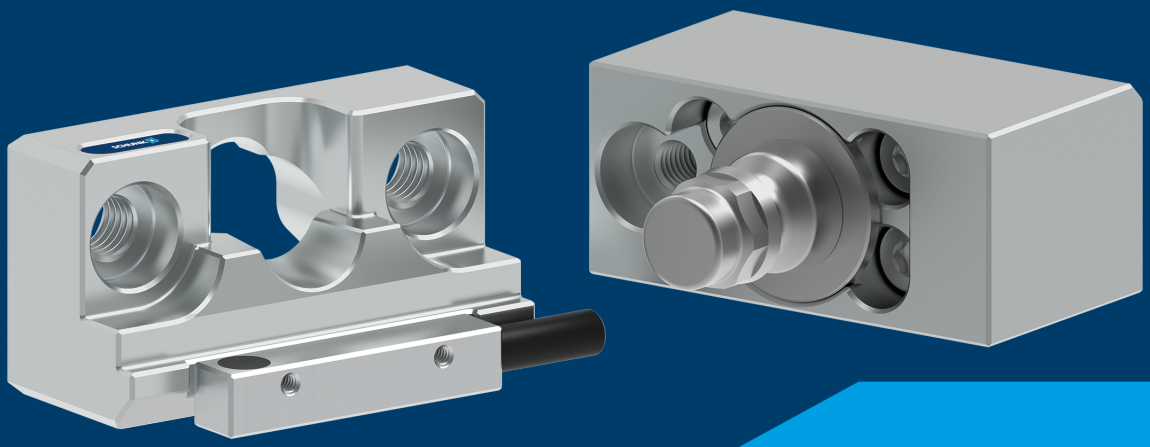

# Assembly and Operating Manual

# SWM-B

## Storage system

Translation of Original Operating Manual

Hand in hand for tomorrow

# Imprint



**Technical changes:**
We reserve the right to make alterations for the purpose of technical improvement.

**Document number:** 1621461

**Version:** 03.00 | 31/01/2025 | en

Dear Customer,

Thank you for trusting our products and our family-owned company, the leading technology supplier of robots and production machines.

Our team is always available to answer any questions on this product and other solutions. Ask us questions and challenge us. We will find a solution!

Best regards,

Your SCHUNK team

Customer Management
Tel. +49-7133-103-2503
Fax +49-7133-103-2189
cmg@de.schunk.com

**Please read the operating manual in full and keep it close to the product.**

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# 1 General

## 1.1 About this manual

This manual contains important information for a safe and appropriate use of the product.

This manual is an integral part of the product and must be kept accessible for the personnel at all times.

Before starting work, the personnel must have read and understood this operating manual. Prerequisite for safe working is the observance of all safety instructions in this manual.

In addition to these instructions, the documents listed under ▸ 1.1.1 [🗋 4] are applicable.

**NOTE:** The illustrations in this manual are intended to provide a basic understanding and may deviate from the actual version.

### 1.1.1 Applicable documents

- General terms of business *
- Catalog data sheet of the purchased product *

The documents labeled with an asterisk (*) can be downloaded from **schunk.com/downloads**.

### 1.1.2 Sizes

This operating manual applies to the following sizes:

- SWM-B 050
- SWM-B 085

## 1.2 Warranty

If the product is used as intended, the warranty is valid for 24 months from the ex-works delivery date under the following conditions:

- Observe the ambient conditions and operating conditions

Parts touching the workpiece and wear parts are not included in the warranty.

## 1.3 Scope of delivery

The scope of delivery includes

- Storage system SWM-B in the ordered size
- Assembly and Operating Manual
- Accessory pack

Content of the accessory pack:

- SWM-B 050: 2x Centering sleeve Ø 8 x 5.35
- SWM-B 085: 2x Centering sleeve Ø 12 x 6.65

## 1.4 Accessories

The following accessories are available for the product, which must be ordered separately:

- Adapter plates for quick-change adapter SWA
- Inductive proximity switch IN 5-S, Ident number: M8: 301469, M12: 301569
- Mounting plate for SWM-B, Ident number: 1547060

# 2 Basic safety notes

## 2.1 Appropriate use

- The SWM-B tool storage system is used for the safe storage of robot tools to enable an automated change of tools. For this purpose, the robot is equipped with a locking tool change system (e.g. SWS).

  With the SWM-B, the tool is safely stored in a predefined orientation by its own weight and anti-rotation protection.
- The product may only be used within the scope of its technical data, ▶ 3 [🗋 8].
- The product is intended for industrial and industry-oriented use.
- The product is intended for installation in a machine/ automated system. The applicable guidelines for the machine/ automated system must be observed and complied with.
- Appropriate use of the product includes compliance with all instructions in this manual.

## 2.2 Personal protective equipment

- When working on and with the product, observe the occupational health and safety regulations and wear the required personal protective equipment.
- Wear protective gloves to guard against sharp edges and corners or rough surfaces.

## 2.3 Constructional changes

- Constructional changes may only be done with the permission of SCHUNK.

## 2.4 Notes for assembly

- Before starting assembly, secure the danger zone with suitable protective measures.

## 2.5 Notes for operation

- Observe safety distances.
- Never deactivate safety installations.
- If the energy supply is connected, do not move any parts by hand.
- Observe the valid country-specific safety and accident prevention regulations.
- Check the storage process after the robot crashes.

**Possible electrostatic energy**

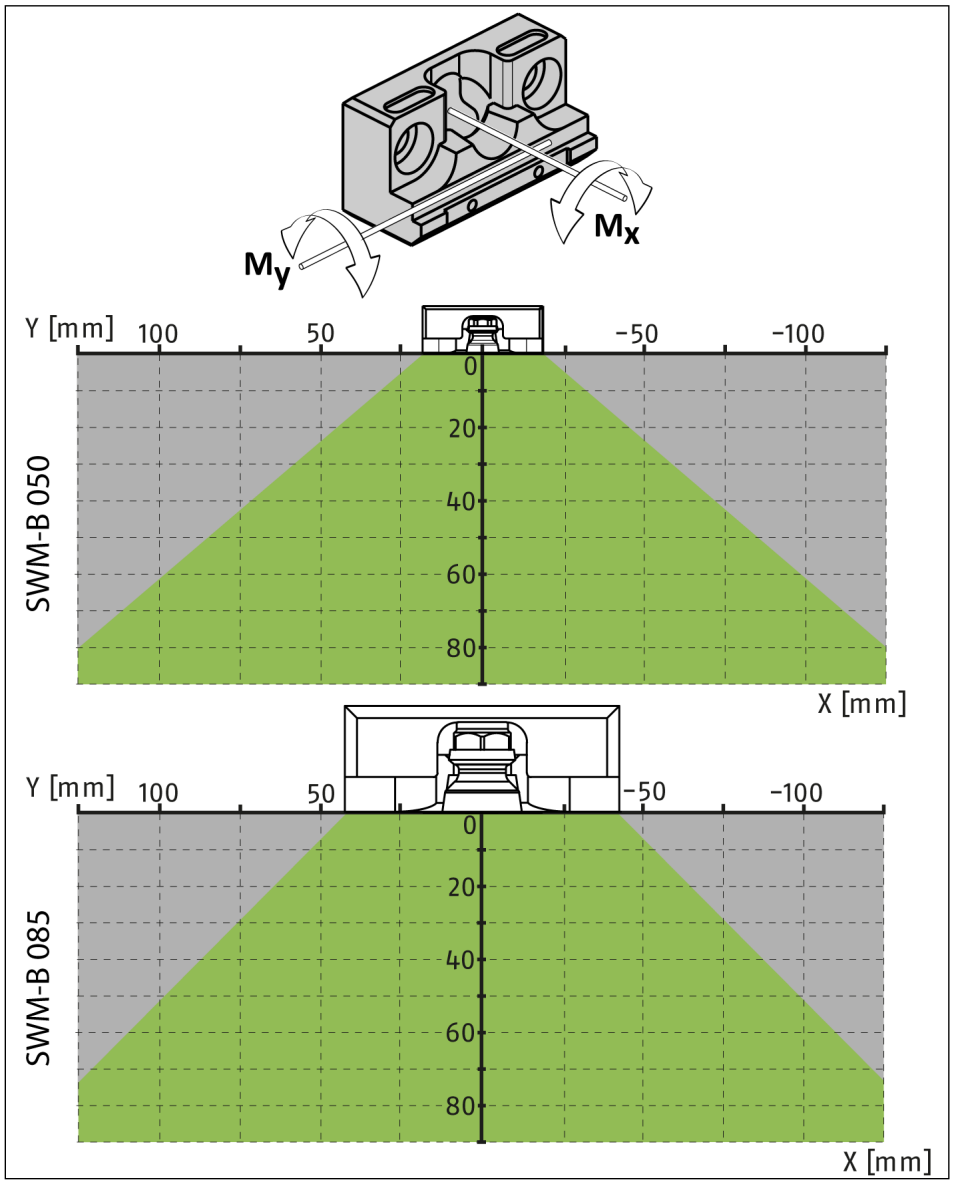
Components or assembly groups may become electrostatically charged. When the electrostatic charge is touched, the discharge may trigger a shock reaction leading to injuries.

- The operator must ensure that all components and assembly groups are included in the local potential equalisation in accordance with the applicable regulations.
- While paying attention to the actual conditions of the working environment, the potential equalisation must be implemented by a specialist electrician according to the applicable regulations.
- The effectiveness of the potential equalisation must be verified by executing regular safety measurements.

# 3 Technical data

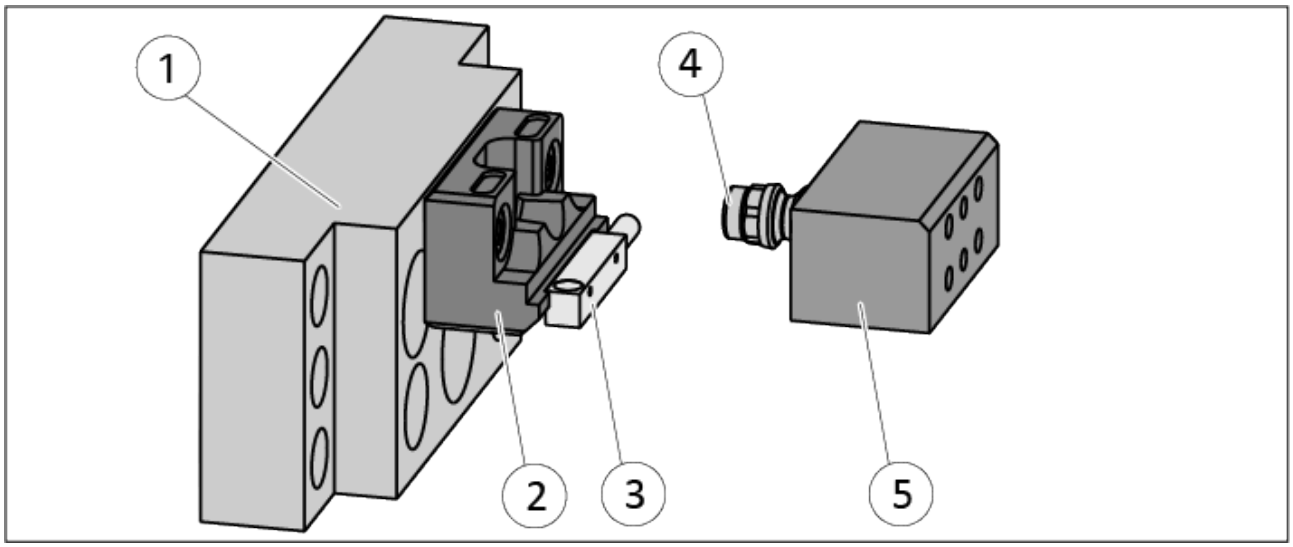
| | SWM-B 050 | SWM-B 085 |
|---|---|---|
| Operating temperature [°C] | | |
| Min. | 5 | 5 |
| Max. | 60 | 60 |
| Maximum permissible payload [kg] | 16 | 100 |
| Maximum permissible moment [Nm] | | |
| $M_x$ * | 12 | 100 |
| $M_y$ | 12 | 100 |

* Depending on the center of gravity, see diagrams below.




*The tool center of gravity must be in the green area. In addition, the occurring moments must not exceed the permissible values.*

# 4 Structure

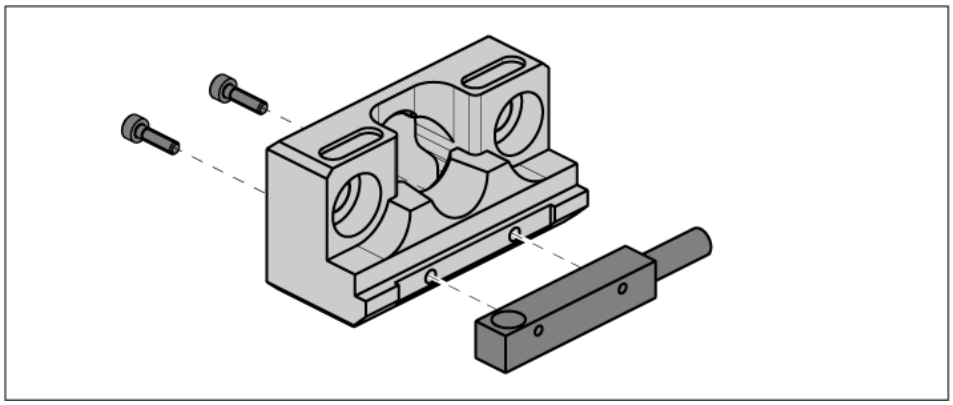



| | |
|---|---|
| 1 | Mounting plate (optional) |
| 2 | Storage module |
| 3 | Sensor for monitoring tool presence (optional) |
| 4 | Storage pins |
| 5 | Adapter plate A-SWA (in the illustration: A-SWA-007) |

# 5 Assembly and settings

**NOTE**
**The storage module may only be mounted in a horizontal position.**

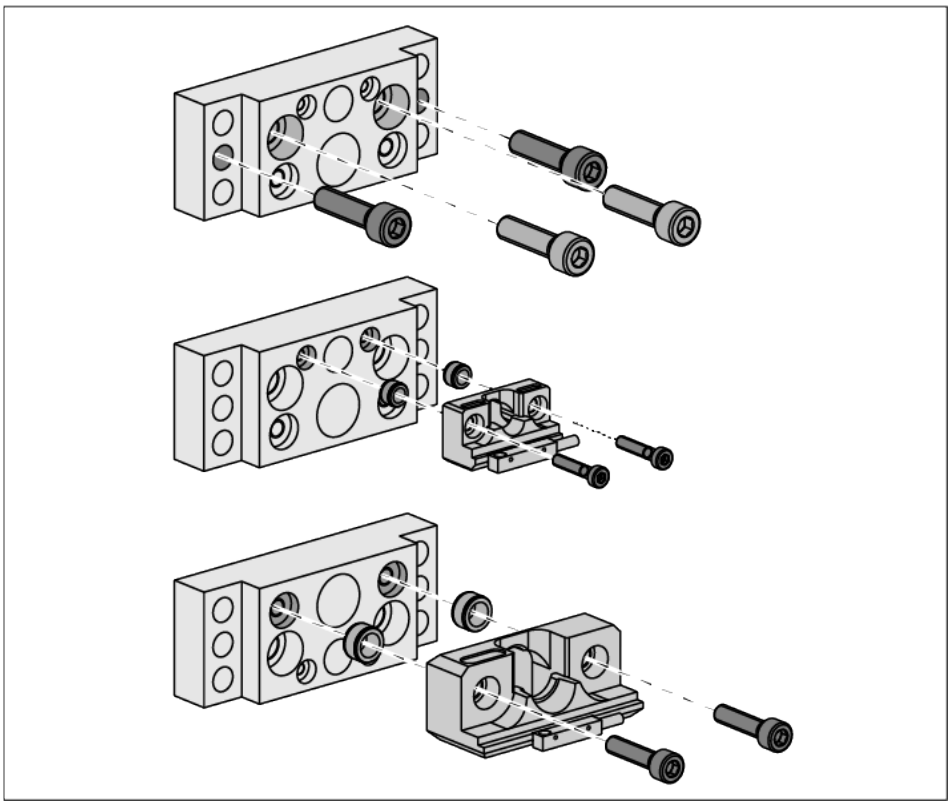
## 5.1 Mounting the sensor (optional)



The mounting screws for mounting the sensor are included in the scope of delivery of the sensor.

The cable outlet of the sensor is possible on both sides.

## 5.2 Mounting the storage module on the SCHUNK mounting plate



| | SWM-B 050 | SWM-B 085 |
|---|---|---|
| **Mounting the mounting plate** | | |
| Mounting screw (2x) | M8 | M8 |
| Mounting screw according to standard | ISO 4762 | ISO 4762 |
| Mounting screw strength class | 8.8 | 8.8 |
| Tightening torque [Nm] | 20 | 20 |
| **Mounting the storage module on the mounting plate** | | |
| Centering sleeve | Ø 8 x 5.35 | Ø 12 x 6.65 |
| Mounting screw (2x) | M4x20 | M6x30 |
| Mounting screw according to standard | DIN 6912 * | ISO 4762 |
| Mounting screw strength class | 8.8 | 12.9 |
| Max. tightening torque [Nm] | 3 | 15 |

* Alternatively, cylindrical screws according to ISO4762 can be used. These protrude beyond the housing, but this does not impair the function.

## 5.3 Mounting the storage module without the SCHUNK mounting plate

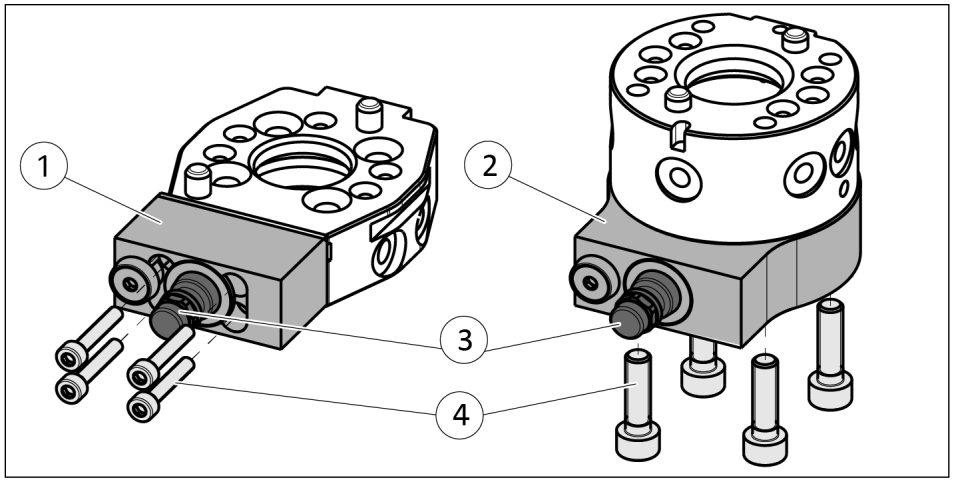
| | SWM-B 050 | SWM-B 085 |
|---|---|---|
| Centering sleeve | Ø 8 x 5.35 | Ø 12 x 5.65 |
| **Mounting the storage module from the front** | | |
| Mounting screws | M4 | M6 |
| Mounting screw according to standard | DIN 6912 | ISO 4762 |
| Mounting screw strength class | 8.8 | 12.9 |
| Tightening torque [Nm] | 3 | 15 |
| **Mounting the storage module from the rear** | | |
| Mounting screws | M5 | M8 |
| Mounting screw strength class | 8.8 | 8.8 |
| Tightening torque [Nm] | 5.5 | 20 |

The mounting point for the storage system must have a recess for the storage pin in the middle between the two mounting holes, as the storage pin is moved beyond the contour of the storage module during the storage process, see section "A" ▶ 5.5 [🗋 14].

| | SWM-B 050 | SWM-B 085 |
|---|---|---|
| Depth [mm] | 3 | 3 |
| Diameter [mm] | 10 | 15 |

*Tab.: Recess dimensions*

## 5.4 Mounting the adapter plate on the change system

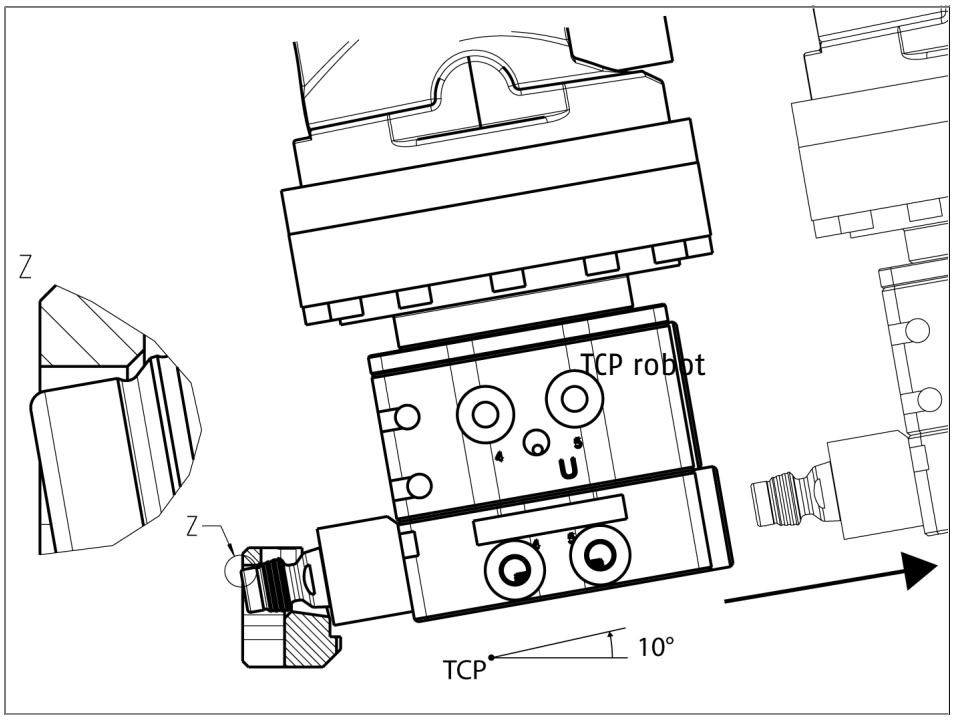



| | | SWM-B 050 | SWM-B 085 |
|---|---|---|---|
| 1 | Side plate | | |
| 2 | Intermediate plate | | |
| 3 | Tightening torque of storage pin [Nm] | 13 | 50 |
| 4 | Mounting screws of the strength class | 8.8 | 8.8 |

## 5.5 Teaching routine

### Routine for removing the tool

1. Manually place the SWA quick-change adapter in the storage system.
2. Connect and lock the SWK quick-change master to the SWA quick-change adapter.




3. TCP programming.
   The coordinates of the "TCP SWM-B" must be specified relative to the "TCP robot" (see tables).
4. Turn the tool with the robot by 10° to the horizontal axis around the "TCP SWM-B".
5. Move the tool linearly along the tilted X axis.

| Ident number Intermediate plate | Size SWS | Z [mm] | X [mm] |
|---|---|---|---|
| 1523807 | -005 | 54.1 | 44.3 |
| 1523807 | -011 | 46.7 | 44.3 |
| 1523816 | -020 | 57.5 | 87.6 |
| 1523816 | -021 | 61.0 | 87.6 |
| 1523816 | -022 | 76.0 | 87.6 |
| 1523817 | -040 | 77.3 | 100.6 |
| 1523819 | -041 | 74.6 | 92.6 |
| 1523828 | -060 | 62.3 | 97.6 |
| 1523830 | -071 | 77.4 | 107.6 |

| Ident number Intermediate plate | Size SWS | Z [mm] | X [mm] |
|---|---|---|---|
| 1523831 | -076 | 83.3 | 127.6 |

*Tab.: TCP SWM-B coordinates for SWM-B variant with intermediate plate*

| Ident number Side plate | Size SWS | Z [mm] | X [mm] |
|---|---|---|---|
| 1523812 | -007 | 37.8 | 56.7 |
| 1523836 | -029 | 51.0 | 96.6 |
| 1523836 | -046 | 54.8 | 114.1 |

*Tab.: TCP SWM-B coordinates for SWM-B variant with side plate*

The values only apply to mounting the SWK quick-change master directly on the robot flange. Possible intermediate structures must also be taken into account.

**Routine for storing the tool**

To store the tool, carry out the described points in reverse order.

# 6 Translation of the original declaration of incorporation

in terms of the Directive 2006/42/EG, Annex II, Part 1 Section B.

| | |
|---|---|
| Manufacturer/<br>Distributor | SCHUNK SE & Co. KG<br>Spanntechnik \| Greiftechnik \| Automatisierungstechnik<br>Bahnhofstr. 106 – 134<br>D–74348 Lauffen/Neckar |

We hereby declare that the partly completed machine described below

| | |
|---|---|
| Product designation: | Storage system / SWM–B / |
| ID number | 1459336, 1459339 |

meets the following basic occupational health and safety of the Machinery Directive 2006/42/EC:

No. 1.1.1, No. 1.1.2, No. 1.1.3, No. 1.1.5, No. 1.3.2, No. 1.5.3, No. 1.5.4, No. 1.5.6, No. 1.5.8, No. 1.5.10, No. 1.5.11, No. 1.5.13

The partly completed machinery may not be put into operation until it has been confirmed that the machine into which the partly completed machinery is to be installed complies with the provisions of the Machinery Directive (2006/42/EC). The declaration shall be rendered invalid if modifications are made to the product.

Applied harmonized standards, especially:

| | |
|---|---|
| EN ISO 12100:2010 | Safety of machinery – General principles for design – Risk assessment and risk reduction |

The special technical documentation according to Annex VII, Part B, belonging to the partly completed machine, has been created.

Person authorized to compile the technical documentation:
Stefanie Walter, Address: see manufacturer's address

*Signature: see original declaration*

Lauffen/Neckar, January 2025

Dr.–Ing. Manuel Baumeister,
Head of Systems Engineering,
Technology & Innovation

# 7 Information on the RoHS Directive, REACH Regulation and Substances of Very High Concern (SVHC)

### RoHS Directive

SCHUNK products are classified as "large-scale stationary installations" or as "large-scale stationary industrial tools" within the meaning of Directive 2011/65/EU and its extension 2015/863/EU "on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)", or fulfill their intended function only as part of one. Therefore products from SCHUNK do not fall within the scope of the directive at this time.

### REACH Regulation

Products from SCHUNK fully comply with the regulations of Regulation (EC) No. 1907/2006 "concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)" and its amendment 2022/477. SCHUNK attaches great importance to completely avoiding chemicals of concern to humans and the environment wherever possible.

Only in rare exceptional cases do SCHUNK products contain SVHC substances on the candidate list with a mass content above 0.1%. In accordance with Article. 33 (1) of Regulation (EC) No. 1907/2006, SCHUNK complies with its duty to "communicate information on substances in articles" and lists the components concerned and the substances used in an overview that can be viewed at **schunk.com\SVHC**.

*Signature: see original declaration*

Lauffen/Neckar, January 2025

Dr.-Ing. Manuel Baumeister,
Head of Systems Engineering,
Technology & Innovation

**SCHUNK SE & Co. KG**
**Spanntechnik | Greiftechnik | Automatisierungstechnik**

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