



INSTALLATION AND OPERATING INSTRUCTIONS

2-jaw parallel grippers
with long stroke
GPH8000 series

DDOC00289

THE KNOW-HOW FACTORY

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1 Supporting documents

NOTE



Read through the installation and operating instructions before installing or working with 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 lifetime.



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

- Installation and operating instructions
 - Catalogs, drawings, CAD data, performance data
 - Information on accessories
 - Technical data sheets
 - General Terms and Conditions, including warranty information.
- ⇒ Only the documents currently available on the website are valid.

In these installation and operating instructions, "product" replaces the product designation on the title page.

1.1 Notices and graphics in the installation and operating instructions

DANGER



This notice warns of an imminent danger to the life and health of people. Ignoring these notices can lead to serious injury or even death!

- ▶ You absolutely must comply with the described measures for avoiding these dangers.
- ⇒ The warning symbols are assigned according to the type of danger.

WARNING



This notice warns of a situation that is potentially hazardous to personal health. Ignoring these notices can cause serious injury or damage to health.

- ▶ You absolutely must comply with the described measures for avoiding these dangers.
- ⇒ The warning symbols are assigned according to the type of danger.

CAUTION



This notice warns of a situation that is potentially hazardous for people or that may result in material or environmental damage. Ignoring these notices may result in slight, temporary injuries or damage to the product or to the environment.

- ▶ You absolutely must comply with the described measures for avoiding these dangers.
- ⇒ The warning symbols are assigned according to the type of danger.

NOTE



General notices contain usage tips and valuable information, but no warnings of dangers to health.

INFORMATION



This category contains useful tips for handling the product efficiently. Failure to observe these tips will not result in damage to the product. This information does not include any information relevant to health or workplace safety.

2 Safety notices

DANGER



Risk of death if not observed

There is a risk of death in the operating range of the product during operation due to a heavy weight and high gripping forces. When connected to the power supply, there is a risk of injury due to uncontrolled movements of the product.



▶ Never stand within the operating range of the product during operation.

▶ Make sure that people cannot get into the operating range of the product during operation.



CAUTION



Risk of injury and material damage in case of non-compliance

Installation, commissioning, maintenance and repairs may only be performed by qualified specialists in accordance with these installation and operating instructions.

The product is state-of-the-art. It is fitted to industrial machines and is used to hold, transport and store workpieces.

The following are examples of situations in which the product may cause a hazard:

- The product is not properly installed, used or maintained.
 - The product is not used for its designated purpose.
 - The locally applicable regulations, laws, directives or guidelines are not observed.
 - ▶ The product may only be used in accordance with these installation and operating instructions and the product's technical data. Any changes or additions to the intended use of the product, as well as modifications to the product, such as those in the following examples, require the written permission of the manufacturer:
 - Use of the product under extreme conditions, such as aggressive fluids or abrasive dusts
 - Additional drilled holes or threads
- ⇒ Zimmer GmbH shall accept no liability for any damage caused by improper use. The operator bears sole responsibility.

Installation, commissioning, maintenance and repairs may only be performed by qualified specialists in accordance with these installation and operating instructions.

- ▶ Make sure that the power supply is disconnected before you mount, adjust, modify, maintain or repair the product.
- ▶ Whenever work is carried out on the product, make sure that the product cannot be actuated by mistake.
- ▶ Perform maintenance tasks, retrofitting or attachment work outside of the machine's danger zone when possible.
- ▶ Do not reach into the operational range of the product.
- ▶ Observe the specified maintenance intervals and compressed air quality specifications.
- ▶ When using the product under extreme conditions, adjust the maintenance interval according to the degree of contamination.

3 Proper use

NOTICE



The product is only to be used in its original state with its original accessories, with no unauthorized changes and within the stipulated parameter limits and operating conditions. Any other or secondary use is deemed improper.

- ▶ Operate the product only in compliance with the associated operating instructions.
 - ▶ Operate the product only when it is in a technical condition that corresponds to the guaranteed parameters and operating conditions.
- ⇒ Zimmer GmbH shall accept no liability for any damage caused by improper use. The operator bears sole responsibility.

The product is designed for operation with compressed air only.

The product is designated for use in enclosed rooms for temporary gripping, handling and holding.

The product is not suitable for clamping workpieces during a machining process.

Direct contact with perishable goods/food is not permitted.

4 Personnel qualification

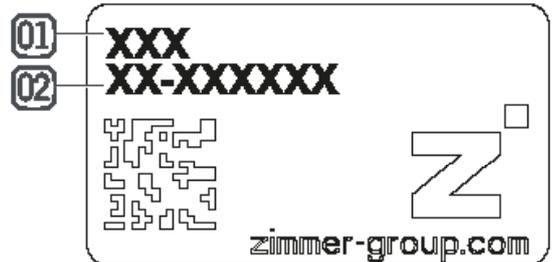
Installation, commissioning and maintenance may only be performed by trained specialists. These persons must have read and understood the installation and operating instructions in full.

5 Product description

5.1 Type plate

A type plate is attached to the housing of the product.

The article number and the confirmation number are shown on the type plate.



① Part number

② Confirmation number

5.2 Product variants

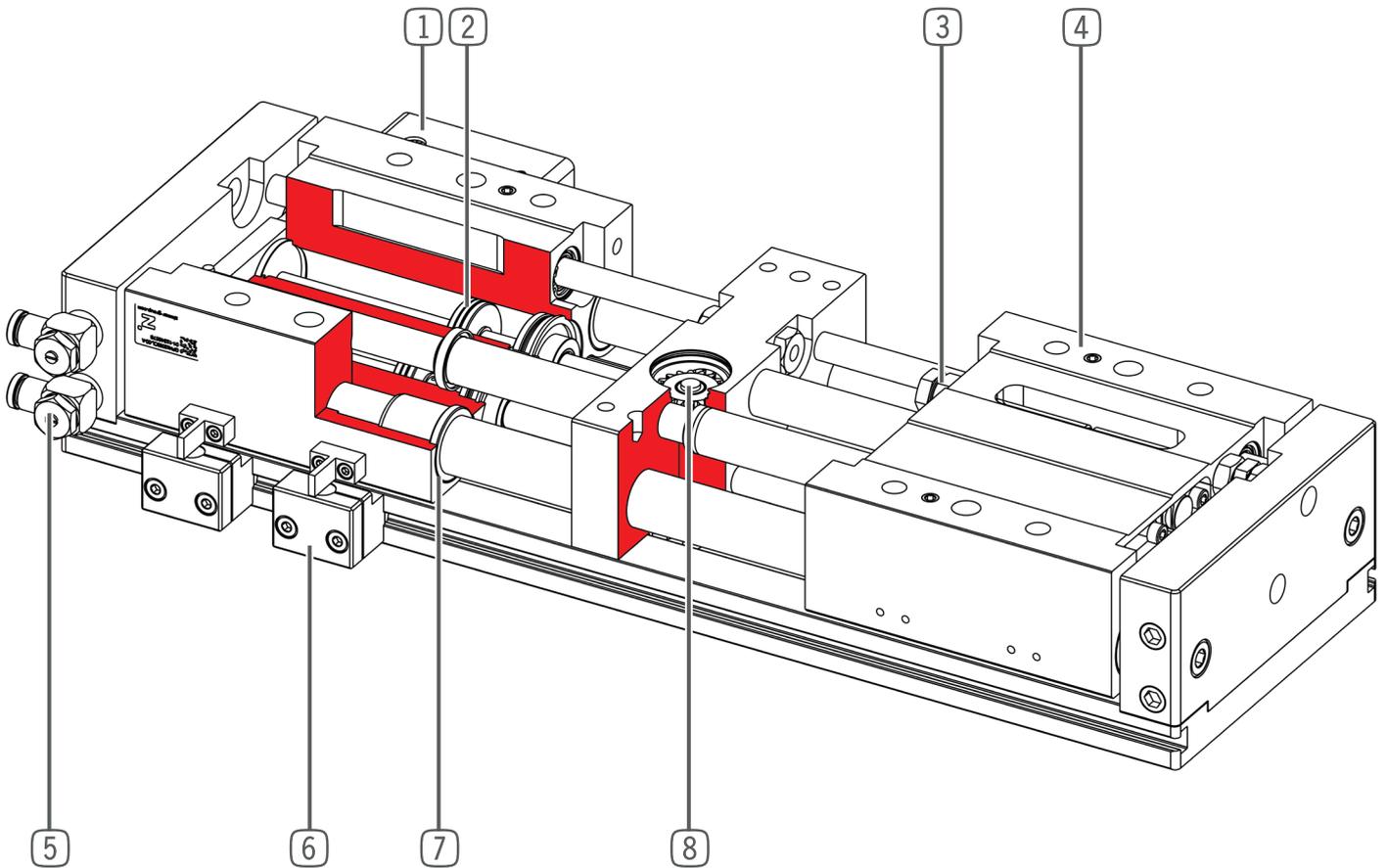
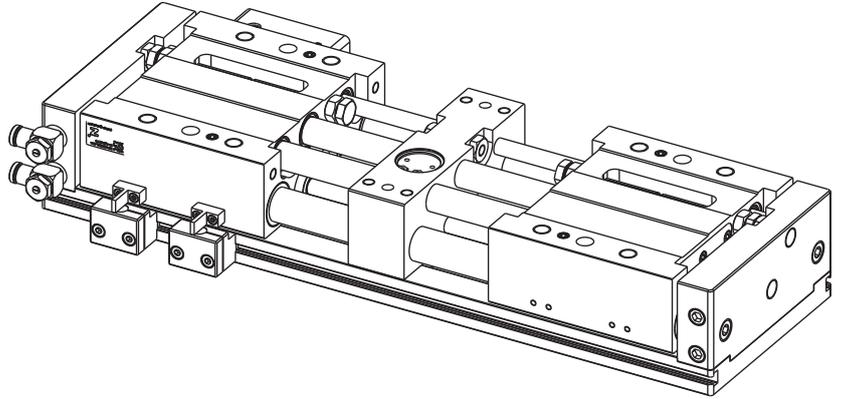
The product is available in different versions:

- Synchronous without clamp (N-00)
- Synchronous with one clamp (CL-00)
- Asynchronous with two clamps (CL-30)

6 Functional description

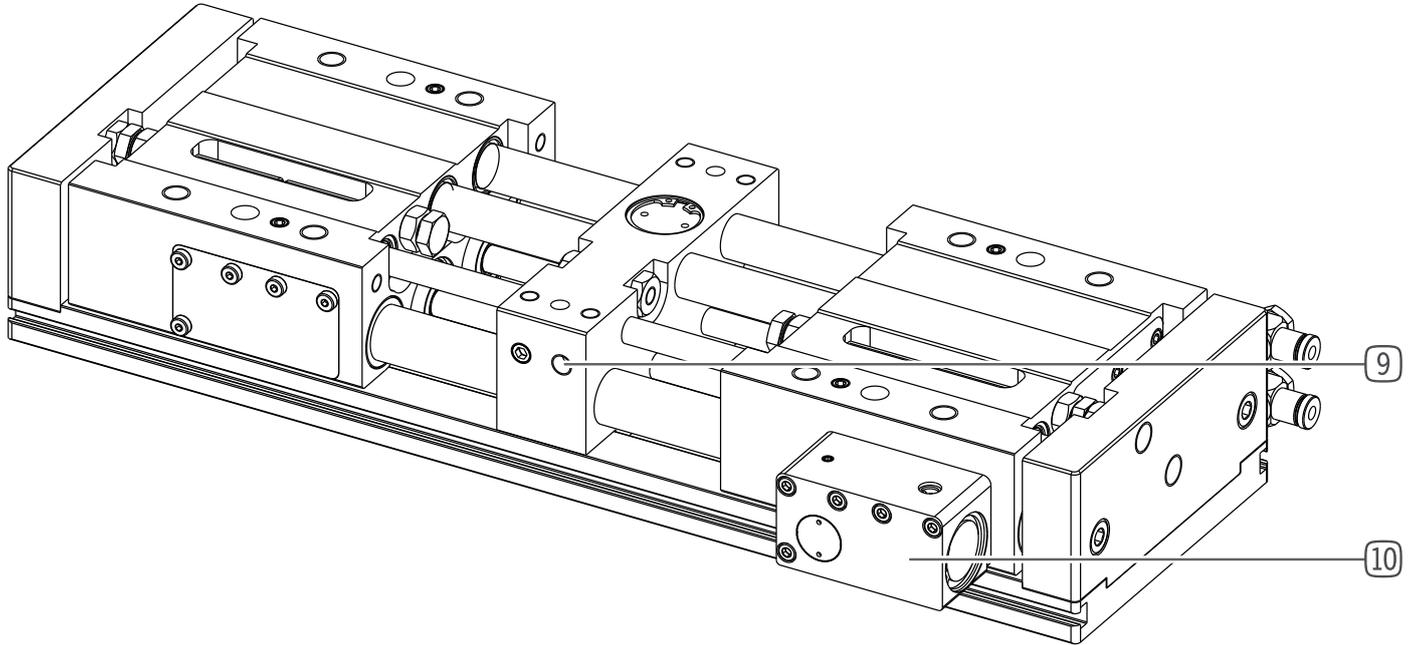
The product has two pneumatic pistons that are vented on both sides. Alternating ventilation sets the gripper jaws in motion. The power supply can be made one-way or two-way.

- ① Clamping element
- ② Drive
- ③ Stroke limitation
- ④ Gripper jaw
- ⑤ Power supply
- ⑥ Terminal block
- ⑦ Round guide
- ⑧ Synchronization

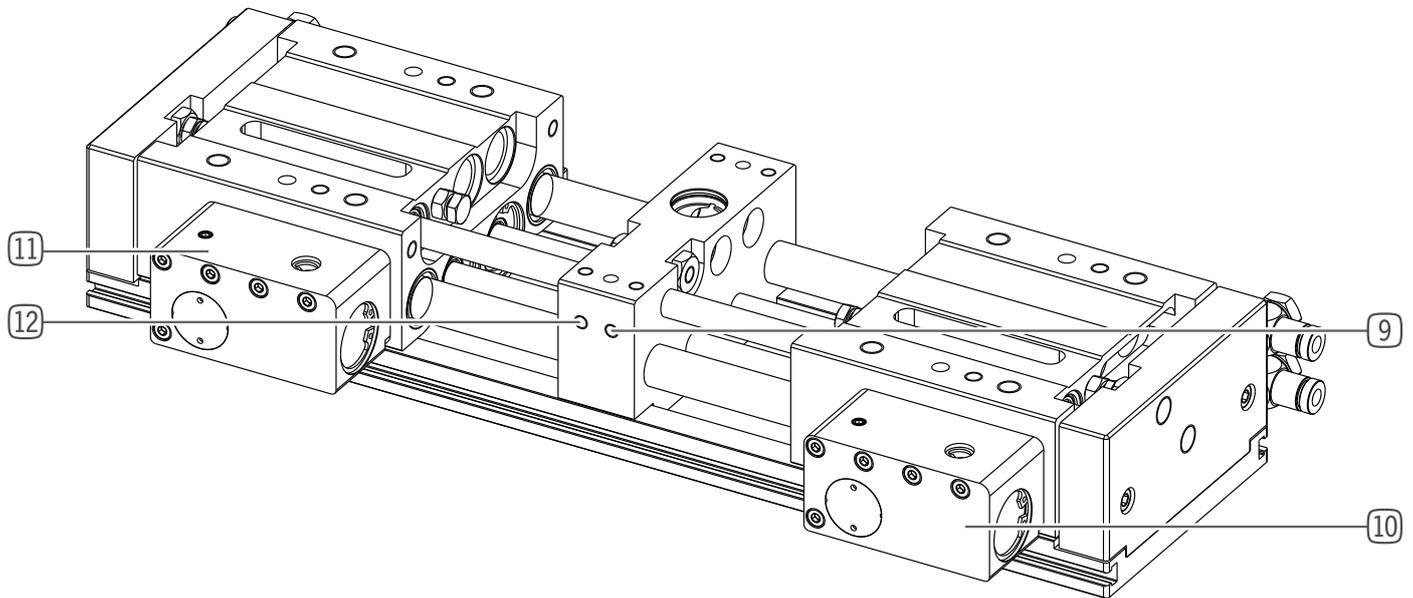


Clamping elements are used to secure the gripper jaws. This securing element is transferred to both gripper jaws by the synchronization in the CL-00 variant. In the CL-30 variant, two clamping elements are installed. These can be actuated independently of each other. There are no clamping elements installed in the N-00 variant. The clamping elements are pre-tensioned by a spring in order to secure the jaw position in case of a drop in pressure. Applying pressure releases the clamping element.

CL-00 variant



CL-30 variant



- ⑨ Open clamping element 1
 - ⑩ Clamping element 1
- ⑪ Clamping element 2 (CL-30 variant)
 - ⑫ Open clamping element 2 (CL-30 variant)

7 Technical data

INFORMATION



- ▶ You can find the information in the technical data sheet on our website.
- ▶ Please contact Zimmer Customer Service if you have any questions.

7.1 Forces and torques

INFORMATION



- ▶ You can find information on our website.
- ▶ Please contact Zimmer Customer Service if you have any questions.

7.2 Protection class

INFORMATION



- ▶ You can find the information in the technical data sheet on our website.
- ▶ Please contact Zimmer Customer Service if you have any questions.

8 Accessories/scope of delivery

INFORMATION



- If any accessories not sold or authorized by Zimmer GmbH are used, the function of the product cannot be guaranteed. The accessories from Zimmer GmbH are specifically tailored to the individual products.
- ▶ For information on optional accessories and those included in the scope of delivery, refer to our website.

9 Transportation/storage/preservation

- ▶ Transport and store the product only in the original packaging.
- ▶ During transport, make sure that no uncontrolled movements can occur if the product is already mounted on the higher-level machine unit.
 - ▶ Prior to commissioning and after transport, check all power and communication connections as well as all mechanical connections.
- ▶ Observe the following points when storing the product for longer periods of time:
 - ▶ Keep the storage location as dust-free and dry as possible.
 - ▶ Observe the temperature range and avoid temperature fluctuations.
 - ▶ Avoid wind, drafts and formation of condensation.
 - ▶ Avoid direct sunlight.
- ▶ Clean all components until all contamination has been removed.
- ▶ Visually inspect all components.
- ▶ Remove any foreign objects.
- ▶ Remove potential corrosion spots properly.
- ▶ Seal electrical connections using suitable covers.

10 Installation

WARNING



Risk of injury in case of non-compliance

Risk of injury in case of uncontrolled movements of the machine or system into which the product is to be installed.

The opening pressure for the product and the installed clamp is at least 4 bar.

- ▶ Switch off the power supply of the machine before all work.
- ▶ Secure the power supply against being switched on unintentionally.
- ▶ Check the machine for any residual energy that may be present.
- In the event of overhead assembly of the product with a dead weight of ≤ 3 kg, the product can be installed by a single person.
- In the event of overhead assembly of the product with a dead weight of > 3 kg, work must be carried out with lifting equipment.

CAUTION



Risk of injury in case of non-compliance

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

- ▶ Switch off the power supply to the product before all work.
- ▶ Secure the power supply against being switched on unintentionally.
- ▶ Check the product for any residual energy that may be present.

NOTICE



▶ Installation may only be carried out by qualified personnel in accordance with these installation and operating instructions.

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

▶ Install the product on an appropriate mounting surface in accordance with the flatness specifications.

INFORMATION



Requirements for the mounting surface:

- Permissible unevenness: 0.15 mm/m

Further installation information:

- The mounting screws are not included in the scope of delivery.
- Strength class of the mounting screws 8.8 (DIN EN ISO 4762)

- ▶ Comply with the tightening torques of the mounting screws.
- ▶ Verify the permitted load capacity of the required screw connections in accordance with VDI 2230.
- ▶ You can find the exact installation positions in the technical data sheet on our website.

10.1 Installing the product

INFORMATION

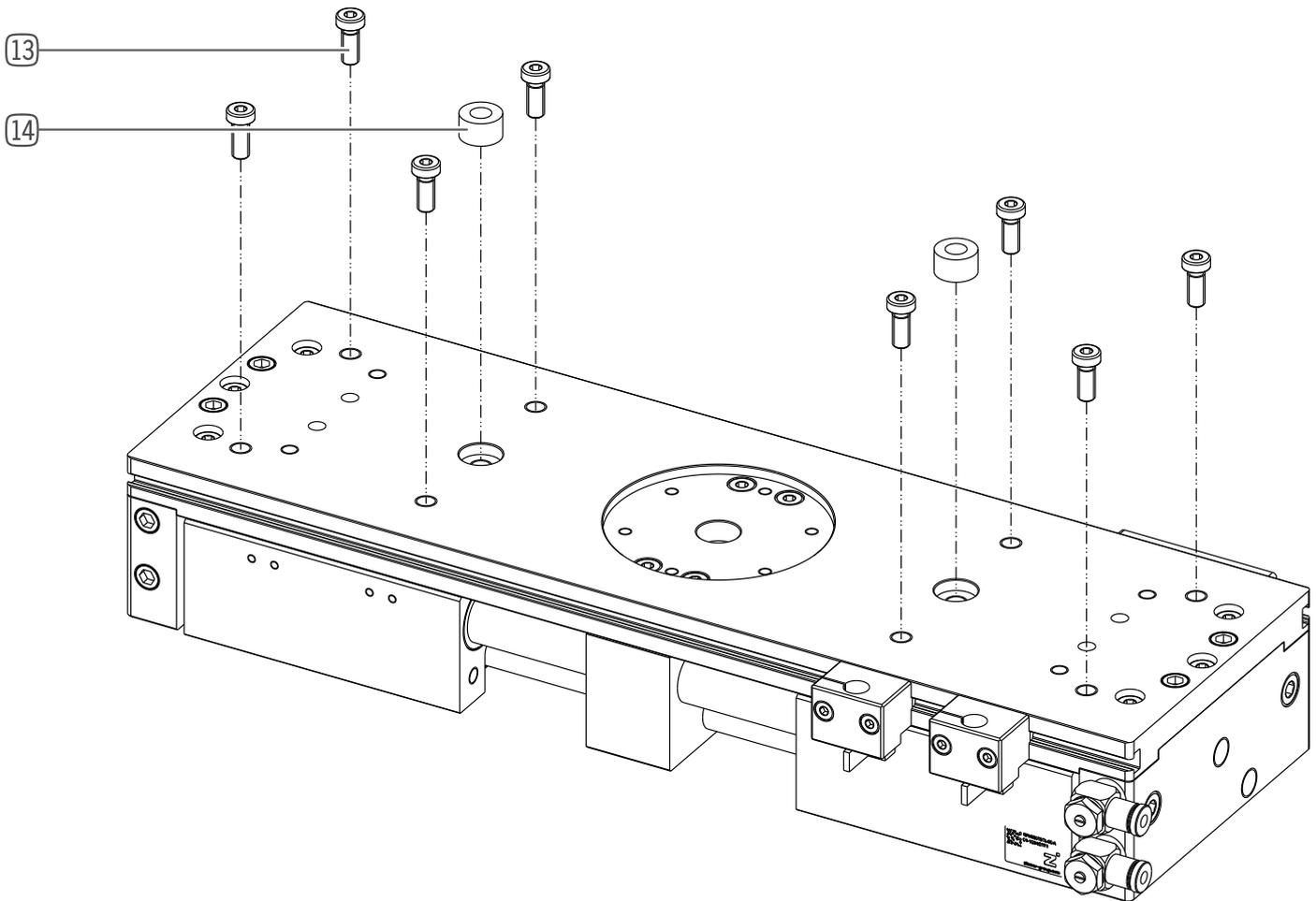


- ▶ You can find dimensions of the mounting screws in the technical data sheet on our website.

The product can be mounted to the mounting piece or attachment part using the installation holes.

The figure shows an example variant of the product.

- ▶ Insert the centering sleeves into the designated fits on the product.
- ▶ Use the centering sleeves to position the product on the mounting piece.
- ▶ Use the appropriate mounting screws to secure the product on the mounting piece.
 - ▶ Secure the mounting screws with threadlocker.
 - ▶ To do so, use a suitable screw glue for the area of use.



- 13 Mounting screw
- 14 Centering sleeve

10.2 Installing the power supply

CAUTION



Material damage in case of non-compliance

- Incorrect speed control can cause damage to the product.
- ▶ Only use the product with the supplied flow control valves.

NOTICE



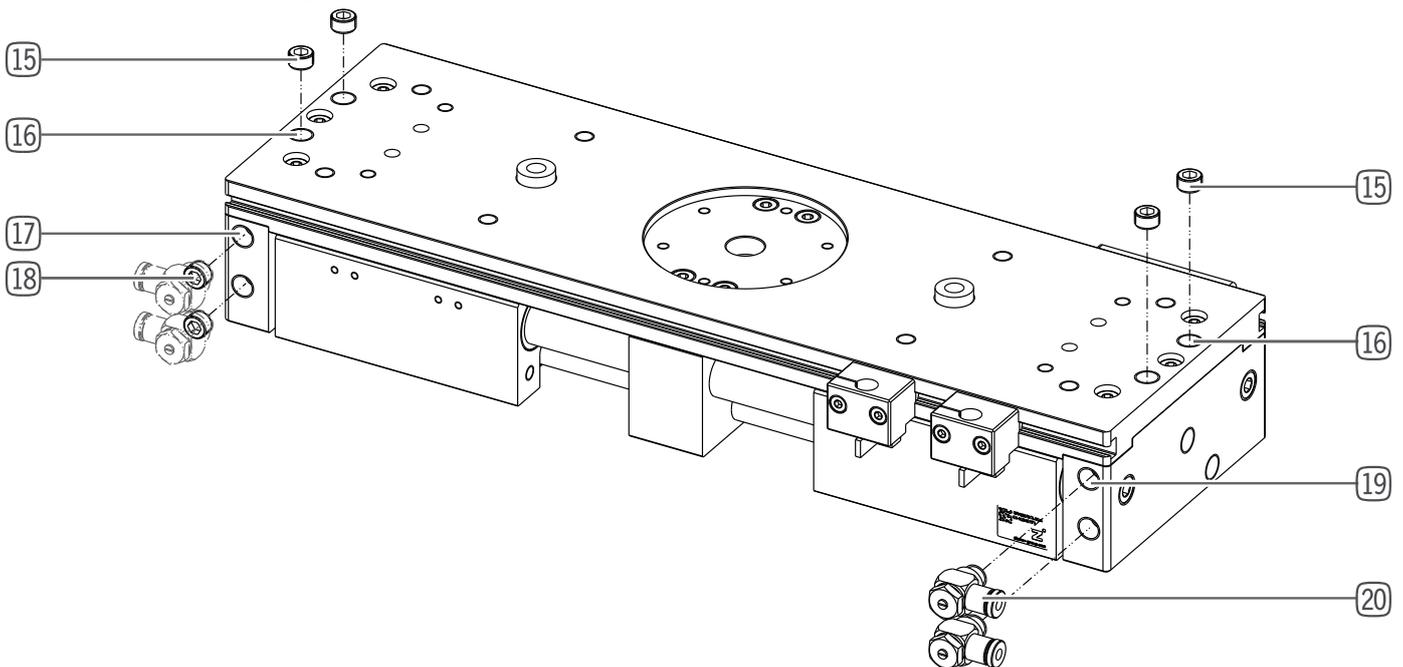
- ▶ Close off unused pneumatic connections using suitable dummy plugs.
- ▶ The authorized pneumatic connections that are available can be found in the accessories list on our website. The necessary ordering information can also be found there.
- ▶ Use compressed air in accordance with DIN ISO 8573-1 [4:4:4].

INFORMATION



- ▶ You can find information about the connections in the technical data sheet on our website.

- ▶ Insert the screw fittings into the provided connections.
- ▶ Use the alternative connections for tubeless power supply.
 - ▶ Unscrew the grub screws.
 - ▶ Insert suitable O-rings into the mounting piece.



- | | | | |
|----|--|----|--|
| 15 | Grub screw | 18 | Additional screw fitting (asynchronous design) |
| 16 | Alternative connection | 19 | Connection |
| 17 | Connection of gripper jaw 2 (asynchronous design)/Alternative connection of CL-00 and N-00 | 20 | Screw fitting |

10.3 Setting the jaw stroke

The end stops and stroke adjustment screws for the stroke setting are installed at the factory. The jaw strokes can be reduced using the stroke adjustment screw.

INFORMATION



- ▶ You can find the information in the technical data sheet on our website.
- ▶ Please contact Zimmer Customer Service if you have any questions.

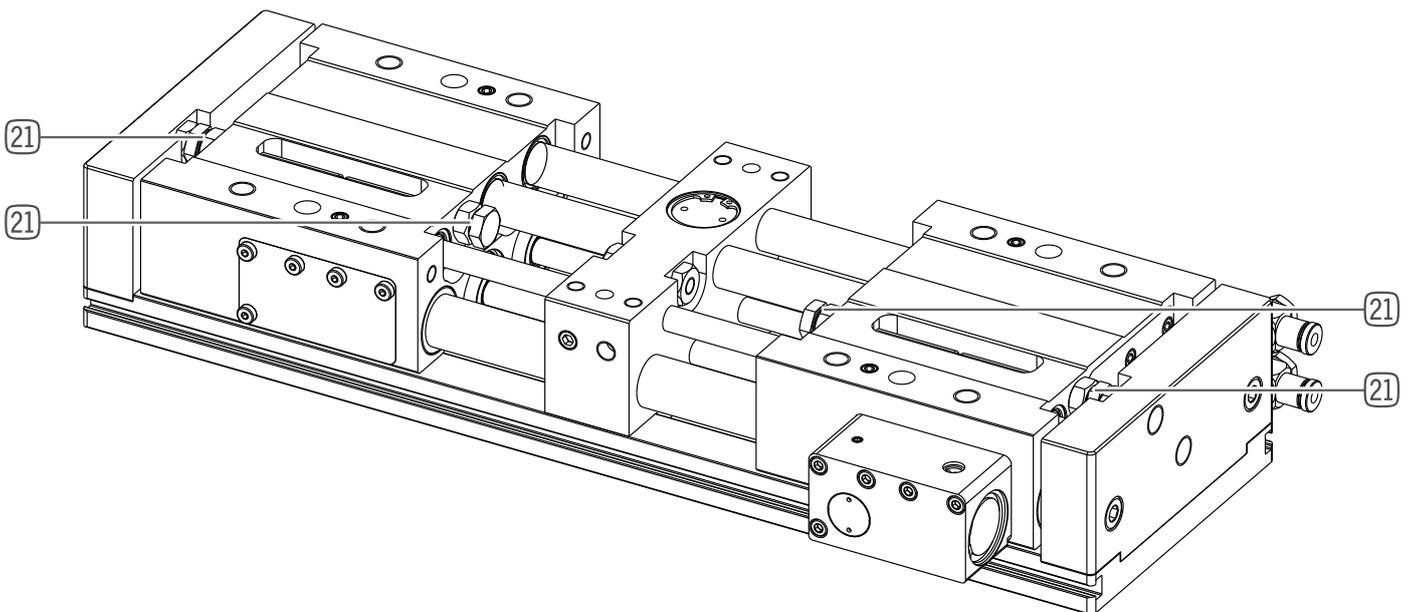
The stroke can be reduced further using additional spacers; see section „Distanzstück für erweiterte Hubbegrenzung montieren“.

10.3.1 Synchronous

- ▶ Set the stroke adjustment screw on the first gripper jaw to the desired dimension.
- ▶ Move to the end stop.
- ▶ Set the stroke adjustment screw on the second gripper jaw.
- ▶ Secure the stroke adjustment screws with a suitable threadlocker and lock nut.

10.3.2 Asynchronous

- ▶ Set each jaw stroke independently of each other using the stroke adjustment screws.
- ▶ Secure the stroke adjustment screws with a suitable threadlocker and lock nut.



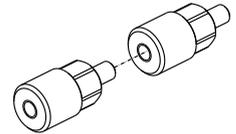
21 Stroke adjustment screw

10.3.3 Mount spacer for extended stroke reduction

The stroke can be reduced further using spacers.

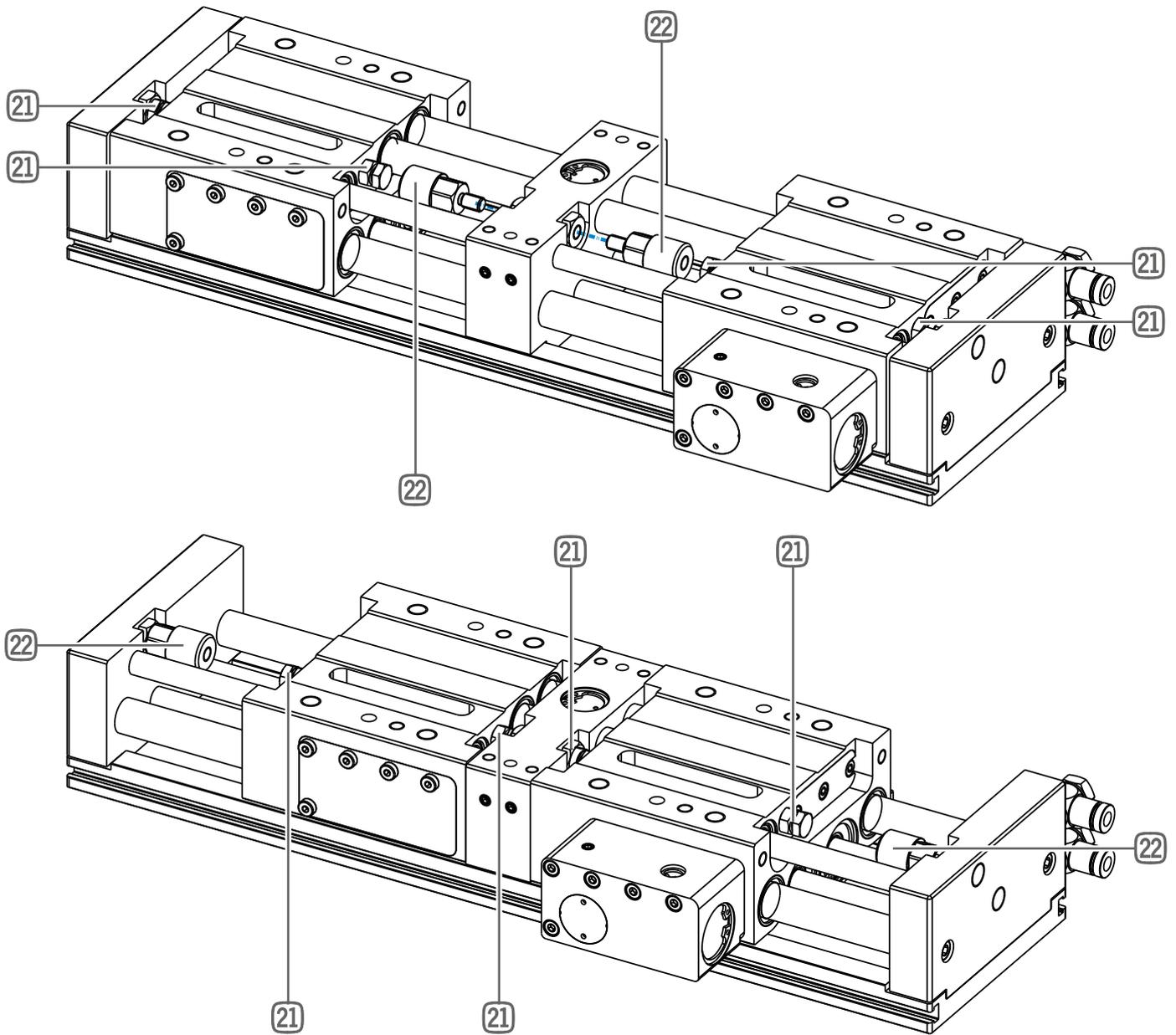
Design size	Stroke reduction via stroke adjustment screw (included in scope of delivery)	Article number spacer (recommended accessory)	Stroke reduction via spacer*
GPH82	0-28 mm	ZUB116065	25 mm
GPH83	0-40 mm	ZUB079991	35 mm
GPH84	0-50 mm	ZUB116061	45 mm

* Spacers can be extended by screwing them together.



The figures show an example representation of the spacers for the inner and outer end positions.

► Secure the spacers with suitable threadlocker.



21 Stroke adjustment screw

22 Spacer

10.4 Installing accessories

INFORMATION



The product is delivered as standard without gripper fingers.

- ▶ Before installing the accessories, check whether they are suitable for use with the selected variant.
- ▶ During installation of the gripper fingers, ensure a sufficient screw-in depth for the mounting screws.
- ▶ Set the stroke limitation on the inside/outside using a stroke adjustment screw or fixed stop.
- ▶ For information about the range of accessories, refer to our website.
- ▶ Please contact Zimmer Customer Service if you have any questions.

11 Maintenance

Maintenance-free operation of the product for installation sizes GPH82xx and GPH83xx is guaranteed for up to 5 million cycles.

Maintenance-free operation of the product for installation size GPH84xx is guaranteed for up to 2.5 million cycles.

Maintenance-free operation may be shortened under the following circumstances:

- The use of compressed air of a different quality than what is specified by DIN ISO 8573-1 [4:4:4]
 - Dirty environment
 - Improper use and use that does not comply with the performance data
 - Ambient temperature above 60 °C
 - ▶ Despite the maintenance-free performance mentioned, visually check the product regularly for damage and dirt.
 - ▶ Remove contamination.
 - ▶ In case of damage, decommission the product and contact Zimmer Customer Service.
 - ▶ Have maintenance work performed and seals replaced by Zimmer Customer Service whenever possible.
- ⇒ Dismantling and reassembling the product without authorization may result in complications, as special installation equipment is required in some cases. Zimmer GmbH accepts no liability for any resulting malfunctions or damage.

12 Decommissioning/disposal

INFORMATION



When the product reaches the end of its operational phase, it can be completely disassembled and disposed of.

- ▶ Disconnect the product completely from the power supply.
- ▶ Dispose of the components properly according to the material groups.
- ▶ Comply with the locally applicable environmental and disposal regulations.

13 RoHS declaration

In terms of the EU Directive 2011/65/EU

Name and address of the manufacturer:

Zimmer GmbH

📍 Im Salmenkopf
77866 Rheinau, Germany
☎ +49 7844 9138 0
✉ info@zimmer-group.com
🌐 www.zimmer-group.com

We hereby declare that the incomplete machine described below

Product designation: 2-jaw parallel grippers with long stroke
Type designation: GPH8000 series

conforms to the requirements of the directive in its design and the version we put on the market.

Michael Hoch	Rheinau, Germany, 2020-05-25	
Authorized representative for compiling the relevant technical documents	(Place and date of issuance)	Martin Zimmer (Legally binding signature) Managing Partner

14 REACH declaration

In terms of the EU Regulation 1907/2006

Name and address of the manufacturer:

Zimmer GmbH

📍 Im Salmenkopf
77866 Rheinau, Germany
☎ +49 7844 9138 0
✉ info@zimmer-group.com
🌐 www.zimmer-group.com

REACH stands for **R**egistration, **E**valuation, **A**uthorisation and **R**estriction of **C**hemicals.

A full declaration of REACH can be obtained from the manufacturer due to the duty to notify in accordance with Art. 33 of the REACH regulation ("Duty to communicate information on substances in articles").

Michael Hoch	Rheinau, Germany, 2020-05-25	
Authorized representative for compiling the relevant technical documents	(Place and date of issuance)	Martin Zimmer (Legally binding signature) Managing Partner

15 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
77866 Rheinau, Germany
☎ +49 7844 9138 0
✉ info@zimmer-group.com
🌐 www.zimmer-group.com

We hereby declare that the incomplete machine described below

Product designation: 2-jaw parallel grippers with long stroke

Type designation: GPH8000 series

conform to the requirements of the Machinery Directive, 2006/42/EC, Article 2g, Annex VII, b – Annex II, b, in their design and the version we put on the market.

Basic health and safety requirements:

No. 1.1.2, No. 1.1.3, No. 1.1.5, No. 1.3.1, No. 1.3.2, No. 1.3.4, No. 1.3.7, No. 1.5.1, No. 1.5.3, No. 1.5.4, No. 1.6.4, No. 1.7.1, No. 1.7.3

The following harmonized standards have been used:

DIN EN ISO 12100:2011-03 Safety of machinery – General principles for design – Risk assessment and risk reduction

A full list of applied standards can be obtained from the manufacturer.

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.

Commissioning of the incomplete machine is prohibited until it has been found that – where applicable – the machine in which the above-mentioned incomplete machine is to be installed complies with the Machinery Directive (2006/42/EC) and an EC Declaration of Conformity has been drawn up in accordance with Annex II 1 A.

Kurt Ross

Authorized representative for
compiling the relevant technical
documents

Rheinau, Germany, 2021-01-15

(Place and date of issuance)



Martin Zimmer
(Legally binding signature)
Managing Partner