

Superior Clamping and Gripping



## Product data sheet

Storage system SWM-B

# SWM-B

Storage system

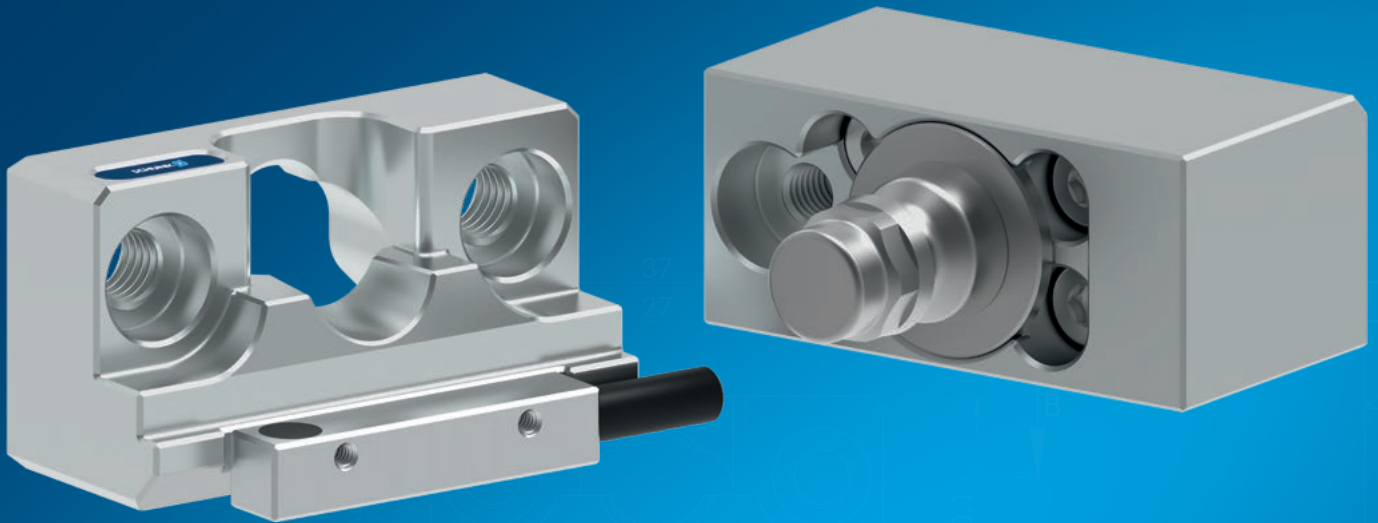
## Compact. Safe. Versatile.

### Storage system SWM-B

Storage system for the automatic tool changing system SWS

#### Field of application

Universally applicable in all applications in which a quick-change system SWS is used



#### Advantages – Your benefits

**Compact design** for minimal interfering contours on storage station and tool

**Variants without locking** for simple, cost-sensitive applications

**Variant with self-locking** for maximum safety and flexibility in the orientation and position of the storage rack

**Compatibility between variants** enables the use of both systems in one application

**Standardized adapter plates** available for all suitable SWS sizes

**Stainless, hardened contact surfaces** for a long service life

**Sensor monitoring for tool presence and locking** optionally available

**Easy integration** in individual solutions



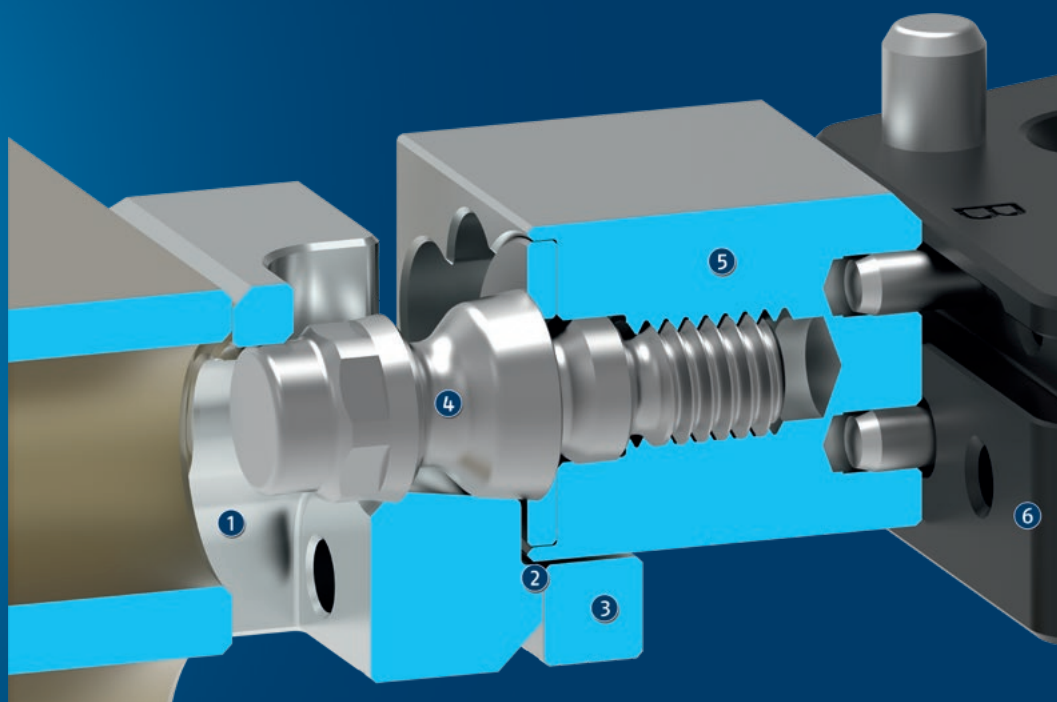
Sizes  
Quantity: 2

## Functional description

Automatic change of the end effector (e.g. gripper, pallets, welding guns, etc.) increases the flexibility of your robot. In addition to a quick-change system (SWS), a tool storage rack is required for a change operation. To put down a tool, the robot inserts the tool into the storage connecting member of the storage module. In the passive variant of

the SWM-B (without locking), the tool is safely stored in a predefined orientation by its own weight and a torque pin.

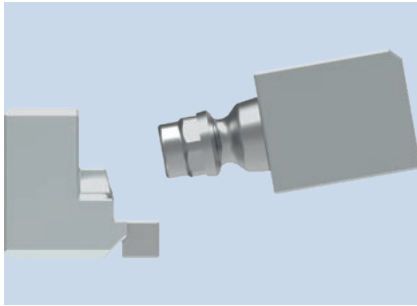
In the active variant (with locking), the tool is locked by a movable, spring-loaded and self-locking clamping slide.



- ① **Base body**  
made of vacuum-hardened stainless steel for maximum service life
- ② **Anti-rotation protection**  
for storing tools with a decentralized center of gravity
- ③ **Sensor monitoring**  
optional, for the process-reliable monitoring of tool presence
- ④ **Storage pins**  
hardened for maximum wear resistance
- ⑤ **Adapter plate for SWA**  
available as intermediate plate or for side mounting (shown here) depending on size
- ⑥ **Quick-change adapter SWA**  
for a safe, automated tool change

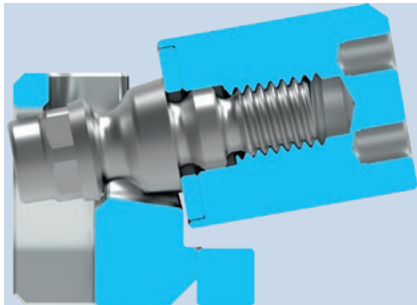
## Detailed functional description

### Storage process for passive variant – Step 1: Inserting the mold into the storage module



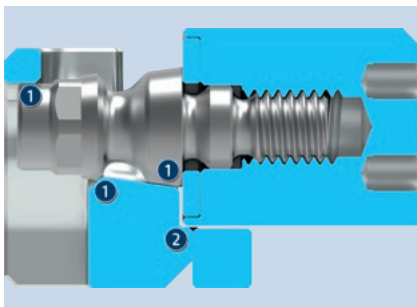
To store the tool in the storage module, the storage system must be approached at an angle of 10°.

### Storage process for passive variant – Step 2: Lowering the tool



Before the tool is lowered into the horizontal storage position, the bolt must be briefly moved beyond the rear side of the storage module. Therefore, a hole must be provided behind the bore hole on the rear side of the storage module. This hole is already present in the mounting plate that is provided as an accessory.

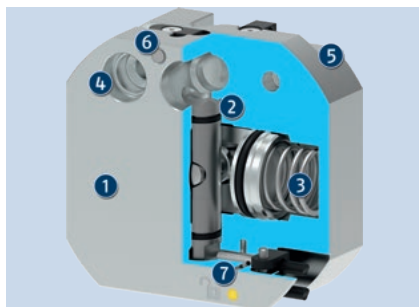
### Storage process for passive variant – Step 3: Stored tool



❶ When in the stored position, the bolt rests on the storage module at three points.

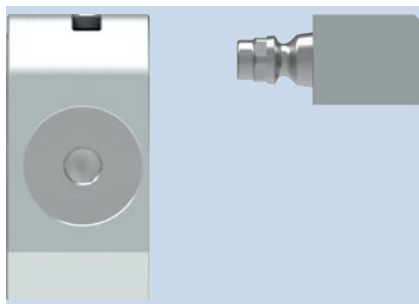
❷ In addition, when the center of gravity of the tool is off-center, the adapter plate also rests on the storage module, thereby preventing it from tipping.

## Sectional diagram of function, active variant (with locking)



- ❶ Base body  
made of vacuum-hardened  
stainless steel for maximum service  
life
- ❷ Locking  
via pistons with patented rapid  
stroke and clamping stroke
- ❸ Piston drive via spring and  
pneumatics  
Opening by pneumatics, closing by  
spring - for secure locking, even in  
the event of compressed air failure
- ❹ Anti-rotation protection  
for storing tools with a decentra-  
lized center of gravity
- ❺ Centering sleeves  
for repeatable mounting
- ❻ Monitoring of tool presence  
optional, for higher process  
reliability
- ❼ Monitoring of locking status  
optional, for the positions "storage  
module open" and "storage  
module locked"

## Storage process, active variant



When storing the active variant, the bolt attached to the SWA quick-change adapter is inserted linearly into the storage module. After locking the SWM-B -V, the change system can be unlocked, allowing to put down the tool.

## General notes about the series

**Operating principle:** via the weight of the tool (passive variant) or via the piston actuated clamping slide (active variant)

**Housing:** Stainless steel, vacuum hardened

**Scope of delivery:** Storage module, centering sleeves, operating and maintenance instructions

**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.

**Actuation (active variant only):** Locking takes place via a pre-loaded spring; pneumatics can also be used as an option (see "Turbo"). Active unlocking is performed using compressed air.

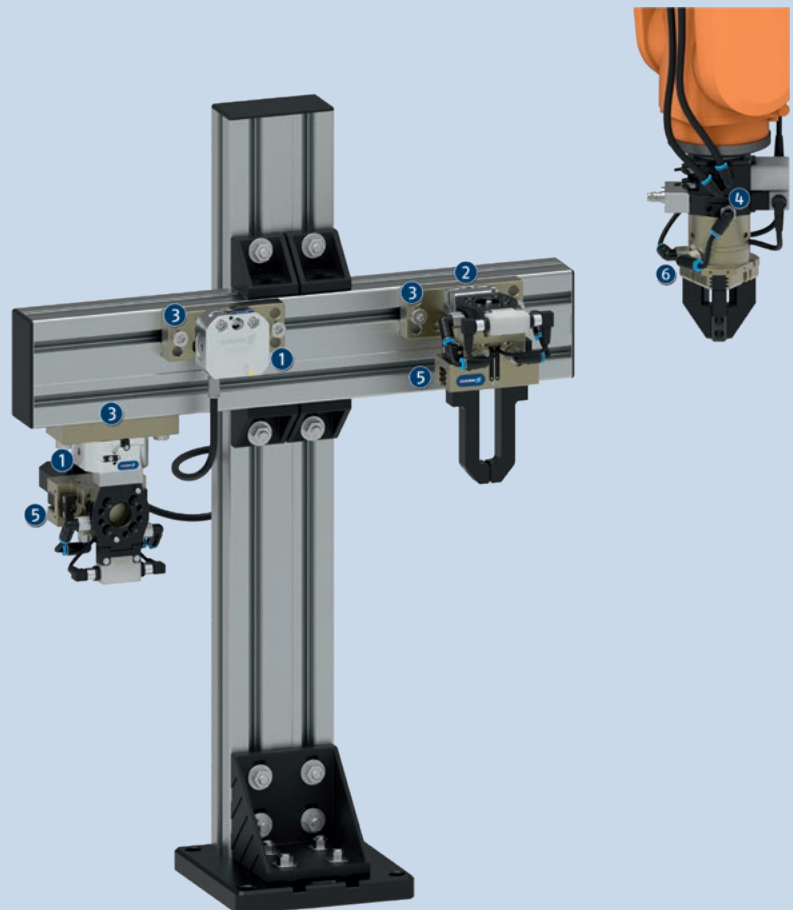
**Pull-down force:** The pull-down force describes the force with which the storage bolt is actively retracted into the storage module. A distinction is made between spring pull-down force and turbo pull-down force (spring + compressed air).

**Turbo:** In order to increase the pull-down force, the SWM-B -V is additionally pressurized with compressed air during locking. This turbo function increases the pull-down force by up to a factor of four as compared to locking merely based on spring force.

## Application example

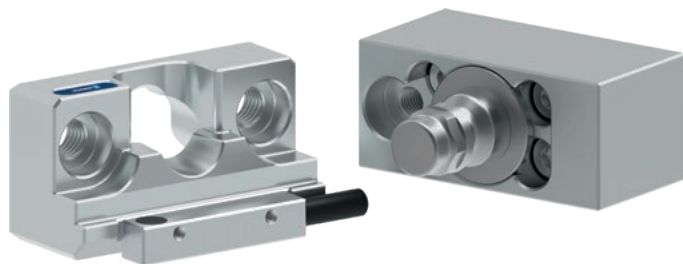
Automatic storing and picking up of different grippers with the SWS quick-change system for handling different workpieces with one robot.

- 1 Storage module SWM-B 050-V
- 2 Storage module SWM-B 050
- 3 Mounting plate SWM-B
- 4 Automatic quick-change system SWS 007
- 5 Pneumatic parallel gripper PGN-plus-P 64-2
- 6 Pneumatic centric gripper PZN-plus 50-2



## SCHUNK offers more ...

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



Quick change system



Inductive proximity switch



SAS

① For more information on these products can be found on the following product pages or at [schunk.com](http://schunk.com).

## SWM-B selection according to SWS size

Sizes SWS	SWM-B 050	SWM-B 050-V	SWM-B 085	SWM-B 085-V
SWS 007	X	X	-	-
SWS 011	X	X	-	-
SWS 020	-	on request*	X	X
SWS 021	-	on request*	X	X
SWS 022	-	on request*	X	X
SWS 029	-	-	X	X
SWS 040Q	-	-	X	X
SWS 041	-	-	X	X
SWS 046	-	-	X	X
SWS 060	-	-	X	X
SWS 071	-	-	X	X
SWS 076	-	-	X	X
SWS 110	-	-	on request*	on request*
SWS 160	-	-	on request*	on request*

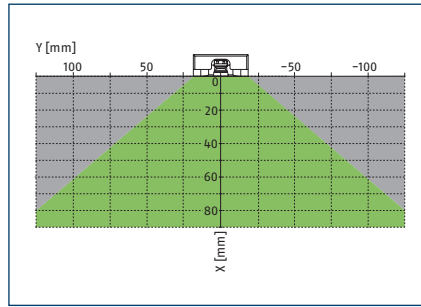
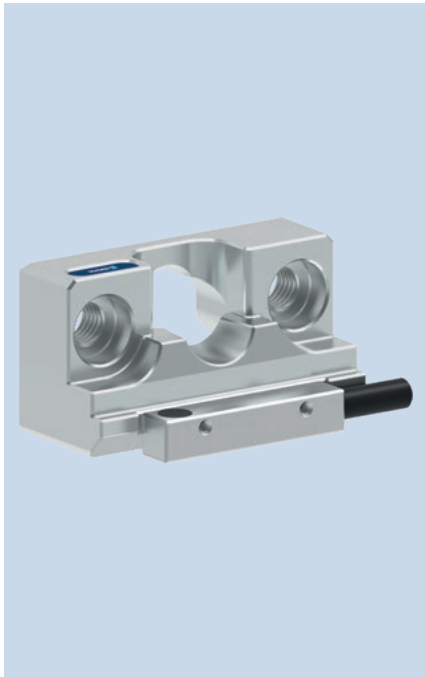
\*Individual review of the application required



# SWM-B 050

Storage system

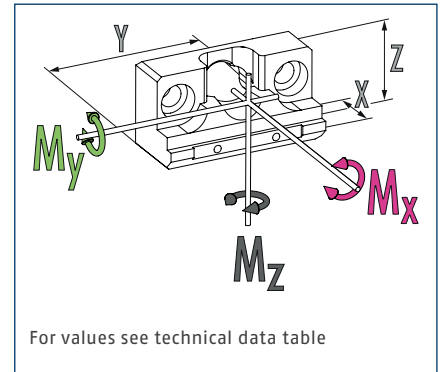
## Center of gravity position of tool, passive variant



- Permitted range
- Inadmissible range

For the passive variant, the center of gravity of the tool must be within the permissible range according to the diagram. In addition, the occurring moments must not exceed the permissible values.

## Dimensions and maximum loads

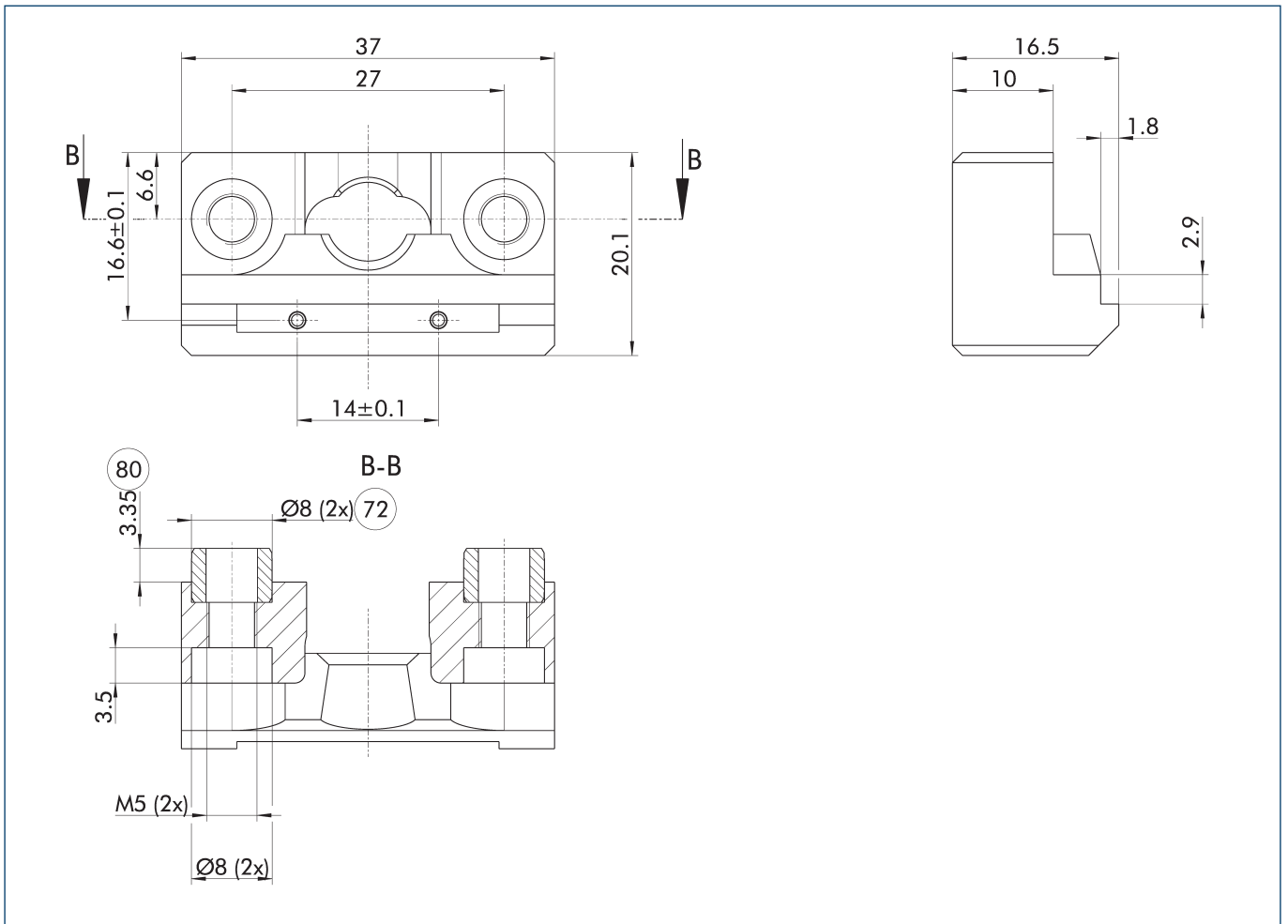


- ① This is the max. sum of all static loads that are permitted to act on the storage system to ensure error-free functioning.

## Technical data

Description		SWM-B 050	SWM-B 050-V
Variant		Passive	Active
ID		1459336	1442568
Recommended SWS size		005, 007, 011	005, 007, 011
max. load capacity	[kg]	16	16
Installation position		horizontal	any
Pull-down force, spring	[N]		200
Pull-down force, turbo	[N]		750
Pneumatic connection thread open			M5
Pneumatic connection thread Turbo			M5
Tool presence monitoring		optional	optional
Monitoring, locking			optional
Unlocking pressure	[bar]		6
Actuation pressure	[bar]		6
Min./max. ambient temperature	[°C]	5/60	5/60
Dimensions X x Y x Z	[mm]	16.5 x 37 x 20.1	26 x 54 x 52.3
Weight	[kg]	0.04	0.45
Moment load Mx	[Nm]	12	18
Moment load My	[Nm]	12	18
Moment load Mz	[Nm]		18

Main view SWM-B 050



The drawing shows the storage module in the basic version.

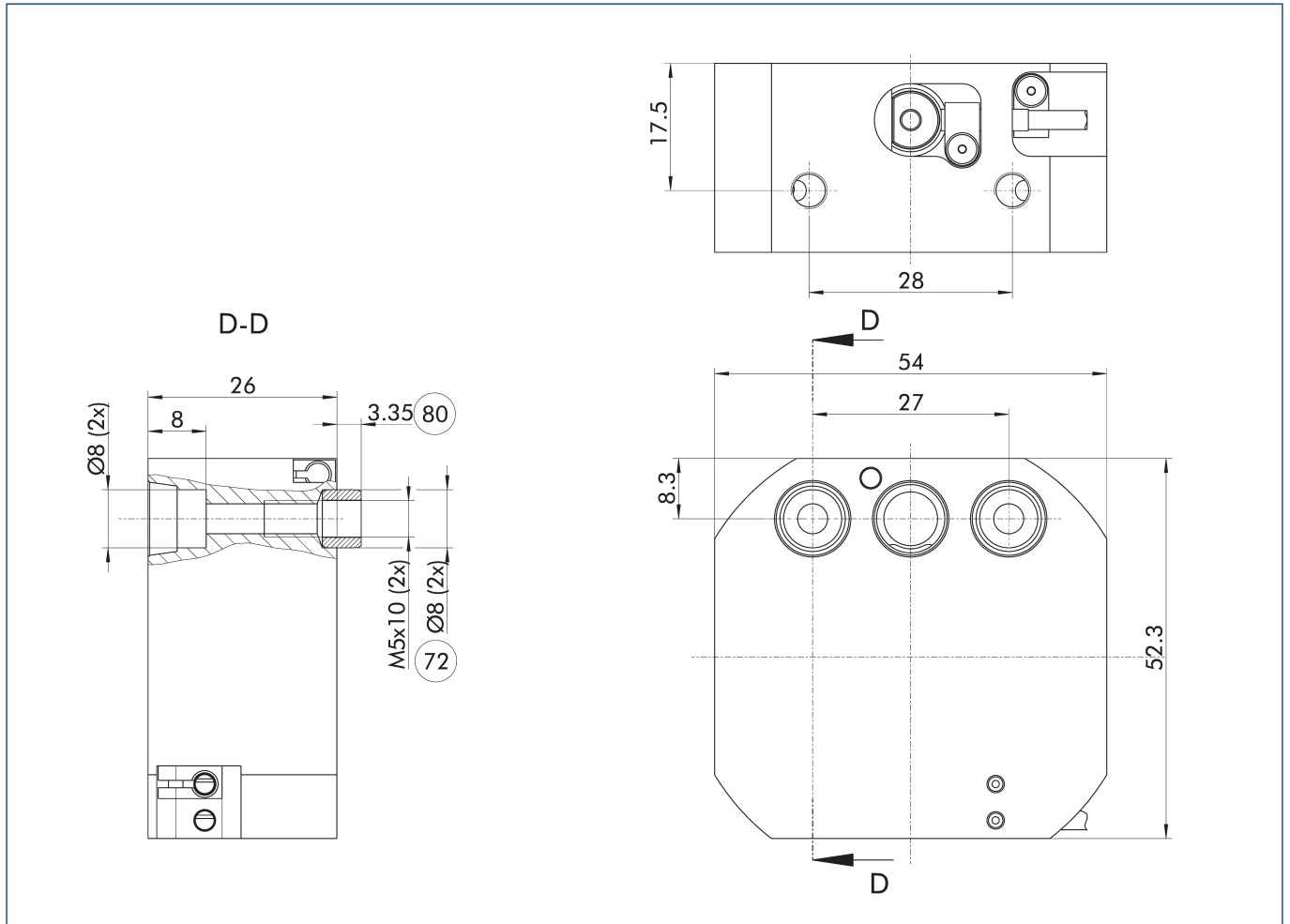
⑦② Fit for centering sleeves

⑧① Depth of the centering sleeve hole in the counter part

# SWM-B 050

Storage system

## Main view SWM-B 050-V

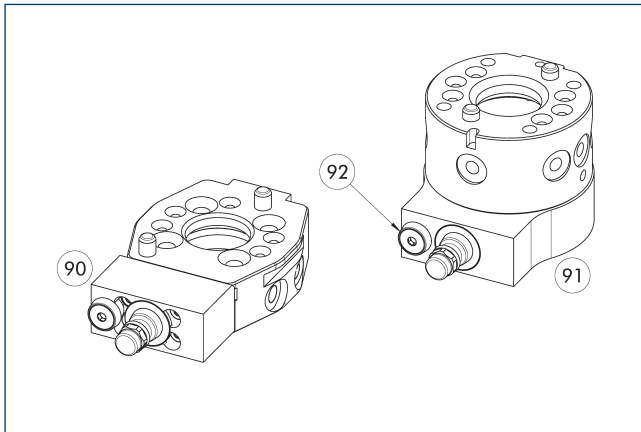


The drawing shows the storage module in the basic version.

72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

SWA adapter plates

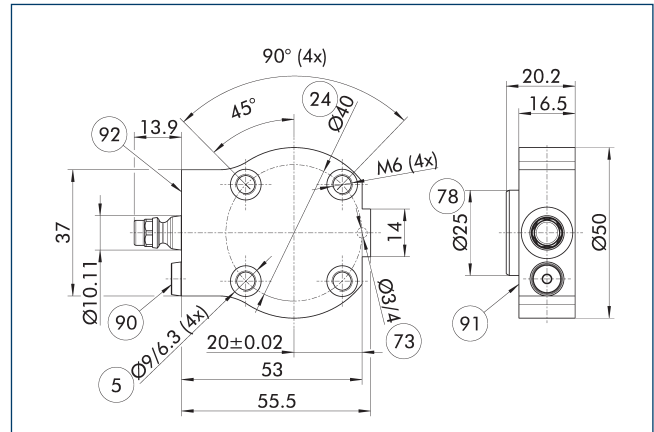


- 90 Adapter plate for lateral screw connection to SWA 007 and all SWA with J screw connection diagram
- 91 Adapter plate for screw connection under the SWA for SWS sizes 005 to 076
- 92 Anti-rotation protection (only for the SWM-B -V adapter plate)

The adapter plate for the active SWM-B variant with locking (-V) has an additional torque pin. This is not required for the passive variant of the SWM-B, but it is compatible.

Description	ID	Suitable for
Adapter plates		
A-SWA-005/011-SWM-B 050	1523807	SWA 005, SWA 011
A-SWA-005/011-SWM-B 050-V	1523840	SWA 005, SWA 011
A-SWA-007-SWM-B 050	1523812	SWA 007
A-SWA-007-SWM-B 050-V	1523842	SWA 007

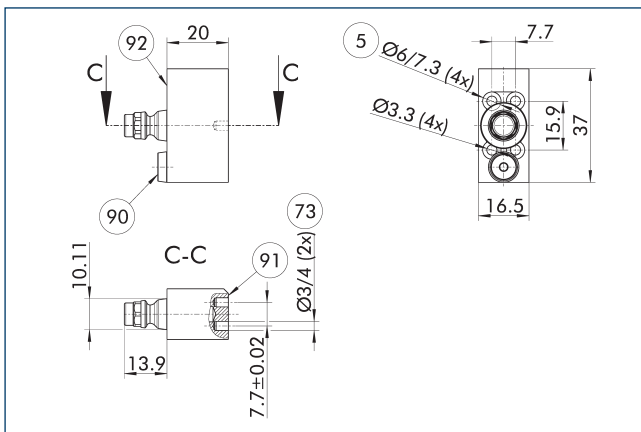
Adapter plate SWA 005/011



- 5 Through hole for connection with screws
- 24 Bolt circle
- 73 Fit for centering pins
- 78 Fit for centering
- 90 Anti-rotation protection (only for the SWM-B -V adapter plate)
- 91 Mounting side SWA
- 92 Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-005/011-SWM-B 050	1523807	SWA 005, SWA 011
A-SWA-005/011-SWM-B 050-V	1523840	SWA 005, SWA 011

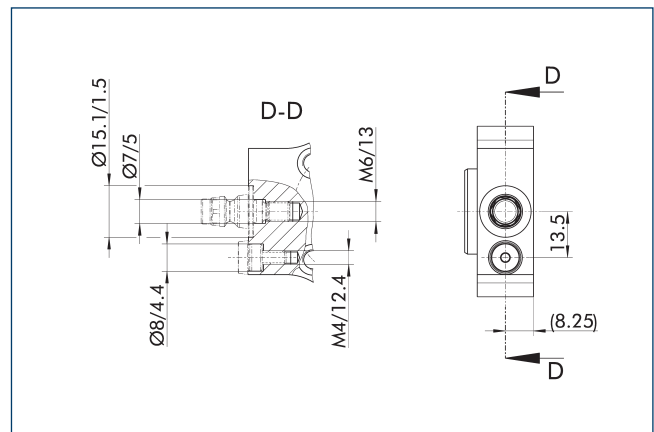
Adapter plate SWA 007



- 5 Through hole for connection with screws
- 73 Fit for centering pins
- 90 Anti-rotation protection (only for the SWM-B -V adapter plate)
- 91 Mounting side SWA
- 92 Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-007-SWM-B 050	1523812	SWA 007
A-SWA-007-SWM-B 050-V	1523842	SWA 007

Adapter plate design SWM-B



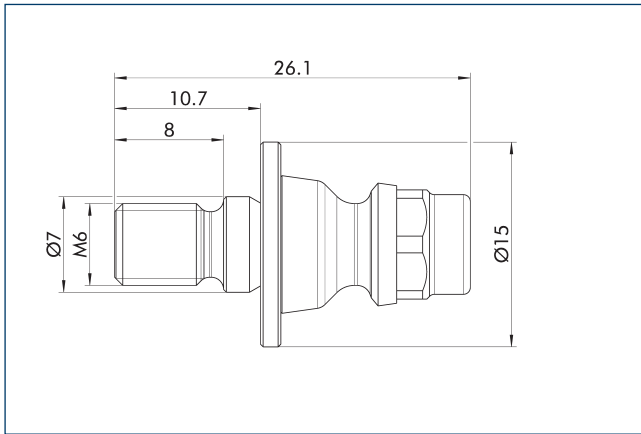
Instead of using a standard adapter plate, the storage pin and anti-twist protection can also be attached to a customized adapter plate. For error-free function, all dimensions according to the drawing must be taken into account, in particular the distances between the anti-twist protections to the storage pin. The drawing is also valid for all the standard plates listed below.

Description	ID	Suitable for
Adapter plates		
A-SWA-005/011-SWM-B 050	1523807	SWA 005, SWA 011
A-SWA-005/011-SWM-B 050-V	1523840	SWA 005, SWA 011
A-SWA-007-SWM-B 050	1523812	SWA 007
A-SWA-007-SWM-B 050-V	1523842	SWA 007

# SWM-B 050

Storage system

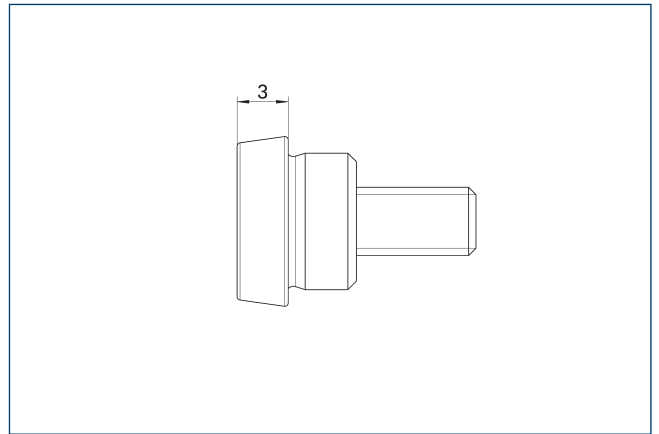
## Storage pins



Bolt for attachment to SWA via adapter plate. The bolt is already included in the scope of delivery for the standard adapter plates.

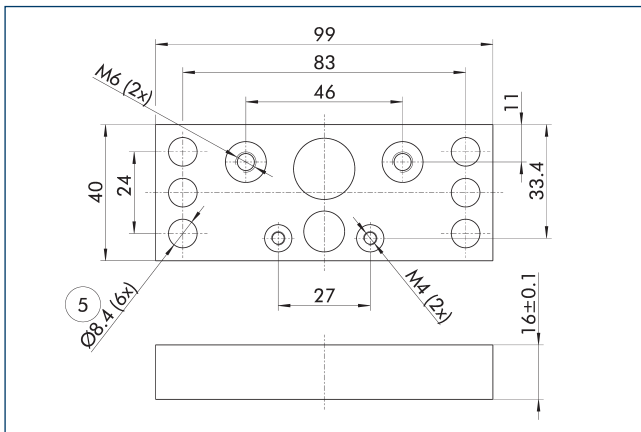
Description	ID	Suitable for
Storage pins		
Storage pins SWM-B 050/050-V	1529468	

## Anti-rotation protection active



Description	ID	Suitable for
Centering taper		
Torque pin SWM-B 050-V	1542887	SWM-B 050-V

## Mounting plate SWM-B

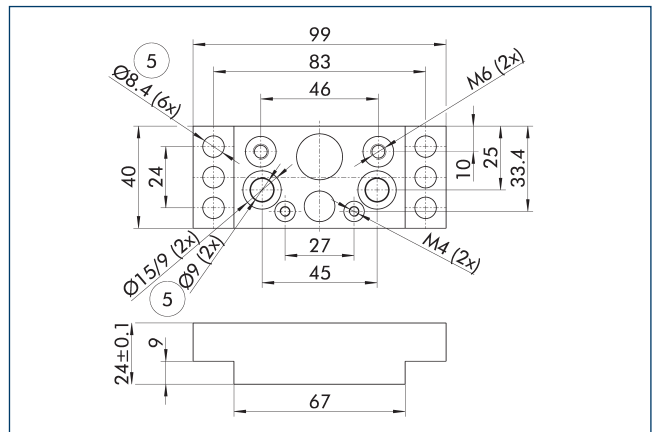


- ⑤ Through hole for connection with screws

Mounting plate for fastening and centering the SWM-B. The mounting plate is optional but recommended to ensure a highly accurate position.

Description	ID	Suitable for
Mounting plate		
Mounting plate SWM-B	1489443	SWM-B 050, SWM-B 050-V, SWM-B 085

## Mounting plate SWM-B universal

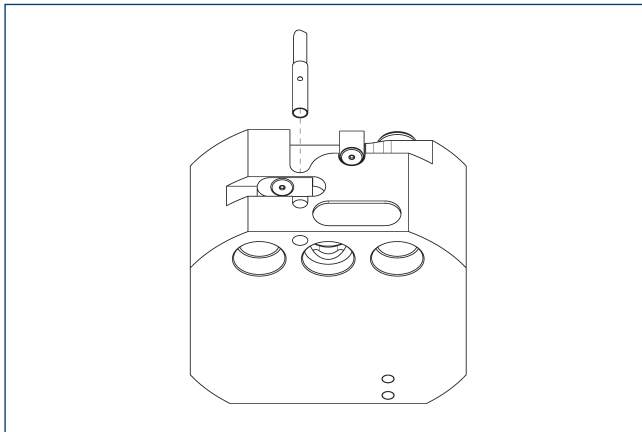


- ⑤ Through hole for connection with screws

Mounting plate for fastening and centering the SWM-B. The mounting plate is optional but recommended to ensure a highly accurate position.

Description	ID	Suitable for
Mounting plate		
Mounting plate SWM-B universal	1547060	SWM-B 050, SWM-B 050-V, SWM-B 085, SWM-B 085-V

## Tool presence monitoring SWM-B -V

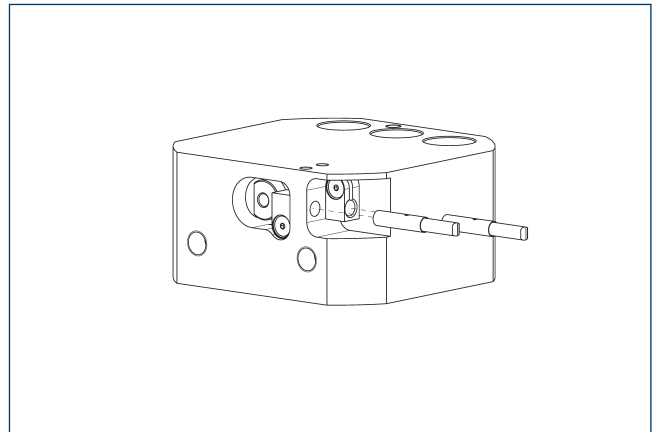


The attachment kit includes one sensor and two brackets.

Description	ID	
Attachment kit for proximity switch		
AS-SWM-B-V-IN30K-T	1523878	

① This attachment kit is optional and must be ordered separately as an accessory.

## Locking monitoring SWM-B -V

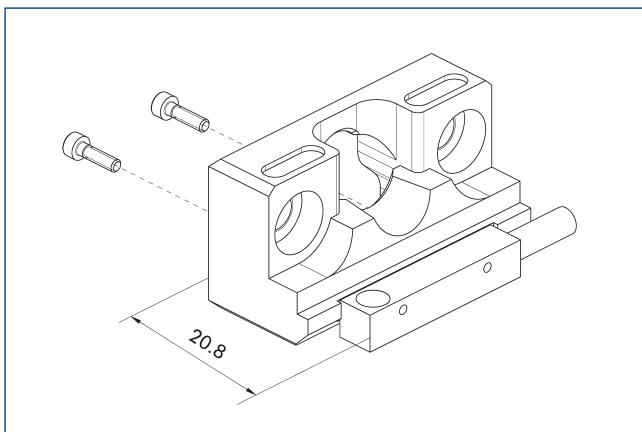


One sensor and one bracket are included in each attachment kit. Two attachment kits are required to monitor both states (locked/unlocked).

Description	ID	
Attachment kit for proximity switch		
AS-SWM-B-V-IN30K-L	1523876	

① This attachment kit is optional and must be ordered separately as an accessory.

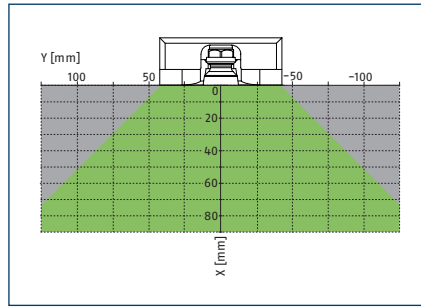
## Tool presence monitoring SWM-B



The sensor is screwed onto the storage module from behind. When using a sensor system, a mounting plate is recommended.

Description	ID	Often combined
Inductive proximity switch		
IN 5-S-M8	0301469	
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	

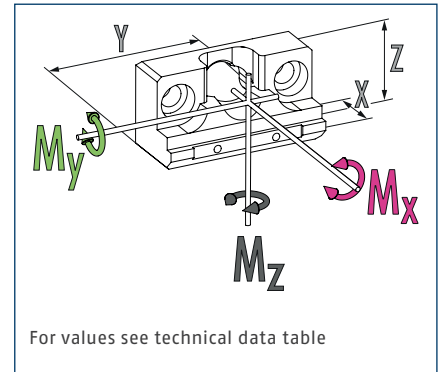
## Center of gravity position of tool, passive variant



- Permitted range
- Inadmissible range

For the passive variant, the center of gravity of the tool must be within the permissible range according to the diagram. In addition, the occurring moments must not exceed the permissible values.

## Dimensions and maximum loads

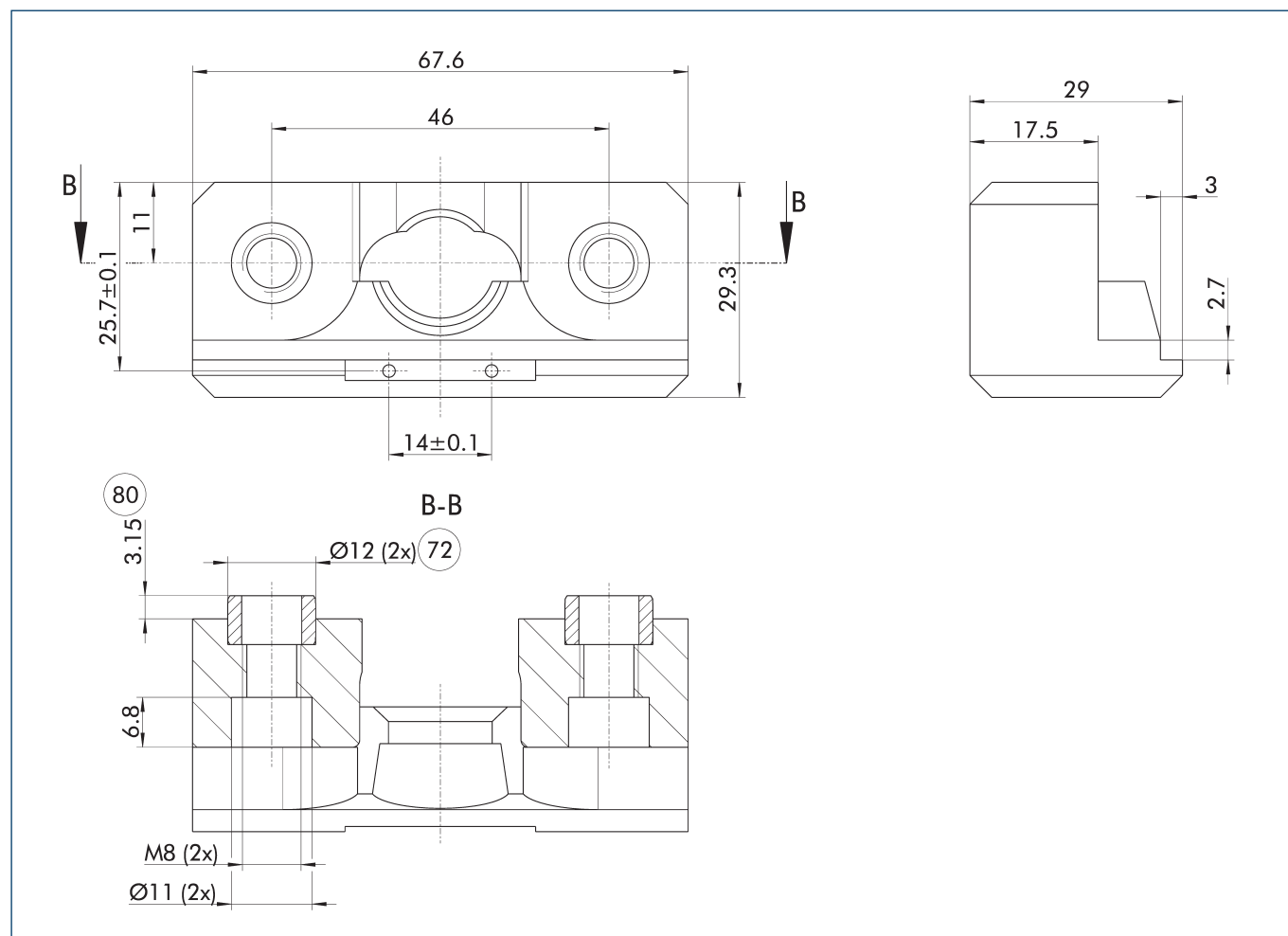


- ① This is the max. sum of all static loads that are permitted to act on the storage system to ensure error-free functioning.

## Technical data

Description		SWM-B 085	SWM-B 085-V
Variant		Passive	Active
ID		1459339	1442590
Recommended SWS size		020, 021, 022, 029, 040Q, 041, 046, 060, 071, 076	020, 021, 022, 029, 040Q, 041, 046, 060, 071, 076
max. load capacity	[kg]	100	100
Installation position		horizontal	any
Pull-down force, spring	[N]		700
Pull-down force, turbo	[N]		2000
Pneumatic connection thread open			M5
Pneumatic connection thread Turbo			M5
Tool presence monitoring		optional	optional
Monitoring, locking			optional
Unlocking pressure	[bar]		6
Actuation pressure	[bar]		6
Min./max. ambient temperature	[°C]	5/60	5/60
Dimensions X x Y x Z	[mm]	29 x 67.6 x 29.3	46 x 110 x 96
Weight	[kg]	0.2	2.9
Moment load Mx	[Nm]	100	100
Moment load My	[Nm]	100	100
Moment load Mz	[Nm]		100

Main view SWM-B 085



The drawing shows the storage module in the basic version.

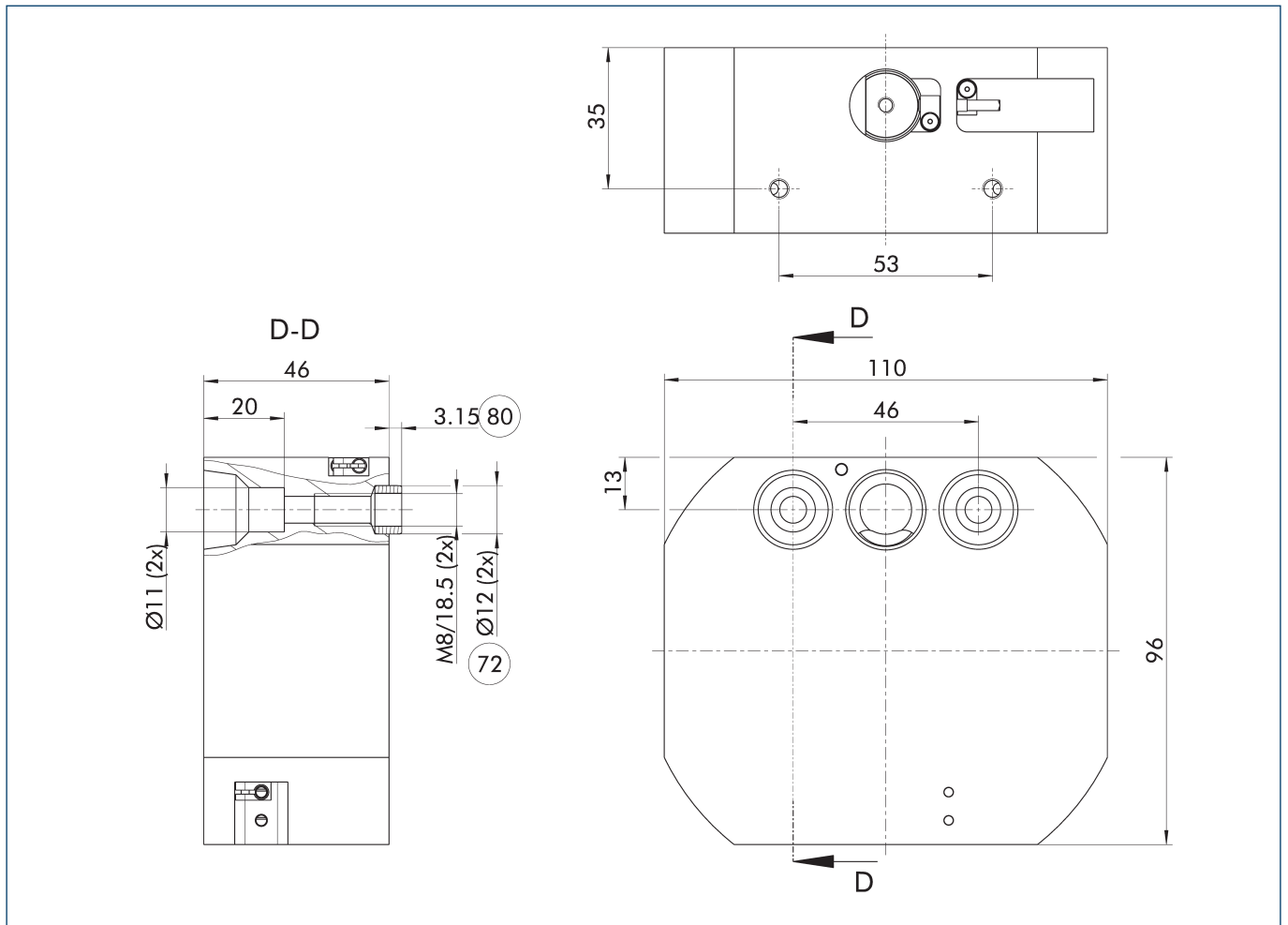
72 Fit for centering sleeves

80 Depth of the centering sleeve hole in the counter part

# SWM-B 085

Storage system

## Main view SWM-B 085-V

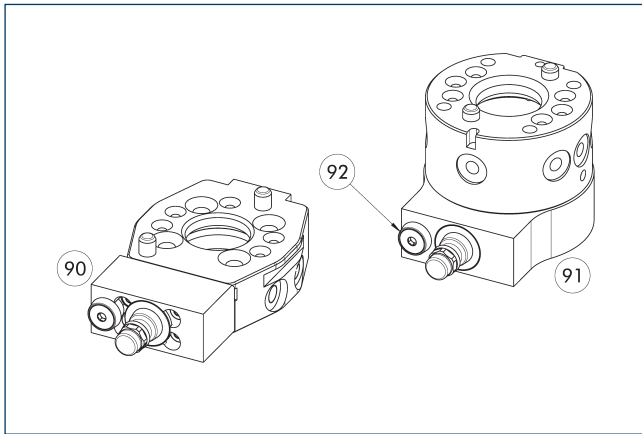


The drawing shows the storage module in the basic version.

⑦② Fit for centering sleeves

⑧① Depth of the centering sleeve hole in the counter part

SWA adapter plates

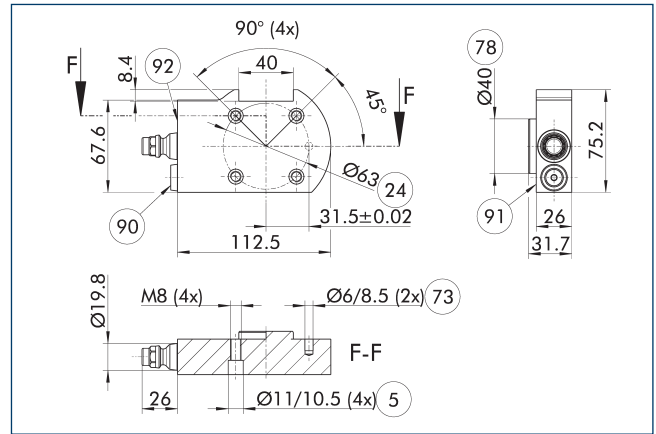


- 90 Adapter plate for lateral screw connection to SWA 007 and all SWA with J screw connection diagram
- 91 Adapter plate for screw connection under the SWA for SWS sizes 005 to 076
- 92 Anti-rotation protection (only for the SWM-B -V adapter plate)

The adapter plate for the active SWM-B variant with locking (-V) has an additional torque pin. This is not required for the passive variant of the SWM-B, but it is compatible.

Description	ID	Suitable for
Adapter plates		
A-SWA-020/021/022-SWM-B 085	1523816	SWA 020/021/022
A-SWA-020/021/022-SWM-B 085-V	1523845	SWA 020/021/022
A-SWA-040-SWM-B 085	1523817	SWA 040
A-SWA-040-SWM-B 085-V	1523846	SWA 040
A-SWA-041-SWM-B 085	1523819	SWA 041
A-SWA-041-SWM-B 085-V	1523860	SWA 041
A-SWA-060-SWM-B 085	1523828	SWA 060
A-SWA-060-SWM-B 085-V	1523862	SWA 060
A-SWA-071-SWM-B 085	1523830	SWA 071
A-SWA-071-SWM-B 085-V	1523865	SWA 071
A-SWA-076-SWM-B 085	1523831	SWA 076
A-SWA-076-SWM-B 085-V	1523869	SWA 076
A-SWA-J16-SWM-B 085	1523836	all SWA with J screw connection diagram
A-SWA-J16-SWM-B 085-V	1523875	all SWA with J screw connection diagram

Adapter plate SWA 020/021/022



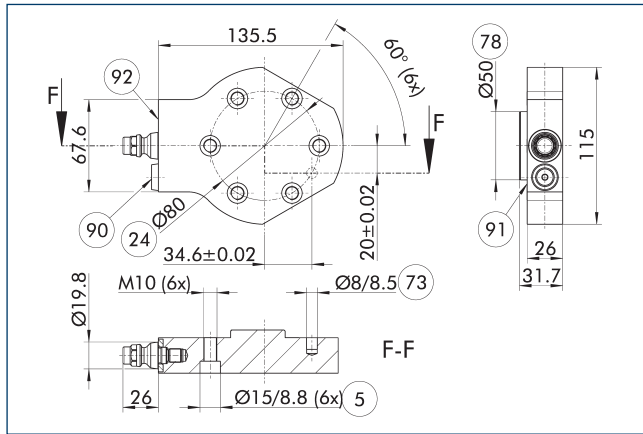
- 5 Through hole for connection with screws
- 24 Bolt circle
- 73 Fit for centering pins
- 78 Fit for centering
- 90 Anti-rotation protection (only for the SWM-B -V adapter plate)
- 91 Mounting side SWA
- 92 Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-020/021/022-SWM-B 085	1523816	SWA 020/021/022
A-SWA-020/021/022-SWM-B 085-V	1523845	SWA 020/021/022

# SWM-B 085

Storage system

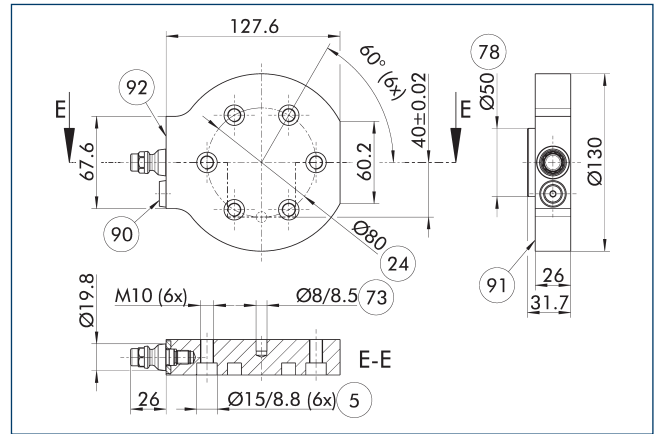
## Adapter plate SWA 040



- ⑤ Through hole for connection with screws
- ②④ Bolt circle
- ⑦③ Fit for centering pins
- ⑦⑧ Fit for centering
- ⑨⑩ Anti-rotation protection (only for the SWM-B -V adapter plate)
- ⑨① Mounting side SWA
- ⑨② Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-040-SWM-B 085	1523817	SWA 040
A-SWA-040-SWM-B 085-V	1523846	SWA 040

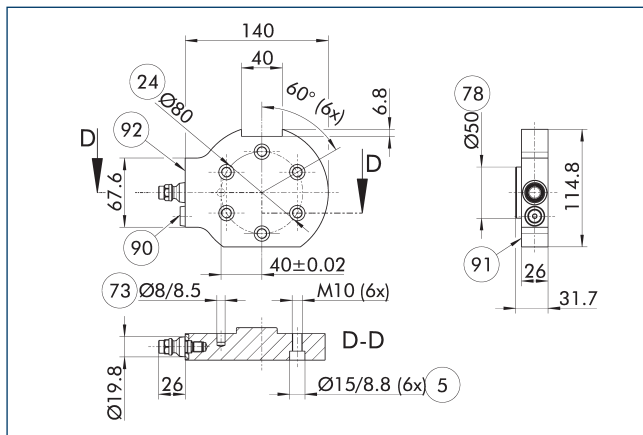
## Adapter plate SWA 041



- ⑤ Through hole for connection with screws
- ②④ Bolt circle
- ⑦③ Fit for centering pins
- ⑦⑧ Fit for centering
- ⑨⑩ Anti-rotation protection (only for the SWM-B -V adapter plate)
- ⑨① Mounting side SWA
- ⑨② Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-041-SWM-B 085	1523819	SWA 041
A-SWA-041-SWM-B 085-V	1523860	SWA 041

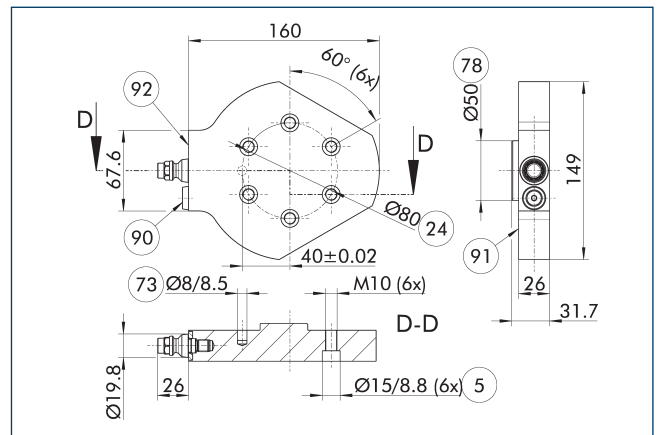
## Adapter plate SWA 060



- ⑤ Through hole for connection with screws
- ②④ Bolt circle
- ⑦③ Fit for centering pins
- ⑦⑧ Fit for centering
- ⑨⑩ Anti-rotation protection (only for the SWM-B -V adapter plate)
- ⑨① Mounting side SWA
- ⑨② Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-060-SWM-B 085	1523828	SWA 060
A-SWA-060-SWM-B 085-V	1523862	SWA 060

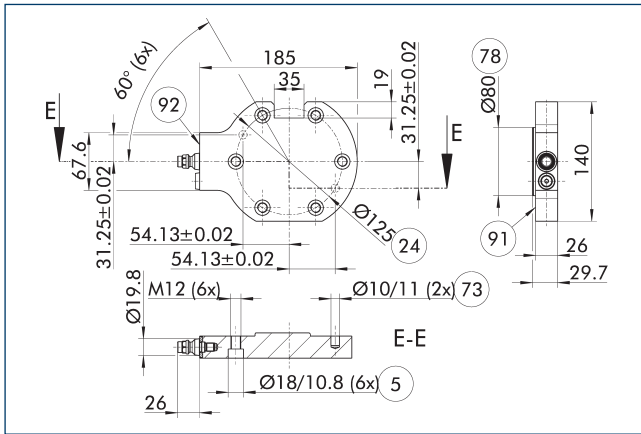
## Adapter plate SWA 071



- ⑤ Through hole for connection with screws
- ②④ Bolt circle
- ⑦③ Fit for centering pins
- ⑦⑧ Fit for centering
- ⑨⑩ Anti-rotation protection (only for the SWM-B -V adapter plate)
- ⑨① Mounting side SWA
- ⑨② Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-071-SWM-B 085	1523830	SWA 071
A-SWA-071-SWM-B 085-V	1523865	SWA 071

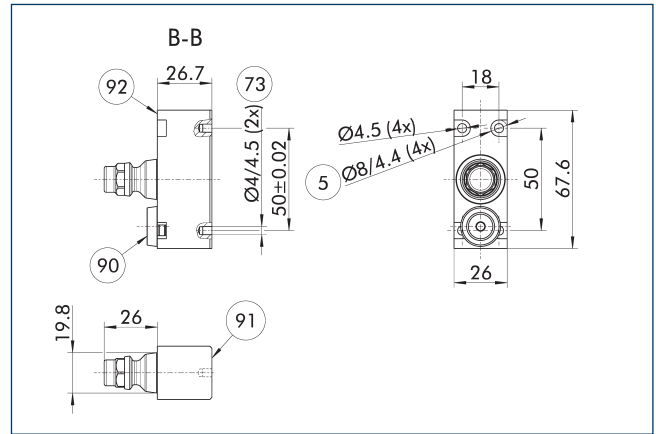
Adapter plate SWA 076



- ⑤ Through hole for connection with screws
- ②4 Bolt circle
- ⑦3 Fit for centering pins
- ⑦8 Fit for centering
- ⑨0 Anti-rotation protection (only for the SWM-B -V adapter plate)
- ⑨1 Mounting side SWA
- ⑨2 Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-076-SWM-B 085	1523831	SWA 076
A-SWA-076-SWM-B 085-V	1523869	SWA 076

Adapter plate J screw connection diagram



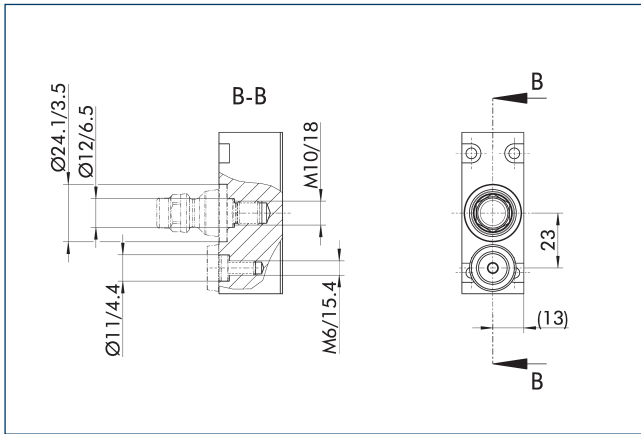
- ⑤ Through hole for connection with screws
- ⑦3 Fit for centering pins
- ⑨0 Anti-rotation protection (only for the SWM-B -V adapter plate)
- ⑨1 Mounting side SWA
- ⑨2 Attachment side SWM-B (-V)

Description	ID	Suitable for
Adapter plates		
A-SWA-J16-SWM-B 085	1523836	all SWA with J screw connection diagram
A-SWA-J16-SWM-B 085-V	1523875	all SWA with J screw connection diagram

# SWM-B 085

Storage system

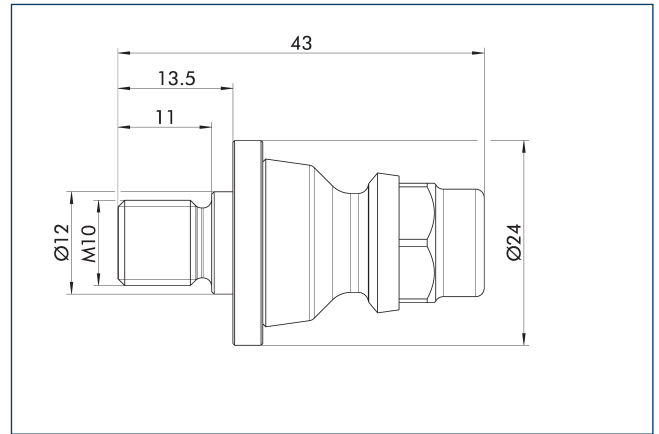
## Adapter plate design SWM-B



Instead of using a standard adapter plate, the storage pin and anti-twist protection can also be attached to a customized adapter plate. For error-free function, all dimensions according to the drawing must be taken into account, in particular the distances between the anti-twist protections to the storage pin. The drawing is also valid for all the standard plates listed below.

Description	ID	Suitable for
<b>Adapter plates</b>		
A-SWA-020/021/022-SWM-B 085	1523816	SWA 020/021/022
A-SWA-020/021/022-SWM-B 085-V	1523845	SWA 020/021/022
A-SWA-040-SWM-B 085	1523817	SWA 040
A-SWA-040-SWM-B 085-V	1523846	SWA 040
A-SWA-041-SWM-B 085	1523819	SWA 041
A-SWA-041-SWM-B 085-V	1523860	SWA 041
A-SWA-060-SWM-B 085	1523828	SWA 060
A-SWA-060-SWM-B 085-V	1523862	SWA 060
A-SWA-071-SWM-B 085	1523830	SWA 071
A-SWA-071-SWM-B 085-V	1523865	SWA 071
A-SWA-076-SWM-B 085	1523831	SWA 076
A-SWA-076-SWM-B 085-V	1523869	SWA 076
A-SWA-J16-SWM-B 085	1523836	all SWA with J screw connection diagram
A-SWA-J16-SWM-B 085-V	1523875	all SWA with J screw connection diagram

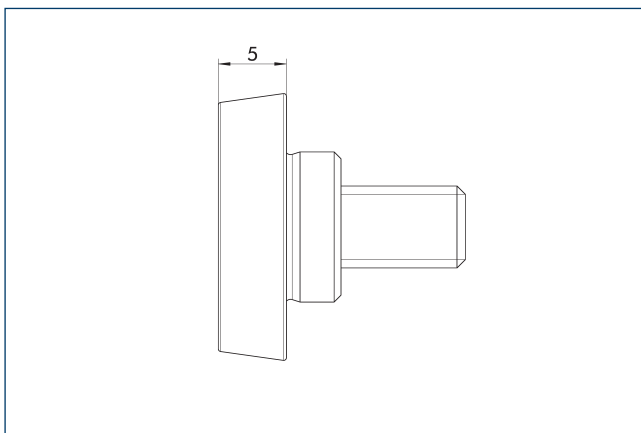
## Storage pins



Bolt for attachment to SWA via adapter plate. The bolt is already included in the scope of delivery for the standard adapter plates.

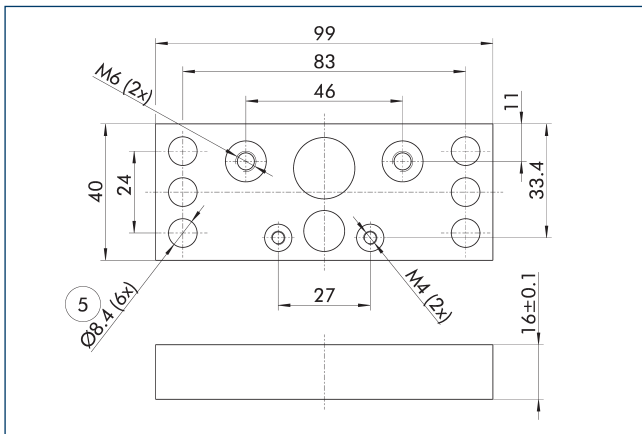
Description	ID	
<b>Storage pins</b>		
Storage pins SWM-B 085/085-V	1529834	

## Anti-rotation protection active



Description	ID	Suitable for
<b>Centering taper</b>		
Torque pin SWM-B 085-V	1542889	SWM-B 085-V

Mounting plate SWM-B

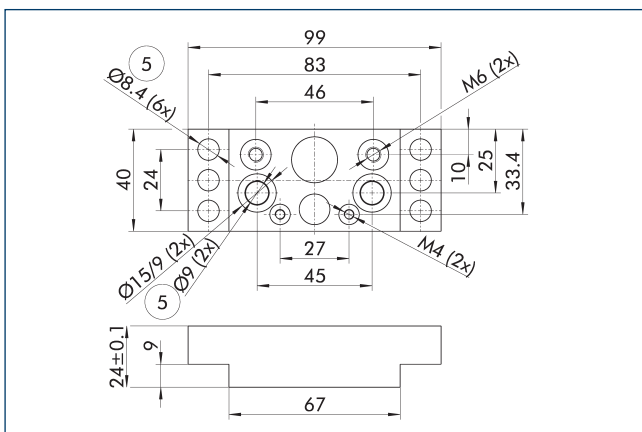


- ⑤ Through hole for connection with screws

Mounting plate for fastening and centering the SWM-B. The mounting plate is optional but recommended to ensure a highly accurate position.

Description	ID	Suitable for
Mounting plate		
Mounting plate SWM-B	1489443	SWM-B 050, SWM-B 050-V, SWM-B 085

Mounting plate SWM-B universal

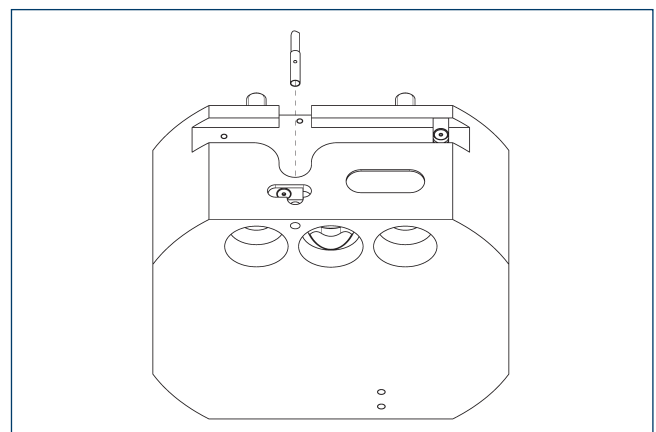


- ⑤ Through hole for connection with screws

Mounting plate for fastening and centering the SWM-B. The mounting plate is optional but recommended to ensure a highly accurate position.

Description	ID	Suitable for
Mounting plate		
Mounting plate SWM-B universal	1547060	SWM-B 050, SWM-B 050-V, SWM-B 085, SWM-B 085-V

Tool presence monitoring SWM-B -V

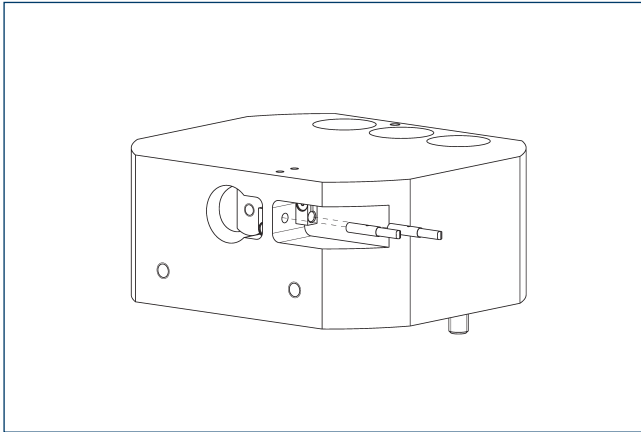


The attachment kit includes one sensor and two brackets.

Description	ID	
Attachment kit for proximity switch		
AS-SWM-B-V-IN30K-T	1523878	

- ① This attachment kit is optional and must be ordered separately as an accessory.

## Locking monitoring SWM-B -V

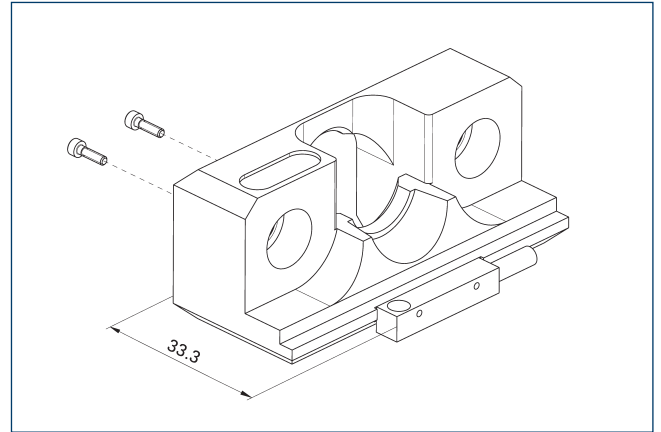


One sensor and one bracket are included in each attachment kit. Two attachment kits are required to monitor both states (locked/unlocked).

Description	ID	
Attachment kit for proximity switch		
AS-SWM-B-V-IN30K-L	1523876	

ⓘ This attachment kit is optional and must be ordered separately as an accessory.

## Tool presence monitoring SWM-B



The sensor is screwed onto the storage module from behind. When using a sensor system, a mounting plate is recommended.

Description	ID	Often combined
Inductive proximity switch		
IN 5-S-M12	0301569	
Connection cables		
KA BG12-L 3P-0500-PNP	30016369	
KA BW12-L 3P-0300-PNP	0301503	
KA BW12-L 3P-0500-PNP	0301507	
Clip for connector/socket		
CLI-M12	0301464	
Cable extension		
KV BG12-SG12 3P-0030-PNP	0301999	
KV BG12-SG12 3P-0060-PNP	0301998	
KV BW12-SG12 3P-0030-PNP	0301595	
KV BW12-SG12 3P-0100-PNP	0301596	
KV BW12-SG12 3P-0200-PNP	0301597	
Sensor distributor		
V2-M12	0301776	●





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