**Sizes**
1212 .. 2128

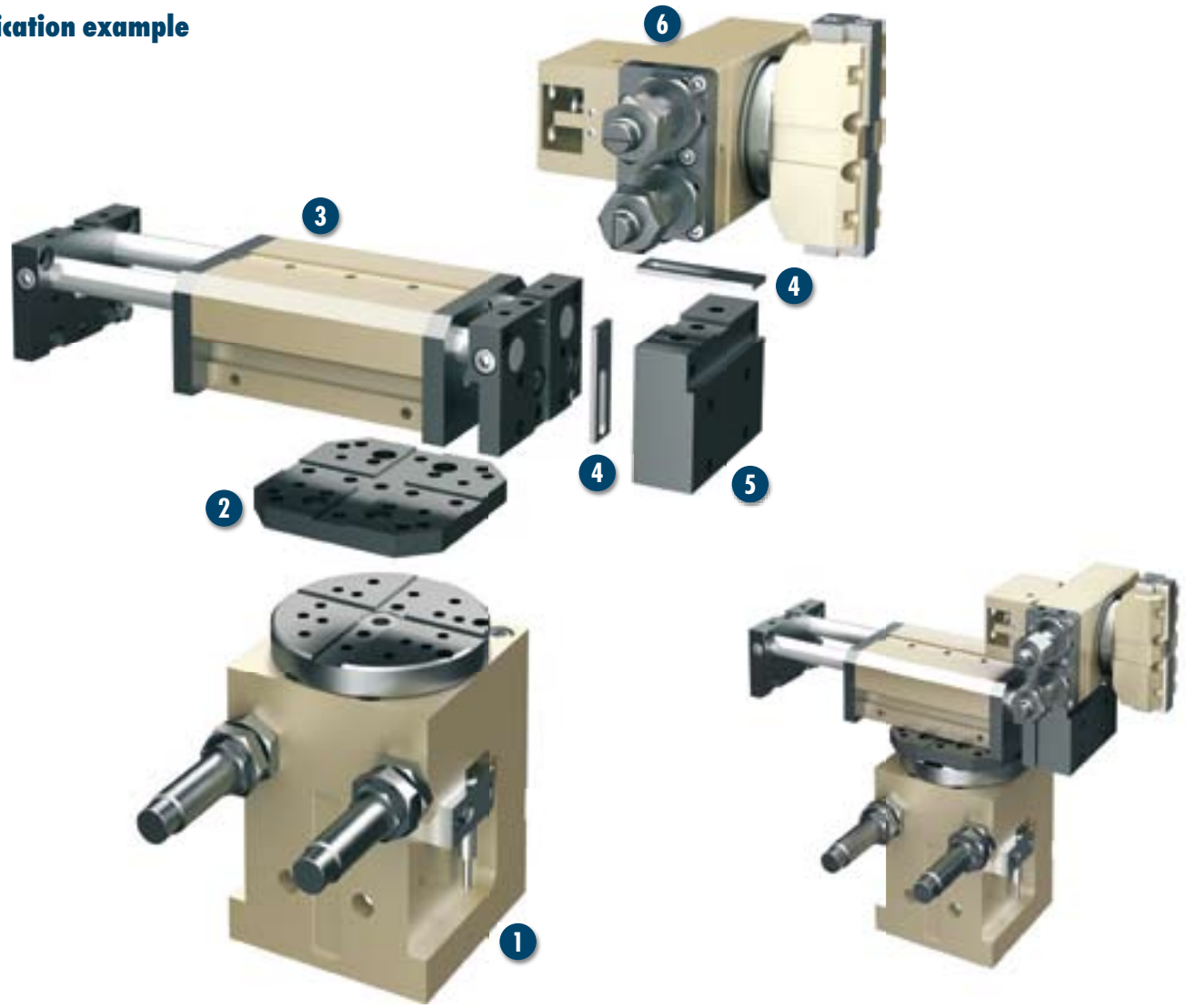
**Mass**
0.50 kg .. 2.02 kg

**Gripping force**
50 N .. 420 N

**Stroke per finger**
2.5 mm .. 8.0 mm

**Torque**
0.38 Nm .. 1.9 Nm

## Application example




**Pneumatic converting/turning-over unit for small components**

1. Rotary module, RM 200-W180-2
2. Adapter plate, APL 320
3. Linear module, KLM 050-H050
4. Centering strip, LMZL 50
5. Adapter plate, APL 103
6. Gripping rotary module, RP 1520

# Rotary module with parallel gripper

Rotary gripping combination, consisting of a rotary module and a 2-finger parallel gripper

## Area of application

Gripping and rotating combined in one module for small to medium workpieces in low-contamination environments.
Also for places where space is limited


## Advantages – your benefits

**Constant clamping force**
Over the entire range of stroke

**Gripping rotary modules without rotating power lines**
For maximum reliability

**Choice of I.D. or O.D. gripping**
For maximum flexibility in applications

**Integration of a gripping force retaining device is optional**
For firm grip even in the event of power failure

**Continuous angle of rotation adjustment**
Over the entire range of rotation

**Double piston design in the swivel unit**
For elimination of backlash at the end positions and high repeat accuracy

**Integrated shock absorbers with adjustable absorption characteristic**
For optimal dampening

**"Continuously adjustable intermediate position" option**
Can be done using an intermediate stop which can be integrated

**End-position monitoring**
Up to four monitoring sets possible

**Standardized mounting bores**
For numerous combinations with other GEMOTEC system elements

## General information about the series

**Working principle**
Combination of rack/pinion with piston actuation

**Housing material**
Aluminum alloy, hard-anodized

**Base jaw material**
Steel

**Actuation**
Pneumatic, via filtered compressed air (10 µm): dry, lubricated, or non-lubricated
Pressurizing medium: requirements for compressed air quality class according to DIN ISO 8573-1: Quality class 4

**Scope of delivery**
Completely ready for operation
without bracket for proximity switch and without proximity switch

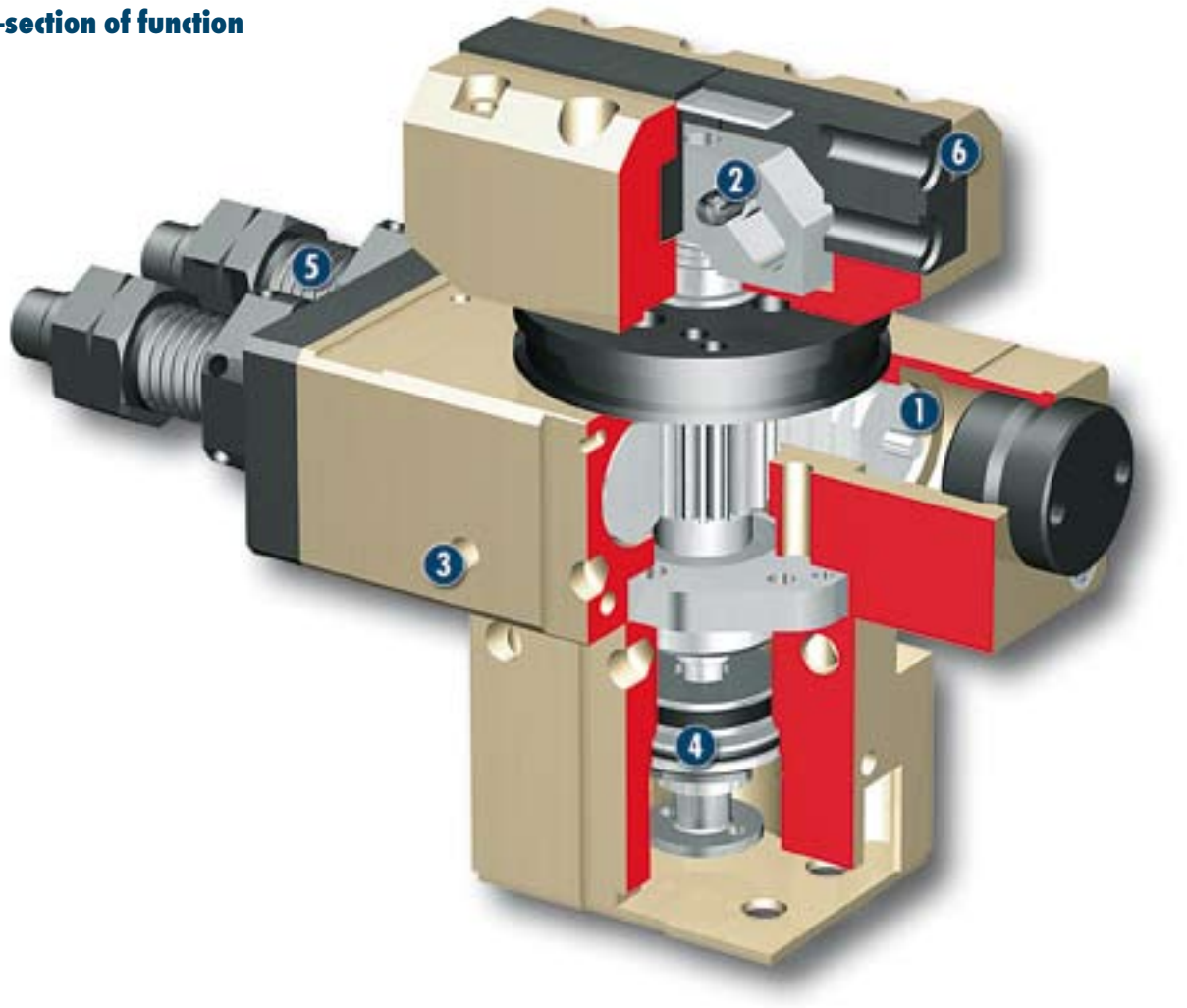
**Warranty**
24 months

**Gripping force retaining device**
Possible with variants with mechanical gripping force safety devices or pressure maintenance valves

**Modular design**
Gripping rotary modules are designed to be modular and consist of flat swivel units, RM 12 - 21, and GMP grippers

**For production reasons, the colors may vary from those shown in the catalog.**

## Cross-section of function




1 **Drive, turning**
Pneumatic, rack and pinion design

2 **Kinematics**
Inside, power transmission via line contact

3 **Modular design hole pattern**
Completely integrated in the module system

4 **Drive, gripping**
Double pressurized piston-actuated system

5 **Rotating angle adjustment**
For a flexible end position, with hydraulic shock absorber

6 **Base jaws**
For adaptation of the workpiece-specific gripper fingers

## Description of function

The rotary movement is done by the two pneumatic piston racks when pressure is applied to their end faces, causing them to move in a straight line in their bore holes and turn the pinion by way of the teeth machined on the side of the racks. For the gripping movement, the piston is moved up or down using compressed air. The wedge links the piston movement in a synchronized opening and closing together with the guidance of the base jaws.

## Options and special information

**Rotation adapter version**
The gripping head can be continuously adjusted and indexed in relation to the drive.

No power lines are rotated with the unit.

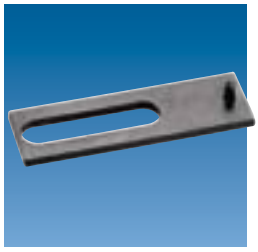
This module can be combined as standard with many elements from the modular system. You can find more information in the “Accessories” chapter.

## Accessories

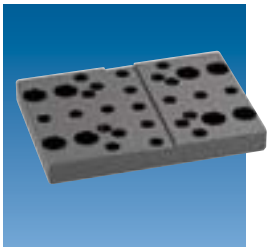
Accessories from SCHUNK – the ideal components for the best functionality, reliability, and controlled production for all automation modules.

**Fittings**

**Centering strips**



**Adapter plates**



**Inductive proximity switch, NI**


**Sensor cable**

**Pillar assembly systems**

**Pressure maintenance valve**

ⓘ Please see the side views at the end of the respective size for information concerning specific sizes, accessories availability for that size, designation, and ID numbers. You can find more information about our accessories program in the ìAccessoriesî part of the catalog.

## General information about the series

### Gripping force

This is the arithmetic sum of the gripping forces applied to each claw jaw, measured at a distance of 10 mm from the upper edge of the gripper.

### Pinion position

The position of the pinion is always shown in the left end position. The pinion rotates from here to the right in the clockwise direction. The arrow makes the direction of rotation clear.

### Screw connection diagram at the pinion

Please note that when the rotating angle is to be set for less than 90°, the left stop will generally be be completely turned in. The left end position therefore has a screw connection diagram which has been rotated by 90° in the clockwise direction in relation to the drawing, which is shown at a 180° angle of rotation.

### Finger length

The finger length is measured from the upper edge of the gripper housing in the direction of the main axis.

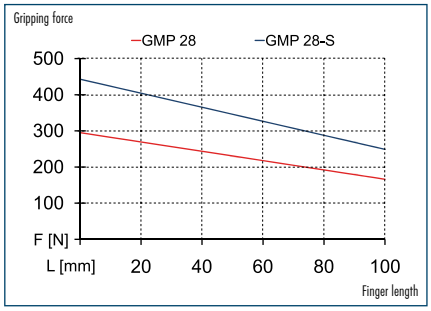
### Layout or sizing

For layout or sizing of rotary modules, we recommend using our TOOLBOX sizing software, which can be obtained at www.schunk.com. Sizing the selected unit is absolutely necessary, since otherwise overloading can result.

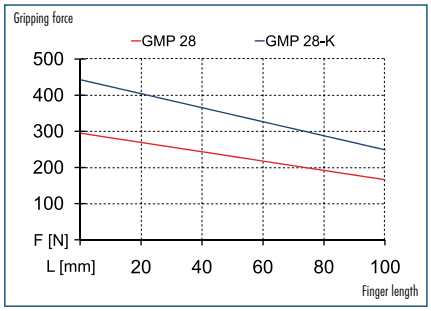
# RP 2128



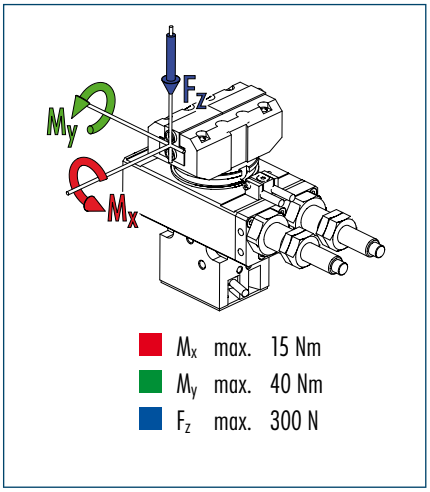
## Gripping force, I.D. gripping




## Gripping force, O.D. gripping




## Moment load




ⓘ Moments and forces apply per base jaw and may occur at the same time. $M_y$ may occur additionally to the moment produced by the gripping force itself. For heavy structures or superstructures with high mass moment of inertia, limiting is necessary to ensure that rotary movement takes place without striking or bouncing.

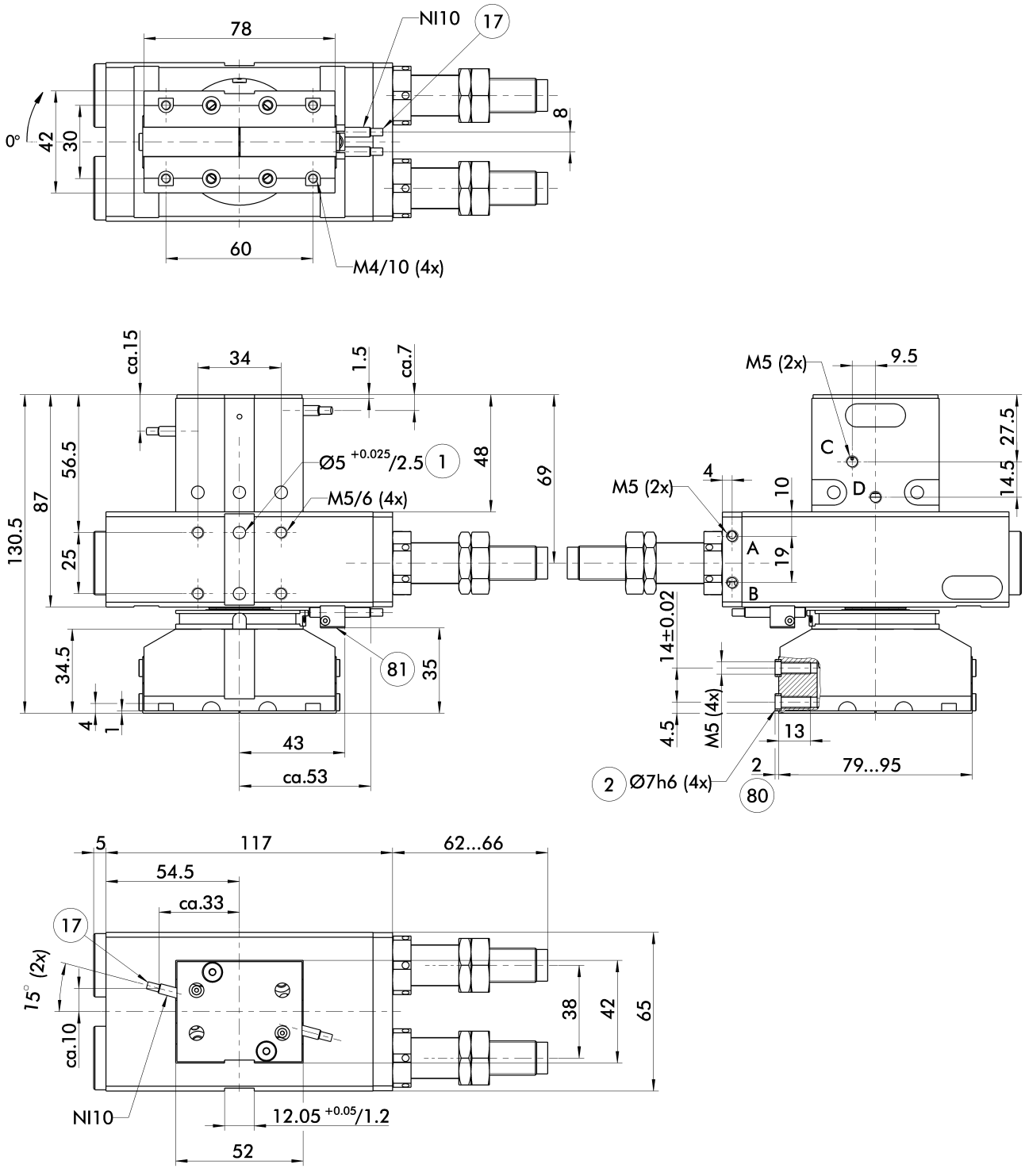
## Technical data

| Designation | | RP 2128 | RP 2128-K | RP 2128-S |
|---|---|---|---|---|
| | ID | 0313308 | 0313310 | 0313309 |
| Stroke per jaw | [mm] | 8 | 8 | 8 |
| Closing grip force | [N] | 280 | 420 | |
| Opening grip force | [N] | 280 | | 420 |
| Min. grip force applied by spring | [N] | | 140 | 140 |
| Torque | [Nm] | 1.9 | 1.9 | 1.9 |
| Angle of rotation | [°] | 190 | 190 | 190 |
| End position adjustability | [°] | Continuous | Continuous | Continuous |
| Recommended workpiece weight | [kg] | 1.4 | 1.4 | 1.4 |
| Fluid consumption for gripping per cycle | [cm³] | 9.05 | 9.05 | 9.05 |
| Fluid consumption for swiveling per cycle | [cm³] | 23.8 | 23.8 | 23.8 |
| Mass | [kg] | 1.78 | 1.94 | 1.94 |
| Nominal operating pressure | [bar] | 6 | 6 | 6 |
| Minimum pressure for gripping | [bar] | 3 | 5 | 5 |
| Maximum pressure for gripping | [bar] | 8 | 8 | 8 |
| Minimum pressure for swiveling | [bar] | 3 | 3 | 3 |
| Maximum pressure for swiveling | [bar] | 8 | 8 | 8 |
| Closing time for gripping | [s] | 0.05 | 0.04 | 0.06 |
| Opening time for gripping | [s] | 0.05 | 0.06 | 0.04 |
| Max. permissible finger length | [mm] | 100 | 100 | 100 |
| IP rating | | 40 | 40 | 40 |
| Min. ambient temperature | [°C] | 5 | 5 | 5 |
| Max. ambient temperature | [°C] | 60 | 60 | 60 |
| Repeat accuracy for gripping | [mm] | ± 0.02 | ± 0.02 | ± 0.02 |
| Repeat accuracy for swiveling | [°] | ± 0.044 | ± 0.044 | ± 0.044 |

**OPTIONS and their characteristics**

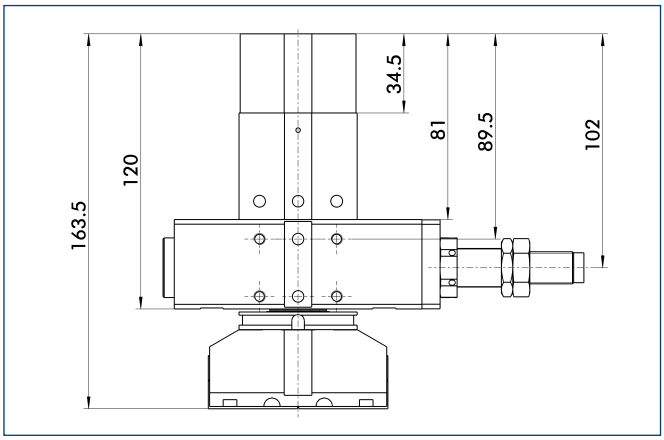
| Designation | | RP 2128-D | RP 2128-Z | RP 2128-X |
|---|---|---|---|---|
| | ID | 0313311 | 0313313 | 0313312 |
| Mass | [kg] | 1.84 | 2.02 | 2.02 |

## Main views



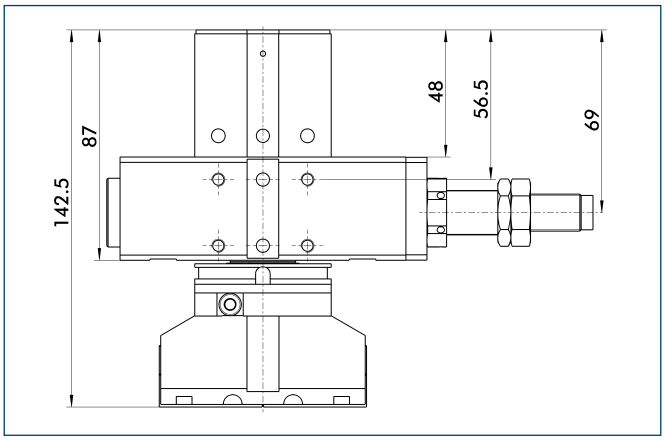

A,a Main and direct connections, swivel unit, rotating to the right
B,b Main and direct connections, swivel unit, rotating to the left
C,c Main and direct connections, gripper open
D,d Main and direct connections, gripper close
(1) Connections, gripping rotary module
(2) Finger connection
(17) Cable outlet
(80) Depth of the centering sleeve in the counter piece
(81) Not included in the scope of delivery

## Gripping force safety device, K/S



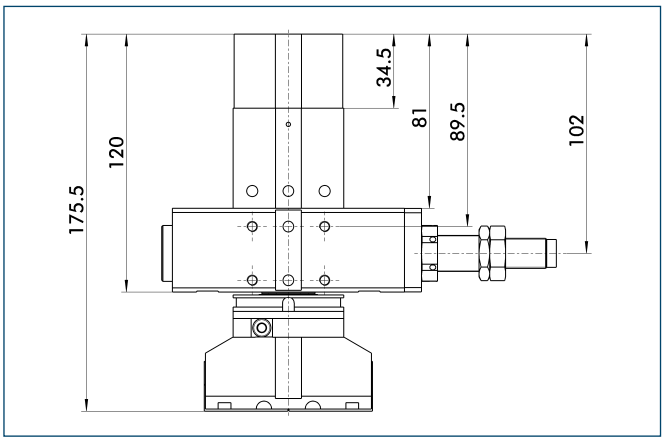

The mechanical gripping force safety device ensures that a minimum clamping force will be applied even if there is a drop in pressure. This acts as closing grip force for the K variant and as opening grip force for the S variant. The gripping force safety device can be installed without other components from the K variant into the S variant and vice versa. Besides this, the gripping force safety device can be used to increase gripping force or for single actuated gripping.

## Rotation adapter D




The two-part rotation adapter enables the gripping head to be continuously rotated in order to flexibly adjust the position of the gripper fingers on the workpiece. Only the clamping screw has to be released to do this. After the adjustment has been made, a hole can be drilled out to place a cylindrical pin or a fixing thread for clamping.

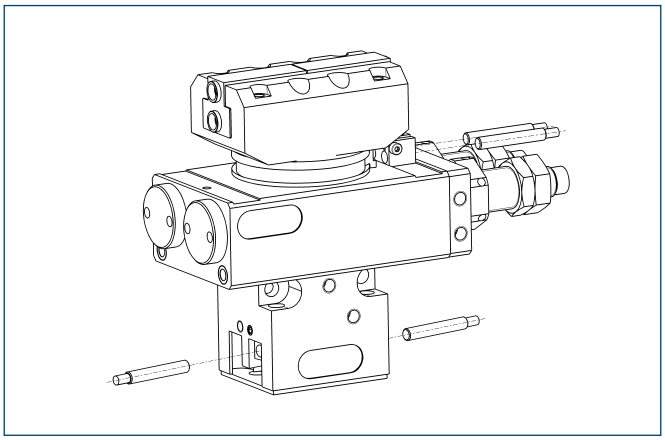
## Gripping force safety device + rotation adapter Z/X




This variant combines the functions of the gripping force safety device with that of the rotation adapter. The gripping force safety device acts as closing grip force for the Z variant and as opening grip force for the X variant.

You can find further information and components for the accessories mentioned here in the “Accessories” part of the catalog.

## Sensor systems



End-position monitoring:
Inductive proximity switch, can be directly mounted

Rotating motion

| Designation | ID | Scope of delivery | Recommended product |
|---|---|---|---|
| RMNS 12-X | **0313041** | 1 x bracket, 2 x sensors, 2 x operating targets | |
| RMNS 12-G | **0313042** | 1 x bracket, 2 x sensors, 2 x operating targets, 2 x straight cable extensions | • |
| RMNS 12-W | **0313043** | 1 x bracket, 2 x sensors, 2 x operating targets, 2 x angled cable extensions | |

Gripping movement

| Designation | ID | Scope of delivery | Recommended product |
|---|---|---|---|
| GMNS 28-X | **0313336** | Bracket, sensor | |
| GMNS 28-G | **0313337** | Bracket, sensor, straight cable extension | • |
| GMNS 28-W | **0313338** | Bracket, sensor, angled cable extension | |

ⓘ Two sensors are needed for each gripper

You can find further information and components for the accessories mentioned here in the “Accessories” part of the catalog.