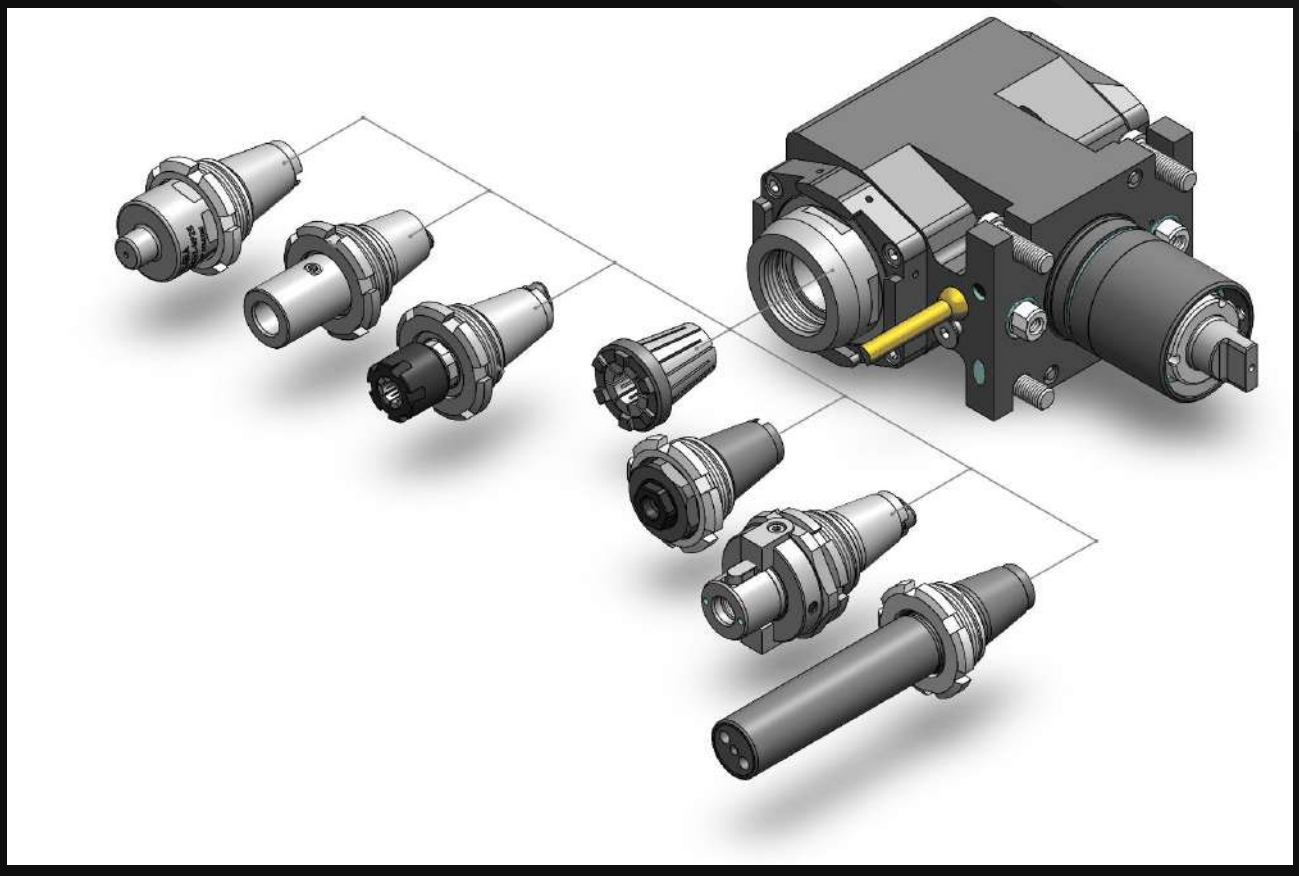
OPERATING INSTRUCTIONS

MONGTEC®
CNC職人のこだわり

Driven Toolholders

Installation, adjustment, operation and maintenance of Mongtec driven toolholders for VDI and BMT turret discs.
For use by qualified personnel only.



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Contents

1 Introduction

This manual is an integral part of the supply of our driven toolholders and must be handed over to the new user when the Mongtec product is sold on.

Further copies of this manual can be downloaded from **www.mongtec-tools.com**.

Read this manual before installation and use, and observe all the directives and instructions given.

This document contains symbolic representations. The accessories shown are not necessarily included in the supply. The information contained in this manual is based on the knowledge available at the time of printing; we reserve the right to make changes without prior notice.

1.1 General information

Dear User,

Mongtec driven toolholders are precision products of very high quality, and we thank you for your choice.

The purpose of this manual is to allow the user to understand the potential of the Mongtec product and, at the same time, to provide guidelines for its correct use and operation.

1.1.1 Symbols legend

This symbol indicates risk situations related to the **incorrect use** of the driven toolholder, or to non-compliance with adequate safety criteria, which can lead to danger for the user's safety and/or damage to the driven toolholder.

This symbol indicates situations in which **not respecting** the specifications presented in this manual leads to a significant shortening of the toolholder's service life.

This symbol gives instructions to be observed in order to use the product correctly and efficiently.

1.2 Warranty

Mongtec repairs and overhauls driven toolholders both under warranty and outside warranty.

Faults that are detected will be repaired under warranty only if they are due to non-compliance related to design, materials or workmanship, and under the following conditions:

1. The warranty applies only to defects that occur within **12 months** from delivery for new products, and **90 days** after delivery for a repair service. The manufacturer will recognise only faults due to the causes mentioned above (non-compliance related to design, materials or processing).

2. Damage caused by non-compliance with the instructions in this manual, by incorrect operation of the machine, or by failure to comply with the conditions of use of the driven toolholder is excluded from the warranty.
3. The customer must stop using the product immediately and submit a complaint at the moment the defect is detected.
4. The written complaint must include a detailed description of the problem.

1.3 Possible hazards during use

WARNING

This manual is written for use by **qualified personnel**. The user is obliged to read and follow all the instructions reported in this manual. This manual provides the knowledge necessary for the correct use of the driven toolholder and allows the risks arising from non-compliance with the indications provided by Mongtec to be understood.

WARNING

The use of Mongtec driven toolholders is subject to compliance with the instructions provided by the machine manufacturer. Any damage due to non-compliance with safety regulations and/or the lack of use of the appropriate protective devices is attributable to incorrect use. To avoid injury, users should always wear personal protective equipment (PPE) such as gloves, safety shoes and suitable clothing.

WARNING

Any modification applied to the driven toolholder without Mongtec's prior written approval may compromise its correct functionality and reliability. Any damage due to incorrect use, modification or non-compliance with the requirements will result in the user being solely responsible and, consequently, in cancellation of the warranty. The user must comply with the instructions provided and use the driven toolholder correctly.

NOTICE

Before each reuse, check that the part of the driven toolholder located in the corresponding seat in the turret is in perfect condition, adequately clean and undamaged.

CAUTION

Mongtec requires that damaged driven toolholders, and toolholders that have not been carefully cleaned, are **NOT used**. The use of products that are not intact can lead to incorrect functioning. Should this happen, contact Mongtec or an authorised Mongtec distributor for repair, replacement and disposal.

NOTICE

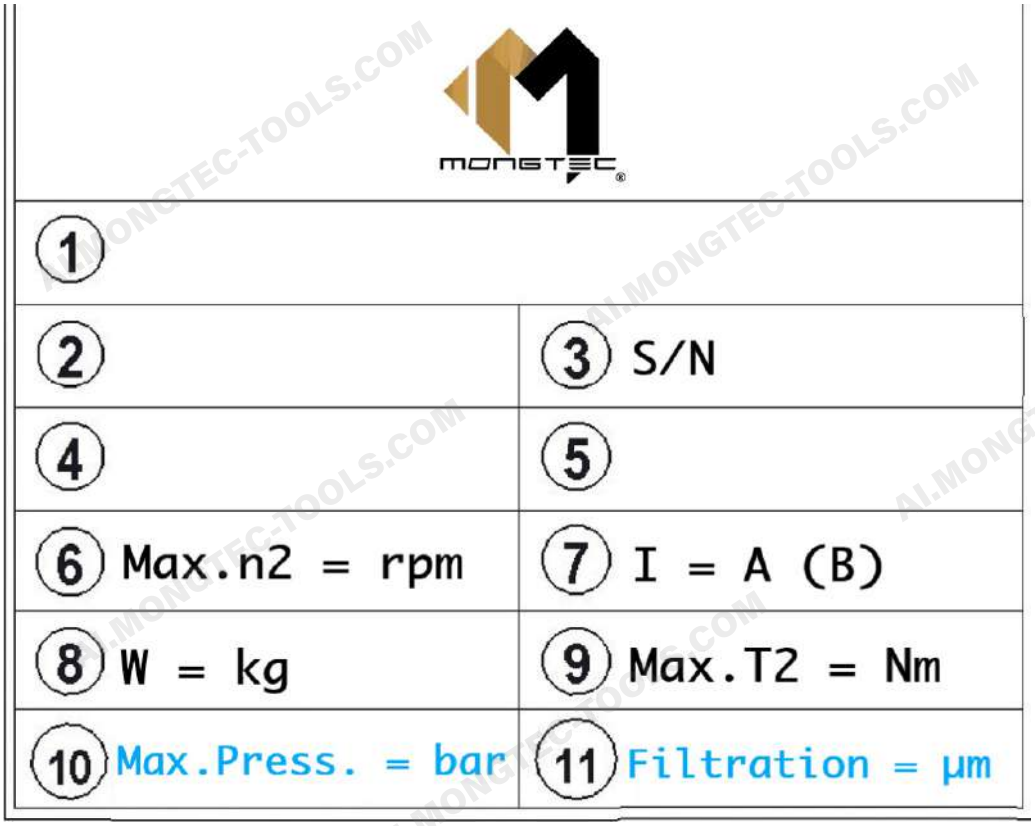
Maintenance must be carried out by Mongtec or by authorised distributors, in order to avoid incorrect operations during disassembly and reassembly and the subsequent problems this causes in the operation of the driven toolholder.

NOTICE

A correctly planned and preventive maintenance plan for Mongtec products avoids unwanted downtime and favours greater production efficiency.

2 Product specification

Every Mongtec driven toolholder carries an identification plate. The data on the plate identifies the product and defines the limits within which it may be operated.



Identification plate — layout of the marked data

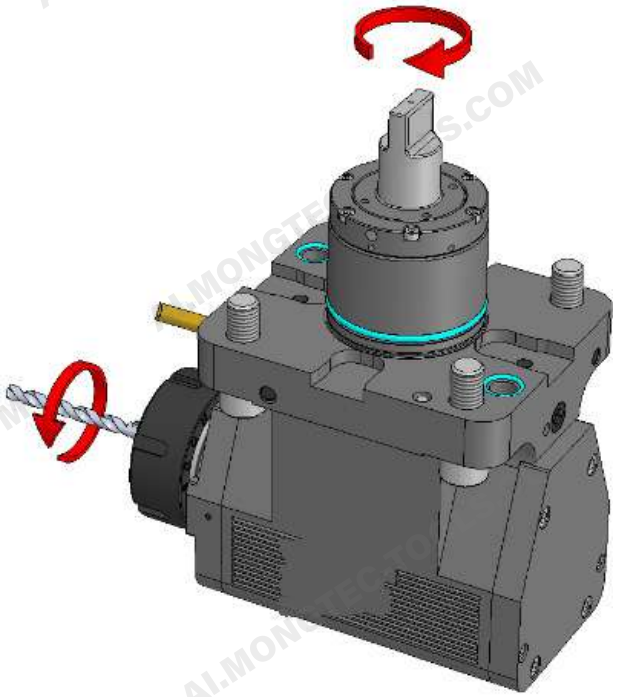
1. Commercial code.
2. Alphanumeric identification code.
3. Serial number.
4. Reference standard / machine interface.
5. Toolholder output.
6. Maximum speed.
7. Transmission ratio (see below).
8. Weight.
9. Maximum permissible torque.
10. Maximum allowable pressure for driven toolholders with internal coolant supply; refer to the appropriate p–v graph.
11. Filtration required for proper operation.

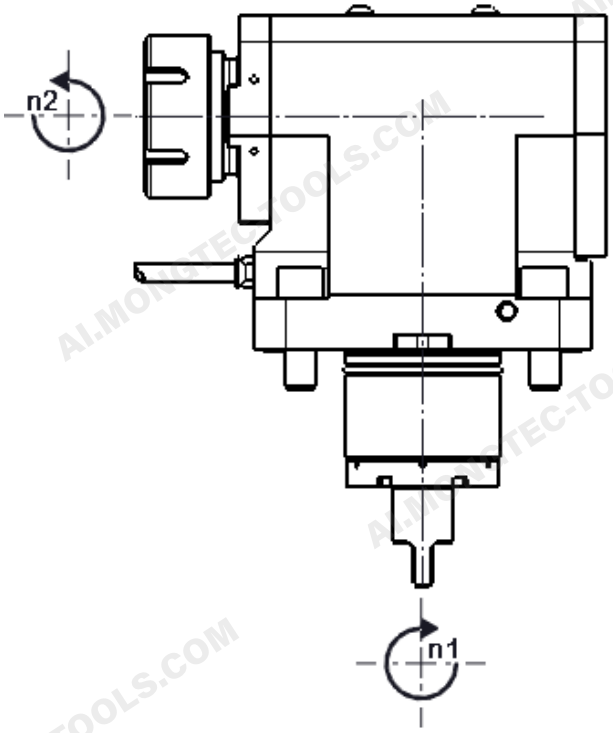
> **NOTICE**
> Points **10** and **11** are analysed in more detail in section 3.8, “Internal coolant supply”.

Transmission ratio

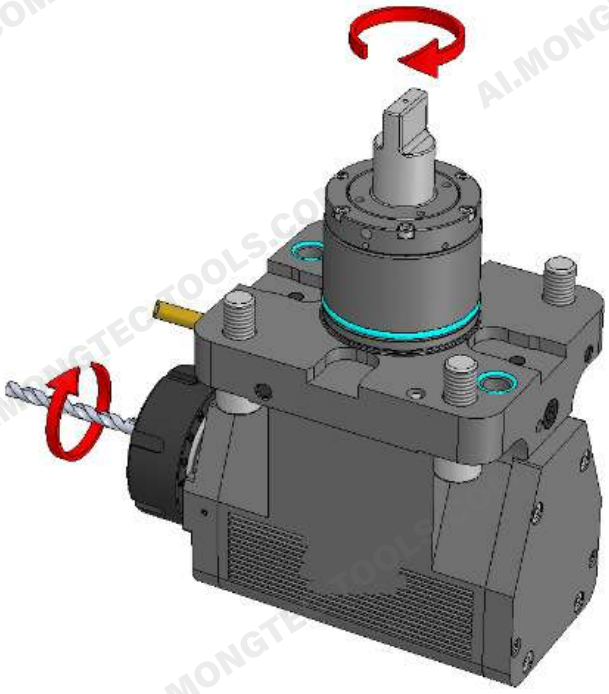
A — Rotation speed at the output versus the input. 2:1, 3:1 ... reduced; 1:2, 1:3 ... multiplied.

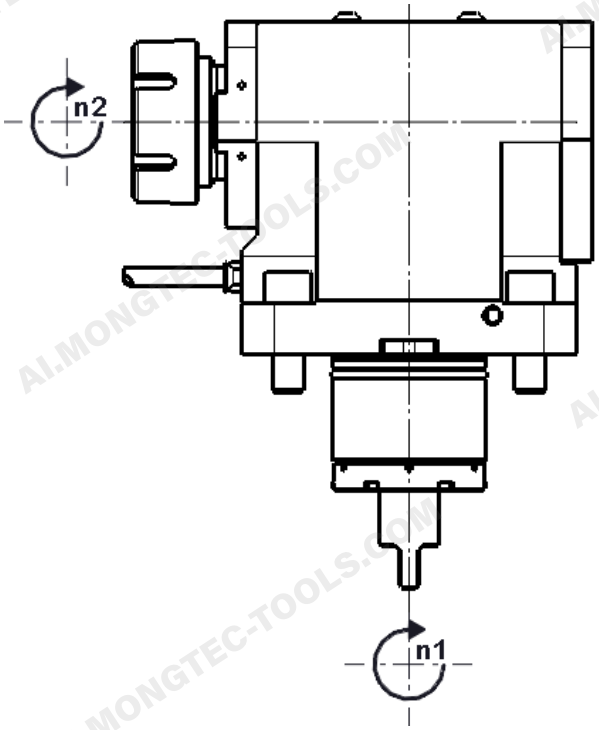
B — Direction of rotation of the spindle shaft with respect to the drive shaft.



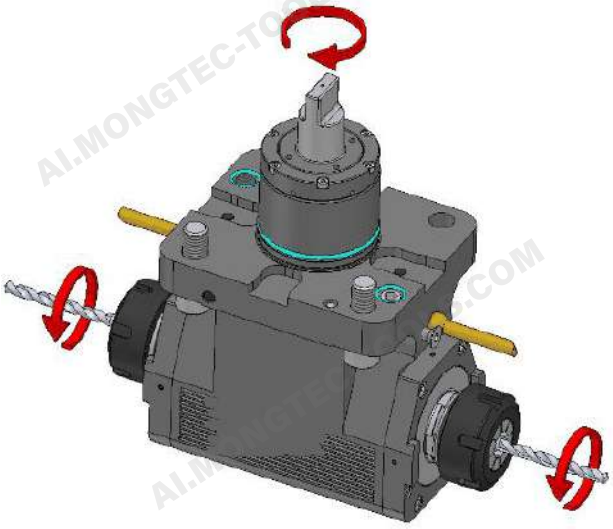


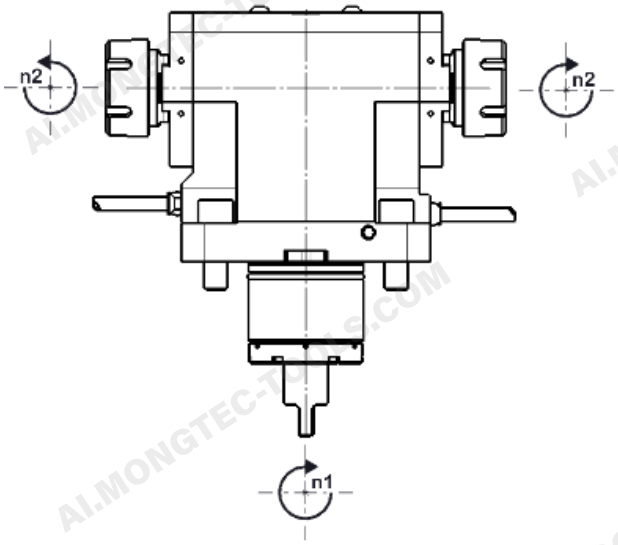
B_I n1 : n2 opposite





B_{II} n1 : n2 equal





B_{III} n1 · n2 double output

3 Method of use

3.1 Installation

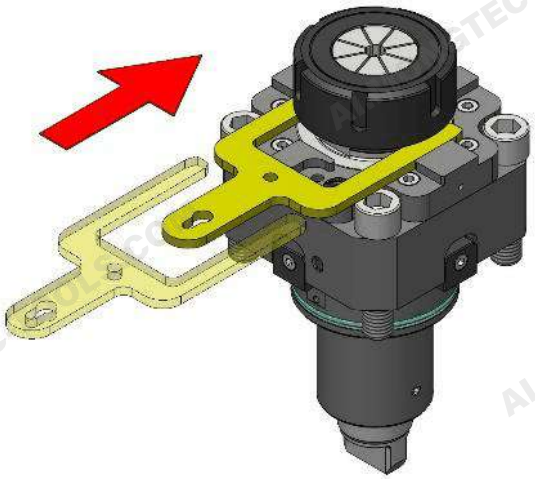
NOTICE

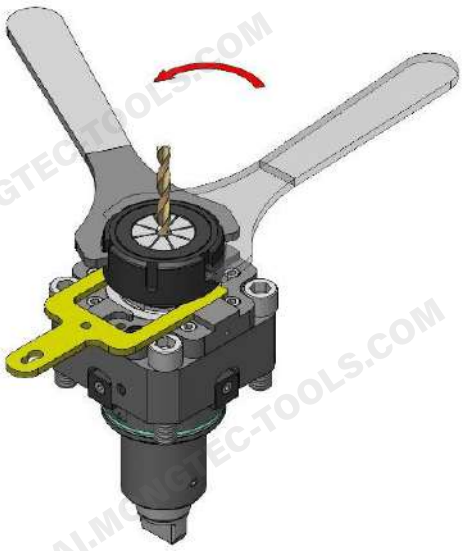
For correct assembly of the toolholder, the operator must follow the instructions provided by the machine manufacturer. Disc-specific mounting procedures are given in Appendix A.

3.2 Replacement of tools

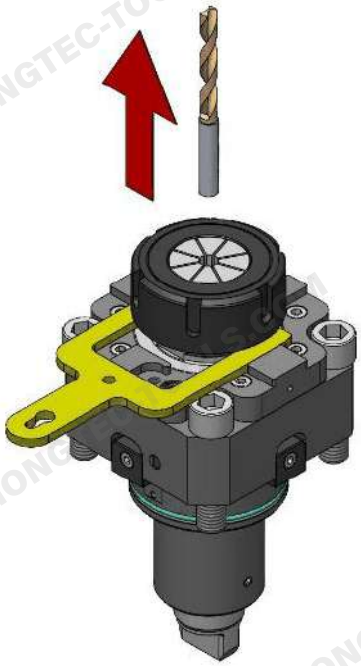
The following procedure defines the operations the operator must comply with for the assembly and disassembly of collets.

1 With the machine stopped, position the blocking wrench in the appropriate spaces between the flange and the shaft, in order to block the rotation of the spindle.

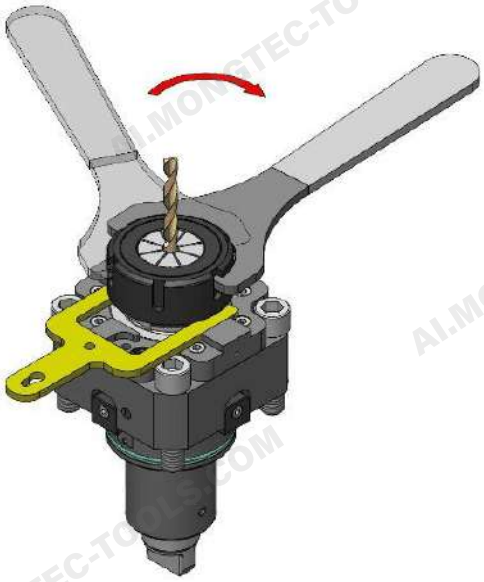




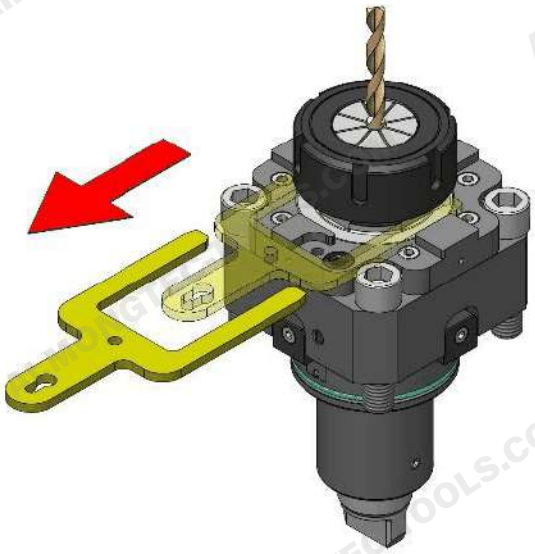
2 Once the blocking wrench has been positioned, the ring nut can be unscrewed and the tool released.



3 Replace the tool.



4 Close the ring nut.



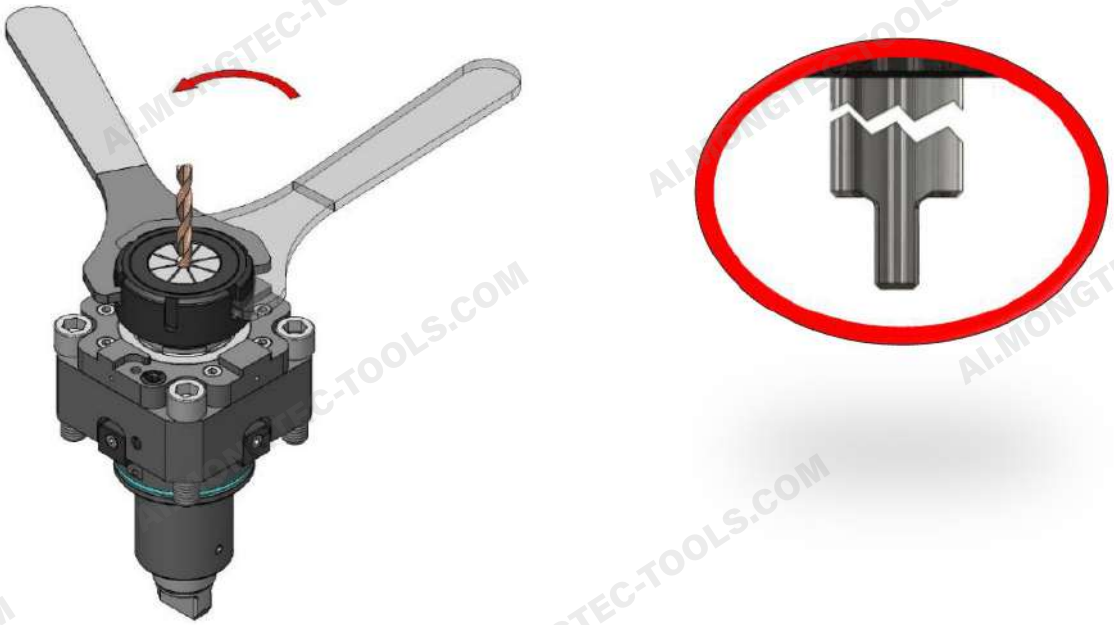
5 Remove the blocking wrench.

WARNING

Forgetting to remove the wrench as indicated in step 5 can lead to serious damage to the driven toolholder and/or to the machine.

WARNING

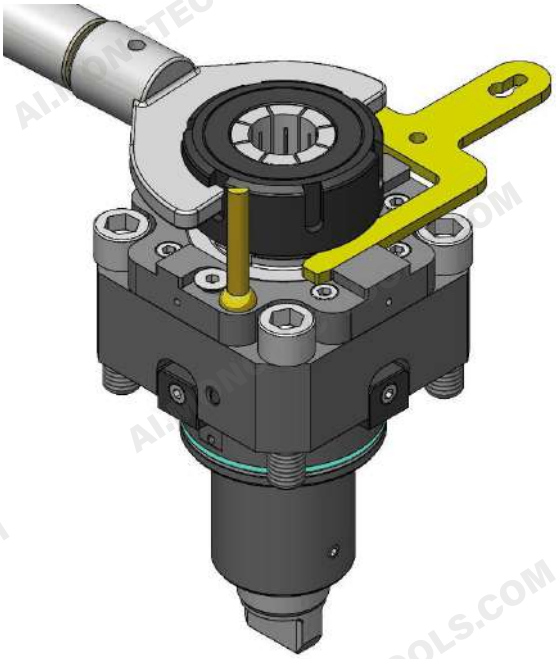
Open and close the ring nut **only** with the wrench in position, as indicated in step 2. Operating without the wrench can lead to breakage of the tenon, as shown in the figure.



3.3 Maximum closing torque of the ring nuts

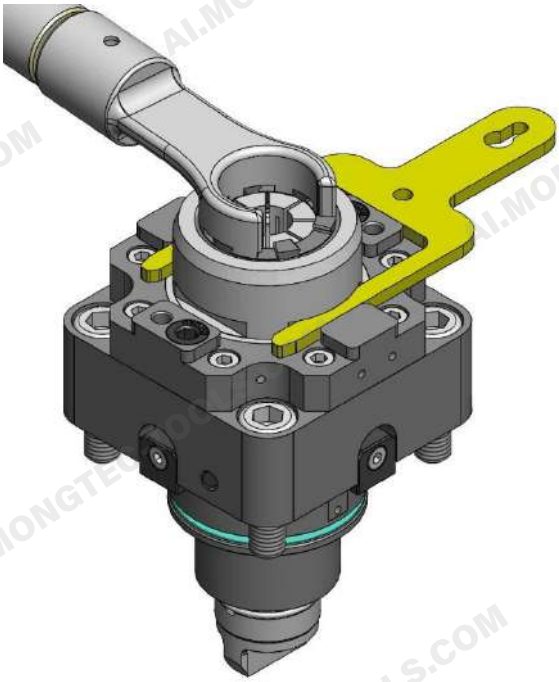
The maximum permissible values for Mongtec ring nuts are shown in the tables below, divided according to the type of ring nut.

Internal thread ring nut (outside the spindle)



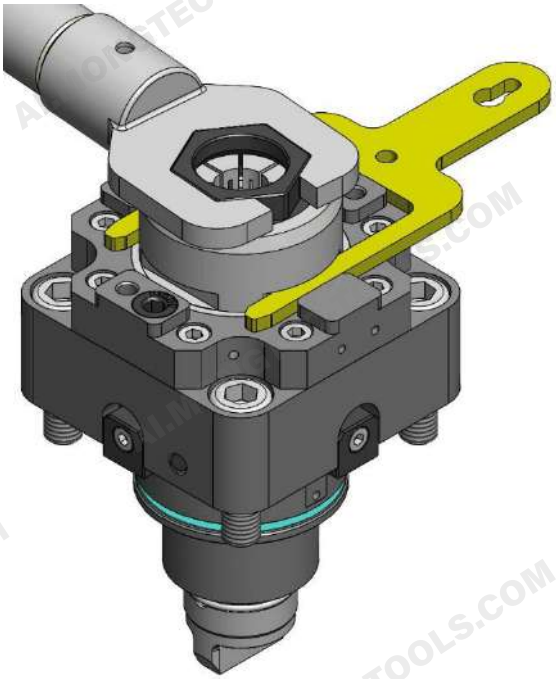
Reference cone	Max Torque Nm
ER8	5
ER11	30
ER16	60
ER20	70
ER25	100
ER32	130
ER40	160
ER50	230

External thread ring nut (inside the spindle)



Reference cone	Max Torque Nm
ER11	24
ER16	30
ER20	40
ER25	60
ER32	80
ER40	95

Hexagonal external thread ring nut (inside the spindle)

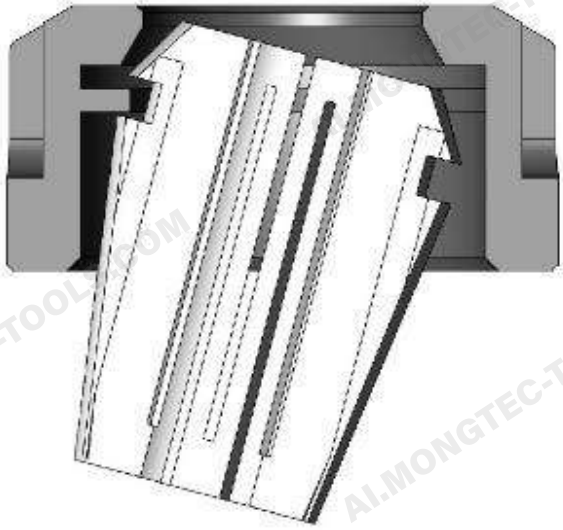


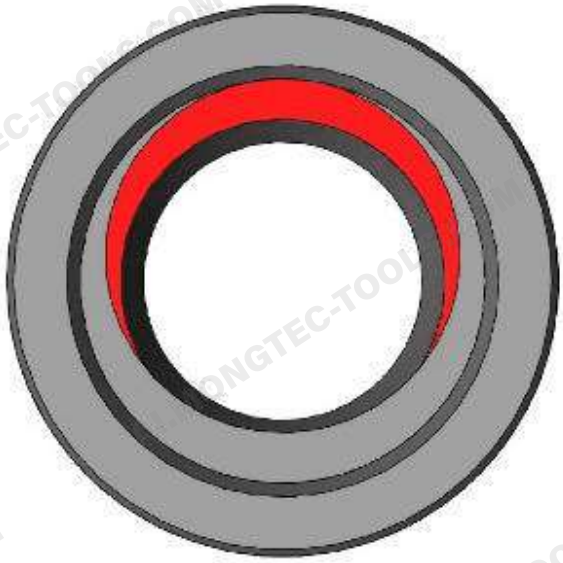
Reference cone	Max Torque Nm
ER11	24
ER16	40
ER20	50
ER25	80
ER32	100
ER40	110

3.4 Replacement of the collet

For correct collet / ring-nut assembly:

- place the collet diagonally with respect to the locking ring nut;
- seat the collet laterally by pressing on the top;
- screw the ring nut onto the spindle as shown in the figure below.





Collet correctly clicked into the ring nut before fitting

Correct assembly — following the instructions

Incorrect assembly — it is absolutely wrong to insert the collet into the spindle before mounting it in the ring nut

NOTICE

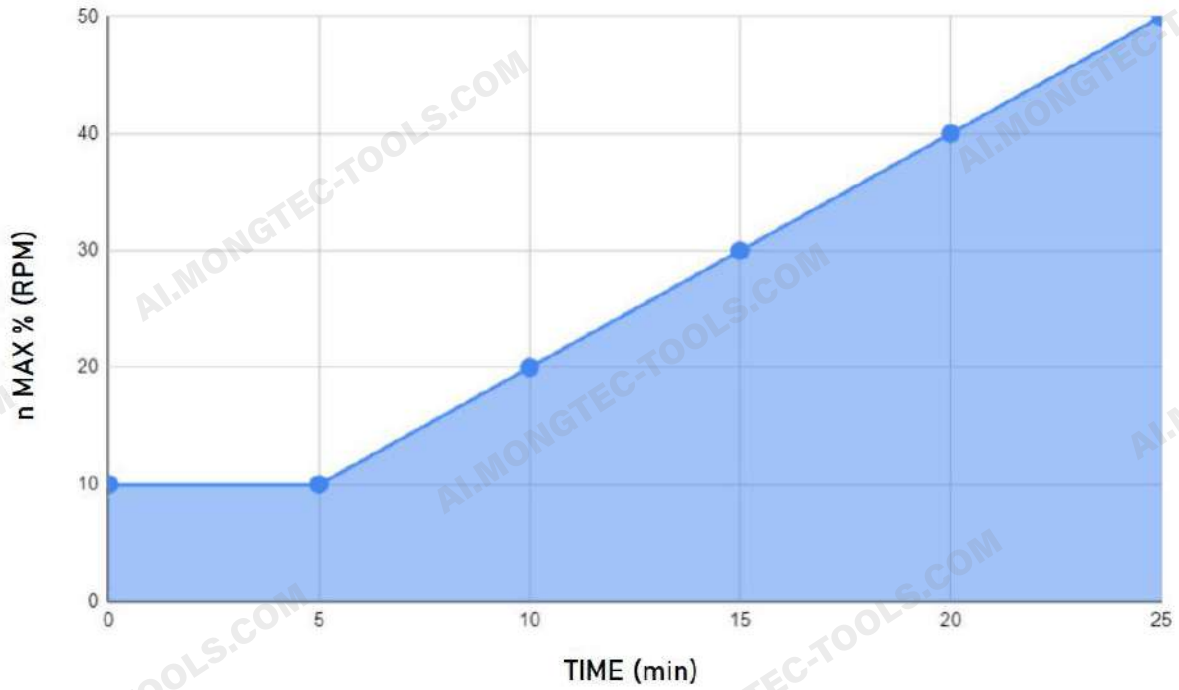
The instructions listed above are rules of common use. Always follow the instructions provided by the manufacturer for any specific indications.

3.5 First installation

Before being packaged, all Mongtec driven toolholders undergo a running-in cycle up to the maximum speed of use.

NOTICE

The user is asked to carry out a second running-in cycle in the machine the first time the driven toolholder is put into operation, following the graph below.



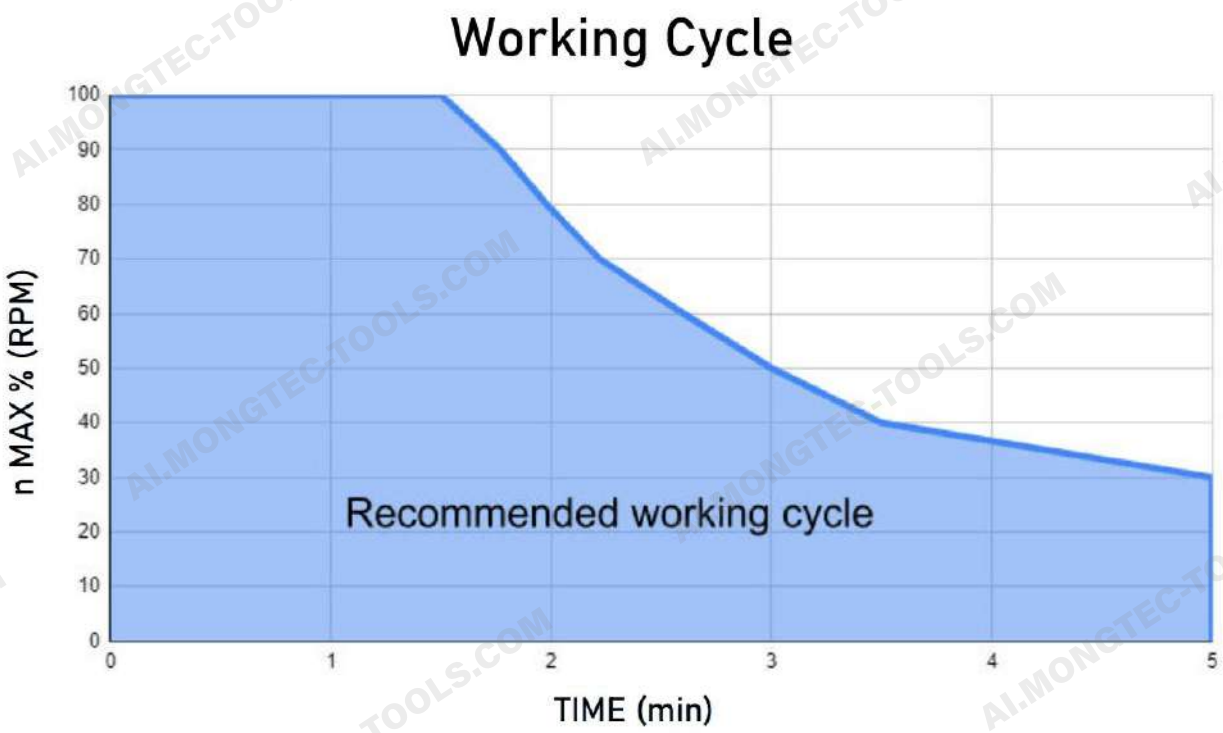
Recommended running-in cycle — speed against time

CAUTION

If the driven toolholder is equipped with internal coolant supply, the toolholder must always be supplied with internal coolant, including during the running-in phase.

3.6 Load cycle

The diagram indicates the ideal ratio between rotation speed and the maximum residence time at that speed during machining. The values are theoretically permissible for a 5-minute duty cycle, for externally and internally cooled driven tools. This is a recommendation; the duration may be increased in favourable conditions.



Working cycle — permissible running time against percentage of maximum speed. The area above the curve is stop time.

Example of use of the diagram

- Maximum speed → n_{max} = 8,000 rpm
- Rotation used during machining → n_{used} = 4,000 rpm
- Calculation → %n = n_{used} / n_{max} = 50 %

Read the value calculated above on the y-axis of the diagram and find the maximum duration of the working cycle in minutes on the x-axis. In this example the driven tool can work for 3 minutes and must stop for the remaining 2 minutes of the cycle.

CAUTION

Using driven toolholders beyond the recommended working times can damage the bearings and sealing gaskets and consequently affect their correct functioning. The temperature of the toolholder body must not exceed **65 °C (149 °F)** during operation under normal conditions. Whether the coolant is on or off makes a large difference to the temperature.

3.7 Permissible torque

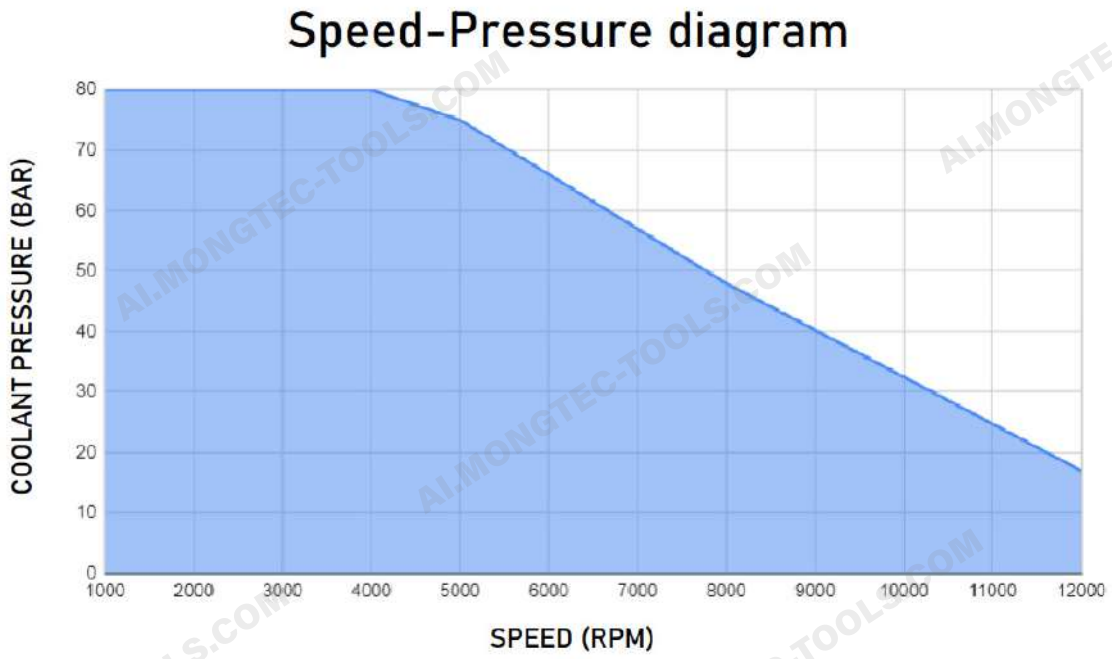
The maximum torque values given in the data sheet apply to uniform loads with light impact. The permissible torque is significantly reduced in the event of heavy impact loads. The cutting values of the machining tool must always be selected in such a way that overloading of the driven tool is ruled out.

Machining example	Impact load	Reduction of the max. torque
Drilling with twist drill	Low	0 %
Milling with end mill	Medium	−20 %
Groove milling with cutter head, polygon turning	High	−40 %

3.8 Internal coolant supply

This section concerns only driven toolholders with internal coolant supply.

The maximum coolant pressure depends on the speed at which the driven toolholder is used, as shown in the following graph.



Speed–pressure diagram — maximum coolant pressure against spindle speed

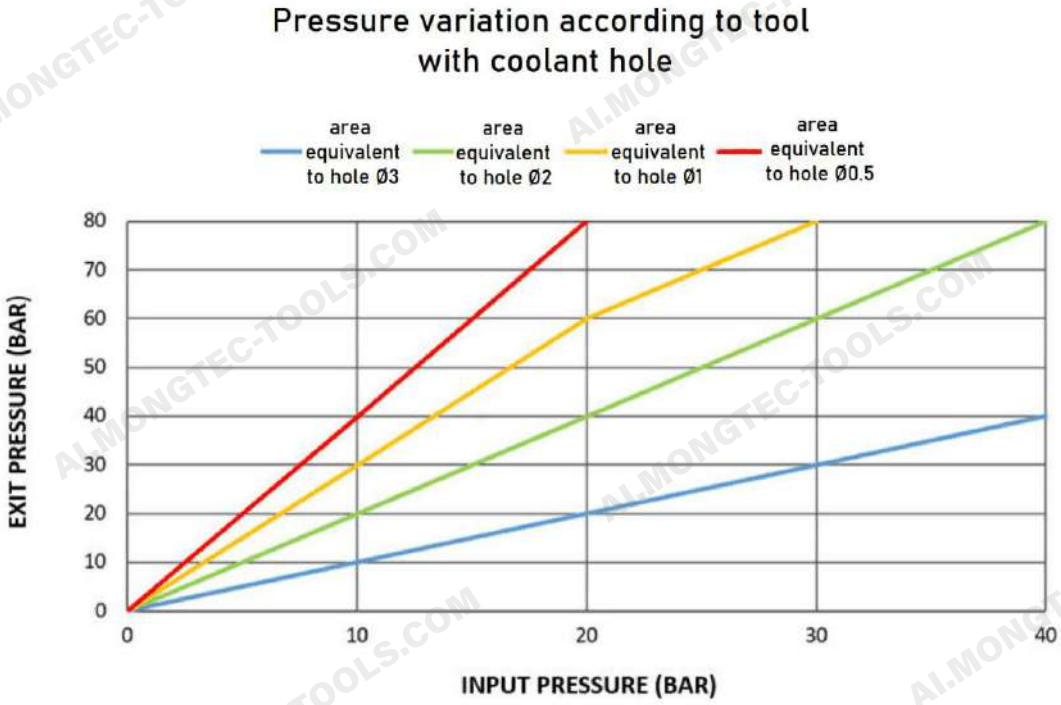
NOTICE

To ensure correct operation of the driven toolholder, the coolant entering the machine must be filtered to **30 µm**. Ensure that coolant is present in the driven toolholder before it starts to rotate.

CAUTION

Non-compliance with the instructions on pressure and/or filtration can significantly reduce the service life of the driven tool and increases the risk of bearing seizure.

The above limitations ensure the correct operation of the Mongtec seal, which allows operation at higher speeds than traditional seals can offer today.



Pressure variation according to the tool coolant hole

Assembly / disassembly of coolant nozzles and plugs

1. **Type with screw:** remove the threaded plug, mount the ball with the coolant pipe and O-ring, set the angle, close the screw.
2. **Type with fitting:** remove the threaded plug, mount the fitting with the coolant pipe.
3. **Type with ball:** remove the closed ball, mount the open ball and close the screw.

Nozzle and plug types 1 – 3

NOTICE

Should the coolant outlet need to be plugged, follow the opposite steps.

3.9 Maintenance

The service life of Mongtec driven toolholders depends on:

- the processes for which the driven toolholders are used;
- the terms of use;
- the working cycles practised.

In order to maintain the optimal performance of the driven toolholder, planned replacement of the components that deteriorate with service time — such as bearings and gaskets — is necessary, as referred to in section 1.3, “Possible hazards during use”.

Recommended service interval

- 12 months under normal conditions in 2 shifts;
- 6 months when operating in 3 shifts or under heavy or high-speed conditions;
- 6 months with internal coolant supply.

CAUTION

Maintenance or overhaul of Mongtec driven toolholders must be carried out only by Mongtec personnel or by certified distributors.

Anyone sending products to Mongtec for maintenance or repair must state the following information relating to the purchase of the product:

- purchase date;
- product code;
- serial number;
- hours of use.

Correct use and regular preventive maintenance guarantee the good functioning of the product. Any modification, tampering or improper use releases Mongtec from any responsibility for accidents or damage.

3.10 Cleaning and storage

Proper cleaning of the driven toolholder helps to maintain a high level of efficiency and helps to avoid the infiltration of micro-chips produced during machining, and of coolant condensate deposited on the surfaces and in the drainage holes during use.

- Clean and check the toolholders once a week; rotate the spindle several times by hand.
- Clean the spindle area thoroughly with a cloth when removing the cutting tool.

WARNING

Absolutely avoid the use of compressed air for cleaning the driven toolholder. Compressed air pushes the micro-chips and condensate deposited on the toolholder into its interior.

CAUTION

Driven toolholders with internal coolant supply have drainage holes that are necessary for the correct functioning of the sealing system. Before mounting the driven toolholder in the machine, check that these are not obstructed; if they are, clean them before starting production. Also check the holes during disassembly and clean them if blocked.

CAUTION

In the case of internally cooled drives, at the end of the operating cycle and before storage, ensure that all the coolant contained in the drive is drained out through the drainage holes by rotating the drive by hand, in order to prevent oxidation during the storage period.

3.11 Warnings for environmental protection

- Do not dispose of the product or its components in the environment.
- The product and its components must not come into contact with sewage, water courses or soil.
- Disposal of the product or its components must be carried out in accordance with the legal requirements on environmental protection and waste disposal, and with the requirements of the relevant local authorities.
- The user of the product is responsible for the characterisation of the waste related to the product or its components, and for its proper disposal.
- Proper and correct disposal helps to avoid possible negative effects on the environment and on health, and promotes the recycling of the materials from which the product is made.

Driven tools are composed of approximately **99.8 %** ferrous material; the remaining portion, about **0.2 %**, consists of polymers (rubber).

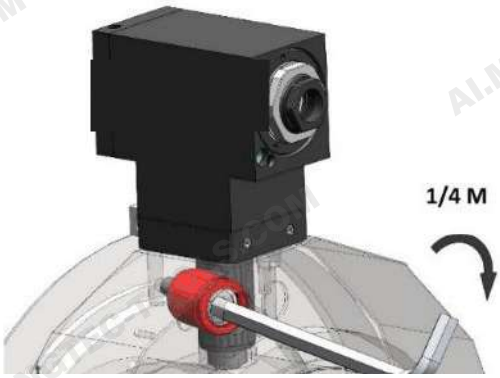
Appendix A — Disc mounting

A.1 Toolholder installation on VDI disc

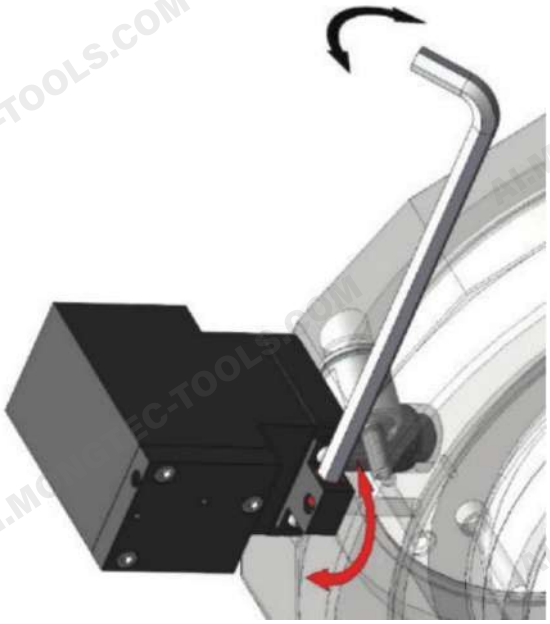
1. Clean the face of the disc on which the toolholder is to be mounted, taking care **not** to use compressed air.
2. Insert the toolholder and close the VDI plug to ¼ of the value required for closing.
3. Check that the VDI closure does not block the rotation. Adjust the position of the pin block to the desired position.
4. Close the VDI plug to the value required for closing.

Step 1 — disc face

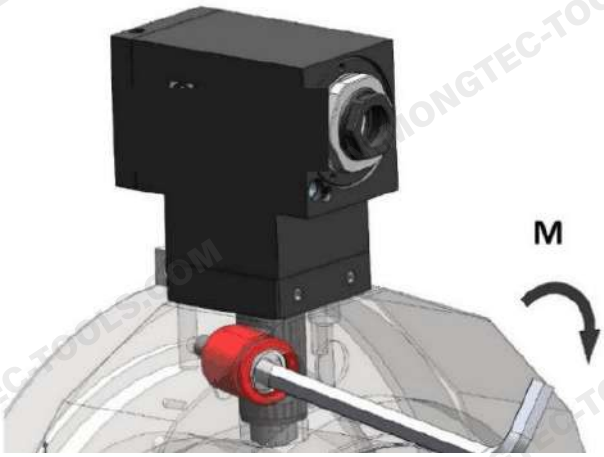
Do not use compressed air



Step 2 — ¼ M



Step 3 — adjust the pin block



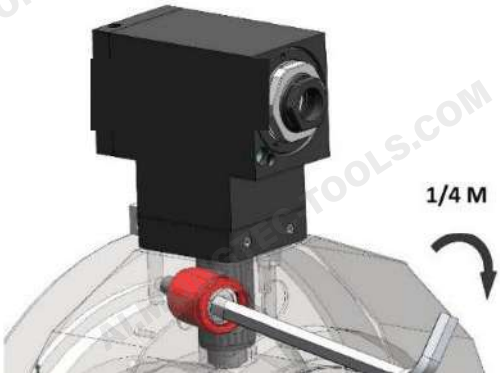
Step 4 — close the VDI plug to the specified torque (M)

A.2 Toolholder installation on VDI disc with BRH

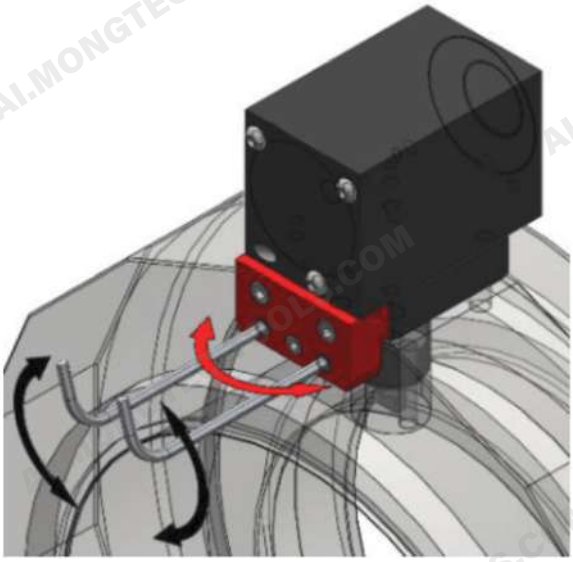
1. Clean the face of the disc on which the toolholder is to be mounted, taking care **not** to use compressed air.
2. Insert the toolholder and close the VDI plug to ¼ of the value required for closing.
3. Check that the VDI closure does not block the rotation. Adjust the block acting on the face of the disc until the desired position is obtained.
4. Close the VDI plug to the value required for closing.

Step 1 — disc face

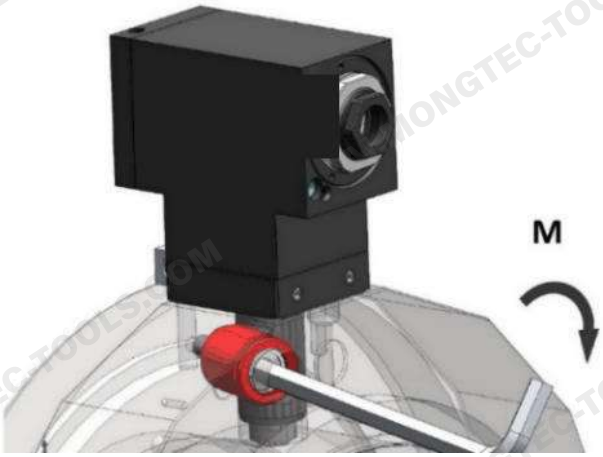
Do not use compressed air



Step 2 — ¼ M



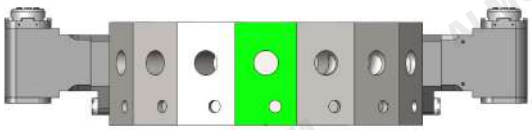
Step 3 — adjust the block



Step 4 — close the VDI plug to the specified torque (M)

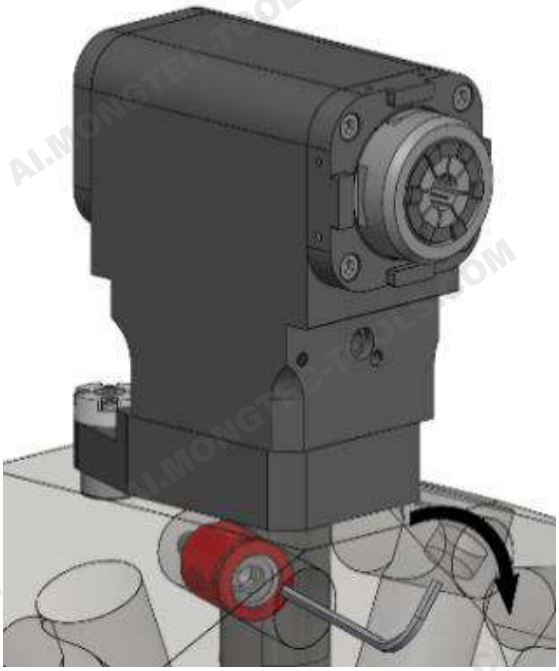
A.3 Toolholder installation on VDI disc with eccentric adjustment pin

1. Clean the face of the disc on which the toolholder is to be mounted, taking care **not** to use compressed air.
2. Insert the toolholder and close the VDI plug to ¼ of the value required for closing.
3. Loosen the screws (A). Check that the VDI closure does not block the rotation. Adjust the eccentric pin by rotating it in the disc until the desired position is obtained. Close the screws (A) to lock the rotation.
4. Close the VDI plug to the value required for closing.

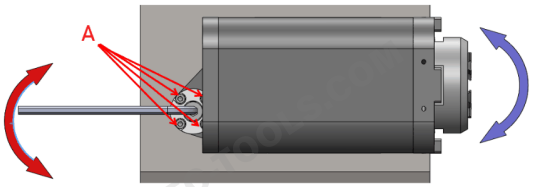


Step 1 — disc face

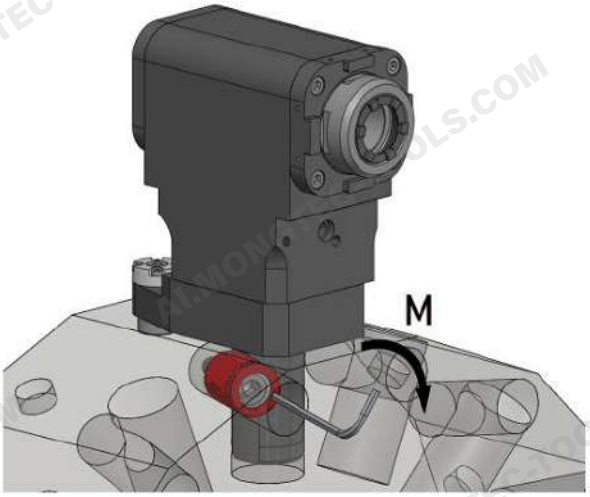
Do not use compressed air



Step 2 — ¼ M



Step 3 — eccentric pin and screws (A)



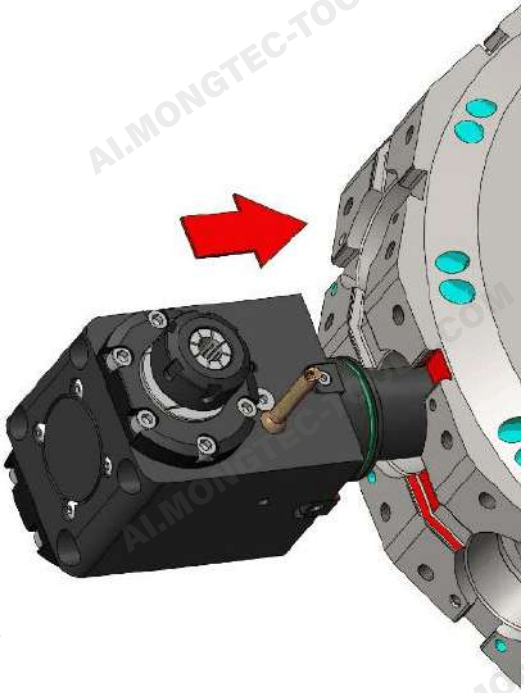
Step 4 — close the VDI plug to the specified torque (M)

A.4 Toolholder installation on BMT disc with fixed centring

1. Clean the face of the disc on which the toolholder is to be mounted, together with the block seats and the thread seats, removing any swarf, coolant condensate or other impurities, in order to prevent damage to the disc or to the drive itself and coupling and/or positioning errors. Take care **not** to use compressed air.
2. Mount the toolholder in the desired position by aligning the 4 blocks with their respective seats in the disc.
3. Once the toolholder is in place, insert the 4 fastening screws and tighten them.

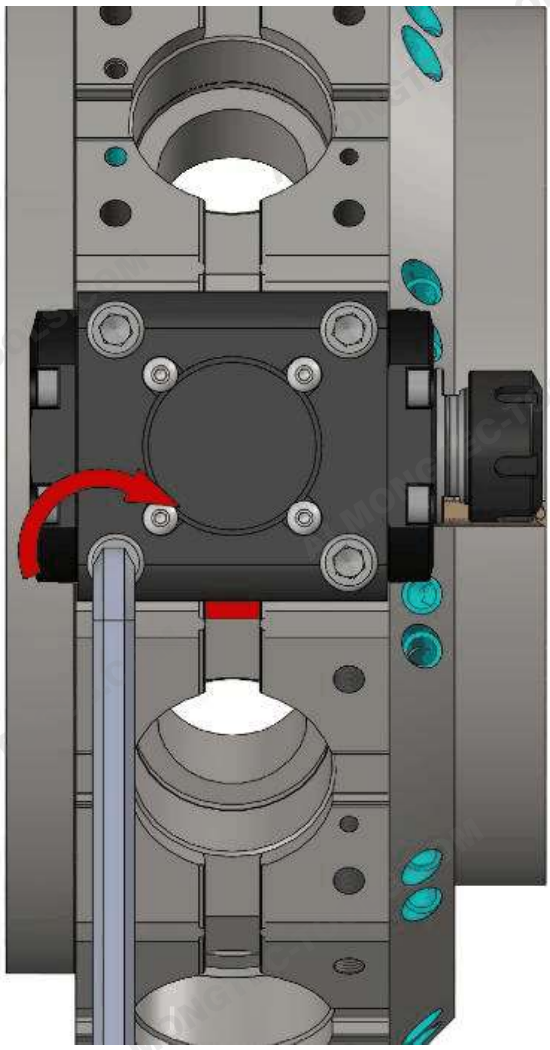
Step 1 — disc face

Do not use compressed air



Step 2 — align the 4 blocks

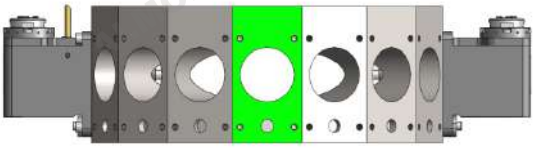
Step 3 — fastening screws



Step 3 — screws tightened

A.5 Toolholder installation on BMT disc with eccentric adjustment pin

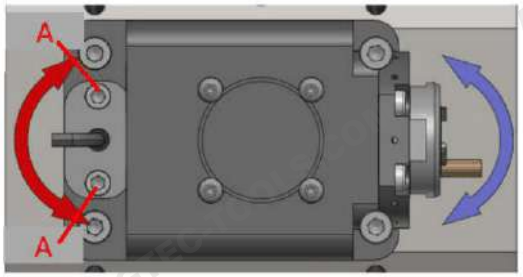
1. Clean the face of the disc on which the toolholder is to be mounted, together with the block seats and the thread seats, removing any swarf, coolant condensate or other impurities, in order to prevent damage to the disc or to the drive itself and coupling and/or positioning errors. Take care **not** to use compressed air.
2. Mount the toolholder in the desired position and insert the 4 screws without locking them.
3. Loosen the screws (A). Adjust the eccentric pin by rotating it in the disc until the desired position is obtained. Close the screws (A) to lock the rotation.
4. Tighten the 4 screws.



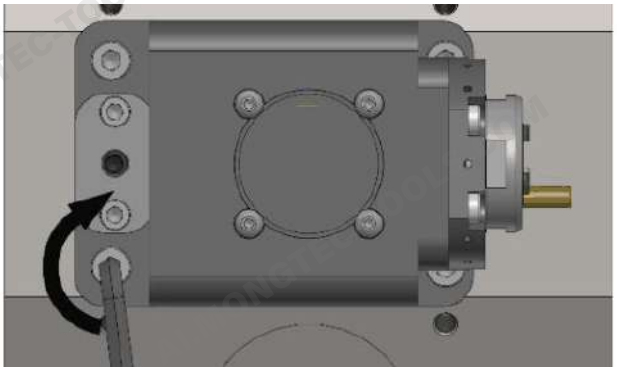
Step 1 — disc face

Do not use compressed air

Step 2 — insert the 4 screws



Step 3 — eccentric pin, screws (A)



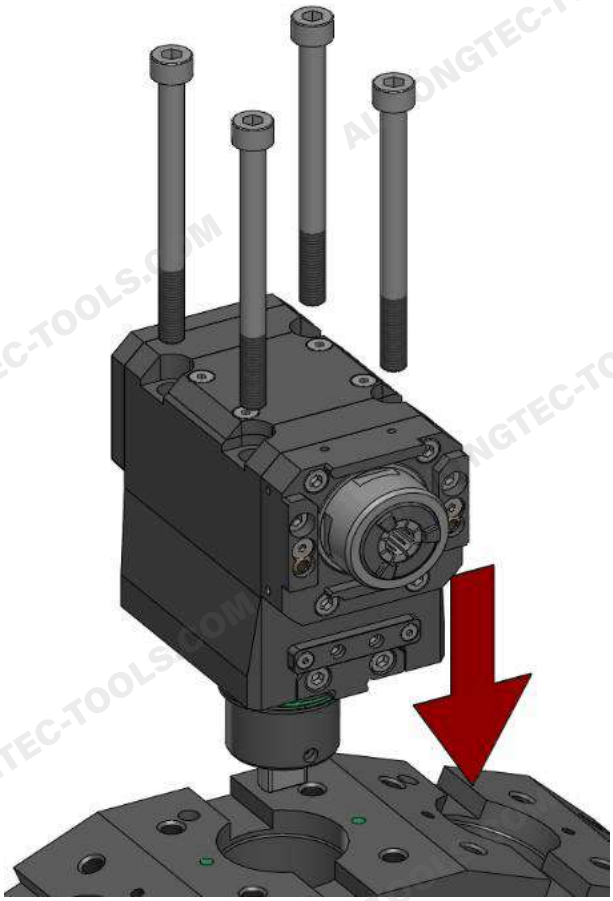
Step 4 — tighten the 4 screws

A.6 Toolholder installation on BMT disc with adjustment block / 1

1. Clean the face of the disc on which the toolholder is to be mounted, together with the block seats and the thread seats, removing any swarf, coolant condensate or other impurities, in order to prevent damage to the disc or to the drive itself and coupling and/or positioning errors. Take care **not** to use compressed air.
2. Mount the toolholder in the desired position by inserting the 4 screws.

Step 1 — disc face

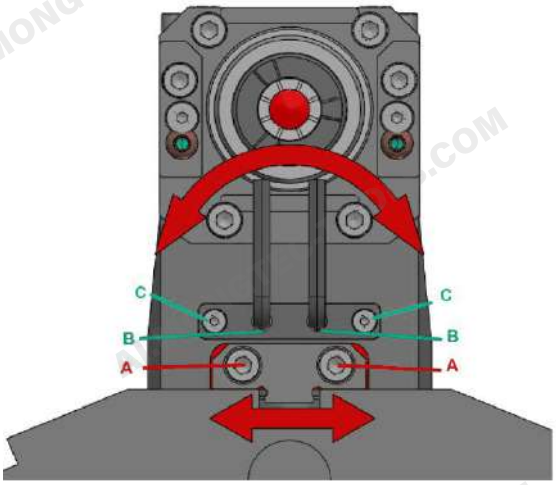
Do not use compressed air



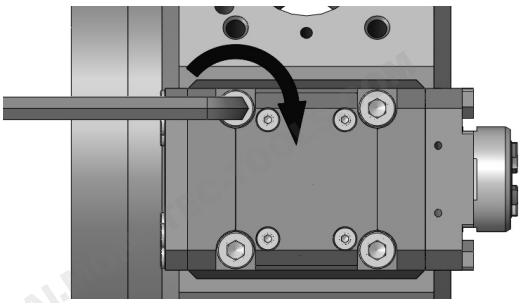
Step 2 — insert the 4 screws

3. Driven tool angle alignment procedure

1. Loosen the screws [A] so that the block is mobile.
2. **Caution!** Absolutely avoid loosening the screws [C].
3. **Caution!** Turn the components [B] simultaneously in the same direction in order to move the adjustment block to the right and to the left.
4. Once the desired position has been found, close the screws [A].



Screws [A], components [B], screws [C]



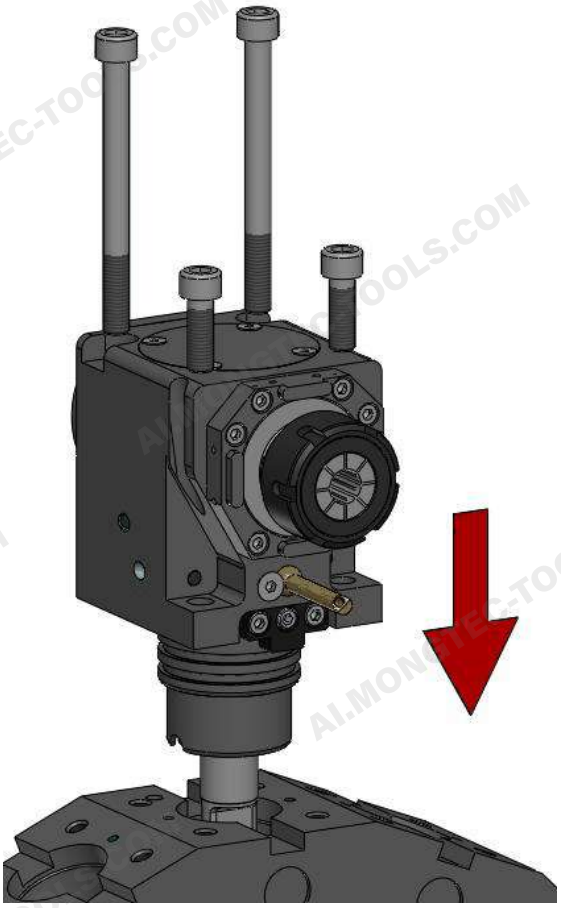
4. Tighten the 4 screws

A.7 Toolholder installation on BMT disc with adjustment block / 2

1. Clean the face of the disc on which the toolholder is to be mounted, together with the block seats and the thread seats, removing any swarf, coolant condensate or other impurities, in order to prevent damage to the disc or to the motor itself and coupling and/or positioning errors. Take care **not** to use compressed air.
2. Mount the toolholder in the desired position and insert the 4 screws.

Step 1 — disc face

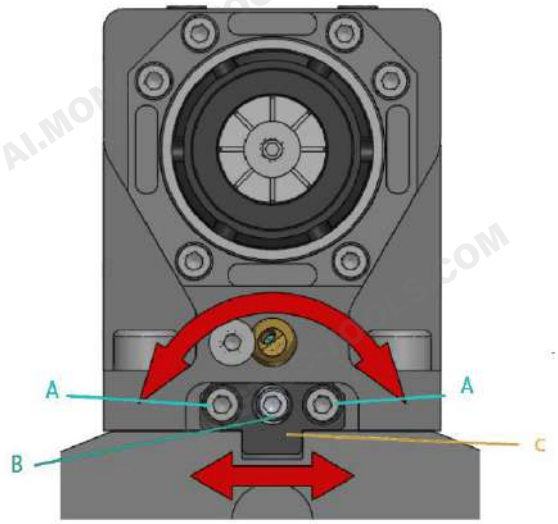
Do not use compressed air



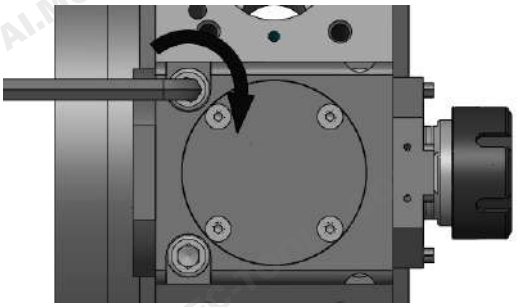
Step 2 — insert the 4 screws

3. Driven tool angle alignment procedure

1. Loosen the screws [A] so that the block [C] is mobile.
2. Rotate the central pin [B] so as to move the adjustment block [C] to the right and to the left.
3. Once the desired position has been found, close the screws [A].



Screws [A], central pin [B], block [C]



4. Tighten the 4 screws

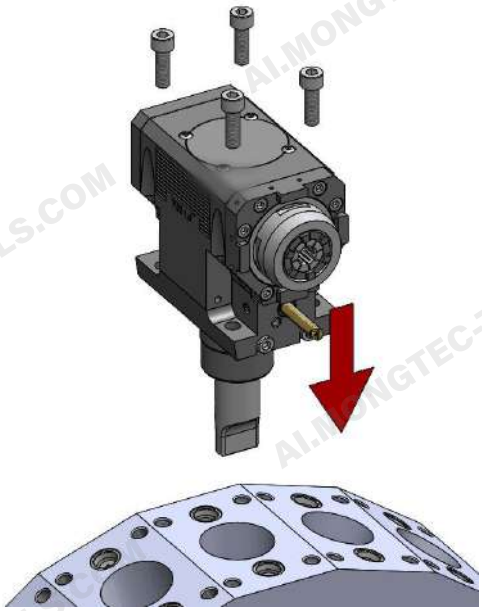
A.8 Toolholder installation on DMG MORI BMT42 disc with tapered pin

1. Clean the face of the disc on which the toolholder is to be mounted, together with the block seats and the thread seats, removing any swarf, coolant condensate or other impurities, in order to prevent damage to the disc or to the motor itself and coupling and/or positioning errors. Take care **not** to use compressed air.

2. Mount the toolholder in the desired position and insert the 4 screws.

Step 1 — disc face

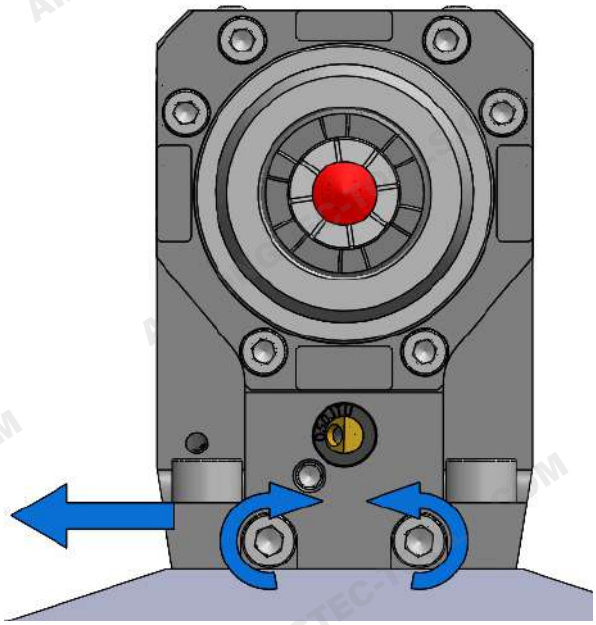
Do not use compressed air



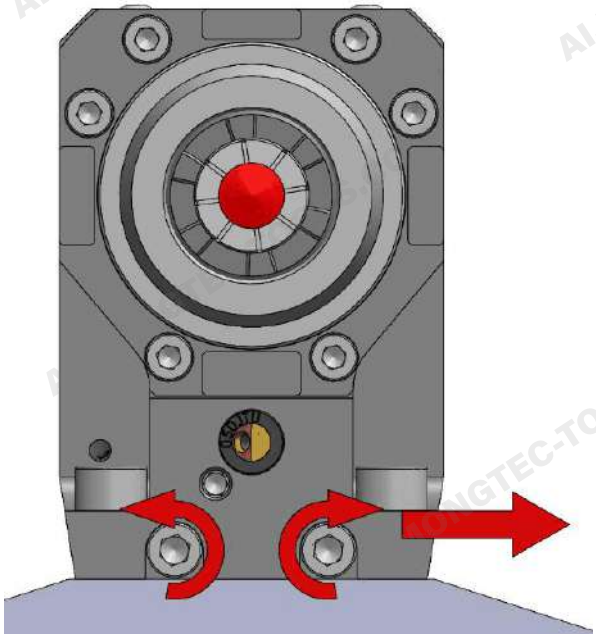
Step 2 — insert the 4 screws

3. Adjust the toolholder by tightening and loosening the front screws

To adjust the toolholder in the desired direction (right / left), tighten the screw corresponding to that direction and loosen the opposite one.

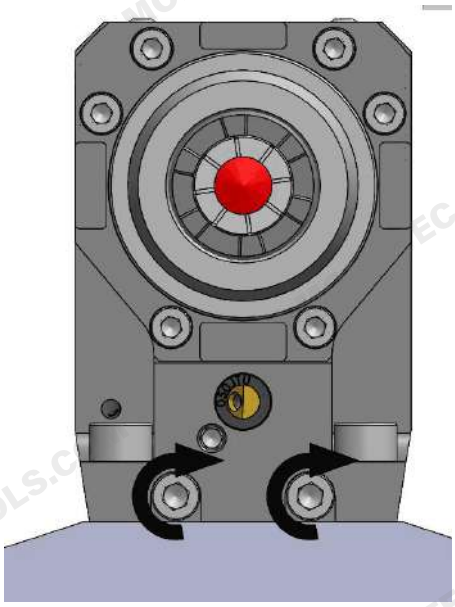


To adjust the position to the **left**, tighten the left screw and loosen the right screw



To adjust the position to the **right**, tighten the right screw and loosen the left screw

1. Once the desired position has been found, close the screws.
2. Tighten the 4 screws.



Appendix B — Driven toolholder adjustment

Adjustment principle

Mongtec adjustable driven tools are designed to be set within an angle of **±90°** (Fig. 1) or **±180°** (Fig. 2), depending on the specific design, with a reading accuracy of 0.1°.

This is achieved through the correct combination of the graduation of the rotating vernier and the adjustment notches on the body.

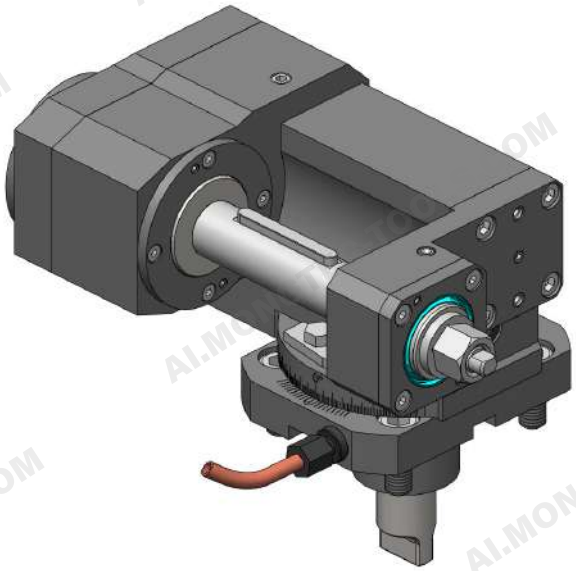


Fig. 1 — example: adjustable driven tool ±90°

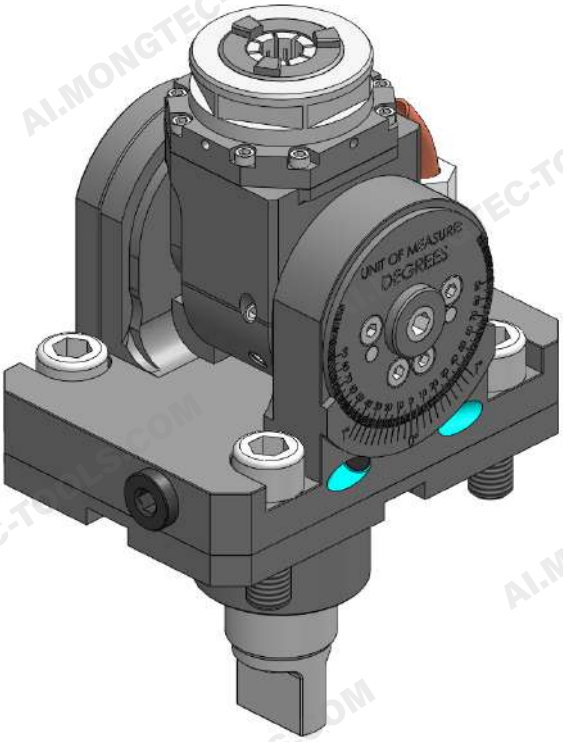
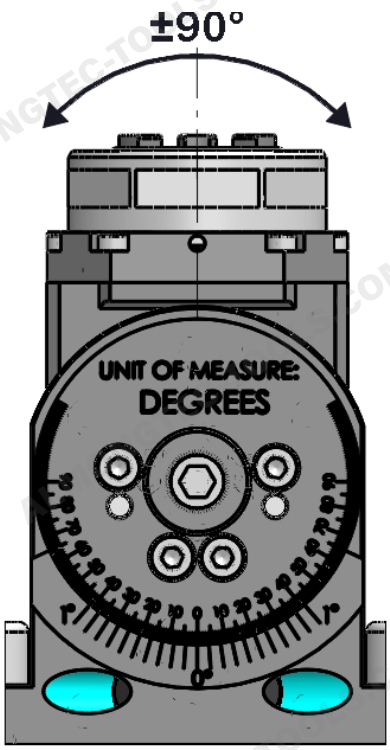
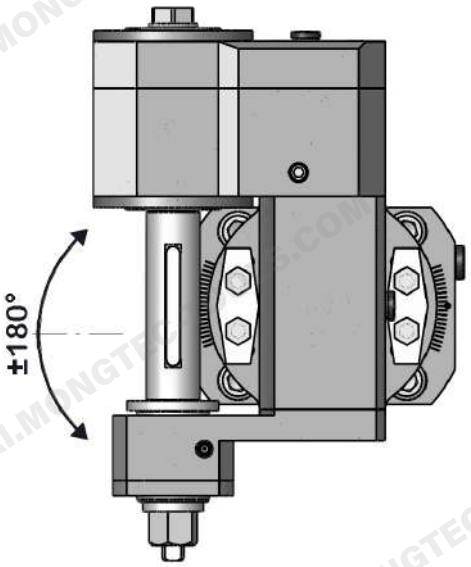


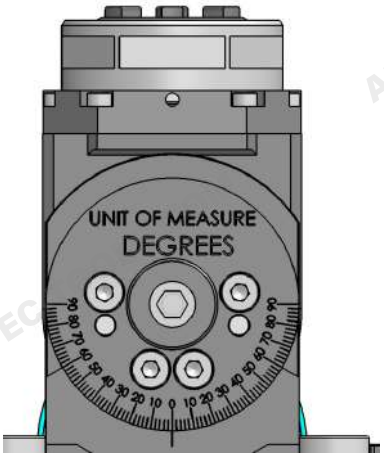
Fig. 2 — example: gear hobber ±180°





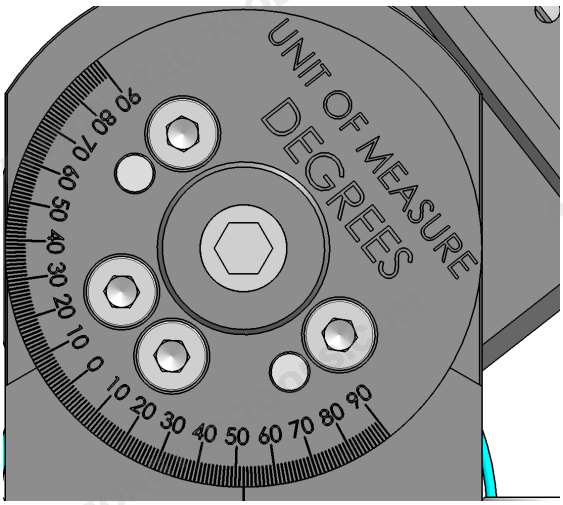
B.0 Adjustment without decimal reading

Mongtec adjustable driven tools without decimal reading allow the reading of whole angles between the values indicated on the vernier.



1. To adjust the toolholder from angle 0.

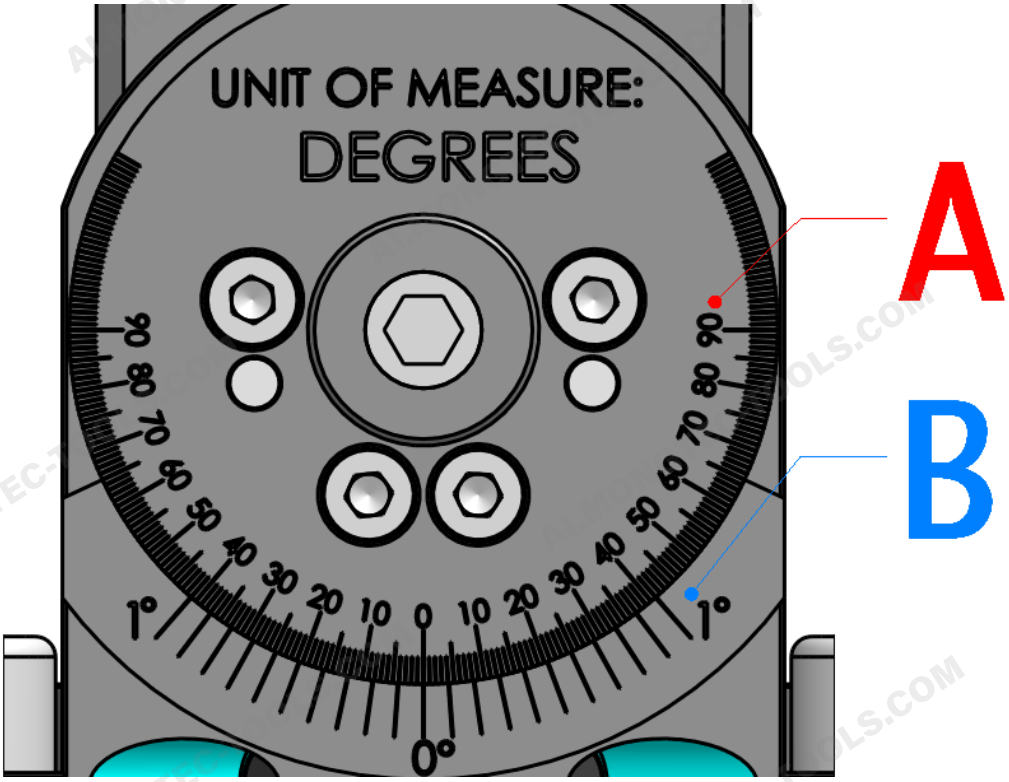
2 Adjust the spindle head to the desired angle — in the example below, 52°.



B.0.0 Adjustment with decimal reading

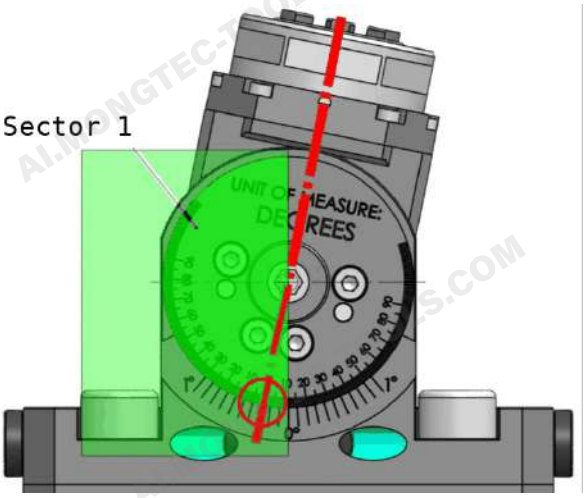
The adjustment explained in section B.0 is limited to whole angles. For this reason a decimal reading has been introduced in the new generations of Mongtec adjustable driven tools.

The decimal reading is obtained through the correct association of the primary scale **A** (integer) and the secondary scale **B** (decimal).

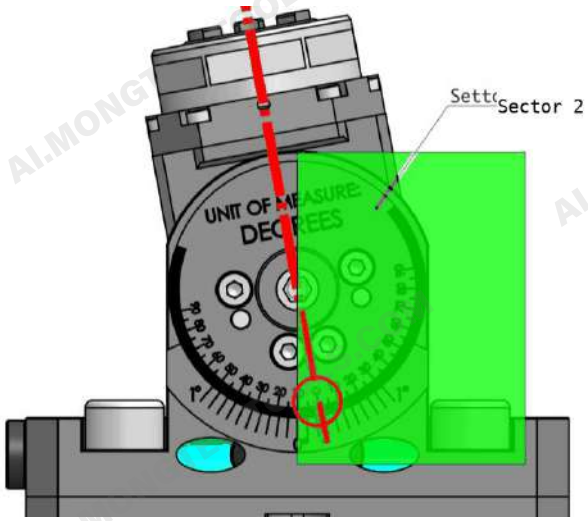


Primary scale A (integer) and secondary scale B (decimal)

The sector from which the decimal reading is taken is the one in which the tool axis intersects the graduated scales, as shown in the figure: **sector 1** if clockwise, **sector 2** if counterclockwise.



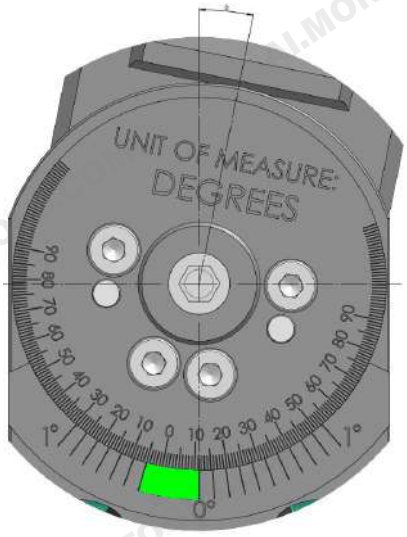
Sector 1 — clockwise



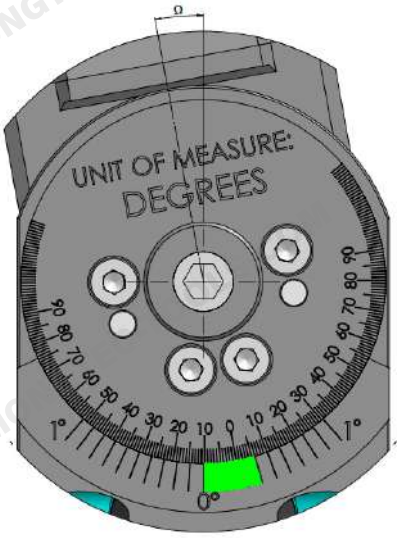
Sector 2 — counterclockwise

Application examples

Example 10.4°, direction CLOCKWISE.
Turn the toolholder clockwise by 10°, then continue the clockwise rotation until the notch of primary scale A is aligned with the 4th notch of secondary scale B in sector 1 (start counting from 0, not included, to the left).

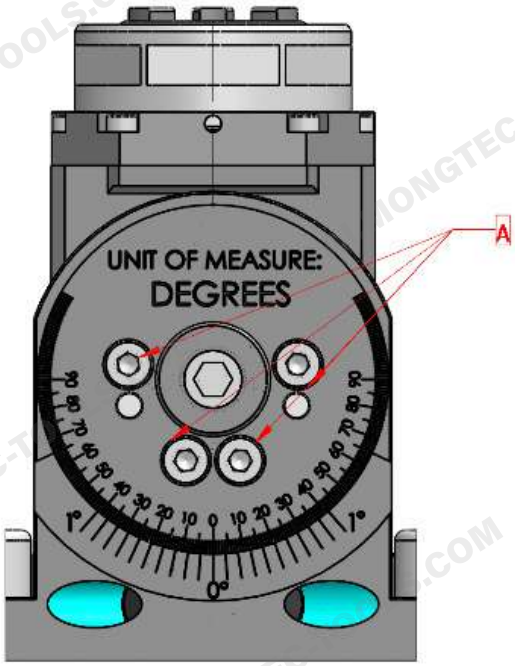


Example 10.4°, direction COUNTERCLOCKWISE.
Turn the toolholder counterclockwise by 10°, then continue the counterclockwise rotation until the notch of primary scale A is aligned with the 4th notch of secondary scale B in sector 2 (start counting from 0, not included, to the right).

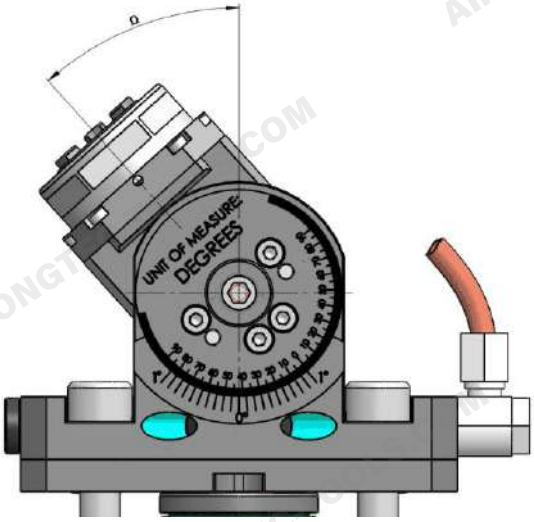


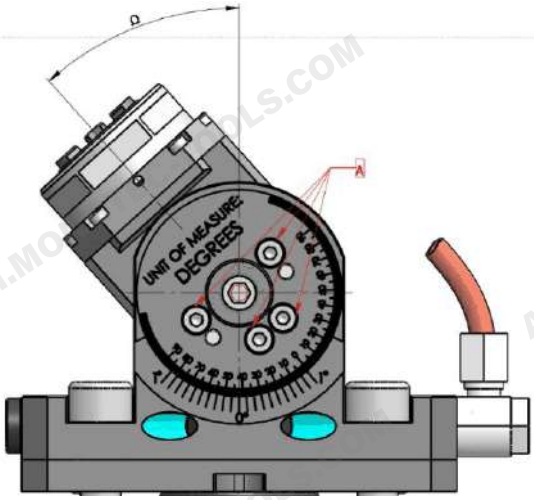
B.1 Regulation of an adjustable ±90° driven tool

1. Loosen the A screws of the graduated vernier so that the head can rotate freely.
2. Follow the instructions in section B.0 or B.0.0 to obtain the desired angle.
3. Tighten the A screws of the graduated vernier so that the head remains fixed at the angle just obtained.



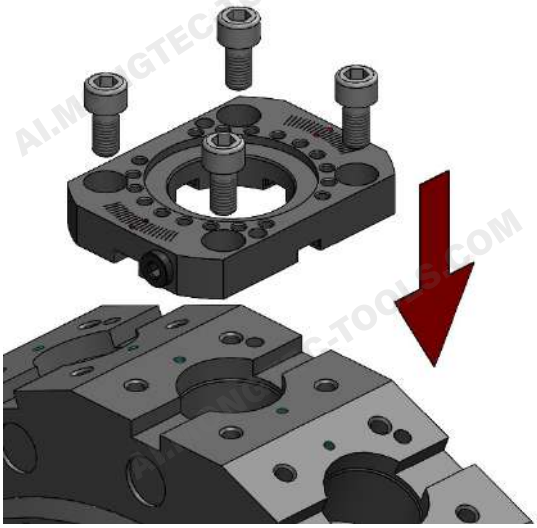
Screws A of the graduated vernier

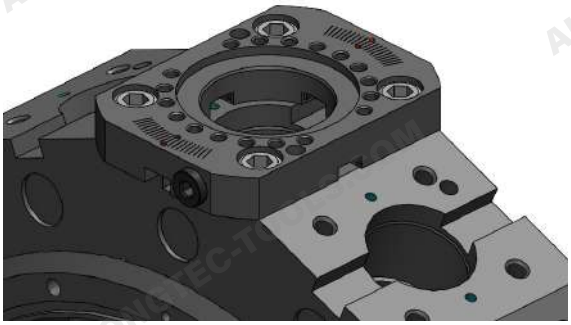




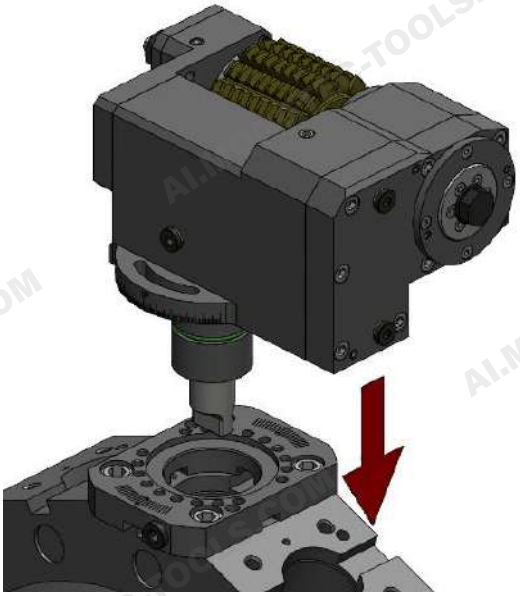
B.2 Regulation of the gear hobber ±180° with decimal reading

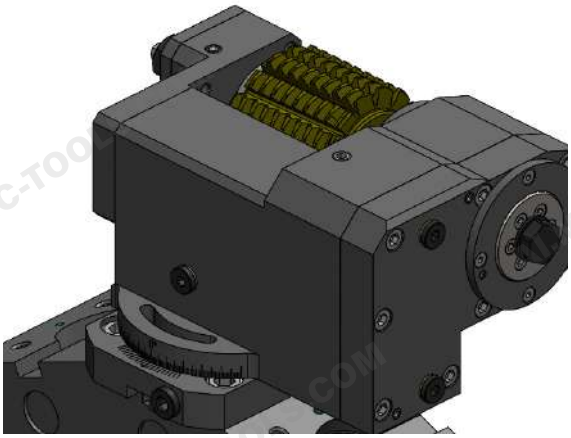
1. Mount the flange in the machine.



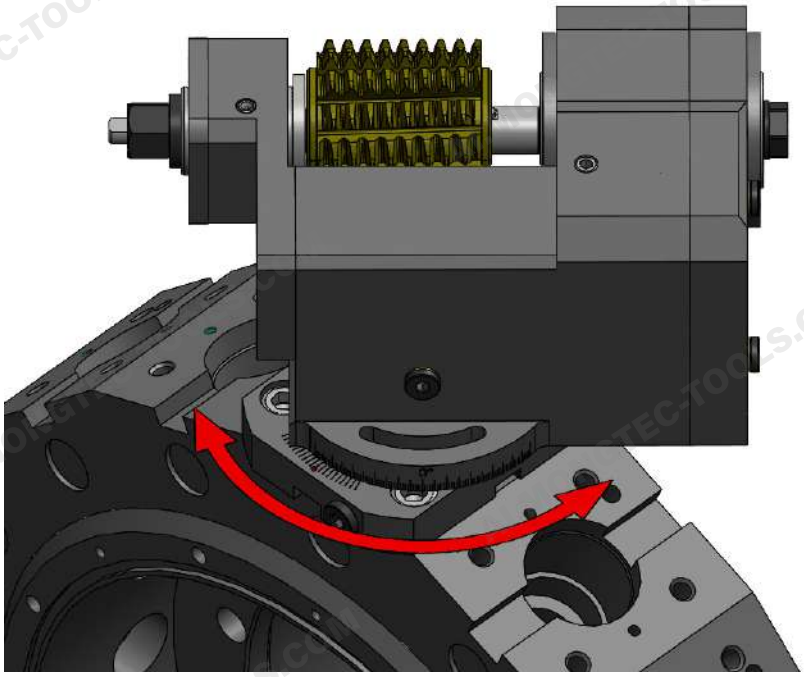


2 Mount the gear hobber on the flange.

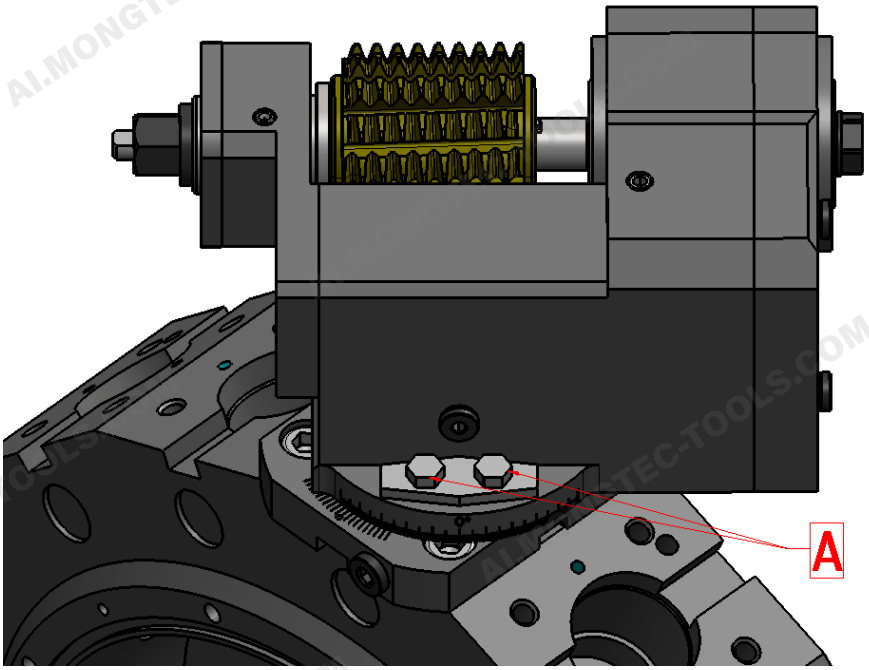




3. Adjust the angular position of the hob head according to procedure B.0 or B.0.0 respectively, depending on the toolholder used.



4. Close the 4 A screws so as to lock the hob head at the desired angle.



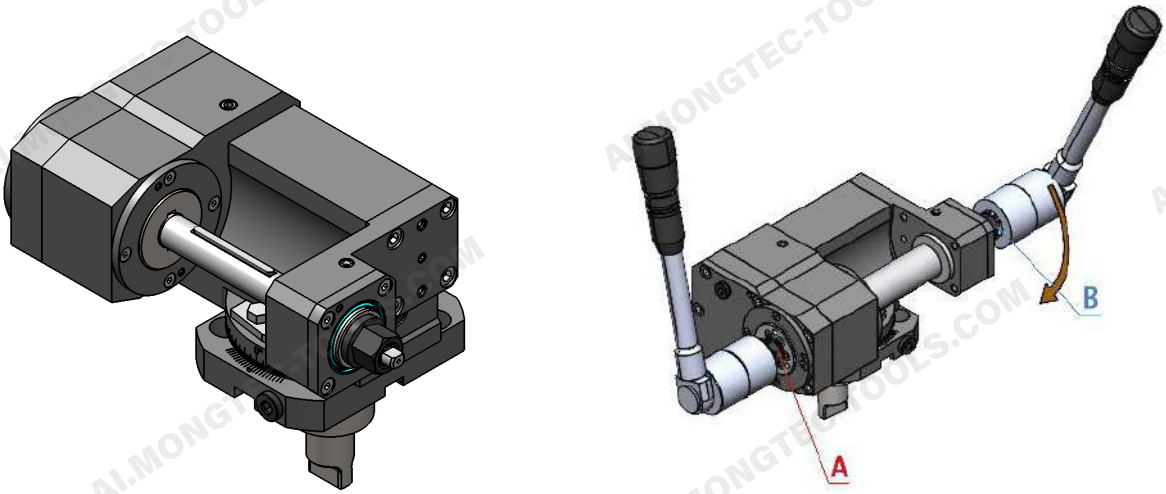
Screws A

B.3 Tool assembly / shaft change, gear hobber

3.1 Instructions for replacing the hob shaft

1. Remove nut B using screw A as the lock.

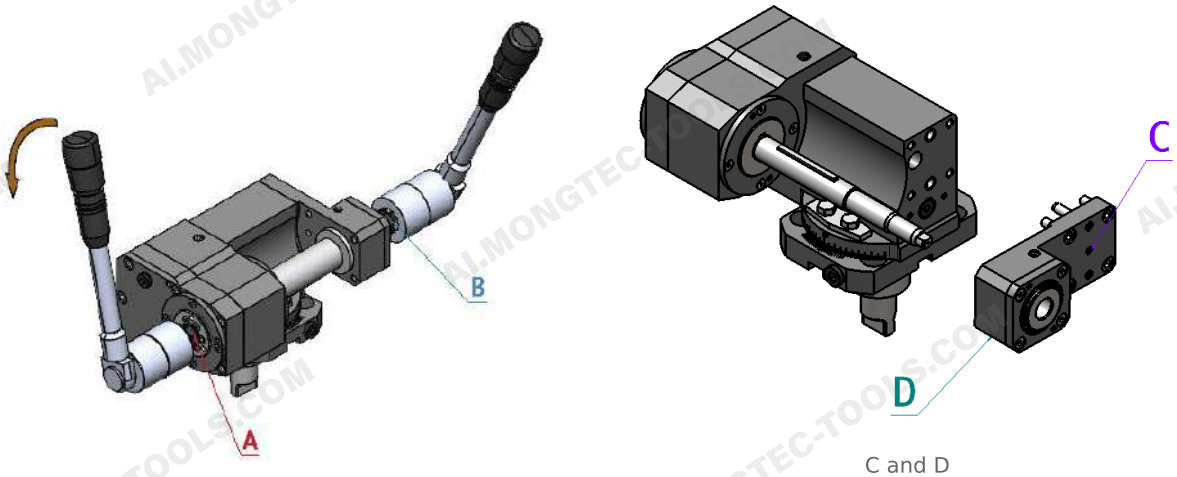
> **CAUTION**
> During this procedure, make sure that the input shaft rotates freely.



A and B

2 Remove screw A using nut B as the lock.

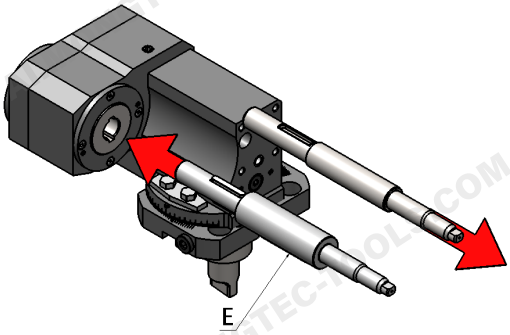
> **CAUTION**
> During this procedure, make sure that the input shaft rotates freely.



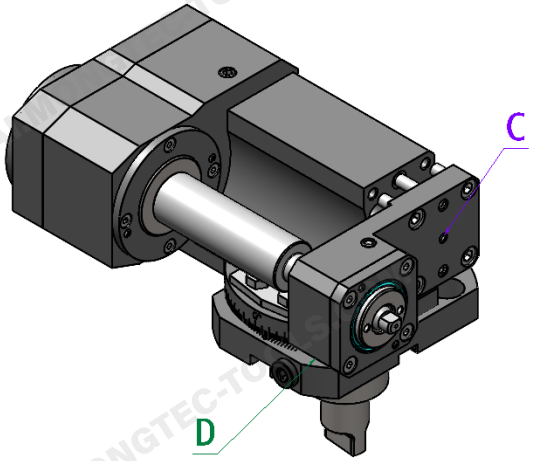
C and D

3. Using the appropriate extraction screw C, separate the “mobile arm” D from the main body.

4. Remove the shaft and reassemble the new shaft E.

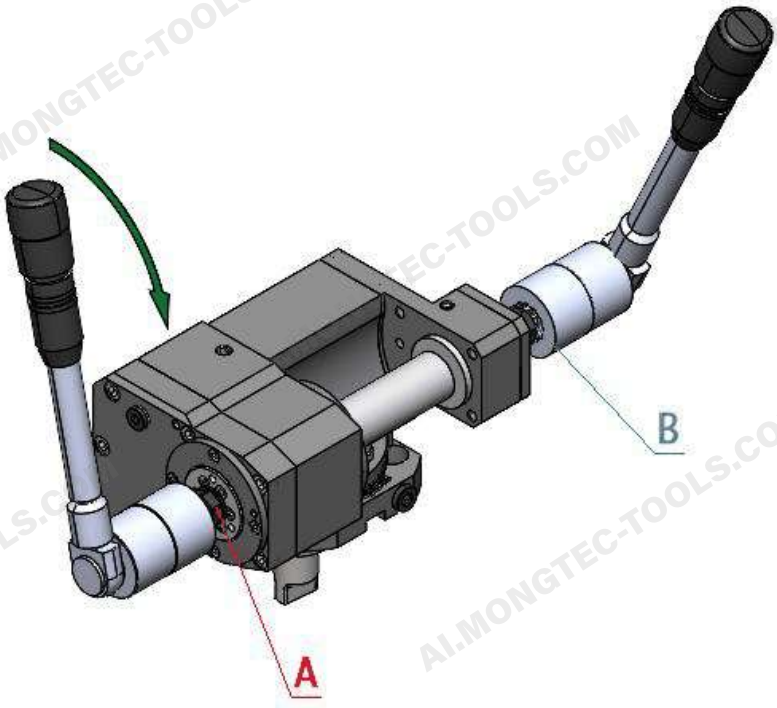


Shaft E



C and D

5. Mount the “mobile arm” D on the main body, making sure that the extraction screw does not protrude from the surface.

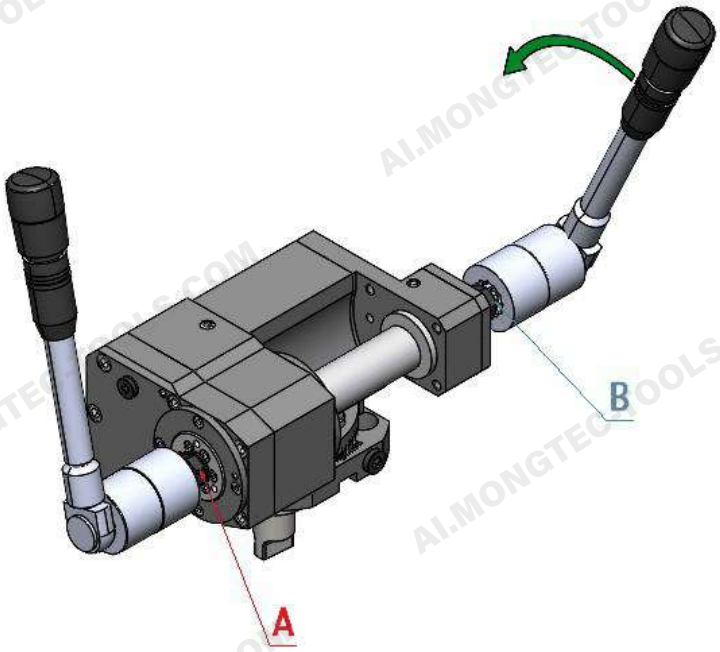


6. Close screw A using nut B as a lock (maximum torque to be applied: **30 N·m**).

7. Close nut B using screw A as a lock (maximum torque to be applied: **30 N·m**).

CAUTION

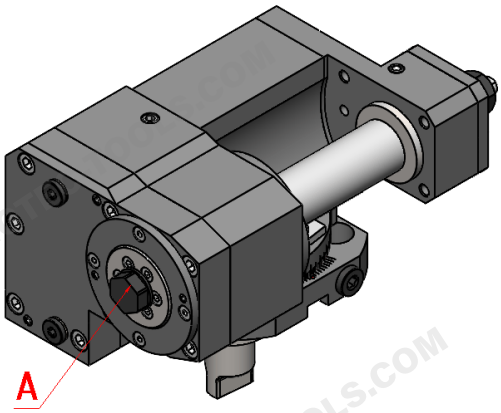
During these procedures, make sure that the input shaft rotates freely.



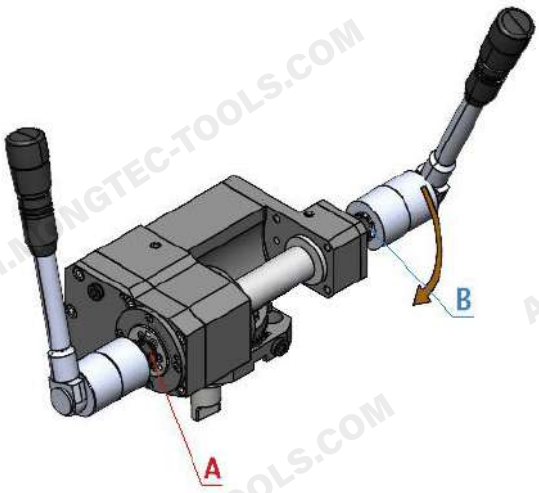
3.2 Instructions for assembling the gear hobber

1. Make sure that screw A is locked; otherwise close screw A using nut B as a lock (maximum torque: 30 N·m).
2. Remove nut B using screw A as the lock.

> **CAUTION**
> During these procedures, make sure that the input shaft rotates freely.

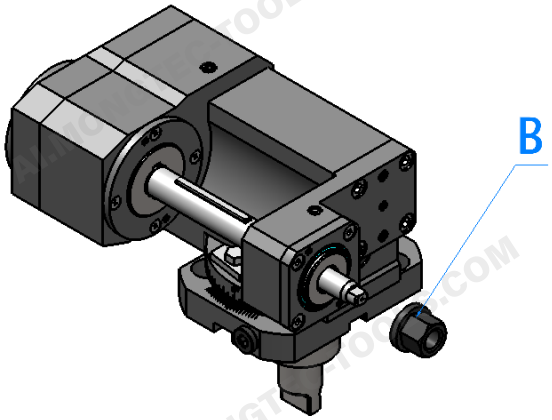


A

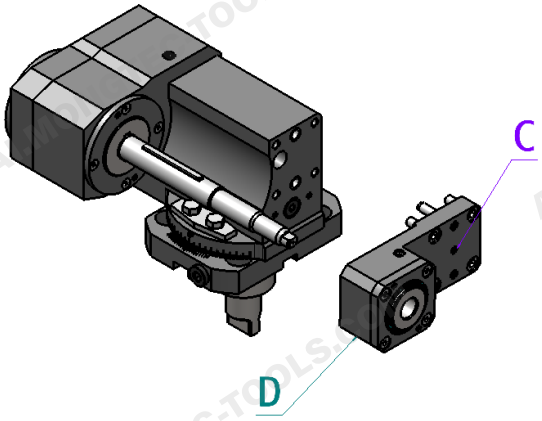


A and B

3. Using the appropriate extraction screw C, separate the “mobile arm” D from the main body.

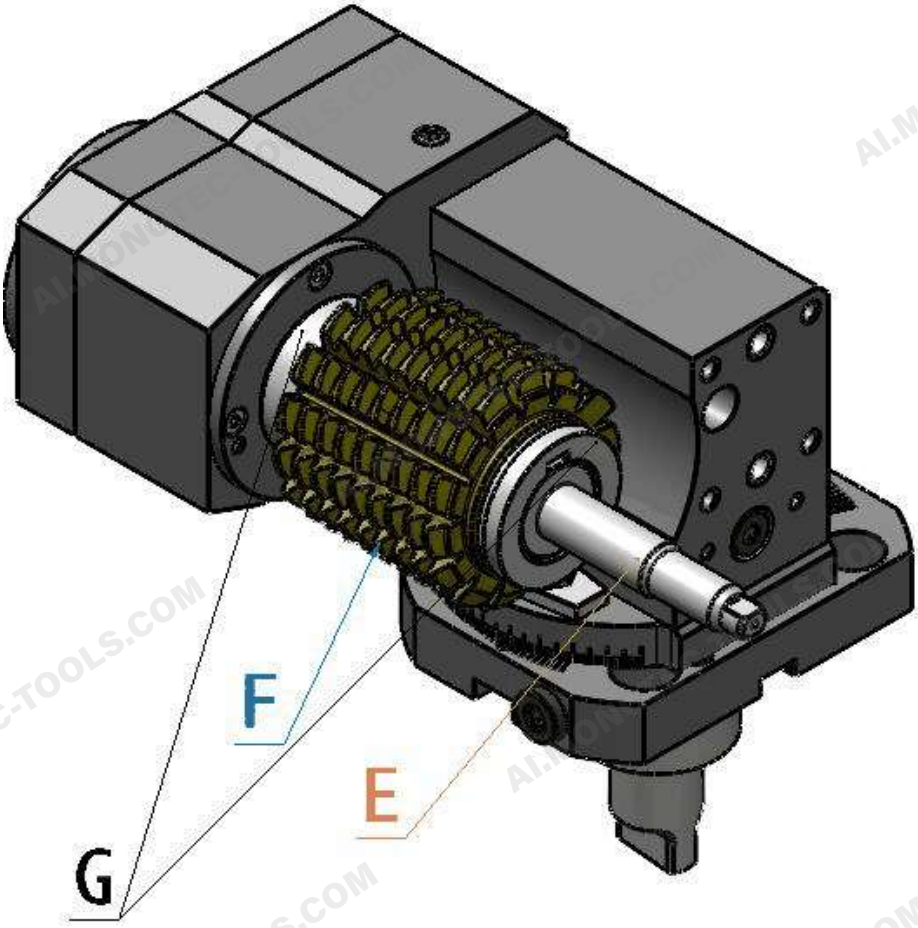


B



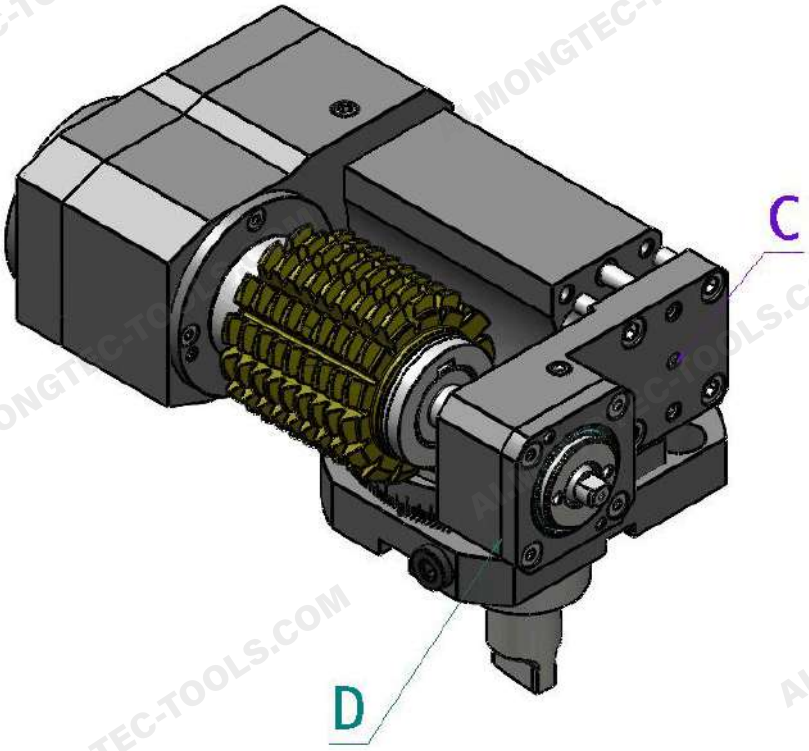
C and D

4. With the shaft fixed to the main structure, fit the hob tool F and any spacers onto the shaft E.



Shaft E, hob tool F, spacers G

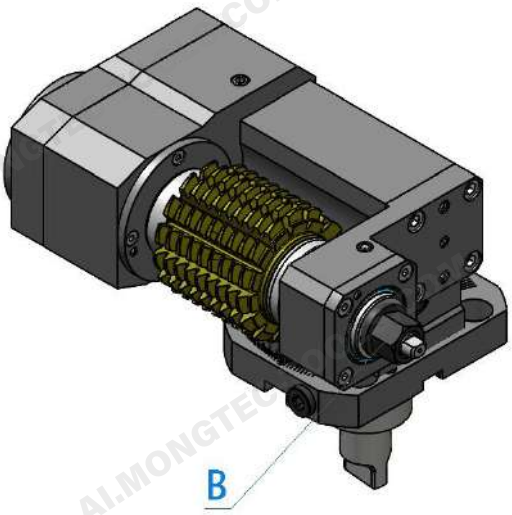
5. Mount the “mobile arm” D on the main body, making sure that the extraction screw does not protrude from the surface.



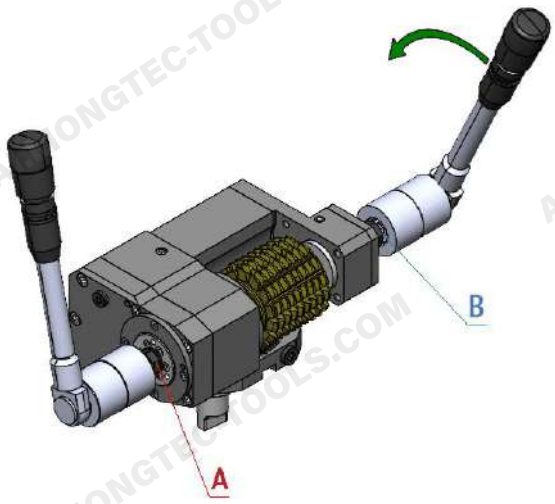
C and D

6. Close nut B using screw A as a lock (maximum torque to be applied: **30 N·m**).

> **CAUTION**
> During this procedure, make sure that the input shaft rotates freely.



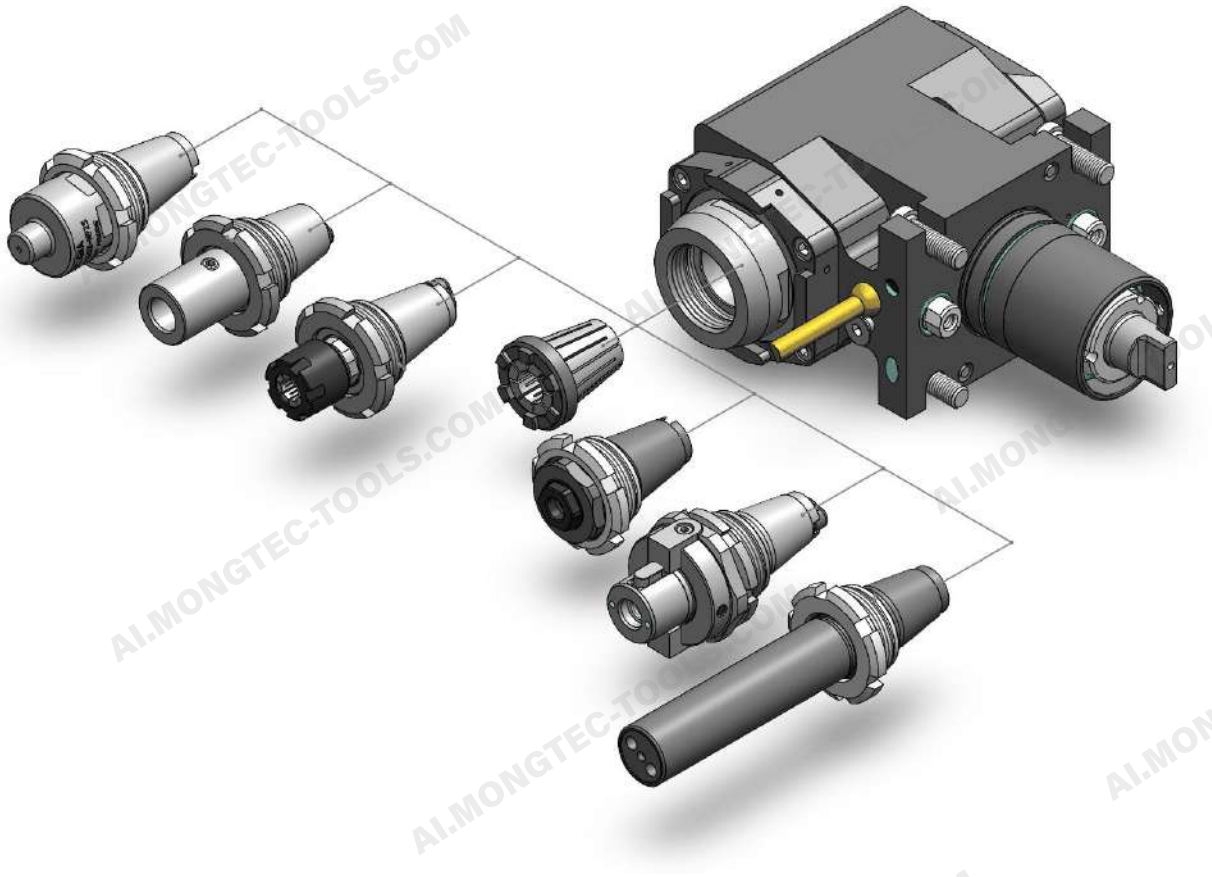
B



A and B

Appendix C — Quick-change modular system

The quick-change modular system is applicable to ER collet seats (DIN 6499) and allows a wide range of tool outputs to be obtained from a single driven toolholder.

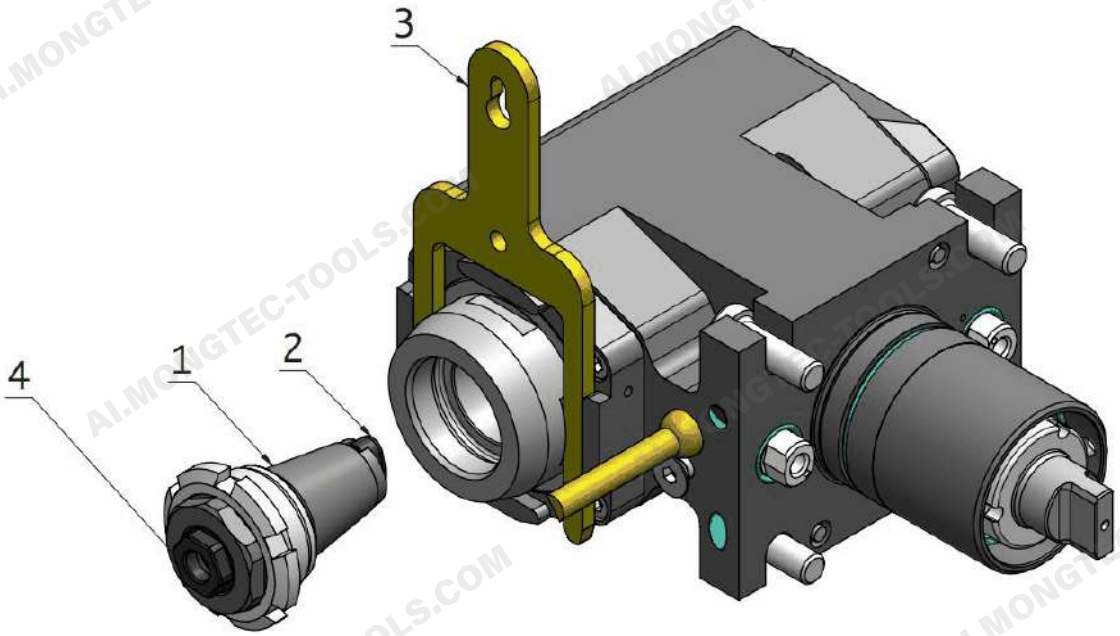


Modular inserts available for the quick-change system

Advantages

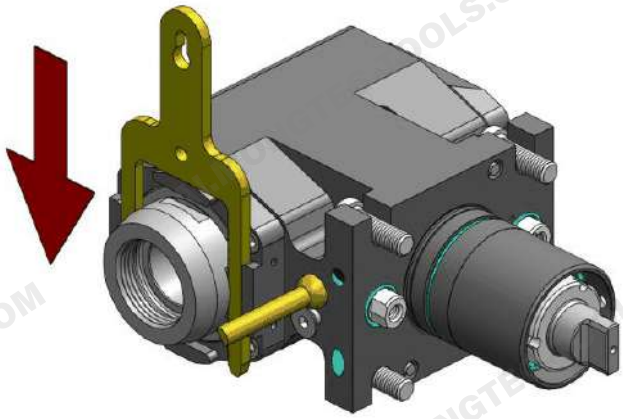
1. Universal — adaptable to all ER collet seats through a cone coupling.
2. Greater rigidity in Mongtec toolholders, through an integrated drive system.
3. Easy removal using the Y key (one-handed).
4. All inserts are applicable to ER toolholders with both external and internal coolant supply.
5. Pre-setting is possible both inside and outside the machine.

C.1 Assembly of the quick-change insert

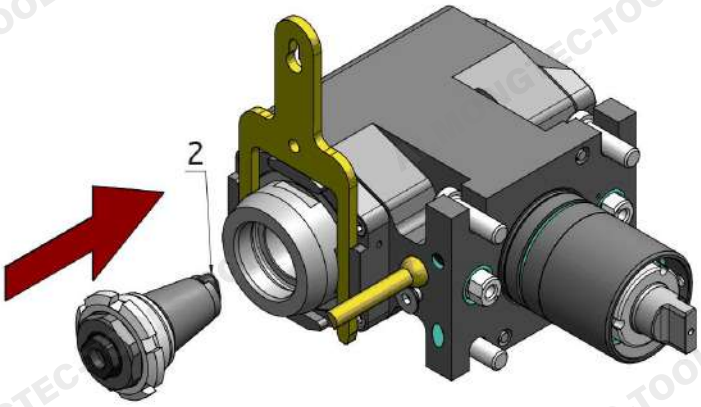


Components: 1 — insert, 2 — alignment element, 3 — locking key, 4 — cone coupling

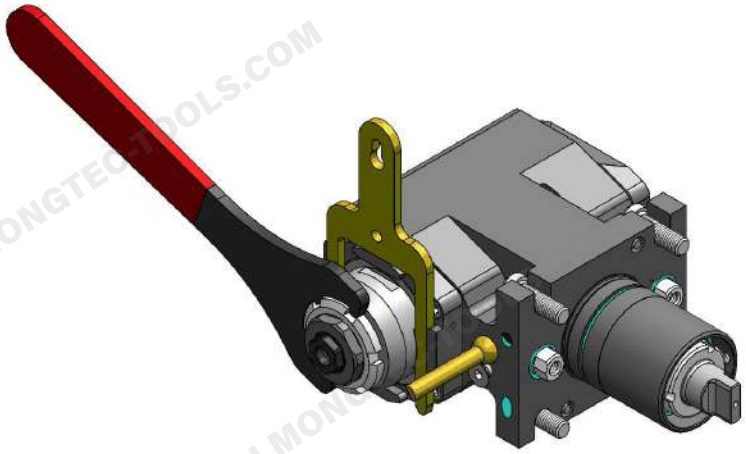
1. Apply the locking key to hold the spindle in place.



2. Mount the insert in the ER spindle cone, taking care to align component 2 correctly — if it is fitted — with its seat at the bottom of the cone.



3. Tighten the insert with the appropriate locking key, taking care to observe the maximum specific locking torque indicated in the data sheet.



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