



News 2018
AMF-Gripper
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> Structure

- > AMF-Gripper previous / AMF-Gripper new
- > AMF-Gripper pneumatic
- > AMF-Gripper hydraulic
- > AMF-Gripper and technical function
- > AMF-Gripper-inserts
- > Tool holder for AMF-Gripper
- > AMF-Gripper and monitoring
- > Applications

> AMF-Gripper previous/ AMF-Gripper new

AMF-Gripper previous

- > No adjustable gripping forces
- > Only in pneumatic version available
- > Only with compensation function
- > Interface area \varnothing 140 mm
- > Gripper only with tool holder available



> AMF-Gripper previous/ AMF-Gripper new

AMF Gripper new

- > AMF-Gripper in two version:
pneumatic and hydraulic
- > Suitable for Weldon tool holder
- > Available with or without compensation function
- > AMF-Gripping force is adjustable
- > The existing gripping inserts suitable for the
new AMF-Gripper
- > Interface area \varnothing 80 mm
- > Surface burnished and anodised
- > Different sensor monitoring is possible





> AMF-Gripper pneumatic

Gripper with compensation function



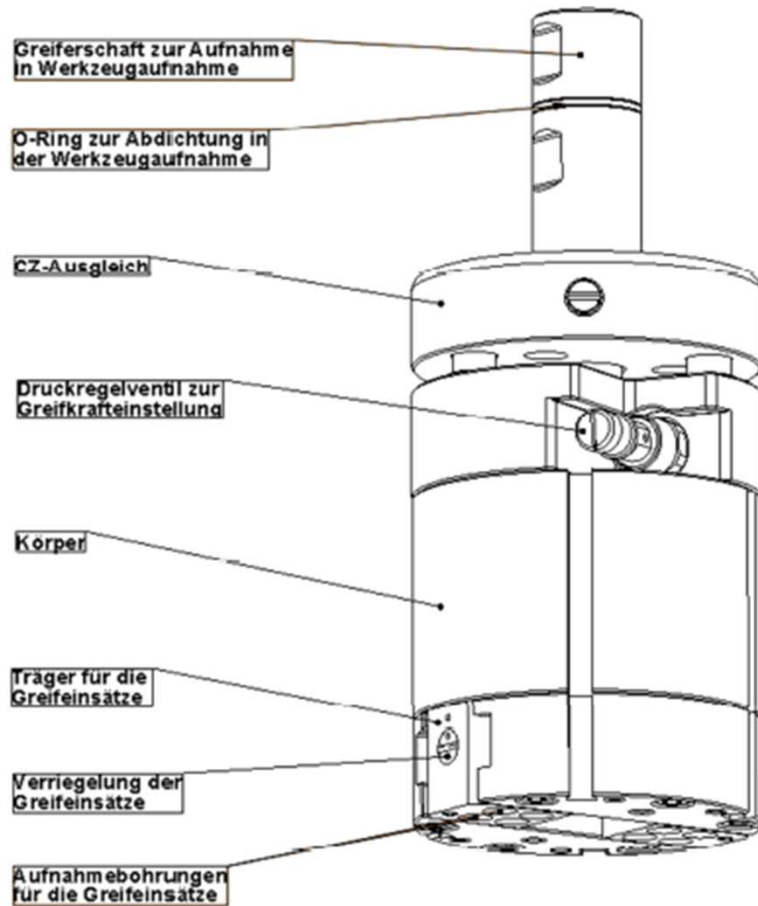
Gripper without compensation function



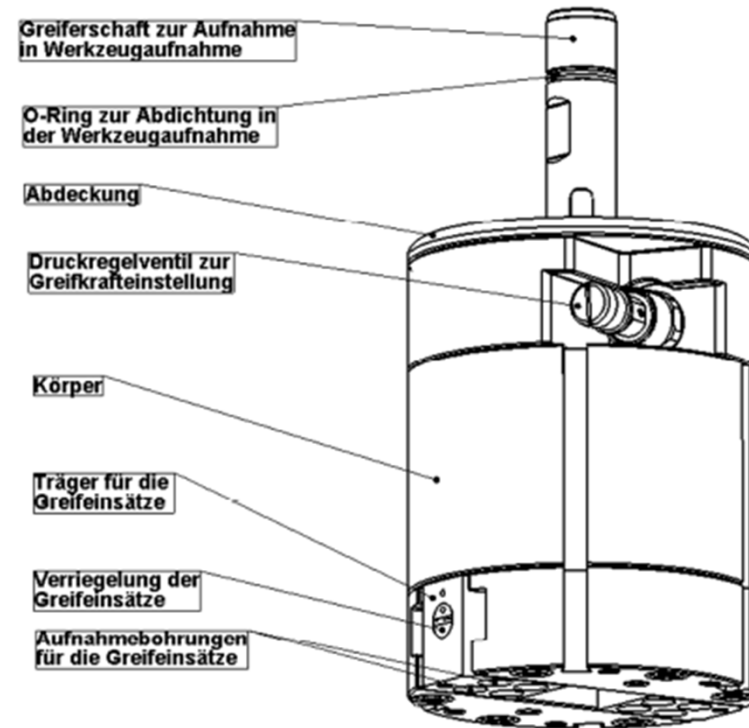


> AMF-Gripper pneumatic

Gripper with compensations function



Gripper without Compensation function



> AMF-Gripper pneumatic

Technical specifications for pneumatic design:

- > Weight: 2,2 kg / 1,75 kg
- > Max. workpiece-weight: 15 kg
- > Max. rotation speed: 20 rot/min
- > Compressed air supply: min. 3 – max. 10 bar
- > Gripping force, adjustable: min. 200 – max. 700 N
- > Optional:
 1. without CZ-compensation
 2. with CZ-compensation
- > Compensation: Z 5 mm / C +/- 3°
- > Gripping stroke: 23 mm

> AMF-Gripper pneumatic

Adjustment of gripping force with pneumatic version

- > The gripping force is adjustable via pneumatic pressure control valve
- > For the max. Gripping force keep the pressure control valve closed
- > Closed in the clockwise direction (delivery state)
- > Only set the gripping force when the machine is switched off





> AMF-Gripper hydraulic

Gripper with compensations function



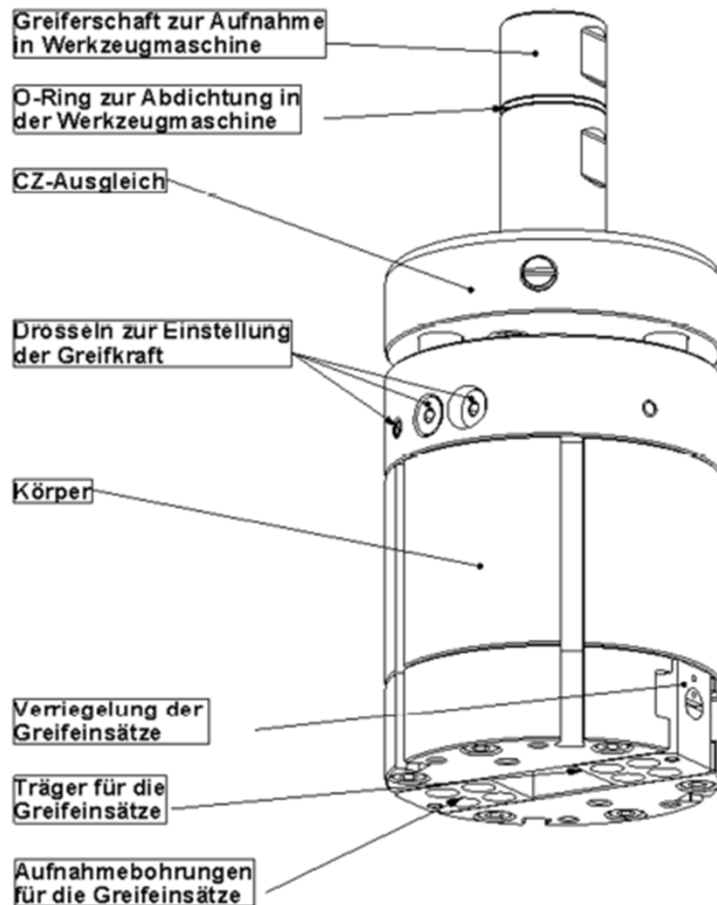
Gripper without compensation function



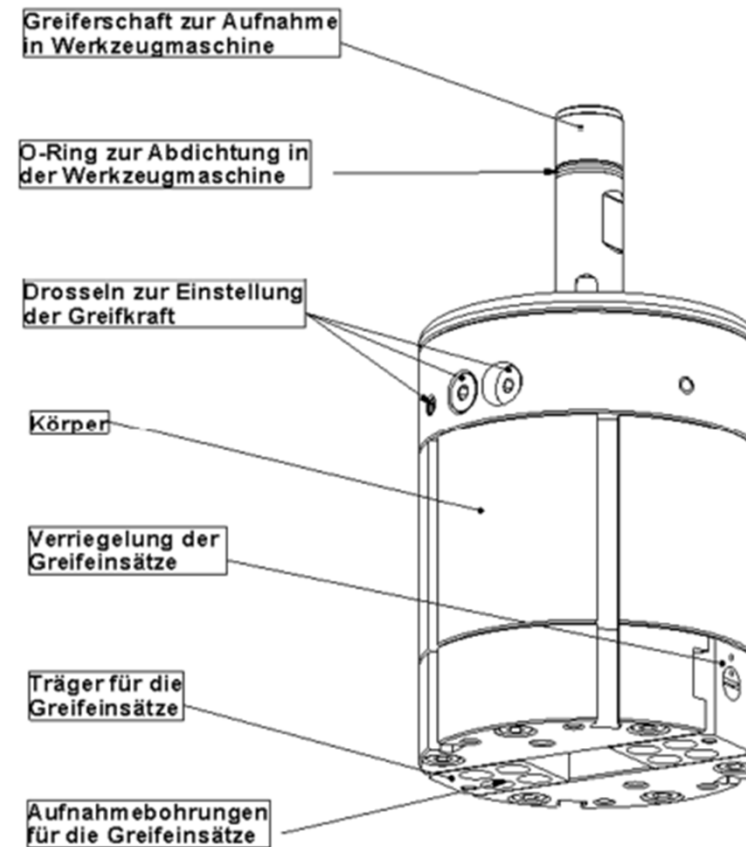


> AMF-Gripper hydraulic

Gripper with compensations function



Gripper without Compensation function



> AMF-Gripper hydraulic

Technical details for hydraulic (cooling lubricant) design

- > Weight: 2,2 kg / 1,75 kg
- > Max. workpiece-weight: 15 kg
- > Max. rotation speed: 20 rot/min
- > Max. pressure: 50 bar
- > Gripping force, adjustable: max. 1000 N
- > Optional:
 1. without CZ-compensation
 2. with CZ-compensation
- > Compensation: Z 5 mm / C +/- 3°
- > Gripping stroke: 23 mm



> AMF-Gripper hydraulic

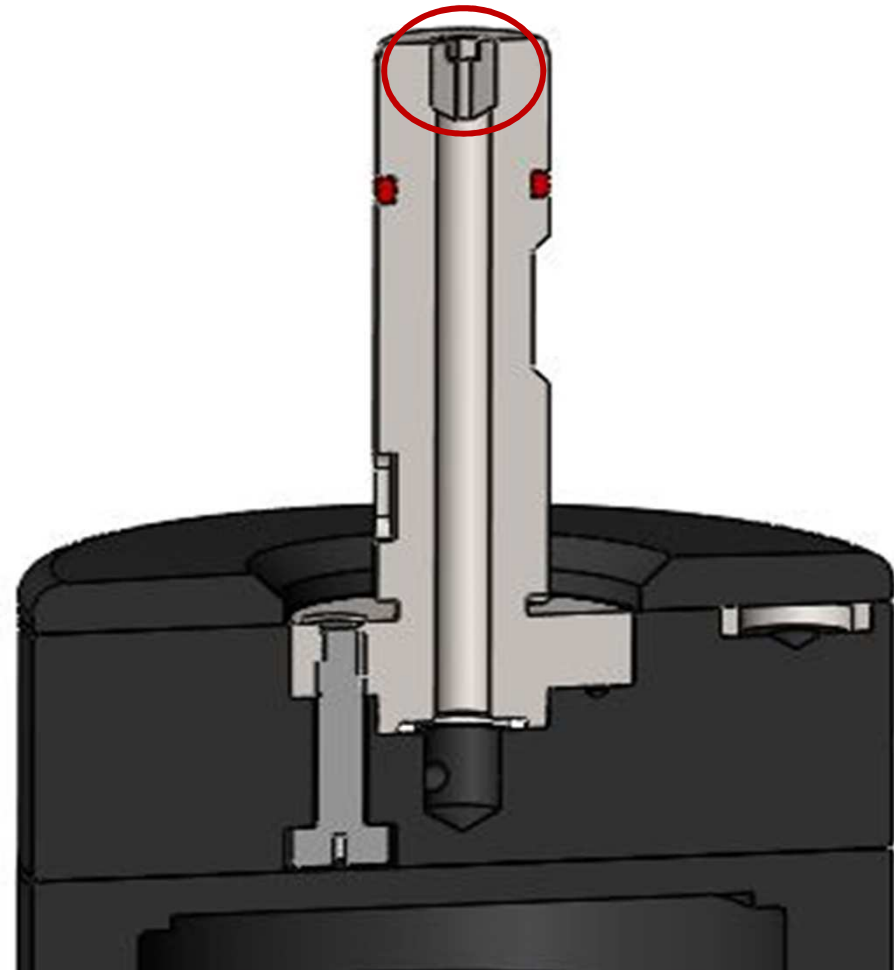
- > Hydraulic gripper available in various configurations
- > Each CNC machine has a different cooling water pressure and displacement volume (volume flow)
- > The gripper should be selected according to the characteristic of the machine

Bestellnummer	CZ- Ausgleich	p min [bar]	p max [bar]
558639	-	25	30
558641	✓	25	30
558638	-	35	40
558640	✓	35	40
557744	-	45	50
557745	✓	45	50

> AMF-Gripper hydraulic

Integrated throttle in the shaft should not be removed or changed

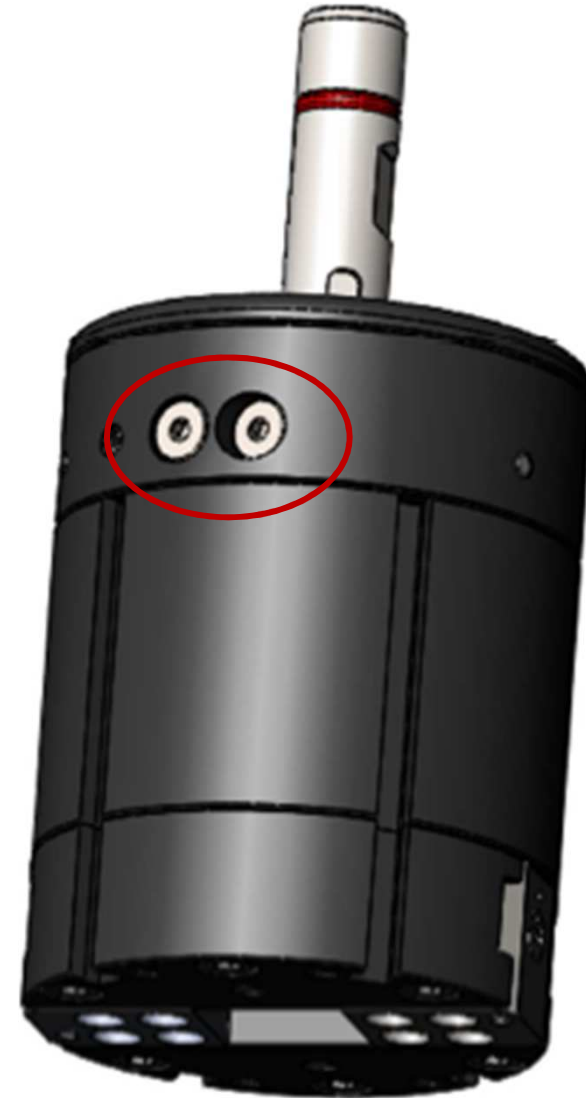
- > The throttle in the shaft ensures that the pressure in the piston area always stay constant 10 bar
- > The use of different throttle in the shank always guaranteed the same gripping-forces
- > Each CNC machine has a different cooling water pressure and – displacement volume (volume flow)
- > Depending on the machine pressure and volume flow which throttle can be fixed in the shaft



> AMF-Gripper hydraulic

Adjustment of gripping force with hydraulic version

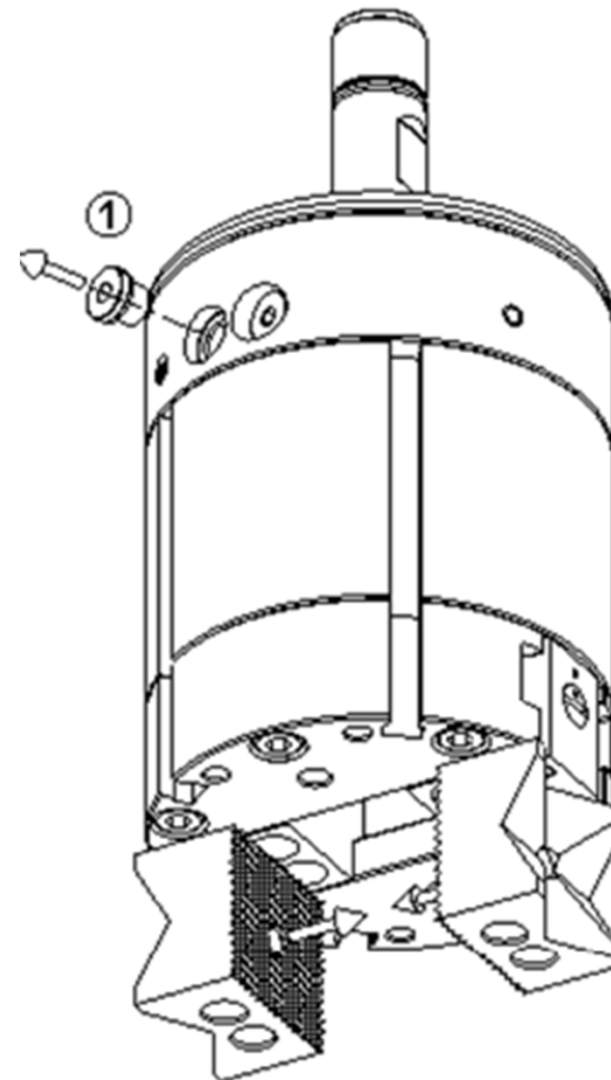
- > The gripping force can be adjusted via throttle
- > The more open throttles so much lower the gripping force
- > There are 3 throttle integrated
- > Only set the force when the machine is switched off for safety reasons (accident prevention)



> AMF-Gripper hydraulic

Adjustment of gripping force with hydraulic version

- > With two closed throttles can be applied the max. gripping force (1000 Nm)
- > With one closed throttle, can be the gripping force is halved (500 Nm)
- > With all open throttles, is the gripping force only 25% (250 Nm)

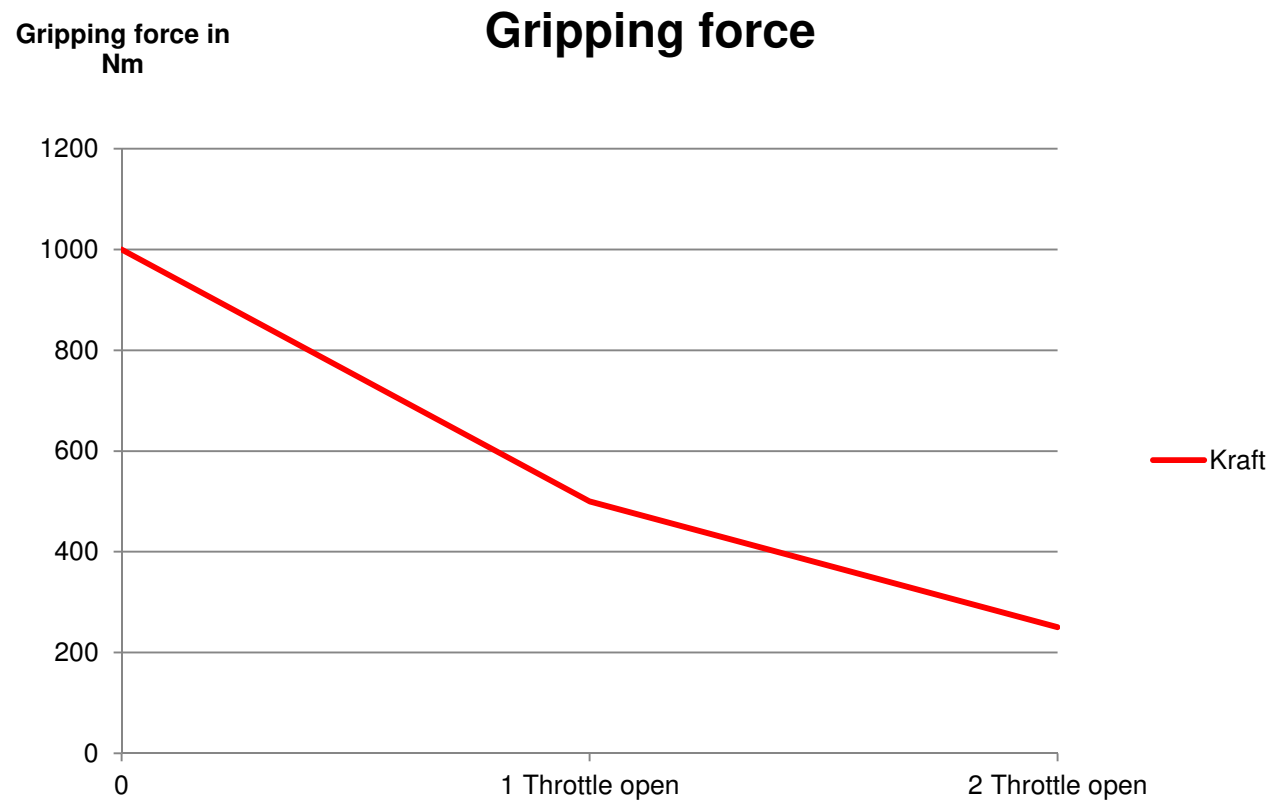


F_{sp}=50 %



> AMF-Gripper hydraulic

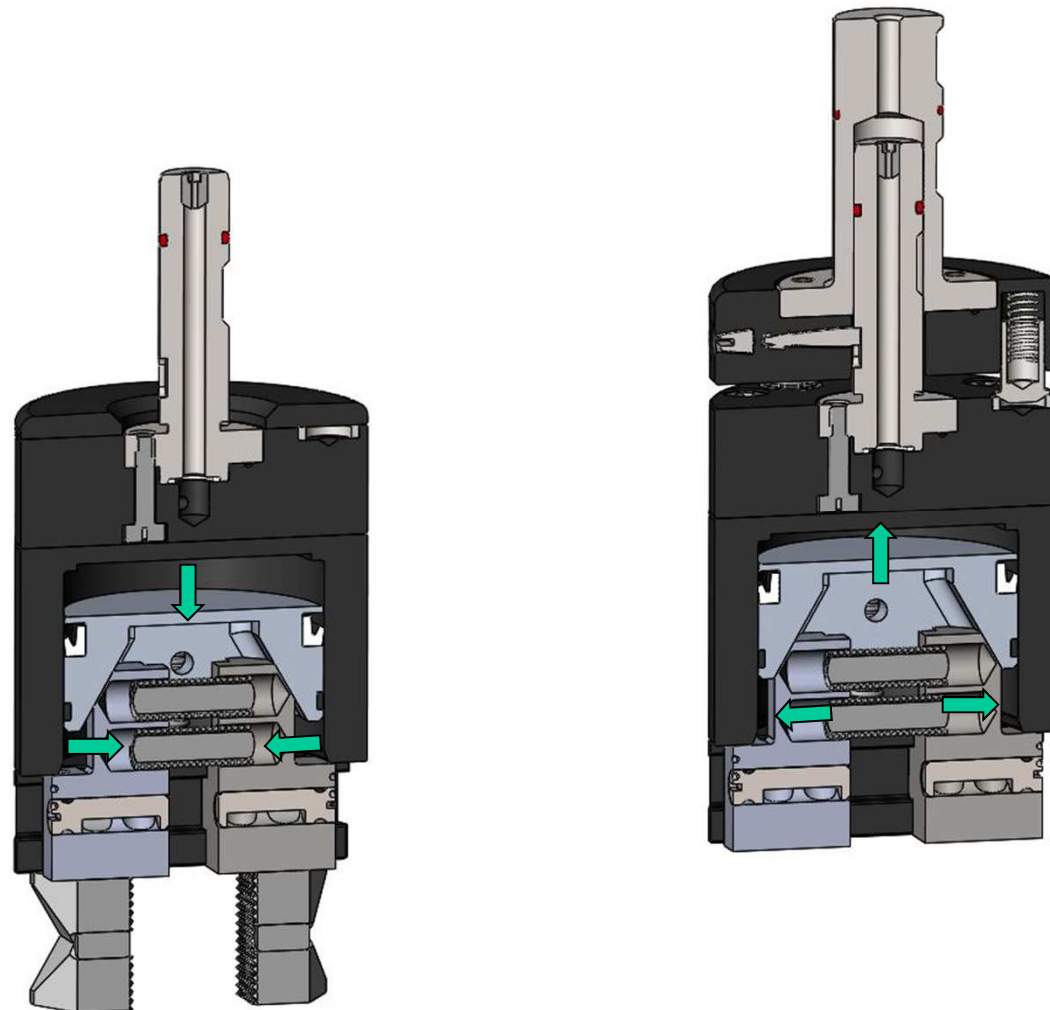
Gripping force diagram





> Greifer Technische Funktion

The AMF-Gripper works via a Wedge drive system



> Gripper inserts

Gripper inserts for gripper - prism

- > Hardened steel with wear-resistant surface
- > First side with horizontal and vertical prism, second side ribbed



Gripper inserts for gripper – universal

- > Hardened steel with wear-resistant surface.
- > First side with four contact surface with ribbed surface,
- > Side with four contact surfaces from soft plastic.



Gripper inserts for gripper – finger

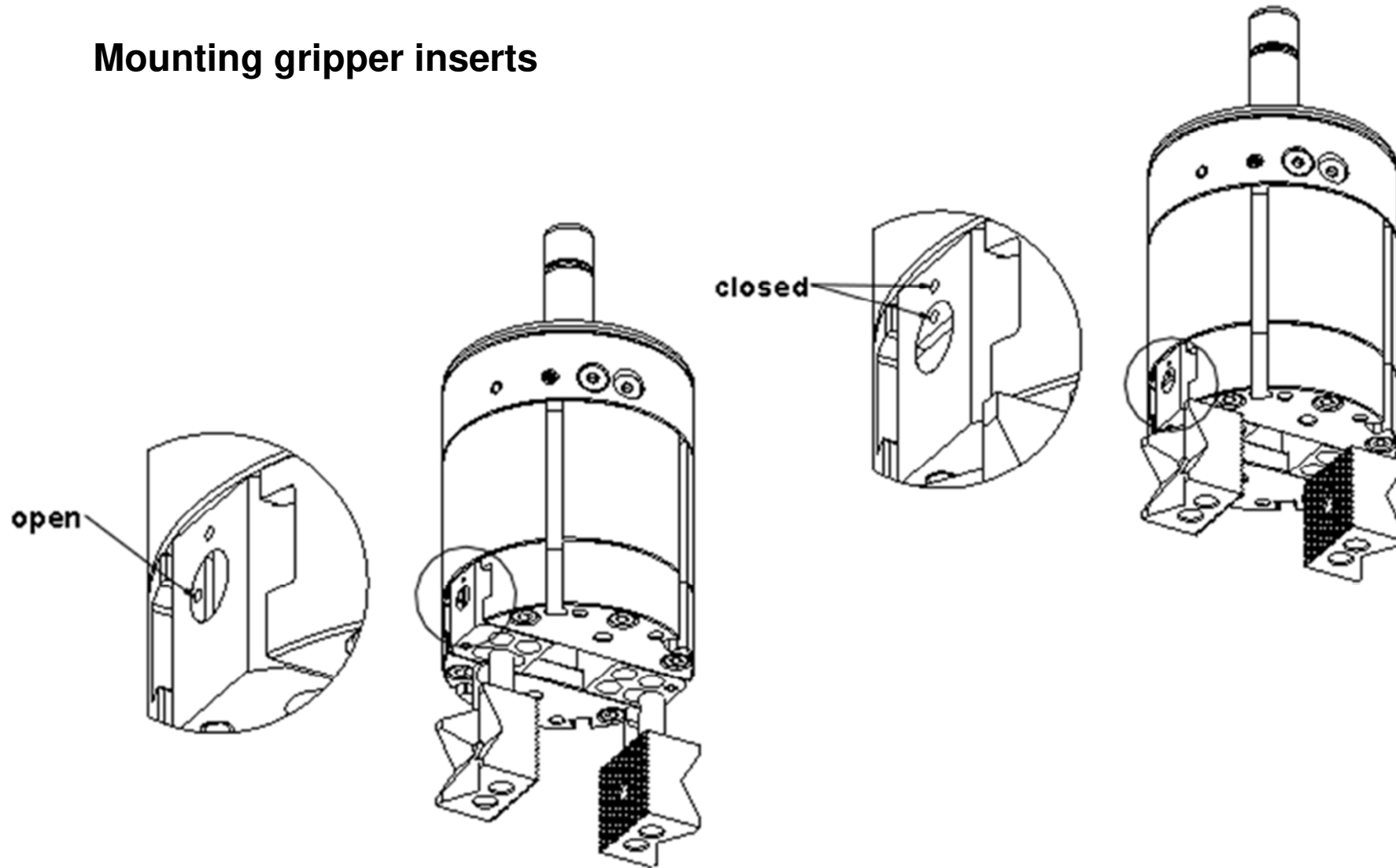
- > Hardened steel with wear-resistant surface.
- > Hardened pin with flat clamping surface on one side.





> Gripper inserts

Mounting gripper inserts



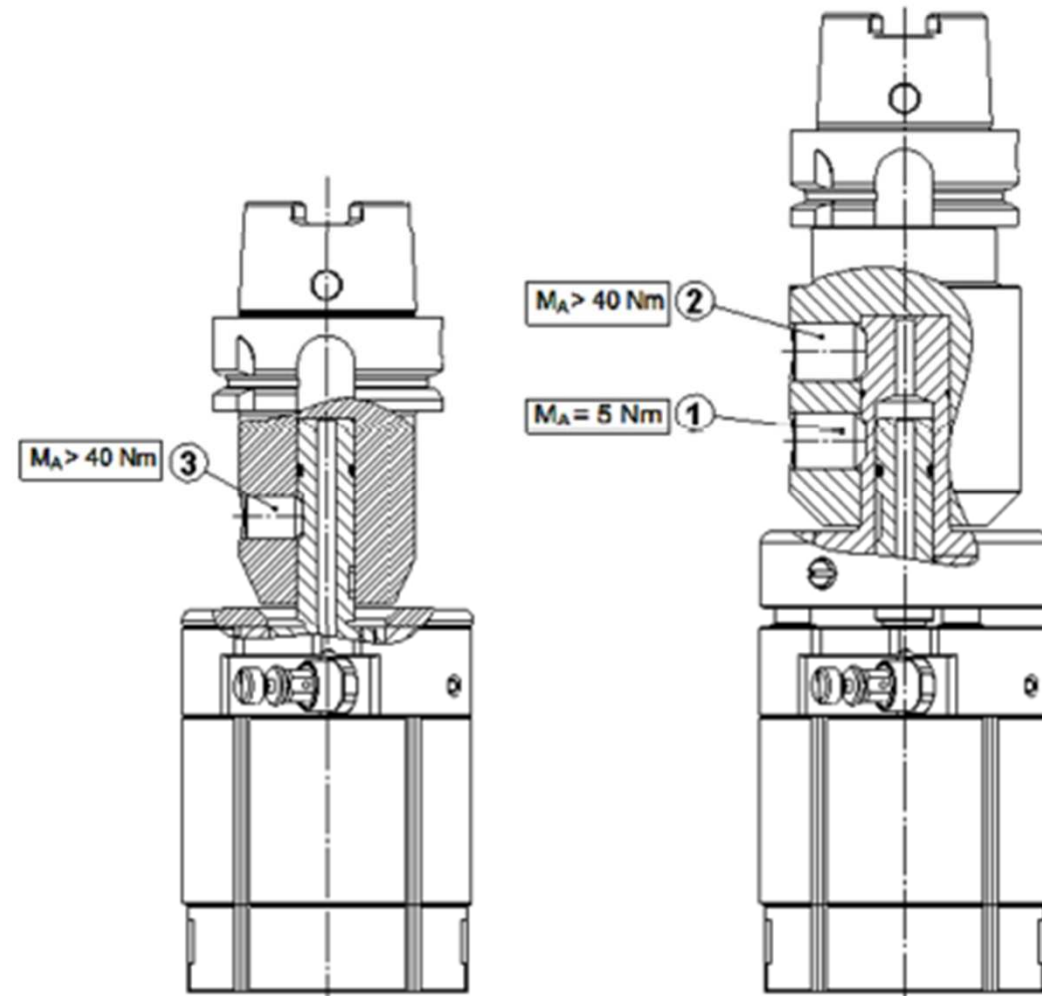


> Tool holders for AMF-Gripper

Tool holders with Weldon system

- > Weldon tool holder with 1 hole without compensation
- > Weldon tool holder with 2 holes without compensation

**Max. tightening torque
40 Nm**



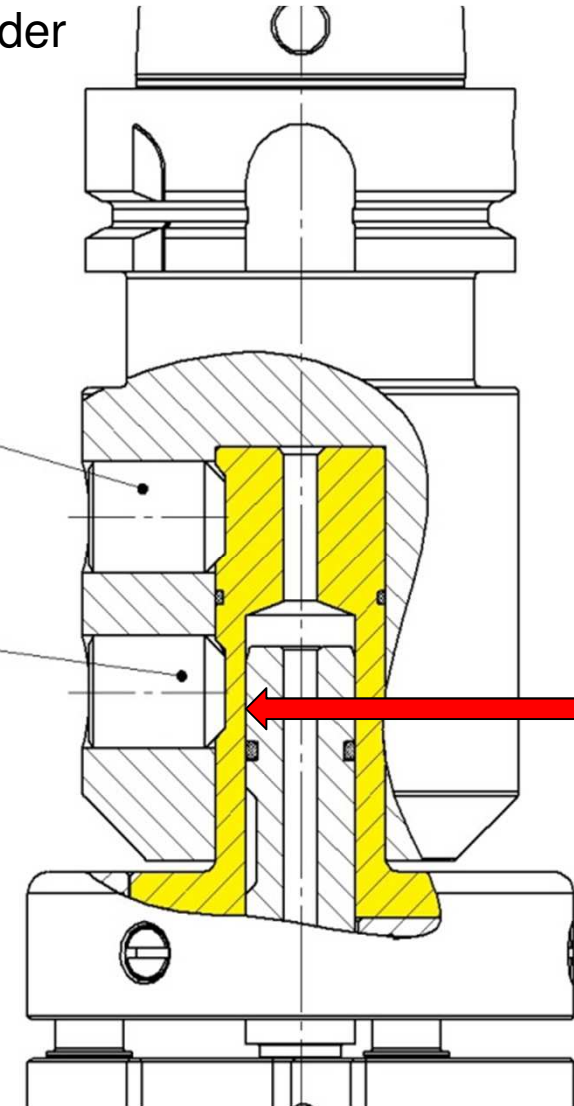
> Tool holders for AMF-Gripper

- > Gripper with compensation function with a Weldon holder and 2 holes, the lower screw should not be tightened more than 5 Nm

**Max. tightening
torque
5 Nm**

$M_A > 40 \text{ Nm}$ ②

$M_A = 5 \text{ Nm}$ ①



- > If tightened is more than 5 Nm, there is a risk that the compensation not work anymore

> AMF-Gripper and AMF Radio-Sensors

Automation possibility with the AMF-Radio-Sensors

Monitoring possibility:

- > Indirect monitoring: Gripper open
- > Indirect monitoring: Gripper closed
- > Direct monitoring: Workpiece available
- > Interface area with sensors: \varnothing 129 mm





> AMF-Gripper hydraulic

- > AMF-Greifer 50 bar ohne Ausgleichsfunktion: Best-Nr. **557744**
- > AMF-Greifer 50 bar mit Ausgleichsfunktion: Best-Nr. **557745**
- > AMF-Greifer 40 bar ohne Ausgleichsfunktion: Best-Nr. **558638**
- > AMF-Greifer 40 bar mit Ausgleichsfunktion: Best-Nr. **558640**
- > AMF-Greifer 30 bar ohne Ausgleichsfunktion: Best-Nr. **558639**
- > AMF-Greifer 30 bar mit Ausgleichsfunktion: Best-Nr. **558641**



■ > AMF-Gripper pneumatic

- > AMF-Greifer ohne Ausgleichsfunktion Best-Nr. **557743**
- > AMF-Greifer mit Ausgleichsfunktion Best-Nr. **557742**



■ > Herzlichen Dank

Danke für Ihre Aufmerksamkeit.

Tack. Merci beaucoup. Thank you. ¡muchas gracias!

Grazie. Dziękujemy. Спасибо. *Tak.* Bedankt.

**Für Fragen und Anregungen stehe ich
natürlich gerne zur Verfügung ...**