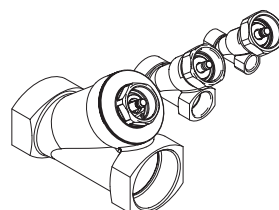
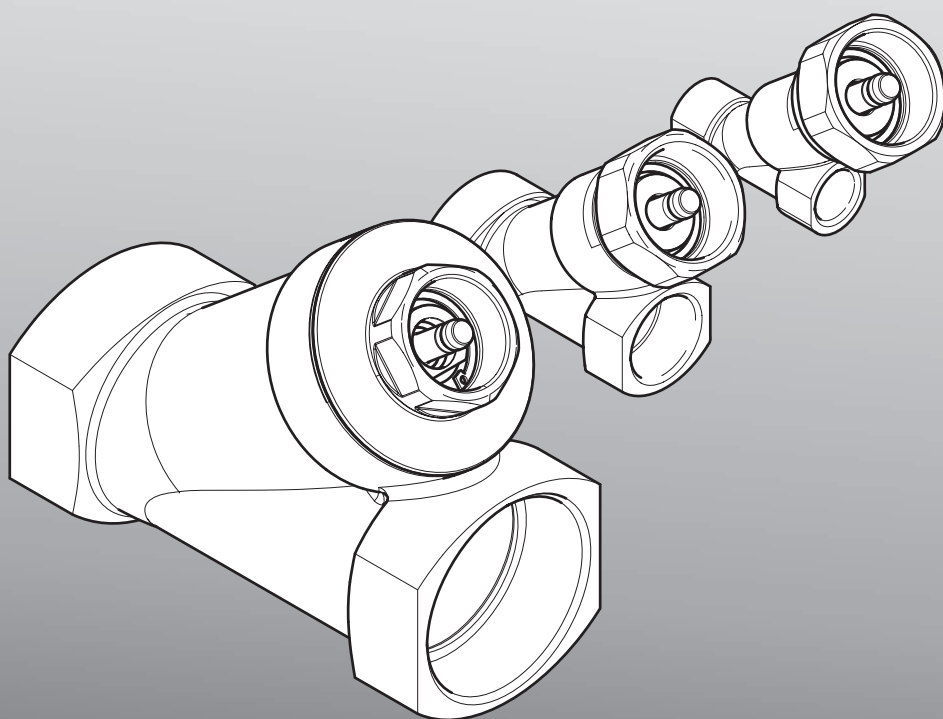


# Angle seat valve

VZXA-...

**FESTO**

Repair  
instructions (en)



## Imprint

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All technical data are subject to change according to technical updates.

## Foreword

These repair instructions are valid for the angle seat valve listed on the title page to the exclusion of any liability claims.

The general terms and conditions of business (Allgemeinen Geschäftsbedingungen - AGB) of Festo AG & Co. KG apply; these can be read on the Festo website (→ [www.festo.com](http://www.festo.com)).

Differences compared to the descriptions in these repair instructions may arise depending on the design and/or modification status of the angle seat valve. 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 incorrect 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 proper repair of the angle seat valve type VZXA.

Before carrying out a repair, these repair instructions must be read in full and followed.

Other documentation for this product:

- Operating instructions (→ [www.festo.com](http://www.festo.com))
- Spare parts documentation (→ <http://spareparts.festo.com>)

### 1.2 Symbols used

#### 1.2.1 Danger categories

The following symbol identifies text passages which draw attention to specific hazards.



#### Warning

#### 1.2.2 Repair steps

Familiarise yourself with the meaning of the symbols before starting the repair work.



#### Reference arrow

Symbol indicating the individual components to be noted.



#### Linear movement arrow

Carry out a linear movement.



#### Reference to repair steps

Follow the given repair steps.



#### Attention

Pay particular attention to notes and information.



#### Visual inspection

Perform a visual inspection.



#### Tools

Use suitable tools.



#### Functional test / start-up

Follow the notes on the functional test / start-up in the operating instructions (→ [www.festo.com](http://www.festo.com)).

### 1.2.3 Cleaning and greasing



#### Cleaning

Festo recommends that you use Loctite 7063, order No. 756239 or Loctite 7070, order No. 396880.



#### Thin grease film outside

A film of grease covers the external surface so that the grease colour tarnishes the surface slightly.

Recommendation:

Apply the grease with a soft brush or similar.

### 1.3 Text designations used in these repair instructions

- General lists.

- ➔ Reference to further information.

Underlined, blue text indicates a cross-reference or hyperlink that you can click on in the PDF.

### 1.4 Tools

The following standard tools are needed to replace the seal cartridge with spindle:

- Retaining ring pliers for internal retaining rings
- Spanner

## 2 General safety instructions and information

### 2.1 General safety instructions



#### Warning

Read and follow all safety instructions and information. Failure to comply with these safety instructions and information can result in serious injuries.

- The angle seat valve may only be repaired by authorised and trained personnel acting in accordance with the requirements in these repair instructions and the device-related documentation.
- Use original spare parts only to repair the angle seat valve.
- Before starting the repair work, any attachments present must be dismantled.
- Before starting the repair work the system must be completely cooled.
- Accidental switching on or concealed pressure can trigger unexpected movements during dismantling of the angle seat valve. Therefore, before each repair, the system must be completely vented and reliably secured against unauthorised switching on.
- Where possible the repair should be carried out on a stable and flat work surface with space for small parts.
- Pay attention to cleanliness while repairing the angle seat valve. Never allow dirt particles to get into the angle seat valve.
- Wear the necessary personal protective equipment.

- In the event of damage to the angle seat valve caused by
  - unauthorised manipulation,
  - non-intended use (misuse),
  - use of non-original spare parts
 all warranty and liability claims against the manufacturer expire.
- The technical documentation required for installation and start-up (functional test) of the angle seat valve must be available.

## 2.2 General information

- Standard tools are needed to repair the angle seat valve, which must be available in a service workshop (→ [Chapter 1.4 on page 5](#)).
- Components and equipment replaced during repair must be disposed of in accordance with the relevant local environmental protection regulations.
- Festo recommends use of HEVOLIT PE 280-1 FG lubricant.

## 3 Types and part numbers

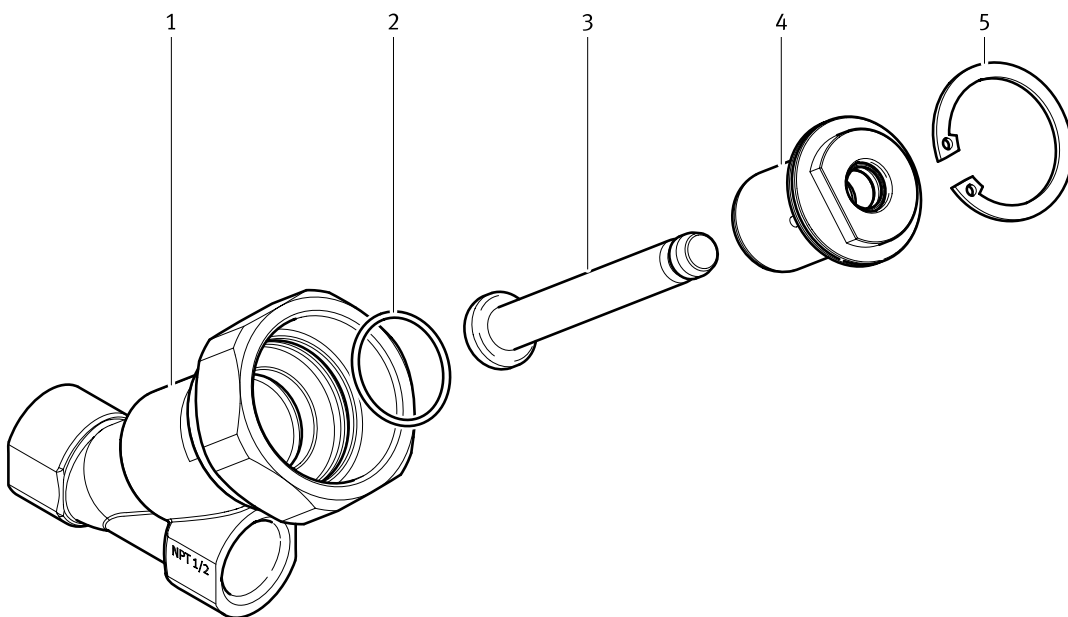
Type	Material number
VZXA	3539410

## 4 Components list



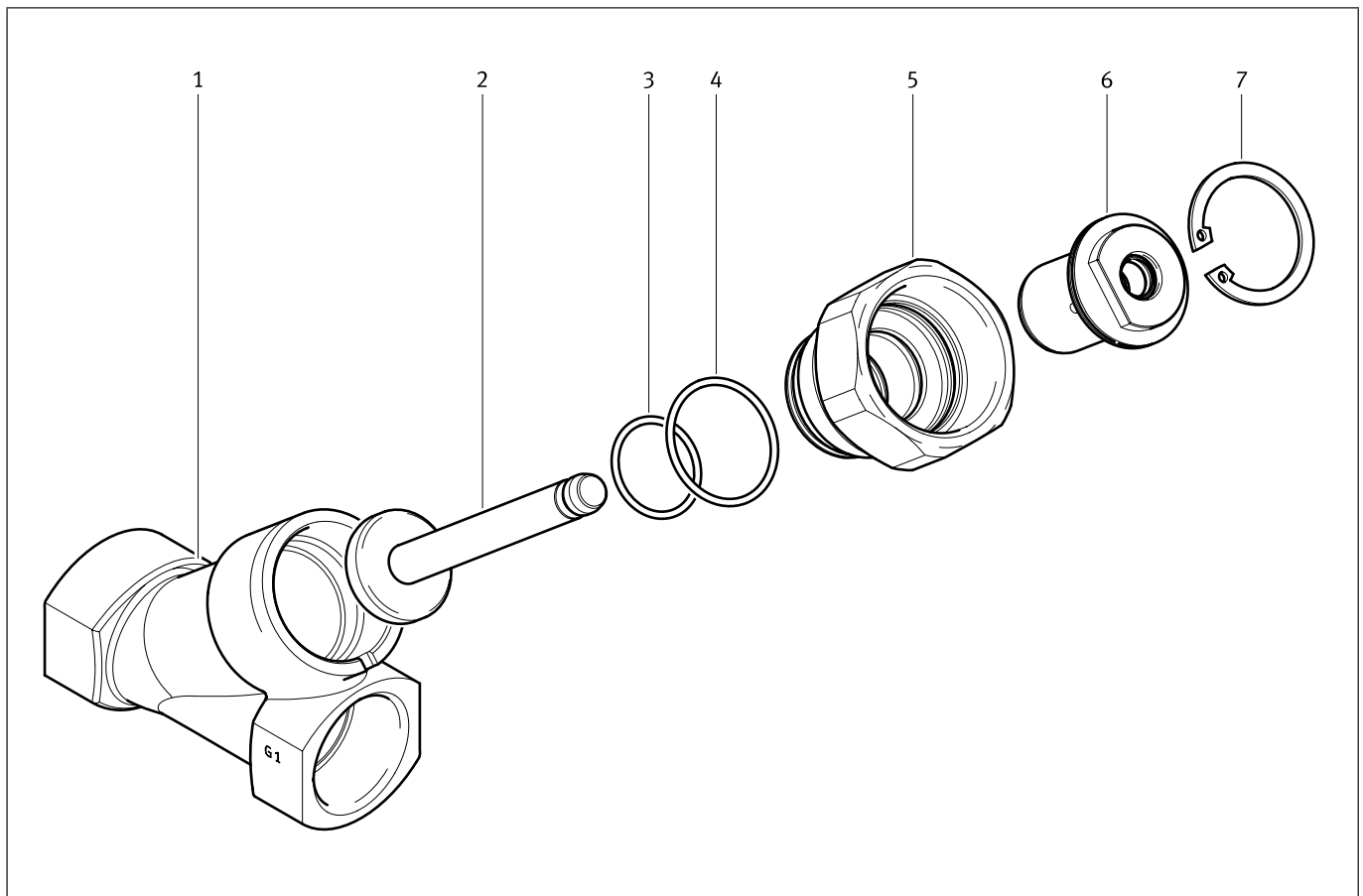
The following diagrams are intended only to provide an overview of the individual components. To order spare and wearing parts, please use the online spare parts catalogue on the Festo website (→ [www.festo.com/spareparts](http://www.festo.com/spareparts)).

### 4.1 VZXA-...-13 / 20



Angle seat valve		VZXA-...-13	VZXA-...-20
Item	Designation	Type	Type
1	Valve body		
2	O-ring	21.95×1.78-N-FEPM70	21.95×1.78-N-FEPM70
3	Spindle assembly		
4	Seal module		
5	Retaining ring	DIN 472-34×1.5-A2	DIN 472-34×1.5-A2

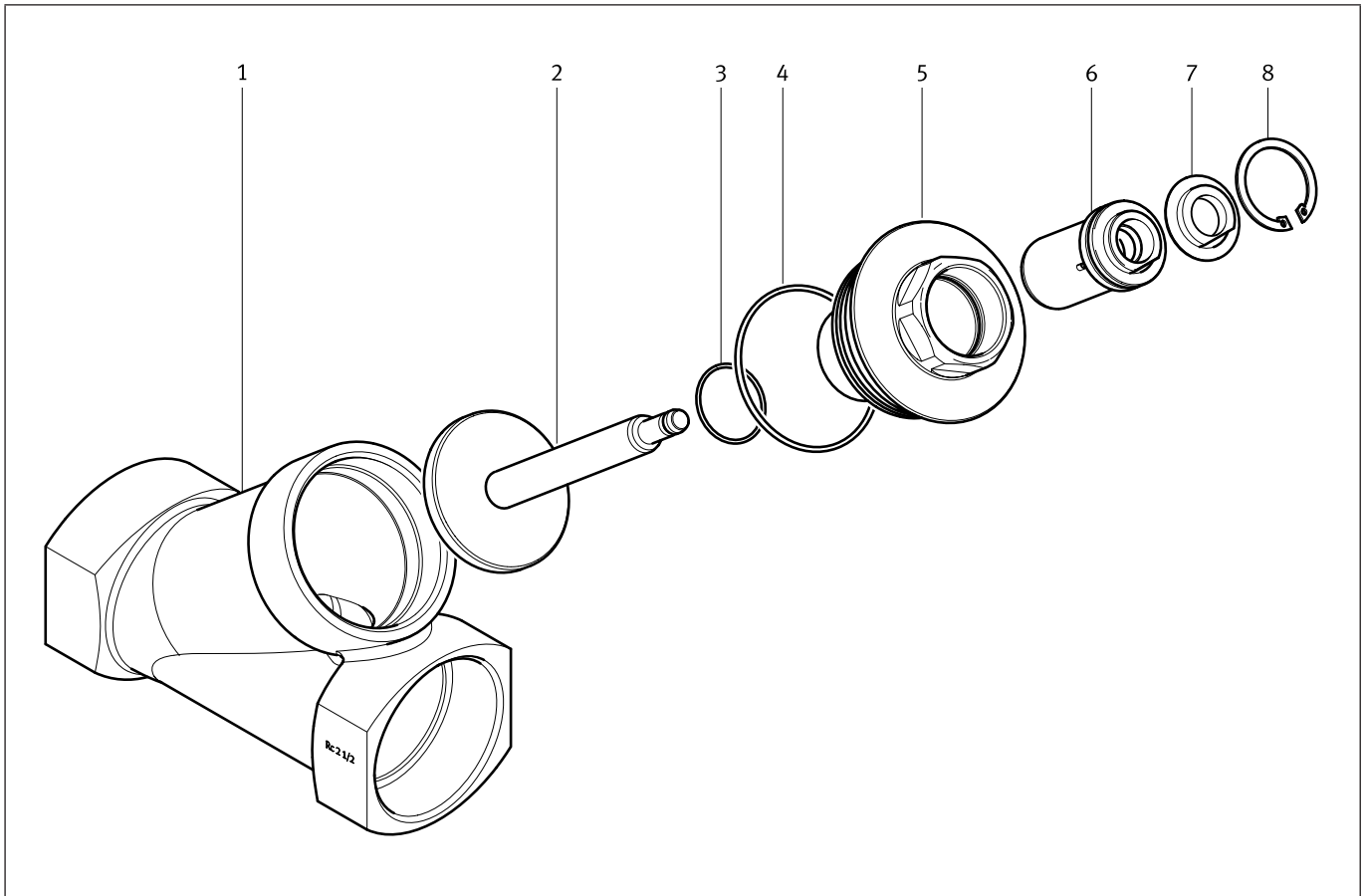
## 4.2 VZXA-...-25 / 32



Angle seat valve		VZXA-...-25	VZXA-...-32
Item	Designation	Type	Type
1	Valve body		
2	Spindle assembly		
3	O-ring	21.95×1.78-N-FEPM70	21.95×1.78-N-FEPM70
4	O-ring	28.3×1.78-N-FEPM70	33.05×1.78-N-FEPM70
5	End cap		
6	Seal module		
7	Retaining ring	DIN 472-34×1.5-A2	DIN 472-34×1.5-A2



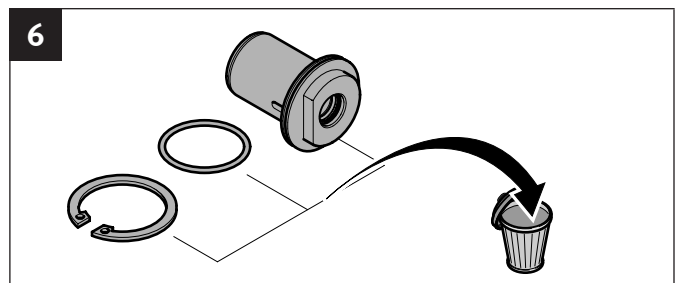
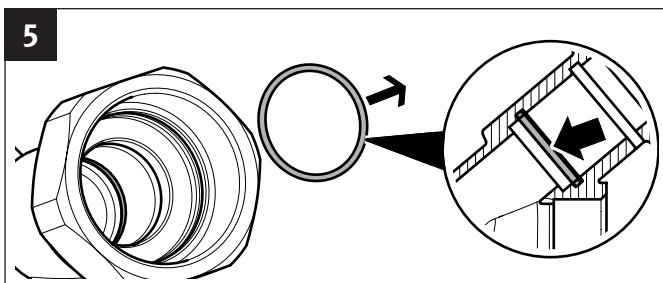
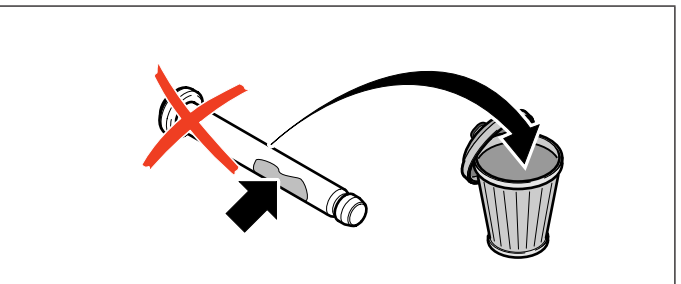
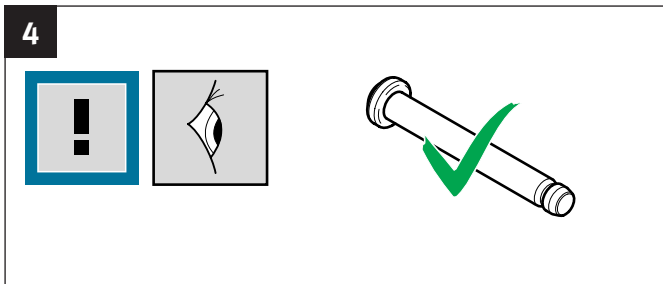
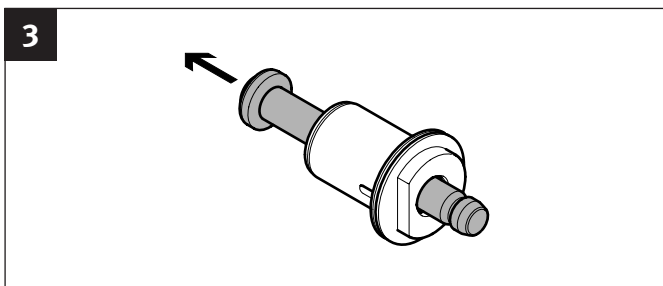
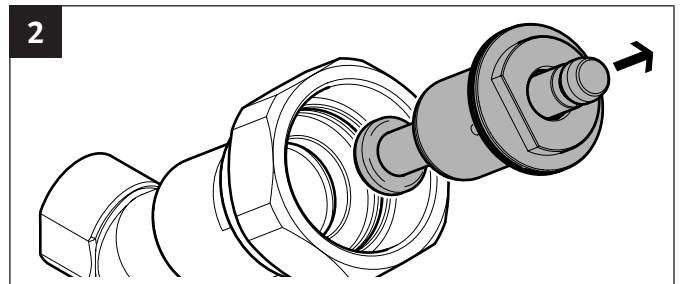
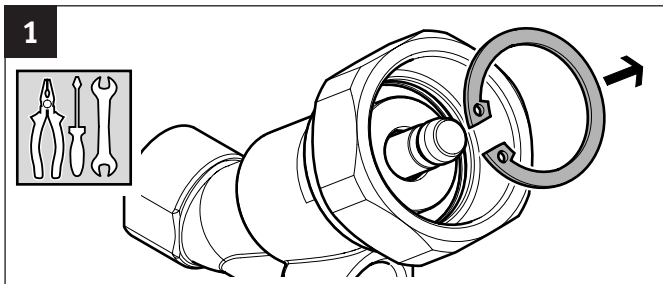
### 4.3 VZXA-...-40 / 50 / 65



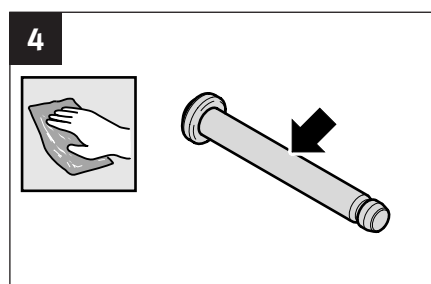
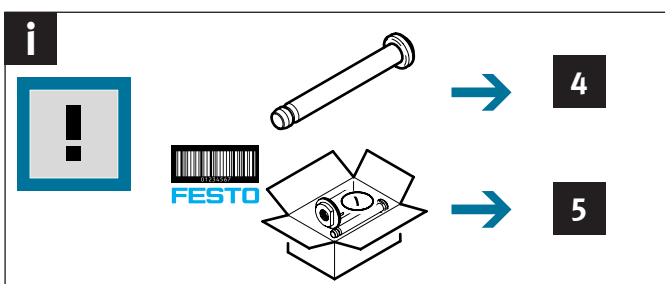
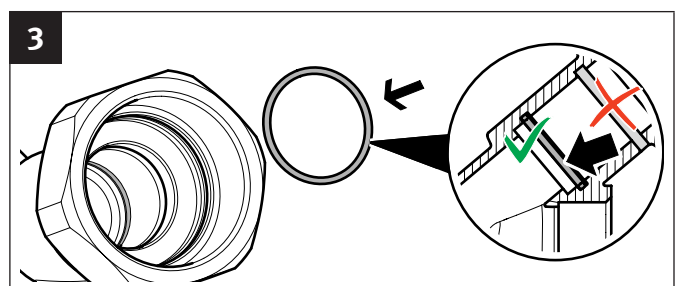
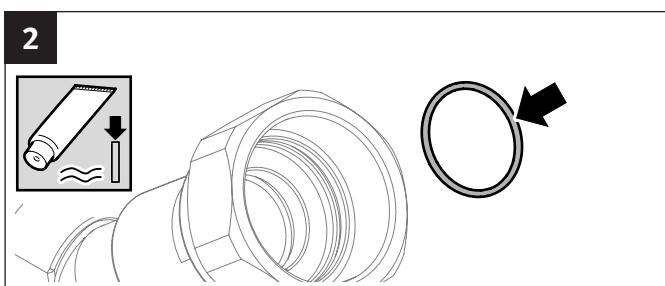
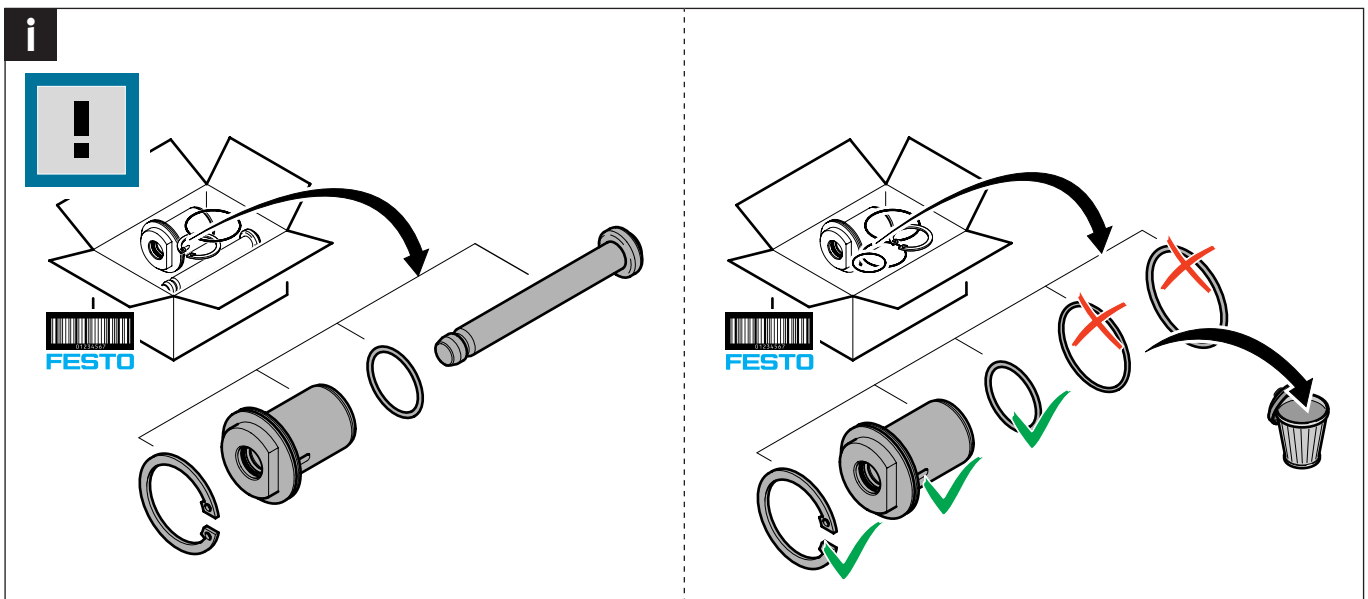
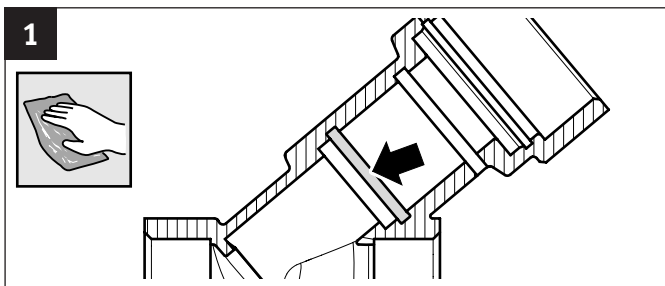
Angle seat valve		VZXA-...-40	VZXA-...-50	VZXA-...-65
Item	Designation	Type	Type	Type
1	Valve body			
2	Spindle assembly			
3	O-ring	29.87×1.78-N-FEPM70	29.87×1.78-N-FEPM70	29.87×1.78-N-FEPM70
4	O-ring	37.82×1.78-N-FEPM70	50×2-N-FEPM70	63.17×2.62-N-FEPM70
5	End cap			
6	Seal module			
7	Expander			
8	Retaining ring	DIN 472-37×1.5-A2	DIN 472-37×1.5-A2	DIN 472-37×1.5-A2

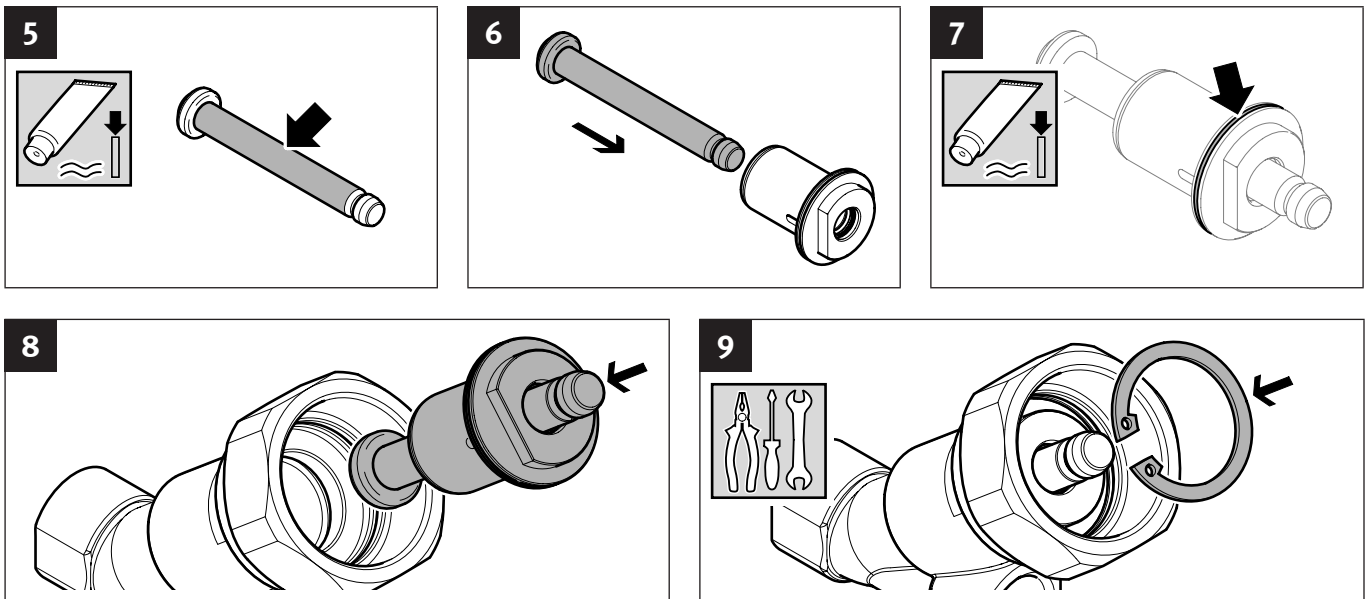
## 5 Repair steps

### 5.1 Removal of seal cartridge and spindle VZXA-13 / 20

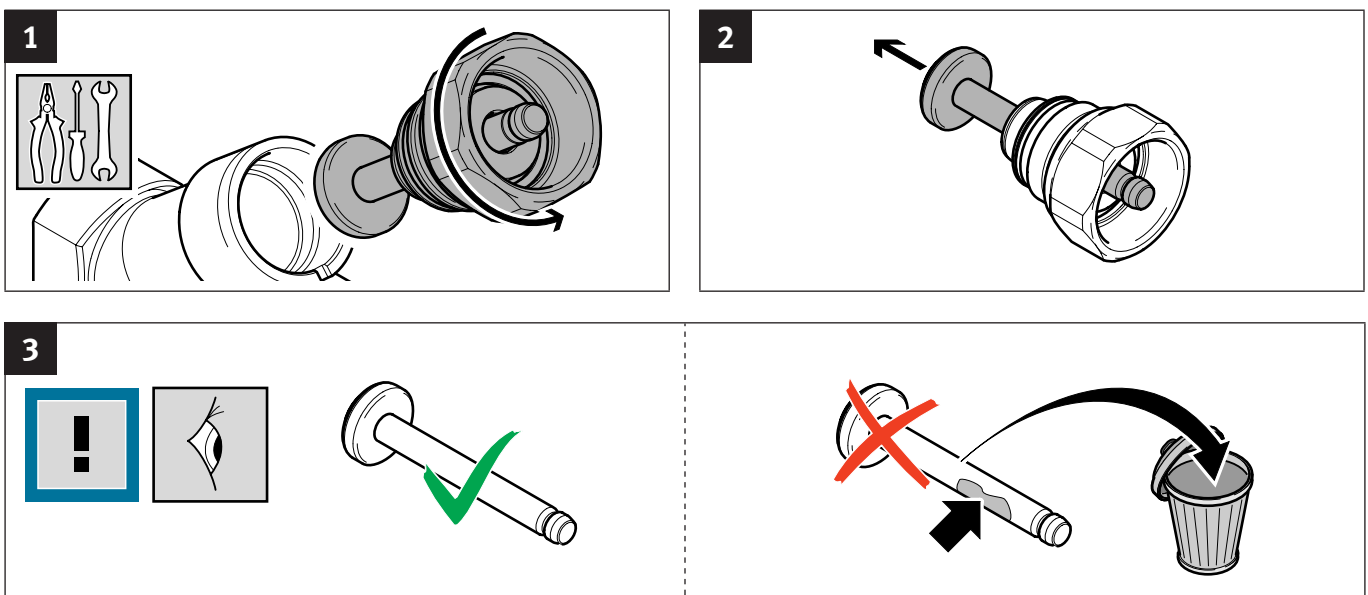


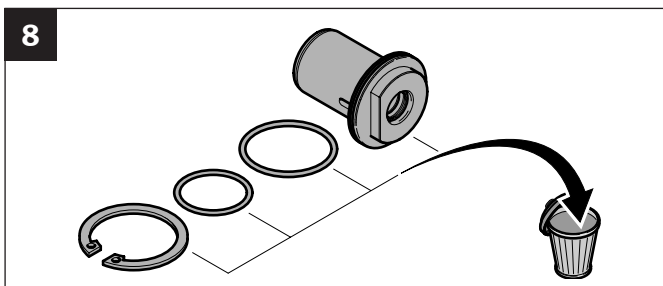
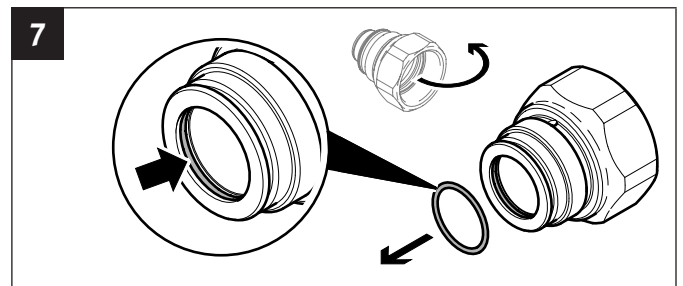
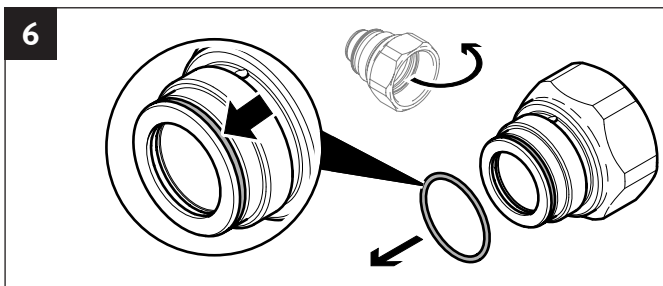
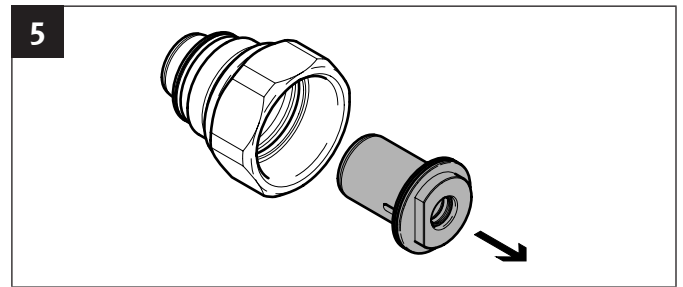
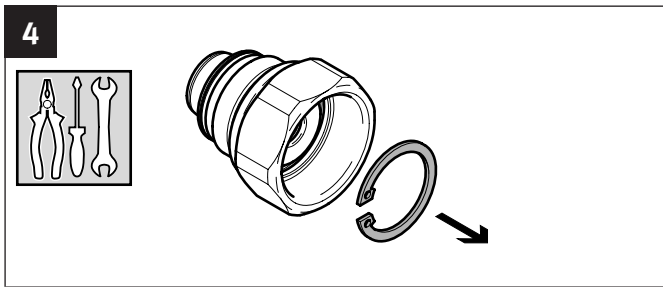
## 5.2 Installation of seal cartridge and spindle VZXA-13 / 20



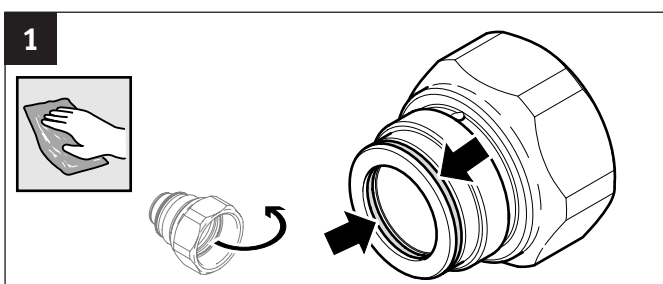


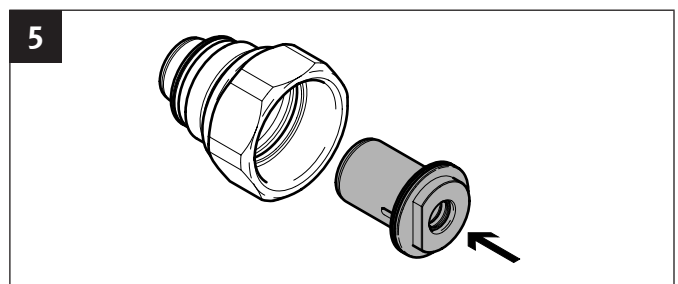
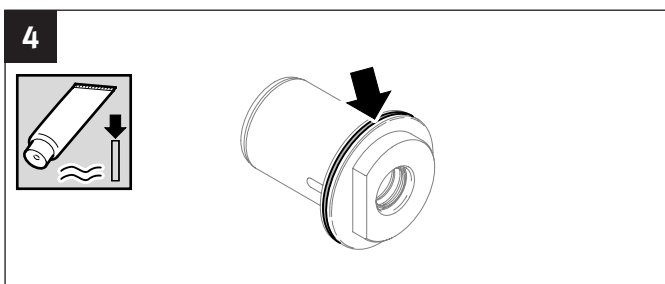
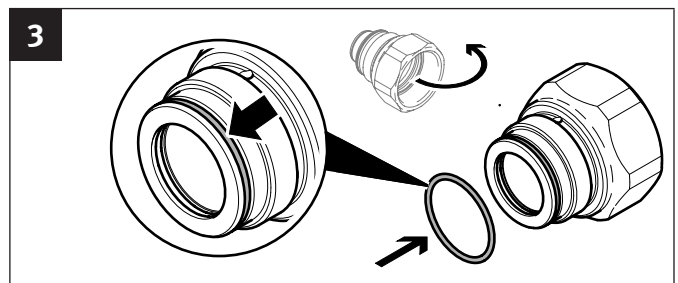
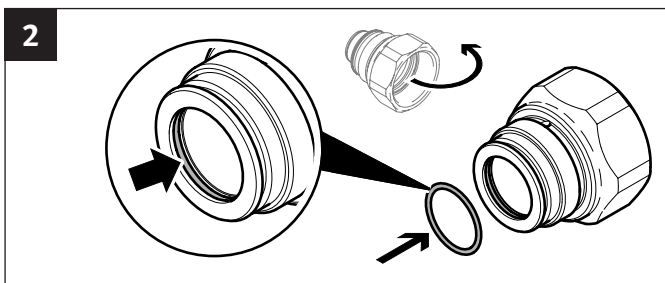
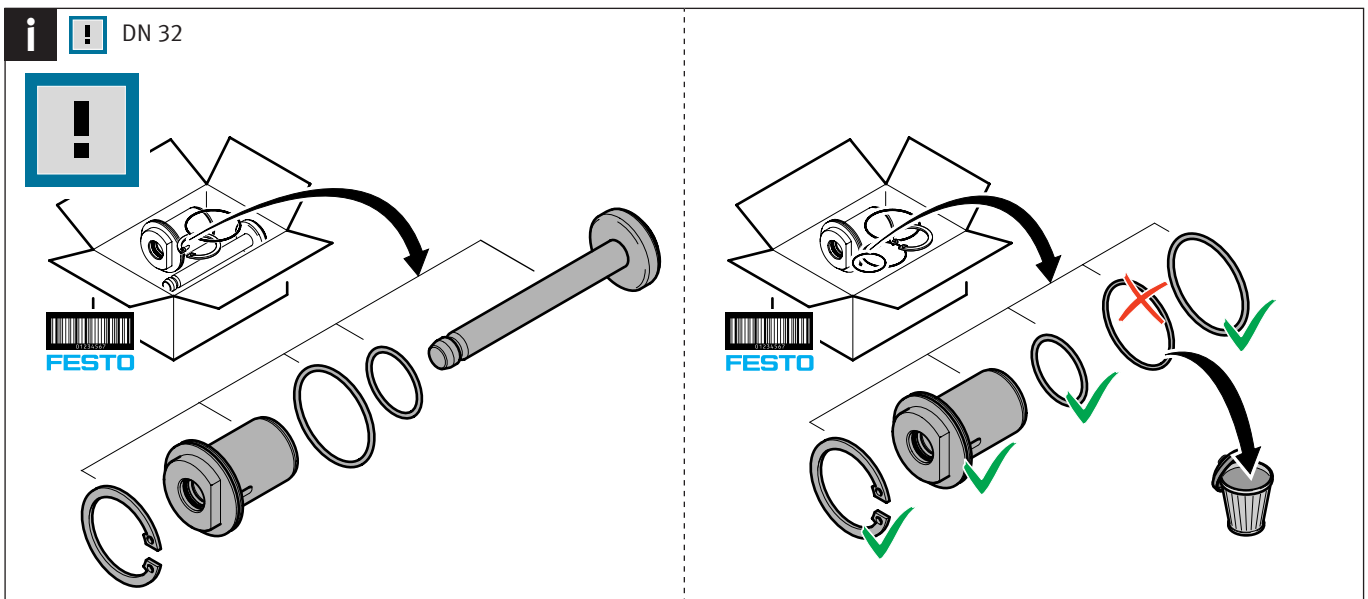
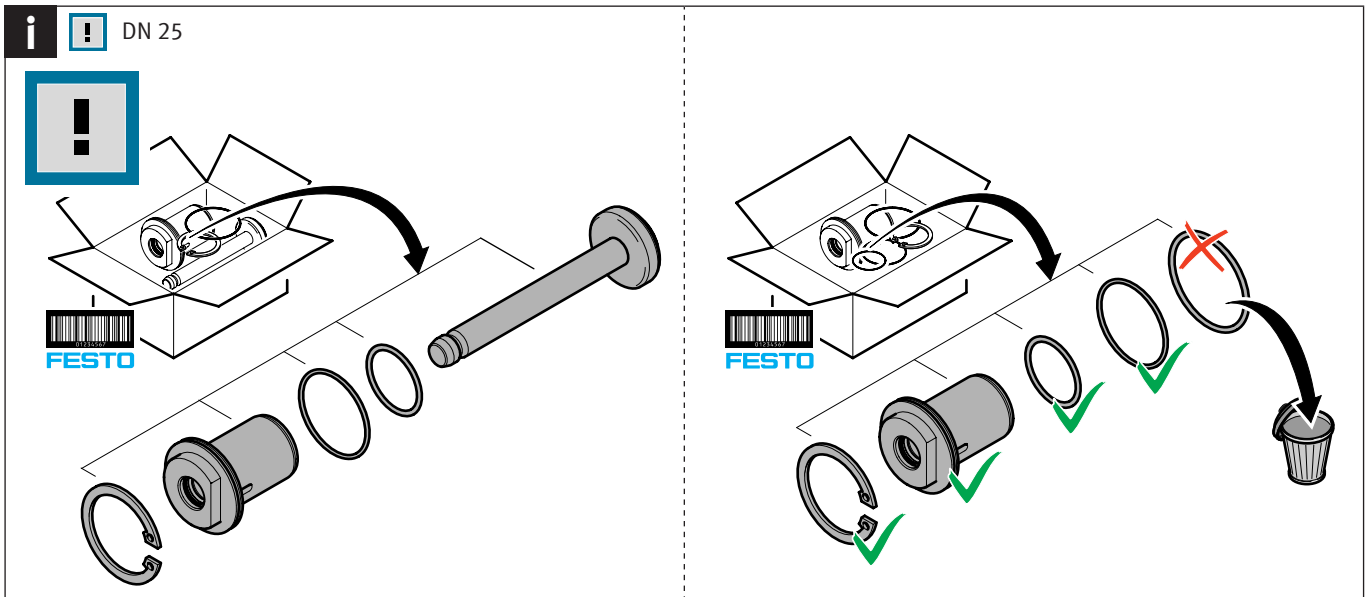
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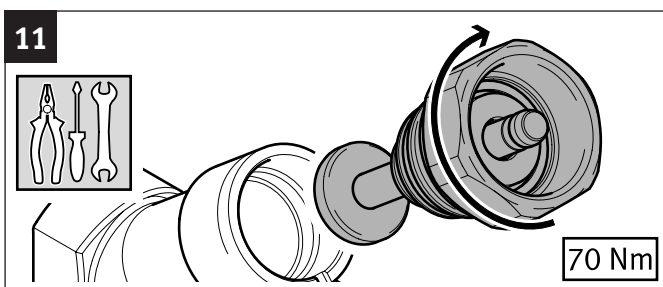
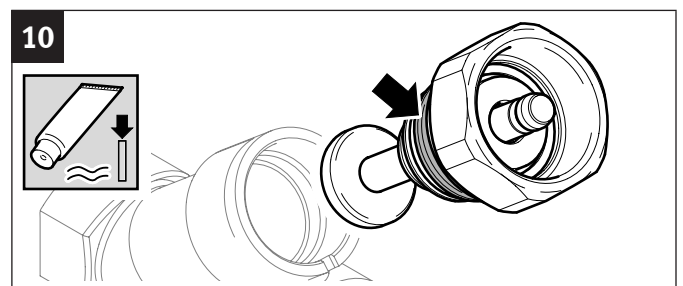
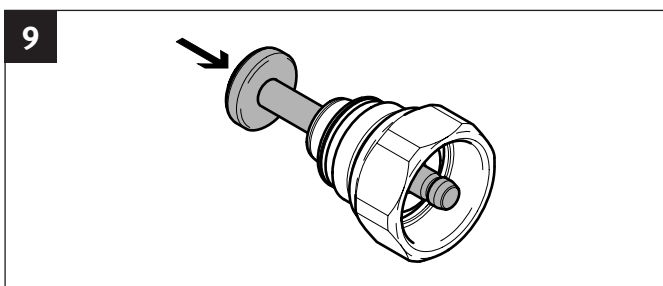
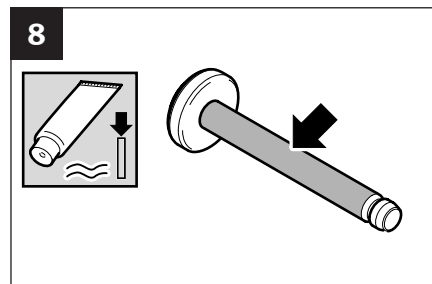
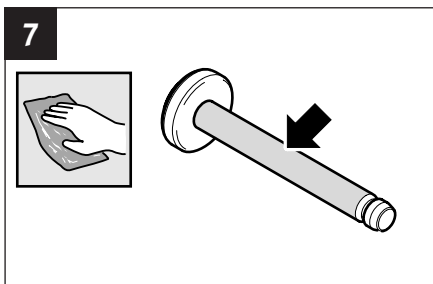
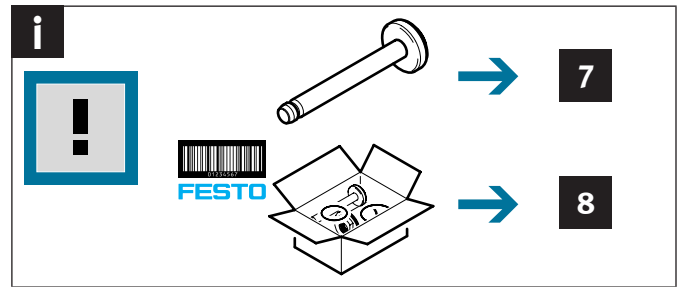
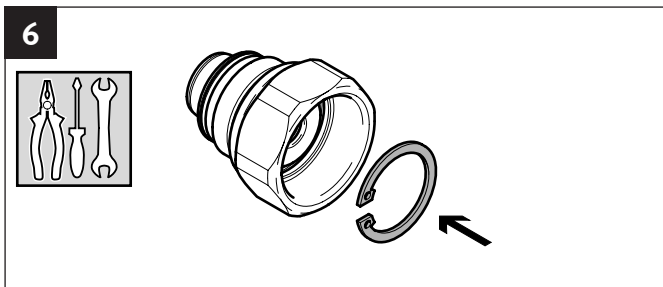




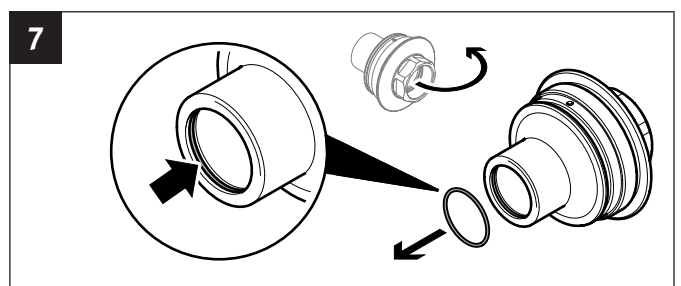
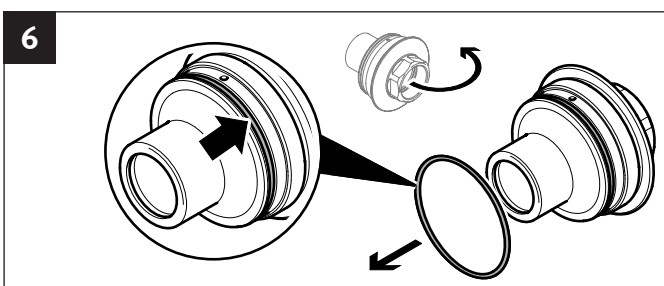
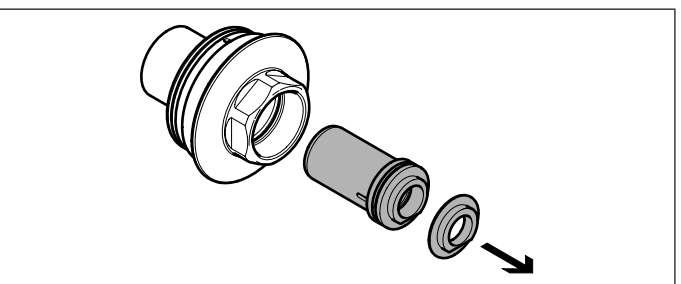
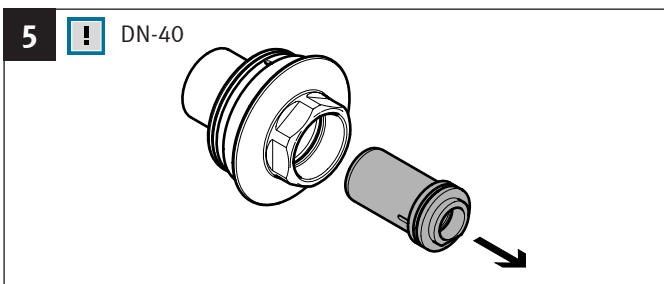
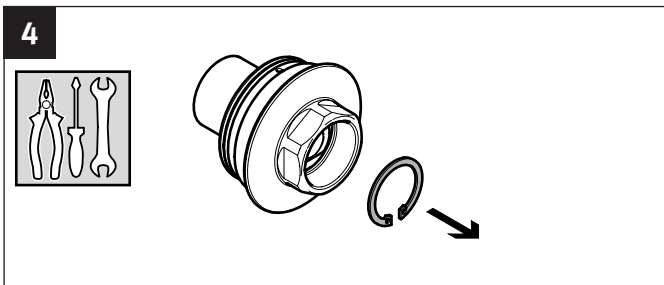
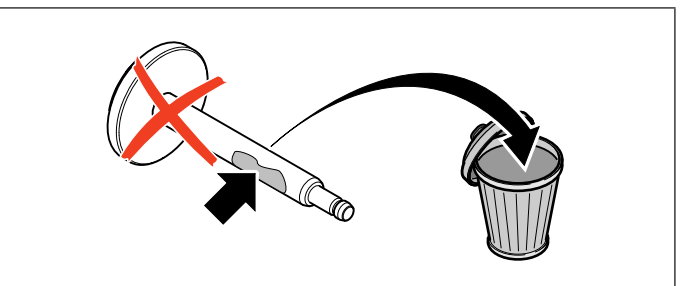
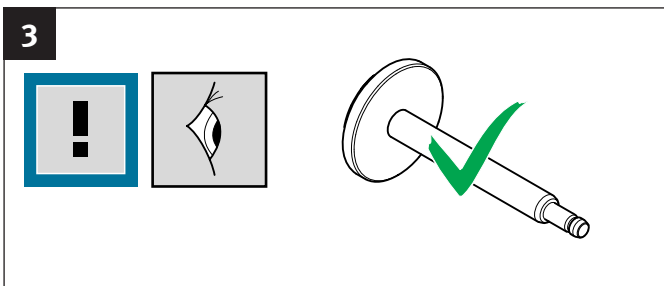
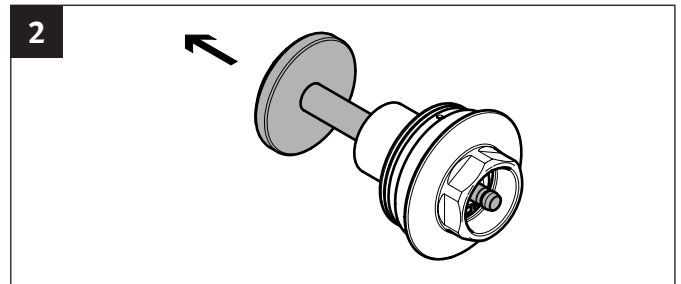
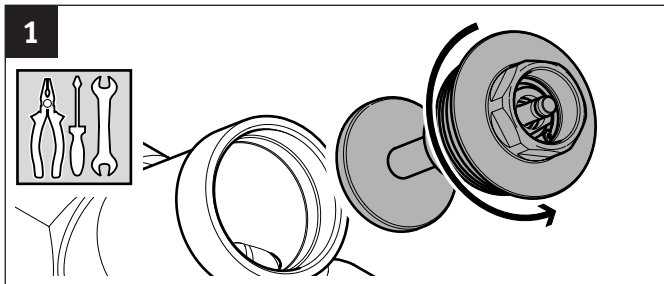
#### 5.4 Installation of seal cartridge and spindle VZXA-25 / 32



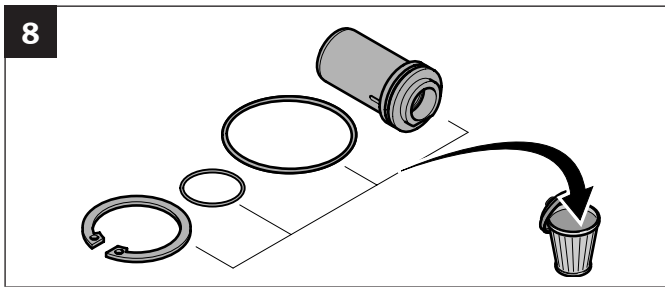




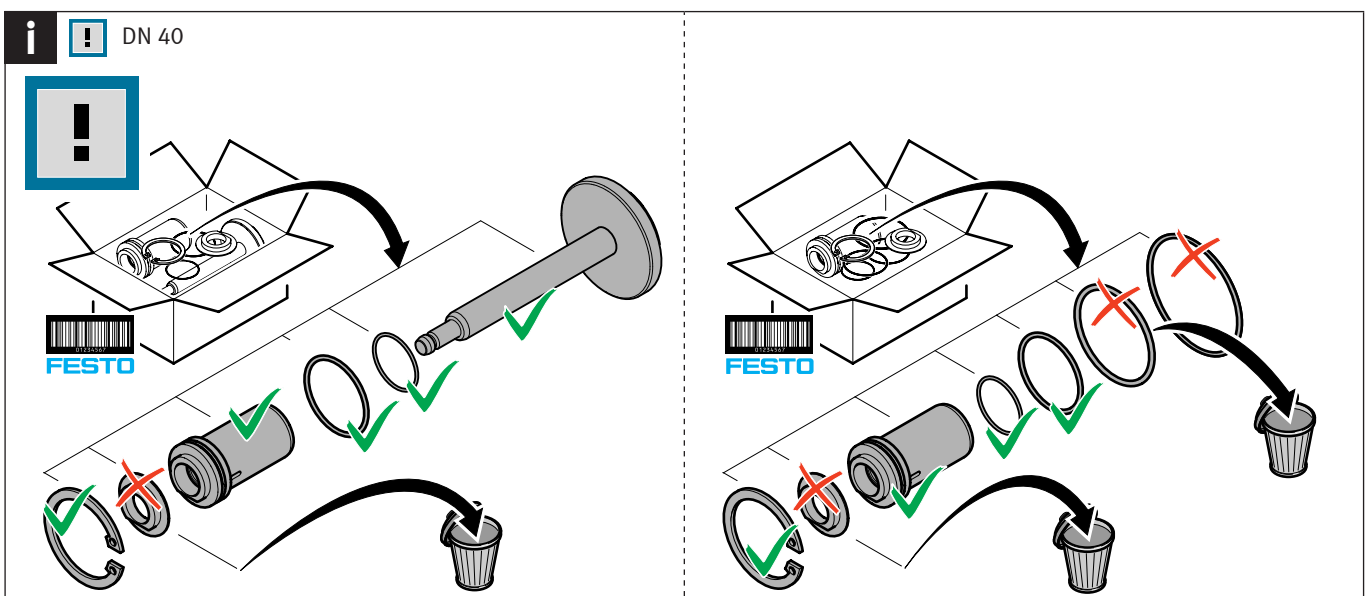
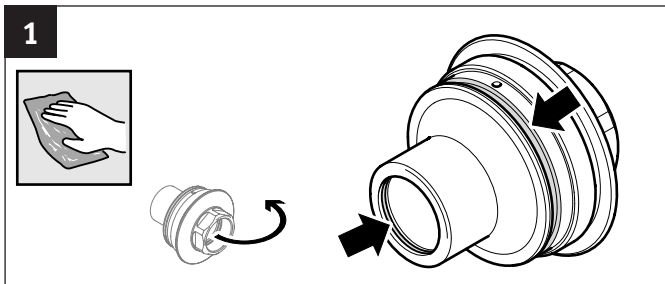
## 5.5 Removal of seal cartridge and spindle VZXA-40 / 50 / 65

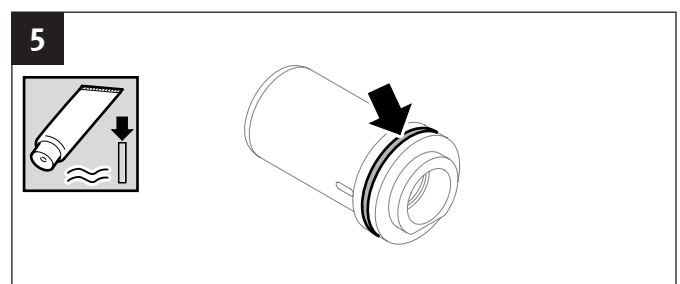
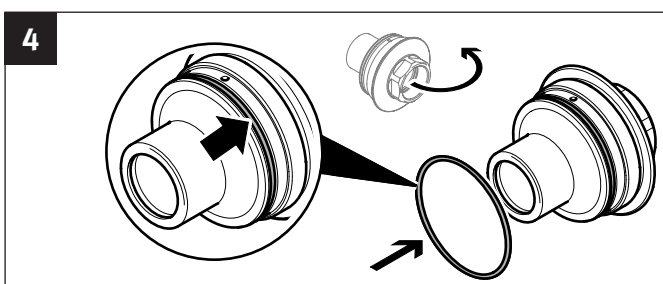
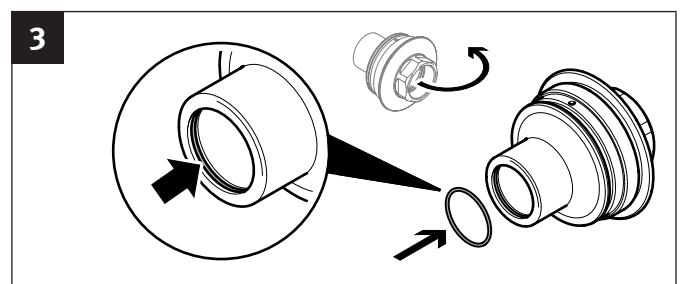
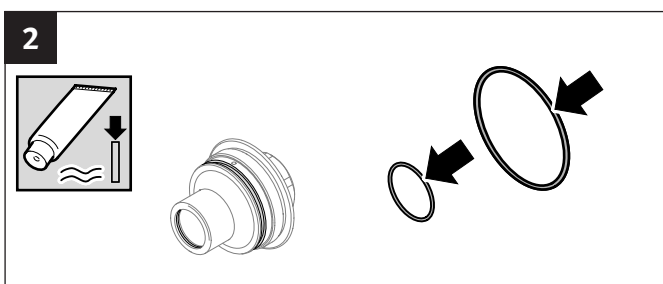
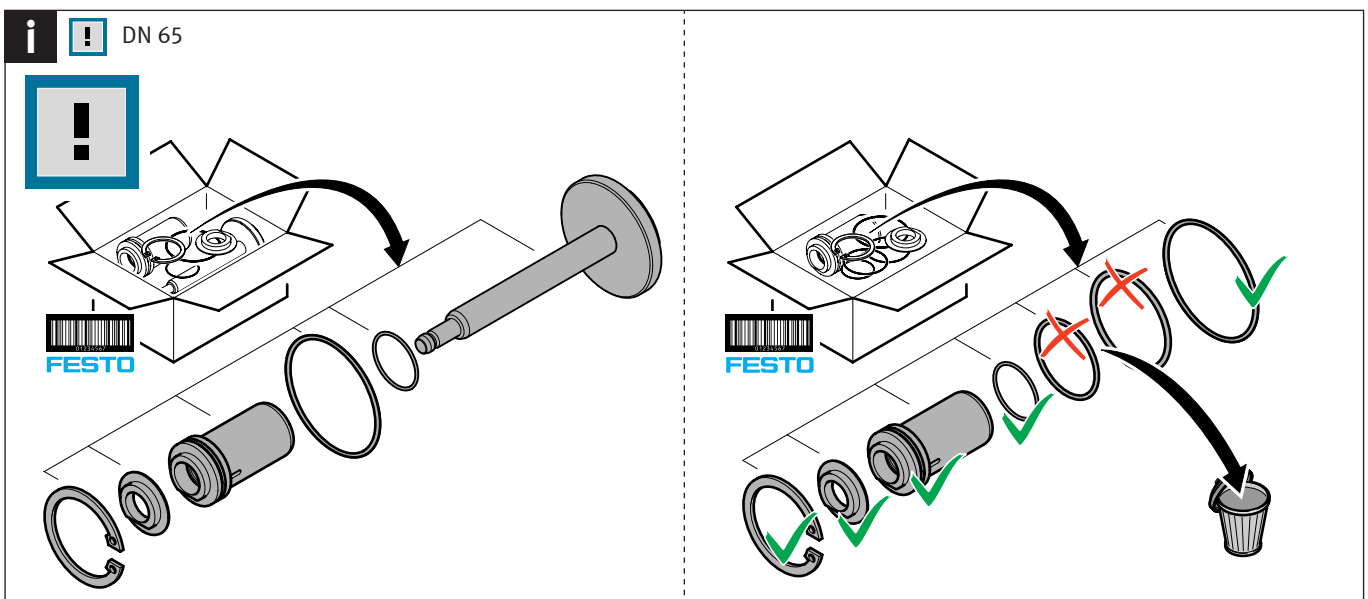
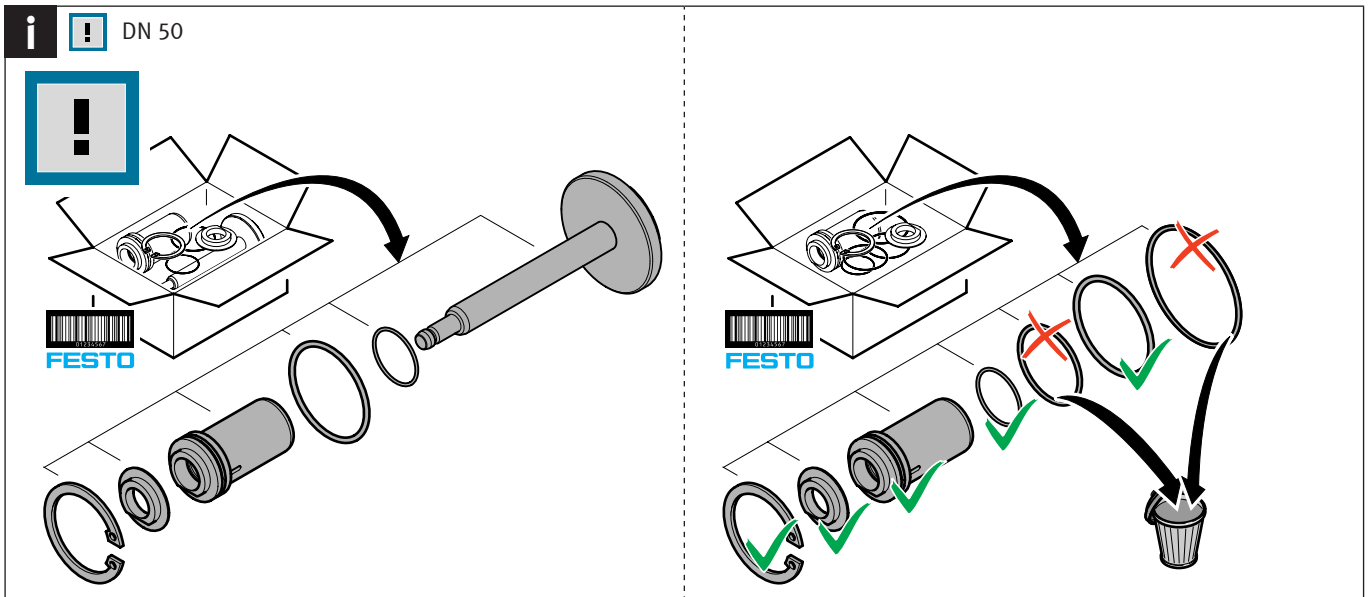


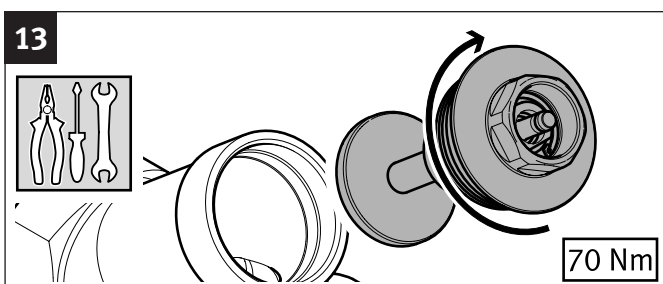
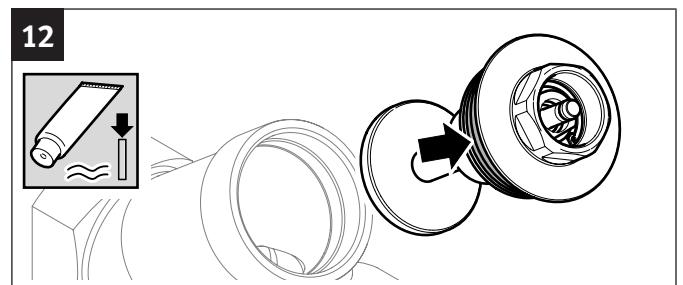
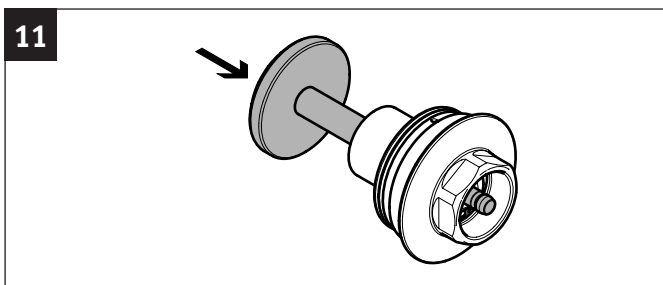
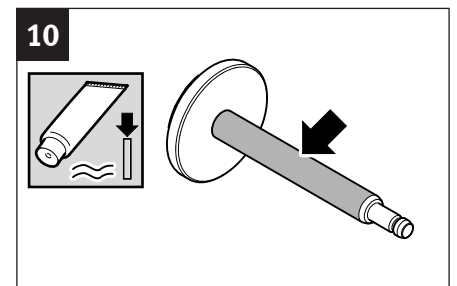
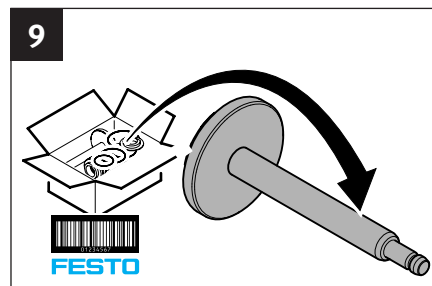
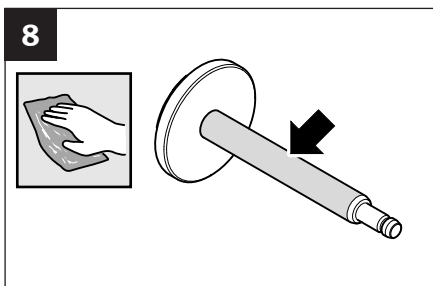
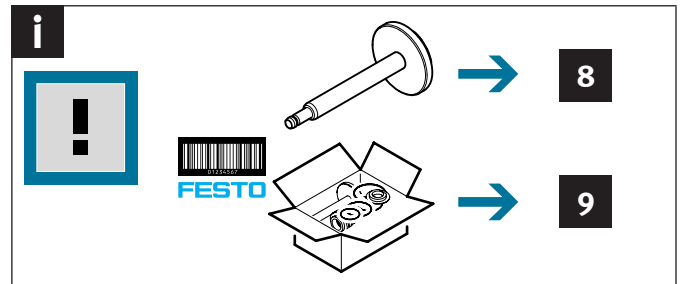
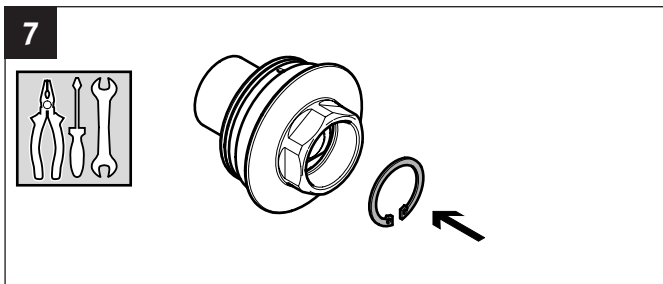
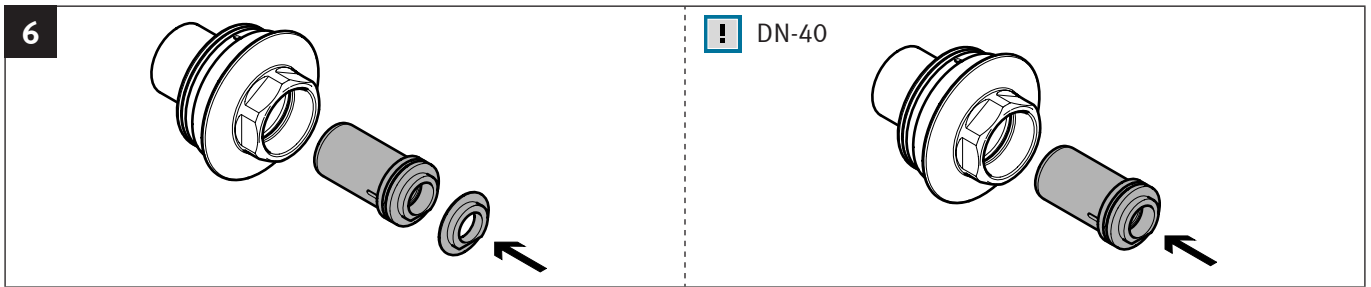




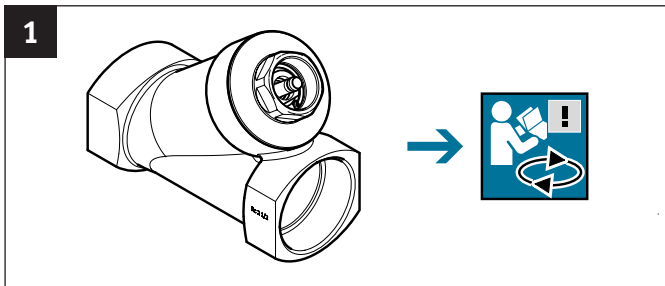
## 5.6 Installation of seal cartridge and spindle VZXA-40 / 50/ 65







## 6 Start-up



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#### 1. Scope of use

- a) The user of the electronic documentation is allowed to use this documentation for his own, exclusively company-internal purposes on any number of machines within his business premises (location). This right of use includes exclusively the right to save the electronic documentation on the central processors (machines) used at the location.
- b) The electronic documentation may be printed out on a printer at the location of the user as often as desired, providing this printout is printed with or kept in a safe place together with these conditions of use and other user instructions.
- c) With the exception of the Festo logo, the user has the right to use pictures and texts from the electronic documentation for creating his own machine and system documentation. The use of the Festo logo requires written consent from Festo. The user is responsible for ensuring that the pictures and texts used match the machine/system or the product.
- d) Further uses are permitted within the following framework:

Copying exclusively for use within the framework of machine and system documentation from electronic documents of all documented supplier components. Demonstrating to third parties exclusively under guarantee that no data material is stored wholly or partly in other networks or other data storage devices or can be reproduced there.

Passing on printouts to third parties not covered by the regulation in item 3, as well as any processing or other use are not permitted.

#### 2. Copyright note

Every “electronic document” receives a copyright note. This note must be included on every copy and every printout.

Example: E 2003, Festo AG & Co. KG, D-73726 Esslingen

### 3. Transferring the authorisation of use

The user can transfer the authorization of use in the scope of and with the limitations of the conditions in accordance with items 1 and 2 completely to a third party. The third party must be made explicitly aware of these conditions of use.

### II. Exporting the electronic documentation

When exporting the electronic documentation, the licence holder must observe the export regulations of the exporting country and those of the purchasing country.

### III. Warranty

1. Festo products are being continuously developed with regard to hardware and software. The hardware status and, where applicable, the software status of the product can be found on the name plate of the product. If the electronic documentation, in whatever form, is not supplied with the product, i.e. is not supplied on a data storage device (diskettes, CD ROM, removable disk) as a delivery unit with the relevant product, Festo does not guarantee that the electronic documentation corresponds to every hardware and software status of the product. In this case, the printed documentation from Festo accompanying the product alone is decisive for ensuring that the hardware and software status of the product matches that of the electronic documentation.
2. The information contained in this electronic documentation can be amended by Festo without prior notice and does not commit Festo in any way.

### IV. Liability/limitations on liability

1. Festo provides this electronic documentation in order to assist the user in creating his machine and system documentation. In the case that electronic documentation in the form of data storage devices (diskettes, CD ROM, removable disk) does not accompany a product, i.e. is not automatically supplied together with that product, Festo does not guarantee that the electronic documentation separately available/supplied matches the product actually used by the user.

The latter applies particularly to extracts of the documents for the user's own documentation. The guarantee and liability for separately available/supplied portable data storage devices, i.e. with the exception of electronic documentation provided on the Internet/intranet, are limited exclusively to proper duplication of the software, whereby Festo guarantees that in each case the relevant portable data

storage device or software contains the latest status of the documentation. In respect of the electronic documentation available on the Internet/Intranet, there is no guarantee that it will have the same version status as the last printed edition.

2. Furthermore, Festo cannot be held liable for the lack of economic success or for damage or claims by third parties resulting from the use of the documentation by the user, with the exception of claims arising from infringement of the protection rights of third parties concerning the use of the electronic documentation.

3. The limitations on liability as per paragraphs 1 and 2 do not apply if, in cases of intent or gross negligence or lack of warranted quality, a compulsory liability exists. In such a case, Festo's liability is limited to the damage discernable by Festo when the concrete circumstances are made known.

### V. Safety guidelines/documentation

Warranty and liability claims in conformity with the aforementioned regulations (points III. and IV) may be raised only if the user has observed the safety guidelines of the documentation in conjunction with the use of the machine and its safety guidelines. The user himself is responsible for ensuring that the electronic documentation, when not supplied with the product, matches the product actually used by the user.