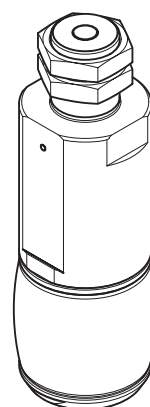


Internal gripper

DHEB-... (bellows gripper)

FESTO

Repair
instructions (en)



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Editorial

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Foreword

These repair instructions are valid for the internal grippers listed on the title page to the exclusion of any liability claims.

Deviations compared to the descriptions in these repair instructions may arise depending on the design and/or modification status of the internal grippers. The user must check this prior to carrying out the repair and take the deviations into consideration if necessary.

These repair instructions have been prepared with care.

Festo AG & Co. KG does not, however, accept liability for any errors in these repair instructions or their consequences. Likewise no liability is accepted for direct or consequential damage resulting from improper use of the products.

The relevant regulations on occupational safety, safety engineering and interference suppression as well as the stipulations contained in these repair instructions must be observed when working on the products.

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1 Important information

1.1 About these repair instructions

This document contains important information about the professional replacement of the bellows of the internal grippers type DHEB...

Before carrying out a bellows replacement, these instructions must be read in full and followed consistently.

For reasons of clarity, these repair instructions do not contain complete, detailed information. The following documents should therefore also be available while doing repair work on the internal gripper:

- **Operating instructions for the respective internal gripper**
Contains information about the internal gripper's operating elements and connections as well as information about function, structure, application, installation, commissioning, care and maintenance, etc. The operating instructions can be found on the Festo website (www.Festo.com)

- **Assembly tools**
Contains an overview of the available assembly tools such as lubricants, thread locking agents, maintenance tools, etc. (aids for assembly and maintenance). They can be found in the online spare parts catalogue on the Festo website (www.Festo.com)

1.2 Pictograms used in these repair instructions



Warning

This sign indicates a dangerous situation for persons and/or the product. Failure to observe this warning can result in injury to persons and/or damage to the device.



Note

This sign indicates important tips and information that can make your work easier.



Environment

This sign indicates information on the steps required for environmentally friendly use of materials and equipment as well as the guidelines and regulations that may need to be observed.



Accessories

This sign indicates information about accessories and attachments appropriate to the context.



Documents

This sign indicates references to other chapters or documents containing additional information.

1.3 General safety instructions

**Warning**

The gripper bellows of internal grippers must only be repaired by authorised and trained persons in accordance with the specifications in the technical documentation and using original spare parts (of the appropriate type and version). Replacement by unauthorised and untrained persons, replacement using non-original spare parts as well as without the technical documentation required for replacement are dangerous and therefore not permitted.

Replacement must only be carried out in conjunction with these repair instructions as well as the respective device-specific operating instructions.

**Note**

Instead of carrying out the replacement yourself, your local Festo sales office offers the option of having the replacement carried out by Festo.

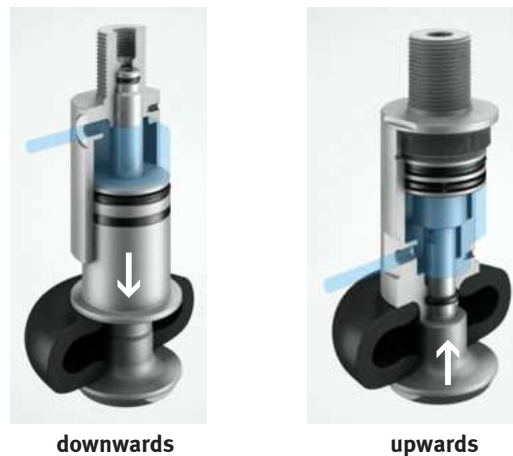
**Environment**

Components and equipment replaced must be disposed of in accordance with the locally valid environmental protection regulations.

2 General product description

2.1 Functional description of the internal gripper DHEB (downwards/upwards)

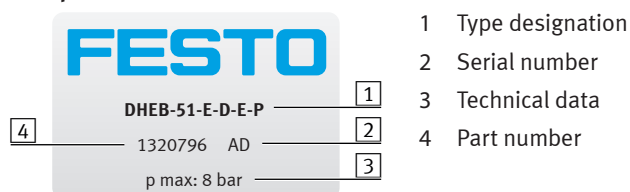
The single-acting internal gripper consists of a housing made from anodised aluminium with an integrated cylinder hole for receiving the pneumatic piston. The force generated by the linear motion is directly translated into the opening motion of the bellows via compression/deformation of the bellows. This is done by applying a pneumatic pressure to the side of the piston corresponding to the actuation direction (downwards/upwards), which moves the piston in one direction. The piston is reset via relaxation of the bellows in the opposite direction.



2.2 Type codes (determining the features of an internal gripper)

The precise features of an internal gripper can be determined with the help of the rating plate on the housing. The type designation is located directly beneath the Festo logo and describes the features of the internal gripper, separated by a dash (-).

Example:



The type designation on this rating plate provides the following information:

- DHEB** Internal gripper of the type DHEB
- 51** Size (bellows diameter 51 mm)
- E** Single-acting gripping function
- D** Downward actuation direction (downward stroke)
- E** Bellows made from EPDM (black)
- P** Lateral air supply via separate connection (through-hole present)



Note

A list and description of all possible equipment features of the internal gripper can be found in the catalogue sheet. To order spare and wearing parts, please use the online spare parts catalogue on the Festo website (spareparts.festo.com) or contact Festo.

3 Repair steps



Note

The end cap on the version DHEB-...-D-... (downward) is permanently connected to the piston rod and should not be unscrewed, even though its surfaces suggest that it can be.

3.1 Preparatory measures

- Before starting the repair, remove any attachments (e.g. sensor rails, etc.) in accordance with the instructions in the accompanying operating instructions.
- Make sure that your working environment is clean.
- Use only original spare parts and mounting aids (lubricant, etc.).



Warning

- Remove the flow control valves and tubing from the internal gripper and completely depressurise the internal gripper.
- Do not use any pointed or sharp-edged tools during fitting to avoid damaging the new bellows.

3.2 Visual inspection

Inspect the internal gripper for visible damage that might impair its function. The internal gripper must be replaced in its entirety if the housing exhibits significant damage.

3.3 Removing the worn gripper bellows

Clamp the internal gripper by its body in a secure clamping device (e.g. vice).

The piston on the version DHEB-...-U-... (upward) must be blocked in the advanced position (see sketch) by placing a pin in the hole of the mounting thread.



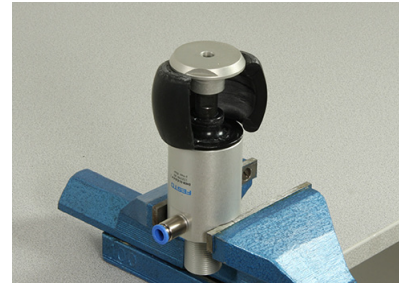
Carefully cut apart the worn bellows in longitudinal direction using a sharp knife (cutter knife, utility knife).



Note

Do not damage the piston rod with the O-rings and end cap underneath. Damage can lead to malfunctions.

Remove the cut bellows.



Environment

Dispose of the worn bellows in an environmentally friendly way.

3.4 Fitting the new gripper bellows

Apply lubricant to the inside of the new bellows and place the bellows laterally over the end cap. Push and swivel the new bellows into its intended position.



Swivel the bellows to make sure that it is correctly seated.



Remove any lubricant on the end cap using an appropriate detergent.



Carry out a function check.

4 Tools

This chapter provides an overview of the tools and aids required to repair and maintain the internal gripper DHEB-....

4.1 Standard tools

The following standard tools are required for repair and maintenance of the internal grippers:

- Vice
- Cutter knife/utility knife

5 Liability

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