



Hand in hand for tomorrow



Product data sheet

Compensation unit AGM-W

Compensation unit AGM-W

Modular compensation unit with angular compensation for the compensation of inaccuracies and tolerances. As part of the AGM product family, the AGM-W can be flexibly combined with the AGM-Z and therefore always offers the right compensation behavior for a wide range of applications.

Field of application

For applications such as bin picking, automated assembly and joining tasks or handling tasks, for example with magnetic grippers, where reliable compensation is required. Compensation units can be used on robots as well as in stationary applications.



Advantages – Your benefits

Efficient angular compensation for the compensation of tolerances and inaccuracies of differently arranged components.

Maximum flexibility due to the modularity of the AGM product family, combinations with Z are possible.

Pneumatic locking in a centric position thanks to a robust locking mechanism.

Versatile and adaptable the swivel-out torque can be adjusted depending on the pressure and adapted for ease of movement.

Versatile across all industries thanks to food-compliant lubrication. Facilitates the entry into medical technology, lab automation, the pharmaceutical or food industry. The requirements of EN 1672-2:2020 are not fully met.

Increased process stability by various monitoring options via magnetic switches or inductive proximity switches.

To compensate in horizontal or inclined position precise weight compensation can be achieved thanks to the additional pressurization of the control piston.



Sizes
Quantity: 3



Handling weight
8 .. 32 kg



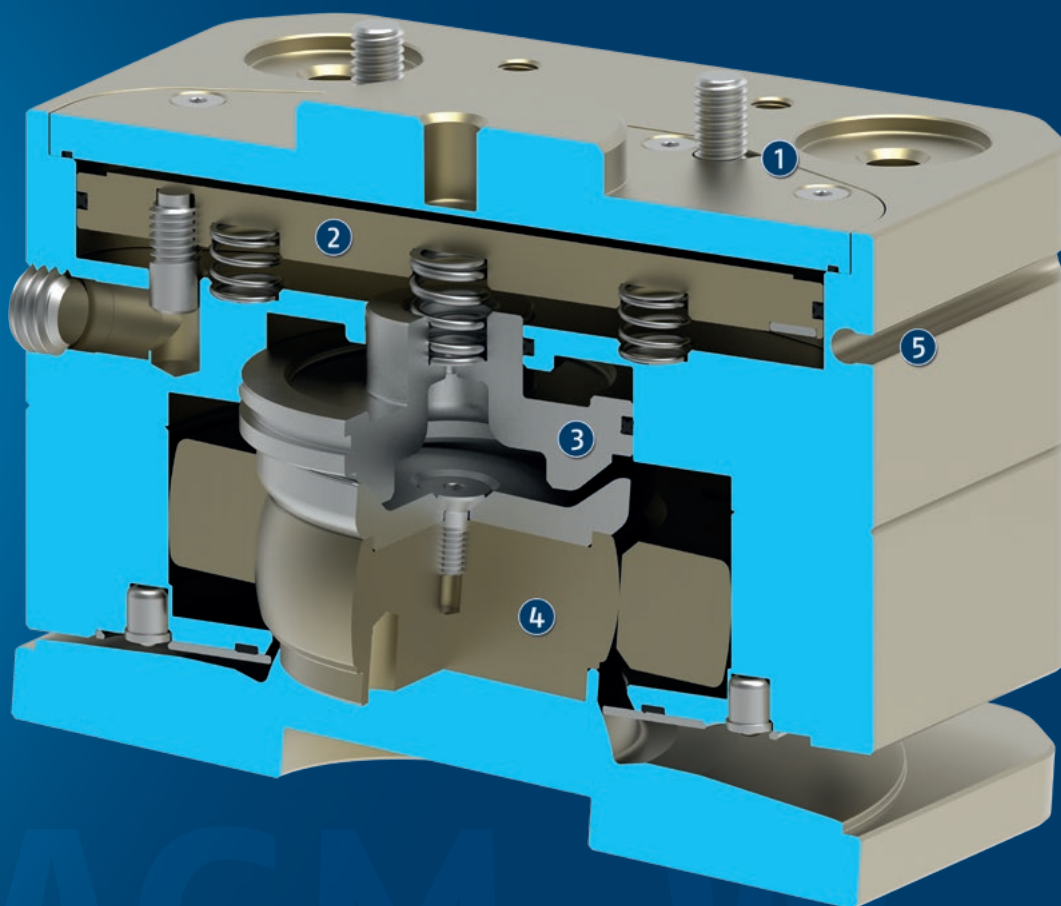
Compensation angle
 $\pm 5^\circ$

Functional description

The AGM-W enables angular compensation in the x and y-axes. The patented angular kinematics allows adaptation to differently arranged components so that they can be gripped securely. The locking piston ensures central locking of the unit and that it is locked in place. While the control piston can be used for weight compensation in

different spatial positions.

The modular and compact design allows combination with other AGM units. The locked and unlocked positions are monitored by magnetic switches or inductive proximity switches.



① **ISO mounting pattern**

on the robot and tool side, for easy mounting on most types of robots without needing an additional adapter plate

② **Locking piston**

made of high-strength aluminum for pneumatically actuated, single-acting locking in a centric position. For moving during the process, we recommend applying pressure to the locking piston and the control piston.

③ **Control piston**

made of hardened steel offers continuous adjustability of smooth running. For compensation in horizontal and inclined positions, we recommend actuation of the control piston for weight compensation.

④ **Patented angular kinematics**

enables compensation in X and Y-axis

⑤ **Monitoring groove**

for monitoring the locked position

General notes about the series

Monitoring: via magnetic switch or inductive proximity sensor

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

Operating principle: via angular kinematics and pistons

Scope of delivery: Compensation unit in the ordered variant, elements for mechanical connection and safety information. Product-specific instructions can be downloaded at schunk.com/downloads-manuals.

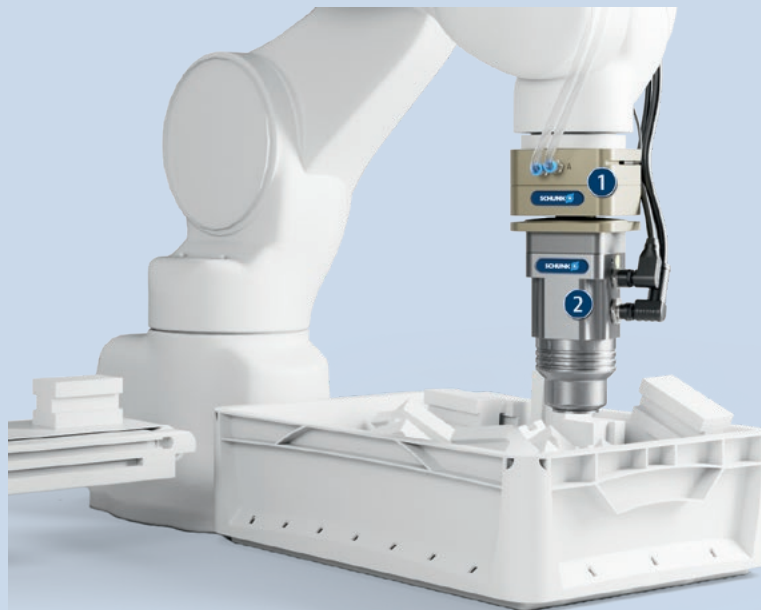
Warranty: 24 months

Harsh environmental conditions: Please note that use under harsh environmental conditions (e.g. in the coolant area, cast and grinding dust) can considerably reduce the service life of the units, and we will not take over any warranty. However, in many cases we can find a solution. Please contact us for assistance.

Torque load: refers to the maximum holding torque of the compensation unit.

Breakaway torque: defines the torque required to set the compensation unit in motion.

Fluid consumption: refers to the air consumption per one locking and unlocking cycle



Application example

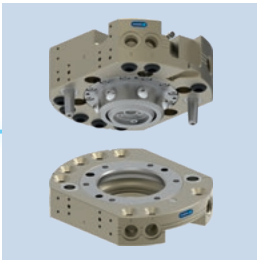
During bin picking, it is possible to compensate for inaccuracies thanks to the angular compensation, which enables the effective removal of differently arranged components.

① Compensation unit AGM-W

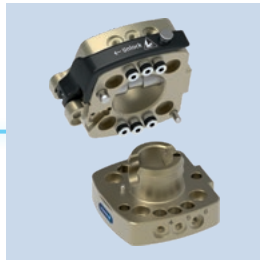
② Magnetic gripper EMH

SCHUNK offers more ...

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



Tool changer pneumatic



Manual tool changer



AGM-XY



AGM-Z



Magnetic switches



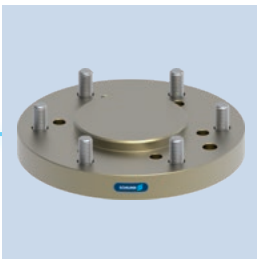
Inductive proximity switch



Electric magnetic gripper



Universal gripper



Adapter plates as per DIN ISO 9409

① For more information on these products can be found on the following product pages or at schunk.com.

AGM-W

Compensation unit

Order example AGM-W

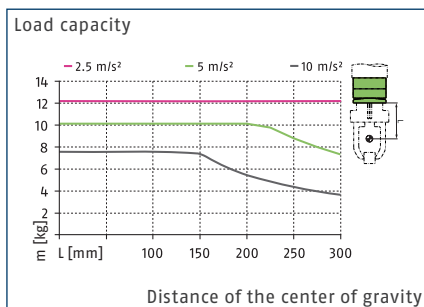
	AGM	-	WZ	-	080
Description					
AGM					
Compensation direction					
W = Angular compensation					
WZ = Compensation in z-axis and angular (combined)					
Size					
050					
063					
080					

AGM-W 050

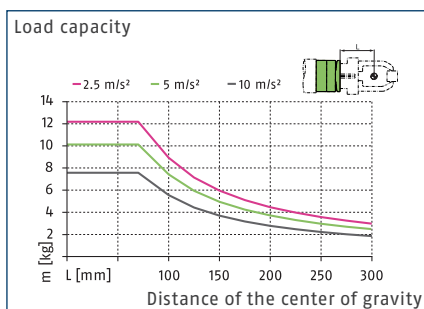
Compensation unit



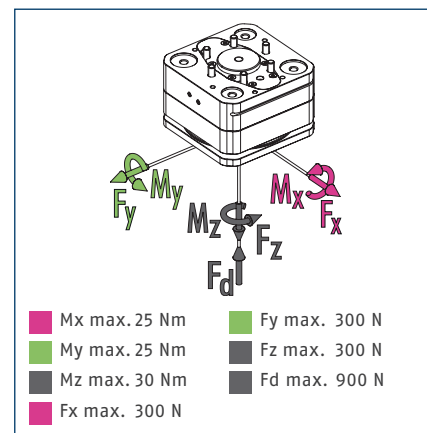
Load diagram – vertical setup, locked



Load diagram – horizontal setup, locked



Max. loads



① This is the sum of all static loads that are permitted to act on the compensation unit.

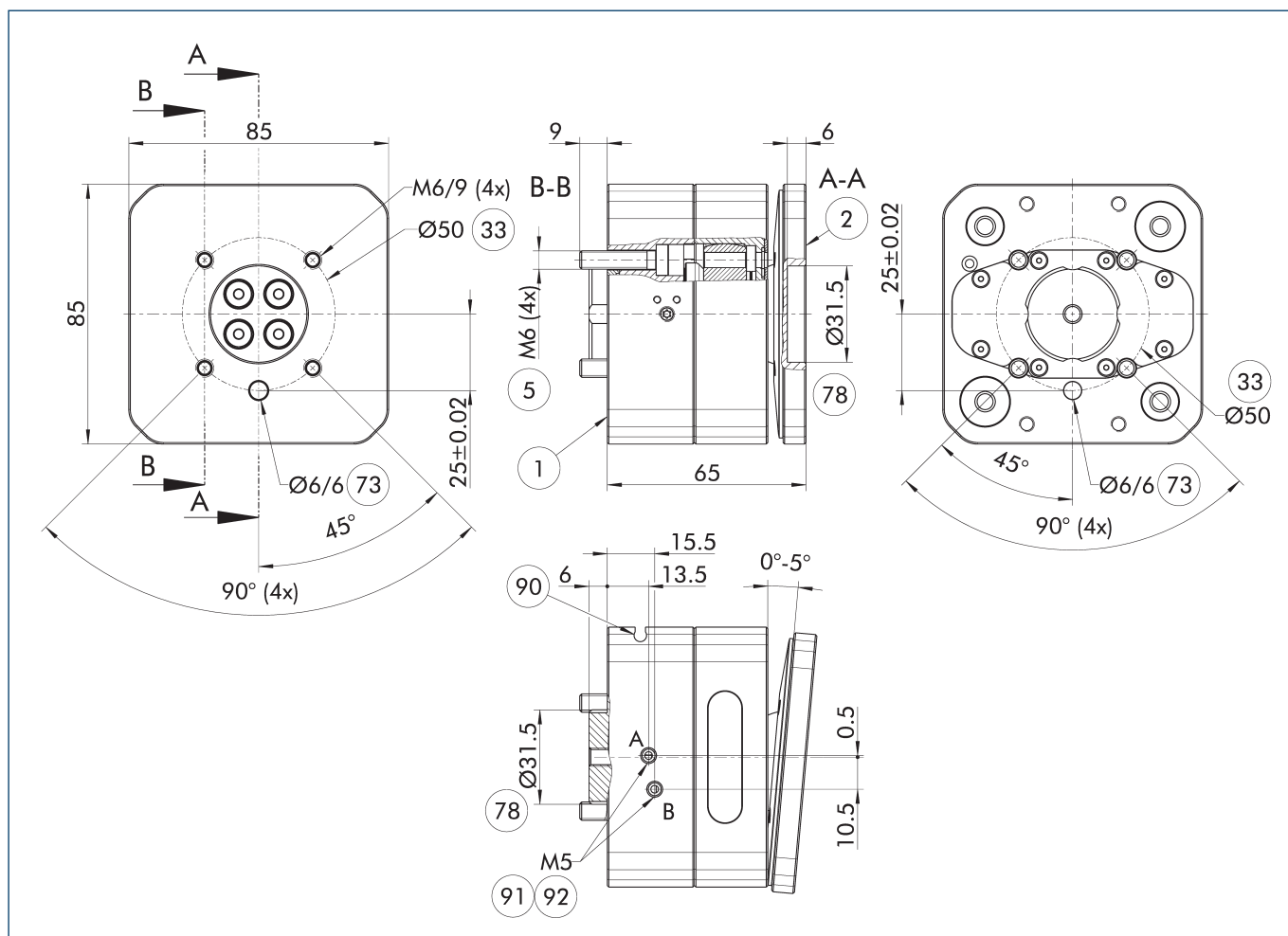
Technical data

Description		AGM-W 050
ID		1575996
Compensation angle	[°]	±5
Breakaway torque depressurized	[Nm]	2
Locking moment (A+B) Mx, My	[Nm]	15
Min./nom./max. operating pressure	[bar]	4/6/6.5
Min./max. operating pressure stiffness adjustment	[bar]	0/6.5
Angular repeatability	[°]	0.05
Robot-side connection		ISO 9409-1-50-4-M6
Tool-side connection		ISO 9409-1-50-4-M6
Weight	[kg]	1.2
Min./max. ambient temperature	[°C]	5/60
Locking time	[s]	0.07
IP protection class		40
Max. dynamic moment Mx/My	[Nm]	11
Max. dynamic moment Mz	[Nm]	15
Force Fx max. dynamic	[N]	150
Force Fy max. dynamic	[N]	150
Force Fz max. dynamic	[N]	150

① Further technical data can be found at schunk.com.

① We recommend the actuation of the locking and control pistons for the procedure, and actuation of the control piston for weight compensation for compensation in horizontal/inclined positions.

Main view AGM-W 050



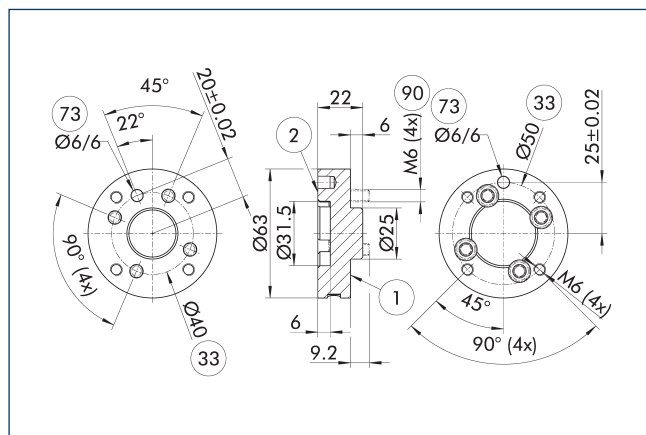
The drawing shows the basic version of the compensation unit in the middle position and the deflected position, without considering the dimensions of the options described below.

- | | |
|---|---|
| ① Robot-side connection | ⑦⑧ Fit for centering |
| ② Tool-side connection | ⑨⑩ Slot for magnetic switch |
| ⑤ Through hole for connection with screws | ⑪⑫ Air connection A+B locking |
| ③③ DIN ISO-9409 bolt circle | ⑬⑭ Air connection B weight compensation |
| ⑦③ Fit for centering pins | |

AGM-W 050

Compensation unit

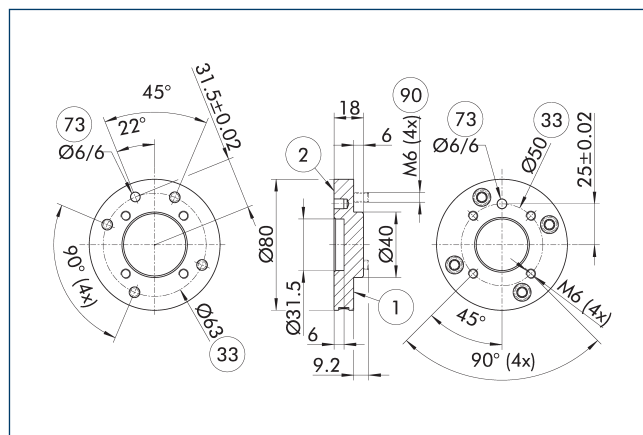
Adapter plate A-IS0050/IS0040



- ① Robot-side connection
- ② Tool-side connection
- ③ DIN ISO-9409 bolt circle
- ⑦ Fit for centering pins
- ⑨ Fastening screw for the screw connection on robot side

Description	ID	
Adapter plate		
A-IS0050/IS0040	1601229	

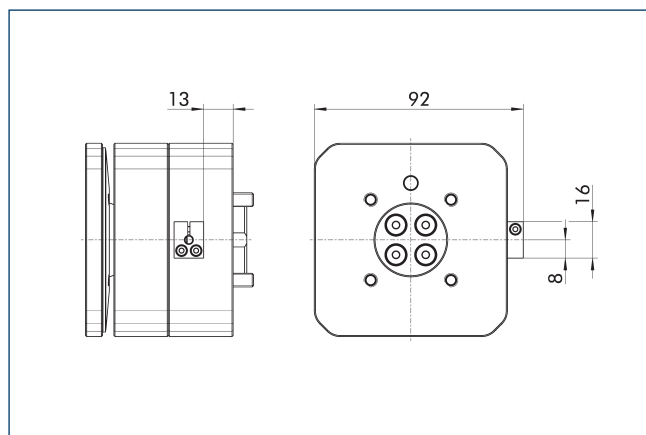
Adapter plate A-IS0050/IS0063



- ① Robot-side connection
- ② Tool-side connection
- ③ DIN ISO-9409 bolt circle
- ⑦ Fit for centering pins
- ⑨ Fastening screw for the screw connection on robot side

Description	ID	
Adapter plate		
A-IS0050/IS0063	1601240	

Attachment kit for proximity switch IN 40

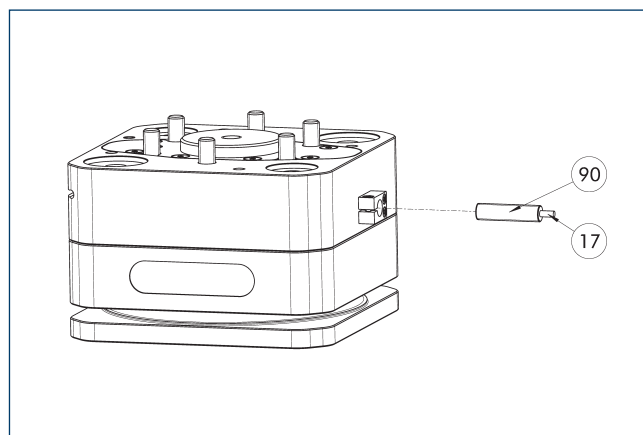


End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-AGM-W-050-IN40	1601739	

- ① This attachment kit needs to be ordered optionally as an accessory.

IN 40 inductive proximity switches



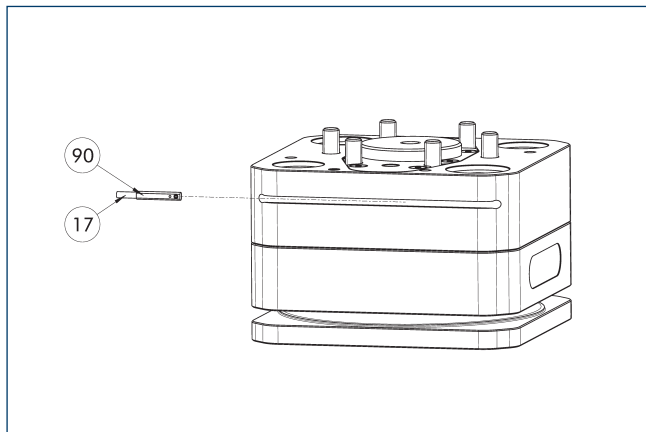
- ① Cable outlet
- ⑨ Inductive proximity switch

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-AGM-W-050-IN40	1601739	
Inductive proximity switch		
IN 40-S-M12	0301574	
IN 40-S-M8	0301474	●
INK 40-S	0301555	
Inductive proximity switch with lateral cable outlet		
IN 40-S-M12-SA	0301577	
IN 40-S-M8-SA	0301473	●
INK 40-S-SA	0301565	

- ① Per unit one sensor (closer/S) is required, optionally a cable extension. This attachment kit needs to be ordered optionally as an accessory. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Electronic magnetic switch MMS



⑰ Cable outlet

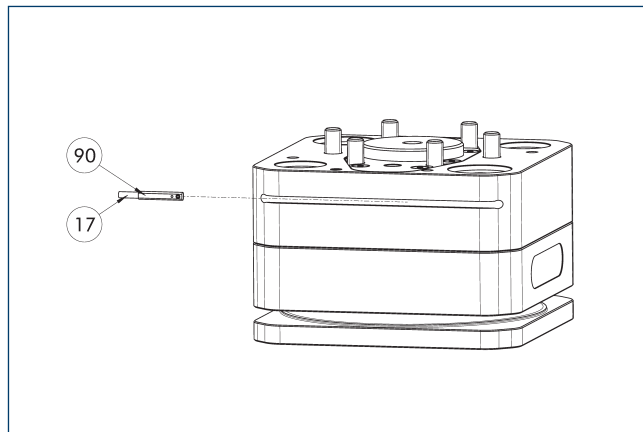
⑨⑩ Sensor MMS 22..

End position monitoring for mounting in the C-slot.

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	
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	
Clip for connector/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① One sensor is required per unit for monitoring. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

Programmable magnetic switch MMS 22-PI1



⑰ Cable outlet

⑨⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery, ID 0301030) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

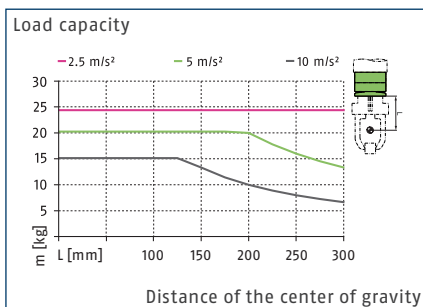
- ① One sensor is required per unit for monitoring. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

AGM-W 063

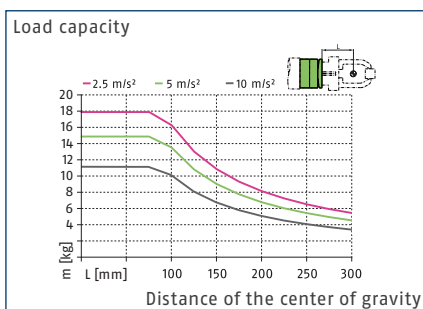
Compensation unit



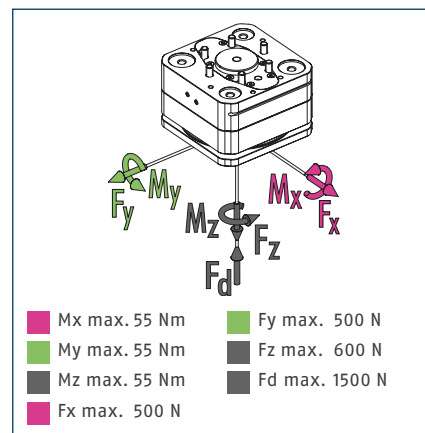
Load diagram – vertical setup, locked



Load diagram – horizontal setup, locked



Max. loads



① This is the sum of all static loads that are permitted to act on the compensation unit.

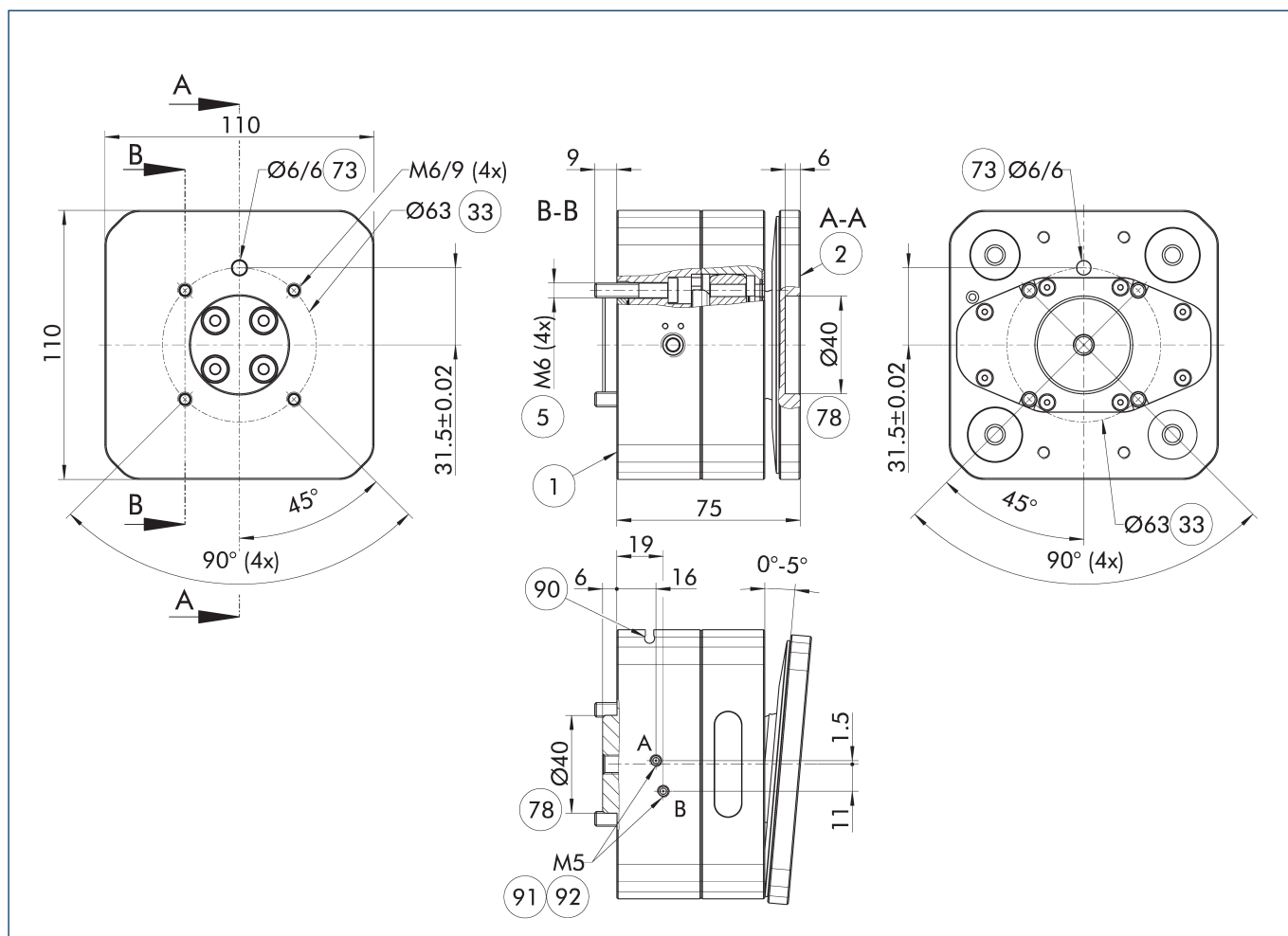
Technical data

Description		AGM-W 063
ID		1575997
Compensation angle	[°]	±5
Breakaway torque depressurized	[Nm]	3
Locking moment (A+B) Mx, My	[Nm]	30
Min./nom./max. operating pressure	[bar]	4/6/6.5
Min./max. operating pressure stiffness adjustment	[bar]	0/6.5
Angular repeatability	[°]	0.05
Robot-side connection		ISO 9409-1-63-4-M6
Tool-side connection		ISO 9409-1-63-4-M6
Weight	[kg]	2.3
Min./max. ambient temperature	[°C]	5/60
Locking time	[s]	0.08
IP protection class		40
Max. dynamic moment Mx/My	[Nm]	20
Max. dynamic moment Mz	[Nm]	35
Force Fx max. dynamic	[N]	220
Force Fy max. dynamic	[N]	220
Force Fz max. dynamic	[N]	300

① Further technical data can be found at schunk.com.

① We recommend the actuation of the locking and control pistons for the procedure, and actuation of the control piston for weight compensation for compensation in horizontal/inclined positions.

Main view AGM-W 063



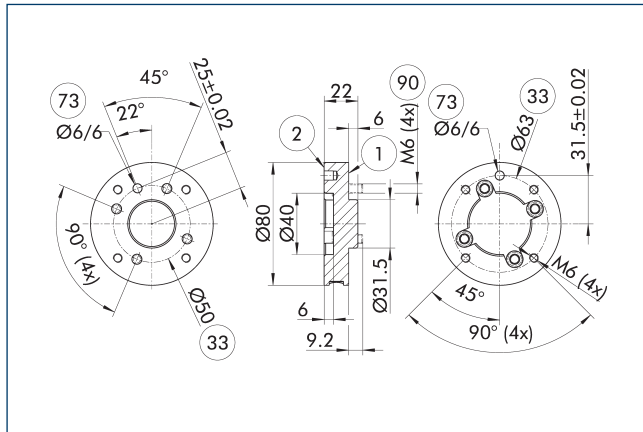
The drawing shows the basic version of the compensation unit in the middle position and the deflected position, without considering the dimensions of the options described below.

- | | |
|---|---|
| ① Robot-side connection | ⑦⑧ Fit for centering |
| ② Tool-side connection | ⑨⑩ Slot for magnetic switch |
| ⑤ Through hole for connection with screws | ⑨① Air connection A+B locking |
| ③③ DIN ISO-9409 bolt circle | ⑨② Air connection B weight compensation |
| ⑦③ Fit for centering pins | |

AGM-W 063

Compensation unit

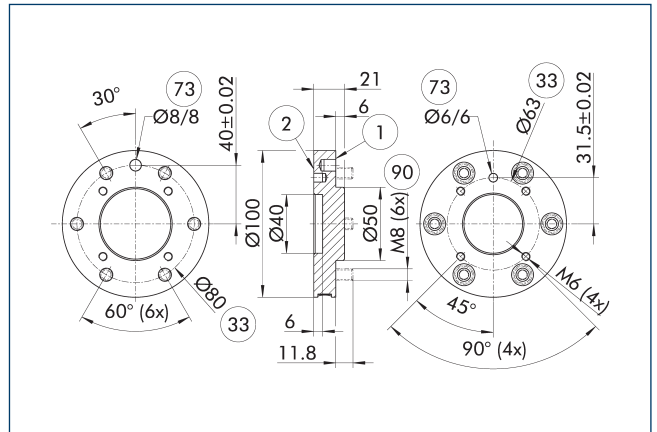
Adapter plate A-IS0063/IS0050



- ① Robot-side connection
- ② Tool-side connection
- ③③ DIN ISO-9409 bolt circle
- ⑦③ Fit for centering pins
- ⑨⑨ Fastening screw for the screw connection on robot side

Description	ID	
Adapter plate		
A-IS0063/IS0050	1601241	

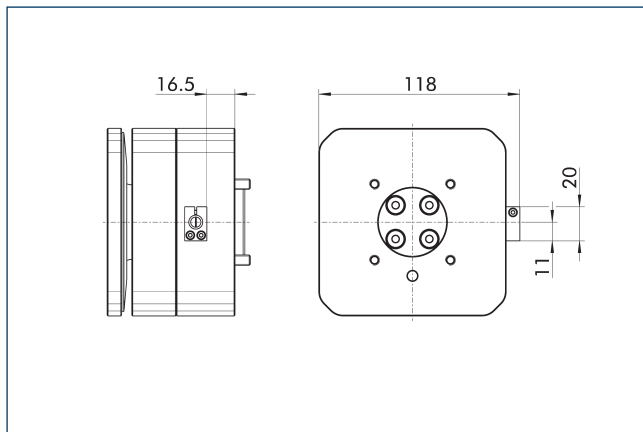
Adapter plate A-IS0063/IS0080



- ① Robot-side connection
- ② Tool-side connection
- ③③ DIN ISO-9409 bolt circle
- ⑦③ Fit for centering pins
- ⑨⑨ Fastening screw for the screw connection on robot side

Description	ID	
Adapter plate		
A-IS0063/IS0080	1601243	

Attachment kit for proximity switch IN 80

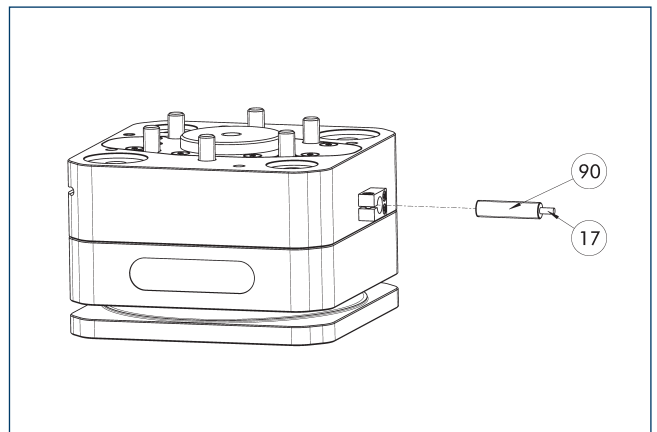


End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-AGM-W-063/080-IN80	1601745	

- ① This attachment kit needs to be ordered optionally as an accessory.

IN 80 inductive proximity switches



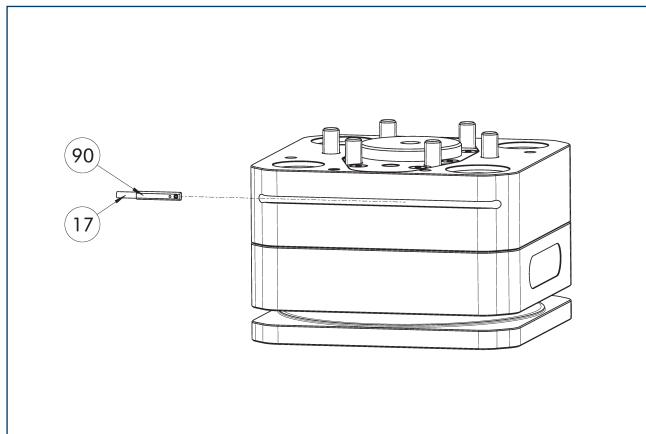
- ①⑦ Cable outlet
- ⑨⑨ Inductive proximity switch

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-AGM-W-063/080-IN80	1601745	
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

- ① Per unit one sensor (closer/S) is required, optionally a cable extension. This attachment kit needs to be ordered optionally as an accessory. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Electronic magnetic switch MMS



⑰ Cable outlet

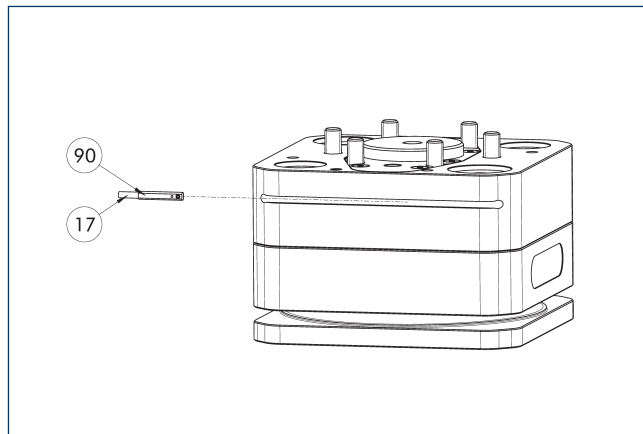
⑨⑩ Sensor MMS 22..

End position monitoring for mounting in the C-slot.

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	
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	
Clip for connector/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① One sensor is required per unit for monitoring. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

Programmable magnetic switch MMS 22-PI1



⑰ Cable outlet

⑨⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery, ID 0301030) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

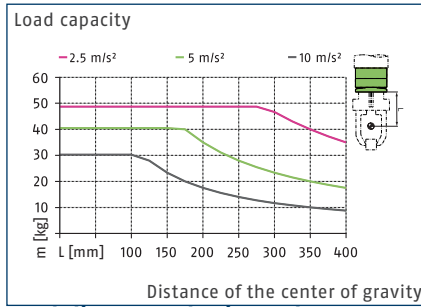
- ① One sensor is required per unit for monitoring. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

AGM-W 080

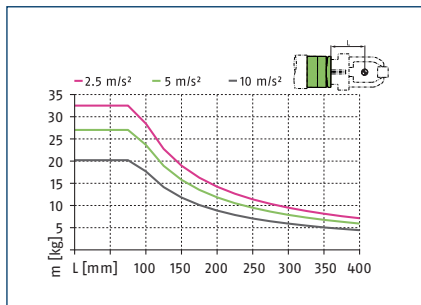
Compensation unit



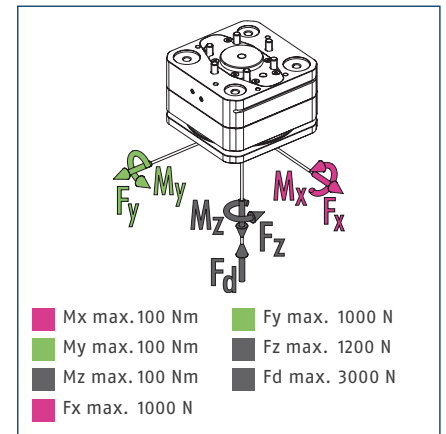
Load diagram – vertical setup, locked



Load diagram – horizontal setup, locked



Max. loads



① This is the sum of all static loads that are permitted to act on the compensation unit.

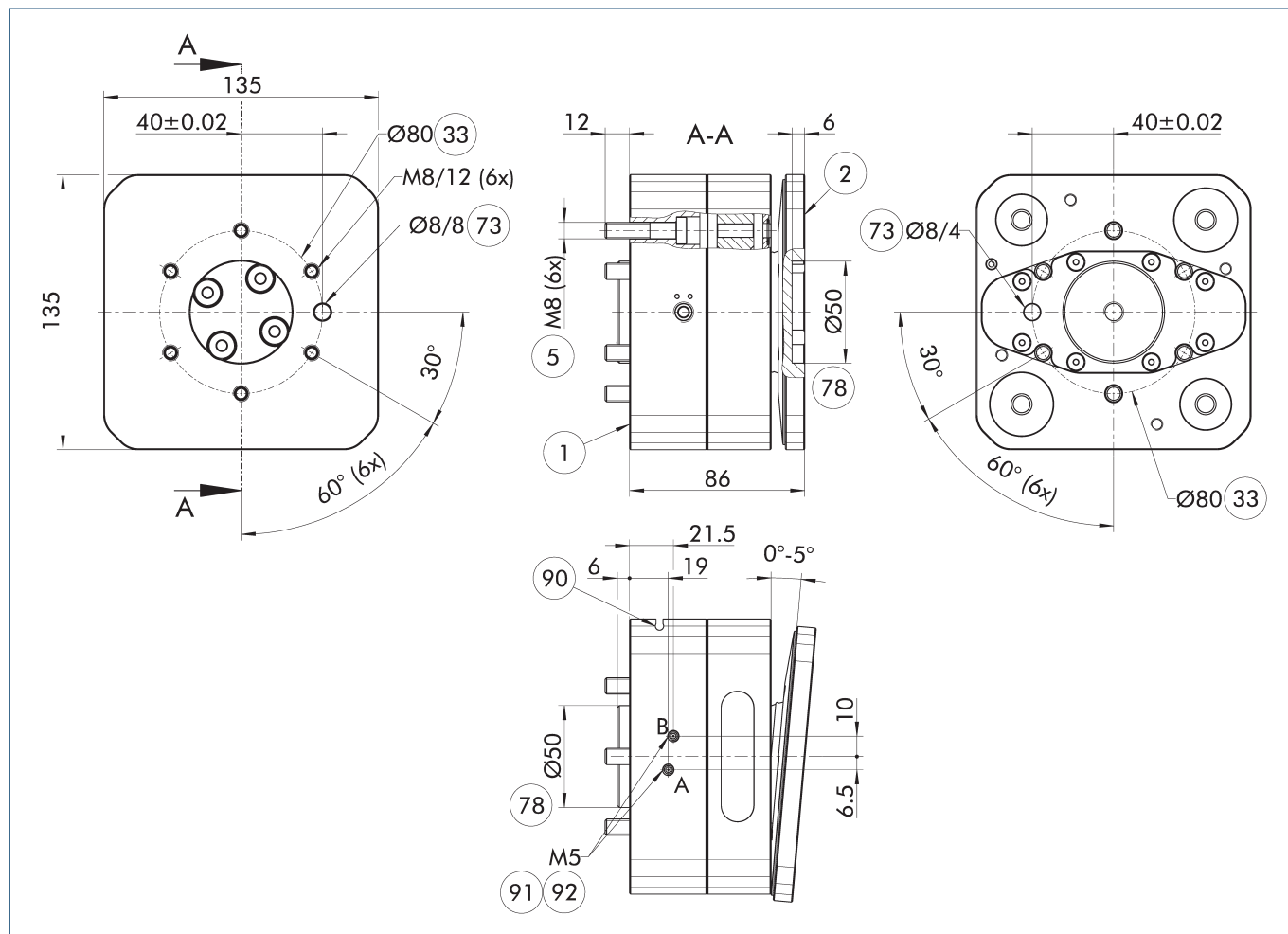
Technical data

Description		AGM-W 080
ID		1575998
Compensation angle	[°]	±5
Breakaway torque depressurized	[Nm]	6
Locking moment (A+B) Mx, My	[Nm]	50
Min./nom./max. operating pressure	[bar]	4/6/6.5
Min./max. operating pressure stiffness adjustment	[bar]	0/6.5
Angular repeatability	[°]	0.08
Robot-side connection		ISO 9409-1-80-6-M8
Tool-side connection		ISO 9409-1-80-6-M8
Weight	[kg]	4
Min./max. ambient temperature	[°C]	5/60
Locking time	[s]	0.05
IP protection class		40
Max. dynamic moment Mx/My	[Nm]	35
Max. dynamic moment Mz	[Nm]	50
Force Fx max. dynamic	[N]	400
Force Fy max. dynamic	[N]	400
Force Fz max. dynamic	[N]	600

① Further technical data can be found at schunk.com.

① We recommend the actuation of the locking and control pistons for the procedure, and actuation of the control piston for weight compensation for compensation in horizontal/inclined positions.

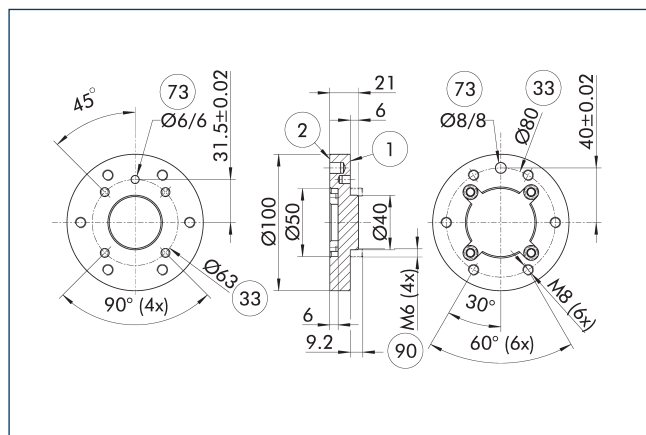
Main view AGM-W 080



The drawing shows the basic version of the compensation unit in the middle position and the deflected position, without considering the dimensions of the options described below.

- | | |
|---|--|
| ① Robot-side connection | ⑦ Fit for centering |
| ② Tool-side connection | ⑨ Slot for magnetic switch |
| ⑤ Through hole for connection with screws | ⑩ Air connection A+B locking |
| ③ DIN ISO-9409 bolt circle | ⑪ Air connection B weight compensation |
| ⑦ Fit for centering pins | |

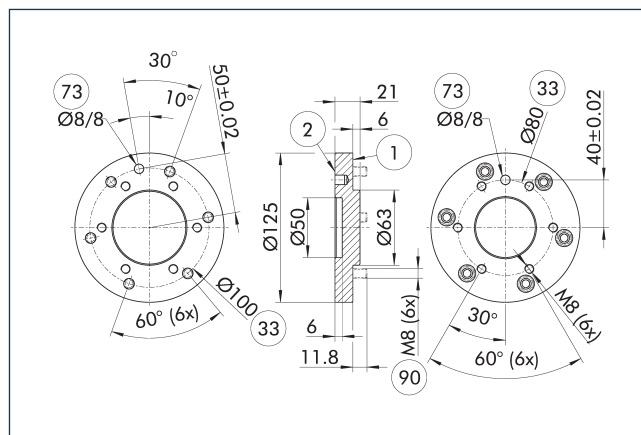
Adapter plate A-IS0080/IS0063



- ① Robot-side connection
- ② Tool-side connection
- ③③ DIN ISO-9409 bolt circle
- ⑦③ Fit for centering pins
- ⑨⑨ Fastening screw for the screw connection on robot side

Description	ID	
Adapter plate		
A-IS0080/IS0063	1601244	

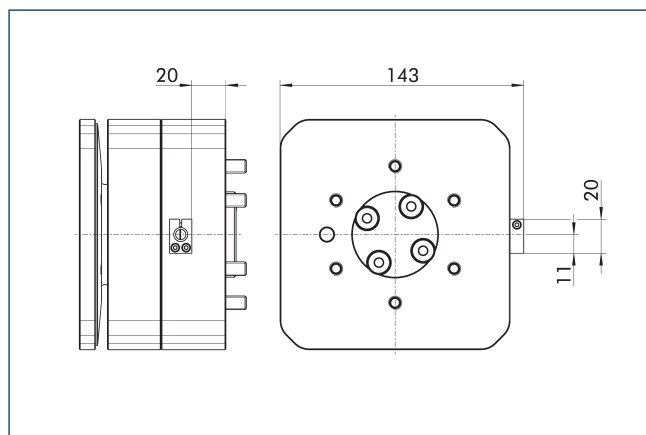
Adapter plate A-IS0080/IS0100



- ① Robot-side connection
- ② Tool-side connection
- ③③ DIN ISO-9409 bolt circle
- ⑦③ Fit for centering pins
- ⑨⑨ Fastening screw for the screw connection on robot side

Description	ID	
Adapter plate		
A-IS0080/IS0100	1601245	

Attachment kit for proximity switch IN 80

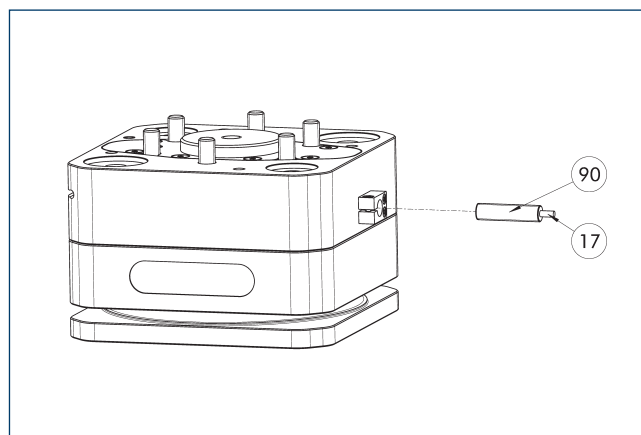


End position monitoring can be mounted with an attachment kit.

Description	ID	
Attachment kit for proximity switch		
AS-AGM-W-063/080-IN80	1601745	

- ① This attachment kit needs to be ordered optionally as an accessory.

IN 80 inductive proximity switches



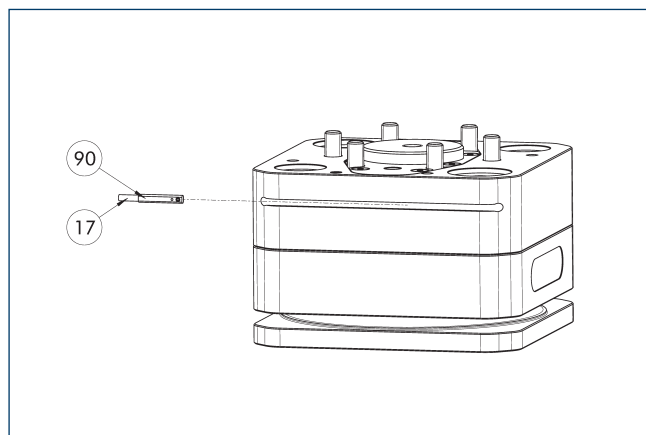
- ①⑦ Cable outlet
- ⑨⑨ Inductive proximity switch

End position monitoring can be mounted with an attachment kit.

Description	ID	Often combined
Attachment kit for proximity switch		
AS-AGM-W-063/080-IN80	1601745	
Inductive proximity switch		
IN 80-S-M12	0301578	
IN 80-S-M8	0301478	●
INK 80-S	0301550	
Inductive proximity switch with lateral cable outlet		
IN 80-S-M12-SA	0301587	
IN 80-S-M8-SA	0301483	●
INK 80-S-SA	0301566	

- ① Per unit one sensor (closer/S) is required, optionally a cable extension. This attachment kit needs to be ordered optionally as an accessory. Please consider the minimum permissible bending radii for sensor cables. These are generally 35 mm.

Electronic magnetic switch MMS



⑰ Cable outlet

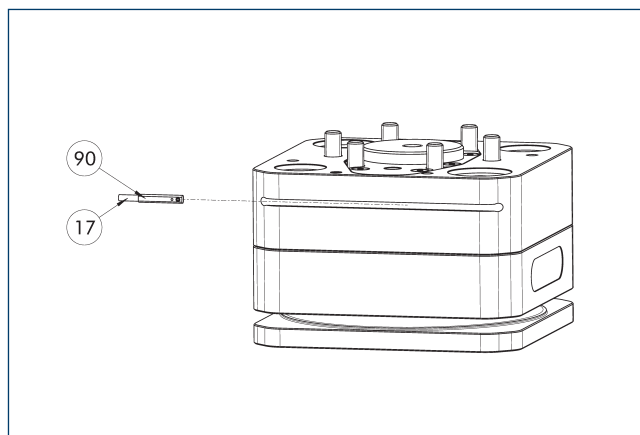
⑨⑩ Sensor MMS 22..

End position monitoring for mounting in the C-slot.

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	
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	
Clip for connector/socket		
CLI-M8	0301463	
Cable extension		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
Sensor distributor		
V2-M8	0301775	●
V4-M8	0301746	
V8-M8	0301751	

- ① One sensor is required per unit for monitoring. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.

Programmable magnetic switch MMS 22-PI1



⑰ Cable outlet

⑨⑩ Sensor MMS 22 PI1-...

Position monitoring with one programmable position per sensor and integrated electronic system in the sensor. Can be programmed using MT magnetic teaching tool (included in the scope of delivery, ID 0301030) or ST plug teaching tool (optional). End position monitoring for mounting in the C-slot. If the ST plug teaching tools are listed in the table provided, teaching is only possible with the ST teaching tools.

Description	ID	Often combined
Programmable magnetic switch		
MMS 22-PI1-S-M8-PNP	0301160	●
MMSK 22-PI1-S-PNP	0301162	
Programmable magnetic switch with lateral cable outlet		
MMS 22-PI1-S-M8-PNP-SA	0301166	●
MMSK 22-PI1-S-PNP-SA	0301168	
Programmable magnetic switch with stainless steel housing		
MMS 22-PI1-S-M8-PNP-HD	0301110	●
MMSK 22-PI1-S-PNP-HD	0301112	

- ① One sensor is required per unit for monitoring. Extension cables and sensor distributors are optionally available. Additional product variants of the sensor, and further information and technical data can be found in the catalog chapter sensor systems.



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