

AGE-XY

Robot Accessories | Compensating | XY-Compensation Unit

Compact. Smooth. Robust.

AGE-XY Compensation Unit

Compensation unit for applications in assembly, loading, and unloading of machines and workpiece carriers. The use of AGE-XY makes it possible to securely grip and transfer workpieces despite position or angular offsets.

Field of Application

Palletizing, joining, and assembly of workpieces

Advantages – Your benefit

ISO flange pattern for easy assembly to most types of robots without needing additional adapter plates

Robust slide guidance for high moment load at minimum space

Central locking for centering the unit in a defined position

Pneumatic position storage for eccentric locking in a deflected position



Sizes
Quantity: 3



Handling weight
6 .. 15 kg



Compensation XY
 $\pm 2.5 \dots 4$ mm

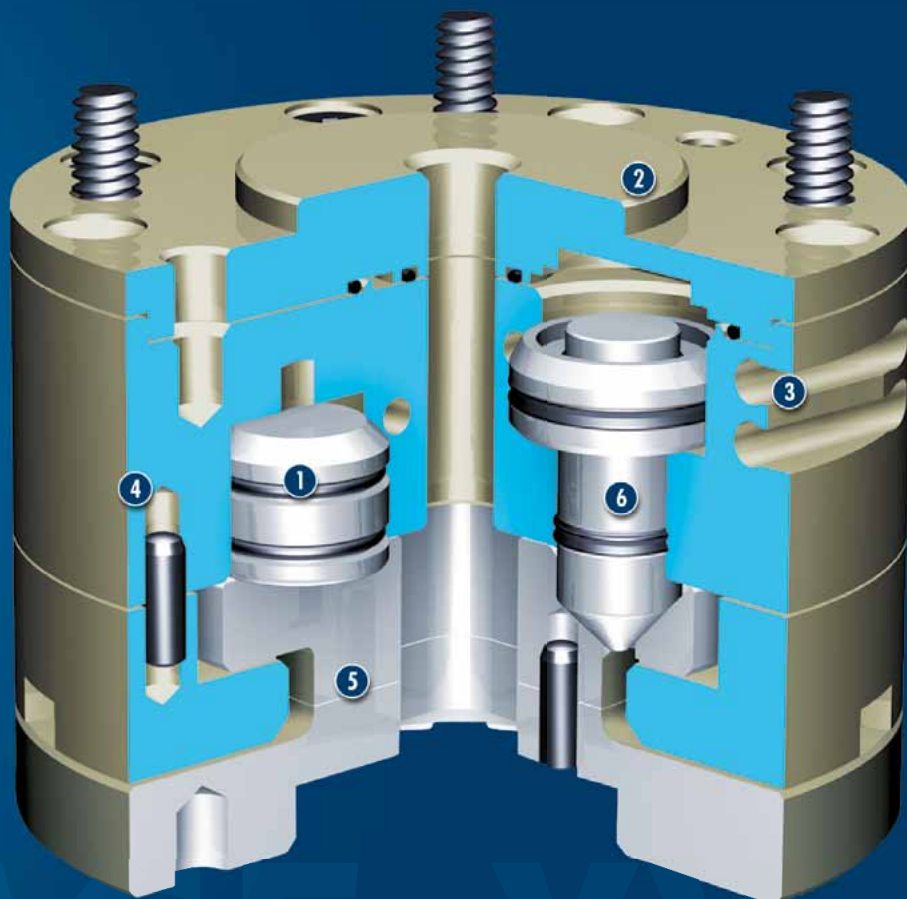


Rotary compensation angle
 $\pm 12 \dots 16^\circ$

Functional Description

The AGE-XY compensation unit allows activation of the linear motion in XY-direction of the robots or handling

units. After compensation, the workpiece can be centrically aligned again.



① **Position memory**

Locking in any position using two pneumatically driven pistons and frictional connection

② **Direct assembly**

by using a standardized ISO 9409 interface for robots

③ **Monitoring**

Stroke monitoring of the locking piston with magnetic switches

④ **Housing**

Weight-optimized through application of high-strength aluminum alloy

⑤ **Compensation body**

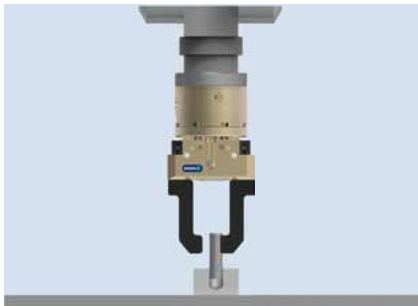
for compensating positioning errors in the XY-plane

⑥ **Locking**

Pneumatically driven centric locking

Detailed functional Description

Case A, removal: AGE unlocked – Gripper open



The robot travels towards the workpiece with a gripper unit consisting of an AGE (compensation unit) and gripper. There is an axial offset due to tolerances / imprecision.

Case A, removal: AGE unlocked – Gripper closed



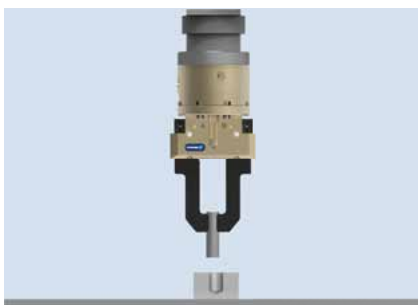
An unlocked AGE can be used to compensate the existing axial offset between the gripper and workpiece axes.

Case A, removal: AGE locked (position memory) – Gripper closed



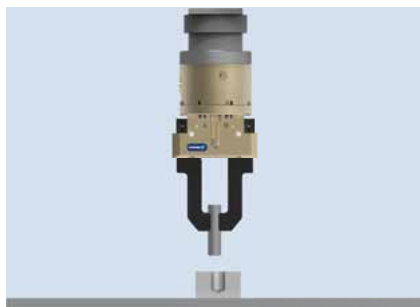
The robot can remove the workpiece. The deflected position of the AGE can be locked via the integrated position memory.

Case A, removal: AGE centrally locked – Gripper closed



The position memory of the AGE is unlocked and the centered AGE lock is activated. That renders the original axis offset, as the gripper and robot axis are now centered relative to one another.

Case B, joining: AGE centrally locked – Gripper closed



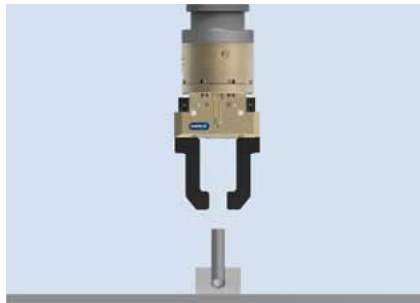
The robot travels towards the workpiece with a gripper unit consisting of an AGE (compensation unit) and gripper. There is an axial offset due to tolerances / imprecision.

Case B, joining: AGE unlocked – Gripper closed



An unlocked AGE can be used to compensate the existing axial offset between the gripper and workpiece axes and the workpiece can be joined.

Case B, joining: AGE unlocked – Gripper open



The robot moves away from the center of compliance with the gripper unit, the unit is then centrally locked and the gripper is closed.



General Notes to the Series

Monitoring: By magnetic switch

Actuation: pneumatic, with filtered compressed air as per DIN ISO 8573-1: 7 4 4

Housing: hard anodized aluminum alloy, functional parts made of hardened steel

Scope of delivery: Robot-side mounting screws

Warranty: 24 months (details, general terms and conditions and operation manuals can be downloaded at www.schunk.com)

Harsh environmental conditions: Please note that the use in harsh environmental conditions (e.g. in the coolant area, cast and grinding dust) can considerably reduce the service lifetime of the units, and will void the warranty. However, in many cases we can find a solution. Please contact us.

Handling weight: The weight of the total load attached to the flange. The design must take into account the permissible forces and moments. Please note that the life span will be reduced if the maximum handling weight is exceeded.

Application example

Assembly unit for mounting a pin in a bore with tolerances for the position. The compensation unit compensates for the planar offset without turning or tilting the workpiece.

- 1 PGF 80 2-Finger Parallel Gripper with special finger and workpiece (pin)
- 2 AGE-XY-80 Compensation Unit



SCHUNK offers more ...

The following components make the AGE-XY even more productive – the perfect complement for highest functionality, flexibility, and process reliability.



Fittings



MMS Magnetic Switch



Sensor Cables



PGN-plus Universal Gripper



OPR Collision and Overload Sensor



HWS Manual Gripper Change System



PZN-plus Centric Gripper



SWS Quick-change System

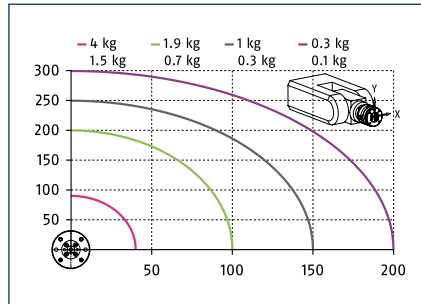
① Further information regarding the products can be found on the following products pages or at www.schunk.com. Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

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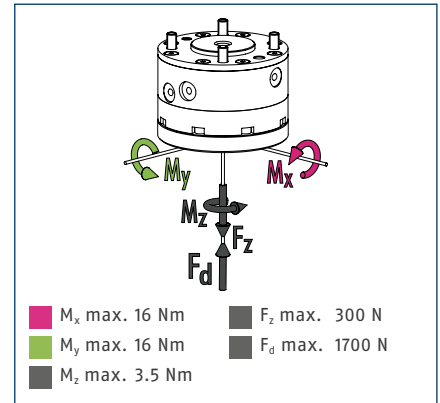


Load chart



Location of the center of mass depending on the payload at horizontal application. A higher value of mass is valid for central locking, and a lower value of mass for position storage.

Forces and moments

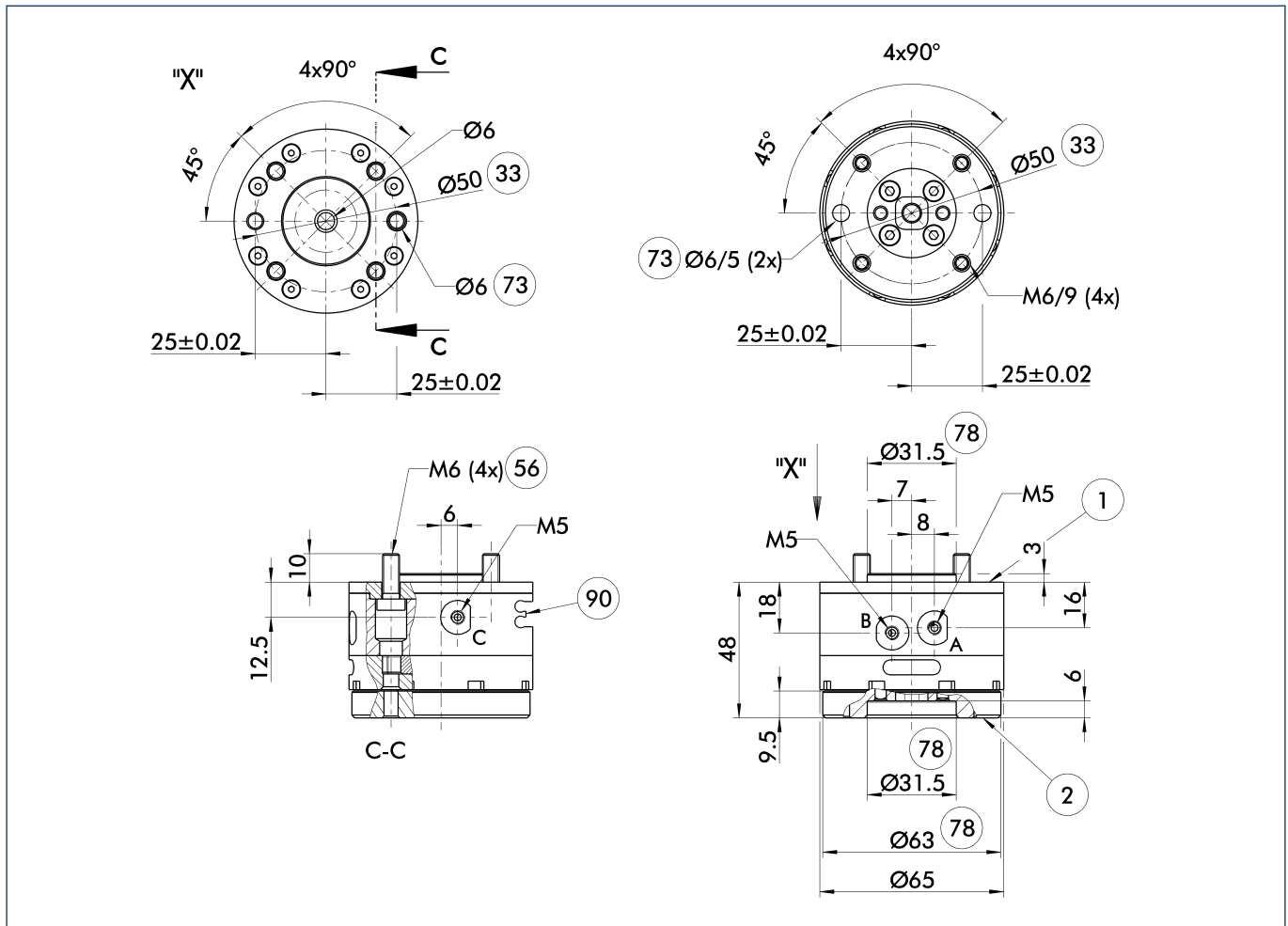


① This is the max. total of all loads (acceleration forces and torques, process forces etc.), that can affect a compensation unit while still maintaining error-free function.

Technical data

Description		AGE-XY-050	AGE-XY-050-P
ID		0324450	0324451
Compensation XY	[mm]	±2.5	±2.5
Rotary compensation angle	[°]	±12	±12
max. vertical payload	[kg]	6	6
max. payload horizontal	[kg]	4	4
Recommended payload position storage	[kg]		1.5
Locking force	[N]	235	235
max. load centric locking	[N]	130	130
max. radial force, position storage	[N]		45
Rotation moment position stroke	[Nm]		1.2
max. displacement force distance in Z	[mm]	120	120
min. / max. operating pressure	[bar]	2.5/8	2.5/8
Nominal operating pressure	[bar]	6	6
Repeat accuracy	[mm]	0.1	0.1
Robot side connection		ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6
Mass	[kg]	0.46	0.47
min. / max. ambient temperature	[°C]	5/60	5/60

Main view



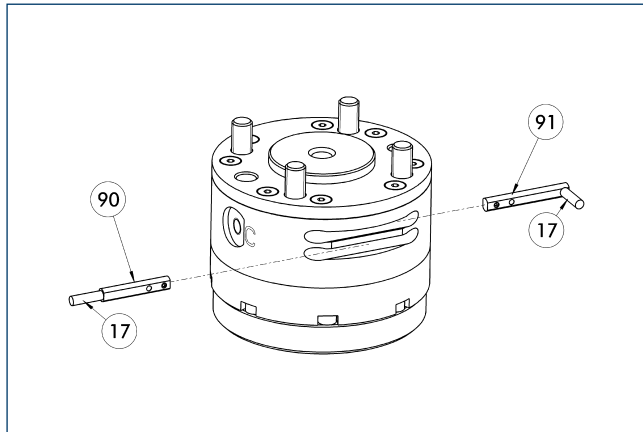
The main view shows the unit in its basic version.

- | | |
|--|---|
| A, a Air connection locked | 33 DIN ISO-9409 bolt-hole circle diameter |
| B, b Air connection unlocked | 56 Included in delivery |
| C, c Air connection position memory XY | 73 Fit for a centering pin |
| 1 Robot side connection | 78 Fitting for centering |
| 2 Tool side connection | 90 Groove for magnetic switch |

AGE-XY 050

Robot Accessories | Compensating | XY-Compensation Unit

Sensor system

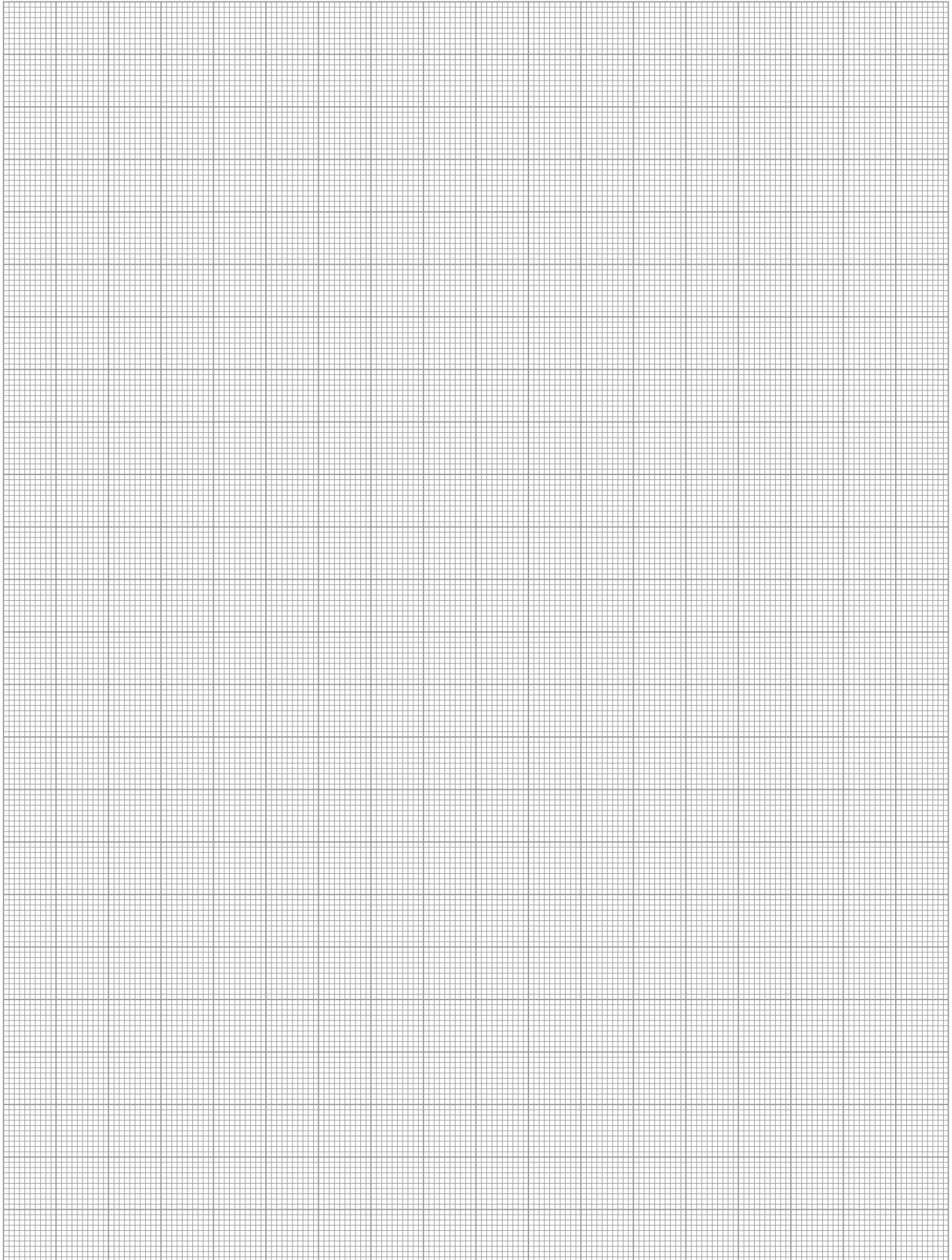


- ①7 Cable outlet
- ①91 MMS 22...-SA sensor
- ①90 MMS 22.. sensor

End position monitoring for mounting in the C-slot

Description	ID	
MMS electronic magnetic switches		
MMS 22-S-M8-PNP	0301032	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
Cable extensions		
KA BG08-L 3P-0200-PNP	0301497	
Sensor distributor		
V2-M8	0301775	

- ① Two sensors (closer/NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

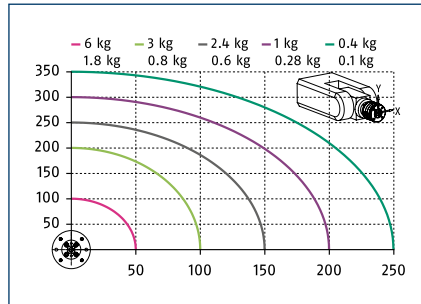


AGE-XY 063

Robot Accessories | Compensating | XY-Compensation Unit

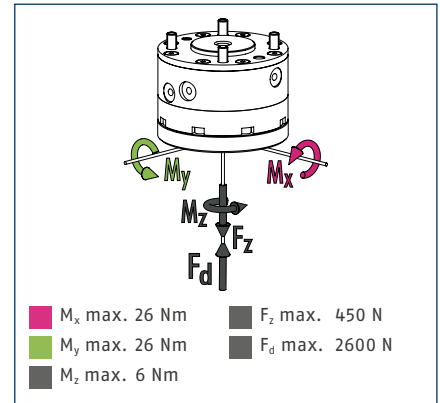


Load chart



Location of the center of mass depending on the payload at horizontal application. A higher value of mass is valid for central locking, and a lower value of mass for position storage.

Forces and moments

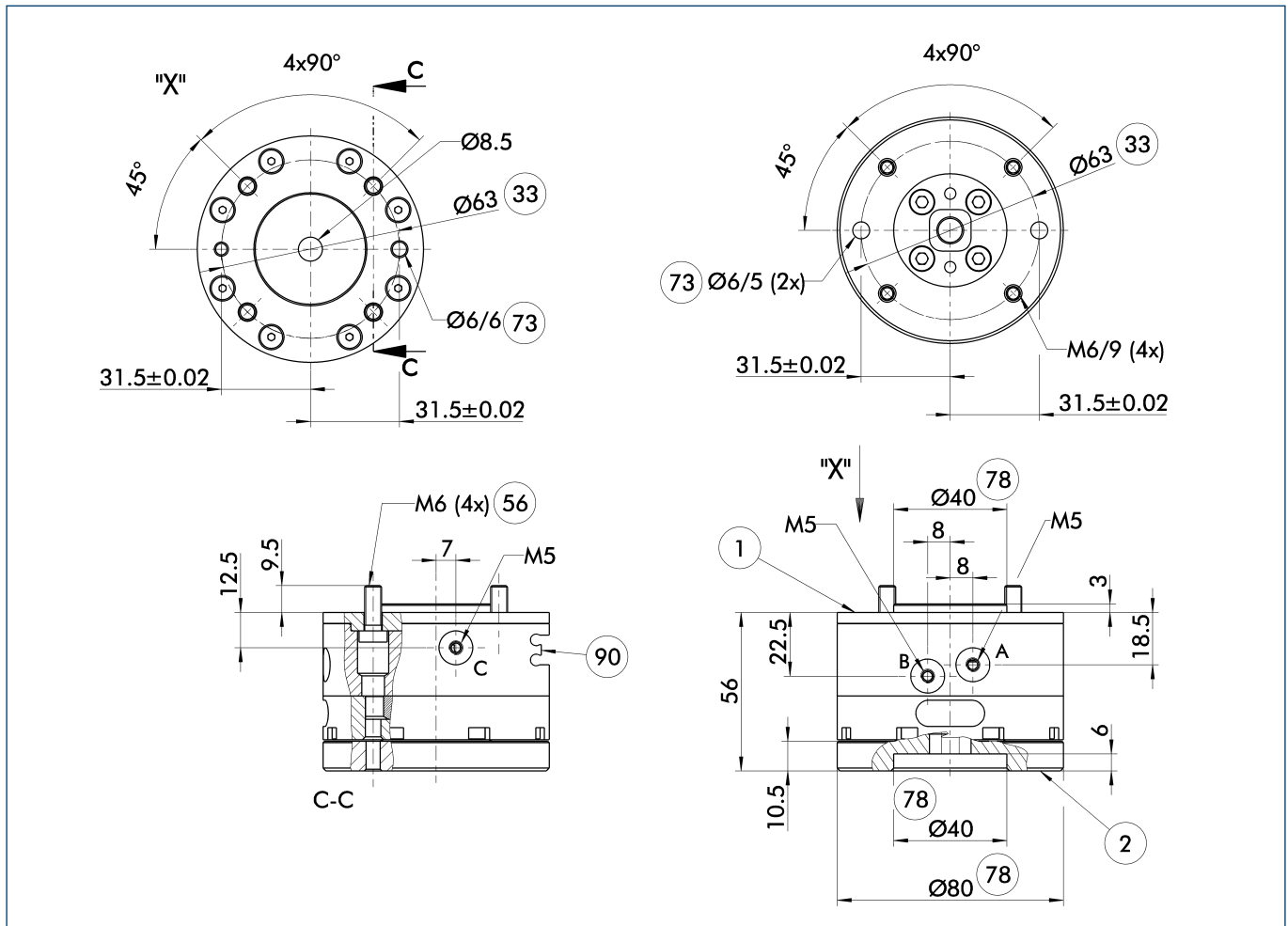


ⓘ This is the max. total of all loads (acceleration forces and torques, process forces etc.), that can affect a compensation unit while still maintaining error-free function.

Technical data

Description		AGE-XY-063	AGE-XY-063-P
ID		0324463	0324464
Compensation XY	[mm]	±3	±3
Rotary compensation angle	[°]	±12	±12
max. vertical payload	[kg]	9	9
max. payload horizontal	[kg]	6	6
Recommended payload position storage	[kg]		1.8
Locking force	[N]	370	370
max. load centric locking	[N]	200	200
max. radial force, position storage	[N]		50
Rotation moment position stroke	[Nm]		1.7
max. displacement force distance in Z	[mm]	160	160
min. / max. operating pressure	[bar]	2.5/8	2.5/8
Nominal operating pressure	[bar]	6	6
Repeat accuracy	[mm]	0.1	0.1
Robot side connection		ISO 9409-1-63-4-M6	ISO 9409-1-63-4-M6
Mass	[kg]	0.83	0.85
min. / max. ambient temperature	[°C]	5/60	5/60

Main view



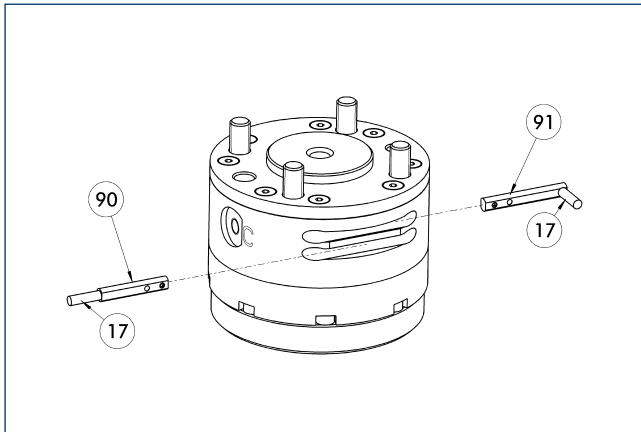
The main view shows the unit in its basic version.

- | | |
|--|---|
| A, a Air connection locked | 33 DIN ISO-9409 bolt-hole circle diameter |
| B, b Air connection unlocked | 56 Included in delivery |
| C, c Air connection position memory XY | 73 Fit for a centering pin |
| 1 Robot side connection | 78 Fitting for centering |
| 2 Tool side connection | 90 Groove for magnetic switch |

AGE-XY 063

Robot Accessories | Compensating | XY-Compensation Unit

Sensor system

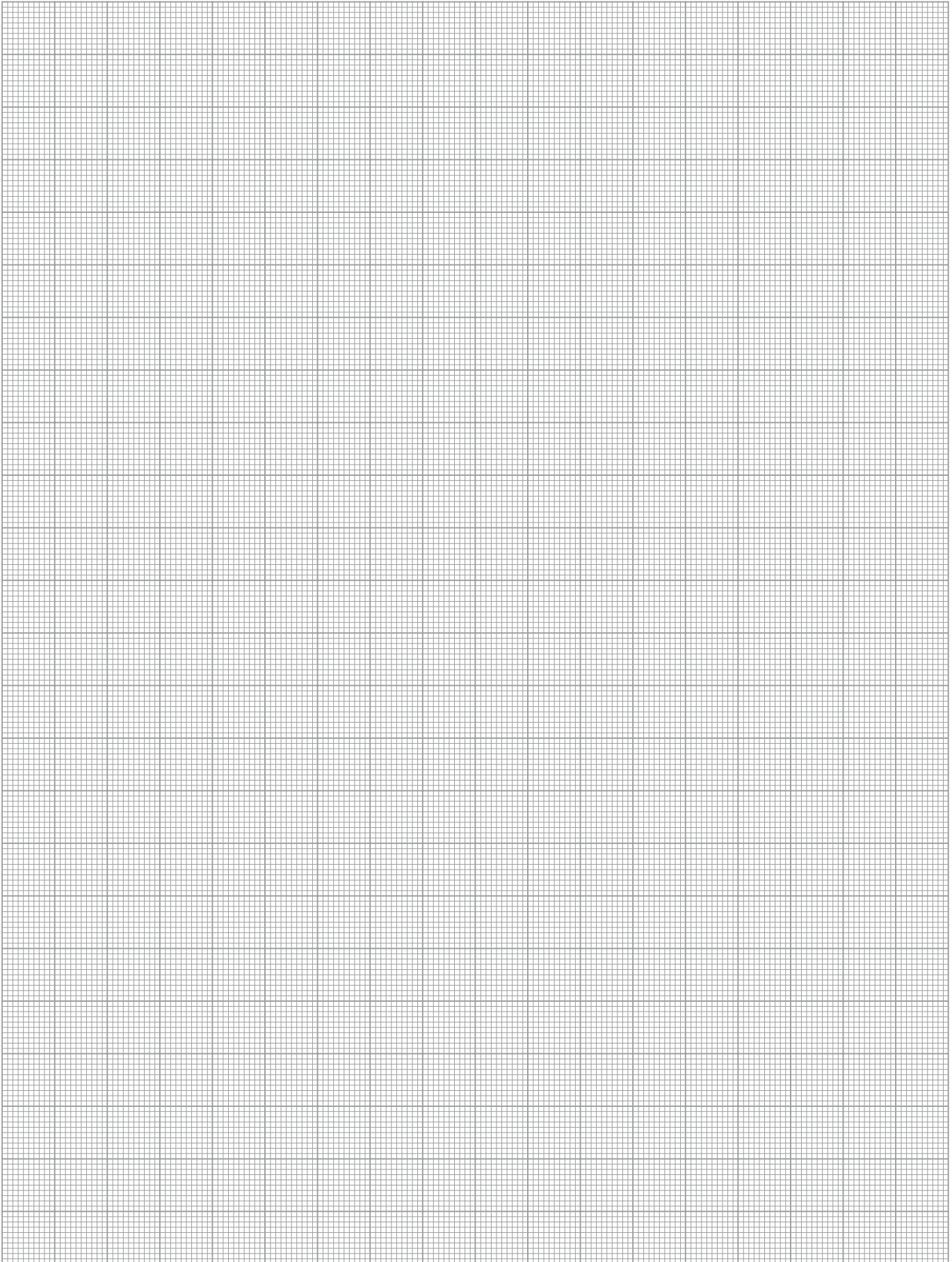


- ① 17 Cable outlet
- ② 90 MMS 22.. sensor
- ③ 91 MMS 22...-SA sensor

End position monitoring for mounting in the C-slot

Description	ID	
MMS electronic magnetic switches		
MMS 22-S-M8-PNP	0301032	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
Cable extensions		
KV BW08-SG08 3P-0200-PNP	0301497	
Sensor distributor		
V2-M8	0301775	

- ① Two sensors (closer/NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

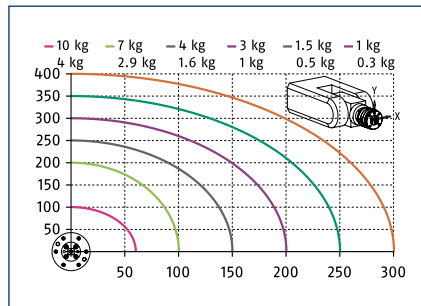


AGE-XY 080

Robot Accessories | Compensating | XY-Compensation Unit

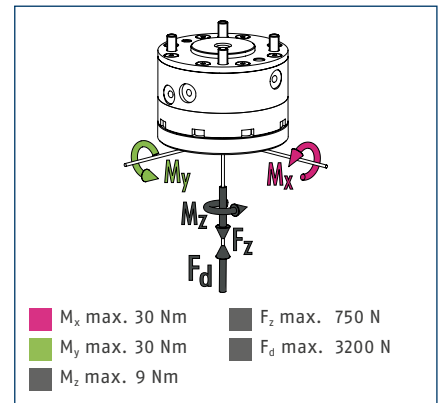


Load chart



Location of the center of mass depending on the payload at horizontal application. A higher value of mass is valid for central locking, and a lower value of mass for position storage.

Forces and moments

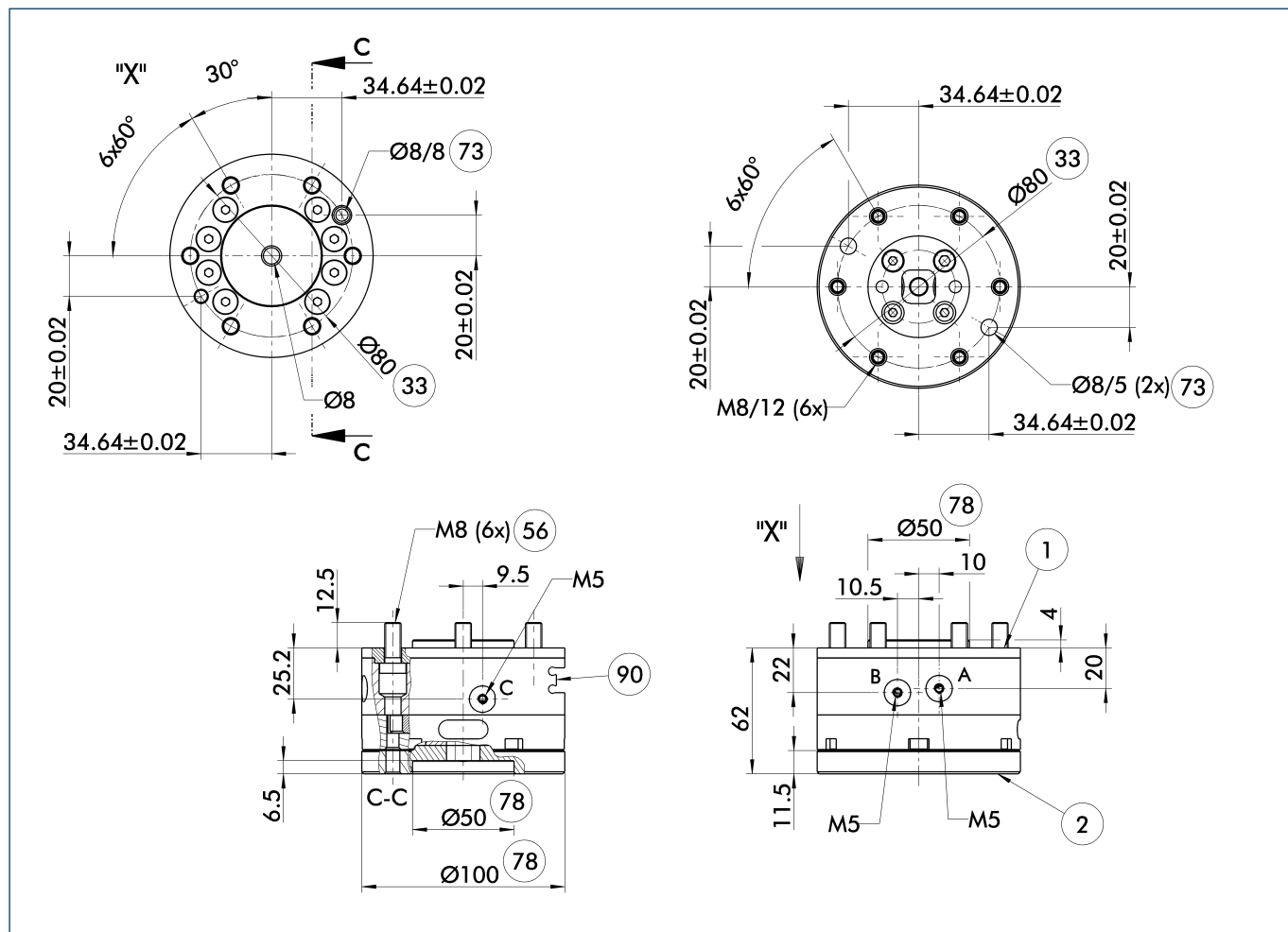


ⓘ This is the max. total of all loads (acceleration forces and torques, process forces etc.), that can affect a compensation unit while still maintaining error-free function.

Technical data

Description		AGE-XY-080	AGE-XY-080-P
ID		0324480	0324481
Compensation XY	[mm]	±4	±4
Rotary compensation angle	[°]	±16	±16
max. vertical payload	[kg]	15	15
max. payload horizontal	[kg]	10	10
Recommended payload position storage	[kg]		4
Locking force	[N]	580	580
max. load centric locking	[N]	310	310
max. radial force, position storage	[N]		145
Rotation moment position stroke	[Nm]		4
max. displacement force distance in Z	[mm]	200	200
min. / max. operating pressure	[bar]	2.5/8	2.5/8
Nominal operating pressure	[bar]	6	6
Repeat accuracy	[mm]	0.1	0.1
Robot side connection		ISO 9409-1-A-80	ISO 9409-1-A-80
Mass	[kg]	1.49	1.5
min. / max. ambient temperature	[°C]	5/60	5/60

Main view



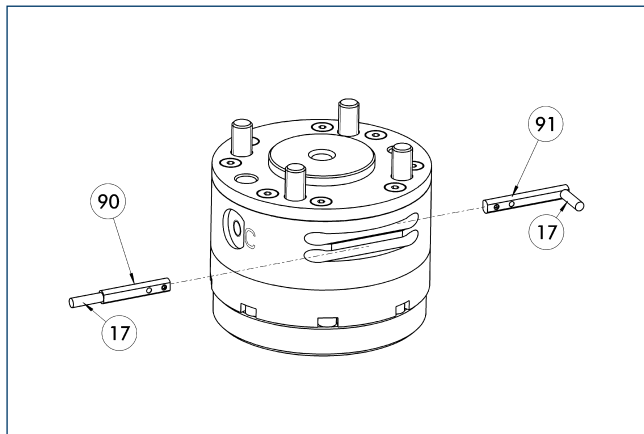
The main view shows the unit in its basic version.

- | | |
|--|---|
| A, a Air connection locked | ③③ DIN ISO-9409 bolt-hole circle diameter |
| B, b Air connection unlocked | ⑤⑥ Included in delivery |
| C, c Air connection position memory XY | ⑦③ Fit for a centering pin |
| ① Robot side connection | ⑦⑧ Fitting for centering |
| ② Tool side connection | ⑨⑩ Groove for magnetic switch |

AGE-XY 080

Robot Accessories | Compensating | XY-Compensation Unit

Sensor system



- ① Cable outlet
- ② MMS 22...-SA sensor
- ③ MMS 22... sensor

End position monitoring for mounting in the C-slot

Description	ID	
MMS electronic magnetic switches		
MMS 22-S-M8-PNP	0301032	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	
Cable extensions		
KV BW08-SG08 3P-0200-PNP	0301497	
Sensor distributor		
V2-M8	0301775	

- ① Two sensors (closer/NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

