

1 Supporting documents

- NOTE:**
- Read through the installation and operating instructions carefully before installing the product! The installation and operating instructions contain important notes for your personal safety. They must be read and understood by all persons who work with or handle the product during any phase of the product life time.
 - The following documents are available for download on our website. Only those documents currently available on the website are valid.

- Catalog, drawings, CAD data, performance data
- Information on accessories
- Detailed installation and operating instructions, technical data sheets
- General Terms and Conditions of Business, including warranty information

2 Safety notes

- CAUTION:**
- Installation, commissioning, maintenance and repairs may only be performed by qualified experts in accordance with these installation and operating instructions.
 - The gripper is state-of-the-art. It is fitted to industrial machines and is used to hold workpieces. The following are examples of situations in which the gripper may cause a hazard:
 - the gripper is not properly installed, used or maintained,
 - the gripper is not used for its intended purpose,
 - local regulations (legislation, ordinances, guidelines), such as the EC Machinery Directive, accident prevention regulations and the installation and operating instructions, are not observed.
 - The gripper may be used only in accordance with its proper use and technical data. ZIMMER GmbH shall accept no liability for any damage caused by improper use.
 - Any use other than the intended use requires written approval from ZIMMER GmbH.
 - Do not reach into the operating range of the gripper.
 - Make sure that the transmission lines are disconnected before you install, retool, maintain or repair the gripper.
 - In case of maintenance, renovation or expansion work, remove the gripper from the machine and perform the work outside the danger zone.
 - When commissioning or testing, make sure that the gripper cannot be actuated by mistake.
 - Modifications to the gripper, such as adding drilled holes or threads, may be made only with prior approval from ZIMMER GmbH.
 - The specified maintenance intervals and compressed air quality specifications are to be observed; also refer to the Maintenance section. Please contact our hotline for this purpose.
 - Use of the gripper under extreme conditions, such as aggressive liquids and abrasive dusts, is subject to prior approval from ZIMMER GmbH.

3 Proper use

- NOTE:**
- The SCH series gripper is only to be used in its original state with its original accessories, with no unauthorized changes and within the scope of its defined parameters for use. ZIMMER GmbH shall accept no liability for any damage caused by improper use.

The gripper is designed for operation with compressed air only. It is not suited for operation with other media such as liquids or gases. The gripper is used as defined under "Proper use" in enclosed rooms for temporarily gripping, handling and holding workpieces. It is not suitable for clamping workpieces during a machining process or for direct contact with perishable goods. Proper use of the gripper also includes the forces and torques which can additionally act on surface A while statically loaded (see technical data sheets at www.zimmer-group.de)

4 Personnel qualification

Installation, commissioning and maintenance may only be performed by qualified personnel. These persons must have read and understood the installation instructions in full.

5 Product description

5.1 Gripper function

The gripper operates with double-acting pneumatic cylinders. By venting the cylinders, the needles are directly driven for extension. The proper needle stroke can be adjusted individually and smoothly via the direct stroke setting. The object being gripped is gripped by piercing. The return is accomplished by venting the second piston chamber of the cylinder. Thanks to the compact design, the gripper can be used in a minimum of space. Detection of the end position enables fast cycle times and an integrated control system.

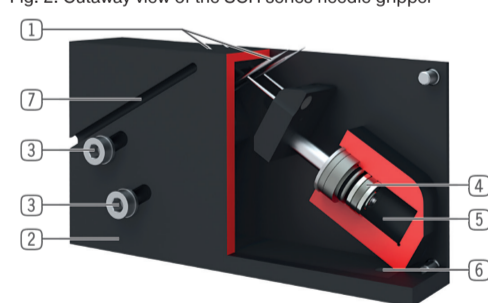
5.2 Gripper design

Fig. 1: SCH needle gripper series



1	Extending needles
2	Robust, lightweight housing
3	Stroke setting
4	Drive
5	Energy supply
6	Mounting and positioning
7	Integrated slot

Fig. 2: Cutaway view of the SCH series needle gripper



6 Installation

- WARNING:**
- Risk of injury in case of unexpected movement of the machine or system into which the gripper is to be installed.
 - Switch off the energy supply to the machine before all work.
 - Secure the machine against being switched on unintentionally.
 - Check the machine for any residual energy.

- CAUTION:**
- While working with the gripper or in the work area of the machine, you must observe the valid regulations of workplace safety and health protection.
 - Risk of injury in case of unexpected movement of the gripper when pneumatic energy is connected.
 - Switch off the pneumatic energy before all work.
 - Secure the pneumatic circuit against being switched on unintentionally.
 - Check the pneumatic circuit for any existing residual energy, bleed if necessary.

- DANGER:**
- Injury hazard due to protruding needles**
 Protruding needles can cause light to severe injuries.
- Switch off the entire power supply when working on the grab and the system and secure it against being switched on again!

Installation and operating instructions
SCH series
 DDOC00333
 Index 0
 EN / 2019-03-21

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6.1 Gripper installation

The gripper may only be mounted on a surface intended for this purpose. The mounting surface must correspond to the necessary flatness. Make sure the mounting piece is sufficiently rigid. Use only cylinder screws of strength class 8.8. The following tightening torques must be observed during installation:

Screw size	M5
Tightening torques [Nm]	6,0

You can find the suitable dimensions for connection of the gripper as well as suitable dimensions for connection of your application on our website.

→ www.zimmer-group.de

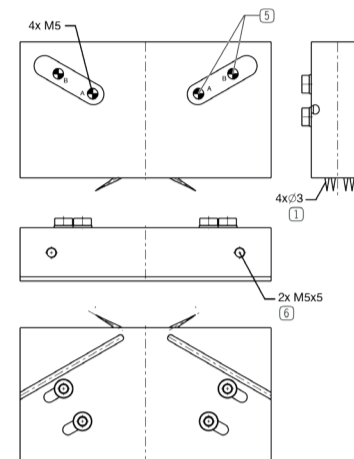
The gripper must be installed on mounting surfaces that correspond to the levelness specifications.

Length < 100 mm → permitted unevenness < 0,02 mm

Length > 100 mm → permitted unevenness < 0,05 mm

Carry out the following steps to install the gripper:

- The mounting piece must cover the gripper surface completely.
- Use cylinder screws to attach the gripper at the specified position ⑥.
- When doing so, use threadlocker to secure the cylinder screws.
- Threadlocker: Use a threadlocker suitable for the application area.
- Be sure to comply with the screw depth specified on the drawing.
- Install the pneumatic connections at the connection options ⑤ A and B.
- Connection A: extended
- Connection B: retracted



6.2 Checking operational readiness

After the gripper has been properly installed, use the following characteristics to check whether it is ready to be operated:

- Look and listen for leaks in the pneumatic connections.
- Check all mounting screws for their prescribed tightening torque.
- Look and listen for leaks in the pressurized gripper.
- Check to make sure the gripping process is functioning properly by opening and closing the gripper manually.

NOTE:

- Close off unused pneumatic connections with dummy plugs. The available pneumatic connections can be found in the accessories list of the product data sheets on our website. The necessary ordering information can also be found there.

6.3 Installation of accessories

INFORMATION:

- For a complete overview of accessories for the gripper, visit our website. → www.zimmer-group.de. If you still have questions about accessories, please contact ZIMMER Customer Service.

7 Technical data

These multi-page data sheets contain the following:

- Product description
- Technical data
- Dimensional drawing
- Available accessories

INFORMATION:

- For technical data, please refer to our website at www.zimmer-group.de. This data varies within the type series depending on the specific design. If you should have further questions about products or technical data, please contact ZIMMER GmbH Customer Service.

8 Maintenance

Maintenance-free operation of the gripper is guaranteed for up to 5 million gripping cycles (at 6 bar).

The maintenance interval may shorten under the following circumstances:

- Operation with compressed air that does not comply with DIN ISO 8573-1 quality class 4.
- Dirty environment.
- Improper use and use that does not comply with the performance data.
- Ambient temperature of more than 60°C; lubricants harden faster!

Even though the gripper is, as mentioned, maintenance-free, perform a monthly visual inspection to check for any corrosion, damage or contamination.

Clean the gripper as needed using a commercially available cleaning agent.

Dismantling and reassembling the gripper without authorization may result in complications, as special installation equipment and tools are sometimes required.

ZIMMER GmbH shall not be liable in the event of unauthorized dismantling and reassembling of the gripper or in the event of any malfunction or damage resulting from this.

ZIMMER GmbH recommends having repairs be carried out by ZIMMER Customer Service.

INFORMATION:

- Even though the gripper is, as mentioned, maintenance-free, perform a regular visual inspection to check for any corrosion, damage or contamination. Clean the gripper as needed using a commercially available cleaning agent for machines.

9 Declaration of incorporation

In terms of the EU Machinery Directive 2006/42/EC (Annex II 1 B)

Name and address of the manufacturer:
 ZIMMER GmbH • Im Salmenkopf 5 • D-77866 Rheinau, Germany • Phone: +49 7844 9138 0 • www.zimmer-group.de

We hereby declare that the incomplete machine described below

Product designation: pneumatic needle gripper

Type designation: SCH □ □ □

satisfies the following basic requirements of the Machinery Directive 2006/42/EC

No. 1.1.2., No. 1.1.3., No. 1.1.5., No. 1.3.2., No. 1.3.4., No. 1.3.7., No. 1.5.3., No. 1.5.4., No. 1.5.8., No. 1.6.4., No. 1.7.1., No. 1.7.4.

We also declare that the specific technical documents were produced in accordance with Annex VII Part B of this Directive. We undertake to provide the market supervisory bodies with electronic versions of special documents for the incomplete machine through our documentation department, should they have reason to request them.

The incomplete machine may only be commissioned if the machine or system in which the incomplete machine is to be installed has been determined to satisfy the conditions of the Machinery Directive 2006/42/EC and the EC Declaration of Conformity has been produced in accordance with Annex II 1 A.

Authorized representative for the compilation of relevant technical documents

Kurt Ross	See manufacturer's address	Rheinau, Germany, 2019-03-21	Martin Zimmer, Managing Director
First name, last name	Address	Place and date of issuance	Legally binding signature