



Assembly and Operating Manual

RCG

Round cell gripper

Translation of the original manual

Hand in hand for tomorrow

Imprint

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Technical changes:

We reserve the right to make alterations for the purpose of technical improvement.

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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

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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 ▶ 1.1.4 [6] 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 Presentation of Warning Labels

To make risks clear, the following signal words and symbols are used for safety notes.



⚠ DANGER

Dangers for persons!

Non-observance will inevitably cause irreversible injury or death.



⚠ WARNING

Dangers for persons!

Non-observance can lead to irreversible injury and even death.



⚠ CAUTION

Dangers for persons!

Non-observance can cause minor injuries.

NOTICE

Material damage!

Information about avoiding material damage.

1.1.2 Definition of Terms

The term "product" replaces the product name on the title page in this manual.

1.1.3 Symbol definition

The following symbols are used in this manual:

■ Prerequisite for an action

1. Action 1

2. Action 2

⇒ Intermediate results

⇒ Final results

▶ 1.1.3 [📄 6]: chapter number and [page number] in hyperlinks

1.1.4 Applicable documents

- General terms of business *
- Catalog data sheet of the purchased product *
- Assembly and operating manuals of the accessories *

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

1.1.5 Sizes

This operating manual applies to the following sizes:

- RCG 46

1.1.6 Variants

This operating manual applies to the following variations:

- RCG-0: without centering
- RCG-2: two centerings
- RCG-4: four centerings

1.2 Warranty

If the product is used as intended, the warranty is valid for 12 months from the ex-works delivery date under the following conditions:

- Observe the specified maintenance and lubrication intervals
- 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

- Round cell gripper RCG in the version ordered
- Accessory pack

Accessory pack

Content of the accessory pack:

- 2 x centering sleeves for mounting
- 2 x O-ring for hose-free direct connection
- 2x set-screws

Size	ID
46	1580359

Tab.: ID.-No. of the accessory pack

1.4 Accessories

A wide range of accessories are available for this product

For information regarding which accessory articles can be used with the corresponding product variants, see catalog data sheet.

1.4.1 Sealing kit

Contents of the seal kit:

- 3x O-rings
- 2x X-rings

Size	ID number
46	0370888

Tab.: ID.-No. of the seal kit

1.4.2 Spare parts packages

Spare parts packages allow for the maintenance and repair of individual components. For information on the range of the spare parts packages, see www.schunk.com > Service.

The following spare parts packages are available for this product:

- Spare part package "Insulating cap"

Size	ID number
46	1654134

Tab.: ID. No. spare part kit "Insulating cap"

The spare parts kit ID1654134 (insulating cap) replaces ID1581670 (insulating cap with screws), which is no longer available.

1.4.3 Mounting aid for sensor MMS 22

- ID: 1589937

2 Basic safety notes

2.1 Intended use

The product is used exclusively for turning, positioning, gripping, holding and releasing of ferromagnetic round cells made of Hilumin and a wall thickness of 0.8 mm.

- The product may only be used within the scope of its technical data, ▶ 3 [16].
- The product is intended for installation in a machine/ automated system or for attachment to a robot. The applicable guidelines for the machine/automated system must be observed and complied with.
- The product is intended for industrial and industry-oriented use.
- Appropriate use of the product includes compliance with all instructions in this manual.
- Any utilization that exceeds or differs from the appropriate use is regarded as misuse.

2.2 Constructional changes

Implementation of structural changes

Modifications, changes or reworking, e.g. additional threads, holes, or safety devices, can damage the product or impair its functionality or safety.

- Structural changes should only be made with the written approval of SCHUNK.

2.3 Spare parts

Use of unauthorized spare parts

Using unauthorized spare parts can endanger personnel and damage the product or cause it to malfunction.

- Use only original spare parts or spares authorized by SCHUNK.

2.4 Ambient conditions and operating conditions

Required ambient conditions and operating conditions

Incorrect ambient and operating conditions can make the product unsafe, leading to the risk of serious injuries, considerable material damage and/or a significant reduction to the product's life span.

- Make sure that the product is used only in the context of its defined application parameters, ▶ 3 [16].

2.5 Personnel qualification

Inadequate qualifications of the personnel

If the personnel working with the product is not sufficiently qualified, the result may be serious injuries and significant property damage.

- All work may only be performed by qualified personnel.
- Before working with the product, the personnel must have read and understood the complete assembly and operating manual.
- Observe the national safety regulations and rules and general safety instructions.

The following personal qualifications are necessary for the various activities related to the product:

Trained electrician

Due to their technical training, knowledge and experience, trained electricians are able to work on electrical systems, recognize and avoid possible dangers and know the relevant standards and regulations.

Qualified personnel

Due to its technical training, knowledge and experience, qualified personnel is able to perform the delegated tasks, recognize and avoid possible dangers and knows the relevant standards and regulations.

Instructed person

Instructed persons were instructed by the operator about the delegated tasks and possible dangers due to improper behaviour.

Service personnel of the manufacturer

Due to its technical training, knowledge and experience, service personnel of the manufacturer is able to perform the delegated tasks and to recognize and avoid possible dangers.

2.6 Personal protective equipment

Use of personal protective equipment

Personal protective equipment serves to protect staff against danger which may interfere with their health or safety at work.

- When working on and with the product, observe the occupational health and safety regulations and wear the required personal protective equipment.
- Observe the valid safety and accident prevention regulations.
- Wear protective gloves to guard against sharp edges and corners or rough surfaces.
- Wear heat-resistant protective gloves when handling hot surfaces.
- Wear protective gloves and safety goggles when handling hazardous substances.
- Wear close-fitting protective clothing and also wear long hair in a hairnet when dealing with moving components.

2.7 Notes on safe operation

Incorrect handling of the personnel

Incorrect handling and assembly may impair the product's safety and cause serious injuries and considerable material damage.

- Avoid any manner of working that may interfere with the function and operational safety of the product.
- Use the product as intended.
- Observe the safety notes and assembly instructions.
- Do not expose the product to any corrosive media. This does not apply to products that are designed for special environments.
- Eliminate any malfunction immediately.
- Observe the care and maintenance instructions.
- Observe the current safety, accident prevention and environmental protection regulations regarding the product's application field.

2.8 Transport

Handling during transport

Incorrect handling during transport may impair the product's safety and cause serious injuries and considerable material damage.

- When handling heavy weights, use lifting equipment to lift the product and transport it by appropriate means.
- Secure the product against falling during transportation and handling.
- Stand clear of suspended loads.

2.9 Malfunctions

Behavior in case of malfunctions

- Immediately remove the product from operation and report the malfunction to the responsible departments/persons.
- Order appropriately trained personnel to rectify the malfunction.
- Do not recommission the product until the malfunction has been rectified.
- Test the product after a malfunction to establish whether it still functions properly and no increased risks have arisen.

2.10 Fundamental dangers

General

- Observe safety distances.
- Never deactivate safety devices.
- Before commissioning the product, take appropriate protective measures to secure the danger zone.
- Disconnect power sources before installation, modification, maintenance, or calibration. Ensure that no residual energy remains in the system.
- If the energy supply is connected, do not move any parts by hand.
- Do not reach into the open mechanism or movement area of the product during operation.

2.10.1 Protection during handling and assembly

Incorrect handling and assembly

Incorrect handling and assembly may impair the product's safety and cause serious injuries and considerable material damage.

- Have all work carried out by appropriately qualified personnel.
- For all work, secure the product against accidental operation.
- Observe the relevant accident prevention rules.
- Use suitable assembly and transport equipment and take precautions to prevent jamming and crushing.

Incorrect lifting of loads

Falling loads may cause serious injuries and even death.

- Stand clear of suspended loads and do not step into their swiveling range.
- Never move loads without supervision.
- Do not leave suspended loads unattended.

2.10.2 Protection during commissioning and operation

Falling or violently ejected components

Falling and violently ejected components can cause serious injuries and even death.

- Take appropriate protective measures to secure the danger zone.
- Never step into the danger zone during operation.

2.10.3 Protection against dangerous movements

Unexpected movements

Residual energy in the system may cause serious injuries while working with the product.

- Switch off the energy supply, ensure that no residual energy remains and secure against inadvertent reactivation.
- Never rely solely on the response of the monitoring function to avert danger. Until the installed monitors become effective, it must be assumed that the drive movement is faulty, with its action being dependent on the control unit and the current operating condition of the drive. Perform maintenance work, modifications, and attachments outside the danger zone defined by the movement range.
- To avoid accidents and/or material damage, human access to the movement range of the machine must be restricted. Limit/prevent accidental access for people in this area due through technical safety measures. The protective cover and protective fence must be rigid enough to withstand the maximum possible movement energy. EMERGENCY STOP switches must be easily and quickly accessible. Before starting up the machine or automated system, check that the EMERGENCY STOP system is working. Prevent operation of the machine if this protective equipment does not function correctly.

2.10.4 Protection against electric shock

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.

2.11 Notes on particular risks

Work in areas with magnetic and electromagnetic fields

Magnetic and electromagnetic fields can lead to serious injuries.

- Persons with pace-makers, metal implants, metal shards, or hearing aids require the consent of a physician before entering areas in which components of the electric drive and control systems are mounted, started up, and operated.
- Persons with pace-makers, metal implants, metal shards, or hearing aids require the consent of a physician before entering areas in which magnetic grippers or motor parts with permanent magnets are stored, repaired, or assembled.
- Do not operate high-frequency or radio devices in the proximity of electric components of the drive system and their feed lines.

If the use of such devices is necessary:

When starting up the electric drive and control system, check the machine or automated system for possible failures when such systems are used at different intervals and in different states of the control system. A special additional EMC test may be necessary if the system has a high risk potential.



⚠ WARNING

Risk of injury due to sudden movements!

During operation, due to incorrect actuation and in the event of a power failure, falling and ejected objects can cause serious injuries.

- Carry out safety measures in the user program.
- Take suitable protective measures to secure the danger zone/ product.



⚠ WARNING

Danger of crushing due to magnetically attracted tools!

Tools may be attracted by strong magnetic fields and cause severe injuries.

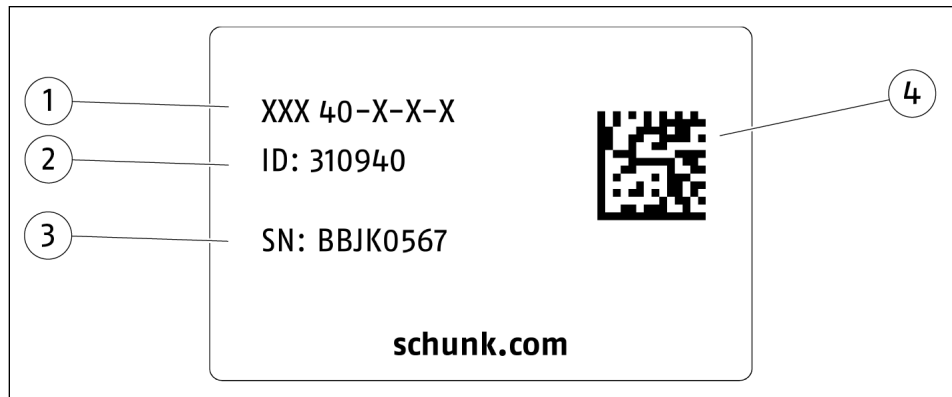
**⚠ WARNING****Risk of injury from objects falling and being ejected as well as hot surfaces!**

The temperature of the product increases with each activation cycle. If the temperature rises above 80°C, the product loses its magnetic properties and can cause serious injuries and burns.

- Take suitable protective measures to secure the danger zone.
 - Wear heat-resistant protective equipment.
 - Allow the product to cool down before performing maintenance work.
-

3 Technical data

3.1 Name plate



1 Product designation

2 ID

3 Serial number

4 Data matrix code

Scan code or enter serial number on the web and get all the product information: operating manuals, spare parts packages, software updates and much more.

For further information, visit [schunk.com/serialisierung](https://www.schunk.com/serialisierung)

A separate app may be required for scanning with a mobile phone.

3.2 Basic data

Designation	Value
Weight [kg]	0.25
Pressure medium	Compressed air, compressed air quality according to ISO 8573-1:2010 [7:4:4]
Nominal operating pressure [bar]	6
Min. pressure [bar]	3
Max. pressure [bar]	8
Magnetic holding force [N]	≥70
Rated voltage for optional sensor system [VDC]	24

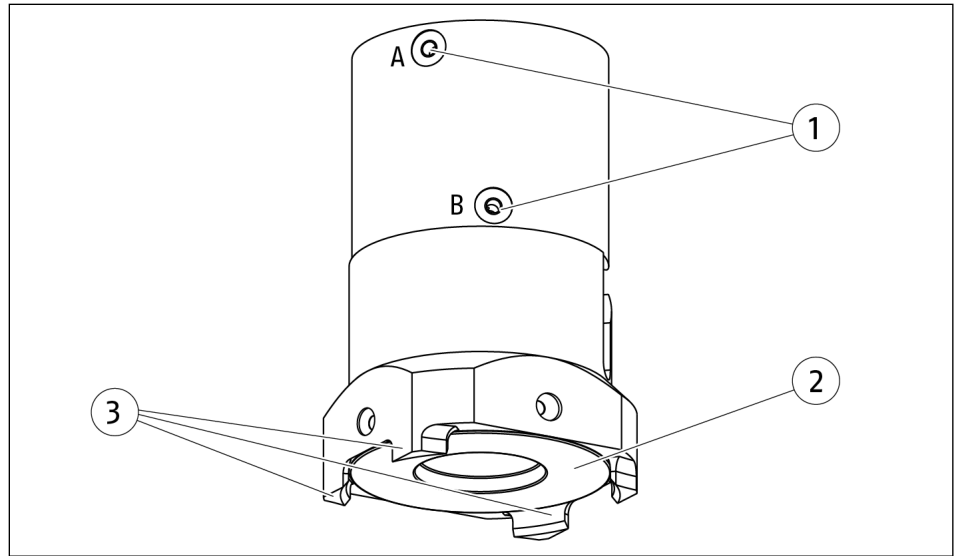
Ambient conditions and operating conditions

Designation	Value
Ambient temperature [°C]	
Min.	0
Max.	+50
Noise emission [dB(A)]	≤70

More technical data is included in the catalog data sheet. Whichever is the latest version.

4 Design and description

4.1 Configuration



Design

- | | |
|---|----------------------|
| 1 | Main air connections |
| 2 | Insulating cap |
| 3 | Centerings |

4.2 Description

Round cell gripper RCG is a pneumatically controlled magnetic system by means of which a battery cell can be picked up and set down magnetically.

5 Assembly

5.1 Assembly and connection



⚠ WARNING

Risk of injury due to unexpected movements!

If the power supply is switched on or residual energy remains in the system, components can move unexpectedly and cause serious injuries.

- Before starting any work on the product: Switch off the power supply and secure against restarting.
- Make sure, that no residual energy remains in the system.

NOTE

- Observe the requirements for the compressed air supply, ▶ 3 [16].
- In case of compressed air loss (cutting off the energy line), the components lose their dynamic effects and do not remain in a secure position. However, the use of a SDV-P pressure maintenance valve is recommended in this case in order to maintain the dynamic effect for some time. Product variants are also offered with mechanical gripping force via springs, which also ensure a minimum clamping force in the event of a pressure drop.

1. Check the evenness of the mounting surface, ▶ 5.2.1 [20].
2. Only open the required air connections (main connection or direct connection), ▶ 5.2.2 [21].
3. Connect the product via the hose-free direct connection.
 - ⇒ Use O-rings from the accessory pack.
 - ⇒ Seal the main air connections, which are not required with set-screws.
4. OR: Connect compressed air lines to the main air connections, ▶ 5.2.2 [21].
 - ⇒ Screw in air connections (plug connections).
OR: Screw on throttle valve in order to be able to perform sufficient throttling and/or damping.
5. Screw the product to the machine/system, ▶ 5.2.1 [20].
 - ⇒ If necessary, use appropriate connection elements (adapter plates).
 - ⇒ Observe the maximal tightening torque, admissible screw-in depth and, if necessary, strength class.
6. Connect the sensor, see assembly and operating manual of the sensor.
7. Mount the sensor, ▶ 5.3 [22].

5.2 Connections

5.2.1 Mechanical connection

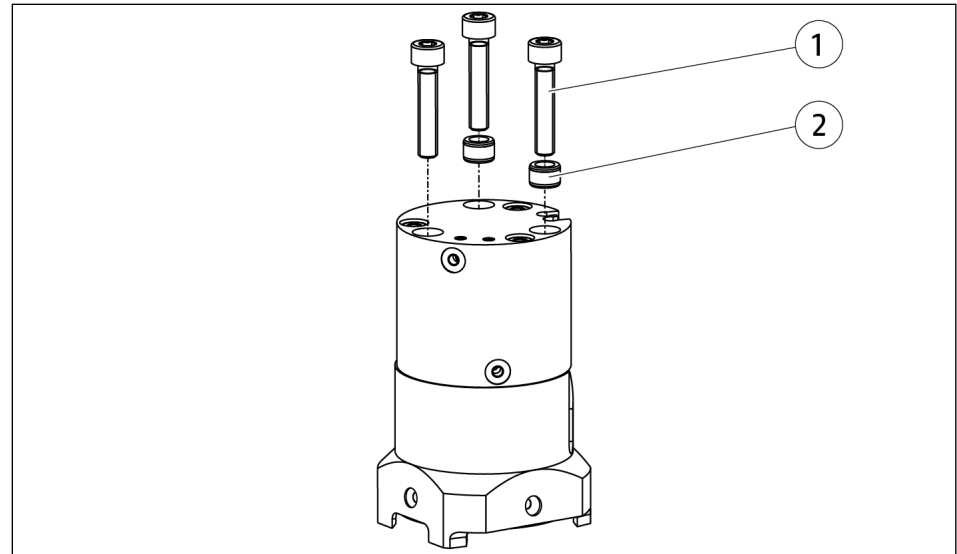
Evenness of the mounting surface

The values apply to the whole mounting surface to which the product is mounted.

Edge length	Permissible unevenness
< 100	< 0.02
> 100	< 0.05

Tab.: Requirements for evenness of the mounting surface (Dimensions in mm)

Connections at the housing



Assembly

Size	① Screws (3x)	② Centering sleeve (2x) *
46	M5	∅8

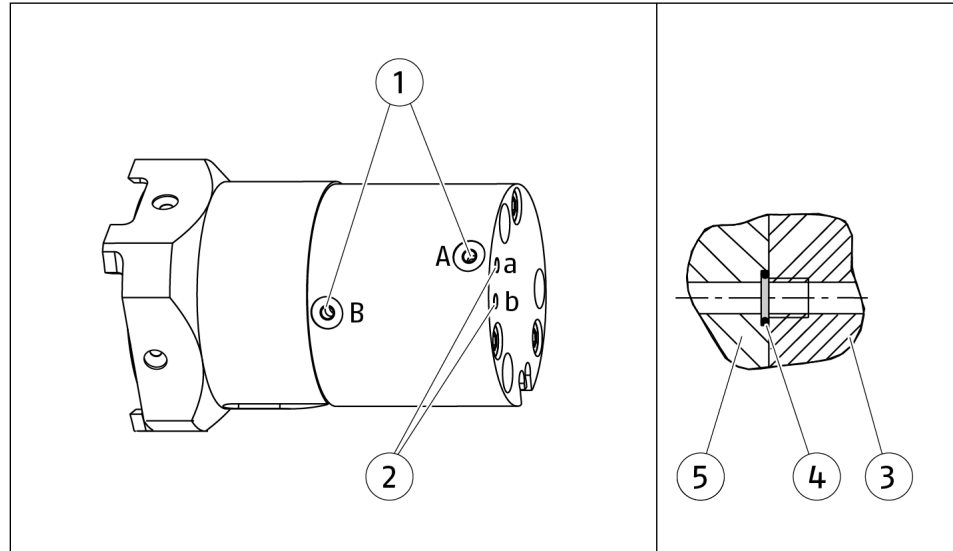
Tab.: Mounting material dimensions

* Note: Two centering sleeves are required for mounting, the position in the three existing holes is not relevant. The centering sleeves are included in the accessory kit.

5.2.2 Pneumatical connection

NOTE

The central air unit must be equipped with a maintenance unit that is located as near as possible to the consumer.



Air connections

- 1 Main connections (Hose connection)
A: Solenoid activated, B: Solenoid deactivated

- 2 Hose-free direct connection
a: Solenoid activated, b: Solenoid deactivated

Detail, Hose-free direct connection:

- 3 Product

- 4 O-ring (Contained in accessory pack.)

- 5 Attachment

Size	Main air connections	Hose-free direct connection
46	M3	M3

Tab.: Thread diameter of the air connections

5.3 Mounting the sensor

NOTE

Observe the assembly and operating manual of the sensor for mounting and connecting.

The product is prepared for the use of sensors.

- For the exact type designations of suitable sensors, please see catalog datasheet and ▶ 5.3.1 [📄 22].
- For technical data for the suitable sensors, see assembly and operating manual and catalog datasheet.
 - The assembly and operating manual and catalog datasheet are included in the scope of delivery for the sensors and are available at schunk.com.
- Information on handling sensors is available at schunk.com or from SCHUNK contact persons.

5.3.1 Overview of sensors

Sensors for status detection "Solenoid activated" and "Solenoid deactivated"

- Magnetic switch MMS 22
- Programmable magnetic switch MMS 22-PI1
- Programmable magnetic switch MMS 22-PI2
- Programmable magnetic switch MMS-P 22

Sensors for workpiece detection

- Inductive proximity switch (IN)

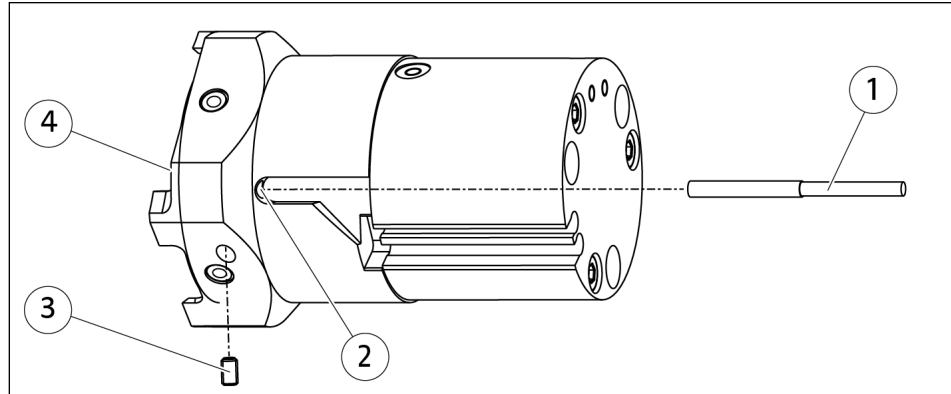
Size	IN	MMS 22	MMS 22-PI1	MMS 22-PI2	MMS-P 22
46	✓	✓	✓	✓	✓

5.3.2 Mounting the inductive proximity switch

NOTICE

Risk of damage to the sensor during assembly!

- Observe the maximal tightening torque.



1. Carefully slide sensor (1) into the hole (2) as far as the stop.
NOTICE! The insulating cap (4) serves as a stop; it may not bulge.
2. Secure the sensor using the set-screw (3).
⇒ Tightening torque: 0.35 Nm

NOTE

Prevent damage to the sensor

When using sensors that are not recommended by SCHUNK as accessories, both the sensor function and the installation situation must be checked individually.

Different tightening torques may apply for the sensor clamp.

5.3.3 Mounting MMS 22 magnetic switch

NOTE

The MMS 22 magnetic switch can be configured in two different ways:

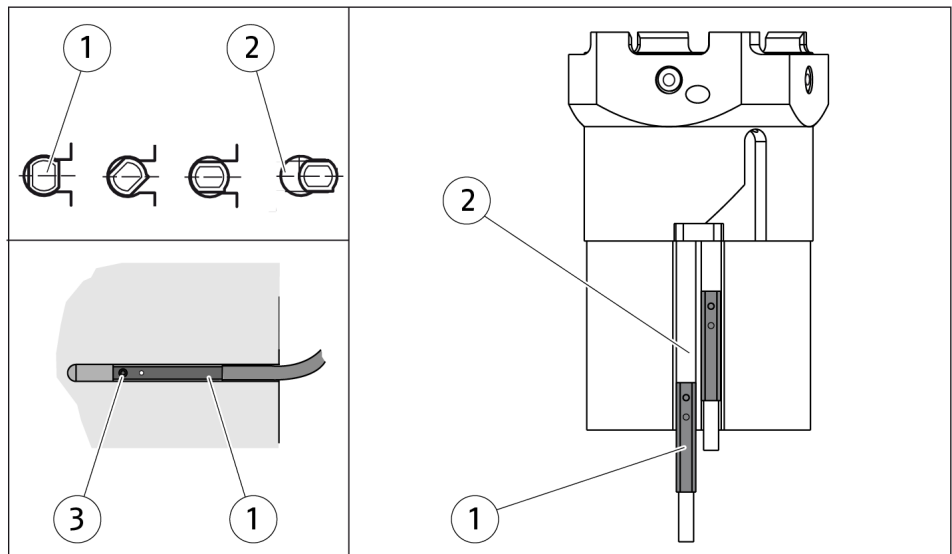
- Standard: the switching points of the sensor must be set manually.
- Using a mounting aid: with this mounting aid, the sensors can be positioned correctly by moving them to a fixed stop so that the switching points are set automatically. The mounting aid is available as an accessory from SCHUNK, ▶ 1.4 [7]. SCHUNK recommends the use of this mounting aid for easier and quicker adjustment.

1. Set sensors as standard

NOTICE

Risk of damage to the sensor during assembly!

- Observe the maximal tightening torque.



Positioning the magnetic switches

Position "Solenoid activated"

1. Put product in the position in which it is to be set.
2. Turn sensor 1 (1) into the groove (2).
OR: Slide the sensor 1 (1) into the groove (2) until the sensor 1 (1) stops at the end of the groove.
3. Pull the sensor 1 (1) back again slowly until it switches.
4. Secure sensor 1 (1) using the set-screw (3).
⇒ Tightening torque: max. 10 Ncm
5. Bring the product into "Solenoid activated" position and test the function.

Position "Solenoid deactivated"

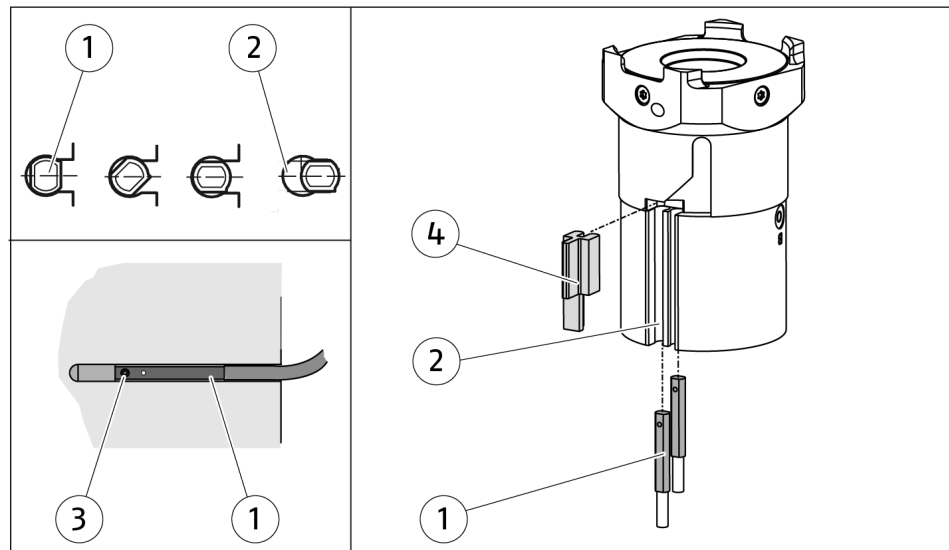
1. Put product in the position in which it is to be set.
2. Turn sensor 2 (1) into the groove (2).
OR: Slide sensor 2 (1) into the groove (2) towards the middle of the housing until the sensor 2 (1) switches.
3. Secure sensor 2 (1) using the set-screw (3).
⇒ Tightening torque: max. 10 Ncm
4. Set the product to "Solenoid deactivated" position and test whether it still functions.

2. Adjust sensors with mounting aid

NOTICE

Risk of damage to the sensor during assembly!

- Observe the maximal tightening torque.



Position the magnetic switch with a mounting aid

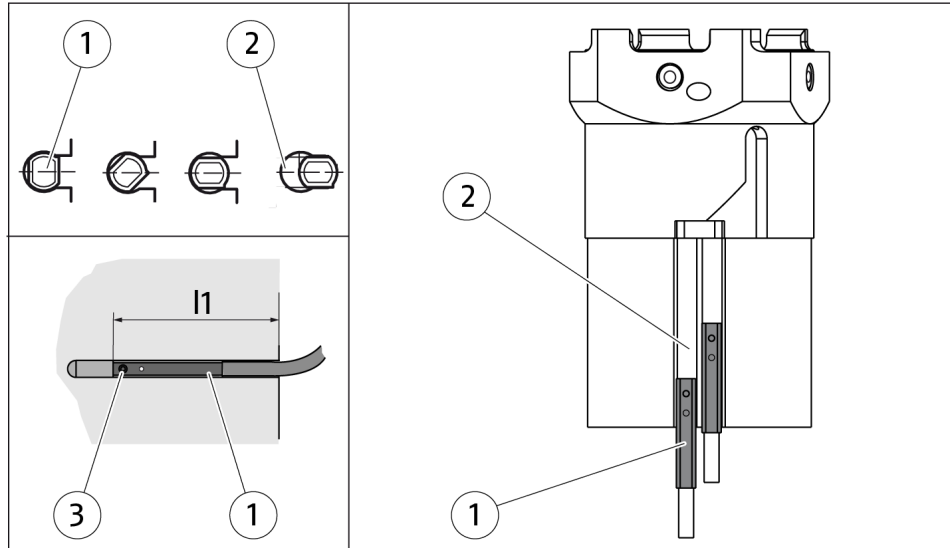
1. Insert the mounting aid (4) into the grooves (2) and push it towards the cover housing as far as it will go.
2. Turn the sensors (1) into the grooves (2) as far as the stop.
OR: Push the sensors (1) into the grooves (2) as far as the stop.
3. Fix the sensors (1) with the set screw (3).
⇒ Tightening torque: max. 10 Ncm
4. Remove the mounting aid (4).
5. Bring the product to the "Magnet activated" or "Magnet deactivated" position and test its function.

5.3.4 Mounting MMS 22-PI1 programmable magnetic switch

NOTICE

Risk of damage to the sensor during assembly!

- Observe the maximal tightening torque.



Positioning the magnetic switches

NOTE

The magnetic switch MMS 22-PI1 can be adjusted and taught in two ways.

- "Standard mode" allows for quick installation with the setting dimension defined by SCHUNK "l1."
- In "Optimum Mode", the sensor identifies the optimum position in the groove itself.
SCHUNK recommends "Optimum Mode" for setting the sensors.

1. Setting the sensor in "Standard mode"

1. Turn sensor 1 (1) into the groove (2).
OR: Slide sensor 1 (1) into the groove (2).
2. Set dimension $l1=26$ mm between product edge and sensor face.
3. Secure sensor 1 (1) using the set-screw (3).
⇒ Tightening torque: max. 10 Ncm
4. Adjust sensor 1 (1), see Sensor Assembly and Operating Manual.
5. Repeat steps for sensor 2.

2. Setting the sensor in "Optimum mode"

Position "Solenoid activated"

1. Put product in the position in which it is to be set.
2. Turn sensor 1 (1) into the groove (2).
OR: Slide sensor 1 (1) into the groove (2) until sensor 1 (1) stops at the end of the groove.
3. Hold teaching tool to sensor 1 (1) until the sensor flashes.
4. Pull sensor 1 (1) back again slowly until it flashes rapidly.
⇒ The optimal position is displayed.
5. Secure the sensor 1 (1) using the set-screw (3).
⇒ Tightening torque: max. 10 Ncm
6. Hold teaching tool to the sensor 1 (1) to confirm the position.
⇒ The sensor 1 (1) has been taught in.

Position "Solenoid deactivated"

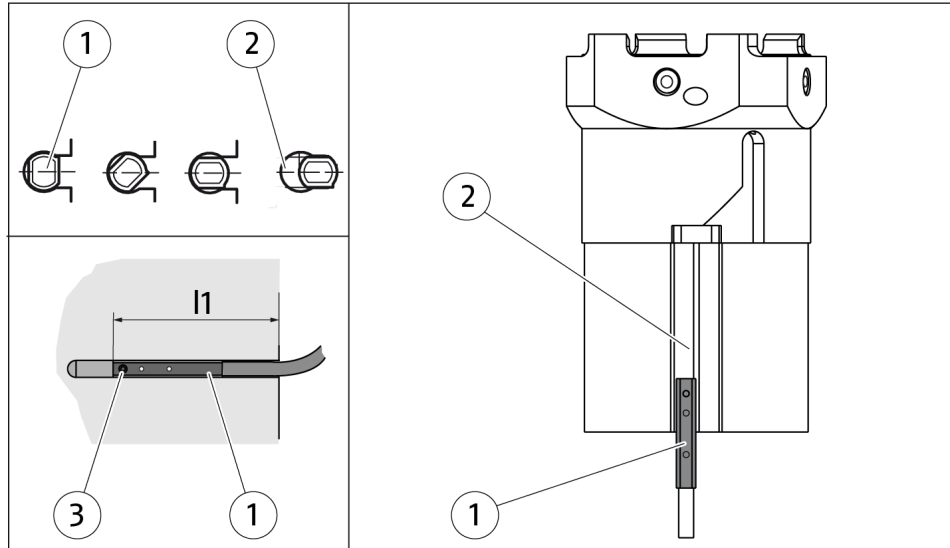
1. Put product in the position in which it is to be set.
2. Hold teaching tool to sensor 2 (1) until the sensor flashes.
3. Slide sensor 2 (1) into the groove (2), until sensor 2 flashes rapidly.
⇒ The optimal position is displayed.
4. Secure sensor 2 (1) using the set-screw (3).
⇒ Tightening torque: max. 10 Ncm
5. Hold teaching tool to the sensor 2 (1) to confirm the position.
⇒ Sensor 2 (1) has been taught.

5.3.5 Mounting programmable MMS 22-PI2 magnetic switch

NOTICE

Risk of damage to the sensor during assembly!

- Observe the maximal tightening torque.



Positioning the magnetic switches

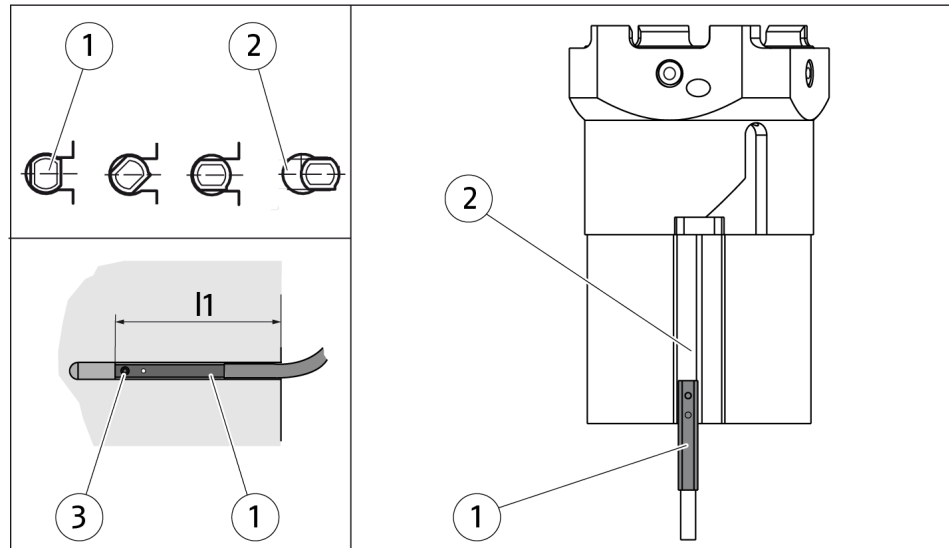
1. Turn the sensor (1) into the groove (2).
OR: Slide sensor (1) into the groove (2),
2. Set dimension $l_1=26$ mm between product edge and sensor face.
3. Secure sensor (1) using the set-screw (3).
⇒ Tightening torque: max. 10 Ncm
4. Adjust the sensor (1), see the Assembly and Operating Manual for the sensor.

5.3.6 Mounting programmable MMS-P magnetic switch

NOTICE

Risk of damage to the sensor during assembly!

- Observe the maximal tightening torque.



Positioning the magnetic switches

1. Turn the sensor (1) into the groove (2).
OR: Slide sensor (1) into the groove (2),
2. Set dimension $l_1=24$ mm between product edge and sensor face.
3. Secure sensor (1) using the set-screw (3).
⇒ Tightening torque: max. 10 Ncm
4. Adjust the sensor (1), see the Assembly and Operating Manual for the sensor.

6 Maintenance

6.1 Maintenance intervals

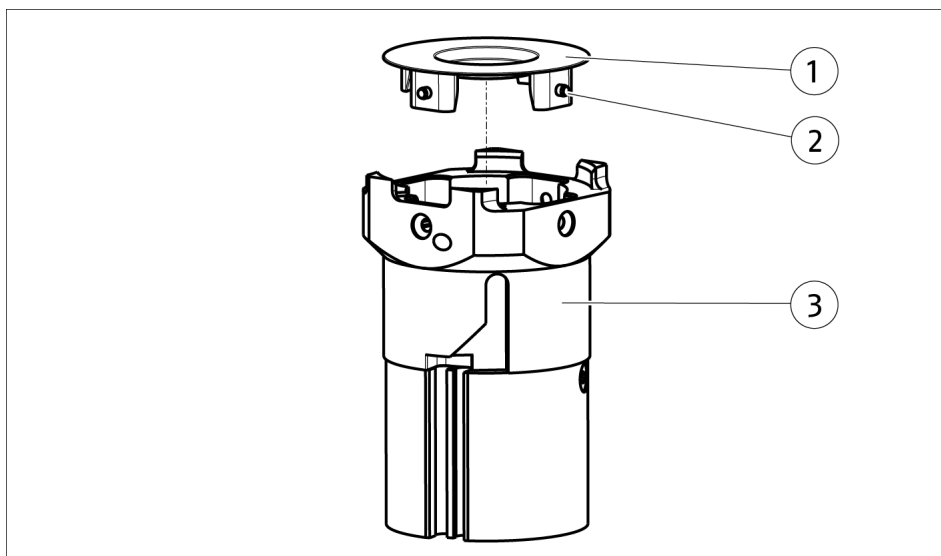
Interval (million cycles)	Maintenance work
weekly	Check the outside of the product for damage and wear and clean it.
1.5	If necessary, replace seals, ▶ 6.4 [33]. The seals are in the enclosed sealing kit. ▶ 1.4.1 [7].
1.5	Replace insulating cap, ▶ 6.2 [31].

6.2 Changing the insulating cap (version without screws)

NOTE

The insulating cap without screws replaces the insulating cap with screws and is 1:1 compatible.

1. Switch off the energy supply and secure against re-connection.
2. Ensure that no residual energy remains in the system.
3. Remove the compressed air lines.



Replacing the insulating cap

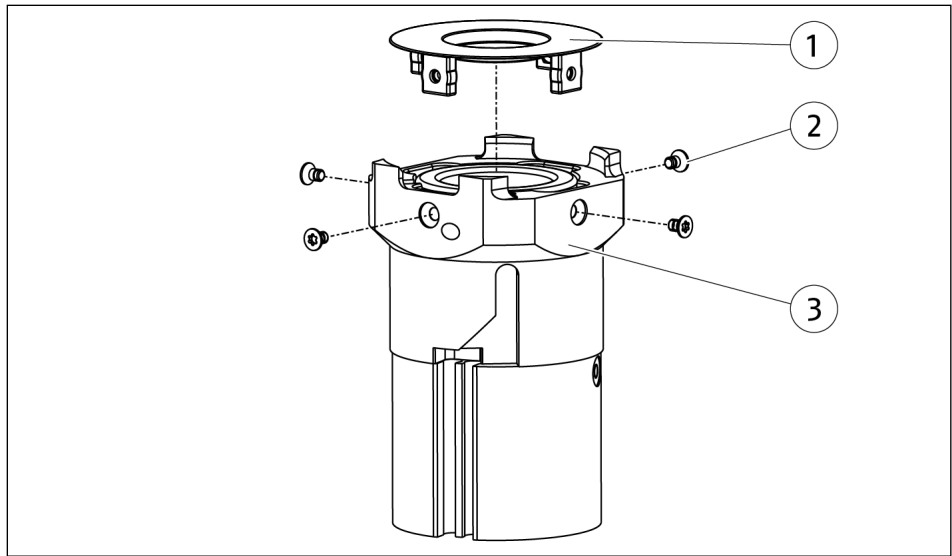
4. Remove the insulating cap (1).
To do this, carefully press the lugs (2) inwards with a pointed object.
5. Place the new insulating cap on the cover housing (2) and snap the lugs in (2) completely.

6.3 Changing the insulating cap (version with screws)

NOTE

The insulating cap with screws is no longer supplied. It has been replaced by the compatible insulating cap without screws.

1. Switch off the energy supply and secure against re-connection.
2. Ensure that no residual energy remains in the system.
3. Remove the compressed air lines.



Replacing the insulating cap

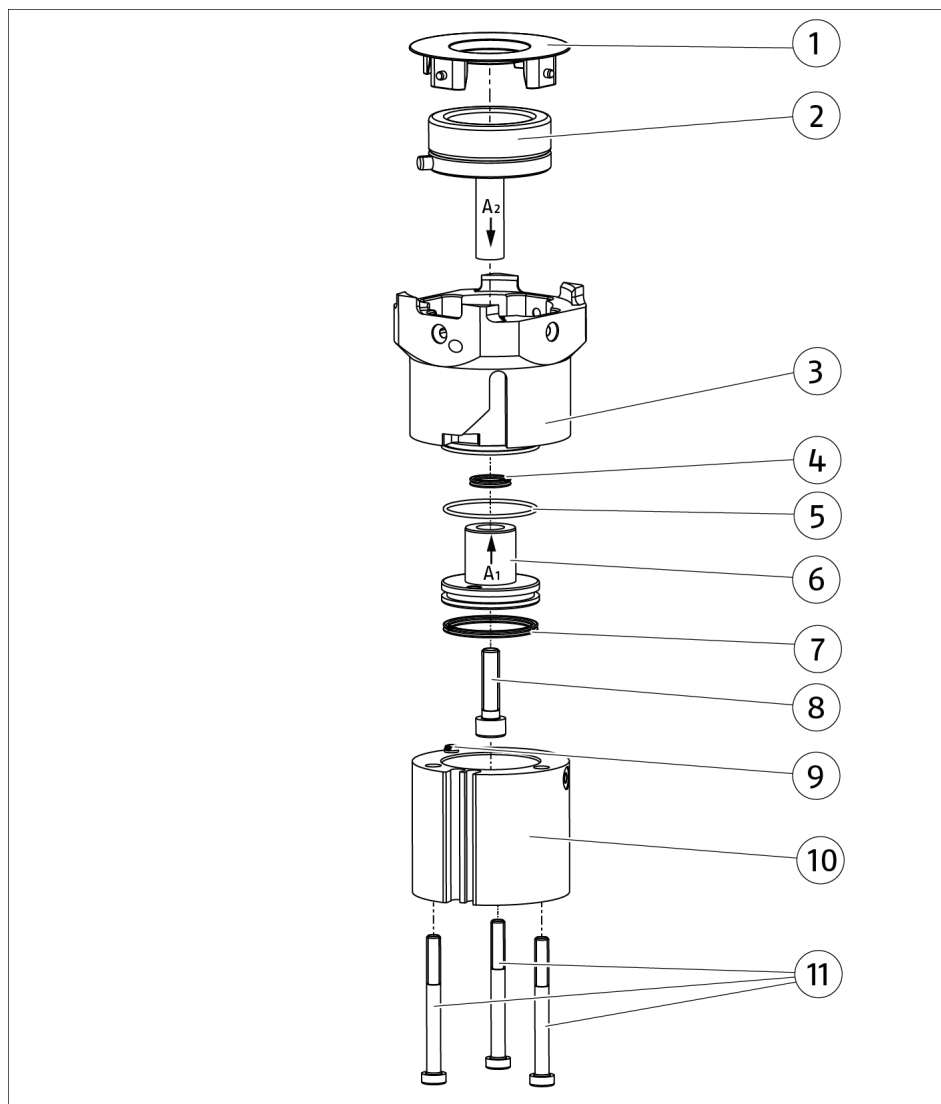
4. Remove the screws (2) from the cover housing (3).
5. Remove the insulating cap (1).
6. Place a new insulating cap on the cover housing (3). The insulating cap needs to lie fully flat.
7. Apply threadlocker (Weicon AN 302-41) to the screws (2) and the thread of the insulating cap (1).
8. Screw the screws (2) into the cover housing (3) and tighten to a torque of 0.1 Nm.

6.4 Changing seals (version without screws)

NOTE

The insulating cap with screws is no longer supplied. It has been replaced by the compatible insulating cap without screws.

1. Switch off the energy supply and secure against re-connection.
2. Ensure that no residual energy remains in the system.
3. Remove the compressed air lines.



Replacing seals

4. Loosen the screws (11) and remove the housing (10).
5. Remove the insulating cap (1) ▶ 6.3 [32].
6. Mark the alignment of the cylinder piston (6) to the piston (2) with a line (A_1/A_2) to prevent the solenoid from twisting during subsequent assembly.
7. Unscrew the screw (8) and pull off cylinder piston (6).

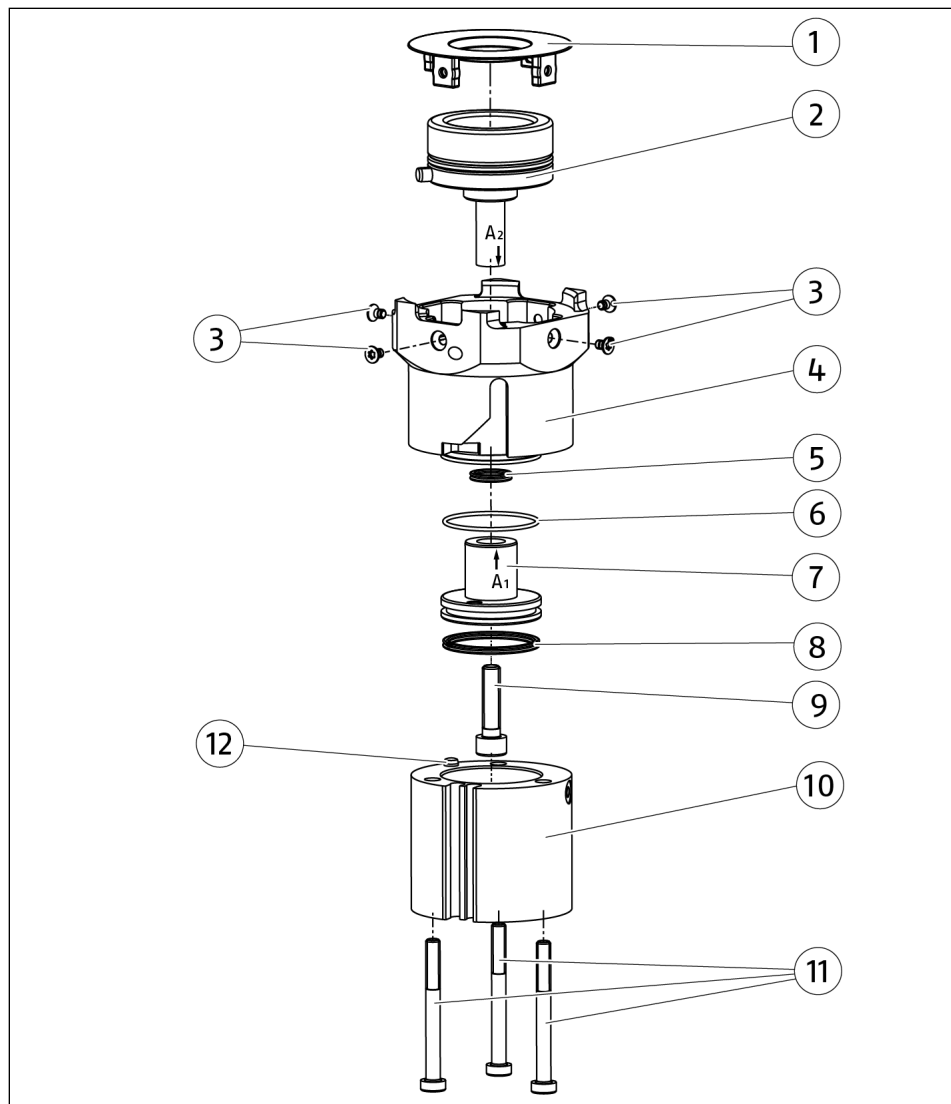
- 8.** Push the piston (2) out of the cover housing (3).
- 9.** Remove the O-ring (5) from the cover housing (3) and remove the sealing ring (4) from the cover housing (3).
- 10.** Pull the sealing ring (7) off the cylinder piston (6).
- 11.** Clean all parts thoroughly and check for damage.
- 12.** Treat new seals (4), (5), (7) with lubricant (▶ 6.6 [□ 37]) and mount them.
- 13.** Place the cylinder piston (6) on the pin of the piston (2) and align it with the previously applied marking.
- 14.** Screw in the screw (8) with threadlocker (medium strength).
⇒ Tightening torque: 6.1 Nm
- 15.** Treat cylinder piston (6) and housing (10) with lubricant (▶ 6.6 [□ 37]).
- 16.** Fit the housing (10) onto the cover housing (3), ensuring that the centering pin (9) is seated in the corresponding hole in the cover housing (3).
- 17.** Screw in the screws (11) with threadlocker (medium strength).
⇒ Tightening torque: 1.0 Nm
- 18.** Place the insulating cap (1) in the correct position and press it in.

6.5 Change seals (version with screws)

NOTE

The insulating cap with screws is no longer supplied. It has been replaced by the compatible insulating cap without screws.

1. Switch off the energy supply and secure against re-connection.
2. Ensure that no residual energy remains in the system.
3. Remove the compressed air lines.



Replacing seals

4. Loosen the screws (11) and remove the housing (10).
5. Unscrew the screws (3) and remove cap (1).
6. Mark the alignment of the cylinder piston (7) to the piston (2) with a line (A_1/A_2) to prevent the solenoid from twisting during subsequent assembly.
7. Unscrew screw (9) and pull off cylinder piston (7).

- 8.** Push the piston (2) out of the cover housing (4).
- 9.** Remove the O-ring (6) from the cover housing (4) and remove the sealing ring (5) from the cover housing (4).
- 10.** Pull the sealing ring (8) off the cylinder piston (7).
- 11.** Clean all parts thoroughly and check for damage.
- 12.** Treat new seals (5), (6), (8) with lubricant (▶ 6.6 [□ 37]) and mount them.
- 13.** Place the cylinder piston (7) on the pin of the piston (2) and align it with the previously applied marking.
- 14.** Screw in the screw (9) with threadlocker (medium strength).
⇒ Tightening torque: 6.1 Nm
- 15.** Treat cylinder piston (7) and housing (10) with lubricant (▶ 6.6 [□ 37]).
- 16.** Fit the housing (10) onto the cover housing (4), ensuring that the centering pin (12) is seated in the corresponding hole in the cover housing (4).
- 17.** Screw in the screws (11) with threadlocker (medium strength).
⇒ Tightening torque: 1.0 Nm

6.6 Lubricants/Lubrication points

During maintenance, treat all greased areas with lubricant. Thinly apply lubricant with a lint-free cloth.

SCHUNK recommends the lubricants listed.

Lubricant point	Lubricant
Seals and sealing surfaces	SCHUNK grease 1
Bore hole at the piston	SCHUNK grease 1

Details regarding SCHUNK lubricant designations are available at [schunk.com/lubricants](https://www.schunk.com/lubricants).

The product contains food-compliant lubricants as standard.

The requirements of standard EN 1672-2:2020 are not fully met.

NOTE

- Change contaminated food-compliant lubricant.
- Observe information in the safety data sheet from the lubricant manufacturer.

7 Disassembly and disposal



⚠ WARNING

Risk of injury due to unexpected movements!

If the power supply is switched on or residual energy remains in the system, components can move unexpectedly and cause serious injuries.

- Before starting any work on the product: Switch off the power supply and secure against restarting.
 - Make sure, that no residual energy remains in the system.
-
- Disconnect the entire energy supply from the product, discharge any accumulated residual energy.
 - Remove any lubricant and dispose of in an environmentally friendly manner.
 - Follow local regulations on dispatching product components for recycling or proper disposal.

8 Translation of the original declaration of incorporation

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

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

We hereby declare that the partly completed machine described below

Product designation: Round cell gripper / RCG /pneumatic
ID number 1551638, 1556157, 1556170

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, September 2025

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

10 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

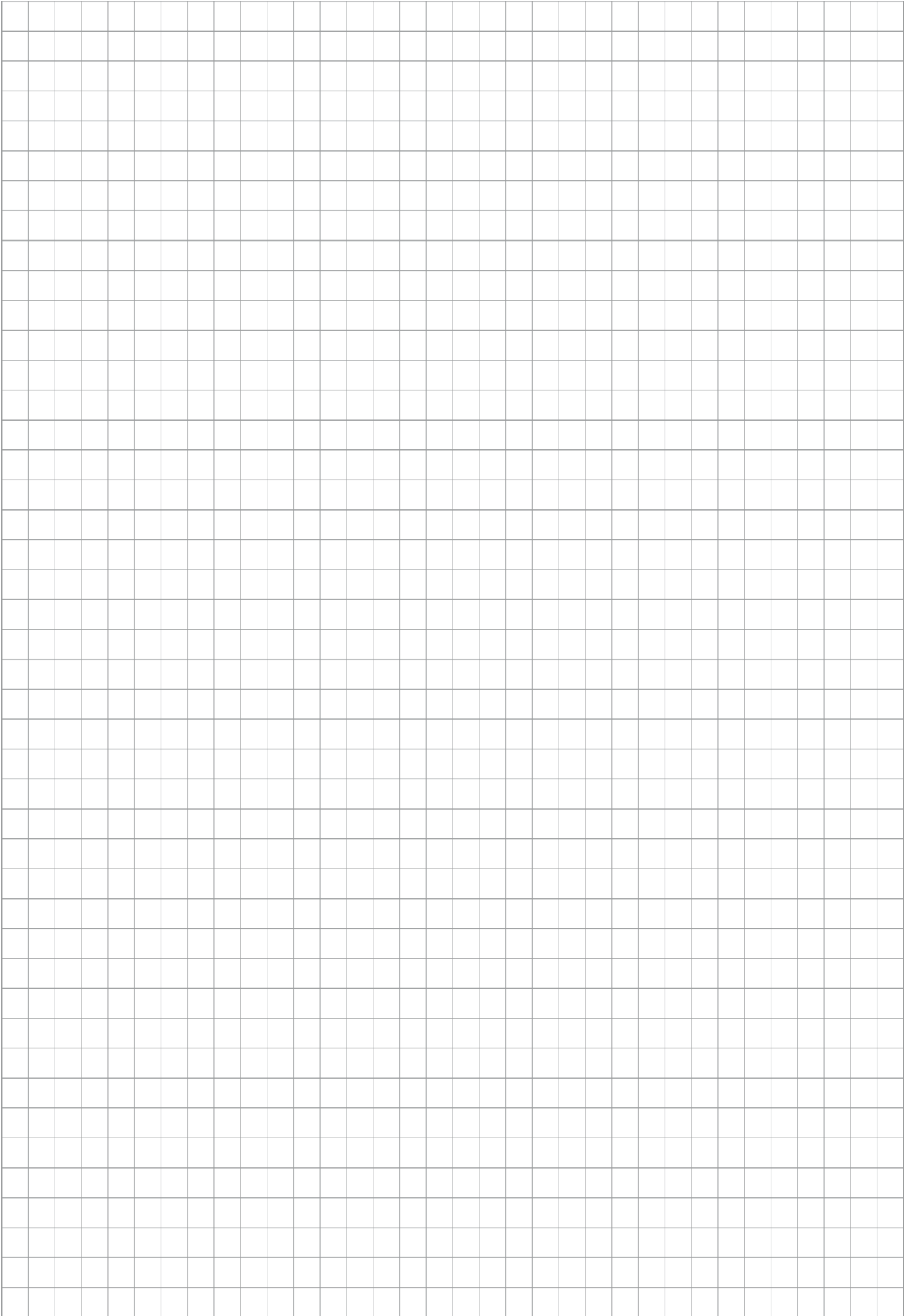
Products from SCHUNK fully comply with the regulations of Regulation (EC) No. 1907/2006 "concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)" and its amendment 2022/477. SCHUNK attaches great importance to completely avoiding chemicals of concern to humans and 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, September 2025

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







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