

1. Supporting documents



**NOTE:**  
The following documents are available for download on our website. Only the documents currently available on the website are valid.

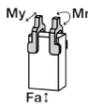
- Catalog
- Drawings, performance data, information about accessory parts, etc.
- Technical data (data sheets)
- General terms and conditions, including warranty information

2. Proper use



**NOTE:**  
The GK 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 time-restricted 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 that may be acting in addition to the gripping force see product data sheets at [www.zimmer-group.de](http://www.zimmer-group.de).

3. Personnel qualifications

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

4. Safety notes

1. Installation, commissioning, maintenance and repairs may only be performed by qualified experts in accordance with these installation and operating instructions.
2. 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 fitted, used or maintained.
  - the gripper is not used for its intended purpose.
  - local regulations (legislation, regulations, guidelines), such as the EC Machinery Directive, accident prevention regulations and the assembly and operating instructions, are not observed.
3. 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.
4. Any use other than the intended use requires written approval from Zimmer GmbH
5. Do not reach into the operating range of the gripper.
6. Make sure that the energy supply is disconnected and before you install, retool, maintain or repair the gripper.
7. In case of maintenance, renovation or expansion work, remove the gripper from the machine and carry out the work outside the danger zone.
8. When commissioning or testing, make sure that the gripper cannot be actuated by mistake.
9. Modifications to the gripper, such as adding drill holes or threads, may be made only with prior approval from Zimmer GmbH.
10. 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.
11. Use of the gripper under extreme conditions, such as aggressive liquids and abrasive dust, is subject to prior approval from Zimmer GmbH
12. When disassembling grippers with integrated springs, exercise increased caution because spring tension is always present.

5. Function

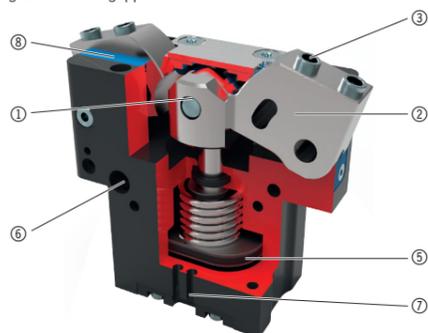
The function relies on the action of a pneumatic piston vented on both sides. Alternating ventilation moves the pneumatic piston up and down. The energy generated in this process is transferred to the gripper jaws by kinematics, producing the gripping force. The spring used in the cylinder chamber in the GPW5000 designs acts as an energy accumulator and gripping force safety device.

①	<b>Positively driven lever mechanism</b> Synchronized movement of the gripper jaws
②	<b>Gripper jaw</b> Gripper jaws mounted using removable centering sleeves
③	<b>Removable centering sleeve</b> Quick and economical positioning of the gripper fingers
④	<b>Integrated gripping force safety device</b> Spring integrated into cylinder chamber as energy storage
⑤	<b>Drive</b> Double-acting pneumatic rotor cylinder
⑥	<b>Mounting and positioning</b> Alternatively, on several sides for customized mounting
⑦	<b>Integrated slot</b> Mounting and positioning of magnetic field sensors
⑧	<b>Dual-lip seal</b> IP64 Prevents grease from being squeezed out, increasing service life

Fig. 1: GPW5000 gripper



Fig. 2: GPW5000 gripper cross-section



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:**  
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

6.1 Installing the gripper

The gripper can be fitted on a mounting surface from several sides with the necessary evenness.

Mounting surface length [mm]	Permissible unevenness [mm]
<100	<0,02
>100	<0,05

Two alternative options are available for the installation of the gripper:

Fastening position	Housing connections
Housing base	⑩
Lateral housing	⑪
Straight pins in the drill holes	⑬

The dimensional drawing for the GPW5000 is shown as an example in the adjacent image. The dimensional drawings can be found on our website.

The dimensions for the design of the mounting piece can be found on the respective data sheet on our website. You can download the necessary CAD data in all common formats from our website:

[www.zimmer-group.com](http://www.zimmer-group.com)

Make the following selections:

Handling technology/gripper/pneumatic/2-jaw parallel grippers/GPW5000 series

Depending on the size, mounting screws from M3 to M16 and of strength class 8.8 are used.

The following tightening torques must be observed upon installation:

Screw size		M3	M4	M5	M6	M8	M10	M12	M14	M16
Permitted tightening torque	[Nm]	1,3	2,9	6,0	10,2	24,9	49,5	86,3	138,0	214,9

6.2 Accessory installation

Depending on the design size, the pneumatic connections ② are located on the front face of the housing or alternatively on the side surfaces of the housing ⑫.

Connection A ②	Close gripper
Connection B ②	Open gripper
Connection A' (alternative) ⑫	Close gripper
Connection B' (alternative) ⑫	Open gripper



**NOTE:**  
Close off unused pneumatic connections with dummy plugs.

The available pneumatic connections can be found in the accessory list of the product data sheets on our website. You can also find the necessary ordering information there.

6.3 Gripper finger and sensor installation



**NOTE:**  
Before installing the gripper fingers, check that they are of a suitable length for the selected gripper variant.

Position and fasten the gripper jaws ⑬ using the required centering screws of strength class 8.8.

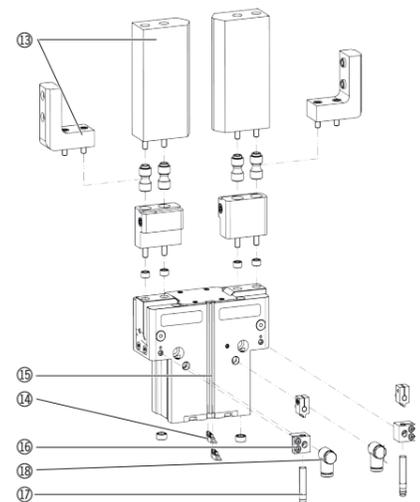
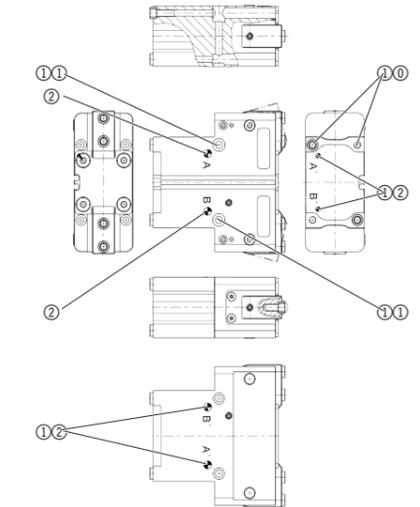
- Install threaded pneumatic connections ⑬ into the provided connections.

**Inductive proximity switch:**

- Install the mounting block ⑮ on the gripper.
- Insert the inductive proximity switch ⑰ into the mounting block and tension it.

**Magnetic field sensor:**

- Insert and position the magnetic field sensors ⑭ into the designated slots ⑬ and clamp them in.



7. Technical data

These multi-page data sheets contain the following:

- a product description,
- the technical data,
- a dimensional drawing and
- the available accessories.



**INFORMATION:**  
Please refer to our website [www.zimmer-group.de](http://www.zimmer-group.de) for technical data. This data varies within the 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 **10 million** gripping cycles.

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!

We recommend using the Zimmer GmbH repair service for maintenance and the replacement of seals.

Dismantling and reassembling the gripper without authorization may result in complications, as special installation equipment is required in some cases.

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 • 77866 Rheinau, Germany • Phone: +49 7844 9138 0 • Fax: +49 7844 9138 80 • [www.zimmer-group.de](http://www.zimmer-group.de)

We hereby declare that the incomplete machine described below

**Product designation:** pneumatic gripper  
**Type designation:** GPW5□□□

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 compiling the relevant technical documents**

Kurt Ross See manufacturer's address Rheinau, Germany, 2015-05-04 Martin Zimmer, Managing Director  
First name, last name Address (Place and date of issuance) (Legally binding signature)