

**Compensation in all 3 Axis Directions and with a Compensation Stroke of up to 12 mm.**



# Compensating



### AGE-Z 2 Compensation Unit

Series	Size	Page
AGE-Z 2		464
AGE-Z 2	50	468
AGE-Z 2	63	472

Series	Size	Page
AGE-Z 2	80	476



### AGE-XY Compensation Unit

Series	Size	Page
AGE-XY		480
AGE-XY	050	486
AGE-XY	063	490

Series	Size	Page
AGE-XY	080	494



### XY Compensation Unit with spring return

Series	Size	Page
AGE-F		498
AGE-F	031	502
AGE-F	040	506

Series	Size	Page
AGE-F	063	510
AGE-F	080	514



### AGE-S-XYZ Compensation Unit

Series	Size	Page
AGE-S		518
AGE-S	100	524
AGE-S	125	528

Series	Size	Page
AGE-S	160	532
AGE-S	200	536



### TCU-P Tolerance Compensation Unit

Series	Size	Page
TCU-P		540
TCU-P	050	544
TCU-P	064	548
TCU-P	080	552

Series	Size	Page
TCU-P	100	556
TCU-P	125	560
TCU-P	160	564
TCU-P	200	568



### TCU-Z Tolerance Compensation Unit

Series	Size	Page
TCU-Z		572
TCU-Z	050	576
TCU-Z	064	578
TCU-Z	080	582

Series	Size	Page
TCU-Z	100	586
TCU-Z	125	590
TCU-Z	160	594
TCU-Z	200	598



### FUS Insertion Unit

Series	Size	Page
FUS		602
FUS	001-30	606
FUS	001	608

Series	Size	Page
FUS	100	610
FUS	200	614
FUS	400	618



# AGE-Z 2

Robot Accessories | Compensating | Z-Compensation Unit

## Compact. Compliant. Flexible.

### AGE-Z 2 Compensation Unit

Compensation unit compensating in Z-direction.

#### 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

**Locking** for fixing the unit rigidly in a defined, extended or retracted position

**Compact design** for minimum installation height

**Can be combined with AGE-XY without additional adapter plate**



Sizes  
Quantity: 3



Handling weight  
5 .. 12 kg

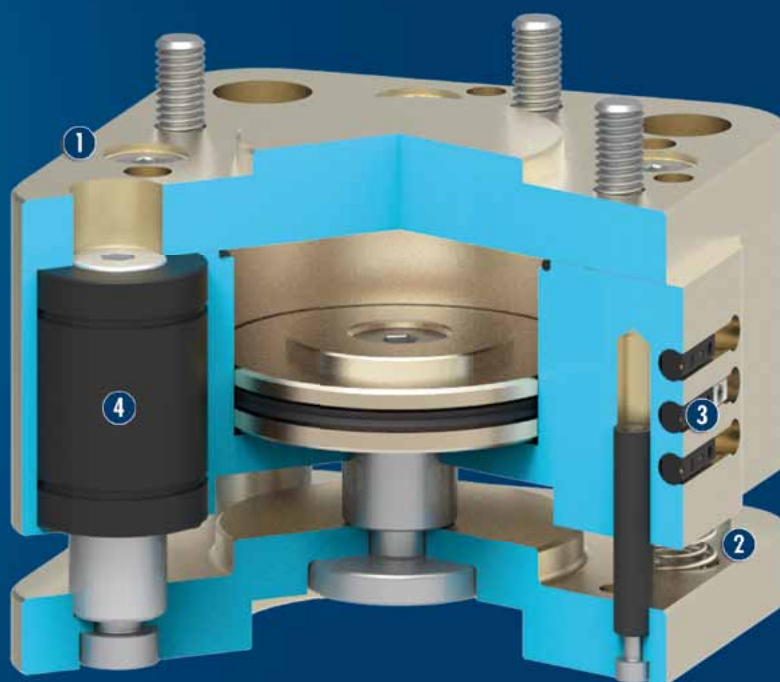


Compensation Z  
8 .. 10 mm

## Functional Description

The compensation unit AGE-Z 2 enables a Z-compensation of different pickup and stacking positions. The compensation unit is guided by a ball guide without play. Compression springs define the rigidity of the AGE-Z 2. It can be increased by additional actuation of the

pneumatic cylinder. Moreover, the cylinder allows locking of the unit for dynamic movements. Monitoring of the retracted and extended positions is possible via sensors.



- ① **Housing**  
Weight-optimized through application of high-strength aluminum alloy
- ② **Compression springs**  
for defined pressure forces when depositing

- ③ **Monitoring groove**  
stroke monitoring of the locking piston with magnetic switches
- ④ **Ball bearings, free from play**  
for great torque capacity at minimum size

CAD data, operating manuals and other current product documents are available at [www.schunk.com](http://www.schunk.com)

# AGE-Z 2

Robot Accessories | Compensating | Z-Compensation Unit

## General Notes to the Series

**Guiding system:** scope-free ball guides

**Monitoring:** via magnetic or inductive sensor

**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](http://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

Robot-gripper unit with compliant Z-axis for compensating tolerances during use.

- ① AGE-Z 2 Compensation Unit
- ② PZN-plus 3-Finger Centric Gripper
- ③ SWS Quick-change System
- ④ Electric Module
- ⑤ Cable Connector

## SCHUNK offers more ...

The following components make the AGE-Z 2 even more productive – the perfect complement for highest functionality, flexibility, and process reliability.



Fittings



MMS Magnetic Switch



Sensor Cables



PGN-plus Universal Gripper



EGM Electrical Magnetic Gripper



HWS Manual Gripper Change System



PZN-plus Centric Gripper



SWS Quick-change System



OPR Collision and Overload Sensor

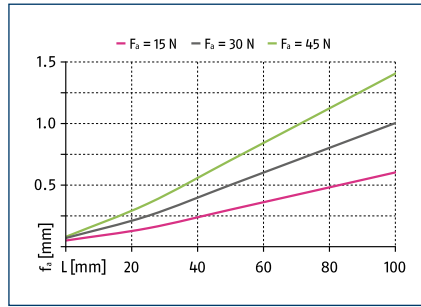
① Further information regarding the products can be found on the following products pages or at [www.schunk.com](http://www.schunk.com). Please contact us for further information: SCHUNK technical hotline +49-7133-103-2696

# AGE-Z 2 50

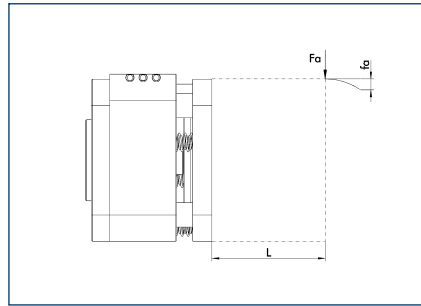
Robot Accessories | Compensating | Z-Compensation Unit



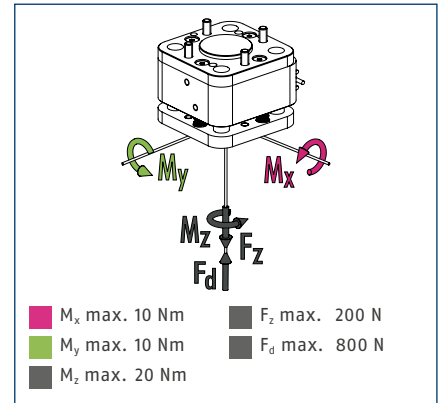
## Load chart



## Deflection



## Forces and moments



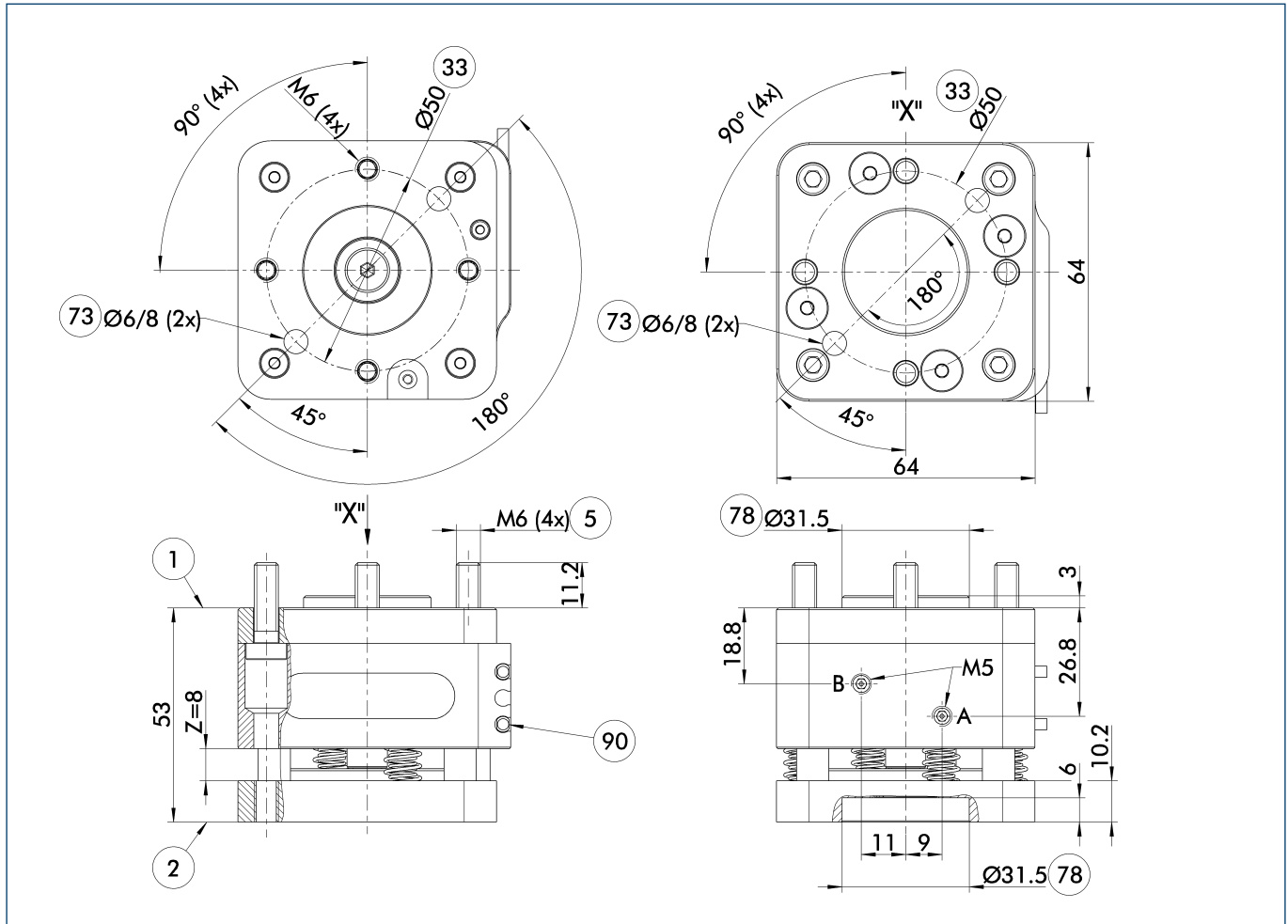
ⓘ This is the max. total of all loads (acceleration forces and torques, process forces etc.), that can affect a compensation unit while still maintaining error-free function.

## Technical data

Description		AGE-Z 2-050-1	AGE-Z 2-050-2
ID		0324453	0324454
Compensation Z	[mm]	8	8
max. vertical payload	[kg]	5	5
Locking force retracted at 6 bar	[N]	300	280
Locking force extended at 6 bar	[N]	500	500
min. spring force	[N]	20	40
max. spring force	[N]	40	60
max. operating pressure	[bar]	6	6
Repeat accuracy	[mm]	0.02	0.02
Robot side connection		ISO 9409-1-50-4-M6	ISO 9409-1-50-4-M6
Mass	[kg]	0.55	0.55

The load chart shows the AGE-Z deflection under load and in the unlocked state

## Main view

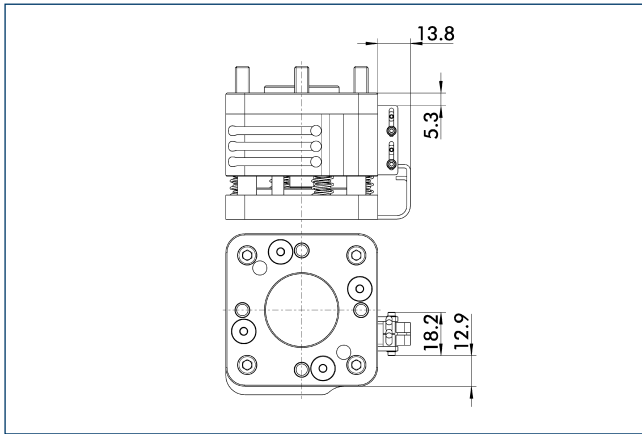


The main view shows the AGE-Z 2 in extended position.

- |   |   |
|---|---|
| A, a Unit, retracted                      | 33 DIN ISO-9409 bolt-hole circle diameter |
| B, b Unit, extended                       | 73 Fit for a centering pin                |
| 1 Robot side connection                   | 78 Fitting for centering                  |
| 2 Tool side connection                    | 90 MMS 22... sensor                       |
| 5 Through-hole for connection with screws |   |



## Mounting kit for IN 5 proximity switch

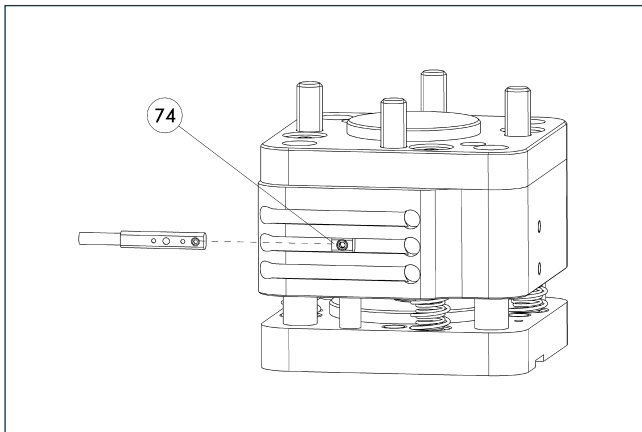


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-AGE-Z 2-IN5	0324490

① This mounting kit needs to be ordered separately as an accessory.

## MMS-P programmable magnetic switch



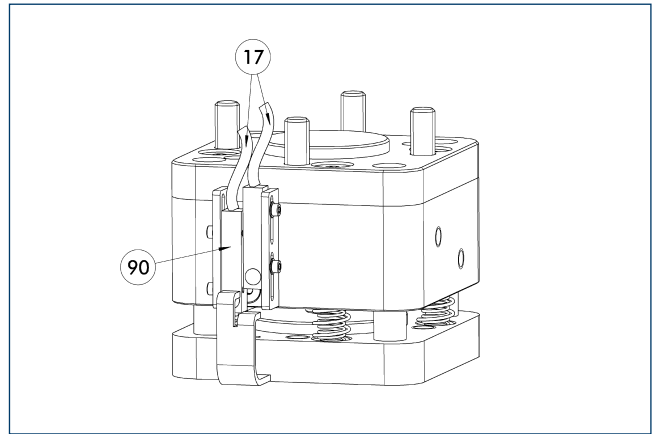
74 Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Often combined
MMS-P programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
Clip		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XM8-3P	0301380	

① Per unit one sensor (closer/S) is required, optionally a cable extension. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## IN 5 inductive proximity switches over mounting kit



17 Cable outlet

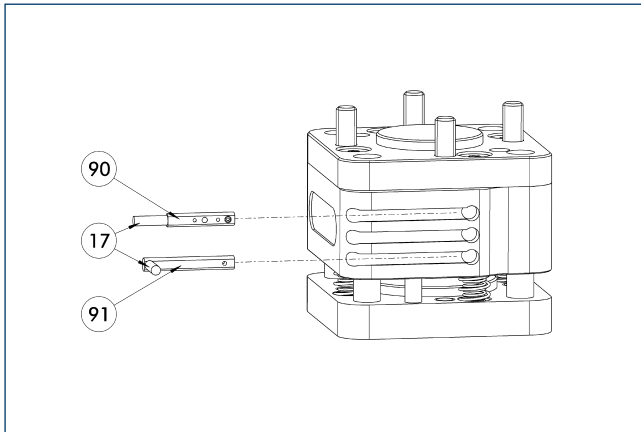
90 IN ... sensor

End position monitoring via two inductive sensors.

Description	ID	Often combined
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M8	0301775	●
V2-M12	0301776	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

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.

## MMS electronic magnetic switches



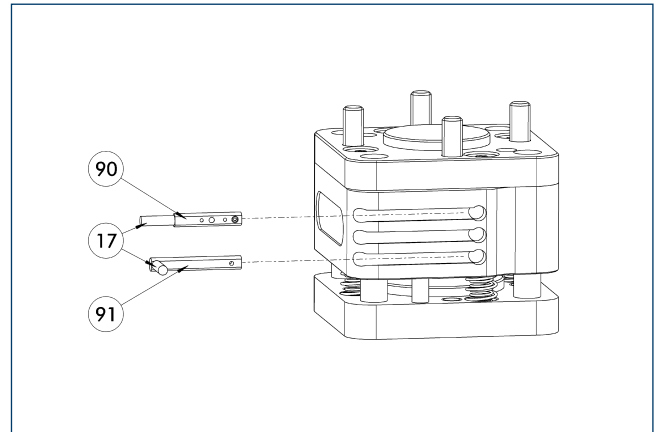
- ①⑦ Cable outlet  
 ⑨① MMS 22...-SA sensor  
 ⑨① MMS 22... sensor

End position monitoring for mounting in the C-slot

Description	ID	Often combined
<b>MMS electronic magnetic switches</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>MMS electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Clip</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/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.

## MMS PI1 programmable magnetic switch



- ①⑦ Cable outlet  
 ⑨① MMS 22...-PI1-...-SA sensor  
 ⑨① MMS 22...PI1-... sensor

Position monitoring with a programmable position per each sensor. The electronic system is integrated in the sensor. Programmable via magnetic teach-in tool MT (included in delivery) or plug-in teachable tool ST (on option). Monitoring of the end position is integrated in the C-slot. If the plug-in teachable tools need to be directly indicated as an accessory of the actuator, the magnetic switches MMS...-PI... at the actuators can be only taught via the plug-in teach tool ST.

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

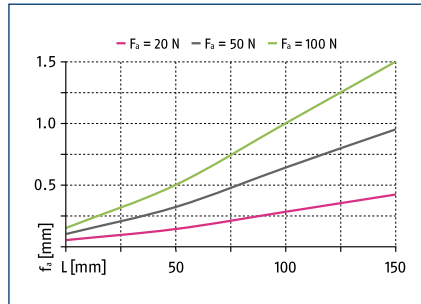
- ① Two sensors (closer/NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

# AGE-Z 2 63

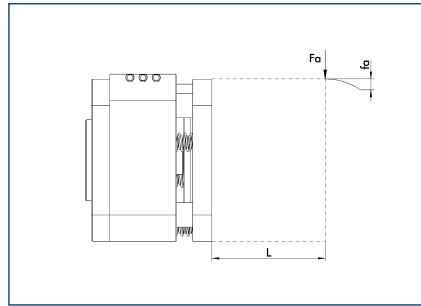
Robot Accessories | Compensating | Z-Compensation Unit



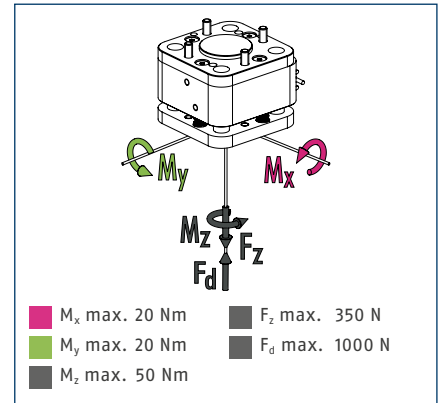
## Load chart



## Deflection



## Forces and moments



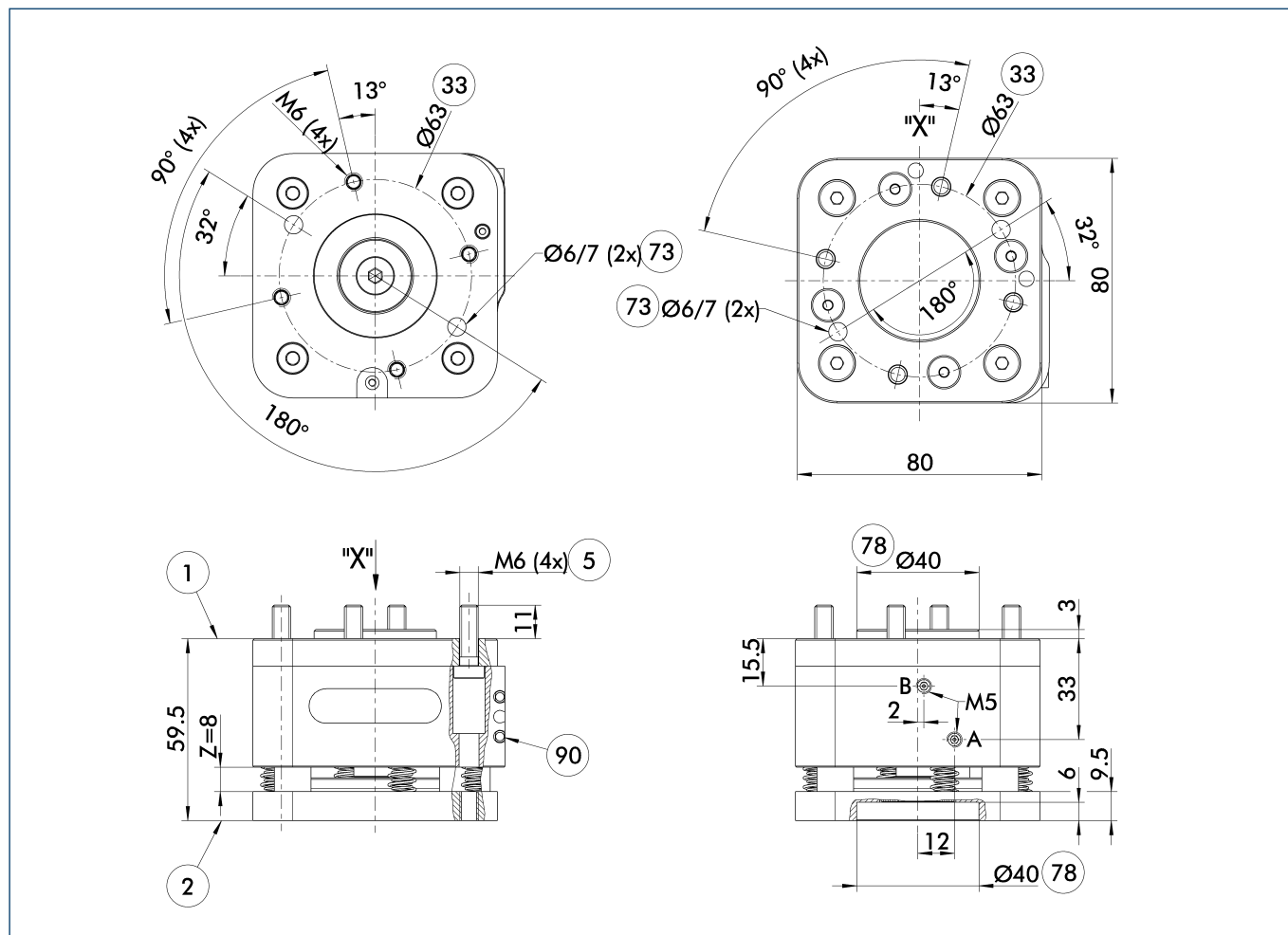
ⓘ This is the max. total of all loads (acceleration forces and torques, process forces etc.), that can affect a compensation unit while still maintaining error-free function.

## Technical data

Description		AGE-Z 2-063-1	AGE-Z 2-063-2
ID		0324466	0324467
Compensation Z	[mm]	8	8
max. vertical payload	[kg]	9	9
Locking force retracted at 6 bar	[N]	800	750
Locking force extended at 6 bar	[N]	900	900
min. spring force	[N]	40	60
max. spring force	[N]	60	100
max. operating pressure	[bar]	6	6
Repeat accuracy	[mm]	0.02	0.02
Robot side connection		ISO 9409-1-63-4-M6	ISO 9409-1-63-4-M6
Mass	[kg]	0.8	0.8

The load chart shows the AGE-Z deflection under load and in the unlocked state

Main view



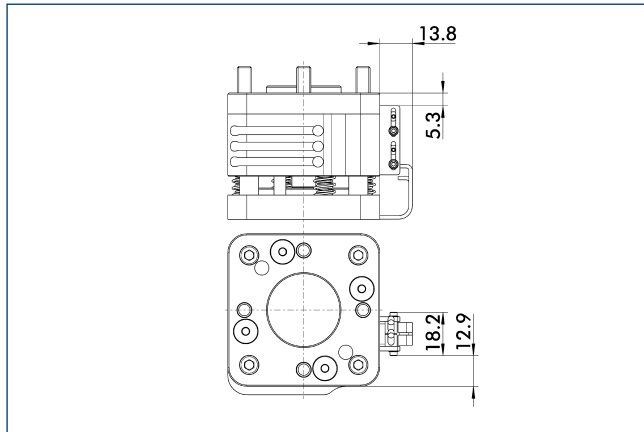
The main view shows the AGE-Z 2 in extended position.

- |   |   |
|---|---|
| A, a Unit, retracted                      | 33 DIN ISO-9409 bolt-hole circle diameter |
| B, b Unit, extended                       | 73 Fit for a centering pin                |
| 1 Robot side connection                   | 78 Fitting for centering                  |
| 2 Tool side connection                    | 90 MMS 22... sensor                       |
| 5 Through-hole for connection with screws |   |

# AGE-Z 2 63

Robot Accessories | Compensating | Z-Compensation Unit

## Mounting kit for IN 5 proximity switch

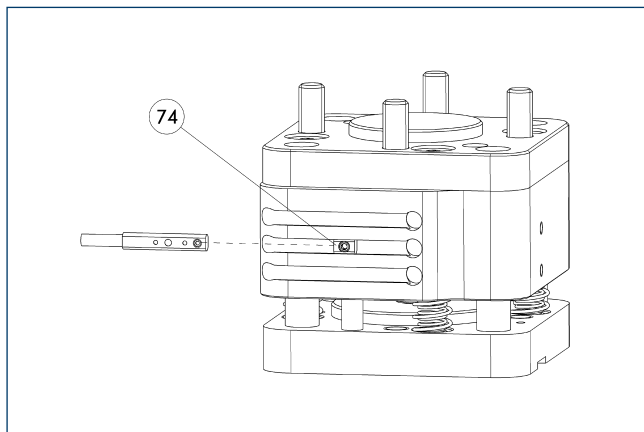


End position monitoring mounted with mounting kit

Description	ID
Mounting kit for proximity switch	
AS-AGE-Z 2-IN5	0324490

① This mounting kit needs to be ordered separately as an accessory.

## MMS-P programmable magnetic switch



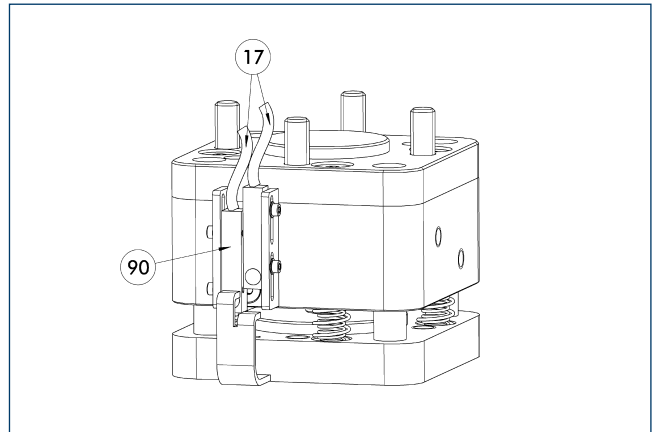
⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Often combined
MMS-P programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
Clip		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XM8-3P	0301380	

① Per unit one sensor (closer/S) is required, optionally a cable extension. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## IN 5 inductive proximity switches over mounting kit



①⑦ Cable outlet

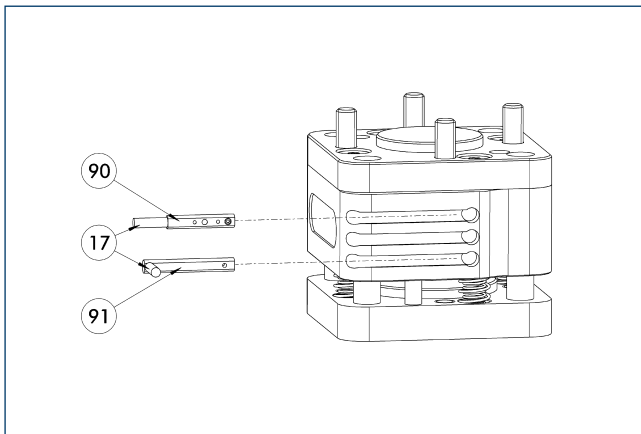
⑨⑩ IN ... sensor

End position monitoring via two inductive sensors.

Description	ID	Often combined
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M8	0301775	●
V2-M12	0301776	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

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.

## MMS electronic magnetic switches



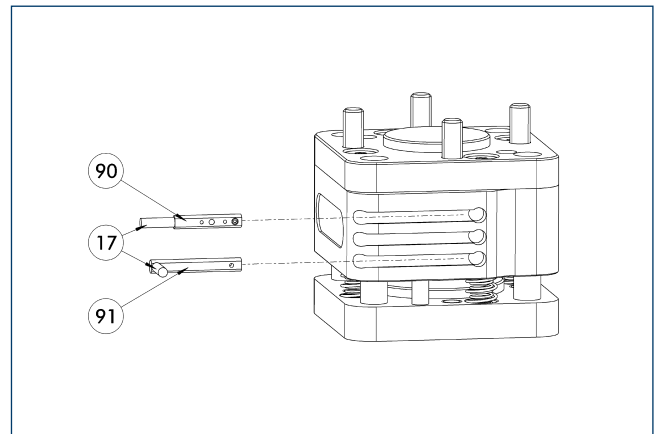
- ① Cable outlet  
 ② MMS 22...-SA sensor  
 ③ MMS 22... sensor

End position monitoring for mounting in the C-slot

Description	ID	Often combined
<b>MMS electronic magnetic switches</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>MMS electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Clip</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	

- ④ 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.

## MMS PI1 programmable magnetic switch



- ① Cable outlet  
 ② MMS 22...-PI1-...-SA sensor  
 ③ MMS 22...PI1-... sensor

Position monitoring with a programmable position per each sensor. The electronic system is integrated in the sensor. Programmable via magnetic teach-in tool MT (included in delivery) or plug-in teachable tool ST (on option). Monitoring of the end position is integrated in the C-slot. If the plug-in teachable tools need to be directly indicated as an accessory of the actuator, the magnetic switches MMS...-PI... at the actuators can be only taught via the plug-in teach tool ST.

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

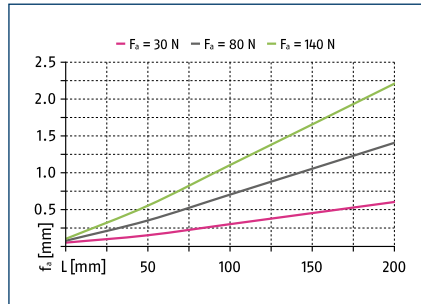
- ④ Two sensors (closer/NO) are required for each unit, plus extension cables as an option. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

# AGE-Z 2 80

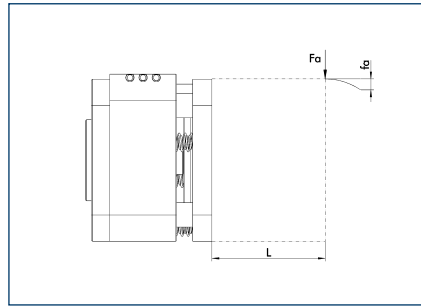
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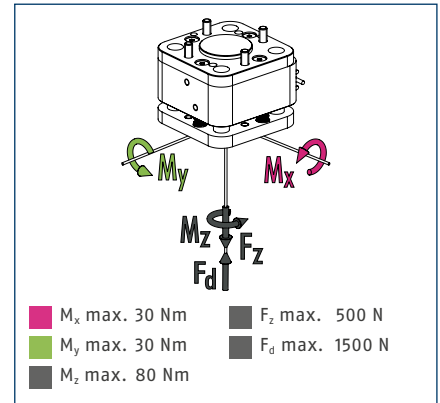
## Load chart



## Deflection



## Forces and moments



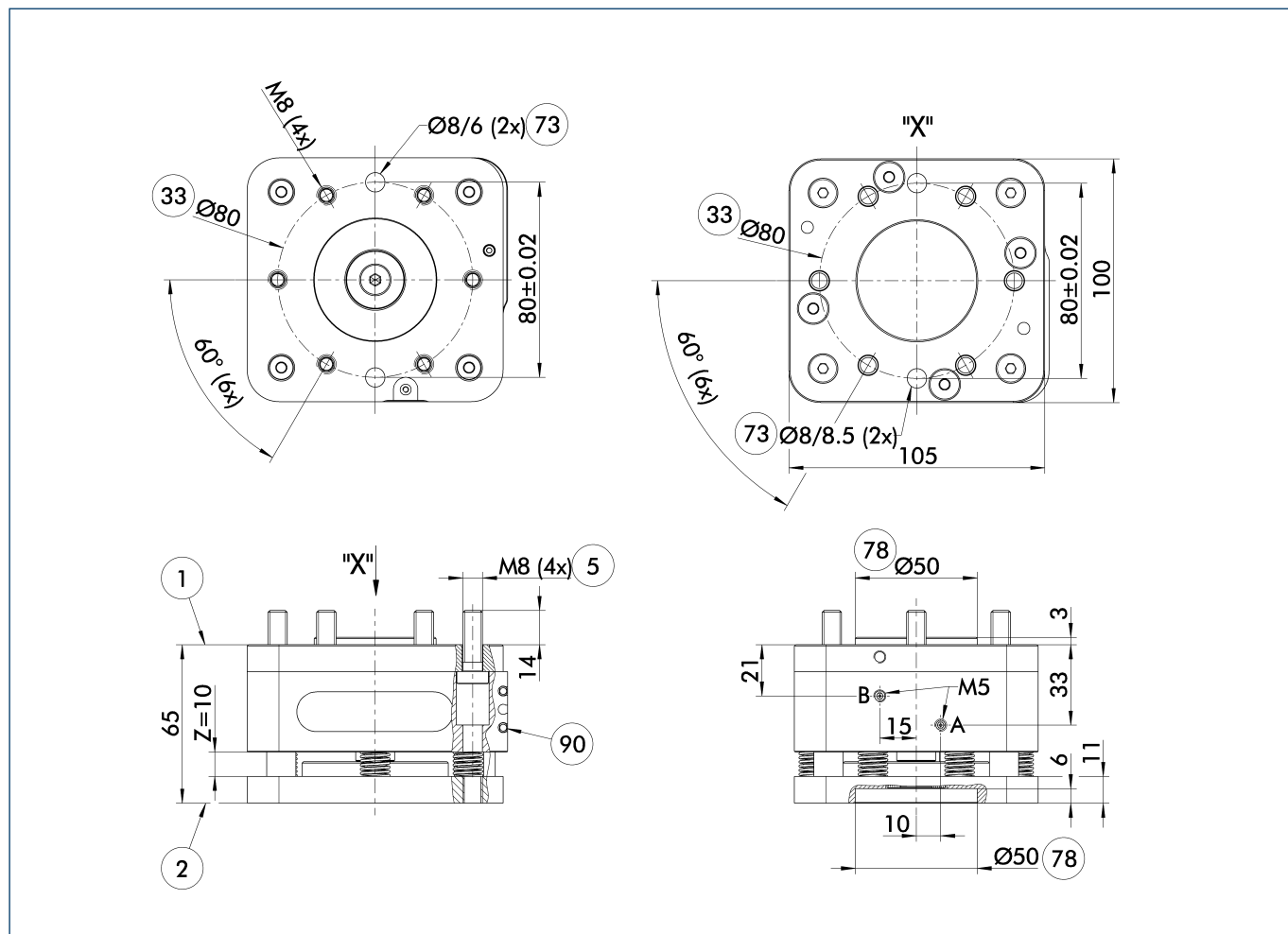
ⓘ This is the max. total of all loads (acceleration forces and torques, process forces etc.), that can affect a compensation unit while still maintaining error-free function.

## Technical data

Description		AGE-Z 2-080-1	AGE-Z 2-080-2
ID		0324483	0324484
Compensation Z	[mm]	10	10
max. vertical payload	[kg]	12	12
Locking force retracted at 6 bar	[N]	1450	1450
Locking force extended at 6 bar	[N]	1500	1500
min. spring force	[N]	70	90
max. spring force	[N]	100	120
max. operating pressure	[bar]	6	6
Repeat accuracy	[mm]	0.02	0.02
Robot side connection		ISO 9409-1-80-4-M8	ISO 9409-1-80-4-M8
Mass	[kg]	1.7	1.7

The load chart shows the AGE-Z deflection under load and in the unlocked state

Main view



The main view shows the AGE-Z 2 in extended position.

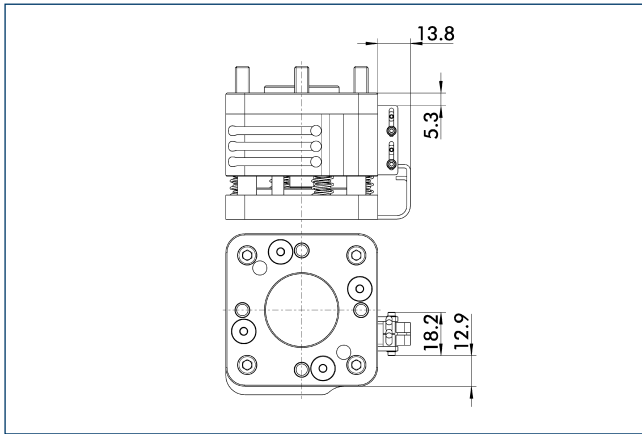
- |   |   |
|---|---|
| A, a Unit, retracted                      | 33 DIN ISO-9409 bolt-hole circle diameter |
| B, b Unit, extended                       | 73 Fit for a centering pin                |
| 1 Robot side connection                   | 78 Fitting for centering                  |
| 2 Tool side connection                    | 90 MMS 22... sensor                       |
| 5 Through-hole for connection with screws |   |



# AGE-Z 2 80

Robot Accessories | Compensating | Z-Compensation Unit

## Mounting kit for IN 5 proximity switch

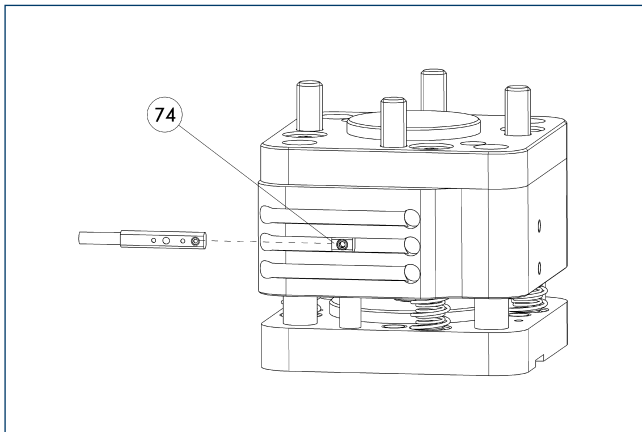


End position monitoring mounted with mounting kit

Description	ID	
Mounting kit for proximity switch		
AS-AGE-Z 2-IN5	0324490	

① This mounting kit needs to be ordered separately as an accessory.

## MMS-P programmable magnetic switch



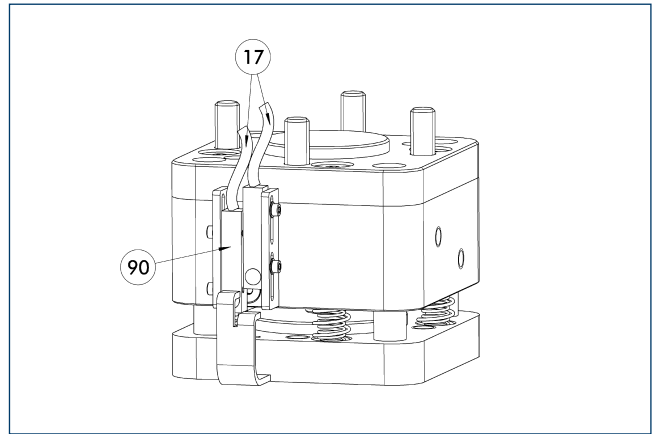
⑦④ Stop for MMS-P

Position monitoring with two programmable positions per sensor. The end position monitoring is mounted in the C-slot.

Description	ID	Often combined
MMS-P programmable magnetic switch		
MMSK-P 22-S-PNP	0301371	
MMS-P 22-S-M8-PNP	0301370	●
Clip		
CLI-M8	0301463	
Connection cables		
KA BG08-L 4P-0500	0307767	●
KA BG08-L 4P-1000	0307768	
KA BW08-L 4P-0500	0307765	
KA BW08-L 4P-1000	0307766	
Sensor distributor		
V2-M8-4P-2XM8-3P	0301380	

① Per unit one sensor (closer/S) is required, optionally a cable extension. Please note the minimum permitted bending radii for the sensor cables, which are generally 35 mm.

## IN 5 inductive proximity switches over mounting kit



①⑦ Cable outlet

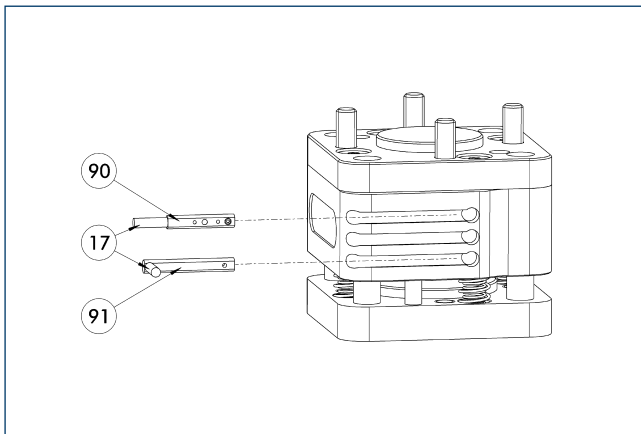
⑨⑩ IN ... sensor

End position monitoring via two inductive sensors.

Description	ID	Often combined
Inductive proximity switches		
IN 5-S-M12	0301569	
IN 5-S-M8	0301469	●
INK 5-S	0301501	
Cable extensions		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Clip		
CLI-M12	0301464	
CLI-M8	0301463	
Connection cables		
KA BG08-L 3P-0300-PNP	0301622	●
KA BG08-L 3P-0500-PNP	0301623	
KA BG12-L 3P-0500-PNP	30016369	
KA BW08-L 3P-0300-PNP	0301594	
KA BW08-L 3P-0500-PNP	0301502	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Sensor distributor		
V2-M8	0301775	●
V2-M12	0301776	●
V4-M12	0301747	
V4-M8	0301746	
V8-M12	0301752	
V8-M8	0301751	

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.

## MMS electronic magnetic switches



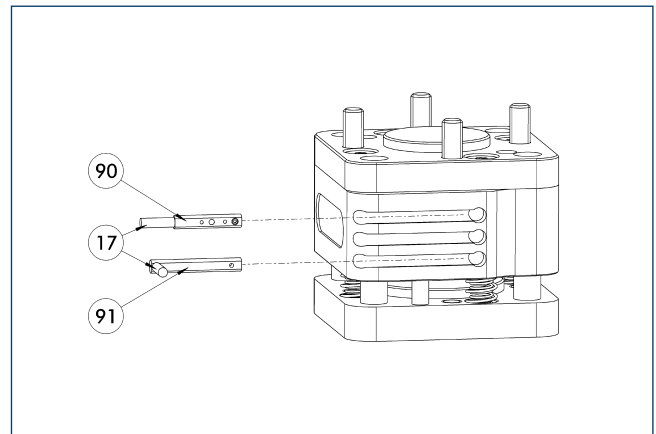
- ①⑦ Cable outlet  
 ⑨① MMS 22...-SA sensor  
 ⑨① MMS 22... sensor

End position monitoring for mounting in the C-slot

Description	ID	Often combined
<b>MMS electronic magnetic switches</b>		
MMS 22-S-M8-PNP	0301032	●
MMSK 22-S-PNP	0301034	
<b>MMS electronic magnetic switches with lateral cable outlet</b>		
MMS 22-S-M8-PNP-SA	0301042	●
MMSK 22-S-PNP-SA	0301044	
<b>Cable extensions</b>		
KV BW08-SG08 3P-0030-PNP	0301495	
KV BW08-SG08 3P-0100-PNP	0301496	
KV BW08-SG08 3P-0200-PNP	0301497	●
<b>Clip</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/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.

## MMS PI1 programmable magnetic switch



- ①⑦ Cable outlet  
 ⑨① MMS 22...-PI1-...-SA sensor  
 ⑨① MMS 22...PI1-... sensor

Position monitoring with a programmable position per each sensor. The electronic system is integrated in the sensor. Programmable via magnetic teach-in tool MT (included in delivery) or plug-in teachable tool ST (on option). Monitoring of the end position is integrated in the C-slot. If the plug-in teachable tools need to be directly indicated as an accessory of the actuator, the magnetic switches MMS...-PI... at the actuators can be only taught via the plug-in teach tool ST.

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

- 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.