lathes and small lathes
- Designed for use in combination with TID-F

# NEW PRODUCT NEWS

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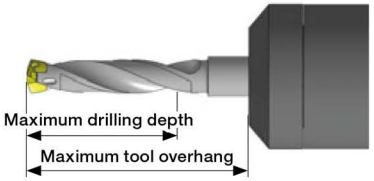
## Tungaloy Report No. 412-G

## DRILL BODY SELECTION GUIDE

### ● TID

Flange type

Cylindrical type




Note: Only for round shank

| Maximum drilling depth | Maximum tool overhang | Shank type | Drill diameter range (mm) | Tool holder | | | | | Page |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Hydro chuck | Collet chuck | Power chuck | Side lock | Side lock sleeve | |
| 1.5xD | - | Flange | ø6 ø25.9 | | ○ | ○ | ○ | ○ | 20 |
| 2xD | 4xD | Cylindrical | ø6 ø16.9 | ○ | ○ | ○ | | | 24 |
| 3xD | - | Flange | ø6 ø25.9 | | ○ | ○ | ○ | ○ | 21 |
| | 4xD | Cylindrical | ø4 ø5.9 | ○ | ○ | ○ | | | 19 |
| 3.5xD | 6xD | Cylindrical | ø6 ø19.9 | ○ | ○ | ○ | | | 25 |
| 5xD | - | Flange | ø6 ø25.9 | | ○ | ○ | ○ | ○ | 22 |
| | 6xD | Cylindrical | ø4 ø5.9 | ○ | ○ | ○ | | | 19 |
| 6xD | 9xD | Cylindrical | ø6 ø19.9 | ○ | ○ | ○ | | | 26 |
| 8xD | - | Flange | ø7 ø25.9 | | ○ | ○ | ○ | ○ | 23 |
| | 11xD | Cylindrical | ø6 ø19.9 | ○ | ○ | ○ | | | 27 |
| 12xD | - | Cylindrical | ø8 ø25.9 | ○ | ○ | ○ | | | 28 |

### ● TIDC

| Maximum drilling depth | Maximum tool overhang | Shank type | Drill diameter range (mm) | Tool holder | | | | | Page |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Hydro chuck | Collet chuck | Power chuck | Side lock | Side lock sleeve | |
| 3xD | - | Cylindrical + Flat | ø7.5 ø19.9 | | ○ | ○ | ○ | ○ | 29 |
| 5xD | - | Cylindrical + Flat | ø7.5 ø19.9 | | ○ | ○ | ○ | ○ | 30 |

### ● TID-M, TID-S

| Maximum drilling depth | Maximum tool overhang | Shank type | Drill diameter range (mm) | Page |
|---|---|---|---|---|
| 2xD | - | TungMeister | ø6.5 ø10.9 | 33 |
| 2xD | - | TungFlex | ø6 ø14.9 | 33 |
| 3xD | - | TungFlex | ø6 ø18.9 | 34 |

### ● TID**A**M

| Maximum drilling depth | Maximum tool overhang | Shank type | Drill diameter range (mm) | Page |
|---|---|---|---|---|
| 25mm 40mm | - | TungFlex | ø6.5 ø16.9 | 35 |

### ● TID**TT**

| Maximum drilling depth | Maximum tool overhang | Shank type | Drill diameter range (mm) | Page |
|---|---|---|---|---|
| 3xD | - | TinyMini-Turn | ø4 ø8.4 | 21 |

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TUNGALOY ADDFORCE ACCELERATED LINES

# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

MEGA TECH METALWORK

# DRILLMEISTER / ADDMEISTER DRILL

## DRILL HEAD SELECTION GUIDE

| | | General | For stainless steel and exotic materials | High accuracy drilling Deep drilling | New<br>Flat drill with pilot edge | Reinforced design | Non-ferrous metal |
|---|---|---|---|---|---|---|---|
| Head | |  DMP |  DMM |  DMC |  DMF / DMF-R |  DMH |  DMN |
| Drill diameter range (mm) | | 4 - 25.9 | 10 - 16.9 | 4 - 25.9 | 4 - 25.9 | 6 - 25.9 | 6.8 - 19.5 |
| Workpiece material | P Steel | ★ | ☆ | ★ | ★ | ★ | |
| | M Stainless | ☆ | ★ | ☆ | ☆ | ☆ | |
| | K Cast iron | ★ | ☆ | ★ | ★ | ★ | |
| | N Non-ferrous | ☆ | ☆ | ☆ | ☆ | | ★ |
| | S Superalloys | ☆ | ★ | ☆ | ☆ | ☆ | |
| | H Hard materials | ☆ | ☆ | ☆ | ☆ | ★ | |
| Drilling depth | 1.5xD | ● | ● | ● | ● | ● | ● |
| | 3xD | ● | ● | ● | ● | ● | ● |
| | 5xD | ● | ● | ● | ● | ● | ● |
| | 6xD | ○ | ○ | ● | ● | ○ | ● |
| | 8xD | ○ | ○ | ● | ● | ○ | ● |
| | 12xD | ○ | ○ | ● | ○ | ○ | ○ |
|  | IT8 - 9 | ☆ | ☆ | ★ | | | |
| | IT9 - 10 | ★ | ★ | ★ | ★ | ★ | ★ |
| | Hole position | ☆ | ☆ | ★ | ☆ | | |
| | High hole straightness | | | ★ | ☆ | | |
| Curvature surface |  | | | ★ | ☆ | | |
| Flat bottom hole |  | | | | ★ | | |
| Uneven surface Entry / Exit |  | ☆ | ☆ | ☆ | ★ | | ☆ |
| Narrow depth through hole |  | ☆ | ☆ | ☆ | | ★ | ☆ |
| External coolant |  | ★ | ★ | ☆ | ☆ | ☆ | |
| Edge fracture |  | | | | | ★ | |

● : Possible to drill without pre-hole ★ : First choice
○ : Pre-hole operation is recommended ☆ : Second choice

### ● IT (International Tolerance) Grades

| Basic size (mm) | | International tolerance grade | | | |
|---|---|---|---|---|---|
| | | IT7 | IT8 | IT9 | IT10 |
| > | ≤ | (μm) | | | |
| 3 | 6 | 12 | 18 | 30 | 48 |
| 6 | 10 | 15 | 22 | 36 | 58 |
| 10 | 18 | 18 | 27 | 43 | 70 |
| 18 | 30 | 21 | 33 | 52 | 84 |

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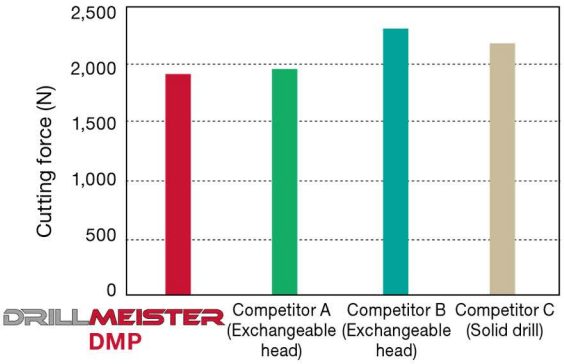
TUNGALOY ADDFORCE ACCELERATED LINES

DRILL HEAD

# DMP - General purpose


- General drill head with 140° point angle for suitable for all types of materials.
- Smooth radius edge honing provides low cutting force and long tool life

## Low cutting force ensure stable drilling




P

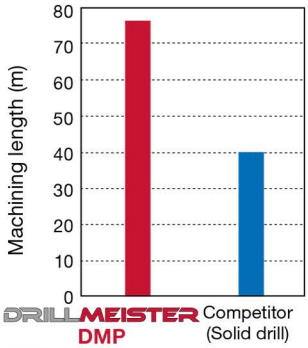
| | |
|---|---|
| Tool | : ø12 mm, L/D = 3 |
| Drill head | : DMP120 |
| Grade | : AH9130 |
| Workpiece material | : S55C / C55 |
| Cutting speed | : *Vc* = 120 m/min |
| Feed | : *f* = 0.2 mm/rev |
| Hole depth | : *H* = 30 mm |
| Coolant | : Wet |

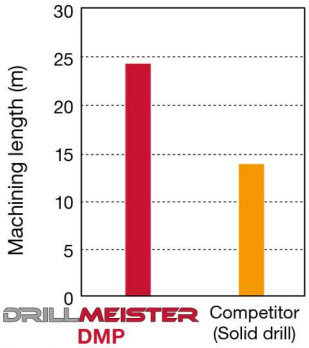
## Long tool life in any type of material

Effectively improves adhesion strength



Competitor




P

| | |
|---|---|
| Tool | : TID160F20-3 |
| Drill head | : DMP167 |
| Grade | : AH9130 |
| Workpiece material | : S20C / C20 |
| Cutting speed | : *Vc* = 110 m/min |
| Feed | : *f* = 0.35 mm/rev |
| Hole depth | : *H* = 20 mm |
| Coolant | : Wet |

M

| | |
|---|---|
| Tool | : TID115F16-3 |
| Drill head | : DMP115 |
| Grade | : AH9130 |
| Workpiece material | : SUS304 / X5CrNiMo |
| Cutting speed | : *Vc* = 50 m/min |
| Feed | : *f* = 0.2 mm/rev |
| Hole depth | : *H* = 40 mm |
| Coolant | : Wet |

# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

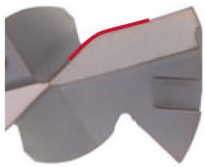
mgt MEGA TECH METALWORK

# DRILLMEISTER / ADDMEISTER DRILL

## DMM - Stainless steel & exotic materials

Smooth shape gash

Reinforce design



- Excellent tool life and cost reduction in stainless steel and exotic materials
- Large smooth R-Gash pocket enables smooth chip evacuation, reducing cutting edge load and extending tool life
- Pilot hole unnecessary up to max. 5xD depth

## Compact chips form in stainless steel — enabling high productivity

DRILLMEISTER DMM

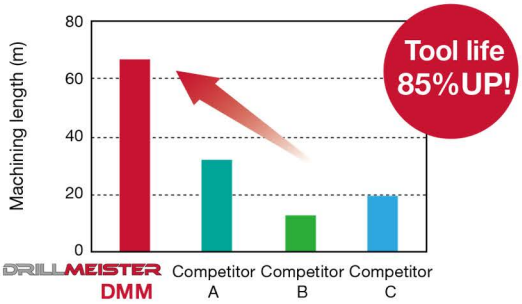
Competitor A

Competitor B

**M**

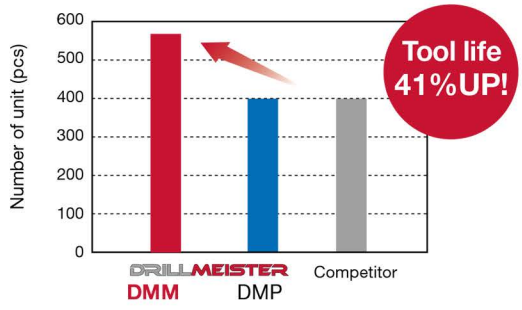
| | |
|---|---|
| Tool | : ø14 mm, L/D = 5 |
| Workpiece material | : SUS304 |
| Cutting speed | : *Vc* = 60 m/min |
| Feed | : *f* = 0.18 mm/rev |
| Hole depth | : *H* = 60 mm |
| Coolant | : Wet (Internal) |

## Superior tool life and cost reductions




**M**

| | |
|---|---|
| Tool | : ø14 mm, L/D = 5 |
| Drill head | : DMM140 |
| Grade | : AH9130 |
| Workpiece material | : SUS304 / X5CrNi18-9 |
| Cutting speed | : *Vc* = 60 m/min |
| Feed | : *f* = 0.18 mm/rev |
| Hole depth | : *H* = 50 mm |
| Coolant | : Wet (Internal) |




**S**

| | |
|---|---|
| Tool | : ø12 mm, L/D = 5 |
| Drill head | : DMM120 |
| Grade | : AH9130 |
| Workpiece material | : Ni base alloy |
| Cutting speed | : *Vc* = 23 m/min |
| Feed | : *f* = 0.1 mm/rev |
| Hole depth | : *H* = 12 mm |
| Coolant | : Wet (Internal) |
| Machine | : lathe |

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TUNGALOY ADDFORCE ACCELERATED LINES

# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

mgt MEGA TECH METALWORK

## DMC - High accuracy drilling

DRILLMEISTER DMC*

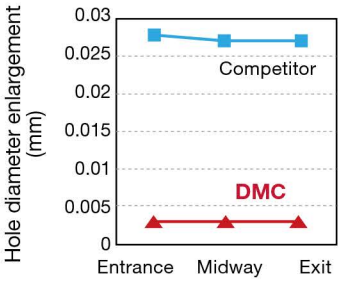


- Innovative self-centering geometry for smooth drilling and accurate hole tolerance
- No pre-drilling required in 12xD drilling operation
- Double margins provide superior surface finish and hole drilling straightness

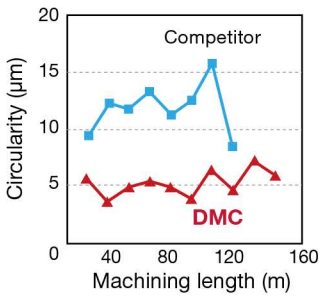
*DMC040 - 059 is single margin

## Improve hole accuracy without changing cutting condition

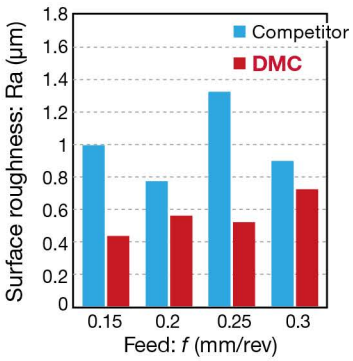
■ Hole diameter enlargement




■ Circularity




■ Surface roughness




P

| | |
|---|---|
| Tool | : ø14 mm, L/D = 5 |
| Workpiece material | : S55C / C55 |
| Cutting speed | : *Vc* = 100 m/min |
| Feed | : *f* = 0.25 mm/rev |
| Measured at | : 30 mm |

## Stable long drilling without pilot hole operation

DRILLMEISTER DMC


Competitor


P

| | |
|---|---|
| Tool | : ø13 mm, L/D = 12 (No pilot hole) |
| Workpiece material | : S55C / C55 |
| Cutting speed | : *Vc* = 100 m/min |
| Feed | : *f* = 0.3 mm/rev |

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# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

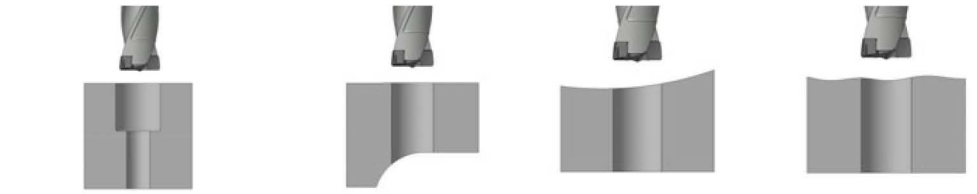
MEGA TECH METALWORK

## DRILLMEISTER / ADDMEISTER DRILL

## DMF - Flat edge design with pilot edge

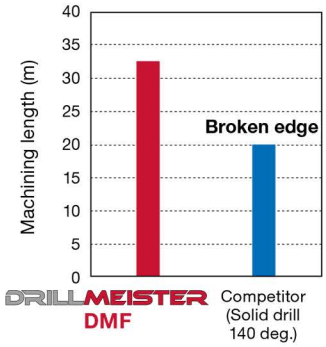

- Ideal solution for counterboring, bolt heads and pre-hole of internal turning operation
- Significantly reduced radial forces ensure stable drilling for complex surfaces at drill entry and exit
- Stable drilling with long overhang up to 8xD without pre-hole

### Solution for complex hole making processes



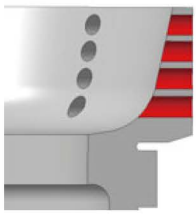
| Counterboring for bolt holes | Uneven exit | Uneven drill entry | Rough surface |
|---|---|---|---|
| ADDMEISTER DRILL | DRILLMEISTER | | |

### Stable tool life in uneven surface entry and exit



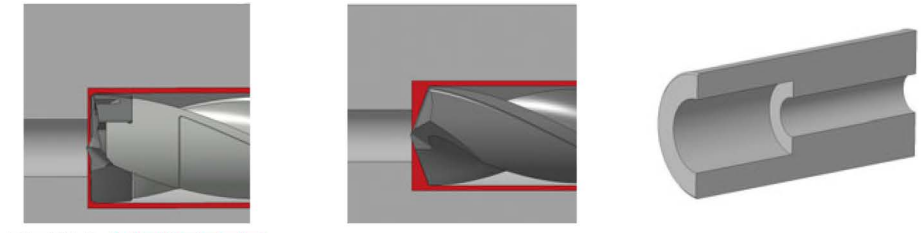

K

| | |
|---|---|
| Tool | : ø12.6 mm, L/D = 3.5 |
| Drill head | : DMF126 |
| Grade | : AH9130 |
| Workpiece material | : FCD450 / GGG45 / 450-10S |
| Cutting speed | : *Vc* = 60 m/min |
| Feed | : *f* = 0.3 mm/rev / Exit: 0.06 mm/rev |
| Hole depth | : *H* = 46 mm |
| Coolant | : Wet |



### Ideal option for pre-hole for internal turning

Use a DMF drill head to create a starter hole for internal turning. Its flat edges leave consistent and minimum stock to remove, compared with solid carbide drills with an angled tip, for the following finishing process.

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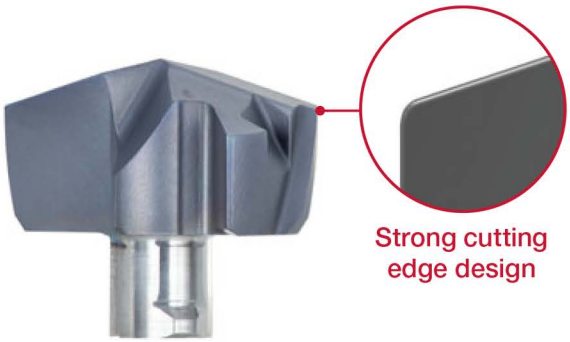
TUNGALOY ADDFORCE ACCELERATED LINES

# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

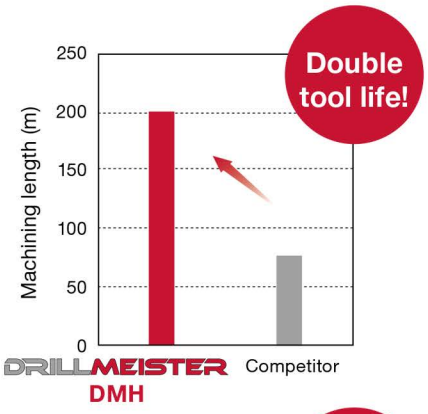
mgt MEGA TECH METALWORK

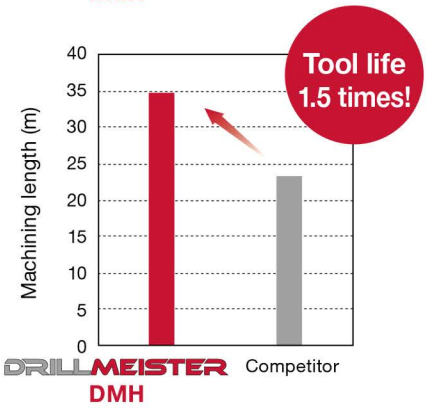
## DMH - Fracture resistance head

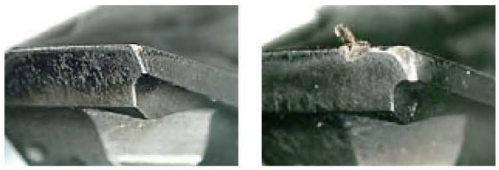



- Solution for corner edge fracture
- The reinforced drill edge design protects the head's corners from the damaging impact of recoiling walls and weak fixtures
- Ideal option for low rigidity workpiece or machine

## Longer tool life without edge fracture




**P**

| | |
|---|---|
| Tool | : ø13.7 mm, L/D = 3 |
| Drill head | : DMH137 |
| Grade | : AH9130 |
| Workpiece material | : High carbon steel |
| Cutting speed | : *Vc* = 90 m/min |
| Feed | : *f* = 0.3 mm/rev |
| Hole depth | : *H* = 20 mm |
| Coolant | : Wet (External) |

**H**

| | |
|---|---|
| Tool | : ø10.2 mm, L/D = 3 |
| Drill head | : DMH102 |
| Grade | : AH9130 |
| Workpiece material | : Tool steel (40HRC) |
| Cutting speed | : *Vc* = 54.5 m/min |
| Feed | : *f* = 0.18 mm/rev |
| Hole depth | : *H* = 23 mm |
| Coolant | : Wet (Internal) |

## Solution for improved tool life, especially for shallow through-holes

Hub

Knuckle

Diff. case

Brake disc

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TUNGALOY ADDFORCE ACCELERATED LINES

MEGA TECH METALWORK

# DRILLMEISTER / ADDMEISTER DRILL

## DMN - Sharp edge design for non-ferrous metals

Sharp and uncoated cutting edge design prevents built-up edge and provides good chip evacuation during drilling of non-ferrous metal.

### CHIP CONTROL

Aluminium alloy (A5052)

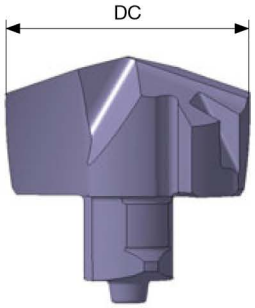
Aluminium alloy casting (ADC12)

N

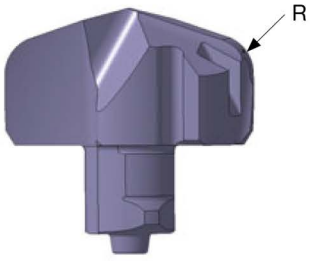
| | |
|---|---|
| Tool | : ø13.7 mm, L/D = 5 |
| Drill head | : DMN137 |
| Grade | : KS15F |
| Cutting speed | : *Vc* = 200 m/min |
| Feed | : *f* = 0.4 mm/rev |
| Hole depth | : *H* = 40 mm |
| Coolant | : Wet |

## Tailor made drill head

- Special drill diameters in 0.01 mm increments can be produced upon request for each type of head
- Special edge design can be produced upon request




Ex. DMP1902 AH9130 (ø19.02 + 0.018 / 0)
DMC1332 AH9130 (ø13.32 + 0.018 / 0)
DMF0928 AH9130 (ø9.28 + 0.018 / 0)




Ex. Radius shoulder design

# NEW PRODUCT NEWS

mgt MEGA TECH METALWORK

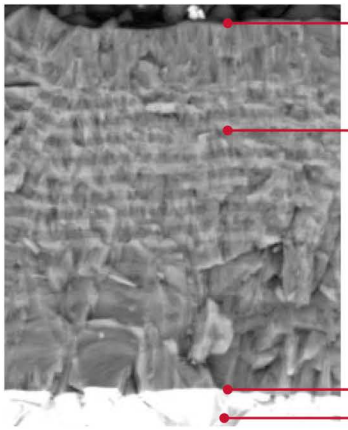
Tungaloy Report No. 412-G

## GRADES

### Latest coating optimized for extended tool life

**AH9130**

- Unique nano-multilayered coating is made possible by Tungaloy's latest coating technology, providing 3 principal features
- This coating achieves highly-balanced wear resistance and chipping resistance, also has acid resistance, resistance to dissolution, and high adhesion strength



**Resistance to built-up edge**
Coating layer to resist built-up edge

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

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

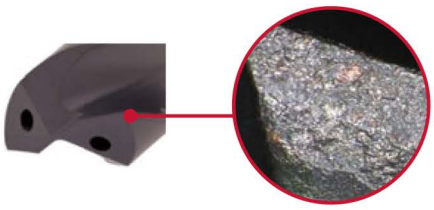
**Substrate**
Carbide substrate features wear and fracture resistance

## Ensures long tool life and wear predictability

**Margin of DrillMeister head**

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

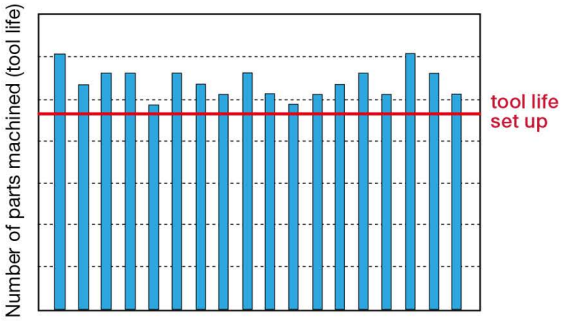
**Margin of solid carbide drill (after reconditioning)**



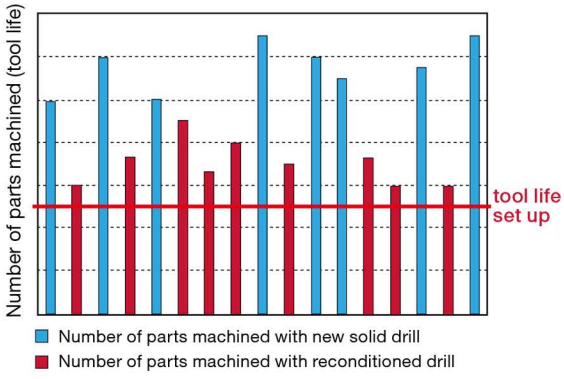
- Excess coating thickness due to multiple re-coating processes
- Fragile coating layer due to excess re-coating
- Result: unpredictable tool life

### Stable tool life

**Tool life fluctuations of DrillMeister**




**Tool life fluctuations of solid carbide drills**

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TUNGALOY ADDFORCE ACCELERATED LINES

# NEW PRODUCT NEWS

Tungaloy Report No. 412-G

mgt MEGA TECH METALWORK

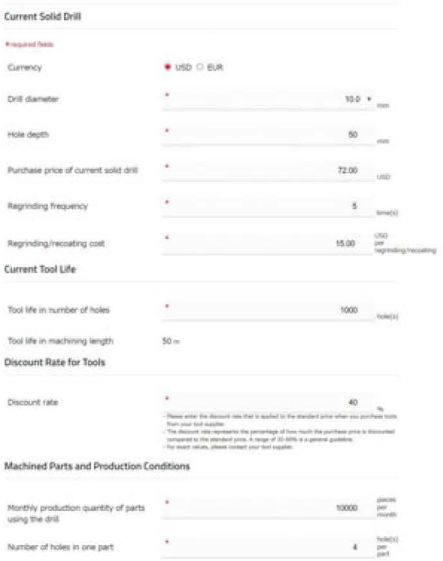
DRILLMEISTER / ADDMEISTER DRILL

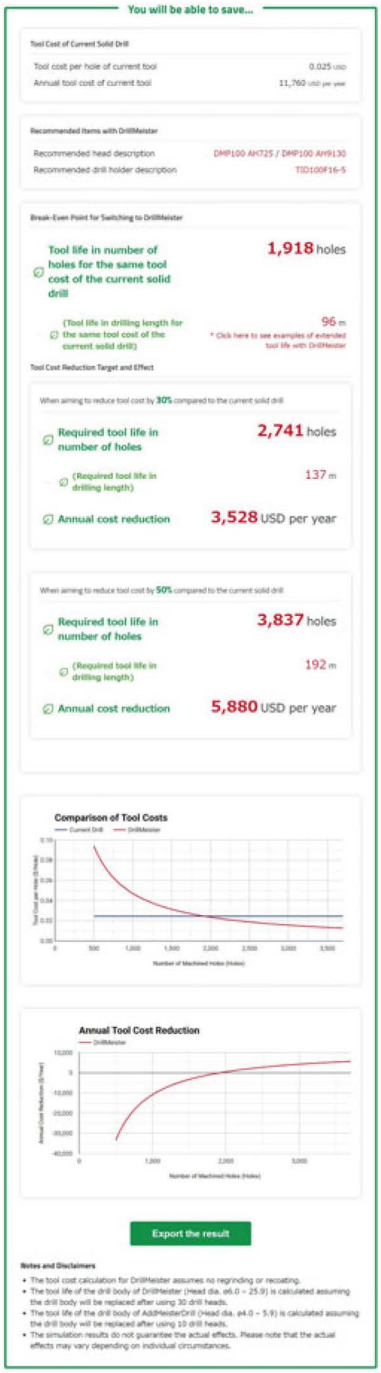
## DRILLMEISTER TOOL COST REDUCTION CALCULATOR

This calculator allows you to analyze the benefits of switching from your current solid drill to our head exchangeable drill, DrillMeister.
By entering values in the following fields, you can calculate the expected tool life of DrillMeister for the same tool cost you spend on your current solid drill (break-even point) and the expected annual savings from the extended tool life.
Representative values are pre-filled in each field, but please modify them according to your situation and check the results.

Link

Ex.


Member IMC Group Tungaloy INDUSTRY 4.0

TUNGALOY ADDFORCE ACCELERATED LINES

## COMPARISON AGAINST OTHER TYPES OF HOLE MAKING TOOLS

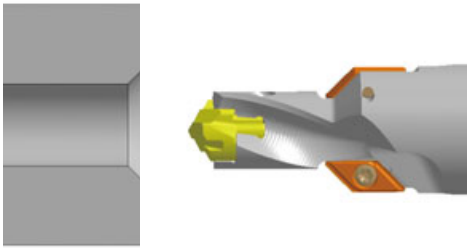
| | ADDMEISTER DRILL DRILLMEISTER | Screw lock type Exchangeable drill | Solid carbide drill | Indexable insert type drill |
|---|---|---|---|---|
| Number of effective edge | 2 | 2 | 2 | 1 |
| Productivity | Excellent | High | High | Low |
| Hole diameter accuracy | IT8 - 10 | IT8 - 10 | IT8 - 10 | IT11 - 12 |
| Diameter variation | 0.1mm increment | 0.1 mm increment | 0.1 mm increment | 0.5 mm increment |
| Over 8xD drilling | Possible (with DMC head) | Pre-hole operation required | Pre-hole operation required | Special tool body required |
| Chip control | Excellent | Good chip control | Good chip control | Optimized by cutting condition and breaker |
| Hole straightness | Excellent (with DMC head) | Good | Excellent | Not good |
| Accessory of tool set up | Key only | Wrench and screw | - | Wrench and screw |
| Tool set up | 15 sec. | 1 min. | 10 min. | 5 min. |
| Tool position after set up | Constant | Constant | Always different | Constant |
| Tool life | Long and stable | Stable | After reconditioning tool life decreased by around 30% | Stable |
| Tool cost | Medium | Medium | High | Low |
| Reconditioning | None | None | Necessary | None |
| Inventory Management | Easy | Easy | Complex | Easy |
| Special diameter | Only need special drill head | Only need special drill head | Special drill body required | Special tool body required |
| Lathe machine | Stable | Stable | Misalignment will cause breakage | Stable |

## TAILOR MADE

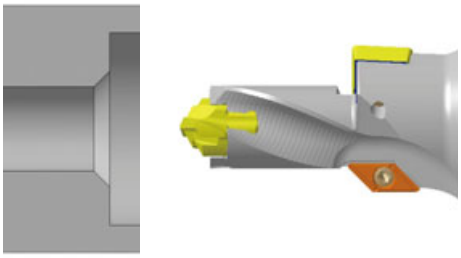
Special drill bodies, such as the one featuring chamfering or counter boring capabilities, will be available upon request.

Video

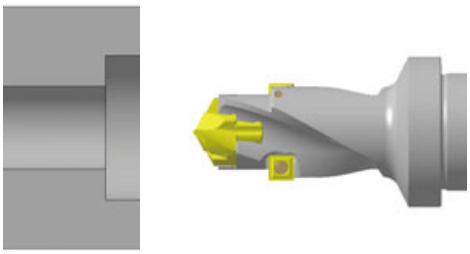
### Drilling + Chamfering



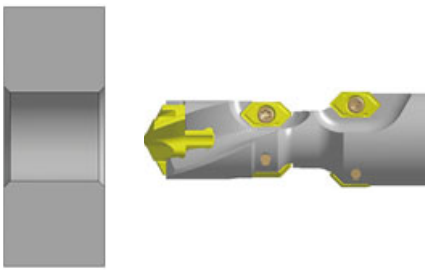
### Drilling + Boring and Chamfering



### Drilling + Boring



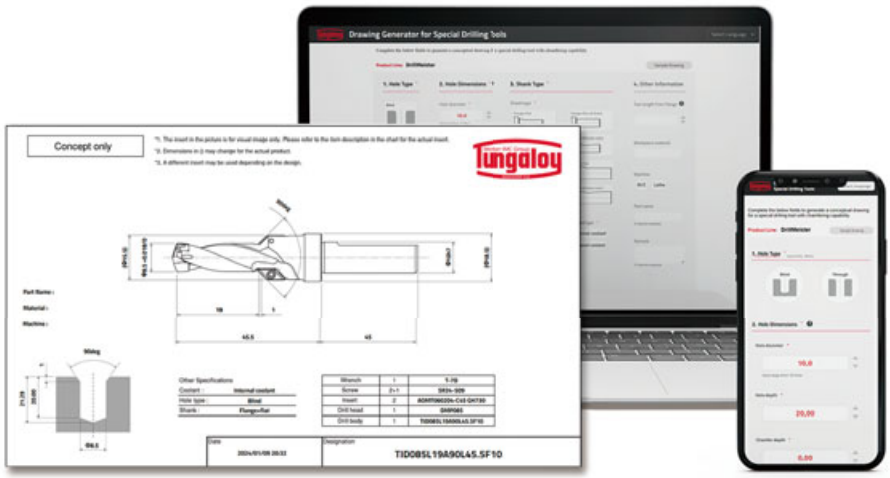
### Drilling + double side chamfering



## DRAWING GENERATOR FOR SPECIAL DRILLING TOOLS

Create simple drawings easily according to your needs.

Link

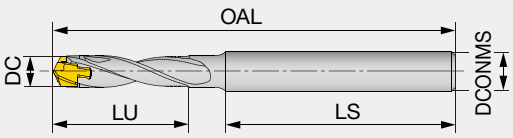


## DRILL BODY

ADDMEISTER DRILL

### TID-R L/D=3

Exchangeable head drill, L/D = 3, Cylindrical shank




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP | DMC | DMF | | |
| TID040R06-3 | 4 - 4.4 | 6 | 13 | 35 | 57.7 | 58.1 | 57.55 | 4 | DM*040 - DM*044 |
| TID045R06-3 | 4.5 - 4.9 | 6 | 14 | 35 | 59.7 | 59.9 | 59.38 | 4.5 | DM*045 - DM*049 |
| TID050R06-3 | 5 - 5.4 | 6 | 16 | 35 | 61.4 | 61.8 | 61.17 | 5 | DM*050 - DM*054 |
| TID055R06-3 | 5.5 - 5.9 | 6 | 17 | 35 | 64 | 64.3 | 63.67 | 5.5 | DM*055 - DM*059 |

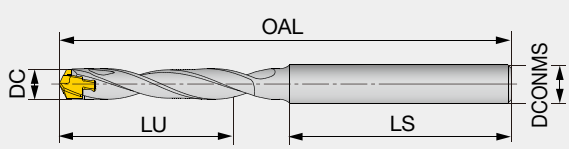
| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø4 - ø5.9 | +0.04 / 0 |

*Just for reference

- An overall length (OAL) differs based on each head geometry.
- 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.

### TID-R L/D=5

Exchangeable head drill, L/D = 5, Cylindrical shank




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP | DMC | DMF | | |
| TID040R06-5 | 4 - 4.4 | 6 | 21 | 35 | 65.7 | 66.1 | 65.55 | 4 | DM*040 - DM*044 |
| TID045R06-5 | 4.5 - 4.9 | 6 | 23 | 35 | 68.7 | 68.9 | 68.38 | 4.5 | DM*045 - DM*049 |
| TID050R06-5 | 5 - 5.4 | 6 | 26 | 35 | 71.3 | 71.6 | 71.12 | 5 | DM*050 - DM*054 |
| TID055R06-5 | 5.5 - 5.9 | 6 | 28 | 35 | 74.2 | 74.5 | 73.82 | 5.5 | DM*055 - DM*059 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø4 - ø5.9 | +0.05 / 0 |

*Just for reference

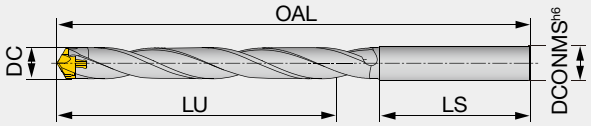
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the 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 |
|---|---|
| TID040..., TID045... | K-TID4-4.99 |
| TID050..., TID055... | K-TID5-5.99 |

## TID-R L/D=8

Exchangeable head drill, L/D = 8, Cylindrical shank




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP | DMC | DMF | | |
| TID045R06-8 | 4.5 - 4.9 | 6 | 37 | 35 | 82.2 | 82.4 | 81.93 | 4.5 | DM*045 - DM*049 |
| TID050R06-8 | 5 - 5.4 | 6 | 41 | 35 | 86.3 | 86.7 | 86.12 | 5 | DM*050 - DM*054 |
| TID055R06-8 | 5.5 - 5.9 | 6 | 45 | 35 | 90.7 | 91 | 90.37 | 5.5 | DM*055 - DM*059 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø4.5 - ø5.9 | +0.05 / 0 |

*Just for reference

- An overall length (OAL) differs based on each head geometry.
- 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.
- DMC drill heads are recommended when using 8xD bodies.

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID045... | K-TID4-4.99 |
| TID050..., TID055... | K-TID5-5.99 |

## TID-TT L/D=3

Exchangeable head drill, L/D = 3, "TinyMini-Turn" adaptation

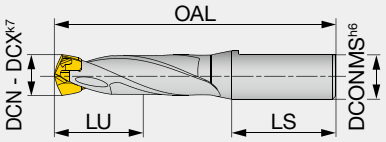



Fig. 1

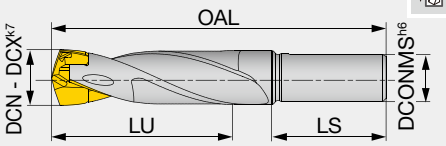



Fig. 2

| Designation | DCX | DCN | DCONMS | LS | LU | OAL | | | Pocket size | Head | Fig. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP | DMC | DMF | | | |
| TID040TT07-3 | 4 - 4.4 | 4 | 7 | 15 | 13 | 39.5 | 39.9 | - | 4 | DM*040 - DM*044 | 1 |
| TID045TT07-3 | 4.5 - 4.9 | 4.5 | 7 | 15 | 14 | 39.7 | 39.9 | - | 4.5 | DM*045 - DM*049 | 1 |
| TID050TT07-3 | 5 - 5.4 | 5 | 7 | 15 | 16 | 41.3 | 41.7 | - | 5 | DM*050 - DM*054 | 1 |
| TID055TT07-3 | 5.5 - 5.9 | 5.5 | 7 | 15 | 17 | 43.8 | 44.1 | - | 5.5 | DM*055 - DM*059 | 1 |
| TID060TT07-3 | 6 - 6.4 | 6 | 7 | 15 | 19 | 40.6 | 40.7 | 39.7 | 6 | DM*060 - DM*064 | 1 |
| TID065TT07-3 | 6.5 - 6.9 | 6.5 | 7 | 15 | 21 | 42.4 | 42.6 | 41.5 | 6.5 | DM*065 - DM*069 | 1 |
| TID070TT07-3 | 7 - 7.4 | 7 | 7 | 15 | 22 | 44.1 | 44.5 | 43.2 | 7 | DM*070 - DM*074 | 1 |
| TID075TT07-3 | 7.5 - 7.9 | 7.5 | 7 | 15 | 24 | 46.3 | 46.8 | 45.4 | 7 | DM*074 - DM*079 | 2 |
| TID080TT07-3 | 8 - 8.4 | 8 | 7 | 17 | 26 | 48.2 | 48.3 | 47.3 | 8 | DM*080 - DM*084 | 2 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø4 - ø8.4 | +0.05 / 0 |

*Just for reference

Please check the TinyMini-Turn series information from below link

### SPARE PARTS

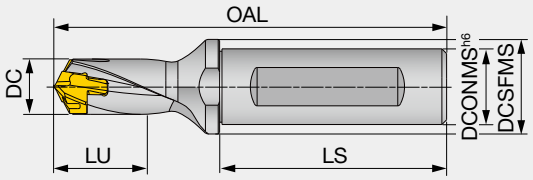
| Designation | Clamping key 1 | Clamping key 2 |
|---|---|---|
| TID040..., TID045... | K-TID4-4.99 | - |
| TID050..., TID055... | K-TID5-5.99 | - |
| TID060... - TID080... | - | K-TID6-9.99 |

TINYMINI TURN

Sleeve information P44

## TID-F L/D=1.5

Exchangeable head drill, L/D = 1.5, flange type




| Designation | DC | DCONMS | DCSFMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP/H/N | DMC | DMF | | |
| TID060F12-1.5 | 6 - 6.4 | 12 | 16 | 10 | 45 | 67.9 | 68 | 67 | 6 | DM*060 - DM*064 |
| TID065F12-1.5 | 6.5 - 6.9 | 12 | 16 | 11 | 45 | 68.9 | 69.1 | 68 | 6.5 | DM*065 - DM*069 |
| TID070F12-1.5 | 7 - 7.4 | 12 | 16 | 12 | 45 | 70 | 70.4 | 69.1 | 7 | DM*070 - DM*074 |
| TID075F12-1.5 | 7.5 - 7.9 | 12 | 16 | 13 | 45 | 70.7 | 71.2 | 69.8 | 7 | DM*075 - DM*079 |
| TID080F12-1.5 | 8 - 8.9 | 12 | 16 | 14 | 45 | 72.3 | 72.4 | 71.4 | 8 | DM*080 - DM*089 |
| TID090F12-1.5 | 9 - 9.9 | 12 | 16 | 16 | 45 | 74.2 | 74.3 | 73.1 | 9 | DM*090 - DM*099 |
| TID100F16-1.5 | 10 - 10.9 | 16 | 20 | 17 | 48 | 79.1 | 79.7 | 77.7 | 10 | DM*100 - DM*109 |
| TID110F16-1.5 | 11 - 11.9 | 16 | 20 | 19 | 48 | 81 | 81.6 | 79.4 | 11 | DM*110 - DM*119 |
| TID120F16-1.5 | 12 - 12.9 | 16 | 20 | 20 | 48 | 82.8 | 83.4 | 81.2 | 12 | DM*120 - DM*129 |
| TID130F16-1.5 | 13 - 13.9 | 16 | 20 | 22 | 48 | 84.9 | 85.7 | 83 | 13 | DM*130 - DM*139 |
| TID140F16-1.5 | 14 - 14.9 | 16 | 20 | 24 | 48 | 89 | 89.8 | 87 | 14 | DM*140 - DM*149 |
| TID150F20-1.5 | 15 - 15.9 | 20 | 25 | 26 | 50 | 96 | 96.9 | 93.9 | 15 | DM*150 - DM*159 |
| TID160F20-1.5 | 16 - 16.9 | 20 | 25 | 27 | 50 | 99.1 | 100.1 | 96.8 | 16 | DM*160 - DM*169 |
| TID170F20-1.5 | 17 - 17.9 | 20 | 25 | 29 | 50 | 102.2 | 103.2 | 99.7 | 17 | DM*170 - DM*179 |
| TID180F25-1.5 | 18 - 18.9 | 25 | 32 | 30 | 56 | 111.3 | 112.4 | 108.5 | 18 | DM*180 - DM*189 |
| TID190F25-1.5 | 19 - 19.9 | 25 | 32 | 33 | 56 | 114.3 | 115.4 | 111.3 | 19 | DM*190 - DM*199 |
| TID200F25-1.5 | 20 - 20.9 | 25 | 32 | 34 | 56 | 117.4 | 118.6 | 115.1 | 20 | DM*200 - DM*209 |
| TID210F25-1.5 | 21 - 21.9 | 25 | 32 | 36 | 56 | 120.5 | 121.7 | 118 | 21 | DM*210 - DM*219 |
| TID220F25-1.5 | 22 - 22.9 | 25 | 32 | 37 | 56 | 123.6 | 124.8 | 120.9 | 22 | DM*220 - DM*229 |
| TID230F32-1.5 | 23 - 23.9 | 32 | 42 | 39 | 60 | 130.6 | 132 | 127.8 | 23 | DM*230 - DM*239 |
| TID240F32-1.5 | 24 - 24.9 | 32 | 42 | 40 | 60 | 133.7 | 135.1 | 130.7 | 24 | DM*240 - DM*249 |
| TID250F32-1.5 | 25 - 25.9 | 32 | 42 | 43 | 60 | 136.8 | 138.3 | 133.7 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø17.9 | +0.03 / 0 |
| ø18 - ø25.9 | +0.035 / 0 |

*Just for reference

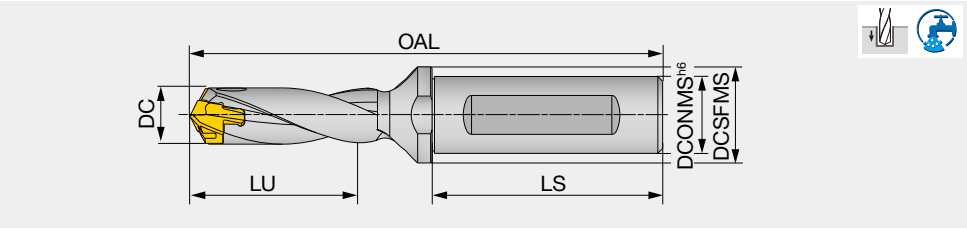
- An overall length (OAL) differs based on each head geometry.
- For drill diameters from ø8 - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP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

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060... - TID090... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |
| TID200... - TID250... | K-TID20-26.99 |

## TID-F L/D=3

Exchangeable head drill, L/D = 3, flange type




| Designation | DC | DCONMS | DCSFMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP/H/N | DMC | DMF | | |
| TID060F12-3 | 6 - 6.4 | 12 | 16 | 19 | 45 | 76.9 | 77 | 76 | 6 | DM*060 - DM*064 |
| TID065F12-3 | 6.5 - 6.9 | 12 | 16 | 21 | 45 | 78.7 | 78.8 | 77.8 | 6.5 | DM*065 - DM*069 |
| TID070F12-3 | 7 - 7.4 | 12 | 16 | 22 | 45 | 80.5 | 80.9 | 79.6 | 7 | DM*070 - DM*074 |
| TID075F12-3 | 7.5 - 7.9 | 12 | 16 | 24 | 45 | 82 | 82.4 | 81.1 | 7 | DM*075 - DM*079 |
| TID080F12-3 | 8 - 8.4 | 12 | 16 | 26 | 45 | 84.3 | 84.4 | 83.4 | 8 | DM*080 - DM*084 |
| TID085F12-3 | 8.5 - 8.9 | 12 | 16 | 28 | 45 | 85.8 | 85.9 | 84.9 | 8 | DM*085 - DM*089 |
| TID090F12-3 | 9 - 9.4 | 12 | 16 | 29 | 45 | 87.7 | 87.8 | 86.6 | 9 | DM*090 - DM*094 |
| TID095F12-3 | 9.5 - 9.9 | 12 | 16 | 31 | 45 | 89.2 | 89.3 | 88.1 | 9 | DM*095 - DM*099 |
| TID100F16-3 | 10 - 10.4 | 16 | 20 | 32 | 48 | 94.1 | 94.7 | 92.7 | 10 | DM*100 - DM*104 |
| TID105F16-3 | 10.5 - 10.9 | 16 | 20 | 34 | 48 | 95.6 | 96.2 | 94.2 | 10 | DM*105 - DM*109 |
| TID110F16-3 | 11 - 11.4 | 16 | 20 | 35 | 48 | 97.5 | 98.1 | 95.9 | 11 | DM*110 - DM*114 |
| TID115F16-3 | 11.5 - 11.9 | 16 | 20 | 37 | 48 | 99 | 99.6 | 97.4 | 11 | DM*115 - DM*119 |
| TID120F16-3 | 12 - 12.4 | 16 | 20 | 38 | 48 | 100.8 | 101.4 | 99.2 | 12 | DM*120 - DM*124 |
| TID125F16-3 | 12.5 - 12.9 | 16 | 20 | 39 | 48 | 102.3 | 102.9 | 100.7 | 12 | DM*125 - DM*129 |
| TID130F16-3 | 13 - 13.4 | 16 | 20 | 41 | 48 | 104.4 | 105.2 | 102.5 | 13 | DM*130 - DM*134 |
| TID135F16-3 | 13.5 - 13.9 | 16 | 20 | 44 | 48 | 105.9 | 106.7 | 104 | 13 | DM*135 - DM*139 |
| TID140F16-3 | 14 - 14.4 | 16 | 20 | 45 | 48 | 110 | 110.8 | 108 | 14 | DM*140 - DM*144 |
| TID145F16-3 | 14.5 - 14.9 | 16 | 20 | 47 | 48 | 111.5 | 112.3 | 109.5 | 14 | DM*145 - DM*149 |
| TID150F20-3 | 15 - 15.9 | 20 | 25 | 48 | 50 | 118.5 | 119.4 | 116.4 | 15 | DM*150 - DM*159 |
| TID160F20-3 | 16 - 16.9 | 20 | 25 | 51 | 50 | 123.1 | 124.1 | 120.8 | 16 | DM*160 - DM*169 |
| TID170F20-3 | 17 - 17.9 | 20 | 25 | 54 | 50 | 127.7 | 128.7 | 125.2 | 17 | DM*170 - DM*179 |
| TID180F25-3 | 18 - 18.9 | 25 | 32 | 57 | 56 | 138.3 | 139.4 | 135.5 | 18 | DM*180 - DM*189 |
| TID190F25-3 | 19 - 19.9 | 25 | 32 | 61 | 56 | 142.8 | 143.9 | 139.8 | 19 | DM*190 - DM*199 |
| TID200F25-3 | 20 - 20.9 | 25 | 32 | 64 | 56 | 147.4 | 148.6 | 145.1 | 20 | DM*200 - DM*209 |
| TID210F25-3 | 21 - 21.9 | 25 | 32 | 67 | 56 | 152 | 153.2 | 149.5 | 21 | DM*210 - DM*219 |
| TID220F25-3 | 22 - 22.9 | 25 | 32 | 70 | 56 | 156.6 | 157.8 | 153.9 | 22 | DM*220 - DM*229 |
| TID230F32-3 | 23 - 23.9 | 32 | 42 | 73 | 60 | 165.1 | 166.5 | 162.3 | 23 | DM*230 - DM*239 |
| TID240F32-3 | 24 - 24.9 | 32 | 42 | 76 | 60 | 169.7 | 171.1 | 166.7 | 24 | DM*240 - DM*249 |
| TID250F32-3 | 25 - 25.9 | 32 | 42 | 80 | 60 | 174.3 | 175.8 | 171.2 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø17.9 | +0.04 / 0 |
| ø18 - ø25.9 | +0.045 / 0 |

*Just for reference

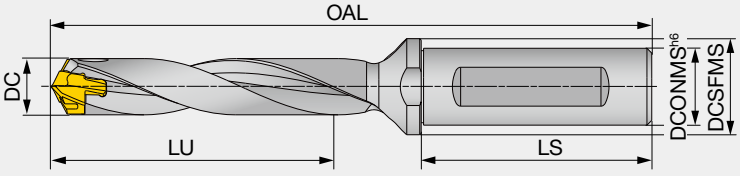
- An overall length (OAL) differs based on each head geometry.
- For drill diameters from ø8 - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP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

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060... - TID095... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |
| TID200... - TID250... | K-TID20-26.99 |

## TID-F L/D=5

Exchangeable head drill, L/D = 5, flange type




| Designation | DC | DCONMS | DCSFMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP/H/N | DMC | DMF | | |
| TID060F12-5 | 6 - 6.4 | 12 | 16 | 31 | 45 | 88.9 | 89 | 88 | 6 | DM*060 - DM*064 |
| TID065F12-5 | 6.5 - 6.9 | 12 | 16 | 34 | 45 | 91.7 | 91.8 | 90.8 | 6.5 | DM*065 - DM*069 |
| TID070F12-5 | 7 - 7.4 | 12 | 16 | 36 | 45 | 94.5 | 94.9 | 93.6 | 7 | DM*070 - DM*074 |
| TID075F12-5 | 7.5 - 7.9 | 12 | 16 | 39 | 45 | 97 | 97.4 | 96.1 | 7 | DM*075 - DM*079 |
| TID080F12-5 | 8 - 8.4 | 12 | 16 | 42 | 45 | 100.3 | 100.4 | 99.4 | 8 | DM*080 - DM*084 |
| TID085F12-5 | 8.5 - 8.9 | 12 | 16 | 45 | 45 | 102.8 | 102.9 | 101.9 | 8 | DM*085 - DM*089 |
| TID090F12-5 | 9 - 9.4 | 12 | 16 | 47 | 45 | 105.7 | 105.8 | 104.6 | 9 | DM*090 - DM*094 |
| TID095F12-5 | 9.5 - 9.9 | 12 | 16 | 50 | 45 | 108.2 | 108.3 | 107.1 | 9 | DM*095 - DM*099 |
| TID100F16-5 | 10 - 10.4 | 16 | 20 | 52 | 48 | 114.1 | 114.7 | 112.7 | 10 | DM*100 - DM*104 |
| TID105F16-5 | 10.5 - 10.9 | 16 | 20 | 55 | 48 | 116.6 | 117.2 | 115.2 | 10 | DM*105 - DM*109 |
| TID110F16-5 | 11 - 11.4 | 16 | 20 | 57 | 48 | 119.5 | 120.1 | 117.9 | 11 | DM*110 - DM*114 |
| TID115F16-5 | 11.5 - 11.9 | 16 | 20 | 60 | 48 | 122 | 122.6 | 120.4 | 11 | DM*115 - DM*119 |
| TID120F16-5 | 12 - 12.4 | 16 | 20 | 62 | 48 | 124.8 | 125.4 | 123.2 | 12 | DM*120 - DM*124 |
| TID125F16-5 | 12.5 - 12.9 | 16 | 20 | 64 | 48 | 127.3 | 127.9 | 125.7 | 12 | DM*125 - DM*129 |
| TID130F16-5 | 13 - 13.4 | 16 | 20 | 67 | 48 | 130.4 | 131.2 | 128.5 | 13 | DM*130 - DM*134 |
| TID135F16-5 | 13.5 - 13.9 | 16 | 20 | 71 | 48 | 132.9 | 133.7 | 131 | 13 | DM*135 - DM*139 |
| TID140F16-5 | 14 - 14.4 | 16 | 20 | 73 | 48 | 138 | 138.8 | 136 | 14 | DM*140 - DM*144 |
| TID145F16-5 | 14.5 - 14.9 | 16 | 20 | 76 | 48 | 140.5 | 141.3 | 138.5 | 14 | DM*145 - DM*149 |
| TID150F20-5 | 15 - 15.9 | 20 | 25 | 78 | 50 | 148.5 | 149.4 | 146.4 | 15 | DM*150 - DM*159 |
| TID160F20-5 | 16 - 16.9 | 20 | 25 | 83 | 50 | 155.1 | 156.1 | 152.8 | 16 | DM*160 - DM*169 |
| TID170F20-5 | 17 - 17.9 | 20 | 25 | 88 | 50 | 161.7 | 162.7 | 159.2 | 17 | DM*170 - DM*179 |
| TID180F25-5 | 18 - 18.9 | 25 | 32 | 93 | 56 | 174.3 | 175.4 | 171.5 | 18 | DM*180 - DM*189 |
| TID190F25-5 | 19 - 19.9 | 25 | 32 | 99 | 56 | 180.8 | 181.9 | 177.8 | 19 | DM*190 - DM*199 |
| TID200F25-5 | 20 - 20.9 | 25 | 32 | 104 | 56 | 187.6 | 188.8 | 185.3 | 20 | DM*200 - DM*209 |
| TID210F25-5 | 21 - 21.9 | 25 | 32 | 109 | 56 | 194.2 | 195.4 | 191.8 | 21 | DM*210 - DM*219 |
| TID220F25-5 | 22 - 22.9 | 25 | 32 | 114 | 56 | 200.8 | 202.1 | 198.1 | 22 | DM*220 - DM*229 |
| TID230F32-5 | 23 - 23.9 | 32 | 42 | 119 | 60 | 211.3 | 212.7 | 208.5 | 23 | DM*230 - DM*239 |
| TID240F32-5 | 24 - 24.9 | 32 | 42 | 124 | 60 | 217.9 | 219.3 | 214.9 | 24 | DM*240 - DM*249 |
| TID250F32-5 | 25 - 25.9 | 32 | 42 | 130 | 60 | 224.5 | 226 | 221.4 | 25 | DM*250 - DM*259 |

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

*Just for reference

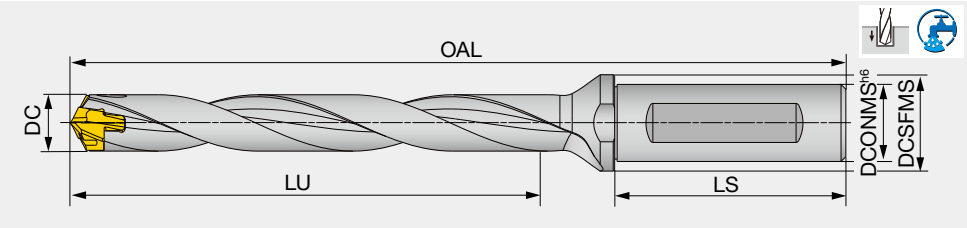
- An overall length (OAL) differs based on each head geometry.
- For drill diameters from ø8 - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP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

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060... - TID095... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |
| TID200... - TID250... | K-TID20-26.99 |

## TID-F L/D=8

Exchangeable head drill, L/D = 8, flange type




| Designation | DC | DCONMS | DCSFMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | DMP/H/N | DMC | DMF | | |
| TID070F12-8 | 7 - 7.4 | 12 | 16 | 57 | 45 | 115.5 | 115.9 | 114.6 | 7 | DM*070 - DM*074 |
| TID075F12-8 | 7.5 - 7.9 | 12 | 16 | 61 | 45 | 119.5 | 119.9 | 118.6 | 7 | DM*075 - DM*079 |
| TID080F12-8 | 8 - 8.4 | 12 | 16 | 66 | 45 | 124.3 | 124.4 | 123.4 | 8 | DM*080 - DM*084 |
| TID085F12-8 | 8.5 - 8.9 | 12 | 16 | 70 | 45 | 128.3 | 128.4 | 127.4 | 8 | DM*085 - DM*089 |
| TID090F12-8 | 9 - 9.4 | 12 | 16 | 74 | 45 | 132.7 | 132.8 | 131.6 | 9 | DM*090 - DM*094 |
| TID095F12-8 | 9.5 - 9.9 | 12 | 16 | 78 | 45 | 136.7 | 136.8 | 135.6 | 9 | DM*095 - DM*099 |
| TID100F16-8 | 10 - 10.4 | 16 | 20 | 82 | 48 | 144.1 | 144.7 | 142.7 | 10 | DM*100 - DM*104 |
| TID105F16-8 | 10.5 - 10.9 | 16 | 20 | 86 | 48 | 148.1 | 148.7 | 146.7 | 10 | DM*105 - DM*109 |
| TID110F16-8 | 11 - 11.4 | 16 | 20 | 90 | 48 | 152.5 | 153.1 | 150.9 | 11 | DM*110 - DM*114 |
| TID115F16-8 | 11.5 - 11.9 | 16 | 20 | 94 | 48 | 156.5 | 157.1 | 154.9 | 11 | DM*115 - DM*119 |
| TID120F16-8 | 12 - 12.4 | 16 | 20 | 98 | 48 | 160.8 | 161.4 | 159.2 | 12 | DM*120 - DM*124 |
| TID125F16-8 | 12.5 - 12.9 | 16 | 20 | 102 | 48 | 164.8 | 165.4 | 163.2 | 12 | DM*125 - DM*129 |
| TID130F16-8 | 13 - 13.4 | 16 | 20 | 106 | 48 | 169.4 | 170.2 | 167.5 | 13 | DM*130 - DM*134 |
| TID135F16-8 | 13.5 - 13.9 | 16 | 20 | 111 | 48 | 173.4 | 174.2 | 171.5 | 13 | DM*135 - DM*139 |
| TID140F16-8 | 14 - 14.4 | 16 | 20 | 115 | 48 | 180 | 180.8 | 178 | 14 | DM*140 - DM*144 |
| TID145F16-8 | 14.5 - 14.9 | 16 | 20 | 119 | 48 | 184 | 184.8 | 182 | 14 | DM*145 - DM*149 |
| TID150F20-8 | 15 - 15.9 | 20 | 25 | 123 | 50 | 193.5 | 194.4 | 191.4 | 15 | DM*150 - DM*159 |
| TID160F20-8 | 16 - 16.9 | 20 | 25 | 131 | 50 | 203.1 | 204.1 | 200.8 | 16 | DM*160 - DM*169 |
| TID170F20-8 | 17 - 17.9 | 20 | 25 | 139 | 50 | 212.7 | 213.7 | 210.2 | 17 | DM*170 - DM*179 |
| TID180F25-8 | 18 - 18.9 | 25 | 32 | 147 | 56 | 228.3 | 229.4 | 225.5 | 18 | DM*180 - DM*189 |
| TID190F25-8 | 19 - 19.9 | 25 | 32 | 156 | 56 | 237.8 | 238.9 | 234.8 | 19 | DM*190 - DM*199 |
| TID200F25-8 | 20 - 20.9 | 25 | 32 | 164 | 56 | 247.4 | 248.6 | 245.1 | 20 | DM*200 - DM*209 |
| TID210F25-8 | 21 - 21.9 | 25 | 32 | 172 | 56 | 257 | 258.2 | 254.5 | 21 | DM*210 - DM*219 |
| TID220F25-8 | 22 - 22.9 | 25 | 32 | 180 | 56 | 266.6 | 267.8 | 263.9 | 22 | DM*220 - DM*229 |
| TID230F32-8 | 23 - 23.9 | 32 | 42 | 188 | 60 | 280.1 | 281.5 | 277.3 | 23 | DM*230 - DM*239 |
| TID240F32-8 | 24 - 24.9 | 32 | 42 | 196 | 60 | 289.7 | 291.1 | 286.7 | 24 | DM*240 - DM*249 |
| TID250F32-8 | 25 - 25.9 | 32 | 42 | 205 | 60 | 299.3 | 300.8 | 296.2 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø7 - ø17.9 | +0.05 / 0 |
| ø18 - ø25.9 | +0.055 / 0 |

*Just for reference

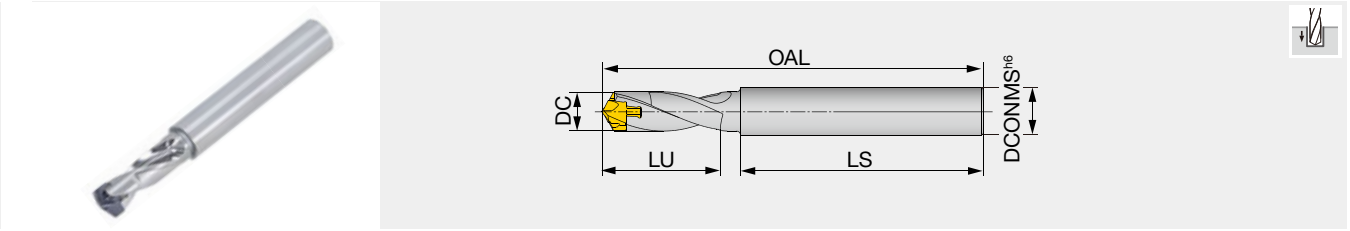
- An overall length (OAL) differs based on each head geometry.
- For drill diameters from ø8 - ø9.9 mm, the drill shoulder to shank bottom distance when a DMC drill head is mounted is 0.3 mm shorter when compared with a DMP head of the equivalent sizes. The distances are the same for the DMC and DMP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

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID070... - TID095... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |
| TID200... - TID250... | K-TID20-26.99 |

## TID-R-2E L/D=2

Exchangeable head drill, L/D = 2, Cylindrical shank, for external coolant supply




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP/H/N | DMC | DMF | | |
| TID060R8-2E | 6 - 6.4 | 8 | 12 | 45 | 66.1 | 66.2 | 65.2 | 6 | DM*060 - DM*064 |
| TID065R8-2E | 6.5 - 6.9 | 8 | 13 | 45 | 67.2 | 67.3 | 66.3 | 6.5 | DM*065 - DM*069 |
| TID070R8-2E | 7 - 7.4 | 8 | 13 | 45 | 68 | 68.4 | 67.1 | 7 | DM*070 - DM*074 |
| TID075R8-2E | 7.5 - 7.9 | 8 | 14 | 45 | 69 | 69.4 | 68.1 | 7 | DM*075 - DM*079 |
| TID080R10-2E | 8 - 8.9 | 10 | 15 | 50 | 75.2 | 75.3 | 74.3 | 8 | DM*080 - DM*089 |
| TID090R10-2E | 9 - 9.9 | 10 | 17 | 50 | 77.4 | 77.5 | 76.3 | 9 | DM*090 - DM*099 |
| TID100R12-2E | 10 - 10.9 | 12 | 22 | 60 | 94.3 | 94.9 | 92.9 | 10 | DM*100 - DM*109 |
| TID110R12-2E | 11 - 11.9 | 12 | 24 | 60 | 96.5 | 97.1 | 94.9 | 11 | DM*110 - DM*119 |
| TID120R14-2E | 12 - 12.9 | 14 | 26 | 65 | 103.6 | 104.2 | 102 | 12 | DM*120 - DM*129 |
| TID130R14-2E | 13 - 13.9 | 14 | 27 | 65 | 108.8 | 109.6 | 106.9 | 13 | DM*130 - DM*139 |
| TID140R16-2E | 14 - 14.9 | 16 | 29 | 70 | 115 | 115.8 | 113 | 14 | DM*140 - DM*149 |
| TID150R16-2E | 15 - 15.9 | 16 | 32 | 70 | 118 | 118.9 | 115.9 | 15 | DM*150 - DM*159 |
| TID160R18-2E | 16 - 16.9 | 18 | 33 | 70 | 122.2 | 123.2 | 119.9 | 16 | DM*160 - DM*169 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø16.9 | +0.04 / 0 |

*Just for reference

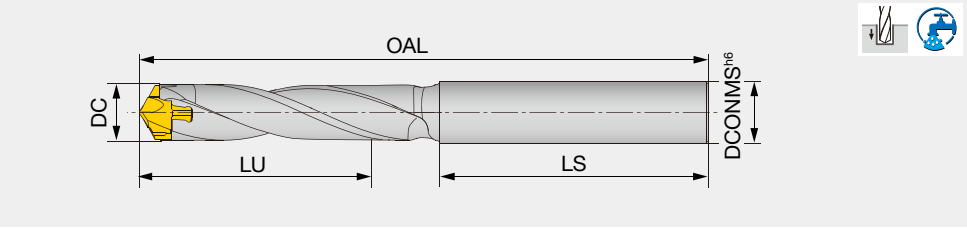
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the 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.
- For drill diameters from ø8 - 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... - TID095... | K-TID6-9.99 |
| TID100... - TID160... | K-TID10-19.99 |

## TID-R L/D=3.5

Exchangeable head drill, L/D = 3.5, Cylindrical shank




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP/H/N | DMC | DMF | | |
| TID060R8-3.5 | 6 - 6.4 | 8 | 23 | 45 | 75.6 | 75.8 | 74.8 | 6 | DM*060 - DM*064 |
| TID065R8-3.5 | 6.5 - 6.9 | 8 | 25 | 45 | 77.5 | 77.6 | 76.6 | 6.5 | DM*065 - DM*069 |
| TID070R8-3.5 | 7 - 7.4 | 8 | 26 | 45 | 79.1 | 79.5 | 78.2 | 7 | DM*070 - DM*074 |
| TID075R8-3.5 | 7.5 - 7.9 | 8 | 28 | 45 | 80.8 | 81.3 | 80 | 7 | DM*075 - DM*079 |
| TID080R10-3.5 | 8 - 8.4 | 10 | 30 | 50 | 87.8 | 87.9 | 86.9 | 8 | DM*080 - DM*084 |
| TID085R10-3.5 | 8.5 - 8.9 | 10 | 32 | 50 | 89.5 | 89.7 | 88.6 | 8 | DM*085 - DM*089 |
| TID090R10-3.5 | 9 - 9.4 | 10 | 34 | 50 | 91.4 | 91.6 | 90.4 | 9 | DM*090 - DM*094 |
| TID095R10-3.5 | 9.5 - 9.9 | 10 | 36 | 50 | 93.2 | 93.3 | 92.1 | 9 | DM*095 - DM*099 |
| TID100R12-3.5 | 10 - 10.4 | 12 | 42 | 60 | 114 | 114.7 | 112.7 | 10 | DM*100 - DM*104 |
| TID105R12-3.5 | 10.5 - 10.9 | 12 | 44 | 60 | 115.7 | 116.3 | 114.4 | 10 | DM*105 - DM*109 |
| TID110R12-3.5 | 11 - 11.4 | 12 | 46 | 65 | 123.1 | 123.8 | 121.6 | 11 | DM*110 - DM*114 |
| TID115R12-3.5 | 11.5 - 11.9 | 12 | 48 | 65 | 124.8 | 125.4 | 123.2 | 11 | DM*115 - DM*119 |
| TID120R14-3.5 | 12 - 12.4 | 14 | 50 | 65 | 127.2 | 127.8 | 125.6 | 12 | DM*120 - DM*124 |
| TID125R14-3.5 | 12.5 - 12.9 | 14 | 52 | 65 | 128.8 | 129.5 | 127.3 | 12 | DM*125 - DM*129 |
| TID130R14-3.5 | 13 - 13.4 | 14 | 54 | 65 | 132.7 | 133.5 | 130.9 | 13 | DM*130 - DM*134 |
| TID135R14-3.5 | 13.5 - 13.9 | 14 | 56 | 65 | 134.4 | 135.2 | 132.5 | 13 | DM*135 - DM*139 |
| TID140R16-3.5 | 14 - 14.4 | 16 | 58 | 70 | 142.2 | 143 | 140.2 | 14 | DM*140 - DM*144 |
| TID145R16-3.5 | 14.5 - 14.9 | 16 | 60 | 70 | 143.8 | 144.7 | 141.9 | 14 | DM*145 - DM*149 |
| TID150R16-3.5 | 15 - 15.9 | 16 | 64 | 70 | 148.4 | 149.4 | 146.3 | 15 | DM*150 - DM*159 |
| TID160R18-3.5 | 16 - 16.9 | 18 | 68 | 70 | 153.9 | 154.9 | 151.7 | 16 | DM*160 - DM*169 |
| TID170R18-3.5 | 17 - 17.9 | 18 | 72 | 70 | 158.5 | 159.4 | 155.9 | 17 | DM*170 - DM*179 |
| TID180R20-3.5 | 18 - 18.9 | 20 | 76 | 70 | 164 | 165.1 | 161.2 | 18 | DM*180 - DM*189 |
| TID190R20-3.5 | 19 - 19.9 | 20 | 80 | 70 | 168.4 | 169.5 | 165.4 | 19 | DM*190 - DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø19.9 | +0.04 / 0 |

*Just for reference

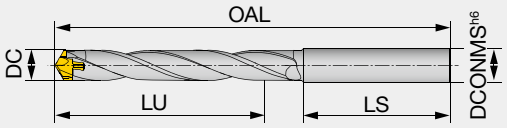
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the 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.
- For drill diameters from ø8 - 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... - TID095... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |

## TID-R L/D=6

Exchangeable head drill, L/D = 6, Cylindrical shank




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP/H/N | DMC | DMF | | |
| TID060R8-6 | 6 - 6.4 | 8 | 39 | 45 | 91.6 | 91.8 | 90.8 | 6 | DM*060 - DM*064 |
| TID065R8-6 | 6.5 - 6.9 | 8 | 42 | 45 | 94.7 | 94.9 | 93.9 | 6.5 | DM*065 - DM*069 |
| TID070R8-6 | 7 - 7.4 | 8 | 45 | 45 | 97.6 | 98 | 96.7 | 7 | DM*070 - DM*074 |
| TID075R8-6 | 7.5 - 7.9 | 8 | 48 | 45 | 100.6 | 101 | 99.7 | 7 | DM*075 - DM*079 |
| TID080R10-6 | 8 - 8.4 | 10 | 51 | 50 | 108.8 | 108.9 | 107.9 | 8 | DM*080 - DM*084 |
| TID085R10-6 | 8.5 - 8.9 | 10 | 54 | 50 | 111.8 | 111.9 | 110.9 | 8 | DM*085 - DM*089 |
| TID090R10-6 | 9 - 9.4 | 10 | 57 | 50 | 114.9 | 115.1 | 113.9 | 9 | DM*090 - DM*094 |
| TID095R10-6 | 9.5 - 9.9 | 10 | 60 | 50 | 117.9 | 118.1 | 116.9 | 9 | DM*095 - DM*099 |
| TID100R12-6 | 10 - 10.4 | 12 | 68 | 60 | 140 | 140.7 | 138.7 | 10 | DM*100 - DM*104 |
| TID105R12-6 | 10.5 - 10.9 | 12 | 71 | 60 | 142.9 | 143.6 | 141.6 | 10 | DM*105 - DM*109 |
| TID110R12-6 | 11 - 11.4 | 12 | 75 | 65 | 151.6 | 152.3 | 150.1 | 11 | DM*110 - DM*114 |
| TID115R12-6 | 11.5 - 11.9 | 12 | 78 | 65 | 154.5 | 155.2 | 153 | 11 | DM*115 - DM*119 |
| TID120R14-6 | 12 - 12.4 | 14 | 81 | 65 | 158.2 | 158.8 | 156.6 | 12 | DM*120 - DM*124 |
| TID125R14-6 | 12.5 - 12.9 | 14 | 84 | 65 | 161.1 | 161.7 | 159.5 | 12 | DM*125 - DM*129 |
| TID130R14-6 | 13 - 13.4 | 14 | 88 | 65 | 166.2 | 167 | 164.4 | 13 | DM*130 - DM*134 |
| TID135R14-6 | 13.5 - 13.9 | 14 | 91 | 65 | 169.2 | 169.9 | 167.3 | 13 | DM*135 - DM*139 |
| TID140R16-6 | 14 - 14.4 | 16 | 94 | 70 | 178.2 | 179 | 176.2 | 14 | DM*140 - DM*144 |
| TID145R16-6 | 14.5 - 14.9 | 16 | 97 | 70 | 181.1 | 181.9 | 179.1 | 14 | DM*145 - DM*149 |
| TID150R16-6 | 15 - 15.9 | 16 | 104 | 70 | 188.2 | 189.1 | 186.1 | 15 | DM*150 - DM*159 |
| TID160R18-6 | 16 - 16.9 | 18 | 110 | 70 | 196.2 | 197.2 | 193.9 | 16 | DM*160 - DM*169 |
| TID170R18-6 | 17 - 17.9 | 18 | 117 | 70 | 203.2 | 204.2 | 200.7 | 17 | DM*170 - DM*179 |
| TID180R20-6 | 18 - 18.9 | 20 | 124 | 70 | 211.3 | 212.3 | 208.4 | 18 | DM*180 - DM*189 |
| TID190R20-6 | 19 - 19.9 | 20 | 130 | 70 | 218.1 | 219.2 | 215.1 | 19 | DM*190 - DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø17.9 | +0.05 / 0 |
| ø18 - ø19.9 | +0.055 / 0 |

*Just for reference

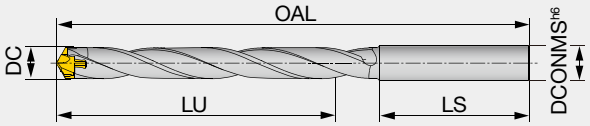
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the 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.
- For drill diameters from ø8 - 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... - TID095... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |

## TID-R L/D=8

Exchangeable head drill, L/D = 8, Cylindrical shank




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP/H/N | DMC | DMF | | |
| TID060R8-8 | 6 - 6.4 | 8 | 52 | 45 | 104.4 | 104.6 | 103.6 | 6 | DM*060 - DM*064 |
| TID065R8-8 | 6.5 - 6.9 | 8 | 56 | 45 | 108.5 | 108.7 | 107.7 | 6.5 | DM*065 - DM*069 |
| TID070R8-8 | 7 - 7.4 | 8 | 60 | 45 | 112.4 | 112.8 | 111.5 | 7 | DM*070 - DM*074 |
| TID075R8-8 | 7.5 - 7.9 | 8 | 64 | 45 | 116.4 | 116.8 | 115.5 | 7 | DM*075 - DM*079 |
| TID080R10-8 | 8 - 8.4 | 10 | 68 | 50 | 125.6 | 125.7 | 124.7 | 8 | DM*080 - DM*084 |
| TID085R10-8 | 8.5 - 8.9 | 10 | 72 | 50 | 129.6 | 129.7 | 128.7 | 8 | DM*085 - DM*089 |
| TID090R10-8 | 9 - 9.4 | 10 | 76 | 50 | 133.7 | 133.9 | 132.7 | 9 | DM*090 - DM*094 |
| TID095R10-8 | 9.5 - 9.9 | 10 | 80 | 50 | 137.7 | 137.9 | 136.7 | 9 | DM*095 - DM*099 |
| TID100R12-8 | 10 - 10.4 | 12 | 89 | 60 | 160.8 | 161.5 | 159.5 | 10 | DM*100 - DM*104 |
| TID105R12-8 | 10.5 - 10.9 | 12 | 93 | 60 | 164.7 | 165.4 | 163.4 | 10 | DM*105 - DM*109 |
| TID110R12-8 | 11 - 11.4 | 12 | 98 | 65 | 174.4 | 175.1 | 172.9 | 11 | DM*110 - DM*114 |
| TID115R12-8 | 11.5 - 11.9 | 12 | 102 | 65 | 178.3 | 179 | 176.8 | 11 | DM*115 - DM*119 |
| TID120R14-8 | 12 - 12.4 | 14 | 106 | 65 | 183 | 183.6 | 181.4 | 12 | DM*120 - DM*124 |
| TID125R14-8 | 12.5 - 12.9 | 14 | 110 | 65 | 186.9 | 187.5 | 185.3 | 12 | DM*125 - DM*129 |
| TID130R14-8 | 13 - 13.4 | 14 | 115 | 65 | 193 | 193.8 | 191.2 | 13 | DM*130 - DM*134 |
| TID135R14-8 | 13.5 - 13.9 | 14 | 119 | 65 | 196.9 | 197.7 | 195 | 13 | DM*135 - DM*139 |
| TID140R16-8 | 14 - 14.4 | 16 | 123 | 70 | 207 | 207.8 | 205 | 14 | DM*140 - DM*144 |
| TID145R16-8 | 14.5 - 14.9 | 16 | 127 | 70 | 210.9 | 211.7 | 208.9 | 14 | DM*145 - DM*149 |
| TID150R16-8 | 15 - 15.9 | 16 | 136 | 70 | 220 | 220.9 | 217.9 | 15 | DM*150 - DM*159 |
| TID160R18-8 | 16 - 16.9 | 18 | 144 | 70 | 230 | 231 | 227.7 | 16 | DM*160 - DM*169 |
| TID170R18-8 | 17 - 17.9 | 18 | 153 | 70 | 239 | 240 | 236.5 | 17 | DM*170 - DM*179 |
| TID180R20-8 | 18 - 18.9 | 20 | 162 | 70 | 249.1 | 250.1 | 246.2 | 18 | DM*180 - DM*189 |
| TID190R20-8 | 19 - 19.9 | 20 | 170 | 70 | 257.9 | 259 | 254.9 | 19 | DM*190 - DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø17.9 | +0.05 / 0 |
| ø18 - ø19.9 | +0.055 / 0 |

*Just for reference

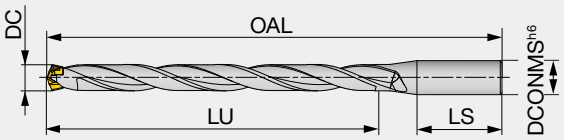
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the 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.
- For drill diameters from ø8 - 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... - TID095... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |

## TID L/D=12

Exchangeable head drill, L/D = 12, Cylindrical shank




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP/H/N | DMC | DMF | | |
| TID080R12-12 | 8 - 8.4 | 12 | 98 | 45 | 156.3 | 156.4 | 155.4 | 8 | DM*080 - DM*084 |
| TID085R12-12 | 8.5 - 8.9 | 12 | 104 | 45 | 162.3 | 162.4 | 161.4 | 8 | DM*085 - DM*089 |
| TID090R12-12 | 9 - 9.4 | 12 | 110 | 45 | 168.7 | 168.8 | 167.6 | 9 | DM*090 - DM*094 |
| TID095R12-12 | 9.5 - 9.9 | 12 | 116 | 45 | 174.7 | 174.8 | 173.6 | 9 | DM*095 - DM*099 |
| TID100R16-12 | 10 - 10.4 | 16 | 122 | 48 | 184.1 | 184.7 | 182.7 | 10 | DM*100 - DM*104 |
| TID105R16-12 | 10.5 - 10.9 | 16 | 128 | 48 | 190.1 | 190.7 | 188.7 | 10 | DM*105 - DM*109 |
| TID110R16-12 | 11 - 11.4 | 16 | 134 | 48 | 196.5 | 197.1 | 194.9 | 11 | DM*110 - DM*114 |
| TID115R16-12 | 11.5 - 11.9 | 16 | 140 | 48 | 202.5 | 203.1 | 200.9 | 11 | DM*115 - DM*119 |
| TID120R16-12 | 12 - 12.4 | 16 | 146 | 48 | 208.8 | 209.4 | 207.2 | 12 | DM*120 - DM*124 |
| TID125R16-12 | 12.5 - 12.9 | 16 | 152 | 48 | 214.8 | 215.4 | 213.2 | 12 | DM*125 - DM*129 |
| TID130R16-12 | 13 - 13.4 | 16 | 158 | 48 | 221.4 | 222.2 | 219.5 | 13 | DM*130 - DM*134 |
| TID135R16-12 | 13.5 - 13.9 | 16 | 165 | 48 | 227.4 | 228.2 | 225.5 | 13 | DM*135 - DM*139 |
| TID140R16-12 | 14 - 14.4 | 16 | 171 | 48 | 236 | 236.8 | 234 | 14 | DM*140 - DM*144 |
| TID145R16-12 | 14.5 - 14.9 | 16 | 177 | 48 | 242 | 242.8 | 240 | 14 | DM*145 - DM*149 |
| TID150R20-12 | 15 - 15.9 | 20 | 183 | 50 | 253.5 | 254.4 | 251.4 | 15 | DM*150 - DM*159 |
| TID160R20-12 | 16 - 16.9 | 20 | 195 | 50 | 267.1 | 268.1 | 264.8 | 16 | DM*160 - DM*169 |
| TID170R20-12 | 17 - 17.9 | 20 | 207 | 50 | 280.7 | 281.7 | 278.2 | 17 | DM*170 - DM*179 |
| TID180R25-12 | 18 - 18.9 | 25 | 219 | 56 | 300.3 | 301.4 | 297.5 | 18 | DM*180 - DM*189 |
| TID190R25-12 | 19 - 19.9 | 25 | 232 | 56 | 313.8 | 314.9 | 310.8 | 19 | DM*190 - DM*199 |
| TID200R25-12 | 20 - 20.9 | 25 | 244 | 56 | 327.4 | 328.6 | 325.1 | 20 | DM*200 - DM*209 |
| TID210R25-12 | 21 - 21.9 | 25 | 256 | 56 | 341 | 342.2 | 338.5 | 21 | DM*210 - DM*219 |
| TID220R25-12 | 22 - 22.9 | 25 | 267 | 56 | 354.6 | 355.8 | 351.9 | 22 | DM*220 - DM*229 |
| TID230R32-12 | 23 - 23.9 | 32 | 276 | 60 | 372.1 | 373.5 | 369.3 | 23 | DM*230 - DM*239 |
| TID240R32-12 | 24 - 24.9 | 32 | 288 | 60 | 385.7 | 387.1 | 382.7 | 24 | DM*240 - DM*249 |
| TID250R32-12 | 25 - 25.9 | 32 | 300 | 60 | 399.3 | 400.8 | 396.2 | 25 | DM*250 - DM*259 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø8 - ø17.9 | +0.05 / 0 |
| ø18 - ø25.9 | +0.055 / 0 |

*Just for reference

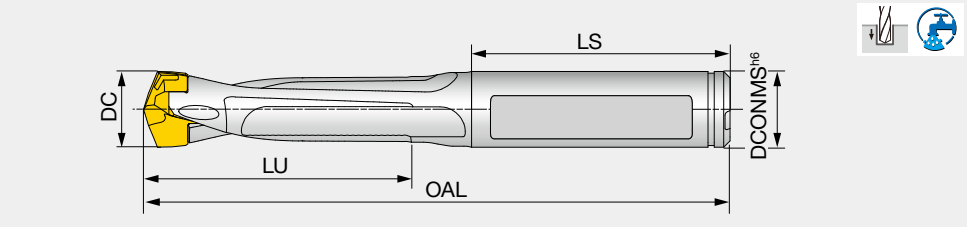
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.
- For drill diameters from ø8 - 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 |
|---|---|
| TID080... - TID095... | K-TID6-9.99 |
| TID100... - TID190... | K-TID10-19.99 |
| TID200... - TID250... | K-TID20-26.99 |

## TIDC L/D=3

Exchangeable head drill, L/D = 3, Cylindrical shank, for chamfering adapter




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP/H/N | DMC | DMF | | |
| TIDC075C8-3 | 7.5 - 7.9 | 8 | 23 | 36 | 70.1 | 70.6 | 69.2 | 7 | DM*075 - DM*079 |
| TIDC080C8-3 | 8 - 8.4 | 8 | 24 | 36 | 70.6 | 70.8 | 69.7 | 8 | DM*080 - DM*084 |
| TIDC085C9-3 | 8.5 - 8.9 | 9 | 26 | 36 | 72.8 | 73 | 71.9 | 8 | DM*085 - DM*089 |
| TIDC090C9-3 | 9 - 9.4 | 9 | 27 | 36 | 74.7 | 74.9 | 73.7 | 9 | DM*090 - DM*094 |
| TIDC095C10-3 | 9.5 - 9.9 | 10 | 29 | 36 | 76.2 | 76.4 | 75.2 | 9 | DM*095 - DM*099 |
| TIDC100C10-3 | 10 - 10.4 | 10 | 32 | 41 | 86.1 | 86.7 | 84.8 | 10 | DM*100 - DM*104 |
| TIDC105C11-3 | 10.5 - 10.9 | 11 | 33 | 41 | 87.6 | 88.2 | 86.3 | 10 | DM*105 - DM*109 |
| TIDC110C11-3 | 11 - 11.4 | 11 | 35 | 41 | 89.5 | 90.2 | 88 | 11 | DM*110 - DM*114 |
| TIDC115C12-3 | 11.5 - 11.9 | 12 | 37 | 41 | 91 | 91.7 | 89.5 | 11 | DM*115 - DM*119 |
| TIDC120C12-3 | 12 - 12.4 | 12 | 38 | 41 | 92.8 | 93.4 | 91.2 | 12 | DM*120 - DM*124 |
| TIDC125C13-3 | 12.5 - 12.9 | 13 | 40 | 46 | 98.3 | 98.9 | 96.7 | 12 | DM*125 - DM*129 |
| TIDC130C13-3 | 13 - 13.4 | 13 | 41 | 47 | 102.4 | 103.2 | 100.5 | 13 | DM*130 - DM*134 |
| TIDC135C14-3 | 13.5 - 13.9 | 14 | 43 | 43 | 99.9 | 100.7 | 98 | 13 | DM*135 - DM*139 |
| TIDC140C14-3 | 14 - 14.4 | 14 | 45 | 44 | 103 | 103.8 | 101 | 14 | DM*140 - DM*144 |
| TIDC145C15-3 | 14.5 - 14.9 | 15 | 46 | 45 | 105.5 | 106.3 | 103.5 | 14 | DM*145 - DM*149 |
| TIDC150C15-3 | 15 - 15.9 | 15 | 48 | 45 | 107.5 | 108.4 | 105.4 | 15 | DM*150 - DM*159 |
| TIDC160C16-3 | 16 - 16.9 | 16 | 51 | 48 | 117.5 | 118.5 | 115.2 | 16 | DM*160 - DM*169 |
| TIDC170C17-3 | 17 - 17.9 | 17 | 54 | 48 | 119.7 | 120.7 | 117.2 | 17 | DM*170 - DM*179 |
| TIDC180C18-3 | 18 - 18.9 | 18 | 57 | 48 | 123.3 | 124.4 | 120.5 | 18 | DM*180 - DM*189 |
| TIDC190C19-3 | 19 - 19.9 | 19 | 61 | 54 | 132.4 | 133.5 | 129.4 | 19 | DM*190 - DM*199 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø7.5 - ø17.9 | +0.04 / 0 |
| ø18 - ø19.9 | +0.045 / 0 |

*Just for reference

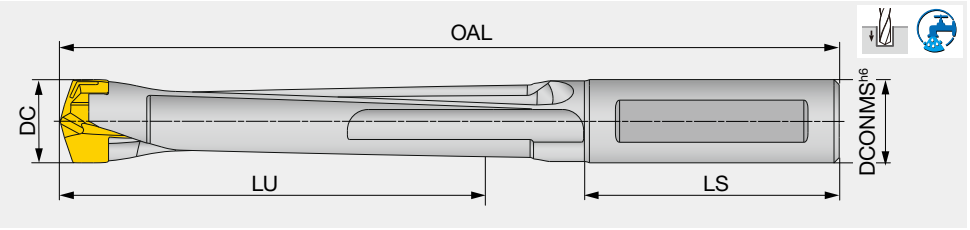
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.
- For drill diameters from ø8 - 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 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... - TIDC099... | K-TID6-9.99 |
| TIDC100... - TIDC190... | K-TID10-19.99 |

## TIDC L/D=5

Exchangeable head drill, L/D = 5, Cylindrical shank, for chamfering adapter




| Designation | DC | DCONMS | LU | LS | OAL | | | Pocket size | Head |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP/H/N | DMC | DMF | | |
| TIDC075C8-5 | 7.5 - 7.9 | 8 | 38 | 36 | 85.1 | 85.6 | 84.2 | 7 | DM*075 - DM*079 |
| TIDC080C8-5 | 8 - 8.4 | 8 | 40 | 36 | 92.3 | 92.5 | 91.4 | 8 | DM*080 - DM*084 |
| TIDC085C9-5 | 8.5 - 8.9 | 9 | 43 | 36 | 89.8 | 90 | 88.9 | 8 | DM*085 - DM*089 |
| TIDC090C9-5 | 9 - 9.4 | 9 | 45 | 36 | 92.7 | 92.9 | 91.7 | 9 | DM*090 - DM*094 |
| TIDC095C10-5 | 9.5 - 9.9 | 10 | 48 | 36 | 95.2 | 95.4 | 94.2 | 9 | DM*095 - DM*099 |
| TIDC100C10-5 | 10 - 10.4 | 10 | 52 | 41 | 106.1 | 106.7 | 104.8 | 10 | DM*100 - DM*104 |
| TIDC105C11-5 | 10.5 - 10.9 | 11 | 54 | 41 | 108.6 | 109.2 | 107.3 | 10 | DM*105 - DM*109 |
| TIDC110C11-5 | 11 - 11.4 | 11 | 57 | 41 | 111.5 | 112.2 | 110 | 11 | DM*110 - DM*114 |
| TIDC115C12-5 | 11.5 - 11.9 | 12 | 60 | 41 | 114 | 114.7 | 112.5 | 11 | DM*115 - DM*119 |
| TIDC120C12-5 | 12 - 12.4 | 12 | 62 | 41 | 116.8 | 117.4 | 115.2 | 12 | DM*120 - DM*124 |
| TIDC125C13-5 | 12.5 - 12.9 | 13 | 65 | 46 | 124.3 | 124.9 | 122.7 | 12 | DM*125 - DM*129 |
| TIDC130C13-5 | 13 - 13.4 | 13 | 67 | 47 | 128.4 | 129.2 | 126.5 | 13 | DM*130 - DM*134 |
| TIDC135C14-5 | 13.5 - 13.9 | 14 | 70 | 43 | 126.9 | 127.7 | 125 | 13 | DM*135 - DM*139 |
| TIDC140C14-5 | 14 - 14.4 | 14 | 73 | 44 | 131 | 131.8 | 129 | 14 | DM*140 - DM*144 |
| TIDC145C15-5 | 14.5 - 14.9 | 15 | 75 | 45 | 134.5 | 135.3 | 132.5 | 14 | DM*145 - DM*149 |
| TIDC150C15-5 | 15 - 15.9 | 15 | 78 | 45 | 137.5 | 138.4 | 135.4 | 15 | DM*150 - DM*159 |
| TIDC160C16-5 | 16 - 16.9 | 16 | 83 | 48 | 149.5 | 150.5 | 147.2 | 16 | DM*160 - DM*169 |
| TIDC170C17-5 | 17 - 17.9 | 17 | 88 | 48 | 153.7 | 154.7 | 151.2 | 17 | DM*170 - DM*179 |
| TIDC180C18-5 | 18 - 18.9 | 18 | 93 | 48 | 159.3 | 160.4 | 156.5 | 18 | DM*180 - DM*189 |
| TIDC190C19-5 | 19 - 19.9 | 19 | 99 | 54 | 170.4 | 171.5 | 167.4 | 19 | DM*190 - DM*199 |

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

*Just for reference

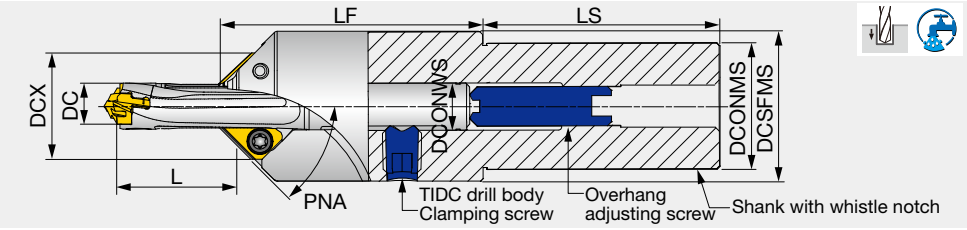
- An overall length (OAL) differs based on each head geometry.
- When using the drill at a higher feed rate, make sure to provide an axial support by placing the overhang adjusting screw at the drill shank end in the tool holder. This will prevent high thrust force from pushing the drill back into the holder during drilling.
- For drill diameters from ø8 - 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 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... - TIDC099... | K-TID6-9.99 |
| TIDC100... - TIDC190... | K-TID10-19.99 |

## TIDCF

### Chamfering adapter




| Designation | DC | DCONMS | DCSFMS | DCX | LF | LS | L* L/D = 3 | L* L/D = 5 | Drill body | DCONWS | Insert |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TIDCF080-W20 | 7.5 - 7.9 | 20 | 25 | 18.8 | 47.4 | 50 | 12.6 - 24 | 17.3 - 38 | TIDC075C8-... | 8 | XCGT06... |
| TIDCF080-W20 | 8.0 - 8.4 | 20 | 25 | 18.8 | 47.4 | 50 | 13.5 - 24.6 | 24.7 - 45 | TIDC080C8-... | 8 | XCGT06... |
| TIDCF090-W20 | 8.5 - 8.9 | 20 | 25 | 19.8 | 47.4 | 50 | 12.6 - 26.2 | 18.5 - 43 | TIDC085C9-... | 9 | XCGT06... |
| 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





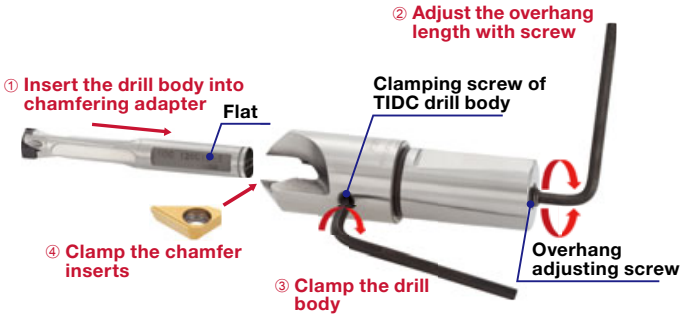


| Designation | Insert screw | Grip | Clamping screw of TIDC drill body | Overhang adjusting screw | Torx bit | Wrench | Wrench |
|---|---|---|---|---|---|---|---|
| TIDCF080... - TIDCF090... | SR14-560 | - | SRM6X6DIN916 | SRM6X1S | - | HW3.0 | T-8D |
| TIDCF100... - TIDCF190... | SR14-544/S | SW6-SD | SRM10X10DIN916 | SRM10X1.5S | BT15S | HW5.0 | - |

Recommended clamping torque (N·m) : SR14-544/S = 4.8

## ● How to mount the chamfering adapter on the TIDC drill body

The overhang length of the drill can be changed by the adjusting screw at the bottom of the adapter. 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.



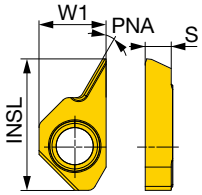

**Procedures**

① Place the TIDC drill body into the chamfering adapter without chamfer inserts.
② Adjust the overhang length of the drill body with the adjusting screw at the bottom of the adapter.
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.

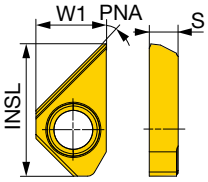
Notice: Before removing the drill body from the adapter, chamfer inserts must be unclamped. The overhang adjusting screw can be handled from the top of the adapter with a flat-blade screwdriver. The overhang length of the drill body can be adjusted after the adapter is positioned on the drill shank.

## CHAMFERING INSERT

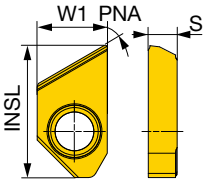
### XCGT-30DT/XHGT-30A




### XCGT-45DT/XHGR-45A




### XCGT-60DT/XHGR-60A




| | | GH730 |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ★ |
| K | Cast iron | ★ |
| N | Non-ferrous | ☆ |
| S | Superalloys | ★ |
| H | Hard materials | ★ |

★ : First choice
☆ : Second choice

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

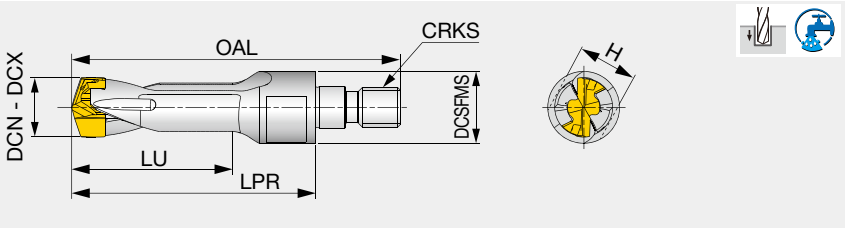
*Please reduce the feed rate to half when chamfering over 60% of maximum width of chamfer.

● : Line up
2 pieces per package

# MODULAR BODIES

## TID-M L/D=2

Modular body with "TungFlex" connection




| Designation | DC | DCSFMS | LU | LPR | OAL | | | CRKS | Pocket size | H | Head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP | DMC | DMF | | | | |
| TID060M6-2 | 6 - 6.4 | 10 | 13 | 27.55 | 42.05 | 42.2 | 41.21 | M6 | 6 | 7 | DM*060 - DM*064 |
| TID065M6-2 | 6.5 - 6.9 | 10 | 14.5 | 29.15 | 43.65 | 43.8 | 42.78 | M6 | 6.5 | 7 | DM*065 - DM*069 |
| TID070M6-2 | 7 - 7.4 | 10 | 15 | 30.55 | 45.05 | 45.5 | 44.18 | M6 | 7 | 7 | DM*070 - DM*074 |
| TID075M6-2 | 7.5 - 7.9 | 10 | 16.5 | 32.05 | 46.55 | 47 | 45.68 | M6 | 7 | 7 | DM*075 - DM*079 |
| TID080M6-2 | 8 - 8.4 | 10 | 18 | 33.65 | 48.15 | 48.3 | 47.29 | M6 | 8 | 7 | DM*080 - DM*084 |
| TID085M6-2 | 8.5 - 8.9 | 10 | 19.5 | 35.15 | 49.65 | 49.8 | 48.79 | M6 | 8 | 7 | DM*085 - DM*089 |
| TID090M6-2 | 9 - 9.4 | 10 | 20 | 36.85 | 51.35 | 51.5 | 50.31 | M6 | 9 | 7 | DM*090 - DM*094 |
| TID095M6-2 | 9.5 - 9.9 | 10 | 21.5 | 38.35 | 52.85 | 53 | 51.81 | M6 | 9 | 7 | DM*095 - DM*099 |
| TID100M8-2 | 10 - 10.4 | 14.5 | 22 | 42.95 | 59.95 | 60.57 | 58.62 | M8 | 10 | 10 | DM*100 - DM*104 |
| TID105M8-2 | 10.5 - 10.9 | 14.5 | 23.5 | 44.55 | 61.55 | 62.17 | 60.22 | M8 | 10 | 10 | DM*105 - DM*109 |
| TID110M8-2 | 11 - 11.4 | 14.5 | 24 | 46.15 | 63.15 | 63.8 | 61.6 | M8 | 11 | 10 | DM*110 - DM*114 |
| TID115M8-2 | 11.5 - 11.9 | 14.5 | 25.5 | 47.75 | 64.75 | 65.4 | 63.2 | M8 | 11 | 10 | DM*115 - DM*119 |
| TID120M8-2 | 12 - 12.4 | 14.5 | 26 | 49.3 | 66.3 | 66.93 | 64.71 | M8 | 12 | 10 | DM*120 - DM*124 |
| TID125M8-2 | 12.5 - 12.9 | 14.5 | 27.5 | 50.9 | 67.9 | 68.53 | 66.31 | M8 | 12 | 10 | DM*125 - DM*129 |
| TID130M10-2 | 13 - 13.4 | 18 | 28 | 49 | 68 | 68.75 | 66.13 | M10 | 13 | 15 | DM*130 - DM*134 |
| TID135M10-2 | 13.5 - 13.9 | 18 | 29.5 | 50.5 | 69.5 | 70.25 | 67.63 | M10 | 13 | 15 | DM*135 - DM*139 |
| TID140M10-2 | 14 - 14.4 | 18 | 31 | 52.15 | 71.15 | 71.96 | 69.16 | M10 | 14 | 15 | DM*140 - DM*144 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø14.4 | +0.04 / 0 |

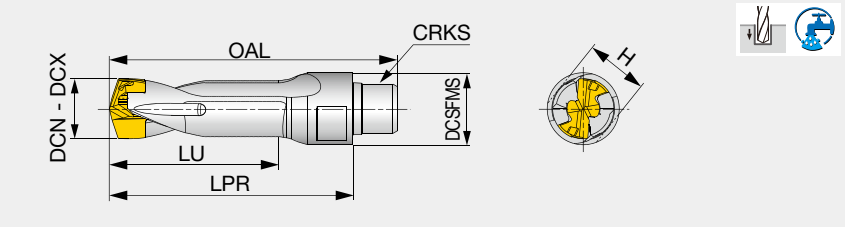
*Just for reference

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060M6-2 - TID095M6-2 | K-TID6-9.99 |
| TID100M8-2 - TID140M10-2 | K-TID10-19.99 |

## TID-S L/D=2

Modular body with "TungMeister" connection




| Designation | DC | DCSFMS | LU | LPR | OAL | | | CRKS | Pocket size | H | Head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP | DMC | DMF | | | | |
| TID065S06-2 | 6.5 - 6.9 | 10 | 14.5 | 27.15 | 33.45 | 33.6 | 32.58 | S06 | 6.5 | 8 | DM*065 |
| TID085S06-2 | 8.5 - 8.9 | 10 | 19.5 | 33.15 | 39.45 | 39.55 | 38.59 | S06 | 8.5 | 8 | DM*085 |
| TID105S08-2 | 10.5 - 10.9 | 12 | 23.5 | 40.55 | 48.05 | 48.67 | 46.72 | S08 | 10.5 | 10 | DM*105 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6.5 - ø10.9 | +0.04 / 0 |

*Just for reference

### SPARE PARTS

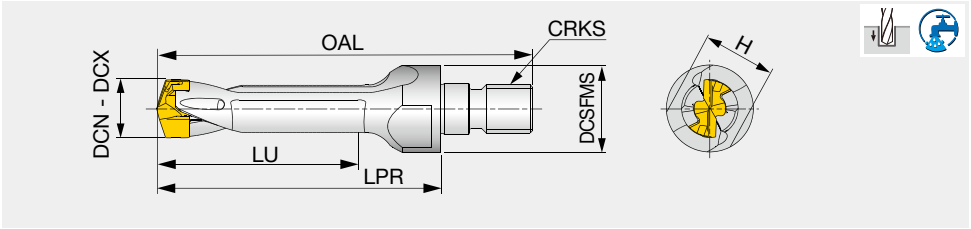
| Designation | Clamping key |
|---|---|
| TID065S06-2, TID085S06-2 | K-TID6-9.99 |
| TID105S08-2 | K-TID10-19.99 |

| Designation | Wrench* |
|---|---|
| TID065S06-2, TID085S06-2 | KEYV-S06 |
| TID105S08-2 | KEYV-S08 |

*Sold separately

## TID-M L/D=3

Modular body with "TungFlex" connection




| Designation | DC | DCSFMS | LU | LPR | OAL | | | CRKS | Pocket size | H | Head |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | DMP | DMC | DMF | | | | |
| TID060M10-3 | 6 - 6.4 | 18 | 19 | 37.05 | 56.05 | 56.2 | 55.21 | M10 | 6 | 15 | DM*060 - DM*064 |
| TID065M10-3 | 6.5 - 6.9 | 18 | 21 | 38.9 | 57.9 | 58.05 | 57.03 | M10 | 6.5 | 15 | DM*065 - DM*069 |
| TID070M10-3 | 7 - 7.4 | 18 | 22 | 40.55 | 59.55 | 60 | 58.68 | M10 | 7 | 15 | DM*070 - DM*074 |
| TID075M10-3 | 7.5 - 7.9 | 18 | 24 | 42.3 | 61.3 | 61.75 | 60.43 | M10 | 7 | 15 | DM*075 - DM*079 |
| TID080M10-3 | 8 - 8.4 | 18 | 26 | 44.15 | 63.15 | 63.3 | 62.29 | M10 | 8 | 15 | DM*080 - DM*084 |
| TID085M10-3 | 8.5 - 8.9 | 18 | 28 | 45.9 | 64.9 | 65.05 | 64.04 | M10 | 8 | 15 | DM*085 - DM*089 |
| TID090M10-3 | 9 - 9.4 | 18 | 29 | 47.85 | 66.85 | 67 | 65.81 | M10 | 9 | 15 | DM*090 - DM*094 |
| TID095M10-3 | 9.5 - 9.9 | 18 | 31 | 49.6 | 68.6 | 68.75 | 67.56 | M10 | 9 | 15 | DM*095 - DM*099 |
| TID100M10-3 | 10 - 10.4 | 18 | 32 | 51.45 | 70.45 | 71.07 | 69.12 | M10 | 10 | 15 | DM*100 - DM*104 |
| TID105M10-3 | 10.5 - 10.9 | 18 | 34 | 53.3 | 72.3 | 72.92 | 70.97 | M10 | 10 | 15 | DM*105 - DM*109 |
| TID110M10-3 | 11 - 11.4 | 18 | 35 | 55.15 | 74.15 | 74.8 | 72.6 | M10 | 11 | 15 | DM*110 - DM*114 |
| TID115M10-3 | 11.5 - 11.9 | 18 | 37 | 57 | 76 | 76.65 | 74.45 | M10 | 11 | 15 | DM*115 - DM*119 |
| TID120M10-3 | 12 - 12.4 | 18 | 38 | 58.8 | 77.8 | 78.43 | 76.21 | M10 | 12 | 15 | DM*120 - DM*124 |
| TID125M10-3 | 12.5 - 12.9 | 18 | 40 | 60.65 | 79.65 | 80.28 | 78.06 | M10 | 12 | 15 | DM*125 - DM*129 |
| TID130M10-3 | 13 - 13.4 | 18 | 41 | 62.5 | 81.5 | 82.25 | 79.63 | M10 | 13 | 15 | DM*130 - DM*134 |
| TID135M10-3 | 13.5 - 13.9 | 18 | 43 | 64.25 | 83.25 | 84 | 81.38 | M10 | 13 | 15 | DM*135 - DM*139 |
| TID140M10-3 | 14 - 14.4 | 18 | 45 | 66.15 | 85.15 | 85.96 | 83.16 | M10 | 14 | 15 | DM*140 - DM*144 |
| TID145M10-3 | 14.5 - 14.9 | 18 | 47 | 68 | 87 | 87.81 | 85.01 | M10 | 14 | 15 | DM*145 - DM*149 |
| TID150M10-3 | 15 - 15.9 | 18 | 48 | 69.73 | 88.73 | 89.64 | 86.63 | M10 | 15 | 15 | DM*150 - DM*159 |
| TID160M12-3 | 16 - 16.9 | 23 | 51 | 75.4 | 97.4 | 98.37 | 95.14 | M12 | 16 | 17 | DM*160 - DM*169 |
| TID170M12-3 | 17 - 17.9 | 23 | 54 | 79.1 | 101.1 | 102.08 | 98.55 | M12 | 17 | 17 | DM*170 - DM*179 |
| TID180M12-3 | 18 - 18.9 | 23 | 57 | 82.7 | 104.7 | 105.75 | 101.85 | M12 | 18 | 17 | DM*180 - DM*189 |

| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6 - ø17.9 | +0.04 / 0 |
| ø18 - ø18.9 | +0.045 / 0 |

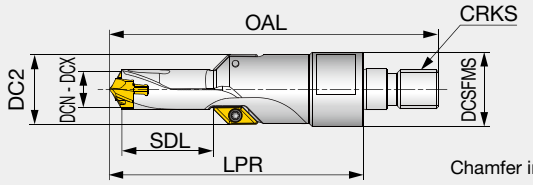
*Just for reference

### SPARE PARTS

| Designation | Clamping key |
|---|---|
| TID060M10-3 - TID095M10-3 | K-TID6-9.99 |
| TID100M10-3 - TID180M12-3 | K-TID10-19.99 |

## TID-L-A-M

Drill with chamfer and "TungFlex" connection




Chamfer insert: AOMT060204-C45

| Designation | DCX | DCN | DC2 | SDL | DCSFMS | LPR | OAL | CRKS | H | Pocket size |
|---|---|---|---|---|---|---|---|---|---|---|
| TID065L25A90M08 | 6.9 | 6.5 | 13.84 | 24.91 | 15.5 | 58.18 | 75.18 | M8 | 10 | 6.5 |
| TID085L25A90M08 | 8.9 | 8.5 | 15.84 | 25 | 15.5 | 58.29 | 75.29 | M8 | 10 | 8 |
| TID100L25A90M10 | 10.4 | 10 | 17.34 | 25 | 19 | 64.47 | 83.47 | M10 | 15 | 10 |
| TID105L25A90M10 | 10.9 | 10.5 | 19.34 | 25 | 19 | 64.56 | 83.56 | M10 | 15 | 10 |
| TID120L25A90M10 | 12.4 | 12 | 19.34 | 25 | 19 | 64.82 | 83.82 | M10 | 15 | 12 |
| TID120L40A90M10 | 12.4 | 12 | 19.34 | 40 | 19 | 79.82 | 98.82 | M10 | 15 | 12 |
| TID125L25A90M10 | 12.9 | 12.5 | 19.84 | 25 | 19 | 64.91 | 83.91 | M10 | 15 | 12 |
| TID125L40A90M10 | 12.9 | 12.5 | 19.84 | 40 | 19 | 79.91 | 98.91 | M10 | 15 | 12 |
| TID140L25A90M12 | 14.4 | 14 | 21.34 | 25 | 23.5 | 70.12 | 92.12 | M12 | 17 | 14 |
| TID140L40A90M12 | 14.4 | 14 | 21.34 | 40 | 23.5 | 85.12 | 107.12 | M12 | 17 | 14 |
| TID145L25A90M12 | 14.9 | 14.5 | 21.84 | 25 | 23.5 | 70.21 | 92.21 | M12 | 17 | 14 |
| TID145L40A90M12 | 14.9 | 14.5 | 21.84 | 40 | 23.5 | 85.21 | 107.21 | M12 | 17 | 14 |
| TID150L25A90M12 | 15.9 | 15 | 22.34 | 25 | 23.5 | 70.27 | 92.27 | M12 | 17 | 15 |
| TID150L40A90M12 | 15.9 | 15 | 22.34 | 40 | 23.5 | 85.27 | 107.27 | M12 | 17 | 15 |
| TID160L25A90M12 | 16.9 | 16 | 23.34 | 25 | 23.5 | 70.42 | 92.42 | M12 | 17 | 16 |
| TID160L40A90M12 | 16.9 | 16 | 23.34 | 40 | 23.5 | 85.42 | 107.42 | M12 | 17 | 16 |

### SPARE PARTS

| Designation | Clamping key | Wrench | Clamping screw |
|---|---|---|---|
| TID065L... - TID085L... | K-TID6-9.99 | T-7D | SR 34-508 |
| TID100L... - TID160L... | K-TID10-19.99 | T-7D | SR 34-508 |

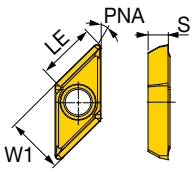
| Tool diameter | Hole diameter tolerance* |
|---|---|
| ø6.5 - ø16.9 | +0.04 / 0 |

*Just for reference

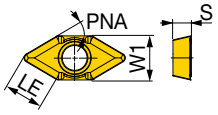
## INSERT FOR CHAMFERING ADAPTERS

### AOMT...

**AOMT06-C45**




**AOMT03-N-**DT**




| | | | |
|---|---|---|---|
| P | Steel | ★ | |
| M | Stainless | ★ | |
| K | Cast iron | ★ | |
| N | Non-ferrous | ☆ | |
| S | Superalloys | ★ | |
| H | Hard materials | ★ | |

★ : First choice
☆ : Second choice

| Designation | LE | Chamfering angle PNA | Coated GH730 | W1 | S |
|---|---|---|---|---|---|
| AOMT060204-C45 | 4.5 | 45° | ● | 5.66 | 1.96 |
| AOMT030204-N-30DT | 4 | 30° | ● | 4 | 1.59 |
| AOMT030204-N-45DT | 2.8 | 45° | ● | 4 | 1.59 |

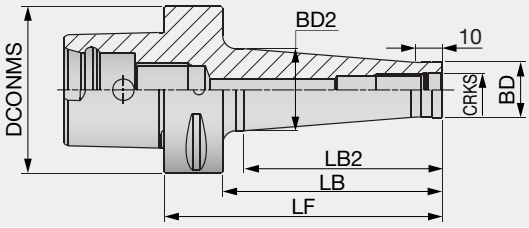
● : Line up

# SHANKS

## C-ODP

TUNGFLEX

Screw-clamp holder for modular body




| Designation | CRKS | DCONMS | BD | BD2 | LF | LB | LB2 |
|---|---|---|---|---|---|---|---|
| C4ODP10X53 | M10 | 40 | 18 | 23 | 53 | 33 | 23 |
| C4ODP12X53 | M12 | 40 | 21 | 26 | 53 | 33 | 23 |
| C4ODP16X53 | M16 | 40 | 29 | 34 | 53 | 33 | 23 |
| C5ODP10X53 | M10 | 50 | 18 | 19.5 | 53 | 33 | 25 |
| C5ODP10X103 | M10 | 50 | 18 | 28 | 103 | 83 | 75 |
| C5ODP12X53 | M12 | 50 | 21 | 23.5 | 53 | 33 | 25 |
| C5ODP12X103 | M12 | 50 | 21 | 31 | 103 | 83 | 75 |
| C5ODP16X53 | M16 | 50 | 29 | 34 | 53 | 33 | 25 |
| C5ODP16X103 | M16 | 50 | 29 | 36 | 103 | 83 | 75 |
| C6ODP10X55 | M10 | 63 | 18 | 19.5 | 55 | 33 | 25 |
| C6ODP10X105 | M10 | 63 | 18 | 28 | 105 | 83 | 75 |
| C6ODP10X130 | M10 | 63 | 18 | 32 | 130 | 108 | 100 |
| C6ODP12X55 | M12 | 63 | 21 | 23.5 | 55 | 33 | 25 |
| C6ODP12X105 | M12 | 63 | 21 | 31 | 105 | 83 | 75 |
| C6ODP12X130 | M12 | 63 | 21 | 36 | 130 | 108 | 100 |

Applicable for 7 MPa coolant

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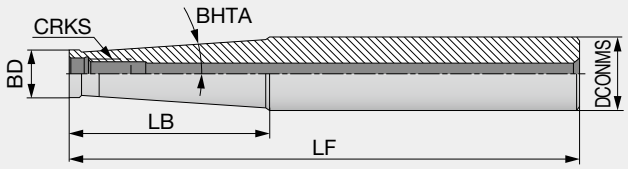
## SM

TUNGFLEX

Steel modular shank




| Designation | CRKS | DCONMS | LF | LB | BD | BHTA |
|---|---|---|---|---|---|---|
| SM06-L60C10 | M6 | 10 | 60 | 20 | 9.7 | 0° |
| SM06-L105-C12 | M6 | 12 | 105 | 60 | 9.7 | 1.2° |
| SM06-L125-C16 | M6 | 16 | 125 | 60 | 9.7 | 3.3° |
| SM08-L73C16 | M8 | 16 | 73 | 25 | 13 | 0° |
| SM08-L128-C16 | M8 | 16 | 128 | 80 | 13 | 0.9° |
| SM08-L170-C20 | M8 | 20 | 170 | 66.8 | 13 | 3.3° |
| SM10-L80C20 | M10 | 20 | 80 | 30 | 18 | 0° |
| SM10-L130-C20 | M10 | 20 | 130 | 80 | 18 | 0.6° |
| SM10-L200-C25 | M10 | 25 | 200 | 57.2 | 19 | 3.3° |
| SM12-L86-C25 | M12 | 25 | 86 | 30 | 21 | 5.1° |
| SM12-L200-C32 | M12 | 32 | 200 | 78 | 21 | 4.4° |

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## SM-C-H

Carbide modular shank

Fig. 1

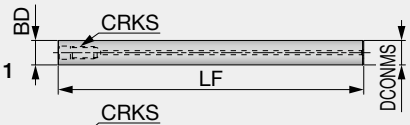



Fig. 2

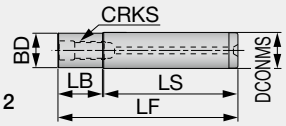
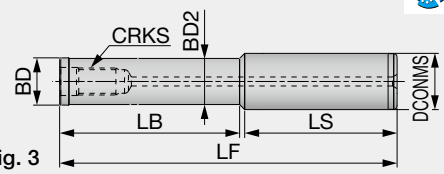



Fig. 3




| Designation | CRKS | DCONMS | LF | LB | LS | BD | BD2 | Fig. |
|---|---|---|---|---|---|---|---|---|
| SM06-L100-C10-C-H | M6 | 10 | 100 | - | - | 10 | - | 1 |
| SM06-L150-C10-C-H | M6 | 10 | 150 | - | - | 10 | - | 1 |
| SM06-L100-C12-C-H | M6 | 12 | 100 | - | - | 12 | - | 1 |
| SM06-L150-C12-C-H | M6 | 12 | 150 | - | - | 12 | - | 1 |
| SM08-L80-20-C16-C-H | M8 | 16 | 80 | 20 | 59.6 | 15.3 | - | 2 |
| SM08-L100-40-C16-C-H | M8 | 16 | 100 | 40 | 59.6 | 15.3 | - | 2 |
| SM08-L150-80-C16-C-H | M8 | 16 | 150 | 80 | 69.6 | 15.3 | - | 2 |
| SM08-L200-100-C16-C-H | M8 | 16 | 200 | 100 | 98.2 | 13 | 12.5 | 3 |
| SM08-L200-140-C16-C-H | M8 | 16 | 200 | 140 | 59.6 | 15.3 | - | 2 |
| SM08-L250-180-C16-C-H | M8 | 16 | 250 | 180 | 69.6 | 15.3 | - | 2 |
| SM10-L80-20-C20-C-H | M10 | 20 | 80 | 20 | 59.2 | 18.5 | - | 2 |
| SM10-L100-40-C20-C-H | M10 | 20 | 100 | 40 | 59.2 | 18.5 | - | 2 |
| SM10-L150-80-C20-C-H | M10 | 20 | 150 | 80 | 69.2 | 18.5 | - | 2 |
| SM10-L200-100-C20-C-H | M10 | 20 | 200 | 100 | 99.2 | 18.5 | - | 2 |
| SM10-L200-140-C20-C-H | M10 | 20 | 200 | 140 | 58.7 | 18 | 17.5 | 3 |
| SM10-L200-140-C20-C-H-N | M10 | 20 | 200 | 140 | 59.2 | 18.5 | - | 2 |
| SM10-L250-130-C20-C-H | M10 | 20 | 250 | 130 | 118.7 | 18 | 17.5 | 3 |
| SM10-L250-180-C20-C-H | M10 | 20 | 250 | 180 | 68.7 | 18 | 17.5 | 3 |
| SM10-L250-180-C20-C-H-N | M10 | 20 | 250 | 180 | 69.2 | 18.5 | - | 2 |
| SM10-L300-180-C20-C-H | M10 | 20 | 300 | 180 | 118.7 | 18 | 17.5 | 3 |
| SM10-L300-230-C20-C-H | M10 | 20 | 300 | 230 | 68.7 | 18 | 17.5 | 3 |
| SM12-L100-40-C25-C-H | M12 | 25 | 100 | 40 | 59.5 | 24 | - | 2 |
| SM12-L150-80-C25-C-H | M12 | 25 | 150 | 80 | 67.7 | 21 | 20.5 | 3 |
| SM12-L150-80-C25-C-H-N | M12 | 25 | 150 | 80 | 69.5 | 24 | - | 2 |
| SM12-L200-100-C25-C-H | M12 | 25 | 200 | 100 | 97.7 | 21 | 20.5 | 3 |
| SM12-L200-100-C25-C-H-N | M12 | 25 | 200 | 100 | 99.5 | 24 | - | 2 |
| SM12-L200-140-C25-C-H | M12 | 25 | 200 | 140 | 57.7 | 21 | 20.5 | 3 |
| SM12-L250-130-C25-C-H | M12 | 25 | 250 | 130 | 117.7 | 21 | 20.5 | 3 |
| SM12-L250-180-C25-C-H | M12 | 25 | 250 | 180 | 69.5 | 24 | - | 2 |
| SM12-L300-180-C25-C-H | M12 | 25 | 300 | 180 | 117.7 | 21 | 20.5 | 3 |
| SM12-L300-180-C25-C-H-N | M12 | 25 | 300 | 180 | 119.5 | 24 | - | 2 |
| SM12-L300-230-C25-C-H | M12 | 25 | 300 | 230 | 67.7 | 21 | 20.5 | 3 |

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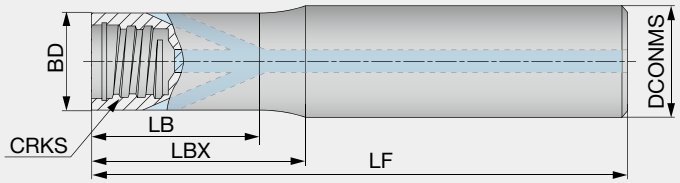
## VSSD**-W-A...

TUNGMEISTER

Straight shank and neck with coolant hole



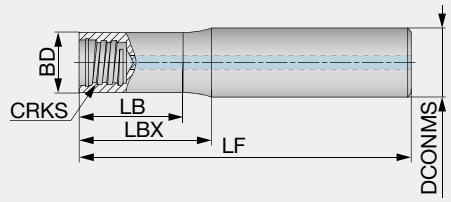

CRKS = Connection screw size

| Designation | DCONMS | BD | LF | LBX | LB | CRKS | Shank material |
|---|---|---|---|---|---|---|---|
| VSSD10L070S06-W-A | 10 | 9.6 | 70 | 20 | 19 | S06 | Tungsten |
| VSSD10L090S06-W-A | 10 | 9.6 | 90 | 40 | 39 | S06 | Tungsten |
| VSSD10L110S06-W-A | 10 | 9.6 | 110 | 60 | 59 | S06 | Tungsten |
| VSSD12L070S08-W-A | 12 | 11.5 | 70 | 20 | 19 | S08 | Tungsten |
| VSSD12L090S08-W-A | 12 | 11.5 | 90 | 40 | 39 | S08 | Tungsten |
| VSSD12L110S08-W-A | 12 | 11.5 | 110 | 60 | 59 | S08 | Tungsten |
| VSSD12L130S08-W-A | 12 | 11.5 | 130 | 80 | 79 | S08 | Tungsten |

## VSSD...

TUNGMEISTER

Straight neck and cylindrical shank



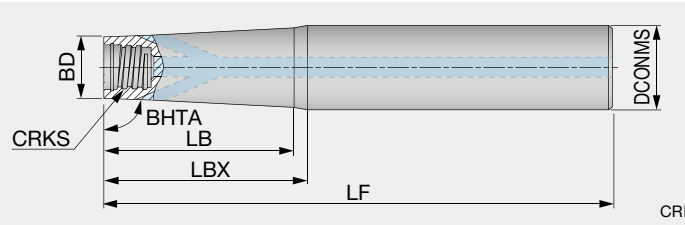

CRKS = Connection screw size

| Designation | DCONMS | BD | LF | LBX | LB | CRKS | Shank shape | Shank material |
|---|---|---|---|---|---|---|---|---|
| VSSD12L070S08-C-A | 12 | 11.5 | 70 | 20 | 17 | S08 | Cylindrical | Carbide |
| VSSD12L090S08-S-A | 12 | 11.5 | 90 | 16 | 13.6 | S08 | Cylindrical | Steel |
| VSSD12L090LS08-C-A | 12 | 11.5 | 90 | 40 | 37 | S08 | Cylindrical | Carbide |
| VSSD12L090LS08-S-A | 12 | 11.5 | 90 | 42 | 37 | S08 | Cylindrical | Steel |
| VSSD12L110S08-C-A | 12 | 11.5 | 110 | 60 | 57 | S08 | Cylindrical | Carbide |
| VSSD12L130S08-C-A | 12 | 11.5 | 130 | 80 | 77 | S08 | Cylindrical | Carbide |

## VTSD**-W-A...

TUNGMEISTER

Straight shank and taper neck with coolant hole




CRKS = Connection screw size

| Designation | BHTA | DCONMS | BD | LF | LBX | LB | CRKS | Shank material |
|---|---|---|---|---|---|---|---|---|
| VTSD12L110S06-W-A | 89° | 12 | 9.6 | 110 | 60 | 59 | S06 | Tungsten |
| VTSD16L170S06-W-A | 89° | 16 | 9.6 | 170 | 120 | 116 | S06 | Tungsten |

## WRENCH

| Appearance | Designation | Connection screw size | Torque (N·m) | Applicable head |
|---|---|---|---|---|
|  | KEYV-S06 | S06 | 10 | TID065S06-2<br>TID085S06-2 |
| | KEYV-S08 | S08 | 15 | TID105S08-2 |

Note: Wrenches are sold separately.

## TORQUE WRENCHES

| Appearance | | Designation | Connection screw size | Torque (N·m) |
|---|---|---|---|---|
| Handle |  | TORQUEWRENCH5-50NM9x12 | - | 5 - 50 |
| Open wrenches for cylindrical heads |  | TM-WRENCH-8-06 | S06 | 10 |
| | | TM-WRENCH-10-08 | S08 | 15 |

## SLEEVE

### BLM

Sleeve for exchangeable head drill

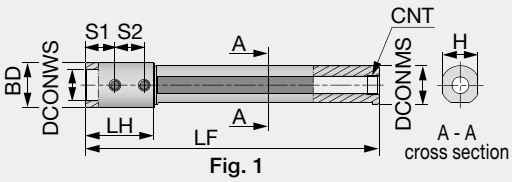


Fig. 1

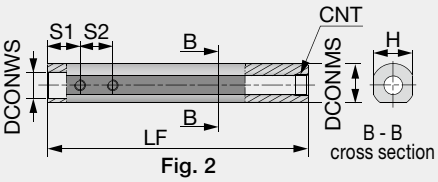


Fig. 2

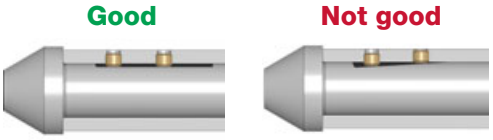
| Designation | DCONMS | DCONWS | LF | LH | BD | H | S1 | S2 | CNT | Body | Fig. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BLM16-12LF | 16 | 12 | 85 | 35 | 20 | 15 | 15 | 15 | Rc1/8 | TID***F12... | 1 |
| BLM19-12LF | 19.05 | 12 | 140 | 35 | 23 | 18 | 15 | 15 | Rc1/8 | TID***F12... | 1 |
| BLM19-12SF | 19.05 | 12 | 90 | 35 | 23 | 18 | 15 | 15 | Rc1/8 | TID***F12... | 1 |
| BLM19-16LF | 19.05 | 16 | 140 | 35 | 23 | 18 | 15 | 15 | Rc1/8 | TID***F16... | 1 |
| BLM19-16SF | 19.05 | 16 | 90 | 35 | 23 | 18 | 15 | 15 | Rc1/8 | TID***F16... | 1 |
| BLM20-12LR | 20 | 12 | 120 | - | - | 18 | 15 | 15 | Rc1/8 | TID***F12... | 2 |
| BLM20-16LF | 20 | 16 | 150 | 35 | 23 | 18 | 15 | 15 | Rc1/8 | TID***F16... | 1 |
| BLM22-12LR | 22 | 12 | 120 | - | - | 21 | 15 | 15 | Rc1/8 | TID***F12... | 2 |
| BLM22-16LF | 22 | 16 | 140 | 35 | 25 | 21 | 15 | 15 | Rc1/8 | TID***F16... | 1 |
| BLM25-12LR | 25 | 12 | 115 | - | - | 23 | 15 | 15 | Rc1/8 | TID***F12... | 2 |
| BLM25-16LR | 25 | 16 | 115 | - | - | 23 | 15 | 15 | Rc1/8 | TID***F16... | 2 |
| BLM25-20LF | 25 | 20 | 150 | 35 | 28 | 23 | 15 | 15 | Rc1/8 | TID***F20... | 1 |
| BLM254-12LR | 25.4 | 12 | 115 | - | - | 24 | 15 | 15 | Rc1/8 | TID***F12... | 2 |
| BLM254-12SR | 25.4 | 12 | 75 | - | - | 24 | 15 | 15 | Rc1/8 | TID***F12... | 2 |
| BLM254-16LR | 25.4 | 16 | 115 | - | - | 24 | 15 | 15 | Rc1/8 | TID***F16... | 2 |
| BLM254-16SR | 25.4 | 16 | 75 | - | - | 24 | 15 | 15 | Rc1/8 | TID***F16... | 2 |
| BLM254-20LF | 25.4 | 20 | 140 | 35 | 28 | 24 | 15 | 15 | Rc1/8 | TID***F20... | 1 |
| BLM32-12LR | 32 | 12 | 120 | - | - | 31 | 15 | 15 | Rc1/8 | TID***F12... | 2 |
| BLM32-16LR | 32 | 16 | 120 | - | - | 31 | 15 | 15 | Rc1/8 | TID***F16... | 2 |
| BLM32-20LR | 32 | 20 | 120 | - | - | 31 | 15 | 15 | Rc1/8 | TID***F20... | 2 |

### SPARE PARTS

| Designation | Clamping screw | Wrench |
|---|---|---|
| BLM16/19/20/22... | SR M5x4 FLAT | P-2.5 |
| BLM25-12LR | SR M5x6 FLAT | P-2.5 |
| BLM25-16LR, BLM25-20LF | SR M5x4 FLAT | P-2.5 |
| BLM254-12LR, BLM254-12SR | SR M5x6 FLAT | P-2.5 |
| BLM254-16LR, BLM254-16SR, BLM254-20LF | SR M5x4 FLAT | P-2.5 |
| BLM32-12LR, BLM32-16LR | SR M5x6 FLAT | P-2.5 |
| BLM32-20LR | SR M5x4 FLAT | P-2.5 |

### Note for sleeve usage

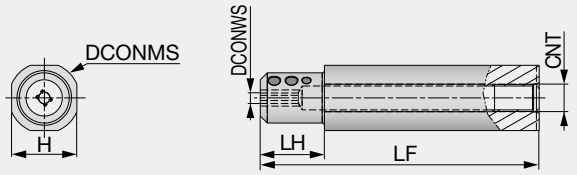
- Please refrain from using whistle notch and weldon type shanks due to clamping stability concerns.



Flat | Whistle notch shank

## JBBS-4N

Sleeve for internal coolant supply with 4 coolant holes




| Designation | DCONMS | DCONWS | LF | LH | H | CNT |
|---|---|---|---|---|---|---|
| JBBS159-7-L100C-4N | 15.875 | 7 | 100 | 10 | 14.58 | Rc1/8 |
| JBBS16-7-L100C-4N | 16 | 7 | 100 | 10 | 15 | Rc1/8 |
| JBBS19-7-L100C-4N | 19.05 | 7 | 100 | 20 | 17.2 | Rc1/8 |
| JBBS20-7-L100C-4N | 20 | 7 | 100 | 20 | 18 | Rc1/8 |
| JBBS22-7-L100C-4N | 22 | 7 | 100 | 20 | 20 | Rc1/8 |
| JBBS25-7-L100C-4N | 25 | 7 | 100 | 23 | 23 | Rc1/8 |
| JBBS254-7-L100C-4N | 25.4 | 7 | 100 | 23 | 23.4 | Rc1/8 |

## JBBS-C

Sleeve for internal coolant supply

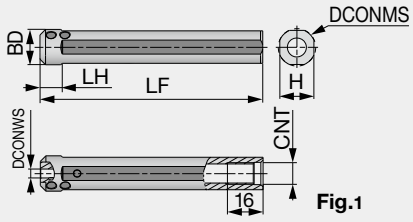



Fig.1

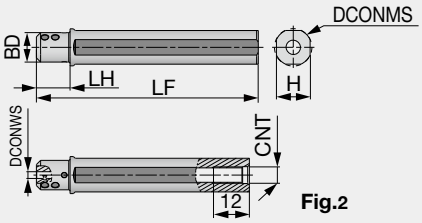



Fig.2

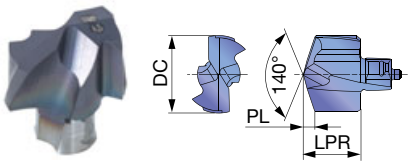
| Designation | DCONMS | BD | DCONWS | LF | LH | H | CNT | Fig |
|---|---|---|---|---|---|---|---|---|
| JBBS159-7-L100C | 15.875 | 15.875 | 7 | 100 | 10 | 14.58 | Rc1/8 | 1 |
| JBBS16-7-L100C | 16 | 16 | 7 | 100 | 10 | 15 | Rc1/8 | 1 |
| JBBS19-7-L100C | 19.05 | 17.5 | 7 | 100 | 20 | 17.2 | Rc1/8 | 2 |
| JBBS20-7-L100C | 20 | 17.5 | 7 | 100 | 20 | 18 | Rc1/8 | 2 |
| JBBS22-7-L100C | 22 | 17.5 | 7 | 100 | 20 | 20 | Rc1/8 | 2 |
| JBBS25-7-L100C | 25 | 18 | 7 | 100 | 23 | 23 | Rc1/8 | 2 |
| JBBS254-7-L100C | 25.4 | 18 | 7 | 100 | 23 | 23.4 | Rc1/8 | 2 |

## SPARE PARTS

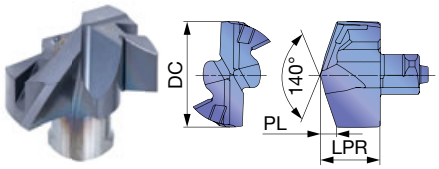
| Designation | Clamping screw | Wrench |
|---|---|---|
| JBBS**-7-L***C-4N, JBBS**-7-L100C | SSHM5-4PF-S | P-2.5 |

# DRILL HEAD

## DMP (General purpose)




ADDMEISTERDRILL
DMP040 - DMP059




DRILLMEISTER
DMP060 - DMP259

| Tool diameter | Head diameter tolerance |
|---|---|
| ø4 - ø17.9 | +0.018 / 0 |
| ø18 - ø25.9 | +0.021 / 0 |

| | | Coated | |
|---|---|---|---|
| | | AH725 | AH9130 |
| P | Steel | ★ | ★ |
| M | Stainless | ☆ | ☆ |
| K | Cast iron | ★ | ★ |
| N | Non-ferrous | ☆ | ☆ |
| S | Superalloys | ☆ | ☆ |
| H | Hard materials | ☆ | ☆ |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated AH725 | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|---|
| DMP040 | 4 | 3.1 | ● | | 0.62 | TID*040... |
| DMP041 | 4.1 | 3.1 | ● | | 0.64 | TID*040... |
| DMP042 | 4.2 | 3.1 | ● | | 0.66 | TID*040... |
| DMP043 | 4.3 | 3.1 | ● | | 0.67 | TID*040... |
| DMP044 | 4.4 | 3.1 | ● | | 0.69 | TID*040... |
| DMP045 | 4.5 | 3.55 | ● | | 0.66 | TID*045... |
| DMP046 | 4.6 | 3.55 | ● | | 0.68 | TID*045... |
| DMP047 | 4.7 | 3.55 | ● | | 0.70 | TID*045... |
| DMP048 | 4.8 | 3.55 | ● | | 0.71 | TID*045... |
| DMP049 | 4.9 | 3.55 | ● | | 0.73 | TID*045... |
| DMP050 | 5 | 3.7 | ● | | 0.73 | TID*050... |
| DMP051 | 5.1 | 3.7 | ● | | 0.75 | TID*050... |
| DMP052 | 5.2 | 3.7 | ● | | 0.77 | TID*050... |
| DMP053 | 5.3 | 3.7 | ● | | 0.78 | TID*050... |
| DMP054 | 5.4 | 3.7 | ● | | 0.8 | TID*050... |
| DMP055 | 5.5 | 3.85 | ● | | 0.81 | TID*055... |
| DMP056 | 5.6 | 3.85 | ● | | 0.83 | TID*055... |
| DMP057 | 5.7 | 3.85 | ● | | 0.85 | TID*055... |
| DMP058 | 5.8 | 3.85 | ● | | 0.86 | TID*055... |
| DMP059 | 5.9 | 3.85 | ● | | 0.88 | TID*055... |
| DMP060 | 6 | 3.85 | ● | ● | 1.09 | TID*060... |
| DMP061 | 6.1 | 3.85 | ● | ● | 1.11 | TID*060... |
| DMP062 | 6.2 | 3.85 | ● | ● | 1.13 | TID*060... |
| DMP063 | 6.3 | 3.85 | ● | ● | 1.14 | TID*060... |
| DMP064 | 6.4 | 3.85 | ● | ● | 1.16 | TID*060... |
| DMP065 | 6.5 | 4.15 | ● | ● | 1.27 | TID*065... |
| DMP066 | 6.6 | 4.15 | ● | ● | 1.29 | TID*065... |
| DMP067 | 6.7 | 4.15 | ● | ● | 1.31 | TID*065... |
| DMP068 | 6.8 | 4.15 | ● | ● | 1.33 | TID*065... |
| DMP069 | 6.9 | 4.15 | ● | ● | 1.34 | TID*065... |
| DMP070 | 7 | 4.45 | ● | ● | 1.03 | TID*070... |
| DMP071 | 7.1 | 4.45 | ● | ● | 1.05 | TID*070... |
| DMP072 | 7.2 | 4.45 | ● | ● | 1.07 | TID*070... |
| DMP073 | 7.3 | 4.45 | ● | ● | 1.08 | TID*070... |
| DMP074 | 7.4 | 4.45 | ● | ● | 1.1 | TID*070... |
| DMP075 | 7.5 | 4.45 | ● | ● | 1.12 | TID*075... |
| DMP076 | 7.6 | 4.45 | ● | ● | 1.14 | TID*075... |
| DMP077 | 7.7 | 4.45 | ● | ● | 1.16 | TID*075... |
| DMP078 | 7.8 | 4.45 | ● | ● | 1.18 | TID*075... |
| DMP079 | 7.9 | 4.45 | ● | ● | 1.19 | TID*075... |
| DMP080 | 8 | 5.25 | ● | ● | 1.2 | TID*080... |
| DMP081 | 8.1 | 5.25 | ● | ● | 1.22 | TID*080... |
| DMP082 | 8.2 | 5.25 | ● | ● | 1.24 | TID*080... |
| DMP083 | 8.3 | 5.25 | ● | ● | 1.25 | TID*080... |
| DMP084 | 8.4 | 5.25 | ● | ● | 1.27 | TID*080... |
| DMP085 | 8.5 | 5.25 | ● | ● | 1.29 | TID*085... |
| DMP086 | 8.6 | 5.25 | ● | ● | 1.31 | TID*085... |
| DMP087 | 8.7 | 5.25 | ● | ● | 1.33 | TID*085... |

| | | Coated | |
|---|---|---|---|
| | | AH725 | AH9130 |
| P | Steel | ★ | ★ |
| M | Stainless | ☆ | ☆ |
| K | Cast iron | ★ | ★ |
| N | Non-ferrous | ☆ | ☆ |
| S | Superalloys | ☆ | ☆ |
| H | Hard materials | ☆ | ☆ |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated AH725 | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|---|
| DMP088 | 8.8 | 5.25 | ● | ● | 1.35 | TID*085... |
| DMP089 | 8.9 | 5.25 | ● | ● | 1.36 | TID*085... |
| DMP090 | 9 | 5.65 | ● | ● | 1.37 | TID*090... |
| DMP091 | 9.1 | 5.65 | ● | ● | 1.39 | TID*090... |
| DMP092 | 9.2 | 5.65 | ● | ● | 1.41 | TID*090... |
| DMP093 | 9.3 | 5.65 | ● | ● | 1.42 | TID*090... |
| DMP094 | 9.4 | 5.65 | ● | ● | 1.44 | TID*090... |
| DMP095 | 9.5 | 5.65 | ● | ● | 1.46 | TID*095... |
| DMP096 | 9.6 | 5.65 | ● | ● | 1.48 | TID*095... |
| DMP097 | 9.7 | 5.65 | ● | ● | 1.5 | TID*095... |
| DMP098 | 9.8 | 5.65 | ● | ● | 1.52 | TID*095... |
| DMP099 | 9.9 | 5.65 | ● | ● | 1.53 | TID*095... |
| DMP100 | 10 | 6.05 | ● | ● | 1.47 | TID*100... |
| DMP101 | 10.1 | 6.05 | ● | ● | 1.49 | TID*100... |
| DMP102 | 10.2 | 6.05 | ● | ● | 1.51 | TID*100... |
| DMP103 | 10.3 | 6.05 | ● | ● | 1.52 | TID*100... |
| DMP104 | 10.4 | 6.05 | ● | ● | 1.54 | TID*100... |
| DMP105 | 10.5 | 6.05 | ● | ● | 1.56 | TID*105... |
| DMP106 | 10.6 | 6.05 | ● | ● | 1.58 | TID*105... |
| DMP107 | 10.7 | 6.05 | ● | ● | 1.6 | TID*105... |
| DMP108 | 10.8 | 6.05 | ● | ● | 1.62 | TID*105... |
| DMP109 | 10.9 | 6.05 | ● | ● | 1.63 | TID*105... |
| DMP110 | 11 | 6.45 | ● | ● | 1.67 | TID*110... |
| DMP111 | 11.1 | 6.45 | ● | ● | 1.69 | TID*110... |
| DMP112 | 11.2 | 6.45 | ● | ● | 1.71 | TID*110... |
| DMP113 | 11.3 | 6.45 | ● | ● | 1.72 | TID*110... |
| DMP114 | 11.4 | 6.45 | ● | ● | 1.74 | TID*110... |
| DMP115 | 11.5 | 6.45 | ● | ● | 1.76 | TID*115... |
| DMP116 | 11.6 | 6.45 | ● | ● | 1.78 | TID*115... |
| DMP117 | 11.7 | 6.45 | ● | ● | 1.8 | TID*115... |
| DMP118 | 11.8 | 6.45 | ● | ● | 1.82 | TID*115... |
| DMP119 | 11.9 | 6.45 | ● | ● | 1.83 | TID*115... |
| DMP120 | 12 | 6.8 | ● | ● | 1.82 | TID*120... |
| DMP121 | 12.1 | 6.8 | ● | ● | 1.84 | TID*120... |
| DMP122 | 12.2 | 6.8 | ● | ● | 1.86 | TID*120... |
| DMP123 | 12.3 | 6.8 | ● | ● | 1.87 | TID*120... |
| DMP124 | 12.4 | 6.8 | ● | ● | 1.89 | TID*120... |
| DMP125 | 12.5 | 6.8 | ● | ● | 1.91 | TID*125... |
| DMP126 | 12.6 | 6.8 | ● | ● | 1.93 | TID*125... |
| DMP127 | 12.7 | 6.8 | ● | ● | 1.95 | TID*125... |
| DMP128 | 12.8 | 6.8 | ● | ● | 1.97 | TID*125... |
| DMP129 | 12.9 | 6.8 | ● | ● | 1.98 | TID*125... |
| DMP130 | 13 | 7.4 | ● | ● | 1.96 | TID*130... |
| DMP131 | 13.1 | 7.4 | ● | ● | 1.98 | TID*130... |
| DMP132 | 13.2 | 7.4 | ● | ● | 2 | TID*130... |
| DMP133 | 13.3 | 7.4 | ● | ● | 2.01 | TID*130... |

ø4 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

● : Line up

| | | | |
|---|---|---|---|
| P | Steel | ★ | ★ |
| M | Stainless | ☆ | ☆ |
| K | Cast iron | ★ | ★ |
| N | Non-ferrous | ☆ | ☆ |
| S | Superalloys | ☆ | ☆ |
| H | Hard materials | ☆ | ☆ |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated AH725 | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|---|
| DMP134 | 13.4 | 7.4 | ● | ● | 2.03 | TID*130... |
| DMP135 | 13.5 | 7.4 | ● | ● | 2.05 | TID*135... |
| DMP136 | 13.6 | 7.4 | ● | ● | 2.07 | TID*135... |
| DMP137 | 13.7 | 7.4 | ● | ● | 2.09 | TID*135... |
| DMP138 | 13.8 | 7.4 | ● | ● | 2.11 | TID*135... |
| DMP139 | 13.9 | 7.4 | ● | ● | 2.12 | TID*135... |
| DMP140 | 14 | 7.95 | ● | ● | 2.12 | TID*140... |
| DMP141 | 14.1 | 7.95 | ● | ● | 2.14 | TID*140... |
| DMP142 | 14.2 | 7.95 | ● | ● | 2.16 | TID*140... |
| DMP143 | 14.3 | 7.95 | ● | ● | 2.17 | TID*140... |
| DMP144 | 14.4 | 7.95 | ● | ● | 2.19 | TID*140... |
| DMP145 | 14.5 | 7.95 | ● | ● | 2.21 | TID*145... |
| DMP146 | 14.6 | 7.95 | ● | ● | 2.23 | TID*145... |
| DMP147 | 14.7 | 7.95 | ● | ● | 2.25 | TID*145... |
| DMP148 | 14.8 | 7.95 | ● | ● | 2.27 | TID*145... |
| DMP149 | 14.9 | 7.95 | ● | ● | 2.28 | TID*145... |
| DMP150 | 15 | 8.53 | ● | ● | 2.27 | TID*150... |
| DMP151 | 15.1 | 8.53 | ● | ● | 2.29 | TID*150... |
| DMP152 | 15.2 | 8.53 | ● | ● | 2.31 | TID*150... |
| DMP153 | 15.3 | 8.53 | ● | ● | 2.32 | TID*150... |
| DMP154 | 15.4 | 8.53 | ● | ● | 2.34 | TID*150... |
| DMP155 | 15.5 | 8.53 | ● | ● | 2.36 | TID*150... |
| DMP156 | 15.6 | 8.53 | ● | ● | 2.38 | TID*150... |
| DMP157 | 15.7 | 8.53 | ● | ● | 2.4 | TID*150... |
| DMP158 | 15.8 | 8.53 | ● | ● | 2.42 | TID*150... |
| DMP159 | 15.9 | 8.53 | ● | ● | 2.43 | TID*150... |
| DMP160 | 16 | 9.1 | ● | ● | 2.42 | TID*160... |
| DMP161 | 16.1 | 9.1 | ● | ● | 2.44 | TID*160... |
| DMP162 | 16.2 | 9.1 | ● | ● | 2.46 | TID*160... |
| DMP163 | 16.3 | 9.1 | ● | ● | 2.47 | TID*160... |
| DMP164 | 16.4 | 9.1 | ● | ● | 2.49 | TID*160... |
| DMP165 | 16.5 | 9.1 | ● | ● | 2.51 | TID*160... |
| DMP166 | 16.6 | 9.1 | ● | ● | 2.53 | TID*160... |
| DMP167 | 16.7 | 9.1 | ● | ● | 2.55 | TID*160... |
| DMP168 | 16.8 | 9.1 | ● | ● | 2.57 | TID*160... |
| DMP169 | 16.9 | 9.1 | ● | ● | 2.58 | TID*160... |
| DMP170 | 17 | 9.7 | ● | ● | 2.59 | TID*170... |
| DMP171 | 17.1 | 9.7 | ● | ● | 2.61 | TID*170... |
| DMP172 | 17.2 | 9.7 | ● | ● | 2.63 | TID*170... |
| DMP173 | 17.3 | 9.7 | ● | ● | 2.64 | TID*170... |
| DMP174 | 17.4 | 9.7 | ● | ● | 2.66 | TID*170... |
| DMP175 | 17.5 | 9.7 | ● | ● | 2.68 | TID*170... |
| DMP176 | 17.6 | 9.7 | ● | ● | 2.7 | TID*170... |
| DMP177 | 17.7 | 9.7 | ● | ● | 2.72 | TID*170... |
| DMP178 | 17.8 | 9.7 | ● | ● | 2.74 | TID*170... |
| DMP179 | 17.9 | 9.7 | ● | ● | 2.75 | TID*170... |
| DMP180 | 18 | 10.3 | ● | ● | 2.73 | TID*180... |
| DMP181 | 18.1 | 10.3 | ● | ● | 2.75 | TID*180... |
| DMP182 | 18.2 | 10.3 | ● | ● | 2.77 | TID*180... |
| DMP183 | 18.3 | 10.3 | ● | ● | 2.78 | TID*180... |
| DMP184 | 18.4 | 10.3 | ● | ● | 2.8 | TID*180... |
| DMP185 | 18.5 | 10.3 | ● | ● | 2.82 | TID*180... |
| DMP186 | 18.6 | 10.3 | ● | ● | 2.84 | TID*180... |
| DMP187 | 18.7 | 10.3 | ● | ● | 2.86 | TID*180... |
| DMP188 | 18.8 | 10.3 | ● | ● | 2.88 | TID*180... |
| DMP189 | 18.9 | 10.3 | ● | ● | 2.89 | TID*180... |
| DMP190 | 19 | 10.8 | ● | ● | 2.88 | TID*190... |
| DMP1905 | 19.05 | 10.8 | ● | ● | 2.89 | TID*190... |
| DMP191 | 19.1 | 10.8 | ● | ● | 2.9 | TID*190... |
| DMP192 | 19.2 | 10.8 | ● | ● | 2.92 | TID*190... |
| DMP1927 | 19.27 | 10.8 | ● | | 2.93 | TID*190... |
| DMP193 | 19.3 | 10.8 | ● | ● | 2.93 | TID*190... |
| DMP194 | 19.4 | 10.8 | ● | ● | 2.95 | TID*190... |
| DMP195 | 19.5 | 10.8 | ● | ● | 2.97 | TID*190... |
| DMP196 | 19.6 | 10.8 | ● | ● | 2.99 | TID*190... |
| DMP197 | 19.7 | 10.8 | ● | ● | 3.01 | TID*190... |


| | | | |
|---|---|---|---|
| P | Steel | ★ | ★ |
| M | Stainless | ☆ | ☆ |
| K | Cast iron | ★ | ★ |
| N | Non-ferrous | ☆ | ☆ |
| S | Superalloys | ☆ | ☆ |
| H | Hard materials | ☆ | ☆ |

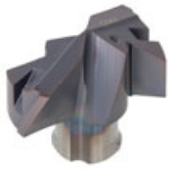
★ : First choice
☆ : Second choice

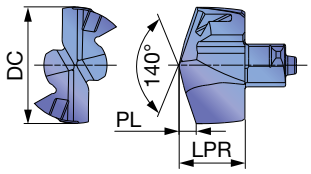

| Designation | DC | LPR | Coated AH725 | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|---|
| DMP198 | 19.8 | 10.8 | ● | ● | 3.03 | TID*190... |
| DMP199 | 19.9 | 10.8 | ● | ● | 3.04 | TID*190... |
| DMP200 | 20 | 11.4 | ● | ● | 3.02 | TID*200... |
| DMP201 | 20.1 | 11.4 | ● | ● | 3.04 | TID*200... |
| DMP202 | 20.2 | 11.4 | ● | ● | 3.06 | TID*200... |
| DMP203 | 20.3 | 11.4 | ● | ● | 3.07 | TID*200... |
| DMP204 | 20.4 | 11.4 | ● | ● | 3.09 | TID*200... |
| DMP205 | 20.5 | 11.4 | ● | ● | 3.11 | TID*200... |
| DMP206 | 20.6 | 11.4 | ● | ● | 3.13 | TID*200... |
| DMP207 | 20.7 | 11.4 | ● | ● | 3.15 | TID*200... |
| DMP208 | 20.8 | 11.4 | ● | ● | 3.17 | TID*200... |
| DMP209 | 20.9 | 11.4 | ● | ● | 3.18 | TID*200... |
| DMP210 | 21 | 11.98 | ● | ● | 3.18 | TID*210... |
| DMP211 | 21.1 | 11.98 | ● | ● | 3.2 | TID*210... |
| DMP212 | 21.2 | 11.98 | ● | ● | 3.22 | TID*210... |
| DMP213 | 21.3 | 11.98 | ● | ● | 3.23 | TID*210... |
| DMP214 | 21.4 | 11.98 | ● | ● | 3.25 | TID*210... |
| DMP215 | 21.5 | 11.98 | ● | ● | 3.27 | TID*210... |
| DMP216 | 21.6 | 11.98 | ● | ● | 3.29 | TID*210... |
| DMP217 | 21.7 | 11.98 | ● | ● | 3.31 | TID*210... |
| DMP218 | 21.8 | 11.98 | ● | ● | 3.33 | TID*210... |
| DMP219 | 21.9 | 11.98 | ● | ● | 3.34 | TID*210... |
| DMP220 | 22 | 12.56 | ● | ● | 3.32 | TID*220... |
| DMP221 | 22.1 | 12.56 | ● | ● | 3.34 | TID*220... |
| DMP222 | 22.2 | 12.56 | ● | ● | 3.36 | TID*220... |
| DMP223 | 22.3 | 12.56 | ● | ● | 3.37 | TID*220... |
| DMP224 | 22.4 | 12.56 | ● | ● | 3.39 | TID*220... |
| DMP225 | 22.5 | 12.56 | ● | ● | 3.41 | TID*220... |
| DMP226 | 22.6 | 12.56 | ● | ● | 3.43 | TID*220... |
| DMP227 | 22.7 | 12.56 | ● | ● | 3.45 | TID*220... |
| DMP228 | 22.8 | 12.56 | ● | ● | 3.47 | TID*220... |
| DMP229 | 22.9 | 12.56 | ● | ● | 3.48 | TID*220... |
| DMP230 | 23 | 13.13 | ● | ● | 3.46 | TID*230... |
| DMP231 | 23.1 | 13.13 | ● | ● | 3.48 | TID*230... |
| DMP232 | 23.2 | 13.13 | ● | ● | 3.5 | TID*230... |
| DMP233 | 23.3 | 13.13 | ● | ● | 3.51 | TID*230... |
| DMP234 | 23.4 | 13.13 | ● | ● | 3.53 | TID*230... |
| DMP235 | 23.5 | 13.13 | ● | ● | 3.55 | TID*230... |
| DMP236 | 23.6 | 13.13 | ● | ● | 3.57 | TID*230... |
| DMP237 | 23.7 | 13.13 | ● | ● | 3.59 | TID*230... |
| DMP238 | 23.8 | 13.13 | ● | ● | 3.61 | TID*230... |
| DMP239 | 23.9 | 13.13 | ● | ● | 3.62 | TID*230... |
| DMP240 | 24 | 13.7 | ● | ● | 3.62 | TID*240... |
| DMP241 | 24.1 | 13.7 | ● | ● | 3.64 | TID*240... |
| DMP242 | 24.2 | 13.7 | ● | ● | 3.66 | TID*240... |
| DMP243 | 24.3 | 13.7 | ● | ● | 3.67 | TID*240... |
| DMP244 | 24.4 | 13.7 | ● | ● | 3.69 | TID*240... |
| DMP245 | 24.5 | 13.7 | ● | ● | 3.71 | TID*240... |
| DMP246 | 24.6 | 13.7 | ● | ● | 3.73 | TID*240... |
| DMP247 | 24.7 | 13.7 | ● | ● | 3.75 | TID*240... |
| DMP248 | 24.8 | 13.7 | ● | ● | 3.77 | TID*240... |
| DMP249 | 24.9 | 13.7 | ● | ● | 3.78 | TID*240... |
| DMP250 | 25 | 14.3 | ● | ● | 3.8 | TID*250... |
| DMP251 | 25.1 | 14.3 | ● | ● | 3.82 | TID*250... |
| DMP252 | 25.2 | 14.3 | ● | ● | 3.84 | TID*250... |
| DMP253 | 25.3 | 14.3 | ● | ● | 3.85 | TID*250... |
| DMP254 | 25.4 | 14.3 | ● | ● | 3.87 | TID*250... |
| DMP255 | 25.5 | 14.3 | ● | ● | 3.89 | TID*250... |
| DMP256 | 25.6 | 14.3 | ● | ● | 3.91 | TID*250... |
| DMP2567 | 25.67 | 14.3 | ● | ● | 3.92 | TID*250... |
| DMP257 | 25.7 | 14.3 | ● | ● | 3.93 | TID*250... |
| DMP258 | 25.8 | 14.3 | ● | ● | 3.95 | TID*250... |
| DMP259 | 25.9 | 14.3 | ● | ● | 3.96 | TID*250... |

ø4 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

● : Line up

## DMM (Stainless steel and exotic material )






| Tool diameter | Head diameter tolerance |
|---|---|
| 10 - 16.7 | +0.018 / 0 |

| | | | | |
|---|---|---|---|---|
| P | Steel | ☆ | | |
| M | Stainless | ★ | | |
| K | Cast iron | ☆ | | |
| N | Non-ferrous | ☆ | | |
| S | Superalloys | ★ | | |
| H | Hard materials | ☆ | | |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated | PL | Body |
|---|---|---|---|---|---|
| | | | AH9130 | | |
| DMM100 | 10 | 6.05 | ● | 1.47 | TID*100… |
| DMM103 | 10.3 | 6.05 | ● | 1.52 | TID*100… |
| DMM105 | 10.5 | 6.05 | ● | 1.56 | TID*105… |
| DMM108 | 10.8 | 6.05 | ● | 1.62 | TID*105… |
| DMM110 | 11 | 6.45 | ● | 1.67 | TID*110… |
| DMM111 | 11.1 | 6.45 | ● | 1.69 | TID*110… |
| DMM114 | 11.4 | 6.45 | ● | 1.74 | TID*110… |
| DMM115 | 11.5 | 6.45 | ● | 1.76 | TID*115… |
| DMM118 | 11.8 | 6.45 | ● | 1.82 | TID*115… |
| DMM120 | 12 | 6.8 | ● | 1.82 | TID*120… |
| DMM121 | 12.1 | 6.8 | ● | 1.84 | TID*120… |
| DMM122 | 12.2 | 6.8 | ● | 1.86 | TID*120… |
| DMM123 | 12.3 | 6.8 | ● | 1.87 | TID*120… |
| DMM125 | 12.5 | 6.8 | ● | 1.91 | TID*125… |
| DMM126 | 12.6 | 6.8 | ● | 1.93 | TID*125… |
| DMM127 | 12.7 | 6.8 | ● | 1.95 | TID*125… |
| DMM130 | 13 | 7.4 | ● | 1.96 | TID*130… |
| DMM131 | 13.1 | 7.4 | ● | 1.98 | TID*130… |


| | | | | |
|---|---|---|---|---|
| P | Steel | ☆ | | |
| M | Stainless | ★ | | |
| K | Cast iron | ☆ | | |
| N | Non-ferrous | ☆ | | |
| S | Superalloys | ★ | | |
| H | Hard materials | ☆ | | |

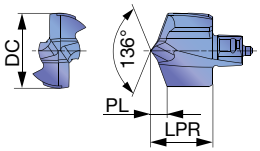
★ : First choice
☆ : Second choice


| Designation | DC | LPR | Coated | PL | Body |
|---|---|---|---|---|---|
| | | | AH9130 | | |
| DMM133 | 13.3 | 7.4 | ● | 2.01 | TID*130… |
| DMM135 | 13.5 | 7.4 | ● | 2.05 | TID*135… |
| DMM138 | 13.8 | 7.4 | ● | 2.11 | TID*135… |
| DMM140 | 14 | 7.95 | ● | 2.12 | TID*140… |
| DMM141 | 14.1 | 7.95 | ● | 2.14 | TID*140… |
| DMM142 | 14.2 | 7.95 | ● | 2.16 | TID*140… |
| DMM145 | 14.5 | 7.95 | ● | 2.21 | TID*145… |
| DMM146 | 14.6 | 7.95 | ● | 2.23 | TID*145… |
| DMM150 | 15 | 8.53 | ● | 2.27 | TID*150… |
| DMM152 | 15.2 | 8.53 | ● | 2.31 | TID*150… |
| DMM155 | 15.5 | 8.53 | ● | 2.36 | TID*150… |
| DMM157 | 15.7 | 8.53 | ● | 2.4 | TID*150… |
| DMM160 | 16 | 9.1 | ● | 2.42 | TID*160… |
| DMM163 | 16.3 | 9.1 | ● | 2.47 | TID*160… |
| DMM165 | 16.5 | 9.1 | ● | 2.51 | TID*160… |
| DMM166 | 16.6 | 9.1 | ● | 2.53 | TID*160… |
| DMM167 | 16.7 | 9.1 | ● | 2.55 | TID*160… |

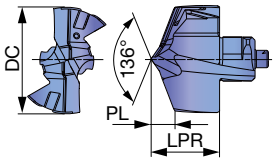
ø10 - ø16.7 = 2 pieces per package

● : Line up

## DMC (High precision hole making)




ADDMEISTER DRILL
DMC040 - DMC059




DRILLMEISTER
DMC060 - DMC259

| Tool diameter | Head diameter tolerance |
|---|---|
| ø4 - ø17.9 | +0.018 / 0 |
| ø18 - ø25.9 | +0.021 / 0 |

| | | |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | ☆ |
| S | Superalloys | ☆ |
| H | Hard materials | ☆ |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|
| DMC040 | 4 | 3.51 | ● | 0.86 | TID*040... |
| DMC041 | 4.1 | 3.51 | ● | 0.88 | TID*040... |
| DMC042 | 4.2 | 3.51 | ● | 0.9 | TID*040... |
| DMC043 | 4.3 | 3.51 | ● | 0.92 | TID*040... |
| DMC044 | 4.4 | 3.51 | ● | 0.94 | TID*040... |
| DMC045 | 4.5 | 3.81 | ● | 0.97 | TID*045... |
| DMC046 | 4.6 | 3.81 | ● | 0.99 | TID*045... |
| DMC047 | 4.7 | 3.81 | ● | 1.01 | TID*045... |
| DMC048 | 4.8 | 3.81 | ● | 1.03 | TID*045... |
| DMC049 | 4.9 | 3.81 | ● | 1.05 | TID*045... |
| DMC050 | 5 | 4.14 | ● | 1.09 | TID*050... |
| DMC051 | 5.1 | 4.14 | ● | 1.11 | TID*050... |
| DMC052 | 5.2 | 4.14 | ● | 1.13 | TID*050... |
| DMC053 | 5.3 | 4.14 | ● | 1.15 | TID*050... |
| DMC054 | 5.4 | 4.14 | ● | 1.17 | TID*050... |
| DMC055 | 5.5 | 4.17 | ● | 1.22 | TID*055... |
| DMC056 | 5.6 | 4.17 | ● | 1.24 | TID*055... |
| DMC057 | 5.7 | 4.17 | ● | 1.26 | TID*055... |
| DMC058 | 5.8 | 4.17 | ● | 1.28 | TID*055... |
| DMC059 | 5.9 | 4.17 | ● | 1.3 | TID*055... |
| DMC060 | 6 | 4 | ● | 1.24 | TID*060... |
| DMC061 | 6.1 | 4 | ● | 1.26 | TID*060... |
| DMC062 | 6.2 | 4 | ● | 1.28 | TID*060... |
| DMC063 | 6.3 | 4 | ● | 1.3 | TID*060... |
| DMC064 | 6.4 | 4 | ● | 1.32 | TID*060... |
| DMC065 | 6.5 | 4.3 | ● | 1.33 | TID*065... |
| DMC066 | 6.6 | 4.3 | ● | 1.35 | TID*065... |
| DMC067 | 6.7 | 4.3 | ● | 1.37 | TID*065... |
| DMC068 | 6.8 | 4.3 | ● | 1.39 | TID*065... |
| DMC069 | 6.9 | 4.3 | ● | 1.41 | TID*065... |
| DMC070 | 7 | 4.9 | ● | 1.48 | TID*070... |
| DMC071 | 7.1 | 4.9 | ● | 1.5 | TID*070... |
| DMC072 | 7.2 | 4.9 | ● | 1.52 | TID*070... |
| DMC073 | 7.3 | 4.9 | ● | 1.54 | TID*070... |
| DMC074 | 7.4 | 4.9 | ● | 1.56 | TID*070... |
| DMC075 | 7.5 | 4.9 | ● | 1.58 | TID*075... |
| DMC076 | 7.6 | 4.9 | ● | 1.6 | TID*075... |
| DMC077 | 7.7 | 4.9 | ● | 1.62 | TID*075... |
| DMC078 | 7.8 | 4.9 | ● | 1.64 | TID*075... |
| DMC079 | 7.9 | 4.9 | ● | 1.66 | TID*075... |
| DMC080 | 8 | 5.4 | ● | 1.62 | TID*080... |
| DMC081 | 8.1 | 5.4 | ● | 1.64 | TID*080... |
| DMC082 | 8.2 | 5.4 | ● | 1.66 | TID*080... |
| DMC083 | 8.3 | 5.4 | ● | 1.68 | TID*080... |
| DMC084 | 8.4 | 5.4 | ● | 1.7 | TID*080... |
| DMC085 | 8.5 | 5.4 | ● | 1.72 | TID*085... |
| DMC086 | 8.6 | 5.4 | ● | 1.74 | TID*085... |
| DMC087 | 8.7 | 5.4 | ● | 1.76 | TID*085... |

| | | |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | ☆ |
| S | Superalloys | ☆ |
| H | Hard materials | ☆ |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|
| DMC088 | 8.8 | 5.4 | ● | 1.78 | TID*085... |
| DMC089 | 8.9 | 5.4 | ● | 1.8 | TID*085... |
| DMC090 | 9 | 5.8 | ● | 1.91 | TID*090... |
| DMC091 | 9.1 | 5.8 | ● | 1.93 | TID*090... |
| DMC092 | 9.2 | 5.8 | ● | 1.95 | TID*090... |
| DMC093 | 9.3 | 5.8 | ● | 1.97 | TID*090... |
| DMC094 | 9.4 | 5.8 | ● | 1.99 | TID*090... |
| DMC095 | 9.5 | 5.8 | ● | 2.01 | TID*095... |
| DMC096 | 9.6 | 5.8 | ● | 2.03 | TID*095... |
| DMC097 | 9.7 | 5.8 | ● | 2.05 | TID*095... |
| DMC098 | 9.8 | 5.8 | ● | 2.07 | TID*095... |
| DMC099 | 9.9 | 5.8 | ● | 2.09 | TID*095... |
| DMC100 | 10 | 6.67 | ● | 2.09 | TID*100... |
| DMC101 | 10.1 | 6.67 | ● | 2.11 | TID*100... |
| DMC102 | 10.2 | 6.67 | ● | 2.13 | TID*100... |
| DMC103 | 10.3 | 6.67 | ● | 2.15 | TID*100... |
| DMC104 | 10.4 | 6.67 | ● | 2.17 | TID*100... |
| DMC105 | 10.5 | 6.67 | ● | 2.19 | TID*105... |
| DMC106 | 10.6 | 6.67 | ● | 2.21 | TID*105... |
| DMC107 | 10.7 | 6.67 | ● | 2.23 | TID*105... |
| DMC108 | 10.8 | 6.67 | ● | 2.25 | TID*105... |
| DMC109 | 10.9 | 6.67 | ● | 2.27 | TID*105... |
| DMC110 | 11 | 7.1 | ● | 2.32 | TID*110... |
| DMC111 | 11.1 | 7.1 | ● | 2.34 | TID*110... |
| DMC112 | 11.2 | 7.1 | ● | 2.36 | TID*110... |
| DMC113 | 11.3 | 7.1 | ● | 2.38 | TID*110... |
| DMC114 | 11.4 | 7.1 | ● | 2.4 | TID*110... |
| DMC115 | 11.5 | 7.1 | ● | 2.42 | TID*115... |
| DMC116 | 11.6 | 7.1 | ● | 2.44 | TID*115... |
| DMC117 | 11.7 | 7.1 | ● | 2.46 | TID*115... |
| DMC118 | 11.8 | 7.1 | ● | 2.48 | TID*115... |
| DMC119 | 11.9 | 7.1 | ● | 2.5 | TID*115... |
| DMC120 | 12 | 7.43 | ● | 2.45 | TID*120... |
| DMC121 | 12.1 | 7.43 | ● | 2.47 | TID*120... |
| DMC122 | 12.2 | 7.43 | ● | 2.49 | TID*120... |
| DMC123 | 12.3 | 7.43 | ● | 2.51 | TID*120... |
| DMC124 | 12.4 | 7.43 | ● | 2.53 | TID*120... |
| DMC125 | 12.5 | 7.43 | ● | 2.55 | TID*125... |
| DMC126 | 12.6 | 7.43 | ● | 2.57 | TID*125... |
| DMC127 | 12.7 | 7.43 | ● | 2.59 | TID*125... |
| DMC128 | 12.8 | 7.43 | ● | 2.61 | TID*125... |
| DMC129 | 12.9 | 7.43 | ● | 2.63 | TID*125... |
| DMC130 | 13 | 8.15 | ● | 2.71 | TID*130... |
| DMC131 | 13.1 | 8.15 | ● | 2.73 | TID*130... |
| DMC132 | 13.2 | 8.15 | ● | 2.75 | TID*130... |
| DMC133 | 13.3 | 8.15 | ● | 2.77 | TID*130... |

ø4 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

● : Line up

| | | | | |
|---|---|---|---|---|
| P | Steel | ★ | | |
| M | Stainless | ☆ | | |
| K | Cast iron | ★ | | |
| N | Non-ferrous | ☆ | | |
| S | Superalloys | ☆ | | |
| H | Hard materials | ☆ | | |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated | | | PL | Body |
|---|---|---|---|---|---|---|---|
| | | | AH9130 | | | | |
| DMC134 | 13.4 | 8.15 | ● | | | 2.79 | TID*130... |
| DMC135 | 13.5 | 8.15 | ● | | | 2.81 | TID*135... |
| DMC136 | 13.6 | 8.15 | ● | | | 2.83 | TID*135... |
| DMC137 | 13.7 | 8.15 | ● | | | 2.85 | TID*135... |
| DMC138 | 13.8 | 8.15 | ● | | | 2.87 | TID*135... |
| DMC139 | 13.9 | 8.15 | ● | | | 2.89 | TID*135... |
| DMC140 | 14 | 8.76 | ● | | | 2.93 | TID*140... |
| DMC141 | 14.1 | 8.76 | ● | | | 2.95 | TID*140... |
| DMC142 | 14.2 | 8.76 | ● | | | 2.97 | TID*140... |
| DMC143 | 14.3 | 8.76 | ● | | | 2.99 | TID*140... |
| DMC144 | 14.4 | 8.76 | ● | | | 3.01 | TID*140... |
| DMC145 | 14.5 | 8.76 | ● | | | 3.03 | TID*145... |
| DMC146 | 14.6 | 8.76 | ● | | | 3.05 | TID*145... |
| DMC147 | 14.7 | 8.76 | ● | | | 3.07 | TID*145... |
| DMC148 | 14.8 | 8.76 | ● | | | 3.09 | TID*145... |
| DMC149 | 14.9 | 8.76 | ● | | | 3.11 | TID*145... |
| DMC150 | 15 | 9.44 | ● | | | 3.18 | TID*150... |
| DMC151 | 15.1 | 9.44 | ● | | | 3.2 | TID*150... |
| DMC152 | 15.2 | 9.44 | ● | | | 3.22 | TID*150... |
| DMC153 | 15.3 | 9.44 | ● | | | 3.24 | TID*150... |
| DMC154 | 15.4 | 9.44 | ● | | | 3.26 | TID*150... |
| DMC155 | 15.5 | 9.44 | ● | | | 3.28 | TID*150... |
| DMC156 | 15.6 | 9.44 | ● | | | 3.3 | TID*150... |
| DMC157 | 15.7 | 9.44 | ● | | | 3.32 | TID*150... |
| DMC158 | 15.8 | 9.44 | ● | | | 3.34 | TID*150... |
| DMC159 | 15.9 | 9.44 | ● | | | 3.36 | TID*150... |
| DMC160 | 16 | 10.07 | ● | | | 3.39 | TID*160... |
| DMC161 | 16.1 | 10.07 | ● | | | 3.41 | TID*160... |
| DMC162 | 16.2 | 10.07 | ● | | | 3.43 | TID*160... |
| DMC163 | 16.3 | 10.07 | ● | | | 3.45 | TID*160... |
| DMC164 | 16.4 | 10.07 | ● | | | 3.47 | TID*160... |
| DMC165 | 16.5 | 10.07 | ● | | | 3.49 | TID*160... |
| DMC166 | 16.6 | 10.07 | ● | | | 3.51 | TID*160... |
| DMC167 | 16.7 | 10.07 | ● | | | 3.53 | TID*160... |
| DMC168 | 16.8 | 10.07 | ● | | | 3.55 | TID*160... |
| DMC169 | 16.9 | 10.07 | ● | | | 3.57 | TID*160... |
| DMC170 | 17 | 10.68 | ● | | | 3.57 | TID*170... |
| DMC171 | 17.1 | 10.68 | ● | | | 3.59 | TID*170... |
| DMC172 | 17.2 | 10.68 | ● | | | 3.61 | TID*170... |
| DMC173 | 17.3 | 10.68 | ● | | | 3.63 | TID*170... |
| DMC174 | 17.4 | 10.68 | ● | | | 3.65 | TID*170... |
| DMC175 | 17.5 | 10.68 | ● | | | 3.67 | TID*170... |
| DMC176 | 17.6 | 10.68 | ● | | | 3.69 | TID*170... |
| DMC177 | 17.7 | 10.68 | ● | | | 3.71 | TID*170... |
| DMC178 | 17.8 | 10.68 | ● | | | 3.73 | TID*170... |
| DMC179 | 17.9 | 10.68 | ● | | | 3.75 | TID*170... |
| DMC180 | 18 | 11.35 | ● | | | 3.78 | TID*180... |
| DMC181 | 18.1 | 11.35 | ● | | | 3.8 | TID*180... |
| DMC182 | 18.2 | 11.35 | ● | | | 3.82 | TID*180... |
| DMC183 | 18.3 | 11.35 | ● | | | 3.84 | TID*180... |
| DMC184 | 18.4 | 11.35 | ● | | | 3.86 | TID*180... |
| DMC185 | 18.5 | 11.35 | ● | | | 3.88 | TID*180... |
| DMC186 | 18.6 | 11.35 | ● | | | 3.9 | TID*180... |
| DMC187 | 18.7 | 11.35 | ● | | | 3.92 | TID*180... |
| DMC188 | 18.8 | 11.35 | ● | | | 3.94 | TID*180... |
| DMC189 | 18.9 | 11.35 | ● | | | 3.96 | TID*180... |
| DMC190 | 19 | 11.91 | ● | | | 3.99 | TID*190... |
| DMC191 | 19.1 | 11.91 | ● | | | 4.01 | TID*190... |
| DMC192 | 19.2 | 11.91 | ● | | | 4.03 | TID*190... |
| DMC1927 | 19.27 | 11.91 | ● | | | 4.04 | TID*190... |
| DMC193 | 19.3 | 11.91 | ● | | | 4.05 | TID*190... |
| DMC194 | 19.4 | 11.91 | ● | | | 4.07 | TID*190... |
| DMC195 | 19.5 | 11.91 | ● | | | 4.09 | TID*190... |
| DMC196 | 19.6 | 11.91 | ● | | | 4.11 | TID*190... |
| DMC197 | 19.7 | 11.91 | ● | | | 4.13 | TID*190... |
| DMC198 | 19.8 | 11.91 | ● | | | 4.15 | TID*190... |


| | | | | |
|---|---|---|---|---|
| P | Steel | ★ | | |
| M | Stainless | ☆ | | |
| K | Cast iron | ★ | | |
| N | Non-ferrous | ☆ | | |
| S | Superalloys | ☆ | | |
| H | Hard materials | ☆ | | |

★ : First choice
☆ : Second choice

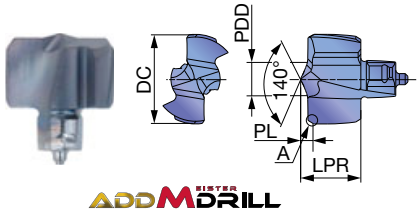

| Designation | DC | LPR | Coated | | | PL | Body |
|---|---|---|---|---|---|---|---|
| | | | AH9130 | | | | |
| DMC199 | 19.9 | 11.91 | ● | | | 4.17 | TID*190... |
| DMC200 | 20 | 12.62 | ● | | | 4.24 | TID*200... |
| DMC201 | 20.1 | 12.62 | ● | | | 4.26 | TID*200... |
| DMC202 | 20.2 | 12.62 | ● | | | 4.28 | TID*200... |
| DMC203 | 20.3 | 12.62 | ● | | | 4.3 | TID*200... |
| DMC204 | 20.4 | 12.62 | ● | | | 4.32 | TID*200... |
| DMC205 | 20.5 | 12.62 | ● | | | 4.34 | TID*200... |
| DMC206 | 20.6 | 12.62 | ● | | | 4.36 | TID*200... |
| DMC207 | 20.7 | 12.62 | ● | | | 4.38 | TID*200... |
| DMC208 | 20.8 | 12.62 | ● | | | 4.4 | TID*200... |
| DMC209 | 20.9 | 12.62 | ● | | | 4.42 | TID*200... |
| DMC210 | 21 | 13.2 | ● | | | 4.4 | TID*210... |
| DMC211 | 21.1 | 13.2 | ● | | | 4.42 | TID*210... |
| DMC212 | 21.2 | 13.2 | ● | | | 4.44 | TID*210... |
| DMC213 | 21.3 | 13.2 | ● | | | 4.46 | TID*210... |
| DMC214 | 21.4 | 13.2 | ● | | | 4.48 | TID*210... |
| DMC215 | 21.5 | 13.2 | ● | | | 4.5 | TID*210... |
| DMC216 | 21.6 | 13.2 | ● | | | 4.52 | TID*210... |
| DMC217 | 21.7 | 13.2 | ● | | | 4.54 | TID*210... |
| DMC218 | 21.8 | 13.2 | ● | | | 4.56 | TID*210... |
| DMC219 | 21.9 | 13.2 | ● | | | 4.58 | TID*210... |
| DMC220 | 22 | 13.84 | ● | | | 4.6 | TID*220... |
| DMC221 | 22.1 | 13.84 | ● | | | 4.62 | TID*220... |
| DMC222 | 22.2 | 13.84 | ● | | | 4.64 | TID*220... |
| DMC223 | 22.3 | 13.84 | ● | | | 4.66 | TID*220... |
| DMC224 | 22.4 | 13.84 | ● | | | 4.68 | TID*220... |
| DMC225 | 22.5 | 13.84 | ● | | | 4.7 | TID*220... |
| DMC226 | 22.6 | 13.84 | ● | | | 4.72 | TID*220... |
| DMC227 | 22.7 | 13.84 | ● | | | 4.74 | TID*220... |
| DMC228 | 22.8 | 13.84 | ● | | | 4.76 | TID*220... |
| DMC229 | 22.9 | 13.84 | ● | | | 4.78 | TID*220... |
| DMC230 | 23 | 14.51 | ● | | | 4.84 | TID*230... |
| DMC231 | 23.1 | 14.51 | ● | | | 4.84 | TID*220... |
| DMC232 | 23.2 | 14.51 | ● | | | 4.86 | TID*230... |
| DMC233 | 23.3 | 14.51 | ● | | | 4.88 | TID*220... |
| DMC234 | 23.4 | 14.51 | ● | | | 4.9 | TID*230... |
| DMC235 | 23.5 | 14.51 | ● | | | 4.94 | TID*230... |
| DMC236 | 23.6 | 14.51 | ● | | | 4.94 | TID*230... |
| DMC237 | 23.7 | 14.51 | ● | | | 4.96 | TID*230... |
| DMC238 | 23.8 | 14.51 | ● | | | 4.98 | TID*230... |
| DMC239 | 23.9 | 14.51 | ● | | | 5 | TID*230... |
| DMC240 | 24 | 15.11 | ● | | | 5.03 | TID*240... |
| DMC241 | 24.1 | 15.11 | ● | | | 5.24 | TID*240... |
| DMC242 | 24.2 | 15.11 | ● | | | 5.26 | TID*240... |
| DMC243 | 24.3 | 15.11 | ● | | | 5.28 | TID*240... |
| DMC244 | 24.4 | 15.11 | ● | | | 5.3 | TID*240... |
| DMC245 | 24.5 | 15.11 | ● | | | 5.13 | TID*240... |
| DMC246 | 24.6 | 15.11 | ● | | | 5.34 | TID*240... |
| DMC247 | 24.7 | 15.11 | ● | | | 5.36 | TID*240... |
| DMC248 | 24.8 | 15.11 | ● | | | 5.38 | TID*240... |
| DMC249 | 24.9 | 15.11 | ● | | | 5.4 | TID*240... |
| DMC250 | 25 | 15.78 | ● | | | 5.28 | TID*250... |
| DMC251 | 25.1 | 15.78 | ● | | | 5.71 | TID*250... |
| DMC252 | 25.2 | 15.78 | ● | | | 5.73 | TID*250... |
| DMC253 | 25.3 | 15.78 | ● | | | 5.34 | TID*250... |
| DMC254 | 25.4 | 15.78 | ● | | | 5.77 | TID*250... |
| DMC255 | 25.5 | 15.78 | ● | | | 5.38 | TID*250... |
| DMC256 | 25.6 | 15.78 | ● | | | 5.81 | TID*250... |
| DMC2567 | 25.67 | 15.78 | ● | | | 5.42 | TID*250... |
| DMC257 | 25.7 | 15.78 | ● | | | 5.83 | TID*250... |
| DMC258 | 25.8 | 15.78 | ● | | | 5.85 | TID*250... |
| DMC259 | 25.9 | 15.78 | ● | | | 5.46 | TID*250... |

ø4 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

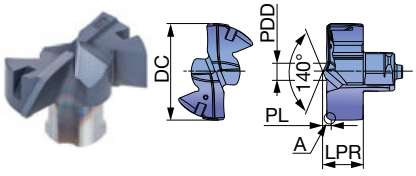
● : Line up

New

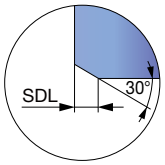
## DMF (Flat geometry head)




ADDMEISTER DRILL
DMF040 - DMF059




DRILLMEISTER
DMF060 - DMF259




Detail in A

| Tool diameter | Head diameter tolerance |
|---|---|
| ø4 - ø17.9 | +0.018 / 0 |
| ø18 - ø25.9 | +0.021 / 0 |

| | | |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | ☆ |
| S | Superalloys | ☆ |
| H | Hard materials | ☆ |

★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated AH9130 | SDL | PL | PDD | Body |
|---|---|---|---|---|---|---|---|
| DMF040 | 4 | 2.95 | ● | 0.29 | 0.45 | 1.45 | TID*040... |
| DMF045 | 4.5 | 3.28 | ● | 0.29 | 0.48 | 1.56 | TID*045... |
| DMF050 | 5 | 3.52 | ● | 0.4 | 0.61 | 1.98 | TID*050... |
| DMF051 | 5.1 | 3.52 | ● | 0.4 | 0.61 | 1.98 | TID*050... |
| DMF052 | 5.2 | 3.52 | ● | 0.4 | 0.61 | 1.98 | TID*050... |
| DMF053 | 5.3 | 3.52 | ● | 0.4 | 0.61 | 1.98 | TID*050... |
| DMF054 | 5.4 | 3.52 | ● | 0.4 | 0.61 | 1.98 | TID*050... |
| DMF055 | 5.5 | 3.52 | ● | 0.4 | 0.61 | 2.02 | TID*055... |
| DMF056 | 5.6 | 3.52 | ● | 0.4 | 0.61 | 2.02 | TID*055... |
| DMF057 | 5.7 | 3.52 | ● | 0.4 | 0.61 | 2.02 | TID*055... |
| DMF058 | 5.8 | 3.52 | ● | 0.4 | 0.61 | 2.02 | TID*055... |
| DMF059 | 5.9 | 3.52 | ● | 0.4 | 0.61 | 2.02 | TID*055... |
| DMF060 | 6 | 3.01 | ● | 0.4 | 0.61 | 1.15 | TID*060... |
| DMF061 | 6.1 | 3.01 | ● | 0.4 | 0.61 | 1.15 | TID*060... |
| DMF062 | 6.2 | 3.01 | ● | 0.4 | 0.61 | 1.15 | TID*060... |
| DMF063 | 6.3 | 3.01 | ● | 0.4 | 0.61 | 1.15 | TID*060... |
| DMF064 | 6.4 | 3.01 | ● | 0.4 | 0.61 | 1.15 | TID*060... |
| DMF065 | 6.5 | 3.28 | ● | 0.4 | 0.68 | 1.54 | TID*065... |
| DMF066 | 6.6 | 3.28 | ● | 0.4 | 0.68 | 1.54 | TID*065... |
| DMF067 | 6.7 | 3.28 | ● | 0.4 | 0.68 | 1.54 | TID*065... |
| DMF068 | 6.8 | 3.28 | ● | 0.4 | 0.68 | 1.54 | TID*065... |
| DMF069 | 6.9 | 3.28 | ● | 0.4 | 0.68 | 1.54 | TID*065... |
| DMF070 | 7 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*070... |
| DMF071 | 7.1 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*070... |
| DMF072 | 7.2 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*070... |
| DMF073 | 7.3 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*070... |
| DMF074 | 7.4 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*070... |
| DMF075 | 7.5 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*075... |
| DMF076 | 7.6 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*075... |
| DMF078 | 7.8 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*075... |
| DMF079 | 7.9 | 3.58 | ● | 0.4 | 0.68 | 1.54 | TID*075... |
| DMF080 | 8 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*080... |
| DMF081 | 8.1 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*080... |
| DMF082 | 8.2 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*080... |
| DMF083 | 8.3 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*080... |
| DMF084 | 8.4 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*080... |
| DMF085 | 8.5 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*085... |
| DMF086 | 8.6 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*085... |
| DMF087 | 8.7 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*085... |
| DMF088 | 8.8 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*085... |
| DMF089 | 8.9 | 4.39 | ● | 0.7 | 1.09 | 2.44 | TID*085... |
| DMF090 | 9 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*090... |
| DMF091 | 9.1 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*090... |
| DMF092 | 9.2 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*090... |
| DMF093 | 9.3 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*090... |
| DMF094 | 9.4 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*090... |
| DMF095 | 9.5 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*095... |
| DMF096 | 9.6 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*095... |
| DMF097 | 9.7 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*095... |

| | | |
|---|---|---|
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| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | ☆ |
| S | Superalloys | ☆ |
| H | Hard materials | ☆ |

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| Designation | DC | LPR | Coated AH9130 | SDL | PL | PDD | Body |
|---|---|---|---|---|---|---|---|
| DMF098 | 9.8 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*095... |
| DMF099 | 9.9 | 4.61 | ● | 0.7 | 1.11 | 2.55 | TID*095... |
| DMF100 | 10 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*100... |
| DMF101 | 10.1 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*100... |
| DMF102 | 10.2 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*100... |
| DMF103 | 10.3 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*100... |
| DMF104 | 10.4 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*100... |
| DMF105 | 10.5 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*105... |
| DMF106 | 10.6 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*105... |
| DMF107 | 10.7 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*105... |
| DMF108 | 10.8 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*105... |
| DMF109 | 10.9 | 4.72 | ● | 0.7 | 1.17 | 2.89 | TID*105... |
| DMF110 | 11 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*110... |
| DMF111 | 11.1 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*110... |
| DMF112 | 11.2 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*110... |
| DMF113 | 11.3 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*110... |
| DMF114 | 11.4 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*110... |
| DMF115 | 11.5 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*115... |
| DMF116 | 11.6 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*115... |
| DMF117 | 11.7 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*115... |
| DMF118 | 11.8 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*115... |
| DMF119 | 11.9 | 4.9 | ● | 0.7 | 1.25 | 2.98 | TID*115... |
| DMF120 | 12 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*120... |
| DMF121 | 12.1 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*120... |
| DMF122 | 12.2 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*120... |
| DMF123 | 12.3 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*120... |
| DMF124 | 12.4 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*120... |
| DMF125 | 12.5 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*125... |
| DMF126 | 12.6 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*125... |
| DMF127 | 12.7 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*125... |
| DMF128 | 12.8 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*125... |
| DMF129 | 12.9 | 5.21 | ● | 0.7 | 1.26 | 3.13 | TID*125... |
| DMF130 | 13 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*130... |
| DMF131 | 13.1 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*130... |
| DMF132 | 13.2 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*130... |
| DMF133 | 13.3 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*130... |
| DMF134 | 13.4 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*130... |
| DMF135 | 13.5 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*135... |
| DMF136 | 13.6 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*135... |
| DMF137 | 13.7 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*135... |
| DMF138 | 13.8 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*135... |
| DMF139 | 13.9 | 5.53 | ● | 0.7 | 1.28 | 3.52 | TID*135... |
| DMF140 | 14 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*140... |
| DMF141 | 14.1 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*140... |
| DMF142 | 14.2 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*140... |
| DMF143 | 14.3 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*140... |

ø4 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

● : New product
● : Line up

| | | | |
|---|---|---|---|
| P | Steel | ★ | |
| M | Stainless | ☆ | |
| K | Cast iron | ★ | |
| N | Non-ferrous | ☆ | |
| S | Superalloys | ☆ | |
| H | Hard materials | ☆ | |

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| Designation | DC | LPR | Coated AH9130 | SDL | PL | PDD | Body |
|---|---|---|---|---|---|---|---|
| DMF144 | 14.4 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*140... |
| DMF145 | 14.5 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*145... |
| DMF146 | 14.6 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*145... |
| DMF147 | 14.7 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*145... |
| DMF148 | 14.8 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*145... |
| DMF149 | 14.9 | 5.96 | ● | 0.7 | 1.31 | 3.81 | TID*145... |
| DMF150 | 15 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF151 | 15.1 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF152 | 15.2 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF153 | 15.3 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF154 | 15.4 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF155 | 15.5 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF156 | 15.6 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF157 | 15.7 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF158 | 15.8 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF159 | 15.9 | 6.43 | ● | 0.7 | 1.35 | 4.24 | TID*150... |
| DMF160 | 16 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF161 | 16.1 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF162 | 16.2 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF163 | 16.3 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF164 | 16.4 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF165 | 16.5 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF166 | 16.6 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF167 | 16.7 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF168 | 16.8 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF169 | 16.9 | 6.84 | ● | 0.7 | 1.39 | 4.06 | TID*160... |
| DMF170 | 17 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF171 | 17.1 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF172 | 17.2 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF173 | 17.3 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF174 | 17.4 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF175 | 17.5 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF176 | 17.6 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF177 | 17.7 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF178 | 17.8 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF179 | 17.9 | 7.15 | ● | 0.7 | 1.4 | 4.14 | TID*170... |
| DMF180 | 18 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF181 | 18.1 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF182 | 18.2 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF183 | 18.3 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF184 | 18.4 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF185 | 18.5 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF186 | 18.6 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF187 | 18.7 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF188 | 18.8 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF189 | 18.9 | 7.45 | ● | 0.7 | 1.42 | 4.16 | TID*180... |
| DMF190 | 19 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF191 | 19.1 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF192 | 19.2 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF193 | 19.3 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF194 | 19.4 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF195 | 19.5 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF196 | 19.6 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF197 | 19.7 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF198 | 19.8 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF199 | 19.9 | 7.79 | ● | 0.7 | 1.44 | 4.25 | TID*190... |
| DMF200 | 20 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF201 | 20.1 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF202 | 20.2 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF203 | 20.3 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF204 | 20.4 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF205 | 20.5 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF206 | 20.6 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF207 | 20.7 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF208 | 20.8 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |
| DMF209 | 20.9 | 9.12 | ● | 0.7 | 1.77 | 6.56 | TID*200... |


| | | | |
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| S | Superalloys | ☆ | |
| H | Hard materials | ☆ | |

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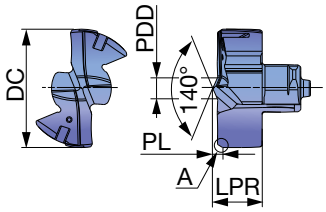
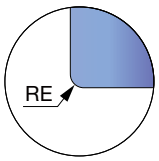
|---|---|---|---|---|---|---|---|
| DMF210 | 21 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF211 | 21.1 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF212 | 21.2 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF213 | 21.3 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF214 | 21.4 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF215 | 21.5 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF216 | 21.6 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF217 | 21.7 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF218 | 21.8 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF219 | 21.9 | 9.54 | ● | 0.7 | 1.79 | 6.92 | TID*210... |
| DMF220 | 22 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF221 | 22.1 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF222 | 22.2 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF223 | 22.3 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF224 | 22.4 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF225 | 22.5 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF226 | 22.6 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF227 | 22.7 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF228 | 22.8 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF229 | 22.9 | 9.86 | ● | 0.7 | 1.81 | 7.13 | TID*220... |
| DMF230 | 23 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF231 | 23.1 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF232 | 23.2 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF233 | 23.3 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF234 | 23.4 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF235 | 23.5 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF236 | 23.6 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF237 | 23.7 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF238 | 23.8 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF239 | 23.9 | 10.28 | ● | 0.7 | 1.83 | 7.42 | TID*230... |
| DMF240 | 24 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF241 | 24.1 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF242 | 24.2 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF243 | 24.3 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF244 | 24.4 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF245 | 24.5 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF246 | 24.6 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF247 | 24.7 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF248 | 24.8 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF249 | 24.9 | 10.71 | ● | 0.7 | 1.86 | 7.45 | TID*240... |
| DMF250 | 25 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF251 | 25.1 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF252 | 25.2 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF253 | 25.3 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF254 | 25.4 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF255 | 25.5 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF256 | 25.6 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF257 | 25.7 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF258 | 25.8 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |
| DMF259 | 25.9 | 11.15 | ● | 0.7 | 1.9 | 7.54 | TID*250... |

ø4 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

● : Line up

## DMF-R (Flat geometry head with corner radius)




Detail in A

| Tool diameter | Head diameter tolerance |
|---|---|
| ø6.5 - ø17.5 | +0.018 / 0 |
| ø20 - ø24 | +0.021 / 0 |

| | | | |
|---|---|---|---|
| P | Steel | ★ | |
| M | Stainless | ☆ | |
| K | Cast iron | ★ | |
| N | Non-ferrous | ☆ | |
| S | Superalloys | ☆ | |
| H | Hard materials | ☆ | |

| Designation | DC | LPR | Coated AH9130 | RE | PL | PDD | Body |
|---|---|---|---|---|---|---|---|
| DMF065-R0.2 | 6.5 | 3.28 | ● | 0.2 | 0.48 | 1.54 | TID*065... |
| DMF080-R0.2 | 8 | 4.39 | ● | 0.2 | 0.59 | 2.44 | TID*080... |
| DMF095-R0.2 | 9.5 | 4.61 | ● | 0.2 | 0.61 | 2.55 | TID*095... |
| DMF110-R0.2 | 11 | 4.9 | ● | 0.2 | 0.75 | 2.98 | TID*110... |

ø6.5 - ø17.5 = 2 pieces per package
ø20 - ø24 = 1 piece per package

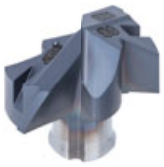
| | | | |
|---|---|---|---|
| P | Steel | ★ | |
| M | Stainless | ☆ | |
| K | Cast iron | ★ | |
| N | Non-ferrous | ☆ | |
| S | Superalloys | ☆ | |
| H | Hard materials | ☆ | |

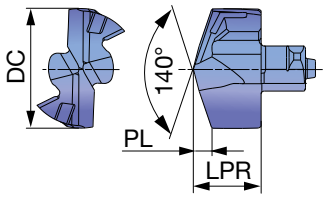
★ : First choice
☆ : Second choice

| Designation | DC | LPR | Coated AH9130 | RE | PL | PDD | Body |
|---|---|---|---|---|---|---|---|
| DMF140-R0.2 | 14 | 5.96 | ● | 0.2 | 0.81 | 3.81 | TID*140... |
| DMF175-R0.2 | 17.5 | 7.15 | ● | 0.2 | 0.9 | 4.14 | TID*175... |
| DMF200-R0.2 | 20 | 9.12 | ● | 0.2 | 1.27 | 6.56 | TID*200... |
| DMF240-R0.2 | 24 | 10.71 | ● | 0.2 | 1.36 | 7.45 | TID*240... |

● : Line up

## DMH (High strength cutting edge)






| Tool diameter | Head diameter tolerance |
|---|---|
| ø6 - ø17.9 | +0.018 / -0.005 |
| ø18 - ø25.9 | +0.021 / -0.005 |

| | | |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | |
| S | Superalloys | ☆ |
| H | Hard materials | ★ |

★ : First choice

| Designation | DC | LPR | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|
| DMH060 | 6 | 3.85 | ● | 1.09 | TID*060... |
| DMH061 | 6.1 | 3.85 | ● | 1.11 | TID*060... |
| DMH062 | 6.2 | 3.85 | ● | 1.13 | TID*060... |
| DMH063 | 6.3 | 3.85 | ● | 1.14 | TID*060... |
| DMH064 | 6.4 | 3.85 | ● | 1.16 | TID*060... |
| DMH065 | 6.5 | 4.15 | ● | 1.27 | TID*065... |
| DMH066 | 6.6 | 4.15 | ● | 1.29 | TID*065... |
| DMH067 | 6.7 | 4.15 | ● | 1.31 | TID*065... |
| DMH068 | 6.8 | 4.15 | ● | 1.33 | TID*065... |
| DMH069 | 6.9 | 4.15 | ● | 1.34 | TID*065... |
| DMH070 | 7 | 4.45 | ● | 1.03 | TID*070... |
| DMH071 | 7.1 | 4.45 | ● | 1.05 | TID*070... |
| DMH072 | 7.2 | 4.45 | ● | 1.07 | TID*070... |
| DMH073 | 7.3 | 4.45 | ● | 1.08 | TID*070... |
| DMH074 | 7.4 | 4.45 | ● | 1.1 | TID*070... |
| DMH075 | 7.5 | 4.45 | ● | 1.12 | TID*075... |
| DMH076 | 7.6 | 4.45 | ● | 1.14 | TID*075... |
| DMH077 | 7.7 | 4.45 | ● | 1.16 | TID*075... |
| DMH078 | 7.8 | 4.45 | ● | 1.18 | TID*075... |
| DMH079 | 7.9 | 4.45 | ● | 1.19 | TID*075... |
| DMH080 | 8 | 5.25 | ● | 1.2 | TID*080... |
| DMH081 | 8.1 | 5.25 | ● | 1.22 | TID*080... |
| DMH082 | 8.2 | 5.25 | ● | 1.24 | TID*080... |
| DMH083 | 8.3 | 5.25 | ● | 1.25 | TID*080... |
| DMH084 | 8.4 | 5.25 | ● | 1.27 | TID*080... |
| DMH085 | 8.5 | 5.25 | ● | 1.29 | TID*085... |
| DMH086 | 8.6 | 5.25 | ● | 1.31 | TID*085... |
| DMH087 | 8.7 | 5.25 | ● | 1.33 | TID*085... |
| DMH088 | 8.8 | 5.25 | ● | 1.35 | TID*085... |
| DMH089 | 8.9 | 5.25 | ● | 1.36 | TID*085... |
| DMH090 | 9 | 5.65 | ● | 1.37 | TID*090... |
| DMH091 | 9.1 | 5.65 | ● | 1.39 | TID*090... |
| DMH092 | 9.2 | 5.65 | ● | 1.41 | TID*090... |
| DMH093 | 9.3 | 5.65 | ● | 1.42 | TID*090... |
| DMH094 | 9.4 | 5.65 | ● | 1.44 | TID*090... |
| DMH095 | 9.5 | 5.65 | ● | 1.46 | TID*095... |
| DMH096 | 9.6 | 5.65 | ● | 1.48 | TID*095... |
| DMH097 | 9.7 | 5.65 | ● | 1.5 | TID*095... |
| DMH098 | 9.8 | 5.65 | ● | 1.52 | TID*095... |
| DMH099 | 9.9 | 5.65 | ● | 1.53 | TID*095... |
| DMH100 | 10 | 6.05 | ● | 1.47 | TID*100... |
| DMH101 | 10.1 | 6.05 | ● | 1.49 | TID*100... |
| DMH102 | 10.2 | 6.05 | ● | 1.51 | TID*100... |
| DMH103 | 10.3 | 6.05 | ● | 1.52 | TID*100... |
| DMH104 | 10.4 | 6.05 | ● | 1.54 | TID*100... |
| DMH105 | 10.5 | 6.05 | ● | 1.56 | TID*105... |
| DMH106 | 10.6 | 6.05 | ● | 1.58 | TID*105... |
| DMH107 | 10.7 | 6.05 | ● | 1.6 | TID*105... |


| | | |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | |
| S | Superalloys | ☆ |
| H | Hard materials | ★ |

★ : First choice


| Designation | DC | LPR | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|
| DMH108 | 10.8 | 6.05 | ● | 1.62 | TID*105... |
| DMH109 | 10.9 | 6.05 | ● | 1.63 | TID*105... |
| DMH110 | 11 | 6.45 | ● | 1.67 | TID*110... |
| DMH111 | 11.1 | 6.45 | ● | 1.69 | TID*110... |
| DMH112 | 11.2 | 6.45 | ● | 1.71 | TID*110... |
| DMH113 | 11.3 | 6.45 | ● | 1.72 | TID*110... |
| DMH114 | 11.4 | 6.45 | ● | 1.74 | TID*110... |
| DMH115 | 11.5 | 6.45 | ● | 1.76 | TID*115... |
| DMH116 | 11.6 | 6.45 | ● | 1.78 | TID*115... |
| DMH117 | 11.7 | 6.45 | ● | 1.8 | TID*115... |
| DMH118 | 11.8 | 6.45 | ● | 1.82 | TID*115... |
| DMH119 | 11.9 | 6.45 | ● | 1.83 | TID*115... |
| DMH120 | 12 | 6.8 | ● | 1.82 | TID*120... |
| DMH121 | 12.1 | 6.8 | ● | 1.84 | TID*120... |
| DMH122 | 12.2 | 6.8 | ● | 1.86 | TID*120... |
| DMH123 | 12.3 | 6.8 | ● | 1.87 | TID*120... |
| DMH124 | 12.4 | 6.8 | ● | 1.89 | TID*120... |
| DMH125 | 12.5 | 6.8 | ● | 1.91 | TID*125... |
| DMH126 | 12.6 | 6.8 | ● | 1.93 | TID*125... |
| DMH127 | 12.7 | 6.8 | ● | 1.95 | TID*125... |
| DMH128 | 12.8 | 6.8 | ● | 1.97 | TID*125... |
| DMH129 | 12.9 | 6.8 | ● | 1.98 | TID*125... |
| DMH130 | 13 | 7.4 | ● | 1.96 | TID*130... |
| DMH131 | 13.1 | 7.4 | ● | 1.98 | TID*130... |
| DMH132 | 13.2 | 7.4 | ● | 2 | TID*130... |
| DMH133 | 13.3 | 7.4 | ● | 2.01 | TID*130... |
| DMH134 | 13.4 | 7.4 | ● | 2.03 | TID*130... |
| DMH135 | 13.5 | 7.4 | ● | 2.05 | TID*135... |
| DMH136 | 13.6 | 7.4 | ● | 2.07 | TID*135... |
| DMH137 | 13.7 | 7.4 | ● | 2.09 | TID*135... |
| DMH138 | 13.8 | 7.4 | ● | 2.11 | TID*135... |
| DMH139 | 13.9 | 7.4 | ● | 2.12 | TID*135... |
| DMH140 | 14 | 7.95 | ● | 2.12 | TID*140... |
| DMH141 | 14.1 | 7.95 | ● | 2.14 | TID*140... |
| DMH142 | 14.2 | 7.95 | ● | 2.16 | TID*140... |
| DMH143 | 14.3 | 7.95 | ● | 2.17 | TID*140... |
| DMH144 | 14.4 | 7.95 | ● | 2.19 | TID*140... |
| DMH145 | 14.5 | 7.95 | ● | 2.21 | TID*145... |
| DMH146 | 14.6 | 7.95 | ● | 2.23 | TID*145... |
| DMH147 | 14.7 | 7.95 | ● | 2.25 | TID*145... |
| DMH148 | 14.8 | 7.95 | ● | 2.27 | TID*145... |
| DMH149 | 14.9 | 7.95 | ● | 2.28 | TID*145... |
| DMH150 | 15 | 8.53 | ● | 2.27 | TID*150... |
| DMH151 | 15.1 | 8.53 | ● | 2.29 | TID*150... |
| DMH152 | 15.2 | 8.53 | ● | 2.31 | TID*150... |
| DMH153 | 15.3 | 8.53 | ● | 2.32 | TID*150... |

ø6 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

● : Line up

| | | |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | |
| S | Superalloys | ☆ |
| H | Hard materials | ★ |

★ : First choice

| Designation | DC | LPR | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|
| DMH154 | 15.4 | 8.53 | ● | 2.34 | TID*150... |
| DMH155 | 15.5 | 8.53 | ● | 2.36 | TID*150... |
| DMH156 | 15.6 | 8.53 | ● | 2.38 | TID*150... |
| DMH157 | 15.7 | 8.53 | ● | 2.4 | TID*150... |
| DMH158 | 15.8 | 8.53 | ● | 2.42 | TID*150... |
| DMH159 | 15.9 | 8.53 | ● | 2.43 | TID*150... |
| DMH160 | 16 | 9.1 | ● | 2.42 | TID*160... |
| DMH161 | 16.1 | 9.1 | ● | 2.44 | TID*160... |
| DMH162 | 16.2 | 9.1 | ● | 2.46 | TID*160... |
| DMH163 | 16.3 | 9.1 | ● | 2.47 | TID*160... |
| DMH164 | 16.4 | 9.1 | ● | 2.49 | TID*160... |
| DMH165 | 16.5 | 9.1 | ● | 2.51 | TID*160... |
| DMH166 | 16.6 | 9.1 | ● | 2.53 | TID*160... |
| DMH167 | 16.7 | 9.1 | ● | 2.55 | TID*160... |
| DMH168 | 16.8 | 9.1 | ● | 2.57 | TID*160... |
| DMH169 | 16.9 | 9.1 | ● | 2.58 | TID*160... |
| DMH170 | 17 | 9.7 | ● | 2.59 | TID*170... |
| DMH171 | 17.1 | 9.7 | ● | 2.61 | TID*170... |
| DMH172 | 17.2 | 9.7 | ● | 2.63 | TID*170... |
| DMH173 | 17.3 | 9.7 | ● | 2.64 | TID*170... |
| DMH174 | 17.4 | 9.7 | ● | 2.66 | TID*170... |
| DMH175 | 17.5 | 9.7 | ● | 2.68 | TID*170... |
| DMH176 | 17.6 | 9.7 | ● | 2.7 | TID*170... |
| DMH177 | 17.7 | 9.7 | ● | 2.72 | TID*170... |
| DMH178 | 17.8 | 9.7 | ● | 2.74 | TID*170... |
| DMH179 | 17.9 | 9.7 | ● | 2.75 | TID*170... |
| DMH180 | 18 | 10.3 | ● | 2.73 | TID*180... |
| DMH181 | 18.1 | 10.3 | ● | 2.75 | TID*180... |
| DMH182 | 18.2 | 10.3 | ● | 2.77 | TID*180... |
| DMH183 | 18.3 | 10.3 | ● | 2.78 | TID*180... |
| DMH184 | 18.4 | 10.3 | ● | 2.8 | TID*180... |
| DMH185 | 18.5 | 10.3 | ● | 2.82 | TID*180... |
| DMH186 | 18.6 | 10.3 | ● | 2.84 | TID*180... |
| DMH187 | 18.7 | 10.3 | ● | 2.86 | TID*180... |
| DMH188 | 18.8 | 10.3 | ● | 2.88 | TID*180... |
| DMH189 | 18.9 | 10.3 | ● | 2.89 | TID*180... |
| DMH190 | 19 | 10.8 | ● | 2.88 | TID*190... |
| DMH191 | 19.1 | 10.8 | ● | 2.9 | TID*190... |
| DMH192 | 19.2 | 10.8 | ● | 2.92 | TID*190... |
| DMH193 | 19.3 | 10.8 | ● | 2.93 | TID*190... |
| DMH194 | 19.4 | 10.8 | ● | 2.95 | TID*190... |
| DMH195 | 19.5 | 10.8 | ● | 2.97 | TID*190... |
| DMH196 | 19.6 | 10.8 | ● | 2.99 | TID*190... |
| DMH197 | 19.7 | 10.8 | ● | 3.01 | TID*190... |
| DMH198 | 19.8 | 10.8 | ● | 3.03 | TID*190... |
| DMH199 | 19.9 | 10.8 | ● | 3.04 | TID*190... |
| DMH200 | 20 | 11.4 | ● | 3.02 | TID*200... |
| DMH201 | 20.1 | 11.4 | ● | 3.04 | TID*200... |
| DMH202 | 20.2 | 11.4 | ● | 3.06 | TID*200... |
| DMH203 | 20.3 | 11.4 | ● | 3.07 | TID*200... |
| DMH204 | 20.4 | 11.4 | ● | 3.09 | TID*200... |
| DMH205 | 20.5 | 11.4 | ● | 3.11 | TID*200... |
| DMH206 | 20.6 | 11.4 | ● | 3.13 | TID*200... |
| DMH207 | 20.7 | 11.4 | ● | 3.15 | TID*200... |
| DMH208 | 20.8 | 11.4 | ● | 3.17 | TID*200... |
| DMH209 | 20.9 | 11.4 | ● | 3.18 | TID*200... |
| DMH210 | 21 | 11.98 | ● | 3.18 | TID*210... |
| DMH211 | 21.1 | 11.98 | ● | 3.2 | TID*210... |
| DMH212 | 21.2 | 11.98 | ● | 3.22 | TID*210... |
| DMH213 | 21.3 | 11.98 | ● | 3.23 | TID*210... |
| DMH214 | 21.4 | 11.98 | ● | 3.25 | TID*210... |
| DMH215 | 21.5 | 11.98 | ● | 3.27 | TID*210... |
| DMH216 | 21.6 | 11.98 | ● | 3.29 | TID*210... |
| DMH217 | 21.7 | 11.98 | ● | 3.31 | TID*210... |
| DMH218 | 21.8 | 11.98 | ● | 3.33 | TID*210... |
| DMH219 | 21.9 | 11.98 | ● | 3.34 | TID*210... |


| | | |
|---|---|---|
| P | Steel | ★ |
| M | Stainless | ☆ |
| K | Cast iron | ★ |
| N | Non-ferrous | |
| S | Superalloys | ☆ |
| H | Hard materials | ★ |

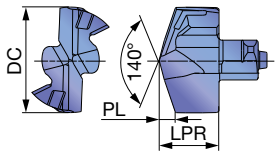

★ : First choice

| Designation | DC | LPR | Coated AH9130 | PL | Body |
|---|---|---|---|---|---|
| DMH220 | 22 | 12.56 | ● | 3.32 | TID*220... |
| DMH221 | 22.1 | 12.56 | ● | 3.34 | TID*220... |
| DMH222 | 22.2 | 12.56 | ● | 3.36 | TID*220... |
| DMH223 | 22.3 | 12.56 | ● | 3.37 | TID*220... |
| DMH224 | 22.4 | 12.56 | ● | 3.39 | TID*220... |
| DMH225 | 22.5 | 12.56 | ● | 3.41 | TID*220... |
| DMH226 | 22.6 | 12.56 | ● | 3.43 | TID*220... |
| DMH227 | 22.7 | 12.56 | ● | 3.45 | TID*220... |
| DMH228 | 22.8 | 12.56 | ● | 3.47 | TID*220... |
| DMH229 | 22.9 | 12.56 | ● | 3.48 | TID*220... |
| DMH230 | 23 | 13.13 | ● | 3.46 | TID*230... |
| DMH231 | 23.1 | 13.13 | ● | 3.48 | TID*230... |
| DMH232 | 23.2 | 13.13 | ● | 3.5 | TID*230... |
| DMH233 | 23.3 | 13.13 | ● | 3.51 | TID*230... |
| DMH234 | 23.4 | 13.13 | ● | 3.53 | TID*230... |
| DMH235 | 23.5 | 13.13 | ● | 3.55 | TID*230... |
| DMH236 | 23.6 | 13.13 | ● | 3.57 | TID*230... |
| DMH237 | 23.7 | 13.13 | ● | 3.59 | TID*230... |
| DMH238 | 23.8 | 13.13 | ● | 3.61 | TID*230... |
| DMH239 | 23.9 | 13.13 | ● | 3.62 | TID*230... |
| DMH240 | 24 | 13.7 | ● | 3.62 | TID*240... |
| DMH241 | 24.1 | 13.7 | ● | 3.64 | TID*240... |
| DMH242 | 24.2 | 13.7 | ● | 3.66 | TID*240... |
| DMH243 | 24.3 | 13.7 | ● | 3.67 | TID*240... |
| DMH244 | 24.4 | 13.7 | ● | 3.69 | TID*240... |
| DMH245 | 24.5 | 13.7 | ● | 3.71 | TID*240... |
| DMH246 | 24.6 | 13.7 | ● | 3.73 | TID*240... |
| DMH247 | 24.7 | 13.7 | ● | 3.75 | TID*240... |
| DMH248 | 24.8 | 13.7 | ● | 3.77 | TID*240... |
| DMH249 | 24.9 | 13.7 | ● | 3.78 | TID*240... |
| DMH250 | 25 | 14.3 | ● | 3.8 | TID*250... |
| DMH251 | 25.1 | 14.3 | ● | 3.82 | TID*250... |
| DMH252 | 25.2 | 14.3 | ● | 3.84 | TID*250... |
| DMH253 | 25.3 | 14.3 | ● | 3.85 | TID*250... |
| DMH254 | 25.4 | 14.3 | ● | 3.87 | TID*250... |
| DMH255 | 25.5 | 14.3 | ● | 3.89 | TID*250... |
| DMH256 | 25.6 | 14.3 | ● | 3.91 | TID*250... |
| DMH257 | 25.7 | 14.3 | ● | 3.93 | TID*250... |
| DMH258 | 25.8 | 14.3 | ● | 3.95 | TID*250... |
| DMH259 | 25.9 | 14.3 | ● | 3.96 | TID*250... |

ø6 - ø19.9 = 2 pieces per package
ø20 - ø25.9 = 1 piece per package

● : Line up

## DMN (Non-ferrous metals drilling)




| Tool diameter | Head diameter tolerance |
|---|---|
| ø6.8 - ø17.5 | +0.01 / 0 |
| ø18 - ø19.5 | +0.012 / 0 |

| | | | | |
|---|---|---|---|---|
| P | Steel | | | |
| M | Stainless | | | |
| K | Cast iron | | | |
| N | Non-ferrous | ★ | | |
| S | Superalloys | | | |
| H | Hard materials | | | |

★ : First choice

| Designation | DC | LPR | Coated KS15F | | | PL | Body |
|---|---|---|---|---|---|---|---|
| DMN068 | 6.8 | 4.15 | ● | | | 1.33 | TID*065... |
| DMN078 | 7.8 | 4.45 | ● | | | 1.18 | TID*075... |
| DMN080 | 8 | 5.25 | ● | | | 1.2 | TID*080... |
| DMN085 | 8.5 | 5.25 | ● | | | 1.29 | TID*085... |
| DMN088 | 8.8 | 5.25 | ● | | | 1.35 | TID*085... |
| DMN095 | 9.5 | 5.65 | ● | | | 1.46 | TID*095... |
| DMN100 | 10 | 6.05 | ● | | | 1.47 | TID*100... |
| DMN102 | 10.2 | 6.05 | ● | | | 1.51 | TID*100... |
| DMN105 | 10.5 | 6.05 | ● | | | 1.56 | TID*105... |
| DMN108 | 10.8 | 6.05 | ● | | | 1.62 | TID*105... |
| DMN110 | 11 | 6.45 | ● | | | 1.67 | TID*110... |
| DMN115 | 11.5 | 6.45 | ● | | | 1.76 | TID*115... |
| DMN120 | 12 | 6.8 | ● | | | 1.82 | TID*120... |
| DMN123 | 12.3 | 6.8 | ● | | | 1.87 | TID*120... |
| DMN125 | 12.5 | 6.8 | ● | | | 1.91 | TID*125... |
| DMN126 | 12.6 | 6.8 | ● | | | 1.93 | TID*125... |
| DMN127 | 12.7 | 6.8 | ● | | | 1.95 | TID*125... |
| DMN130 | 13 | 7.4 | ● | | | 1.96 | TID*130... |
| DMN135 | 13.5 | 7.4 | ● | | | 2.05 | TID*135... |

| | | | | |
|---|---|---|---|---|
| P | Steel | | | |
| M | Stainless | | | |
| K | Cast iron | | | |
| N | Non-ferrous | ★ | | |
| S | Superalloys | | | |
| H | Hard materials | | | |

★ : First choice

| Designation | DC | LPR | Coated KS15F | | | PL | Body |
|---|---|---|---|---|---|---|---|
| DMN138 | 13.8 | 7.4 | ● | | | 2.11 | TID*135... |
| DMN140 | 14 | 7.95 | ● | | | 2.12 | TID*140... |
| DMN142 | 14.2 | 7.95 | ● | | | 2.16 | TID*140... |
| DMN145 | 14.5 | 7.95 | ● | | | 2.21 | TID*145... |
| DMN150 | 15 | 8.53 | ● | | | 2.27 | TID*150... |
| DMN152 | 15.2 | 8.53 | ● | | | 2.31 | TID*150... |
| DMN155 | 15.5 | 8.53 | ● | | | 2.36 | TID*150... |
| DMN158 | 15.8 | 8.53 | ● | | | 2.42 | TID*150... |
| DMN159 | 15.9 | 8.53 | ● | | | 2.43 | TID*150... |
| DMN160 | 16 | 9.1 | ● | | | 2.42 | TID*160... |
| DMN163 | 16.3 | 9.1 | ● | | | 2.47 | TID*160... |
| DMN165 | 16.5 | 9.1 | ● | | | 2.51 | TID*160... |
| DMN170 | 17 | 9.7 | ● | | | 2.59 | TID*170... |
| DMN175 | 17.5 | 9.7 | ● | | | 2.68 | TID*170... |
| DMN180 | 18 | 10.3 | ● | | | 2.73 | TID*180... |
| DMN185 | 18.5 | 10.3 | ● | | | 2.82 | TID*180... |
| DMN190 | 19 | 10.8 | ● | | | 2.88 | TID*190... |
| DMN195 | 19.5 | 10.8 | ● | | | 2.97 | TID*190... |

ø6.8 - ø19.5 = 2 pieces per package

● : Line up

# STANDARD CUTTING CONDITIONS

## ADDMEISTER DRILL

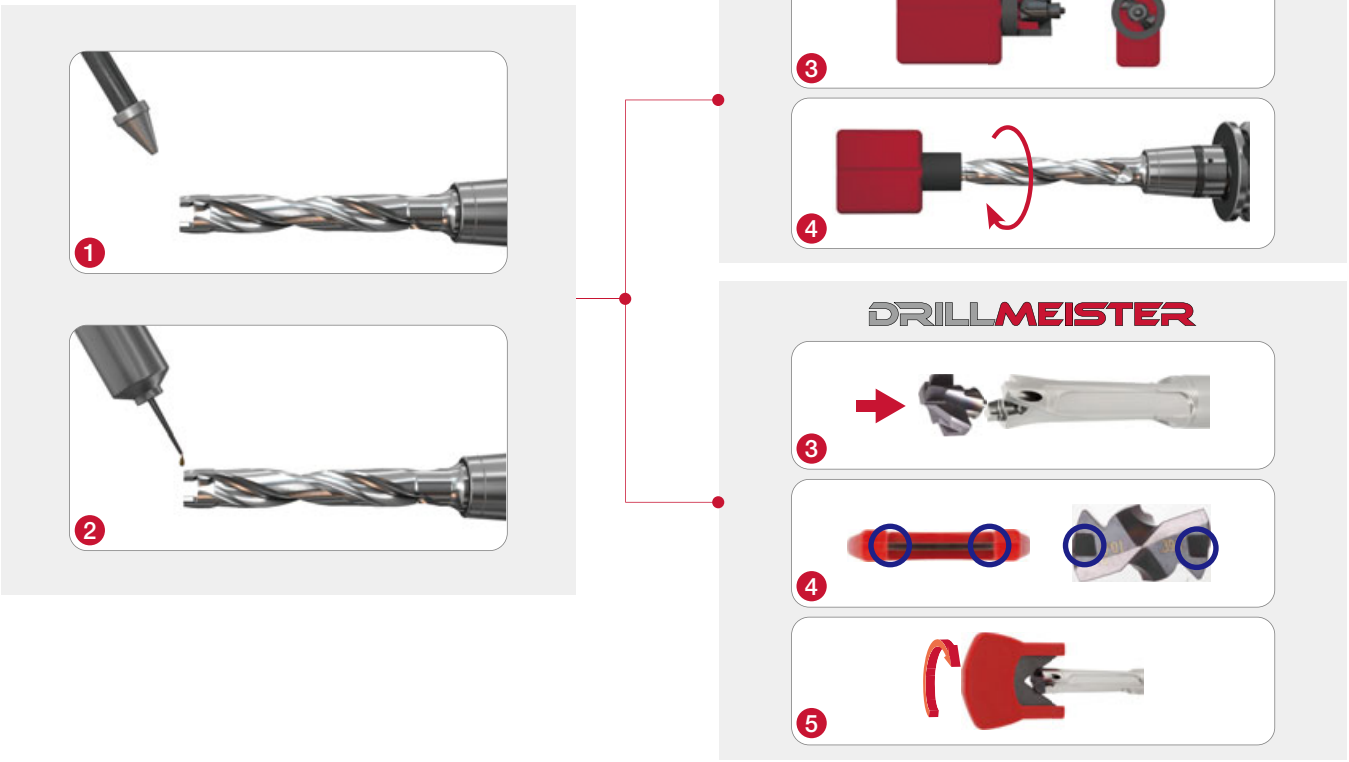
| ISO | Workpiece material | Hardness | Cutting speed | Feed: *f* (mm/rev) | | |
|---|---|---|---|---|---|---|
| | | | | Tool diameter: DC (mm) | | |
| | | | *Vc* (m/min) | ø4 - 4.4 | ø4.5 - 4.9 | ø5 - 5.9 |
| P | Low carbon steels (C < 0.3)<br>SS400, SM490, S25C, etc.<br>C15E4, E275A, E355D, etc. | - 200 HB | 80 - 140 | 0.04 - 0.07 | 0.04 - 0.08 | 0.07 - 0.13 |
| P | High carbon steels (C > 0.3)<br>S45C, S55C, etc.<br>C45, C55, etc. | - 300 HB | 70 - 120 | 0.04 - 0.07 | 0.04 - 0.08 | 0.07 - 0.13 |
| P | Low alloy steels<br>SCM415, etc.<br>18CrMo4, etc. | - 200 HB | 70 - 120 | 0.04 - 0.06 | 0.05 - 0.08 | 0.07 - 0.13 |
| P | Alloy steels<br>SCM440, SCr420, etc.<br>42CrMo4, 20Cr4, etc. | - 300 HB | 40 - 90 | 0.04 -0.07 | 0.05 - 0.08 | 0.07 - 0.13 |
| M | Stainless steels<br>SUS304, SUS316, etc. X5CrNi18-9,<br>X5CrNiMo17-12-2, etc. | - 250 HB | 30 - 70 | - | - | 0.04 - 0.08 |
| K | Grey cast irons<br>FC250, etc. GG25, etc. | 150 - 250 HB | 80 - 180 | 0.04 - 0.08 | 0.04 - 0.08 | 0.1 - 0.15 |
| K | Ductile cast irons<br>FCD700, etc. GGG70, etc. | 150 - 250 HB | 80 - 140 | 0.04 - 0.08 | 0.04 - 0.08 | 0.1 - 0.15 |
| N | Aluminium alloys<br>ADC12, etc. AlSi11Cu3, etc. | - | 80 - 220 | - | - | - |
| S | Titanium alloys<br>Ti-6Al-4V, etc. | - 40 HRC | 20 - 50 | - | - | - |
| S | Nickel-based alloys | - 40 HRC | 20 - 50 | - | - | - |
| H | Hardened steel | - 50 HRC | 20 - 50 | - | - | - |

## DRILLMEISTER

| ISO | Workpiece material | Hardness | Cutting speed | Feed: *f* (mm/rev) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Tool diameter: DC (mm) | | | | | | |
| | | | *Vc* (m/min) | ø6 - 7.9 | ø8 - 9.9 | ø10 - ø11.9 | ø12 - ø13.9 | ø14 - ø15.9 | ø16 - ø19.9 | ø20 - ø25.9 |
| P | Low carbon steels (C < 0.3)<br>SS400, SM490, S25C, etc.<br>C15E4, E275A, E355D, etc. | - 200 HB | 80 - 140 | 0.09 - 0.13 | 0.12 - 0.25 | 0.15 - 0.28 | 0.18 - 0.3 | 0.2 - 0.35 | 0.25 - 0.45 | 0.25 - 0.45 |
| P | High carbon steels (C > 0.3)<br>S45C, S55C, etc.<br>C45, C55, etc. | - 300 HB | 70 - 120 | 0.09 - 0.13 | 0.12 - 0.25 | 0.15 - 0.28 | 0.18 - 0.3 | 0.2 - 0.35 | 0.25 - 0.45 | 0.25 - 0.45 |
| P | Low alloy steels<br>SCM415, etc.<br>18CrMo4, etc. | - 200 HB | 70 - 120 | 0.08 - 0.13 | 0.11 - 0.25 | 0.14 - 0.28 | 0.16 - 0.32 | 0.18 - 0.35 | 0.23 - 0.4 | 0.25 - 0.45 |
| P | Alloy steels<br>SCM440, SCr420, etc.<br>42CrMo4, 20Cr4, etc. | - 300 HB | 40 - 90 | 0.08 - 0.13 | 0.11 - 0.25 | 0.14 - 0.28 | 0.16 - 0.32 | 0.18 - 0.35 | 0.23 - 0.4 | 0.25 - 0.45 |
| M | Stainless steels<br>SUS304, SUS316, etc. X5CrNi18-9,<br>X5CrNiMo17-12-2, etc. | - 250 HB | 30 - 70 | 0.08 - 0.1 | 0.1 - 0.15 | 0.12 - 0.18 | 0.14 - 0.2 | 0.16 - 0.24 | 0.16 - 0.26 | 0.18 - 0.3 |
| K | Grey cast irons<br>FC250, etc. GG25, etc. | 150 - 250 HB | 80 - 180 | 0.12 - 0.18 | 0.15 - 0.3 | 0.2 - 0.35 | 0.25 - 0.4 | 0.3 - 0.45 | 0.35 - 0.55 | 0.35 - 0.6 |
| K | Ductile cast irons<br>FCD700, etc. GGG70, etc. | 150 - 250 HB | 80 - 140 | 0.12 - 0.18 | 0.15 - 0.3 | 0.2 - 0.35 | 0.25 - 0.4 | 0.3 - 0.45 | 0.35 - 0.55 | 0.35 - 0.6 |
| N | Aluminium alloys<br>ADC12, etc. AlSi11Cu3, etc. | - | 80 - 220 | 0.1 - 0.2 | 0.2 - 0.35 | 0.25 - 0.4 | 0.3 - 0.45 | 0.35 - 0.5 | 0.4 - 0.6 | 0.5 - 0.75 |
| S | Titanium alloys<br>Ti-6Al-4V, etc. | - 40 HRC | 20 - 50 | 0.05 - 0.07 | 0.06 - 0.12 | 0.08 - 0.15 | 0.1 - 0.28 | 0.12 - 0.2 | 0.14 - 0.22 | 0.18 - 0.27 |
| S | Nickel-based alloys | - 40 HRC | 20 - 50 | 0.05 - 0.07 | 0.06 - 0.11 | 0.08 - 0.13 | 0.1 - 0.15 | 0.12 - 0.18 | 0.12 - 0.22 | 0.14 - 0.22 |
| H | Hardened steel | - 50 HRC | 20 - 50 | 0.05 - 0.07 | 0.06 - 0.12 | 0.08 - 0.15 | 0.1 - 0.18 | 0.12 - 0.2 | 0.14 - 0.22 | 0.16 - 0.25 |

- 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

## ● Drilling head mounting procedure




## ● Instruction for proper head mounting

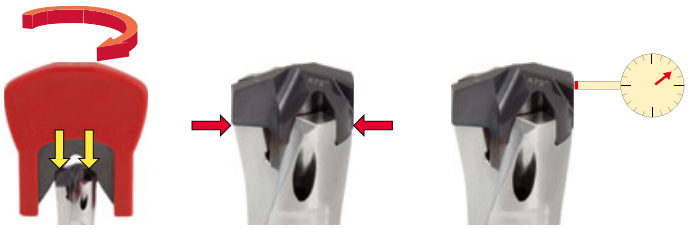


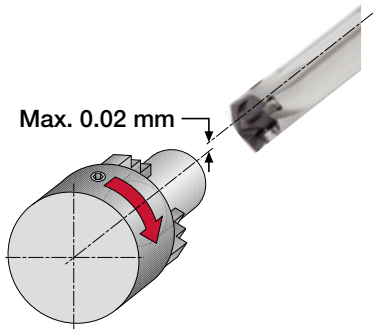
Fig. #1 Fig. #2 Fig. #3

### Procedures

① Thoroughly clean the contacting areas on the drill body and the head with compressed air, lubricate them, and put the drill head in the pocket.
② Place the clamping key in the grooves on the drill head. Push the head in the pocket with equal torque on the right and the left sides. Rotate the clamping key to lock the head in the pocket completely. (Fig. #1).
③ Be sure that there is no gap in the contact surfaces between the head and the drill body. Use a 0.01 mm shim to check for the gap. (Fig. #2)
④ If there is a gap thicker than 0.01 mm, unclamp the head and return to procedure No. ① .
⑤ Measure the run-out at the margin of the drill head. Run-out must be 0.05 mm or smaller. (Fig. #3) (Recommended value: 0.02 mm or smaller)
If the run-out exceeds 0.05 mm, 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.

## ● Alignment recommendation

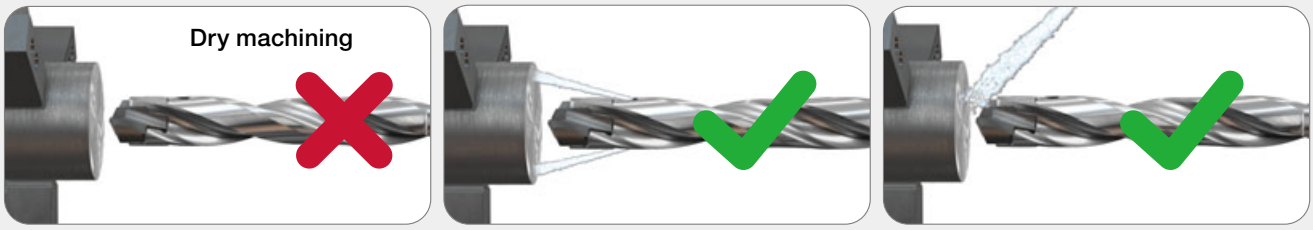



## ● Runout recommendation

ADDMEISTERDRILL
Max. 0.02 mm

DRILLMEISTER
Ideal : ≤ 0.02 mm
Acceptable : ≤ 0.05 mm
Not acceptable : > 0.05 mm

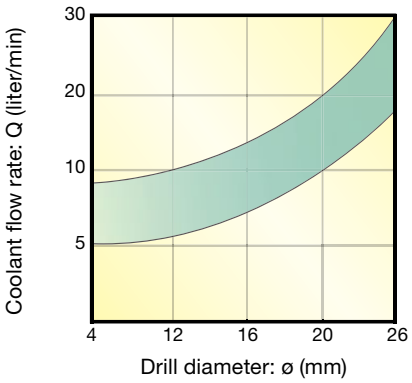
## ● Coolant recommendation

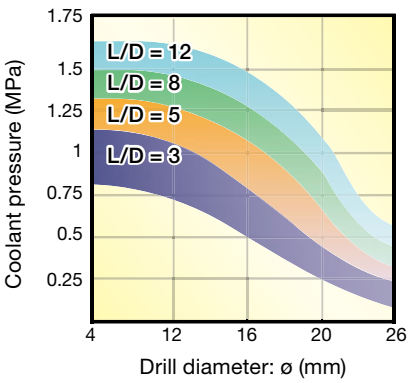



ADDMDRILL
Up to 2XD

DRILLMEISTER
If the hole depth exceeds 2xD, it is recommended to add a dwell or step cycle for better chip evacuation.

## ● Recommended coolant flow rate and pressures

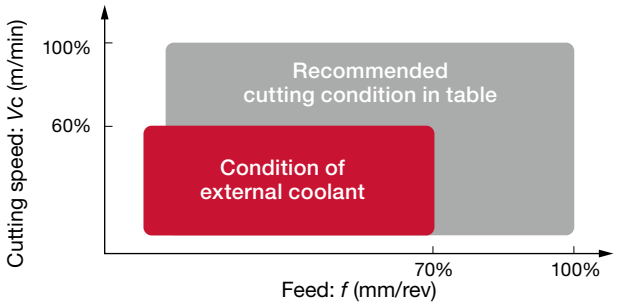



### Over 2xD drilling with External coolant

In environments without internal coolant, external coolant supply is necessary.The recommended cutting conditions should be reduced from the listed parameters based on the material and hole depth. For drills longer than 2xD, it is recommended to use a step or pecking cycle operation to cool the cutting edge and facilitate chip evacuation.

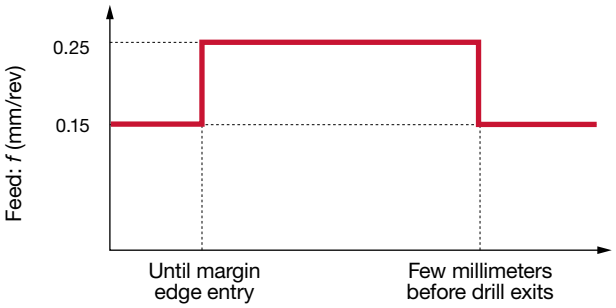
2xD drilling in P material



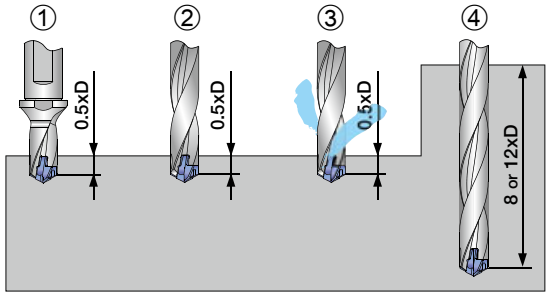

### Over 8xD drilling

For drilling operations exceeding 8xD, a stable drill entry is essential. To ensure excellent drill entry, DMC heads are recommended. Additionally, for L/D ratios of 8 and 12, it is advisable to start with cutting speeds and feeds between the minimum and medium values listed above for the initial few depths. After establishing drill entry, the feed rate can be increased based on target productivity goals.

12xD drilling in P material of through hole depth
DC = 12 mm




## ● Tips when using 8xD and 12xD drills



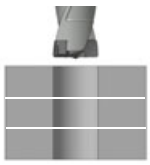
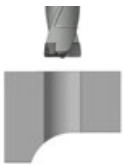
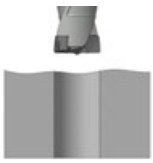
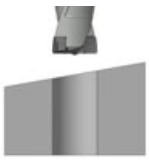

① Drill a pilot hole in the depth of 0.5xD.
The same head diameter should be used for the pre-hole and the main drilling process.
② Rotate the drill at a low speed (eg. 100 rpm). While maintaining the drill speed, slowly feed into the pilot hole for several millimeters from the entry.
③ Activate the internal coolant and increase the drill rotation to the required speed.
④ Drill to the required depth using the recommended cutting parameters.

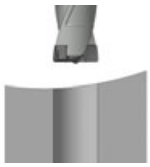
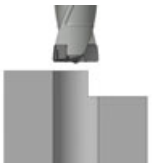
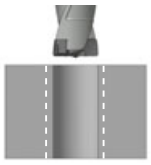
**Note: Use DMC-style drill head for deep holes from 8xD up to 12xD depths without a pilot hole.**

## ● Application range and recommended tool lengths for application irregularities

Please use the shortest tool length possible

✓ OK
× Impossible

| Application | Stacked plate  | Complex exit  | Rough / cast surface  | Inclined surface Max.12°  |
|---|---|---|---|---|
| ADDMEISTERDRILL | × | × | × | × |
| DRILLMEISTER | ✓ | ✓ Up to 8xD | ✓ Up to 5xD | ✓ Up to 3xD |
| Recommended head | DMP / DMM / DMH / DMC | DMF | DMC / DMF | DMF |
| Feed: *f* (mm/rev) | Pecking cycle recommended | Set the feed rate to 50% from the recommended value. | | |

| Application | Curved surface  | Hole expansion  | Plunging  | Counter boring  |
|---|---|---|---|---|
| ADDMEISTERDRILL | × | × | × | × |
| DRILLMEISTER | ✓ Up to 3xD | ✓ Up to 3xD | ✓ Up to 3xD | ✓ Up to 8xD |
| Recommended head | DMF / DMC | DMF | DMF | DMP / DMM / DMC / DMF |
| Feed: *f* (mm/rev) | Set the feed rate to 50% from the recommended value. | | | Pecking cycle recommended |

## ● Head combinations of pre-hole to main hole

| | | Pre-hole | | |
|---|---|---|---|---|
| | | DMP/DMH/DMN/DMM | DMC | DMF |
| Hole | DMP/DMH/DMN/DMM | Good  | Not good  | Not good  |
| | DMC | Good  | Good  | Good  |
| | DMF | Not good  | Not good  | Good  |

## ● Holders recommended for M/C

TID-F...

First choice


Power chuck


Collet chuck


Side lock

TID-R...

First choice

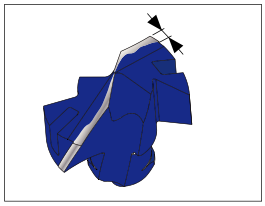

Hydro chuck

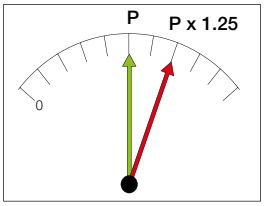

Power chuck


Collet chuck

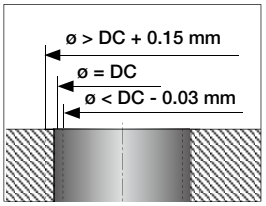
## ● When to change drill heads (Criteria for the end of tool life)

Replace the drill head when any of the following issues occur during machining.

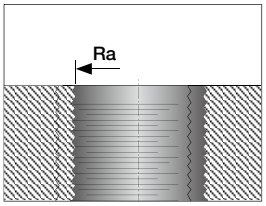

Width of corner wear reaches



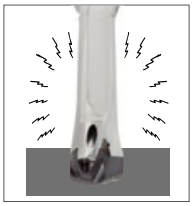
Spindle load exceeds 125% of the normal value



Hole diameter is 0.15 mm larger or 0.03 mm smaller than the drill diameter



Surface roughness deterioration


Vibration or unusual noise

DRILLMEISTER : 0.2 - 0.3 mm
ADDMEISTERDRILL : 0.1 - 0.2 mm

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

For your safety, it is recommended to replace drill bodies that reached the fatigue life with new drill bodies. To determine the fatigue life, Measure the torque value required to unlock the drill head with a torque driver. When the torque value required is equal to or smaller than the values listed below for respective head sizes, replace the drill body with a new one.

Clamping key for measuring un-clamping torque

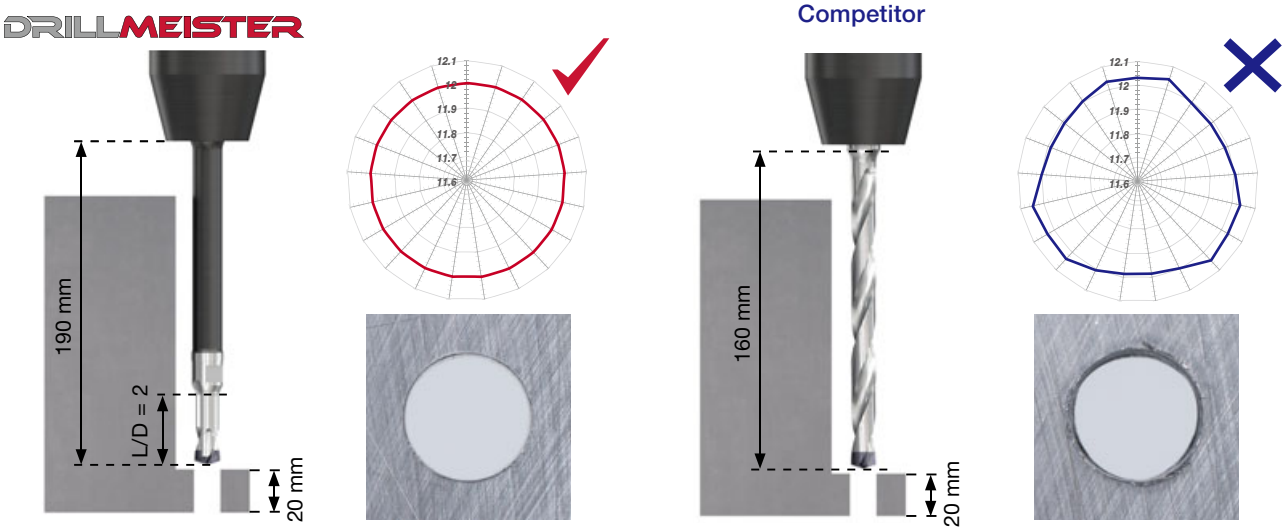
* The clamping key can be connected with general torque drivers.

| Clamping key for measuring un-clamping torque Designation | Head Designation | Recommended value of un-clamping torque that means usable limit of a drill body (N·m) | (cN·m) |
|---|---|---|---|
| KHS-TID6-9.99 | DM*060-069 | 0.15 | 15 |
| | DM*070-079 | 0.15 | 15 |
| | DM*080-089 | 0.15 | 15 |
| | DM*090-099 | 0.15 | 15 |
| KHS-TID10-19.99 | 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 |
| KHS-TID20-26.99 | DM*200-209 | 0.5 | 50 |
| | DM*210-219 | 0.5 | 50 |
| | DM*220-229 | 0.6 | 60 |
| | DM*230-239 | 0.6 | 60 |
| | DM*240-249 | 0.6 | 60 |
| | DM*250-259 | 0.6 | 60 |

## Modular System

- TungFlex and TungMeister tooling systems ensure optimal toolholder combination, allowing stable drilling operation even with long overhang tool set up.
- Quick change capability in the machine helps minimize machine downtime
- Standard drilling depth of 2xD or 3xD

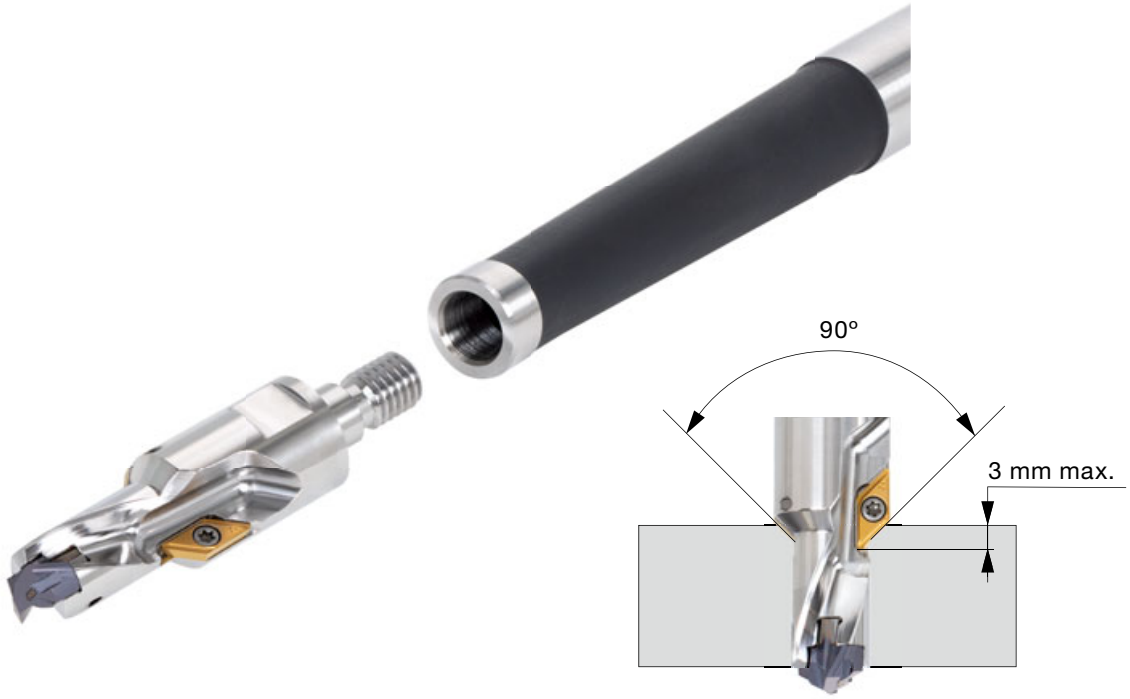

## Excellent hole quality vs. competitors



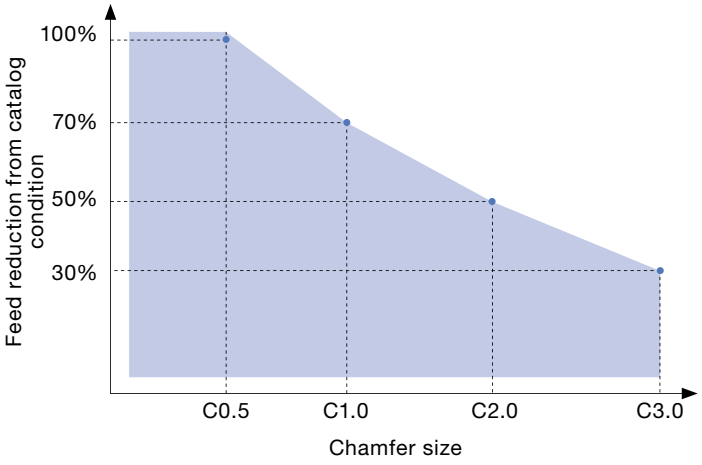

| | |
|---|---|
| Drill | : 12 mm, L/D = 2 |
| Drill head | : DMP120 |
| Grade | : AH9130 |
| Workpiece material | : High carbon steel / S55C, C55 |
| Cutting speed | : *Vc* = 100 m/min |
| Feed | : *f* = 0.3 mm/rev |
| Hole depth | : *H* = 20 mm |
| Coolant | : Wet (Internal) |

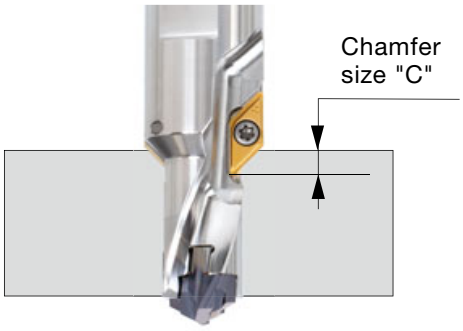
## Drill body with chamfering insert with a TungFlex connection

- Drilling and chamfering can be done with one tool
- Dedicated line up for pre-thread drilling of metric and UNF threads
- Stable chamfering capability with less chattering due to dedicated insert design for chamfering
- Easy to extend tool overhang by combining with existing TungFlex shanks



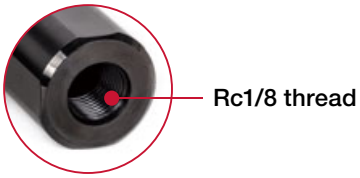

Machining stability changes depending on the amount of chamfering.
Adjust the cutting feed based on the table below during chamfer edge contact to work piece.



## Dedicated design for Swiss type machines

- Allows standard TID-F bodies (flange type) to be used without additional machining
- Easy tool change in the machine with side lock system
- Tool can be replaced with minimal misalignment
- Internal lubrication enables high-efficiency machining


## Line up overview

| Drill diameter (mm) | Drill body designation | Shank diameter of sleeve (mm) | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | ø16 | ø19.05 | ø20 | ø22 | ø25 | ø25.4 | ø32 |
| ø6 - ø9.9 | TID***F12... | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| ø10 - ø14.9 | TID***F16... | | ○ | ○ | ○ | ○ | ○ | ○ |
| ø15 - ø17.9 | TID***F20... | | | | | ○ | ○ | ○ |

## Designation system

**BLM 254 - 16 L F**

(1) (2) (3) (4)


Flange


Round

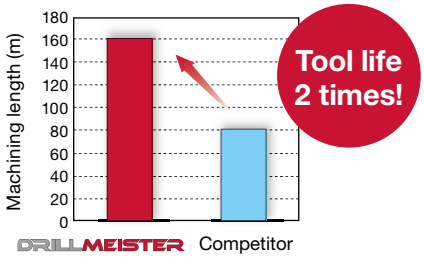
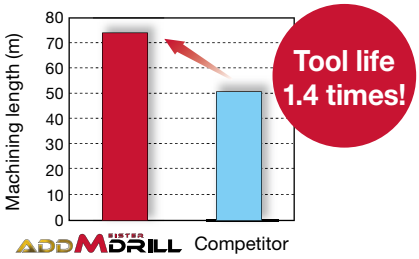
| (1) Shank diameter of sleeve (mm) | |
|---|---|
| 254 | ø25.4 |

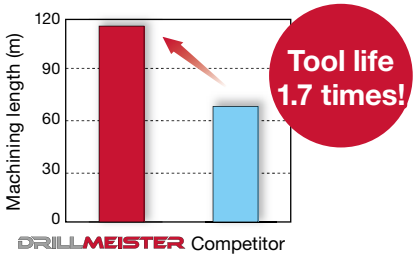
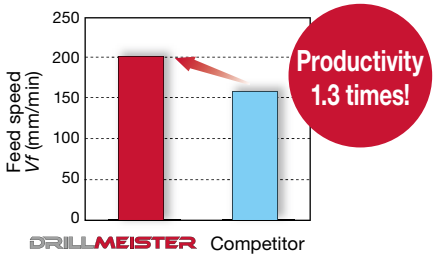
| (2) Shank diameter of drill (mm) | |
|---|---|
| 16 | ø16 |

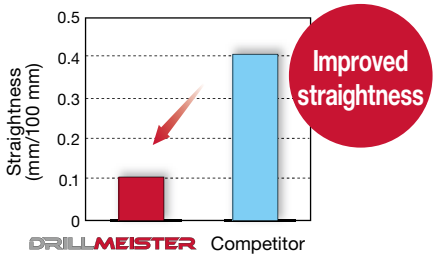
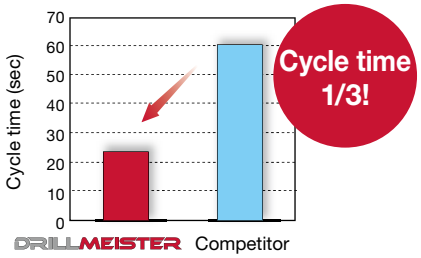
| (3) Length (mm) | |
|---|---|
| L | Long |
| S | Short |

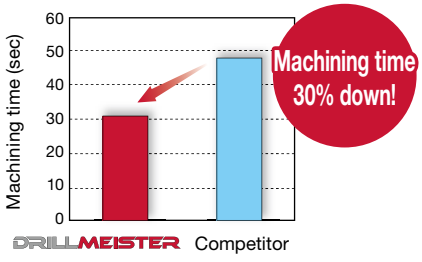
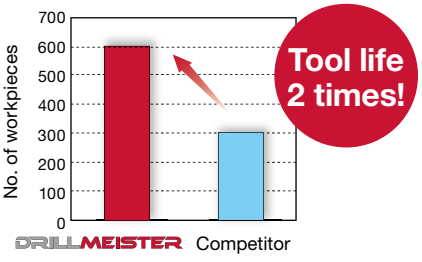
| (4) Shape of sleeve | |
|---|---|
| F | Flange |
| R | Round |

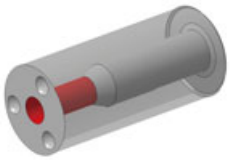
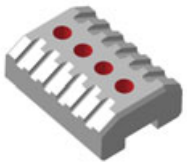
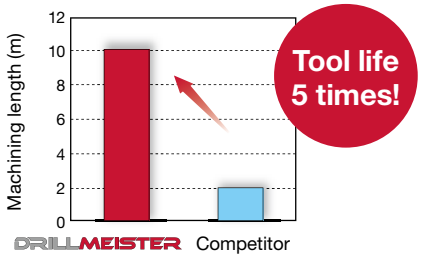
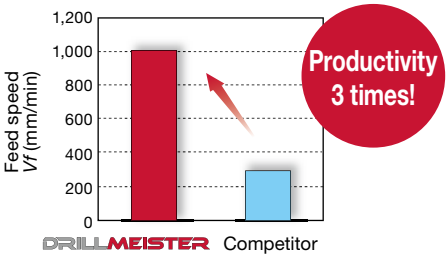
## PRACTICAL EXAMPLES

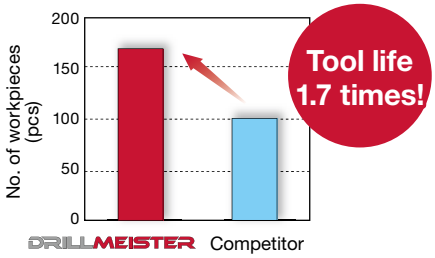
| | | | |
|---|---|---|---|
| **Workpiece type** | | **Cylinder block** | **Flange part** |
| **Drill body** | | TID115F16-8 | TID050R06-5 |
| **Head** | | DMC115 | DMP050 |
| **Grade** | | AH9130 | AH725 |
| **Workpiece material** | | FC250 / GG25 / 250 | S45C / C45 |
| | |  K |  P |
| **Cutting conditions** | **Cutting speed : *Vc* (m/min)** | 100 | 100 |
| | **Feed : *f* (mm/rev)** | 0.2 | 0.1 |
| | **Feed speed : *Vf* (mm/min)** | 554 | 636.9 |
| | **Drill diameter : DC (mm)** | 11.5 | 5 |
| | **Hole depth : *H* (mm)** | 80 | 20 |
| | **Coolant** | Wet (Internal coolant) | Wet (Internal and external coolant) |
| | **Machine** | Horizontal M/C | Vertical M/C |
| **Results** | |  |  |
| | | Competitor tools have occasionally broken due to bending holes. **DMC** heads offer machining stability with self-centering geometry and double margins. The AH9130 grade achieved twice the tool life of the competitor, even at higher cutting speeds. | The combination of sharp cutting edges and efficient coolant supply has demonstrated a 1.4 times longer tool life compared to solid drills. |

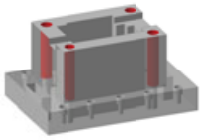
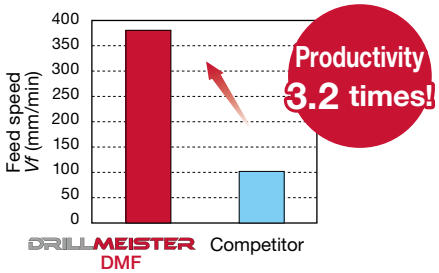
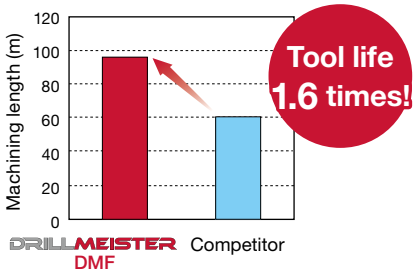
| | | | |
|---|---|---|---|
| **Workpiece type** | | **Output shaft** | **Flange part** |
| **Drill body** | | TIDC160C16-5 | TIDC105C11-3 |
| **Head** | | DMP165 | DMM105 |
| **Grade** | | AH9130 | AH9130 |
| **Workpiece material** | | SCr420 / 20Cr4 | SUS304 / X5CrNi18-9 |
| | |  P |  M |
| **Cutting conditions** | **Cutting speed : *Vc* (m/min)** | 80 | 45 |
| | **Feed : *f* (mm/rev)** | 0.3 | 0.15 |
| | **Feed speed : *Vf* (mm/min)** | 463.2 | 205 |
| | **Drill diameter : DC (mm)** | 16.5 | 10.5 |
| | **Hole depth : *H* (mm)** | 50 | 23 |
| | **Coolant** | Wet (Internal coolant) | Wet (Internal coolant) |
| | **Machine** | Vertical M/C | Horizontal M/C |
| **Results** | |  |  |
| | | Compared to the competitor's similar product, **DrillMeister** extends tool life by 1.7 times. | **DrillMeister** allows high-feed machining and increases productivity by 1.3 times. AH9130 with good chipping resistance extends tool life by 30%. |

| Workpiece type | | Output shaft | Mold base |
|---|---|---|---|
| Drill body | | TID140F16-8 | TID180R25-12 |
| Head | | DMC140 | DMC180 |
| Grade | | AH9130 | AH9130 |
| Workpiece material | | SCM415 | S55C / C55 |
| | |  P |  P |
| Cutting conditions | Cutting speed : *Vc* (m/min) | 120 | 120 |
| | Feed : *f* (mm/rev) | 0.3 | 0.25 |
| | Feed speed : *Vf* (mm/min) | 600 | 531 |
| | Drill diameter : DC (mm) | 14 | 18 |
| | Hole depth : *H* (mm) | 80 | 200 |
| | Coolant | Wet (Internal coolant) | Wet (Internal coolant) |
| | Machine | Horizontal M/C | Horizontal M/C |
| Results | |   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. |   **DMC** does not require a guide hole. It achieved three times higher productivity than the current process by eliminating the guide hole step and increasing cutting speed and feed rate. |

| Workpiece type | | Deff case | Wheel hub |
|---|---|---|---|
| Drill body | | TID145F16-5 | TID135R14-3.5 |
| Head | | DMF145 | DMH137 |
| Grade | | AH9130 | AH9130 |
| Workpiece material | | FCD600 / GGG60 / 600-3 | S40C |
| | |  K |  P |
| Cutting conditions | Cutting speed : *Vc* (m/min) | 100 | 150 |
| | Feed : *f* (mm/rev) | 0.25 | 0.32 |
| | Feed speed : *Vf* (mm/min) | 594 | 115.8 |
| | Drill diameter : DC (mm) | 14.5 | 13.7 |
| | Hole depth : *H* (mm) | 20 | 15 |
| | Coolant | Wet (Internal coolant) | Wet (Internal coolant) |
| | Machine | Vertical M/C | Vertical M/C |
| Results | |   **DMF** head consolidates spot facing and drilling operations on uneven cast surfaces, improving machining time. |   The combination of reinforce geometry **DMH** and advanced wear resistant grade AH9130 show double tool life. |

| Workpiece type | | Mold | Electric part |
|---|---|---|---|
| Drill body | | TID170F20-5 | TID140F15-3 |
| Head | | DMH170 | DMN142 |
| Grade | | AH9130 | KS15F |
| Workpiece material | | SKD11 (50HRC) | A5052 |
| | |  H |  N |
| Cutting conditions | Cutting speed : *Vc* (m/min) | 30 | 135 |
| | Feed : *f* (mm/rev) | 0.2 | 0.33 |
| | Feed speed : *Vf* (mm/min) | 112 | 1,000 |
| | Drill diameter : DC (mm) | 17 | 14.2 |
| | Hole depth : *H* (mm) | 80 | 15 |
| | Coolant | Wet (Internal coolant) | Wet (Internal coolant) |
| | Machine | Swiss lathe | Vertical M/C |
| Results | |   Compared to the indexable drill, the **DMH** demonstrates a tool life that is five times longer, thanks to the highly wear-resistant grade AH9130. |   Productivity is tripled by using a dedicated head that can be applied with the same tool body. |

| Workpiece type | | Manufacturing machine part |
|---|---|---|
| Drill body | | TID065F12-1.5 |
| Head | | DMP069 |
| Grade | | AH725 |
| Workpiece material | | Ni alloy |
| | |  S |
| Cutting conditions | Cutting speed : *Vc* (m/min) | 54 |
| | Feed : *f* (mm/rev) | 0.08 |
| | Feed speed : *Vf* (mm/min) | 199.4 |
| | Drill diameter : DC (mm) | 6.9 |
| | Hole depth : *H* (mm) | 5.1 |
| | Coolant | Wet (Internal coolant) |
| | Machine | Horizontal M/C |
| Results | |   Tool life is increased by 1.7 times compared to competitor's head-changeable drills, due to lower cutting force and efficient chip evacuation. |

| Workpiece type | | Mold insert | Sleeve |
|---|---|---|---|
| Drill body | | TID200F25-8 | TID095F12-1.5 |
| Head | | DMF200-R0.2 | DMF095-R0.2 |
| Grade | | AH9130 | AH9130 |
| Workpiece material | | Tool steel before hardening<br>  P | Low carbon steel C 0.13%<br>  P |
| Cutting conditions | Cutting speed : *Vc* (m/min) | 100 | 90 |
| | Feed : *f* (mm/rev) | 0.25 | 0.1 |
| | Feed speed : *Vf* (mm/min) | 379 | 302 |
| | Drill diameter : DC (mm) | 20 | 9.5 |
| | Hole depth : *H* (mm) | 140 | 20 |
| | Coolant | Wet (Internal coolant) | Wet (Internal coolant) |
| | Machine | Vertical M/C BT40 | Swiss lathe |
| Results | |  <br>Thanks to the reduced chattering of the **DrillMeister DMF**, even at 8xD, high-feed machining is possible, resulting in a 3.2 times increase in machining efficiency. |  <br>**DrillMeister DMF** excels in tool life, achieving 1.6 times the tool life compared to existing head-exchangeable drills. |

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