

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 lifetime.
- 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.
- Catalogs, drawings, CAD data, performance data
 - Information on accessories
 - Detailed installation and operating instructions
 - Technical data sheets
 - General Terms and Conditions of Business with specifications for the warranty entitlement

2. Safety notices

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 mounted to industrial machines and is used to hold tools.
- The product can only become a source of hazard if, for example:
- 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 its intended 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.
- Make sure that the power supply is disconnected before you install, retool or service the product.
- Zimmer GmbH recommends performing maintenance tasks, renovation work or attachment work outside of the machine's danger zone when possible.
- When commissioning or testing, make sure that the product cannot be actuated by mistake.
- Modifications to the product, such as adding drilled holes or threads, may be made only with prior approval from Zimmer GmbH.
- The specified maintenance intervals are to be observed; also refer to the "Maintenance" section. When the product is used under extreme conditions, the maintenance interval must be adapted.
- Use of the product under extreme conditions, such as aggressive liquids and abrasive dusts, is subject to prior approval from Zimmer GmbH.
- Do not reach into the operational range of the product!

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 scope of its defined parameters for use.
- Zimmer GmbH shall accept no liability for any damage caused by improper use.

The product is designed exclusively for pneumatic operation.

The product is designated for use in enclosed rooms for separating defined materials.

Direct contact with perishable goods/food is not permitted.

It 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 qualified personnel. These persons must have read and understood the installation and operating 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.

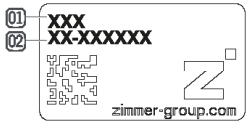
5.2 Type plate

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

The confirmation number and the article number are indicated on this type plate.

The confirmation number should be assigned to the project.

- Article number: 01
- Confirmation number: 02



INFORMATION

- Please state the confirmation 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

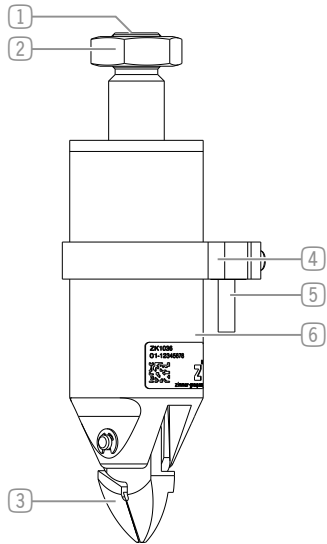
The function is based on a single-acting vented pneumatic piston with spring return. As a result of its structure, the ZK1000 series product reduces interference contours, thereby enabling simple integration into the machine design.

The ZK1000 series makes it possible to use different cutting geometries and materials.

The ZK1000 series has an integrated magnetic field sensor. This ensures process reliability for sensing the positions and transmitting them to the control system.

1	Power supply
2	Mounting and positioning
3	Cutting insert
4	Mounting clamp for magnetic field sensor
5	Magnetic field sensor
6	Housing

ZK1000 product series



7. Installation

7.1 General installation information

WARNING

- Risk of injury in case of unexpected movement of the machine or system into which the product 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.

CAUTION

- 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 power supply for any residual energy.

NOTICE

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

The product must be installed on a suitable mounting surface in accordance with the flatness specifications.

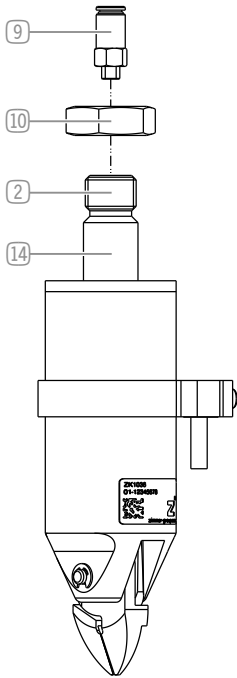
- Permissible flatness imperfection: 0.03 mm
- The locknut is included in the scope of delivery.
- Strength class of the locknut at least 8.8 DIN EN ISO 4762
- Observe the tightening torque of the locknut.
- Zimmer GmbH recommends verifying the permitted load-carrying capacity of the required screw connections in accordance with VDI 2230.
- Make sure the mounting surface is sufficiently rigid and flat.
- The exact positions can be found on the technical data sheet on our website www.zimmer-group.com.

7.2 Installing mechanic

The gripper can be installed on the mounting piece using the screw thread 2 and the locknut 10.

The following work steps must be observed during installation:

- Guide the product into the borehole on the mounting piece.
- It is held using the mating part 14.
- Secure the product using the locknut 10.
- Attach the locknut 10 so that it is hand-tight.
- Align the product.
- Tighten the locknut 10 to the specified tightening torque.



7.3 Installing the power supply

Insert the screw connection 9 into the designated connection.

NOTICE

- Close off unused pneumatic connections with dummy plugs.
- The authorized pneumatic connections that are available can be found in the accessories list, which is available 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].

7.4 Installing/disassembling the cutting insert

7.4.1 Installation

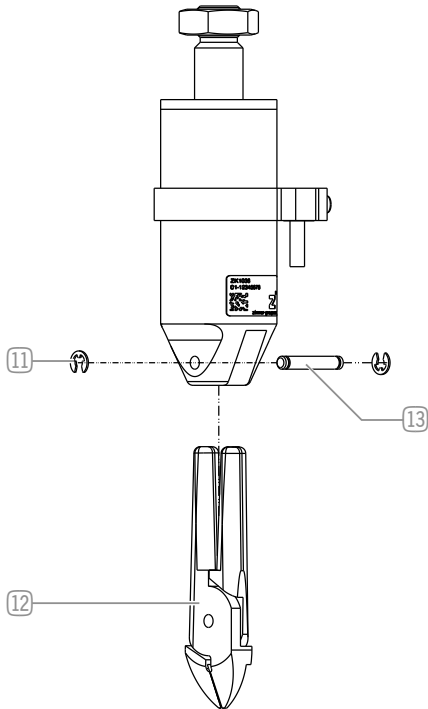
The following work steps must be observed when installing the cutting insert:

- Switch off the power supply to the product.
- Check the power supply for any residual energy.
- Guide the cutting insert 12 into the housing 6.
- Secure the cutting insert 12 using the bearing pin 13.
- Secure the bearing pin 13 using the lock washers 11.

7.4.2 Uninstallation


The following work steps must be observed when disassembling the cutting insert:

- Switch off the power supply to the product.
- Check the power supply for any residual energy.
- Remove the lock washers 11.
- Pull out the bearing pin 13.
- In doing so, hold the cutting insert 12 securely.
- Take the cutting insert 12 out of the housing 6.



7.5 Installing accessories

NOTICE

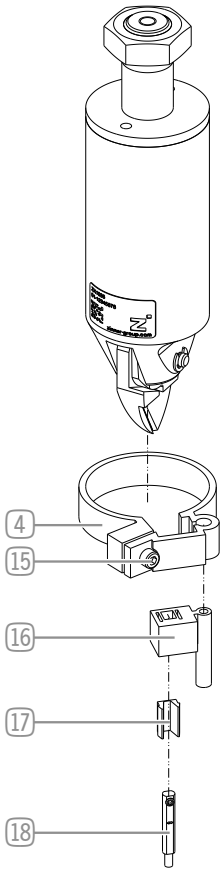
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- Before installing an accessory, make sure it is suitable for use with the selected variant.

For information on all available accessories, please visit our website.

7.5.1 Installation example for a sensor bracket


7.5.2 Installation

- The following work steps must be observed during installation:
- ▶ Insert the magnetic field sensor **18** into the sensor holder **17**.
 - ▶ Insert the magnetic field sensor **18** together with the sensor holder **17** into the adapter **16**.
 - ▶ Push the complete package, including the mounting clamp, onto the product **4** and secure it in place using the mounting screw **15**.



8. Technical data

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- For technical data, please visit our website.

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.

8.1 Cutting diameters

INFORMATION


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- The cutting diameters specified in the technical data sheet are the maximum possible diameters that can be accommodated and cut by the cutting tongs.

Due to the material properties/material grades, the diameter may be smaller.

Contact Zimmer Customer Service for the appropriate cutting tongs for a particular material.

9. Maintenance

CAUTION

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- Risk of injury caused by improper maintenance.**

 - ▶ During maintenance of the product, observe the locally valid workplace safety regulations.
 - ▶ Only appoint trained personnel.
 - ▶ Switch off the power supply.

Maintenance-free operation of the product is guaranteed for up to 5 million cycles.

The stability refers to the ZK1000 cutting tongs and not to the respective cutting inserts.

The maintenance interval may shorten under the following circumstances:

- Operation with compressed air that does not comply with DIN ISO 8573-1 quality class [4:4:4]
- Dirty environment
- Improper use and use that does not comply with the power specifications
- Ambient temperature above 60 °C


Even though the product is maintenance-free as mentioned above, perform a regular visual inspection to check for any damage or contamination. Dismantling and reassembling the product 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 reassembling of the product or in the event of any malfunction or damage resulting from this.

10. Transportation/storage/preservation

- ▶ Transport and storage of the product must be done only with the original packaging.
- ▶ If the product has already been installed on the superordinate machine unit, care must be taken during transport to ensure that no uncontrolled movements can occur. 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 away from direct sunlight.
- ▶ Visually inspect all of the components.
- ▶ Remove all foreign substances.
- ▶ Close pneumatic connections using suitable covers.

11. Decommissioning and disposal

INFORMATION

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- When the product reaches the end of its operational phase, the product can be completely disassembled and properly disposed of according to material groups. Completely disconnect the product from the power supply. When disposing of it, observe the locally applicable environmental provisions 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: Cutting tongs, pneumatic

Type designation: ZK1000

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

The manufacturer has a complete list of the applied standards.

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, 11/10/2020	Martin Zimmer, Managing Director
First name, last name	Address	Place and date of issuance	Legally binding signature

Martin Zimmer