

Installation Instructions

CAV01 kit, seal set

for the CAV01 flow assembly



Table of contents

1	Overview of spare part set	3
2	Intended use	3
3	Authorized installation personnel	3
4	Safety instructions	3
5	Symbols	4
6	Scope of delivery	5
7	Tool list	7
8	Replacing the O-rings	8
9	Disposal	19

1 Overview of spare part set

Order number	Original spare part kit
71613095	CAV01 kit, seal set

2 Intended use

The O-rings are used to seal the CAV01 flow assembly.

Only replace a defective O-ring with a new O-ring of the same type.

Use of the device for any purpose other than that described poses a threat to the safety of people and of the entire measuring system, and is therefore not permitted.

The manufacturer is not liable for damage caused by improper or unintended use.

3 Authorized installation personnel

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to perform the stated tasks.
- The electrical connection may only be established by an electrical technician.
- The technical personnel must have read and understood the Operating Instructions and must follow the instructions contained therein.
- Measuring point faults may be repaired only by authorized and specially trained personnel.



Repairs not described in the Operating Instructions provided must only be carried out directly at the manufacturer's site or by the service organization.

4 Safety instructions

- ▶ Pay attention to the following safety instructions.



Pay attention to Operating Instructions BA00459C (CAS51D) and BA02005C (CAS80E) of the measuring devices.

4.1 Workplace safety



Sensor UV light

The sensor's UV light can damage the eyes and skin!

- ▶ Never look into the measuring gap while the sensor is in operation.

As the user, you are responsible for complying with the following safety conditions:

- Installation specifications
- Local standards and regulations

4.2 Operational safety

Before commissioning the entire measuring point:

1. Verify that all connections are correct.
2. Ensure that electrical cables and hose connections are undamaged.
3. Do not operate damaged products, and protect them against unintentional operation.
4. Label damaged products as defective.

During operation:



- ▶ If faults cannot be rectified:
Take products out of service and protect them against unintentional operation.

4.3 Product safety

The product is designed to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate. The relevant regulations and international standards have been observed.








5 Symbols

5.1 Warnings

Structure of information	Meaning
 <p>Causes (/consequences) If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Corrective action 	<p>This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation will result in a fatal or serious injury.</p>
 <p>Causes (/consequences) If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Corrective action 	<p>This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation can result in a fatal or serious injury.</p>

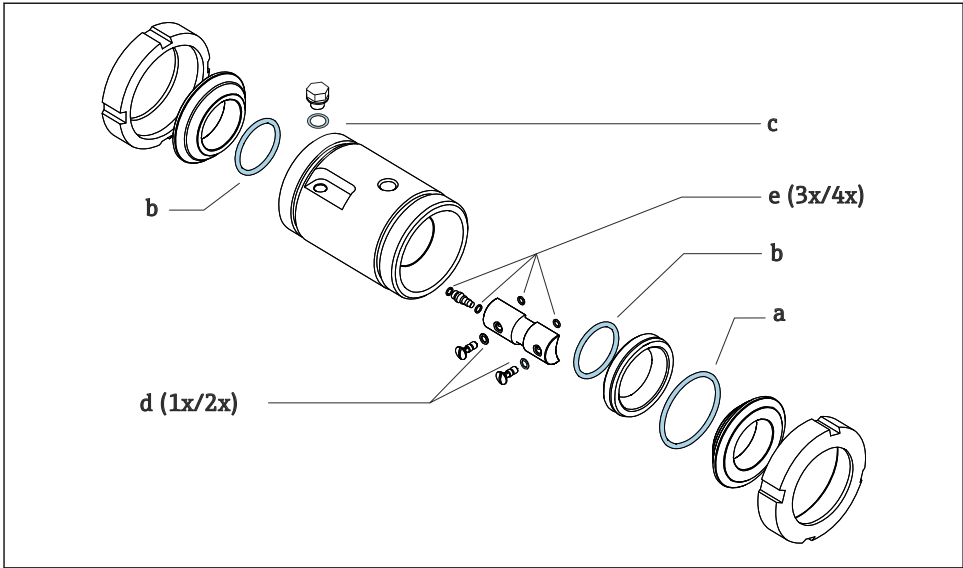
Structure of information	Meaning
<p>⚠ CAUTION</p> <p>Causes (/consequences) If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Corrective action 	<p>This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or more serious injuries.</p>
<p>NOTICE</p> <p>Cause/situation If necessary, Consequences of non-compliance (if applicable)</p> <ul style="list-style-type: none"> ▶ Action/note 	<p>This symbol alerts you to situations which may result in damage to property.</p>

5.2 Symbols used

-  Additional information, tips
-  Permitted or recommended
-  Not permitted or not recommended
-  Reference to device documentation
-  Reference to page
-  Reference to graphic
-  Result of a step

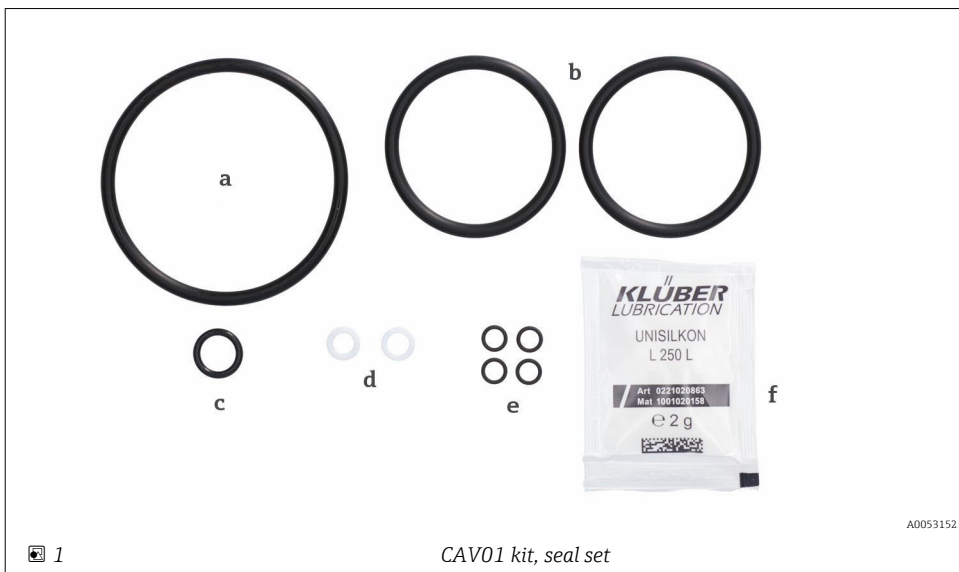
6 Scope of delivery

71613095 Kit, CAV01 seal set



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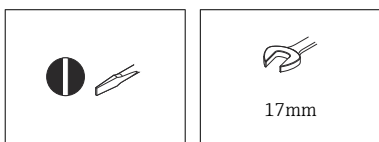
Position	Description	Quantity	Base unit
a	O-ring ID 53.57 W3.53 AD 60.63 EPDM	1	piece
b	O-ring ID 37.69 W 3.53 AD 44.75 EPDM	2	piece
c	O-ring ID 8.73 W 1.78 AD 12.29 EPDM	1	piece
d	PTFE ring ID 5.3 W 0.8 AD 8.0	2	piece
e	O-ring ID 4.5 W 1 OD 6.5 EPDM	4	piece
f	Silicone grease, medium-viscosity 2 g (0.07 oz)	1	piece
	instructions for service kit	1	piece



i Information on the components:

- c: Only used in the CAV01-AA**1* variant (no cleaning)
- d: Depending on variant, 1 or 2 pieces required (1 piece for CAV01-AA*A/B/C*, 2 pieces for CAV01-AA*D/E*)
- e: Depending on variant, 3 or 4 pieces required (3 pieces for CAV01-AA*A/B/C*, 4 pieces for CAV01-AA*D/E*)

7 Tool list



8 Replacing the O-rings

8.1 Preparation

⚠ WARNING

Risk of injury if medium or cleaner escapes!

- ▶ Before each maintenance task, ensure that the process pipe is unpressurized, empty and rinsed.
- ▶ Switch off the cleaning unit before removing the sensor from the medium.

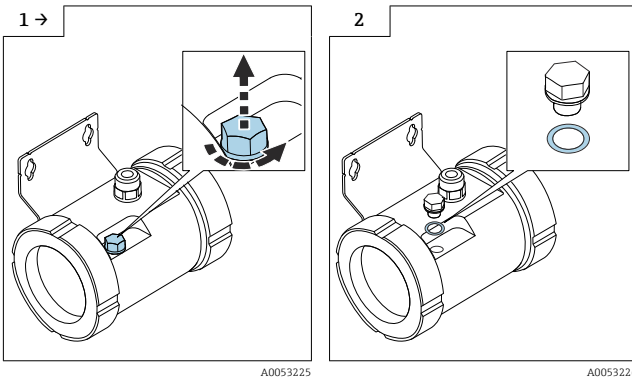
⚠ CAUTION

Residual medium and high temperatures

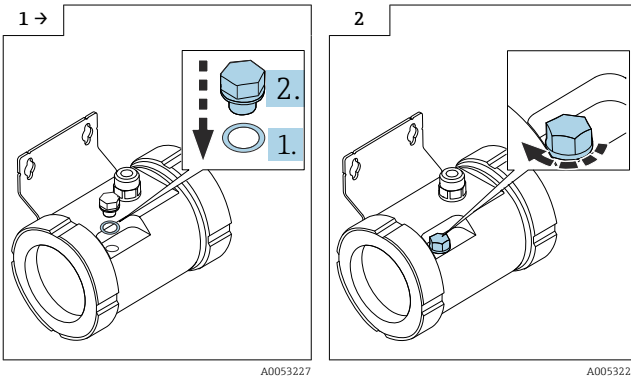
Risk of injury!

- ▶ When working with parts that are in contact with the medium, protect against residual medium and elevated temperatures.
- ▶ Wear protective goggles and safety gloves.

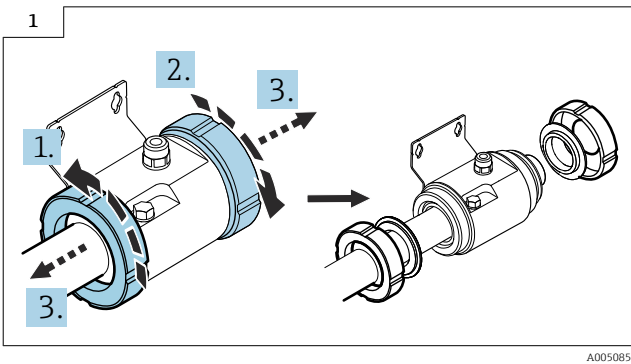
8.2 Replacing the O-ring on the drain plug



- Replace the used O-ring with the new O-ring.



8.3 Replacing the O-rings on the flow assembly with CAS51D sensor

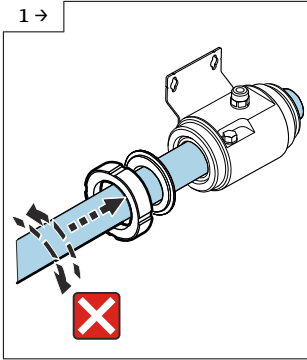


NOTICE

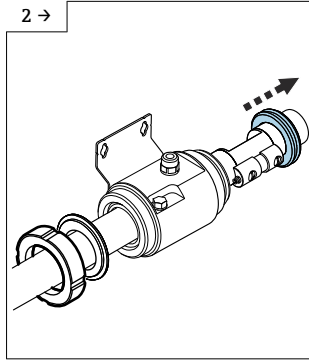
Do not turn the sensor in the flow cell.

The sensor tube is unscrewed and liquid enters the sensor.

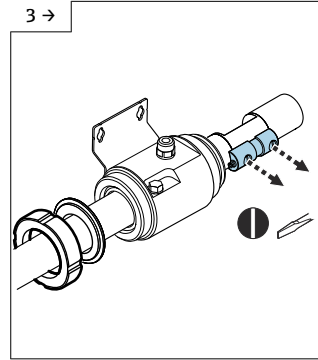
- ▶ Only pull or push the sensor in the flow cell.



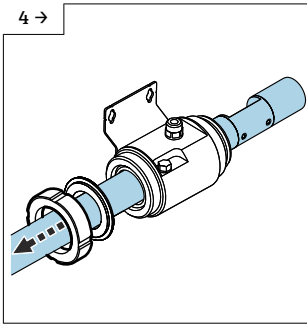
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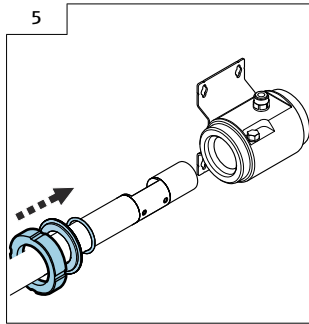
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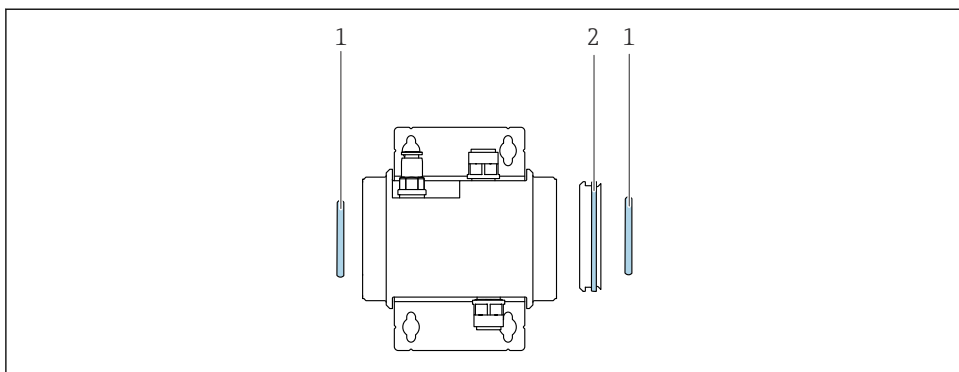


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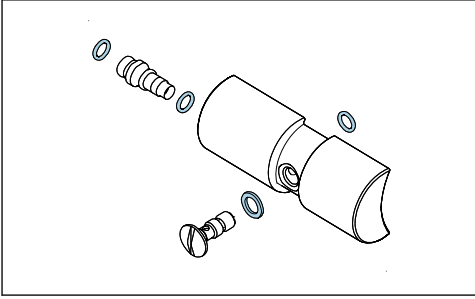
1. Replace the used O-rings with new O-rings.
2. Wet the O-rings with water or grease them before use.
 - ↳ The O-rings slide more easily over the sensor and do not twist.
3. Make sure that optical windows do not come into contact with grease.



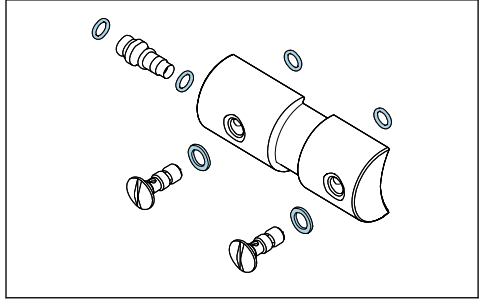
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▣ 2 Arrangement of the O-rings on the assembly with CAS51D

- 1 O-ring
- 2 O-ring on lock ring



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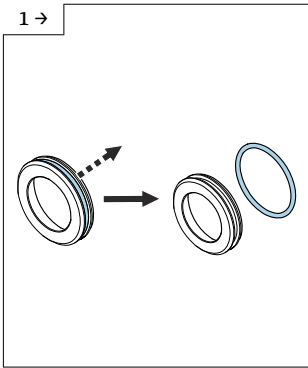


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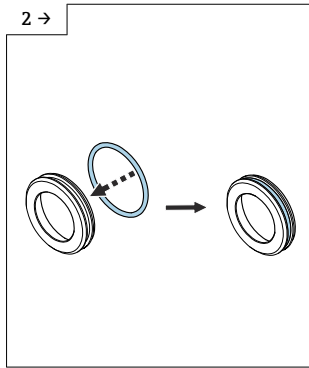
3 O-rings on air distributor with one mounting hole

4 O-rings on air distributor with 2 mounting holes

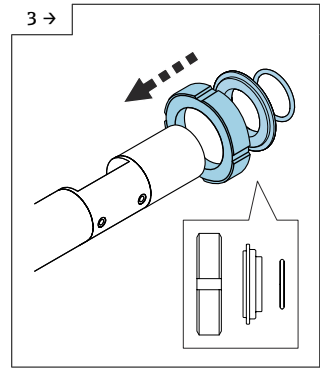
i The air distributor for the sensors with a gap width of 40 mm (1.57 in) or 50 mm (1.97 in) has 2 mounting holes, each with an O-ring. It is recommended to replace the O-rings annually.



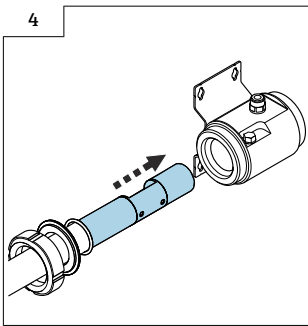
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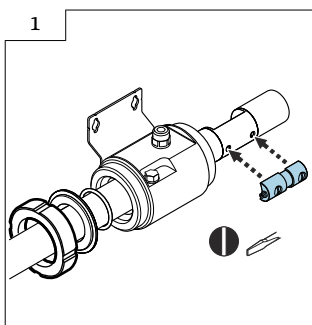


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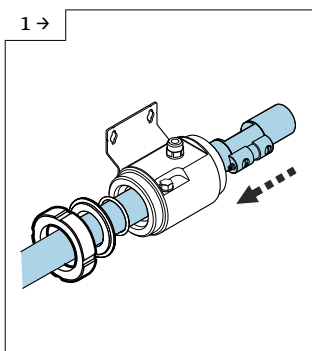
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- ▶ Check whether the O-ring is located between the air distributor and banjo bolt.

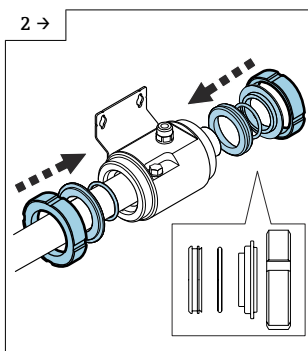


A0050842

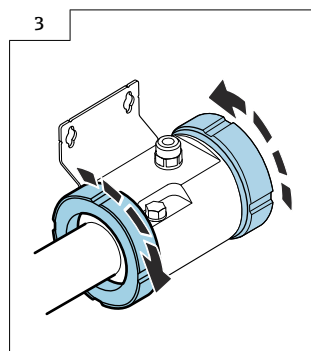
- ▶ Pull the sensor into the mounted flow vessel until the air distributor engages in the flow vessel.



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⚠ WARNING

Risk of injury if medium escapes!

- ▶ Before applying pressure to the assembly, ensure that the medium is correctly connected.
- ▶ If the medium connection is not correct, do not introduce the assembly into the process.
- ▶ Before commissioning, check the chemical compatibility of materials, the temperature range and the pressure range.

The flow assembly is optionally fitted with a cleaning connection.

NOTICE

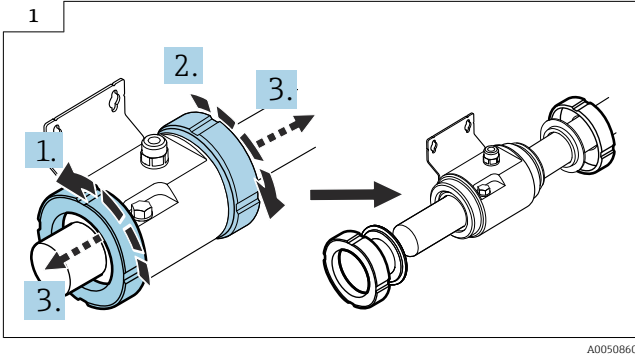
Process pressure too high for compressed air cleaning

- ▶ Maximum process pressure for compressed air cleaning 10 bar (145 psi)

Connect the compressed air hose:

- ▶ Connect a compressed air hose (outer diameter 6 mm (0.24 in)) to the cleaning connection with the enclosed adapter (G1/4", 6 mm (0.24 in)).

8.4 Replacing the O-rings on the flow assembly with CAS80E sensor

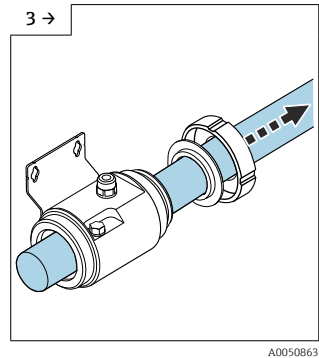
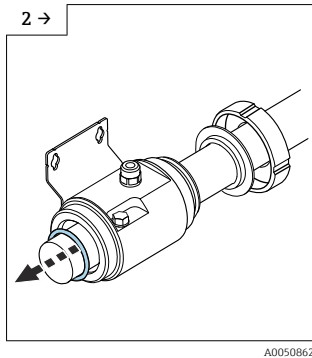
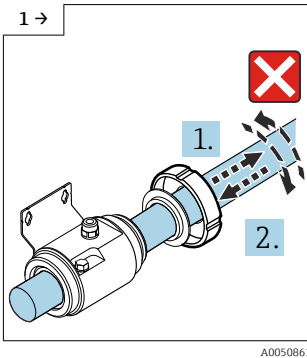


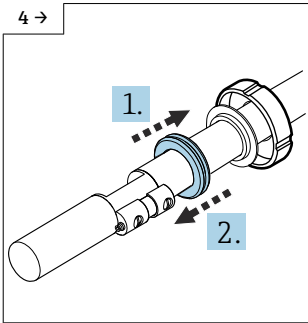
NOTICE

Do not turn the sensor in the flow cell.

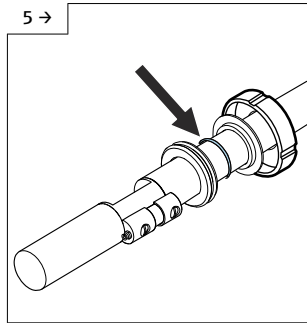
The sensor tube is unscrewed and liquid enters the sensor.

- ▶ Only pull or push the sensor in the flow cell.

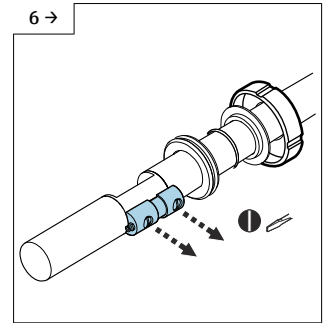




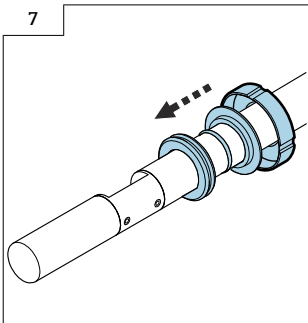
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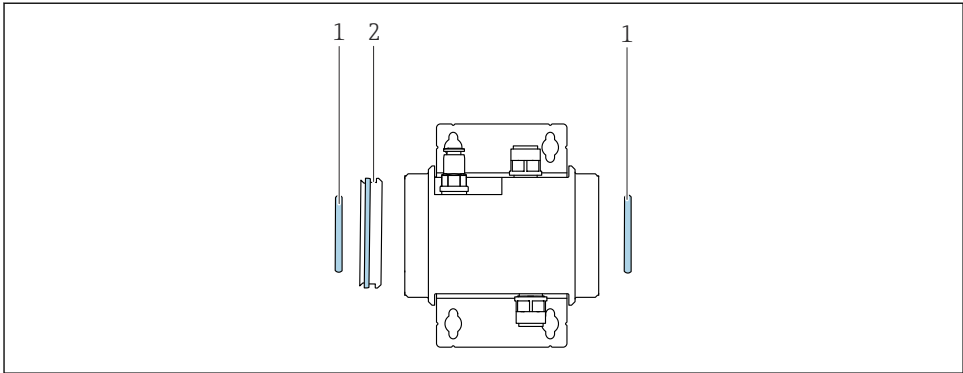


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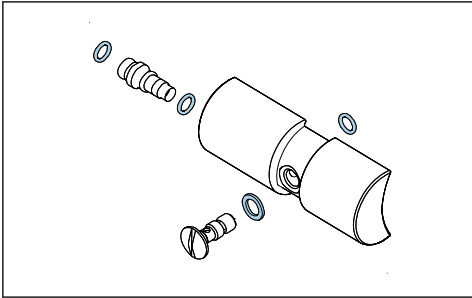
1. Replace the used O-rings with new O-rings.
2. Wet the O-rings with water or grease them before use.
 - ↳ The O-rings slide more easily over the sensor and do not twist.
3. Make sure that optical windows do not come into contact with grease.



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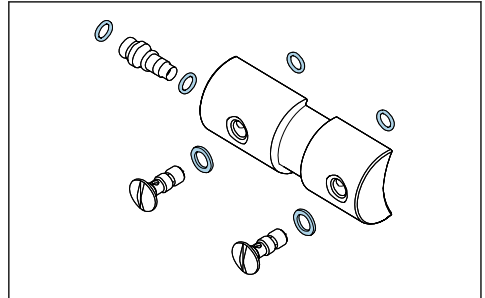
5 Arrangement of the O-rings on the assembly with CAS80E

- 1 O-ring
- 2 O-ring on lock ring



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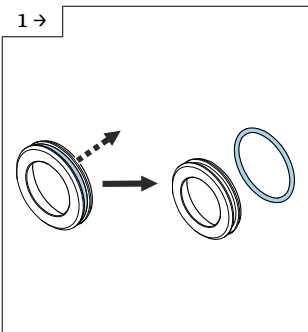
6 O-rings on air distributor with one mounting hole



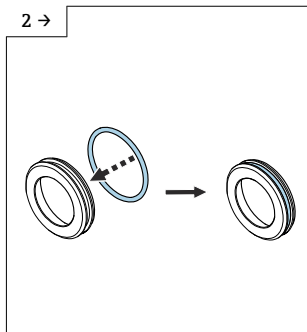
A0053158

7 O-rings on air distributor with 2 mounting holes

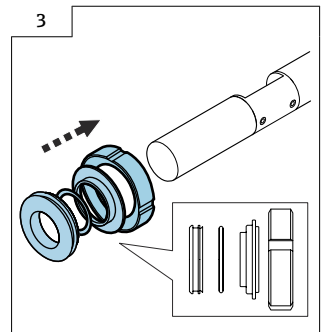
i The air distributor for the sensors with a gap width of 40 mm (1.57 in) or 50 mm (1.97 in) has 2 mounting holes, each with an O-ring. It is recommended to replace the O-rings annually.



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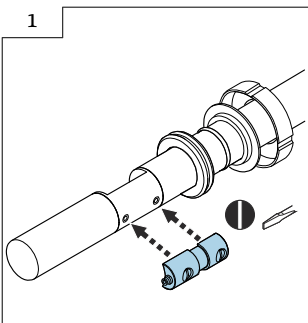


A0047585



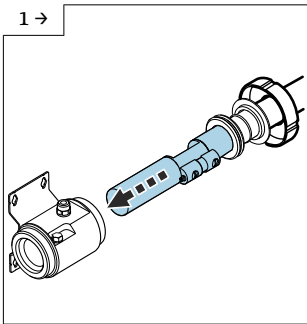
A0050847

► Check whether the O-ring is located between the air distributor and banjo bolt.

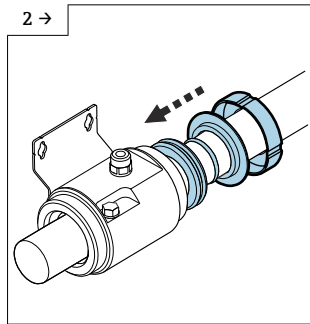


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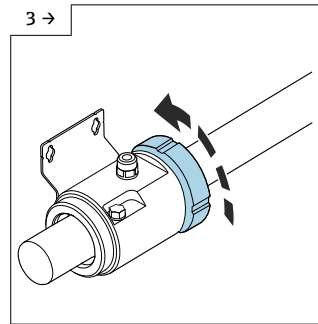
- ▶ Push the sensor into the mounted flow vessel until the air distributor engages in the flow vessel.



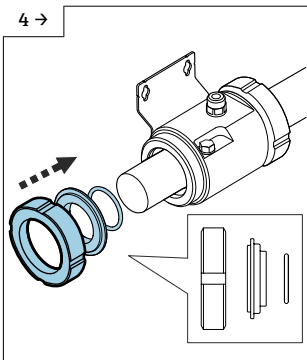
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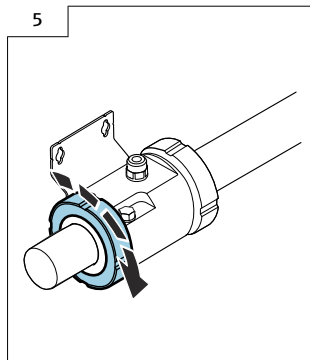
A0050850



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A0050852



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⚠ WARNING

Risk of injury if medium escapes!

- ▶ Before applying pressure to the assembly, ensure that the medium is correctly connected.
- ▶ If the medium connection is not correct, do not introduce the assembly into the process.
- ▶ Before commissioning, check the chemical compatibility of materials, the temperature range and the pressure range.

The flow assembly is optionally fitted with a cleaning connection.

NOTICE

Process pressure too high for compressed air cleaning

- ▶ Maximum process pressure for compressed air cleaning 10 bar (145 psi)

Connect the compressed air hose:

- ▶ Connect a compressed air hose (outer diameter 6 mm (0.24 in)) to the cleaning connection with the enclosed adapter (G1/4", 6 mm (0.24 in)).

9 Disposal

- ▶ Observe the local regulations.



If required by the Directive 2012/19/EU on waste electrical and electronic equipment (WEEE), the product is marked with the depicted symbol in order to minimize the disposal of WEEE as unsorted municipal waste. Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to Endress+Hauser for disposal under the applicable conditions.



71623733

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