

1. Supporting documents

NOTICE:



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 documents listed below are available for download on our website. www.zimmer-group.com
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 instructions

CAUTION:



Non-compliance may result in severe injuries! The following notes shall be taken into account in order to reduce the likelihood of injuries/malfunctions:

1. Installation, commissioning, maintenance and repairs may only be performed by qualified specialists in accordance with these installation and operating instructions.
2. The gripper is state-of-the-art. It is installed on 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.
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 operational range of the gripper.
6. Make sure that the power cables are disconnected before you install, modify, maintain or repair the gripper.
7. In case of maintenance, modification or attachment work, remove the gripper from the machine and perform 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 drilled 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 Customer Service for this purpose.
11. Use of the gripper under extreme conditions, such as aggressive liquids and abrasive dusts, is subject to prior approval from Zimmer GmbH.
12. When uninstalling a gripper with an integrated spring, exercise increased caution due to the ever-present spring tension.

3. Proper use

NOTICE:



The gripper is to be used only in its original state with its original accessories, without any unauthorized changes and within the scope of its defined parameters of use.
Zimmer GmbH shall accept no liability for any damage caused by improper use.

Use outside of the defined parameters is not permitted. Unauthorized modifications must not be made. The gripper is designed exclusively for pneumatic operation. The gripper is designated for use in enclosed rooms for temporarily gripping, handling and holding parts. The gripper is not suitable for clamping workpieces during a machining process. Direct contact with perishable goods/food is not permitted. The gripper is not suited for operation with other media such as liquids or gases.

4. Personnel qualification

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

5. Product description

5.1 Forces and torques

INFORMATION:



For information on forces and torques, please visit our website.
Zimmer Customer Service is available to provide you with assistance if you have any further questions.

5.2 Type plate

A type plate is attached to the housing of the gripper. The serial number and the article number are shown on this type plate.

- ▶ The serial number ensures that the unit has an unambiguous, continuous classification in the event of an update or an overhaul.
- ▶ The serial number should be assigned to the project.

⇒ Example: Serial number 01-12345678



INFORMATION:

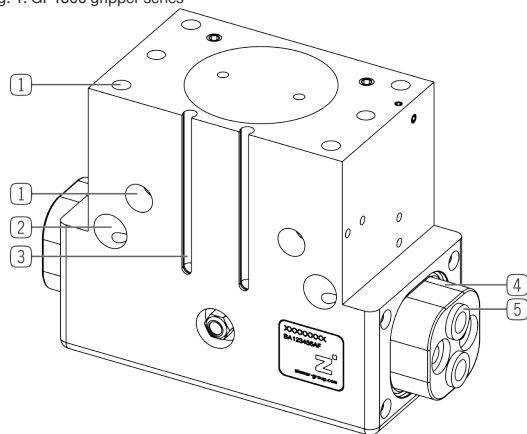


Please state the serial number in the event of damage or a complaint.
Zimmer Customer Service is available to provide you with assistance if you have any further questions.

6. Function

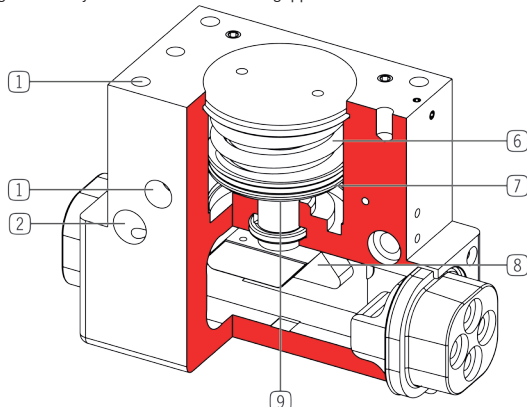
The function relies on the action of a pneumatic piston vented on both sides. Alternating ventilation moves the pneumatic piston up and down. The movement generated in this process is transferred to the gripper jaws by kinematics, producing the gripper jaw movement. For grippers with an integrated spring, this spring supports the grip force, acting in the force-transfer direction. The spring used in the cylinder chamber in the GP1800 designs acts as an energy accumulator and gripping force safety device.

Fig. 1: GP1800 gripper series



1	Mounting and positioning
2	Power supply
3	Sensor slot
4	Sealed, precise square guide
5	Removable centering sleeve
6	Integrated gripping force safety device
7	Permanent magnet
8	Positively driven wedge hook transmission
9	Drive

Fig. 2: Cutaway view of the GP1800 series gripper



7. Installation

NOTICE:



Switch off the power supply before any assembly, installation or maintenance work.

CAUTION:



Risk of injury in the event of unexpected movement of the gripper when the power supply is connected.

- ▶ Switch off the power supply before all work.
- ▶ Switch off the power supply to the machine before all work.
- ▶ Secure the power supply against being switched on unintentionally.
- ▶ Check the power supply for any residual energy.

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 power supply to the machine before all work.
- ▶ Secure the machine against being switched on unintentionally.
- ▶ Check the machine for any residual energy.
- ▶ For spring-assisted grippers, wait until the gripper fingers have reached the end position with the system depressurized.

In the event of overhead assembly of the gripper with a dead weight under 3 kg, the gripper can be installed by a single person.
In the event of overhead assembly of the gripper with a dead weight exceeding 3 kg, work must be carried out with lifting equipment.

7.1 Installation of the mechanical system

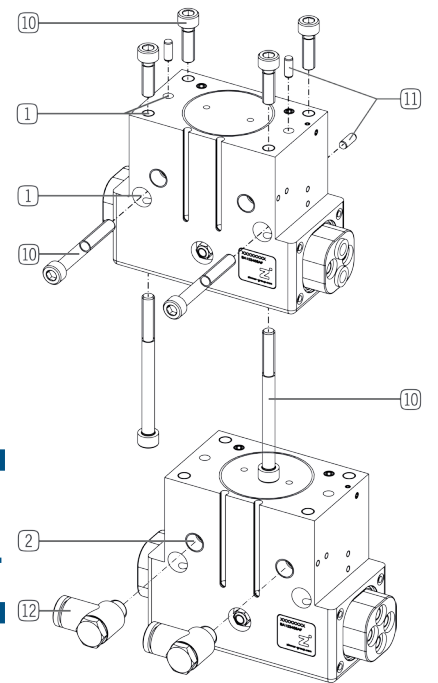
The gripper must be installed on a mounting surface in accordance with the specifications for flatness.

- Length < 100 mm → permitted unevenness < 0.02 mm
- Length > 100 mm → permitted unevenness < 0.05 mm

⇒ Pins and screws are not included in the scope of delivery.
⇒ Strength class of the mounting screws ≥ 8.8 (DIN EN ISO 4762)
⇒ Observe the tightening torque of the mounting screws.
⇒ Make sure the mounting surface is sufficiently rigid and flat.
⇒ Refer to the technical data sheet for the exact positions.

The gripper can be installed from multiple sides: either directly on the gripper or on the mounting piece.
The following work steps must be observed during installation:

- ▶ Insert the straight pins (11) into the designated fits on the gripper.
- ▶ Use the straight pins (11) to position the gripper on the mounting piece.
- ▶ Secure the gripper using cylinder screws (10).



7.2 Installation of the power supply

Insert the threaded connections (12) in the designated connectors (2).

⇒ There are two alternative connections available.

NOTICE:



Close off any unused pneumatic connections using corresponding dummy plugs.
⇒ Use compressed air in accordance with DIN ISO 8573-1 [4:4:4].

7.3 Installation of accessories

NOTICE:



Before installing an accessory, make sure it is suitable for use with the selected variant.
For more information on the complete range of accessories, contact Zimmer Customer Service.

8. Technical data

INFORMATION:



Refer to the technical data sheet for the technical data.
This data varies within the series, depending on the specific design.

Zimmer Customer Service is available to provide you with assistance if you have any further questions.

9. Maintenance

Maintenance-free operation of the gripper is guaranteed for up to 10 million cycles.

- The maintenance interval may shorten under the following circumstances:
- Operation with compressed air that does not comply with DIN ISO 8573-1 [4:4:4]
 - Dirty environment
 - Improper use and use that does not comply with the performance data
 - Faulty installation
 - Ambient temperature above 60°C – lubricants harden faster!

Even though the gripper is, as mentioned, maintenance-free, carry out a visual inspection on a regular basis to check for any damage or soiling. Dismantling and reassembling the gripper without authorization may result in complications, as special installation equipment is required in some cases. Zimmer GmbH shall not be liable in the event of unauthorized dismantling and reassembly of the gripper or in the event of any malfunction or damage resulting from this.

10. Transportation/storage/preservation

- ▶ The transport and storage of the gripper must take place exclusively in the original packaging.
- ▶ If the gripper has already been installed on the higher-level machine unit, it must be ensured during transport that no uncontrolled movements take place. Before commissioning the machine after transport, check all power and communication connections as well as all mechanical connections.
- ▶ If the product is stored for an extended period, the following points are to be observed:
 - ⇒ Keep the storage location as dust-free and dry as possible.
 - ⇒ Avoid temperature fluctuations/observe and adhere to the temperature range.
 - ⇒ Avoid wind/drafts/water condensation formation.
 - ⇒ Store product packaged.
 - ⇒ During storage, it must be kept from direct sunlight.
- ▶ Visually inspect all of the components.
- ▶ Remove all foreign objects.
- ▶ Close pneumatic connections using suitable covers.

11. Decommissioning and disposal

INFORMATION:



If the gripper reaches the end of its operational phase, it can be completely disassembled and disposed of according to material groups.
Disconnect the gripper from the power supply completely. When disposing of it, observe the locally applicable environmental regulations and codes and regulations for disposal.

12. 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 • +49 7844 9138 0 • +49 7844 9138 80 • www.zimmer-group.com

We hereby declare that the incomplete machine described below
Product designation: 2-jaw parallel gripper, pneumatic
Type designation: GP1800 series
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 it has been ascertained, if applicable, that the machine or system in which the incomplete machine is to be installed satisfies the requirements of Directive 2006/42/EC on Machinery and an EC Declaration of Conformity has been drawn up in accordance with Annex II 1 A.

Authorized representative for the compilation of relevant technical documents

Kurt Ross	See manufacturer's address	Rheinau, Germany, 2019-11-06	Martin Zimmer, Managing Director
First name, last name	Address	Place and date of issuance	Legally binding signature