



Superior Clamping and Gripping



## Product Information

Rotary gripping module with angular gripper RW

# Flexible. Modular. Compact.

## Gripper Swivel Module RW

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

### Field of application

Gripping and swiveling combined in a single compact module, for automated assembly in places with a restricted amount of available space.



### Advantages – Your benefits

**Gripping and turning without rotary power lines** for a maximized process reliability

**Double piston principle in the swivel unit** for scope-free end positions and high repeat accuracy

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

**Various shock absorber variants, optional** for optimum adaption to various fields of application

**Integration of a gripping force maintenance is optional** for firm grip even in the event of power failure

**Available as an option with rotation adapter for the gripping module** for infinitely variable twisting of the gripper head relative to the drive unit

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

**Choice of electronic magnetic sensors or inductive proximity sensors** for absolute variability of position monitoring

**Standardized mounting bores** for numerous combinations with other components from the modular system



Sizes  
Quantity: 5



Weight  
0.5 .. 1.92 kg



Gripping moment  
0.6 .. 6 Nm



Opening angle per  
finger  
3 .. 16°

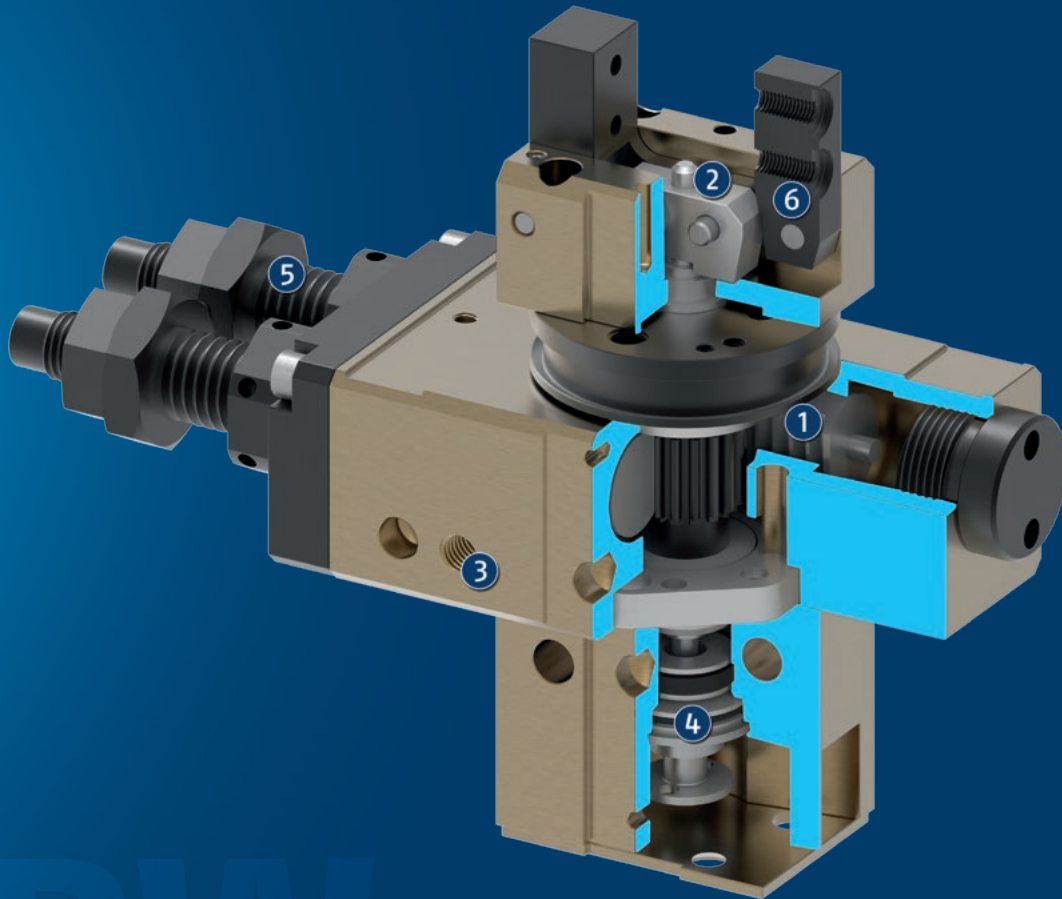


Torque  
0.38 .. 1.9 Nm

## Functional description

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. Together with the bolt bearings of the base jaws, the lever kinematics guides the piston movement into a synchronized, rotatory opening and closing movement.



- ① **Drive, turning**  
Pneumatic, rack and pinion principle
- ② **Kinematics**  
Synchronization by lever principle for centric gripping
- ③ **Mounting pattern**  
Completely integrated in the module system
- ④ **Drive, gripping**  
double-acting piston drive system
- ⑤ **Swivel angle adjustment**  
For a flexible end position, with hydraulic shock absorber
- ⑥ **Base Jaws**  
for the connection of workpiece-specific gripper fingers

CAD data, operating manuals and other current product documents can be found online.

## General notes about the series

**Operating principle:** Combination of rack and pinion with double piston drive

**Housing material:** Aluminum alloy, anodized

**Base jaw material:** Steel

**Guidance:** Round guide, ground and hardened

**Actuation:** pneumatic, with filtered compressed air as per ISO 8573-1:2010 [7:4:4].

**Warranty:** 24 months

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

**Gripping force maintenance:** possible by using the version with mechanical gripping force maintenance or SDV-P pressure maintenance valve

**Gripping moment:** gripping moment is the arithmetic total of gripping moments for each gripper jaw.

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

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

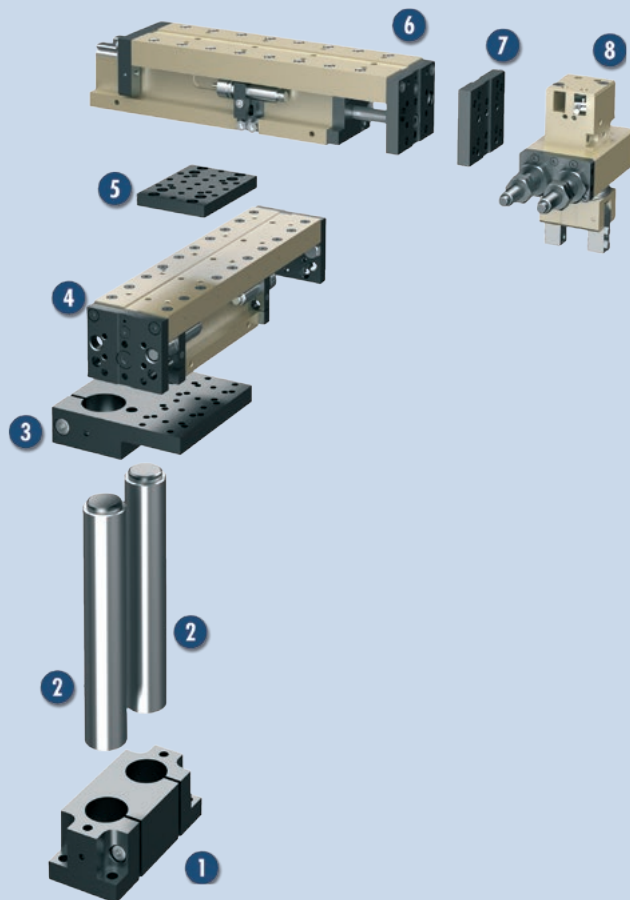
**Finger length:** is measured from the upper edge of the gripper housing in the direction of the main axis.

**Layout or control calculation:** For layout or sizing of the modules, we recommend using our software TOOLBOX, which can be downloaded online. Verifying the sizing of the selected unit is absolutely necessary, since otherwise overloading can result.

## Application example

Pneumatic conversion station with additional rotational axis for fast workpiece turning and pillar assembly

- ❶ Double socket, SOD
- ❷ Hollow pillar, SLH
- ❸ Double mounting plate, APDH
- ❹ LM linear module
- ❺ Adapter plate APL
- ❻ CLM linear module
- ❼ Adapter plate APL
- ❽ Rotary gripping module RW



## SCHUNK offers more ...

The following components make the product RW even more productive – the suitable addition for the highest functionality, flexibility, reliability, and controlled production.



Linear module



Gripper for small components



Rotary modules



Pick & Place Unit



Inductive Proximity Switches



Intermediate stop



Pressure maintenance valve



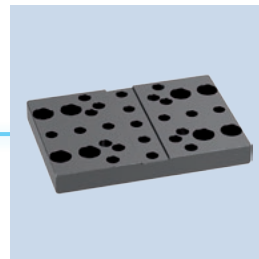
Pillar assembly systems



Magnetic switches



Sensor cables



Adapter plate

① For more information on these products can be found on the following product pages or at [schunk.com](http://schunk.com). Please contact us: SCHUNK technical hotline +49-7133-103-2696

## Options and special information

**Gripping force maintenance version K/S:** The mechanical gripping force maintenance version ensures a minimum gripping force also in the case of a pressure drop. This acts as closing force for the K version and as opening force for the S version.

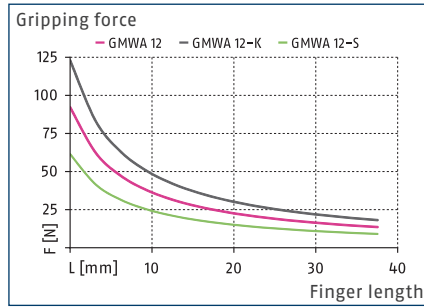
**Rotation adapter version:** The gripper head can be continuously adjusted and indexed in relation to the drive.

**Version with a combination of gripping force maintenance and rotation adapter Z/X:** This variant combines the functions of the gripping force maintenance with the one of the rotation adapter. The gripping force maintenance acts as a closing force for the Z variant and as an opening force for the X variant.

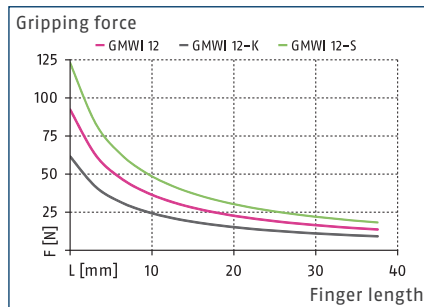
**Version with intermediate position RZ:** By mounting two pneumatically actuated cylinders, an intermediate position can be implemented, which can be flexibly adjusted over the entire swivel range.



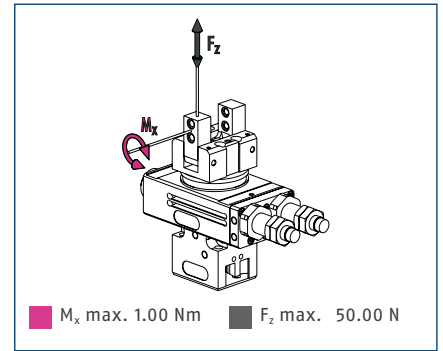
### Gripping force, O.D. gripping



### Gripping force, I.D. gripping



### Moment loading



① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself.

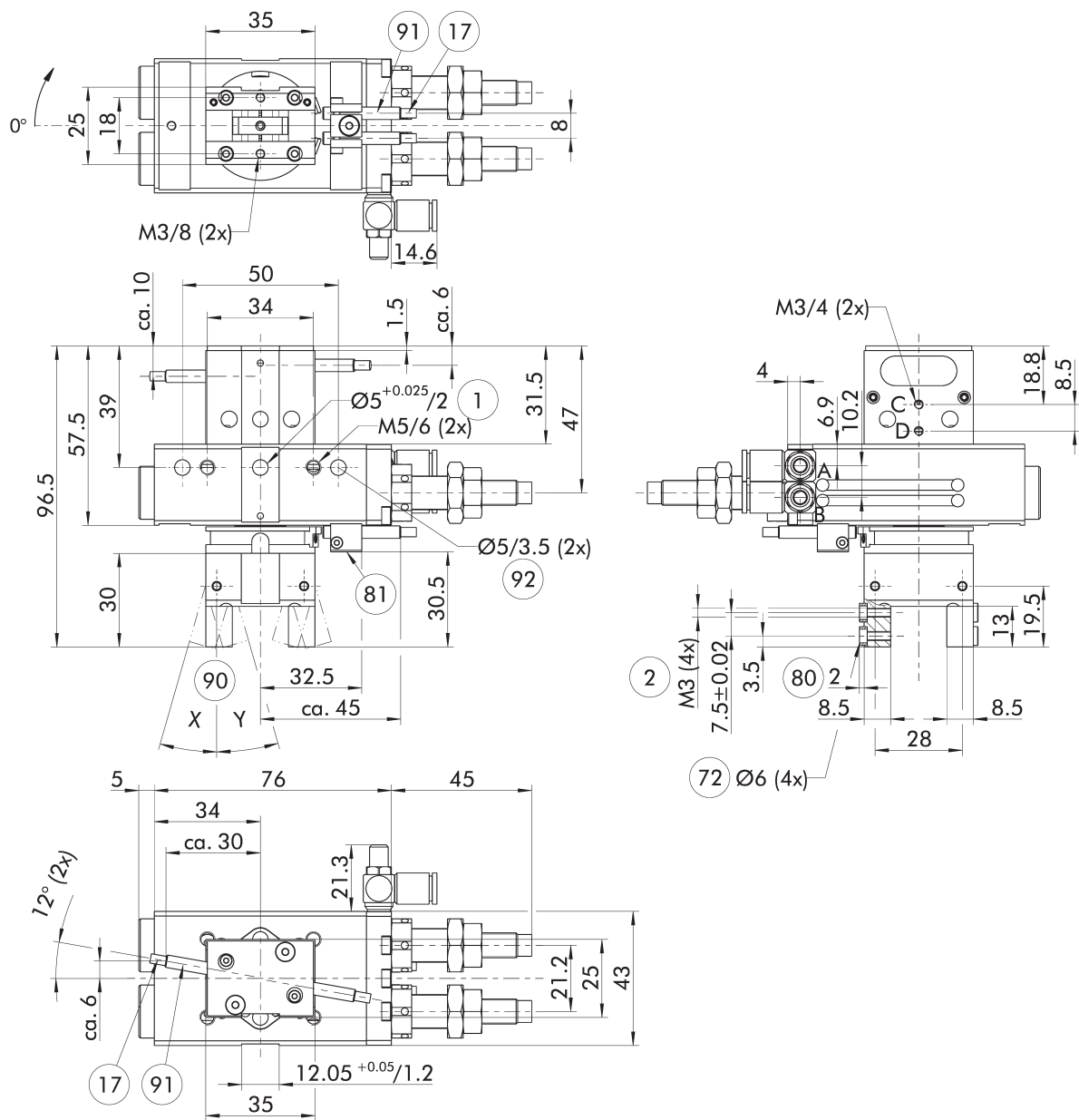
### Technical data

Description		RWA 1212-W	RWA 1212-H	RWA 1212-K-W	RWA 1212-K-H	RWA 1212-S-W	RWA 1212-S-H
ID		1347909	0313226	1347912	0313228	1347913	0313227
Closing angle per jaw		3	3	3	3	3	3
Opening angle per jaw	[°]	16	16	16	16	16	16
Closing moment	[Nm]	0.6	0.6	0.8	0.8		
Opening moment		0.6	0.6			0.8	0.8
Min. closing moment by spring	[Nm]			0.2	0.2		
Min. opening moment by spring						0.2	0.2
Torque	[Nm]	0.38	0.38	0.38	0.38	0.38	0.38
Angle of rotation	[°]	190	190	190	190	190	190
Air consumption for gripping	[cm³]	0.87	0.87	0.87	0.87	0.87	0.87
Air consumption for swiveling	[cm³]	4.8	4.8	4.8	4.8	4.8	4.8
Weight	[kg]	0.5	0.5	0.52	0.52	0.52	0.52
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	8	8	8	8	8	8
Min. operating pressure for gripping	[bar]	3	3	5	5	5	5
Min. operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.015/0.025	0.015/0.025	0.025/0.015	0.025/0.015
Max. permissible finger length	[mm]	25	25	25	25	25	25
Max. permissible mass per finger	[kg]	0.05	0.05	0.05	0.05	0.05	0.05
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.049	0.049	0.049	0.049	0.049	0.049
<b>Options and their characteristics</b>							
Rotation adapter version		RWA 1212-D-W	RWA 1212-D-H	RWA 1212-Z-W	RWA 1212-Z-H	RWA 1212-X-W	RWA 1212-X-H
ID		1347924	0313229	1347926	0313231	1347928	0313230
Weight	[kg]	0.52	0.52	0.54	0.54	0.54	0.54

Description		RWI 1212-W	RWI 1212-H	RWI 1212-S-W	RWI 1212-S-H
ID		1347916	0313232	1347920	0313233
Closing angle per jaw		16	16	16	16
Opening angle per jaw	[°]	3	3	3	3
Opening moment		0.6	0.6	0.8	0.8
Min. opening moment by spring				0.2	0.2
Torque	[Nm]	0.38	0.38	0.38	0.38
Angle of rotation	[°]	190	190	190	190
Air consumption for gripping	[cm³]	0.87	0.87	0.87	0.87
Air consumption for swiveling	[cm³]	4.8	4.8	4.8	4.8
Weight	[kg]	0.5	0.5	0.52	0.52
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	8	8	8	8
Min. operating pressure for gripping	[bar]	3	3	5	5
Min. operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.025/0.015	0.025/0.015
Max. permissible finger length	[mm]	25	25	25	25
Max. permissible mass per finger	[kg]	0.05	0.05	0.05	0.05
Protection class IP		40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.049	0.049	0.049	0.049
<b>Options and their characteristics</b>					
Rotation adapter version		RWI 1212-D-W	RWI 1212-D-H	RWI 1212-X-W	RWI 1212-X-H
ID		1347933	0313234	1347937	0313235
Weight	[kg]	0.52	0.52	0.54	0.54



### Main view

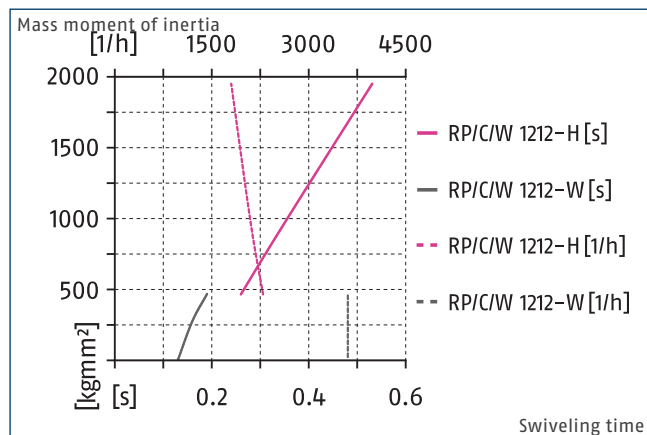


The drawing shows the gripper swivel unit in the basic version with closed jaws, without dimensional consideration of the options described below.

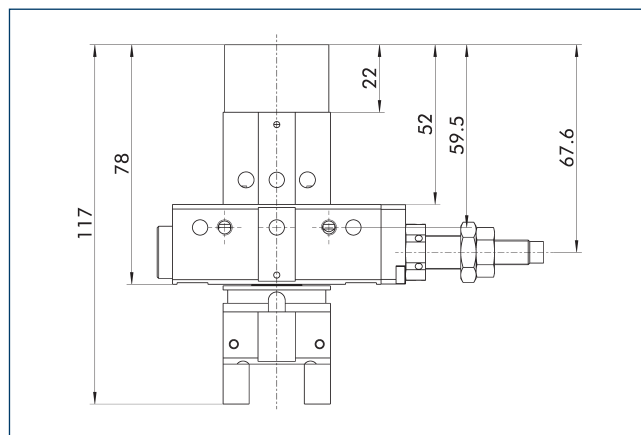
- A, a Main / direct connection, rotary actuator rotates clockwise
- B, b Main / direct connection, rotary actuator rotates counterclockwise
- C, c Main / direct connection, middle position
- D, d Main / direct connection, middle position
- ① Connection swivel unit
- ② Attachment connection

- ①⑦ Cable outlet
- ⑦② Fit for centering sleeves
- ⑧⑦② Depth of the centering sleeve hole in the counter part
- ⑧① Not included in the scope of delivery
- ⑨⑦② See technical data for closing angle "Y" and opening angle "X" per jaw
- ⑨① Inductive proximity switches
- ⑨② Fit for centering pins

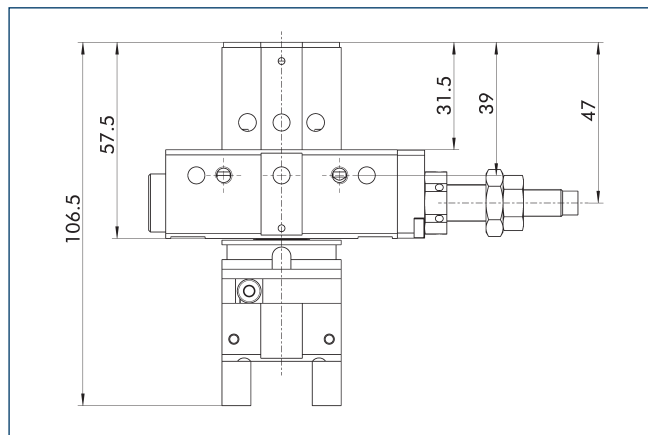


**Max. permissible inertia J\***

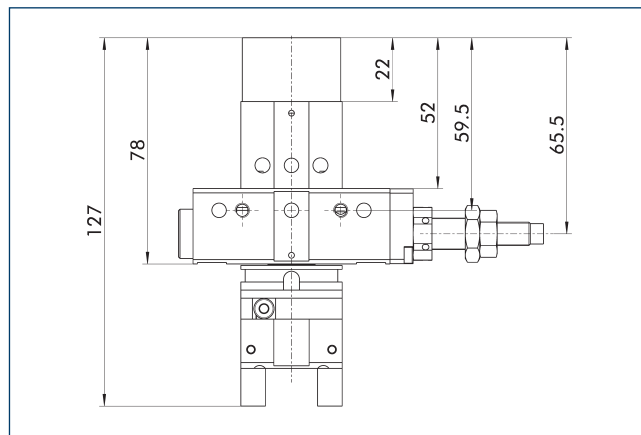
The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

**Gripping force maintenance K/S**

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

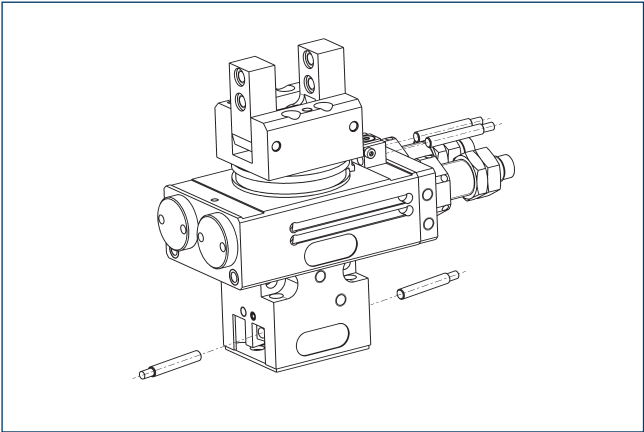
**Rotation adapter D**

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. The only thing to do is to release the clamping screw. 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 & rotation adapter Z/X**

This variant combines the functions of the gripping force maintenance with the one of the rotation adapter. The gripping force maintenance acts as a closing force for the Z variant and as an opening force for the X variant.

Inductive Proximity Switches

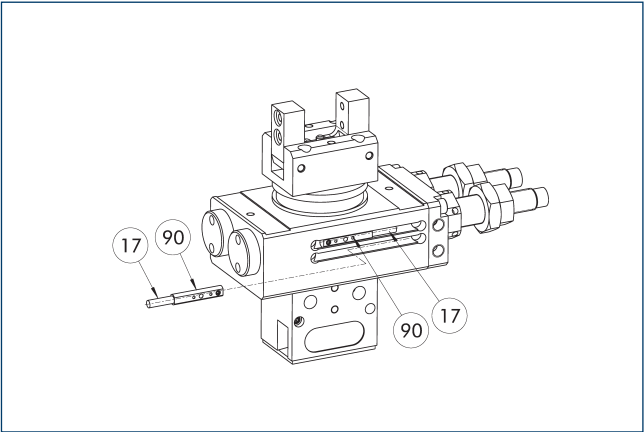


The end-position monitoring for swiveling movement (RMNS) and gripping movement (GMNS) can be directly mounted on the unit using inductive proximity switches.

Description	ID	Often combined
Inductive Proximity Switches		
GMNS 12-G	0313331	●
GMNS 12-W	0313332	
GMNS 12-X	0313330	
RMNS 12-G	0313042	●
RMNS 12-W	0313043	
RMNS 12-X	0313041	
clip for plug/socket		
CLI-M12	0301464	

- ① The RMNS set includes two sensors with 30 cm cable length to M8 connector, two switching cams, and a sensor bracket. The scope of delivery of the set GMNS includes a sensor and a sensor bracket. For complete monitoring, two sets GMNS are required. The versions -G/-W comprise a 5 m long connection cable with straight (-G) or angular (-W) plug connector to open cable end.

Electronic magnetic switch MMS



17 Cable outlet

90 Sensor MMS 22..

The end position monitoring of the swivel motion can be directly mounted on the unit in two C-slots using magnetic switches.

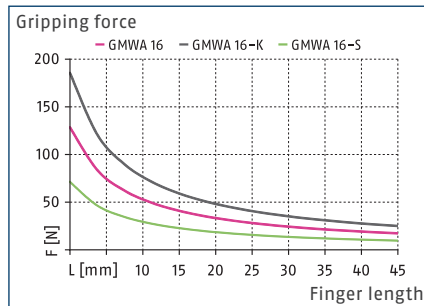
Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

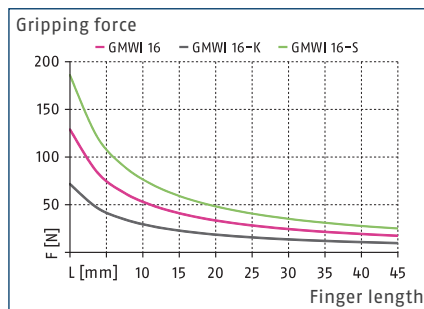




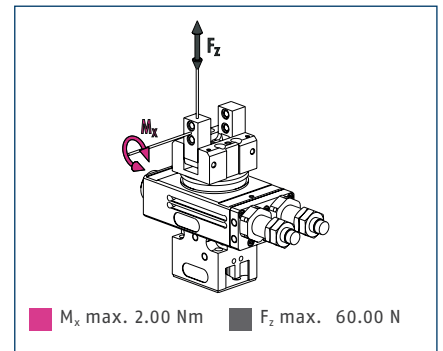
### Gripping force, O.D. gripping



### Gripping force, I.D. gripping



### Moment loading



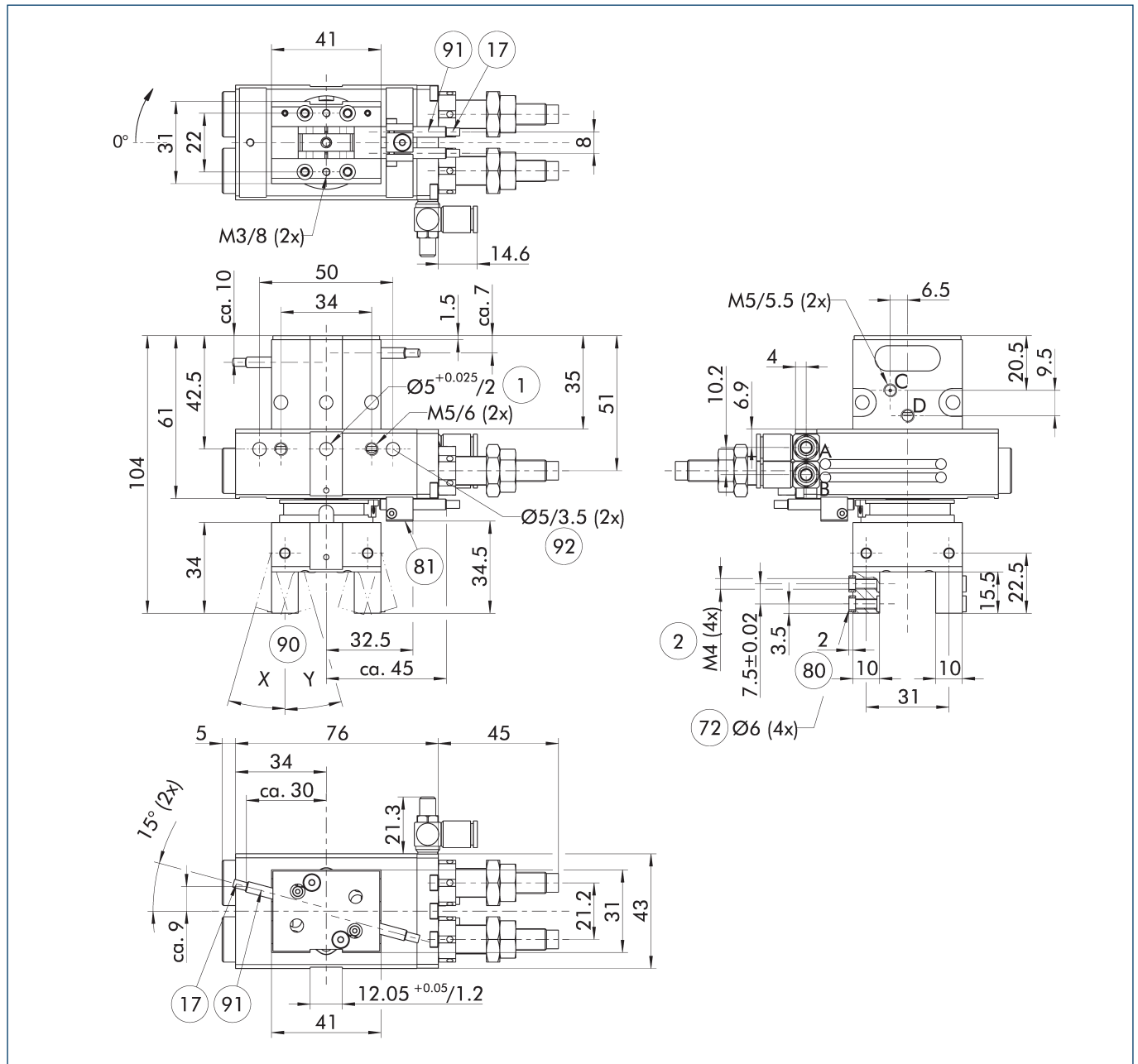
① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself.

### Technical data

Description		RWA 1216-W	RWA 1216-H	RWA 1216-K-W	RWA 1216-K-H	RWA 1216-S-W	RWA 1216-S-H
ID		1347949	0313248	1347945	0313250	1347947	0313249
Closing angle per jaw		3	3	3	3	3	3
Opening angle per jaw	[°]	14	14	14	14	14	14
Closing moment	[Nm]	0.9	0.9	1.3	1.3		
Opening moment		0.9	0.9			1.3	1.3
Min. closing moment by spring	[Nm]			0.4	0.4		
Min. opening moment by spring						0.4	0.4
Torque	[Nm]	0.38	0.38	0.38	0.38	0.38	0.38
Angle of rotation	[°]	190	190	190	190	190	190
Air consumption for gripping	[cm³]	1.1	1.1	1.1	1.1	1.1	1.1
Air consumption for swiveling	[cm³]	4.8	4.8	4.8	4.8	4.8	4.8
Weight	[kg]	0.56	0.56	0.62	0.62	0.62	0.62
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	8	8	8	8	8	8
Min. operating pressure for gripping	[bar]	3	3	5	5	5	5
Min. operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.015/0.025	0.015/0.025	0.025/0.015	0.025/0.015
Max. permissible finger length	[mm]	30	30	30	30	30	30
Max. permissible mass per finger	[kg]	0.075	0.075	0.075	0.075	0.075	0.075
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.049	0.049	0.049	0.049	0.049	0.049
<b>Options and their characteristics</b>							
Rotation adapter version		RWA 1216-D-W	RWA 1216-D-H	RWA 1216-Z-W	RWA 1216-Z-H	RWA 1216-X-W	RWA 1216-X-H
ID		1347956	0313251	1347961	0313253	1347964	0313252
Weight	[kg]	0.6	0.6	0.64	0.64	0.64	0.64

Description		RWI 1216-W	RWI 1216-H	RWI 1216-S-W	RWI 1216-S-H
ID		1347949	0313254	1347951	0313255
Closing angle per jaw		14	14	14	14
Opening angle per jaw	[°]	3	3	3	3
Opening moment		0.9	0.9	1.3	1.3
Min. opening moment by spring				0.4	0.4
Torque	[Nm]	0.38	0.38	0.38	0.38
Angle of rotation	[°]	190	190	190	190
Air consumption for gripping	[cm³]	1.1	1.1	1.1	1.1
Air consumption for swiveling	[cm³]	4.8	4.8	4.8	4.8
Weight	[kg]	0.56	0.56	0.62	0.62
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	8	8	8	8
Min. operating pressure for gripping	[bar]	3	3	5	5
Min. operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.02/0.02	0.02/0.02	0.025/0.015	0.025/0.015
Max. permissible finger length	[mm]	30	30	30	30
Max. permissible mass per finger	[kg]	0.075	0.075	0.075	0.075
Protection class IP		40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.049	0.049	0.049	0.049
<b>Options and their characteristics</b>					
Rotation adapter version		RWI 1216-D-W	RWI 1216-D-H	RWI 1216-X-W	RWI 1216-X-H
ID		1347966	0313256	1347967	0313257
Weight	[kg]	0.6	0.6	0.64	0.64

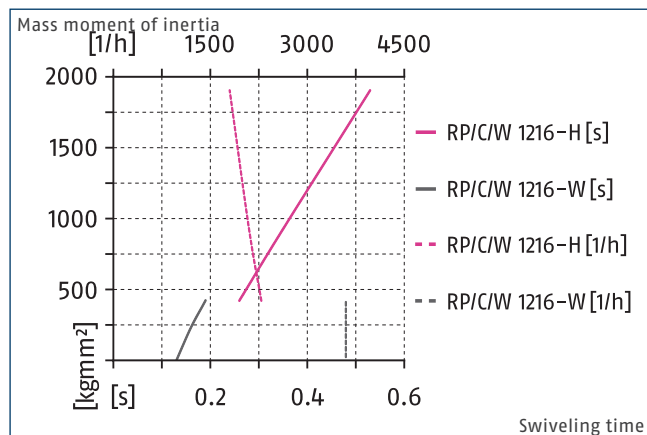
### Main view



The drawing shows the gripper swivel unit in the basic version with closed jaws, without dimensional consideration of the options described below.

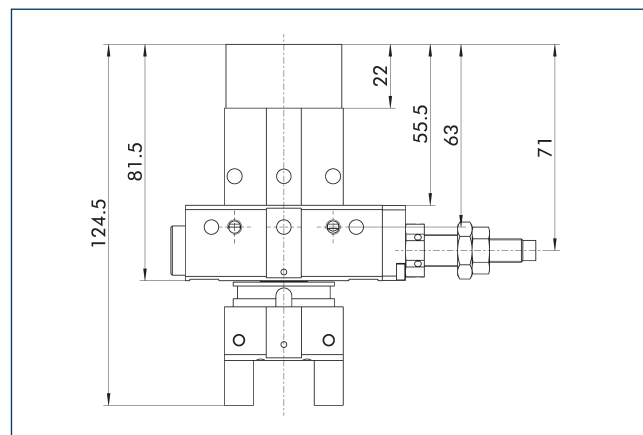
- |   |   |
|---|---|
| A, a Main / direct connection,<br>rotary actuator rotates<br>clockwise        | 17 Cable outlet   |
| B, b Main / direct connection,<br>rotary actuator rotates<br>counterclockwise | 72 Fit for centering sleeves  |
| C, c Main / direct connection,<br>middle position                             | 80 Depth of the centering sleeve<br>hole in the counter part                    |
| D, d Main / direct connection,<br>middle position                             | 81 Not included in the scope of<br>delivery                                     |
| 1 Connection swivel unit  | 90 See technical data for closing<br>angle "Y" and opening angle<br>"X" per jaw |
| 2 Attachment connection   | 91 Inductive proximity switches   |
|   | 92 Fit for centering pins   |

### Max. permissible inertia J\*



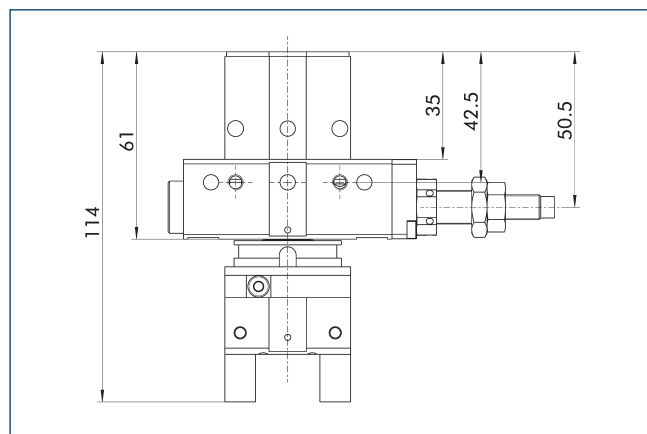
The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

### Gripping force maintenance K/S



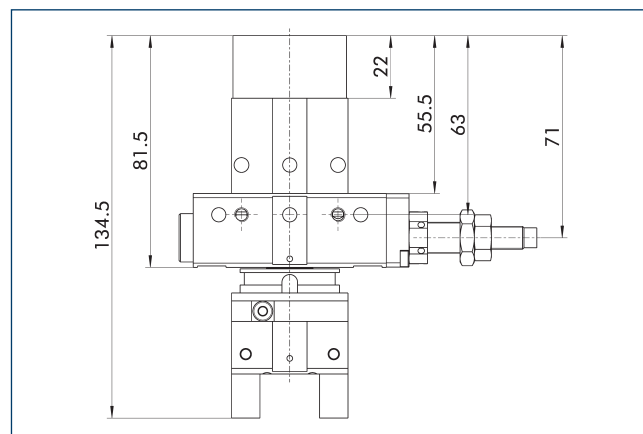
The mechanical gripping force maintenance ensures that a minimum gripping force will be applied even if there is a drop in pressure. This acts as closing force for the K variant and as opening force for the S variant. The gripping force safety can be installed without other components from the K variant into the S variant and vice versa. Besides this, the gripping force maintenance 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. The only thing to do is to release the clamping screw. After the adjustment has been made, a hole can be drilled out to place a cylindrical pin or a fixing thread for clamping.

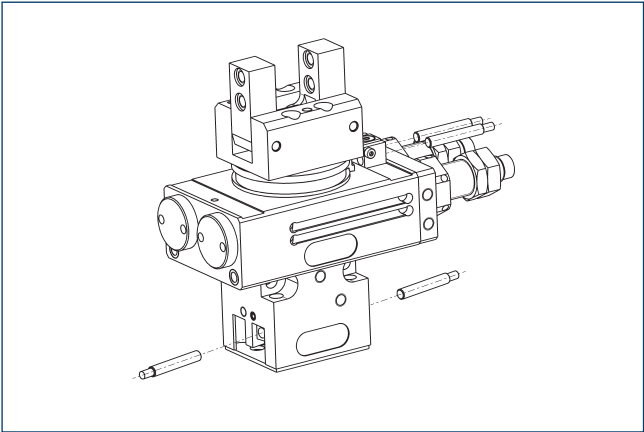
### Gripping force safety & rotation adapter Z/X



This variant combines the functions of the gripping force maintenance with the one of the rotation adapter. The gripping force maintenance acts as a closing force for the Z variant and as an opening force for the X variant.



Inductive Proximity Switches

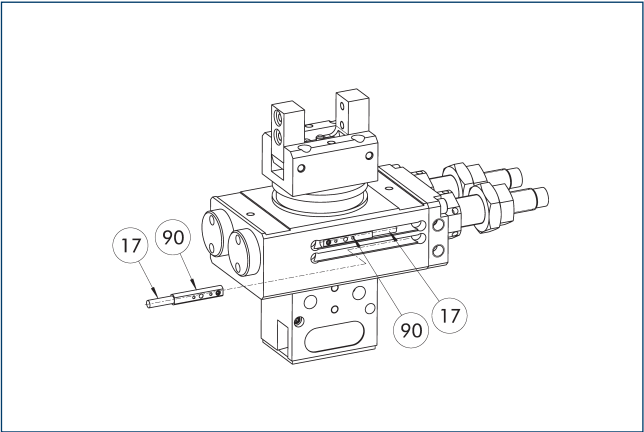


The end-position monitoring for swiveling movement (RMNS) and gripping movement (GMNS) can be directly mounted on the unit using inductive proximity switches.

Description	ID	Often combined
Inductive Proximity Switches		
GMNS 16-G	0313334	●
GMNS 16-W	0313335	
GMNS 16-X	0313333	
RMNS 12-G	0313042	●
RMNS 12-W	0313043	
RMNS 12-X	0313041	
clip for plug/socket		
CLI-M12	0301464	

- ① The RMNS set includes two sensors with 30 cm cable length to M8 connector, two switching cams, and a sensor bracket. The scope of delivery of the set GMNS includes a sensor and a sensor bracket. For complete monitoring, two sets GMNS are required. The versions -G/-W comprise a 5 m long connection cable with straight (-G) or angular (-W) plug connector to open cable end.

Electronic magnetic switch MMS



17 Cable outlet

90 Sensor MMS 22..

The end position monitoring of the swivel motion can be directly mounted on the unit in two C-slots using magnetic switches.

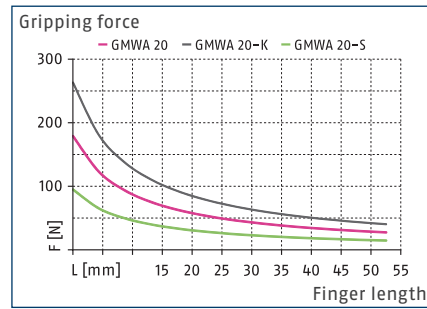
Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

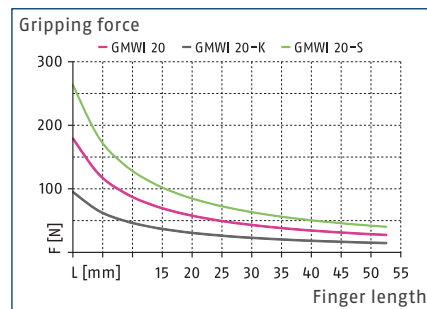




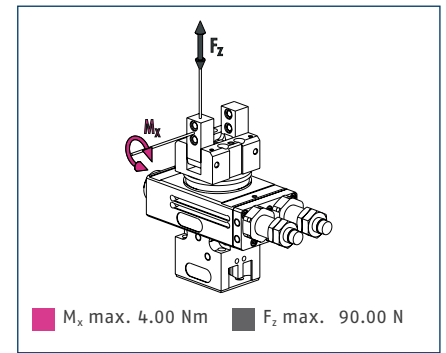
### Gripping force, O.D. gripping



### Gripping force, I.D. gripping



### Moment loading



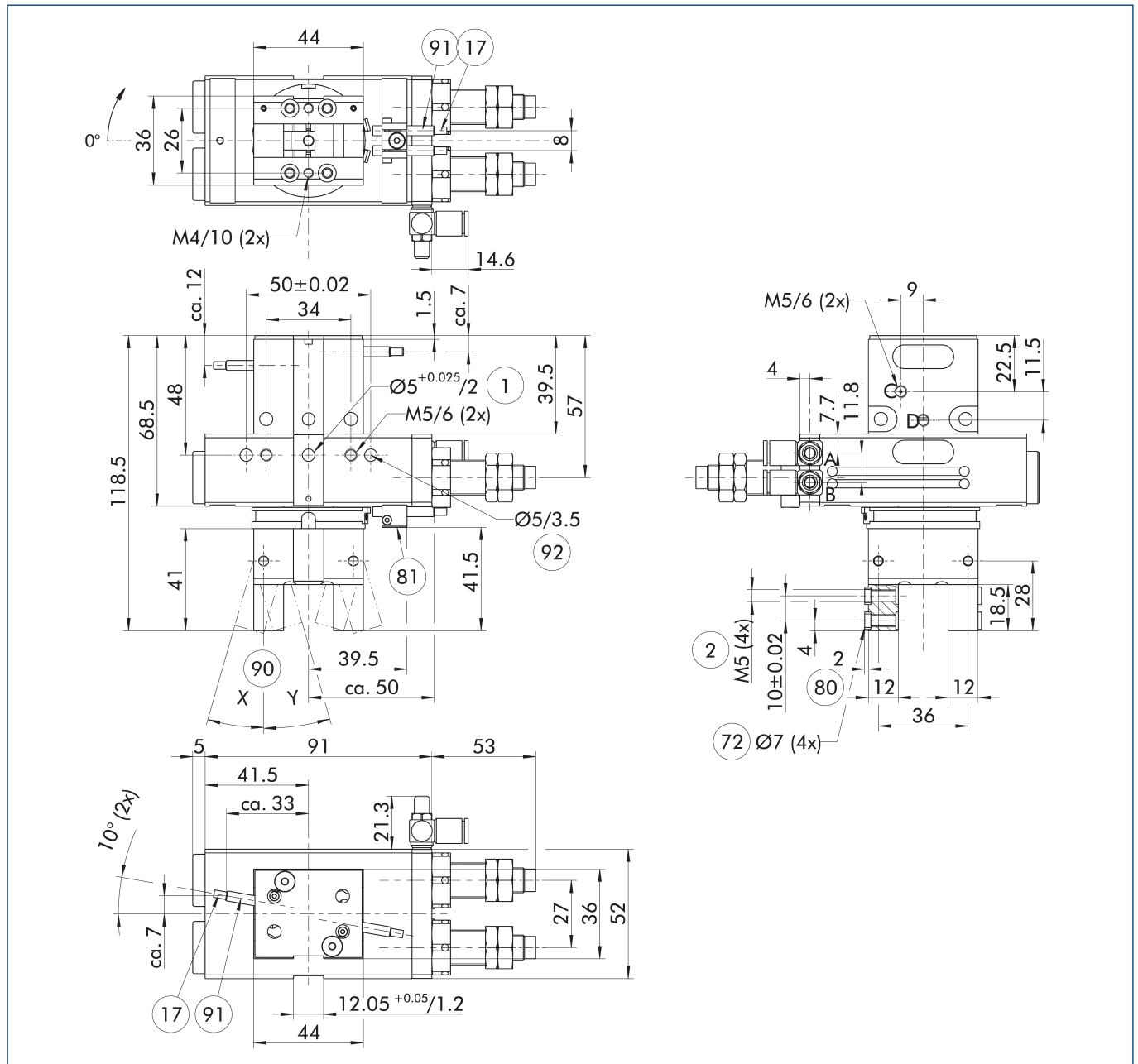
① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously.  $M_x$  may arise in addition to the moment generated by the gripping force itself.

### Technical data

Description		RWA 1520-W	RWA 1520-H	RWA 1520-K-W	RWA 1520-K-H	RWA 1520-S-W	RWA 1520-S-H
ID		0314984	0313270	0314986	0313272	0314985	0313271
Closing angle per jaw		7	7	7	7	7	7
Opening angle per jaw	[°]	16	16	16	16	16	16
Closing moment	[Nm]	1.7	1.7	2.5	2.5		
Opening moment		1.7	1.7			2.5	2.5
Min. closing moment by spring	[Nm]			0.8	0.8		
Min. opening moment by spring						0.8	0.8
Torque	[Nm]	0.76	0.76	0.76	0.76	0.76	0.76
Angle of rotation	[°]	190	190	190	190	190	190
Air consumption for gripping	[cm³]	2.86	2.86	2.86	2.86	2.86	2.86
Air consumption for swiveling	[cm³]	9.6	9.6	9.6	9.6	9.6	9.6
Weight	[kg]	0.88	0.88	0.96	0.96	0.96	0.96
Nominal operating pressure	[bar]	6	6	6	6	6	6
Max. operating pressure	[bar]	8	8	8	8	8	8
Min. operating pressure for gripping	[bar]	3	3	5	5	5	5
Min. operating pressure for swiveling	[bar]	3	3	3	3	3	3
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.025/0.04	0.025/0.04	0.04/0.025	0.04/0.025
Max. permissible finger length	[mm]	35	35	35	35	35	35
Max. permissible mass per finger	[kg]	0.1	0.1	0.1	0.1	0.1	0.1
Protection class IP		40	40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.05	0.05	0.05	0.05	0.05	0.05
<b>Options and their characteristics</b>							
Rotation adapter version		RWA 1520-D-W	RWA 1520-D-H	RWA 1520-Z-W	RWA 1520-Z-H	RWA 1520-X-W	RWA 1520-X-H
ID		0314987	0313273	0314989	0313275	0314988	0313274
Weight	[kg]	0.94	0.94	1.02	1.02	1.02	1.02

Description		RWI 1520-W	RWI 1520-H	RWI 1520-S-W	RWI 1520-S-H
ID		0314990	0313276	0314991	0313277
Closing angle per jaw		16	16	16	16
Opening angle per jaw	[°]	7	7	7	7
Opening moment		1.7	1.7	2.5	2.5
Min. opening moment by spring				0.8	0.8
Torque	[Nm]	0.76	0.76	0.76	0.76
Angle of rotation	[°]	190	190	190	190
Air consumption for gripping	[cm³]	2.86	2.86	2.86	2.86
Air consumption for swiveling	[cm³]	9.6	9.6	9.6	9.6
Weight	[kg]	0.88	0.88	0.96	0.96
Nominal operating pressure	[bar]	6	6	6	6
Max. operating pressure	[bar]	8	8	8	8
Min. operating pressure for gripping	[bar]	3	3	5	5
Min. operating pressure for swiveling	[bar]	3	3	3	3
Closing/opening time	[s]	0.03/0.03	0.03/0.03	0.04/0.025	0.04/0.025
Max. permissible finger length	[mm]	35	35	35	35
Max. permissible mass per finger	[kg]	0.1	0.1	0.1	0.1
Protection class IP		40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.05	0.05	0.05	0.05
<b>Options and their characteristics</b>					
Rotation adapter version		RWI 1520-D-W	RWI 1520-D-H	RWI 1520-X-W	RWI 1520-X-H
ID		0314992	0313278	0314993	0313279
Weight	[kg]	0.94	0.94	1.02	1.02

### Main view

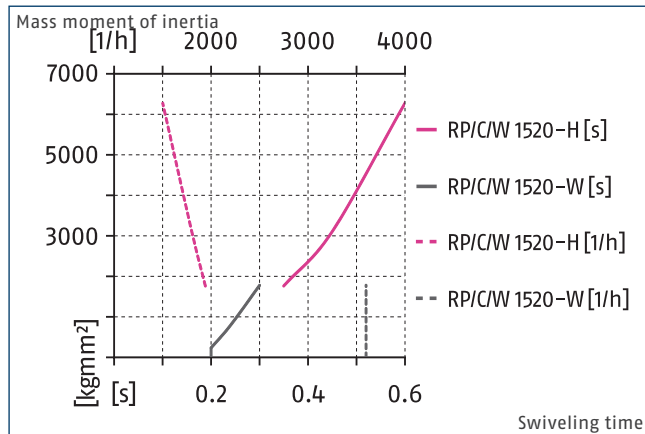


The drawing shows the gripper swivel unit in the basic version with closed jaws, without dimensional consideration of the options described below.

- A, a Main / direct connection, rotary actuator rotates clockwise
  - B, b Main / direct connection, rotary actuator rotates counterclockwise
  - C, c Main / direct connection, middle position
  - D, d Main / direct connection, middle position
- ① Connection swivel unit
  - ② Attachment connection

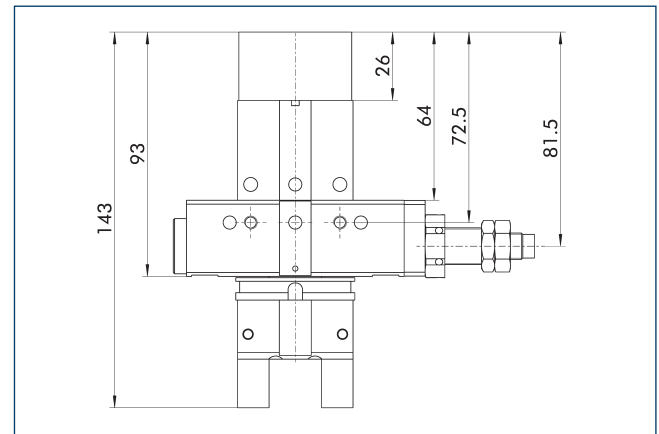
- ①7 Cable outlet
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part
- ⑧1 Not included in the scope of delivery
- ⑨0 See technical data for closing angle "Y" and opening angle "X" per jaw
- ⑨1 Inductive proximity switches
- ⑨2 Fit for centering pins

### Max. permissible inertia J\*



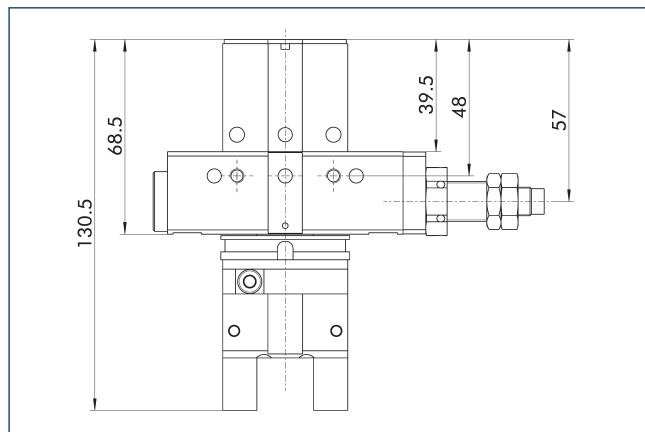
The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

### Gripping force maintenance K/S



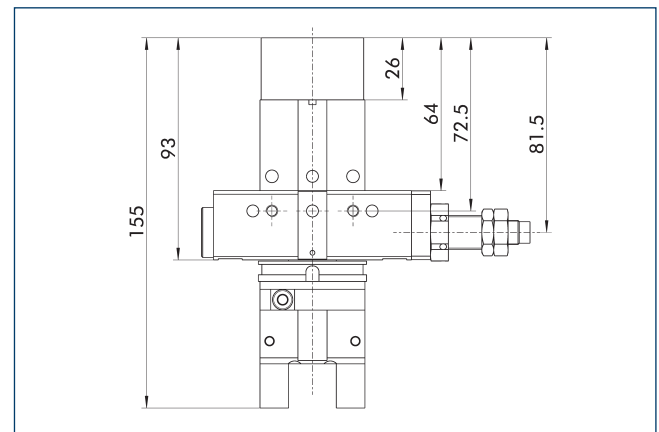
The mechanical gripping force maintenance ensures that a minimum gripping force will be applied even if there is a drop in pressure. This acts as closing force for the K variant and as opening force for the S variant. The gripping force safety can be installed without other components from the K variant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

### Rotation adapter D



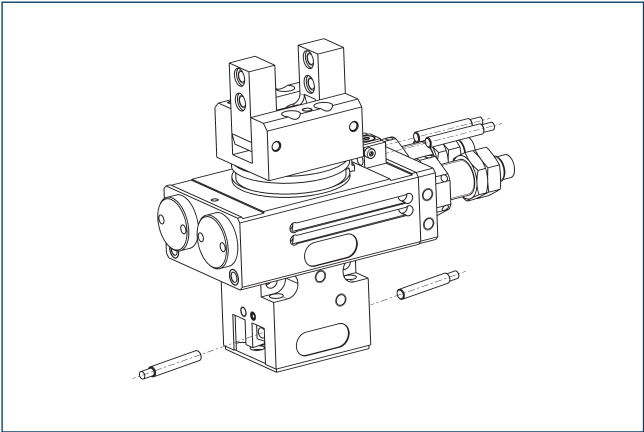
The two-part rotation adapter enables the gripping head to be continuously rotated in order to flexibly adjust the position of the gripper fingers on the workpiece. The only thing to do is to release the clamping screw. After the adjustment has been made, a hole can be drilled out to place a cylindrical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

### Gripping force safety & rotation adapter Z/X



This variant combines the functions of the gripping force maintenance with the one of the rotation adapter. The gripping force maintenance acts as a closing force for the Z variant and as an opening force for the X variant.

Inductive Proximity Switches

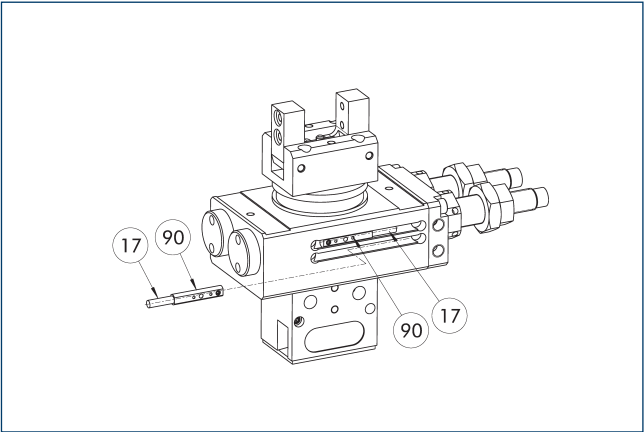


The end-position monitoring for swiveling movement (RMNS) and gripping movement (GMNS) can be directly mounted on the unit using inductive proximity switches.

Description	ID	Often combined
Inductive Proximity Switches		
GMNS 16-G	0313334	●
GMNS 16-W	0313335	
GMNS 16-X	0313333	
RMNS 12-G	0313042	●
RMNS 12-W	0313043	
RMNS 12-X	0313041	
clip for plug/socket		
CLI-M12	0301464	

- ① The RMNS set includes two sensors with 30 cm cable length to M8 connector, two switching cams, and a sensor bracket. The scope of delivery of the set GMNS includes a sensor and a sensor bracket. For complete monitoring, two sets GMNS are required. The versions -G/-W comprise a 5 m long connection cable with straight (-G) or angular (-W) plug connector to open cable end.

Electronic magnetic switch MMS



17 Cable outlet

90 Sensor MMS 22..

The end position monitoring of the swivel motion can be directly mounted on the unit in two C-slots using magnetic switches.

Description	ID	Often combined
Electronic magnetic switch		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
Electronic magnetic switches with lateral cable outlet		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
clip for plug/socket		
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

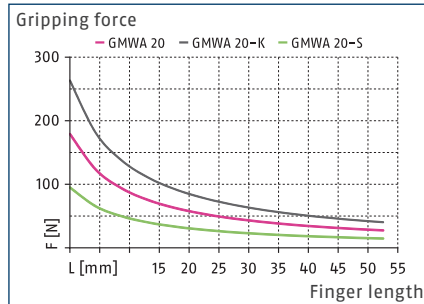
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



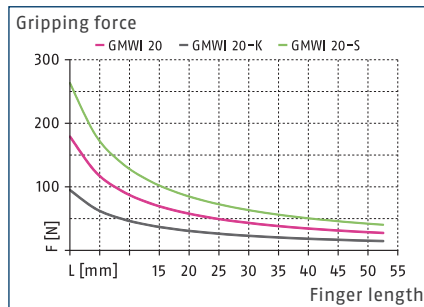




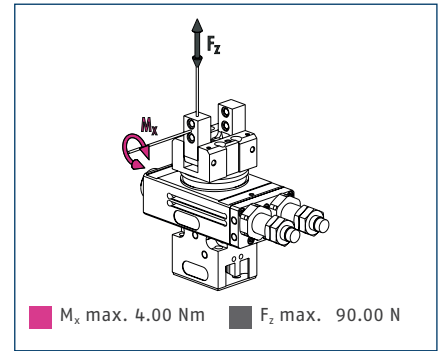
### Gripping force, O.D. gripping



### Gripping force, I.D. gripping



### Moment loading

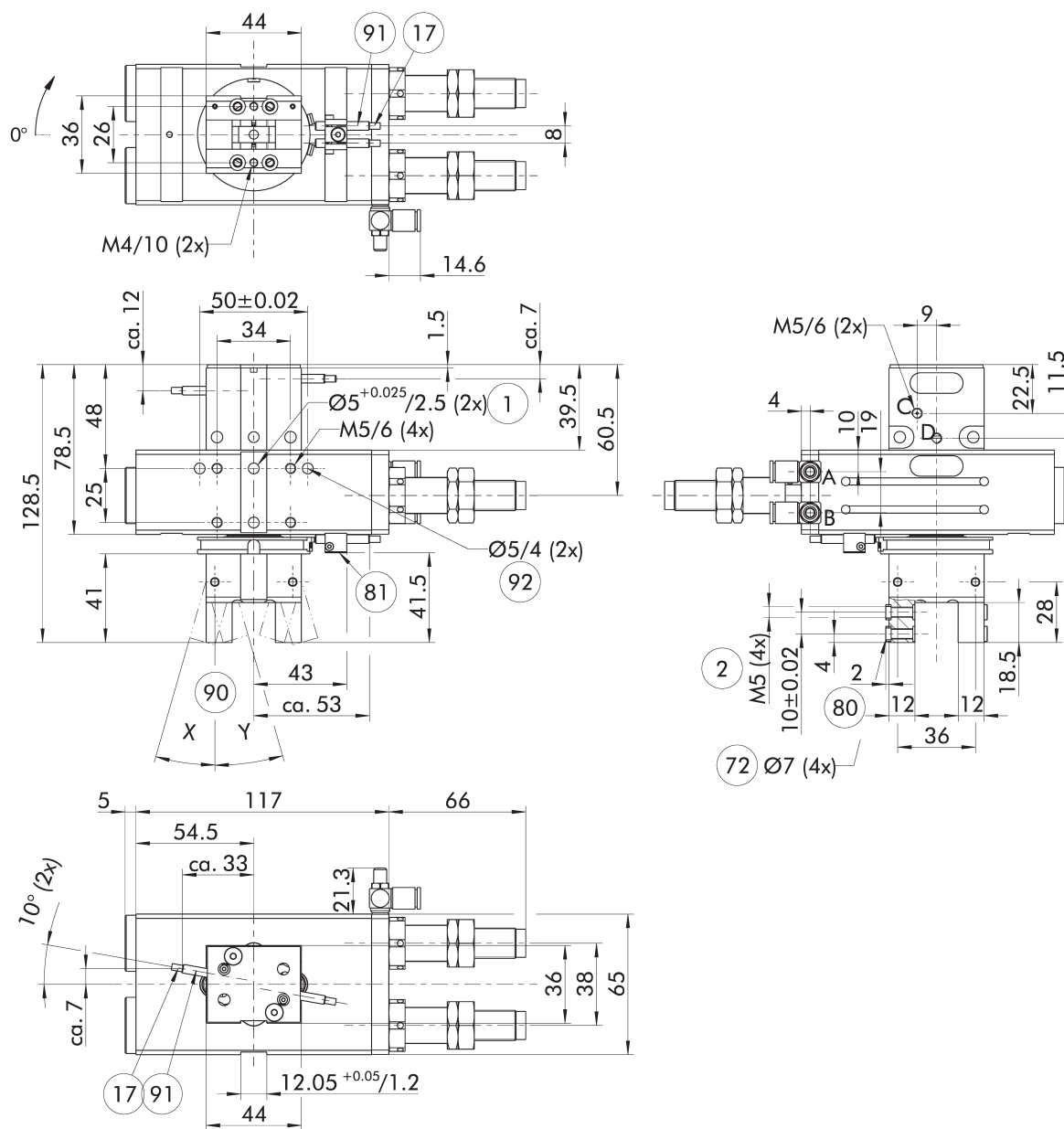


① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself.

### Technical data

Description		RWA 2120-W	RWA 2120-K-W	RWA 2120-S-W	RWI 2120-W	RWI 2120-S-W
ID		0313292	0313294	0313293	0313298	0313299
Closing angle per jaw		7	7	7	16	16
Opening angle per jaw	[°]	16	16	16	7	7
Closing moment	[Nm]	1.7	2.5			
Opening moment		1.7		2.5	1.7	2.5
Min. closing moment by spring	[Nm]		0.8			
Min. opening moment by spring				0.8		0.8
Torque	[Nm]	1.9	1.9	1.9	1.9	1.9
Angle of rotation	[°]	190	190	190	190	190
Air consumption for gripping	[cm³]	2.86	2.86	2.86	2.86	2.86
Air consumption for swiveling	[cm³]	23.8	23.8	23.8	23.8	23.8
Weight	[kg]	1.46	1.54	1.54	1.46	1.54
Nominal operating pressure	[bar]	6	6	6	6	6
Max. operating pressure	[bar]	8	8	8	8	8
Min. operating pressure for gripping	[bar]	3	5	5	3	5
Min. operating pressure for swiveling	[bar]	3	3	3	3	3
Closing/opening time	[s]	0.03/0.03	0.025/0.04	0.04/0.025	0.03/0.03	0.04/0.025
Max. permissible finger length	[mm]	35	35	35	35	35
Max. permissible mass per finger	[kg]	0.1	0.1	0.1	0.1	0.1
Protection class IP		40	40	40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.044	0.044	0.044	0.044	0.044
<b>Options and their characteristics</b>						
Rotation adapter version		RWA 2120-D-W	RWA 2120-Z-W	RWA 2120-X-W	RWI 2120-D-W	RWI 2120-X-W
ID		0313295	0313297	0313296	0313300	0313301
Weight	[kg]	1.52	1.6	1.6	1.52	1.6

## Main view

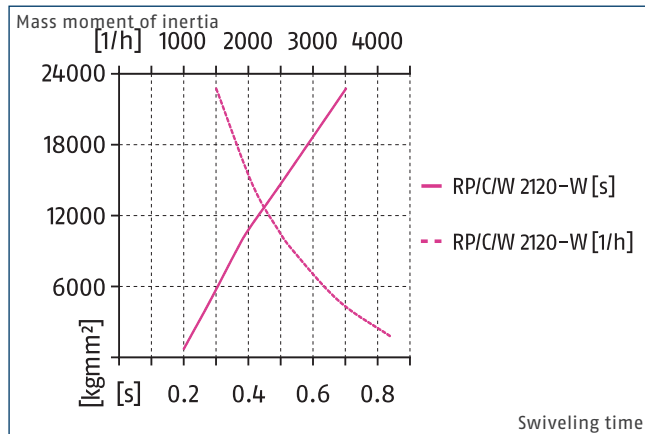


The drawing shows the gripper swivel unit in the basic version with closed jaws, without dimensional consideration of the options described below.

- A, a Main / direct connection, rotary actuator rotates clockwise
- B, b Main / direct connection, rotary actuator rotates counterclockwise
- C, c Main / direct connection, middle position
- D, d Main / direct connection, middle position
- ① Connection swivel unit
- ② Attachment connection

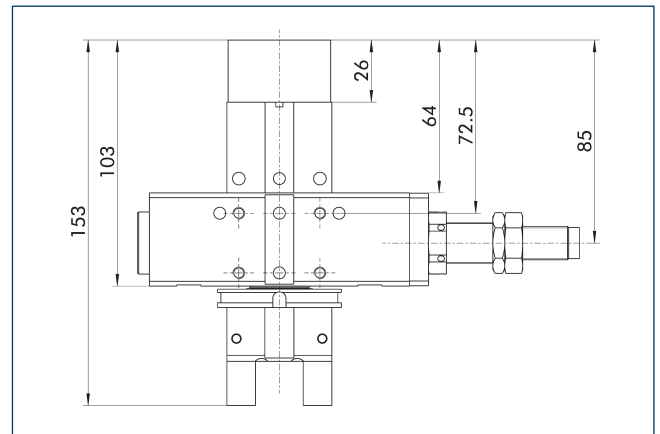
- ① Cable outlet
- ⑦ Fit for centering sleeves
- ⑧ Depth of the centering sleeve hole in the counter part
- ⑧ Not included in the scope of delivery
- ⑨ See technical data for closing angle "Y" and opening angle "X" per jaw
- ⑨ Inductive proximity switches
- ⑨ Fit for centering pins

### Max. permissible inertia J\*



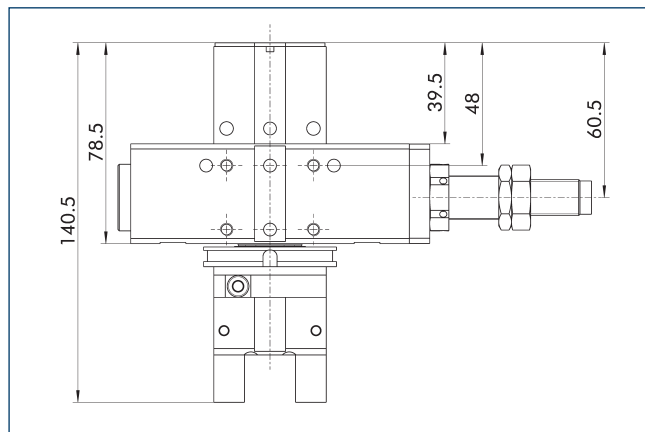
The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

### Gripping force maintenance K/S



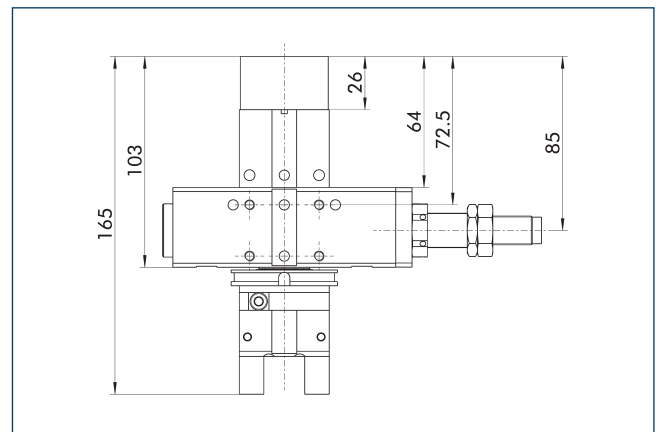
The mechanical gripping force maintenance ensures that a minimum gripping force will be applied even if there is a drop in pressure. This acts as closing force for the K variant and as opening force for the S variant. The gripping force safety can be installed without other components from the K variant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

### Rotation adapter D



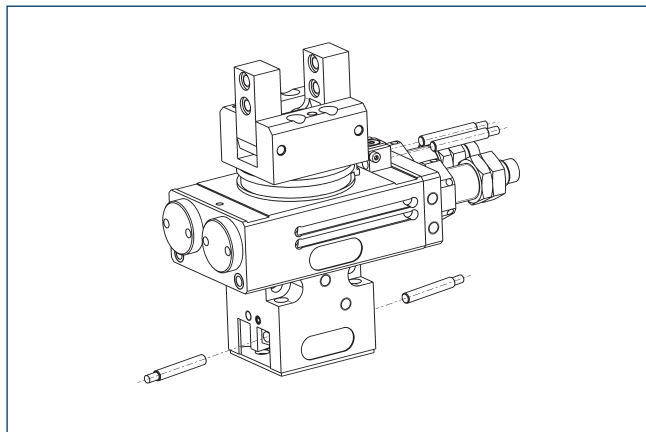
The two-part rotation adapter enables the gripping head to be continuously rotated in order to flexibly adjust the position of the gripper fingers on the workpiece. The only thing to do is to release the clamping screw. After the adjustment has been made, a hole can be drilled out to place a cylindrical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

### Gripping force safety & rotation adapter Z/X



This variant combines the functions of the gripping force maintenance with the one of the rotation adapter. The gripping force maintenance acts as a closing force for the Z variant and as an opening force for the X variant.

## Inductive Proximity Switches

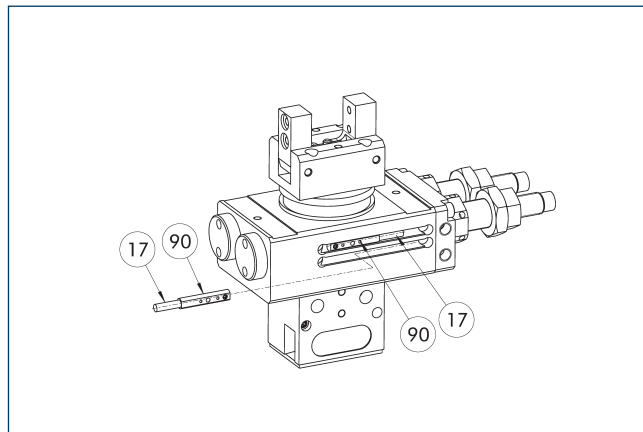


The end-position monitoring for swiveling movement (RMNS) and gripping movement (GMNS) can be directly mounted on the unit using inductive proximity switches.

Description	ID	Often combined
<b>Inductive Proximity Switches</b>		
GMNS 16-G	0313334	●
GMNS 16-W	0313335	
GMNS 16-X	0313333	
RMNS 12-G	0313042	●
RMNS 12-W	0313043	
RMNS 12-X	0313041	
<b>clip for plug/socket</b>		
CLI-M12	0301464	

- ① The RMNS set includes two sensors with 30 cm cable length to M8 connector, two switching cams, and a sensor bracket. The scope of delivery of the set GMNS includes a sensor and a sensor bracket. For complete monitoring, two sets GMNS are required. The versions -G/-W comprise a 5 m long connection cable with straight (-G) or angular (-W) plug connector to open cable end.

## Electronic magnetic switch MMS



①⑦ Cable outlet

⑨⑩ Sensor MMS 22..

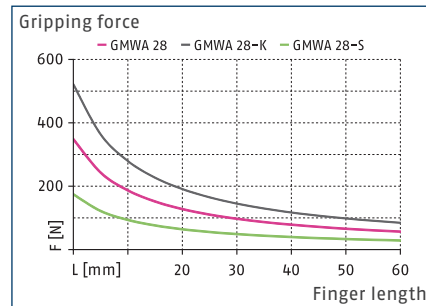
The end position monitoring of the swivel motion can be directly mounted on the unit in two C-slots using magnetic switches.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

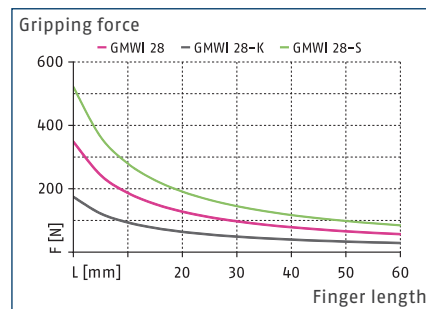
- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.



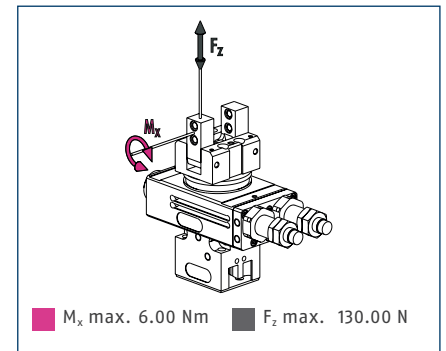
### Gripping force, O.D. gripping



### Gripping force, I.D. gripping



### Moment loading

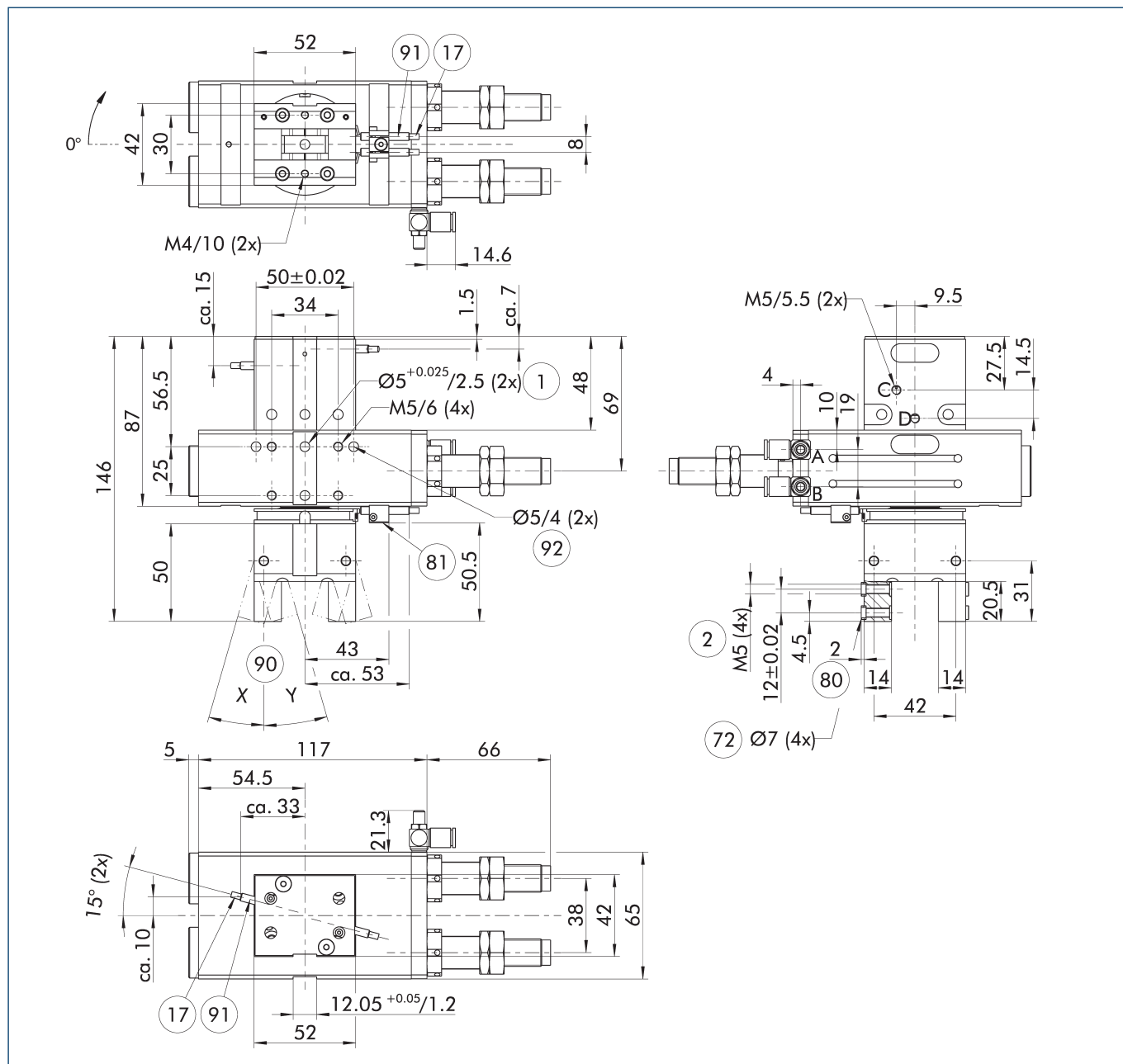


① The specified torques and forces are static values, apply for each base jaw, and may occur simultaneously.  $M_y$  may arise in addition to the moment generated by the gripping force itself.

### Technical data

Description		RWM 2128-W	RWM 2128-K-W	RWM 2128-S-W
ID		0313314	0313316	0313315
Closing angle per jaw		16	16	16
Opening angle per jaw	[°]	16	16	16
Closing moment	[Nm]	4	6	
Opening moment		4		6
Min. closing moment by spring	[Nm]		2	
Min. opening moment by spring				2
Torque	[Nm]	1.9	1.9	1.9
Angle of rotation	[°]	190	190	190
Air consumption for gripping	[cm³]	9.05	9.05	9.05
Air consumption for swiveling	[cm³]	23.8	23.8	23.8
Weight	[kg]	1.68	1.84	1.84
Nominal operating pressure	[bar]	6	6	6
Max. operating pressure	[bar]	8	8	8
Min. operating pressure for gripping	[bar]	3	5	5
Min. operating pressure for swiveling	[bar]	3	3	3
Closing/opening time	[s]	0.05/0.05	0.04/0.06	0.06/0.04
Max. permissible finger length	[mm]	40	40	40
Max. permissible mass per finger	[kg]	0.13	0.13	0.13
Protection class IP		40	40	40
Min./max. ambient temperature	[°C]	5/60	5/60	5/60
Repeat accuracy for gripping	[mm]	0.02	0.02	0.02
Repeat accuracy for swiveling	[°]	0.044	0.044	0.044
<b>Options and their characteristics</b>				
Rotation adapter version		RWM 2128-D-W	RWM 2128-Z-W	RWM 2128-X-W
ID		0313317	0313319	0313318
Weight	[kg]	1.74	1.92	1.92

## Main view



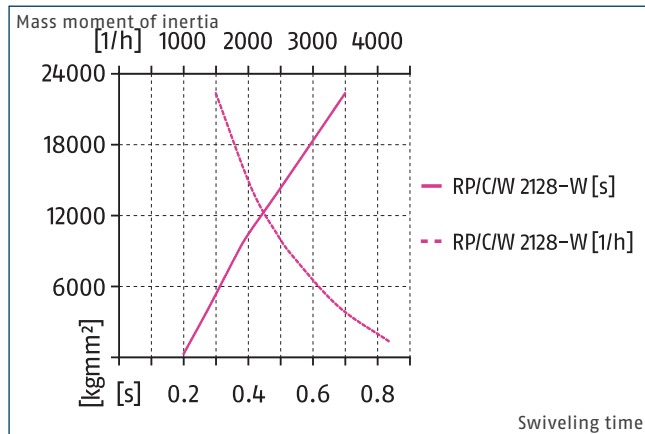
The drawing shows the gripper swivel unit in the basic version with closed jaws, without dimensional consideration of the options described below.

- A, a Main / direct connection, rotary actuator rotates clockwise
- B, b Main / direct connection, rotary actuator rotates counterclockwise
- C, c Main / direct connection, middle position
- D, d Main / direct connection, middle position
- ① Connection swivel unit
- ② Attachment connection

- ①7 Cable outlet
- ⑦2 Fit for centering sleeves
- ⑧0 Depth of the centering sleeve hole in the counter part
- ⑧1 Not included in the scope of delivery
- ⑨0 See technical data for closing angle "Y" and opening angle "X" per jaw
- ⑨1 Inductive proximity switches
- ⑨2 Fit for centering pins

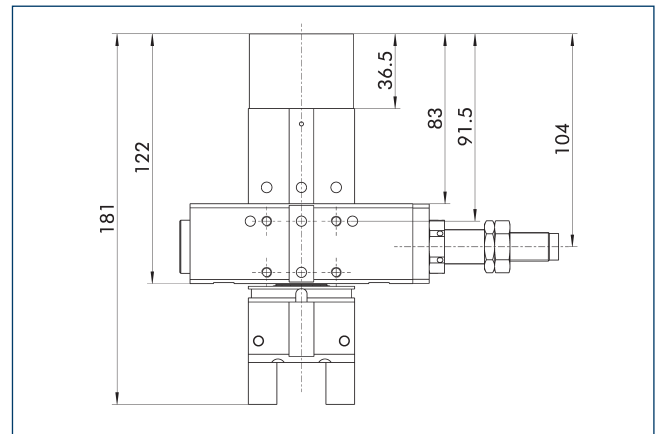


### Max. permissible inertia J\*



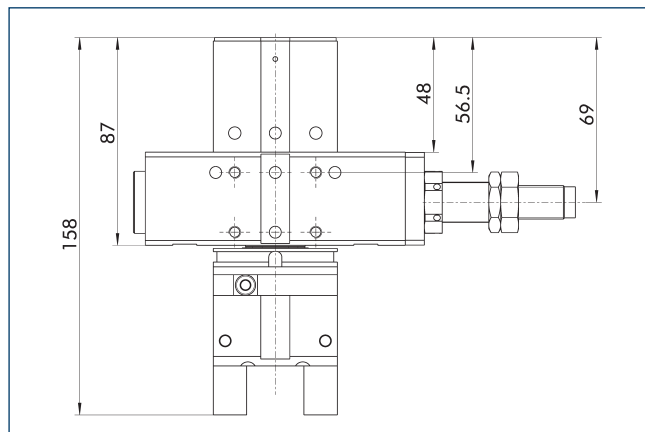
The diagrams are valid for swivel angles of 90° and 180°, units without center position and for applications with a vertical swivel axis as well as for absolutely centric loads with a horizontal rotary axis and with a pneumatic operating pressure of 6 bar. The swiveling times per throttling have to be observed, otherwise the life time could reduce. We will be happy to help you to design other cases of application.

### Gripping force maintenance K/S



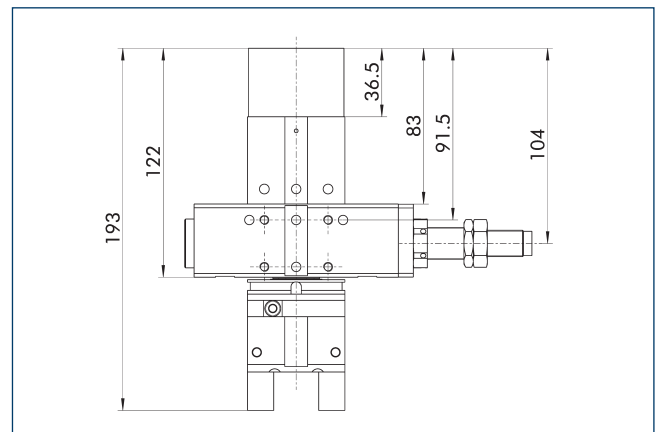
The mechanical gripping force maintenance ensures that a minimum gripping force will be applied even if there is a drop in pressure. This acts as closing force for the K variant and as opening force for the S variant. The gripping force safety can be installed without other components from the K variant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

### Rotation adapter D



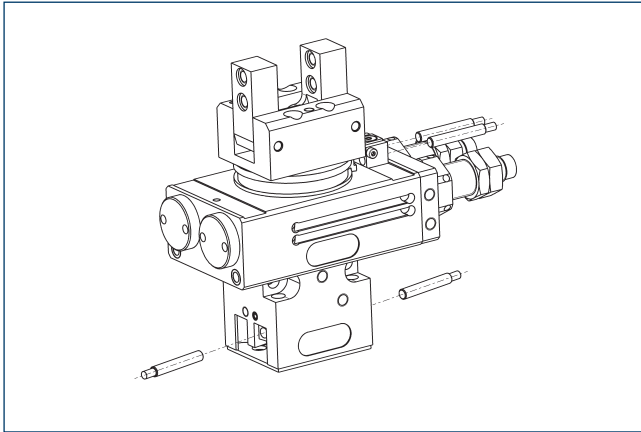
The two-part rotation adapter enables the gripping head to be continuously rotated in order to flexibly adjust the position of the gripper fingers on the workpiece. The only thing to do is to release the clamping screw. After the adjustment has been made, a hole can be drilled out to place a cylindrical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

### Gripping force safety & rotation adapter Z/X



This variant combines the functions of the gripping force maintenance with the one of the rotation adapter. The gripping force maintenance acts as a closing force for the Z variant and as an opening force for the X variant.

## Inductive Proximity Switches

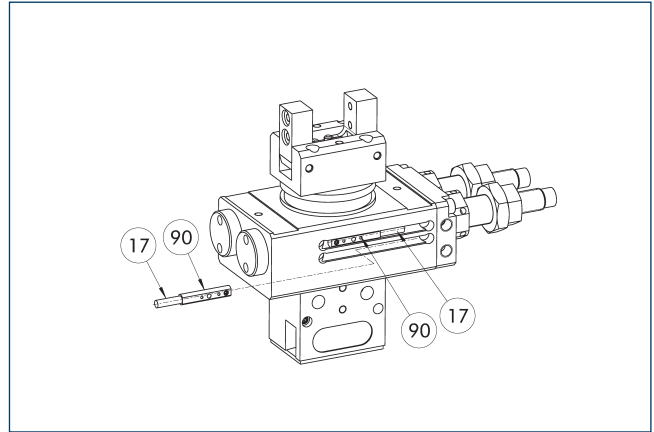


The end-position monitoring for swiveling movement (RMNS) and gripping movement (GMNS) can be directly mounted on the unit using inductive proximity switches.

Description	ID	Often combined
<b>Inductive Proximity Switches</b>		
GMNS 28-G	0313337	●
GMNS 28-W	0313338	
GMNS 28-X	0313336	
RMNS 12-G	0313042	●
RMNS 12-W	0313043	
RMNS 12-X	0313041	
<b>clip for plug/socket</b>		
CLI-M12	0301464	

- ① The RMNS set includes two sensors with 30 cm cable length to M8 connector, two switching cams, and a sensor bracket. The scope of delivery of the set GMNS includes a sensor and a sensor bracket. For complete monitoring, two sets GMNS are required. The versions -G/-W comprise a 5 m long connection cable with straight (-G) or angular (-W) plug connector to open cable end.

## Electronic magnetic switch MMS



①⑦ Cable outlet

⑨⑩ Sensor MMS 22..

The end position monitoring of the swivel motion can be directly mounted on the unit in two C-slots using magnetic switches.

Description	ID	Often combined
<b>Electronic magnetic switch</b>		
MMS 22-S-M8-PNP	0301032	
MMSK 22-S-PNP	0301034	
<b>Electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	
MMSK 22-S-PNP-SA	0301044	
<b>Cable extension</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>clip for plug/socket</b>		
CLI-M8	0301463	
<b>Connection cables</b>		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
<b>Sensor distributor</b>		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① Two sensors (closer/S) are required for each unit and extension cables are available as an option. For sensor cables, note the minimum permissible bending radii. These are generally 35 mm.

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