

GEMÜ C12A

Electrical position indicator

EN

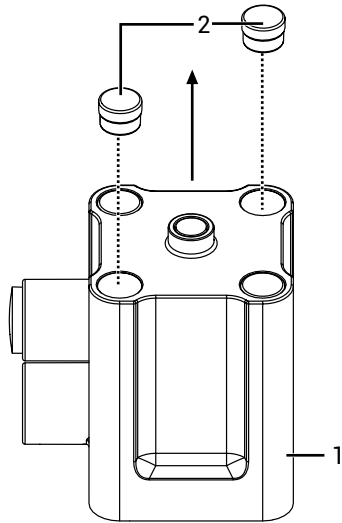
Assembly instructions



1 Assembly and installation

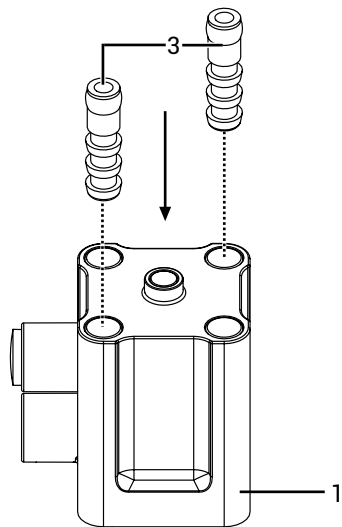
1.1 Actuator size 0

1



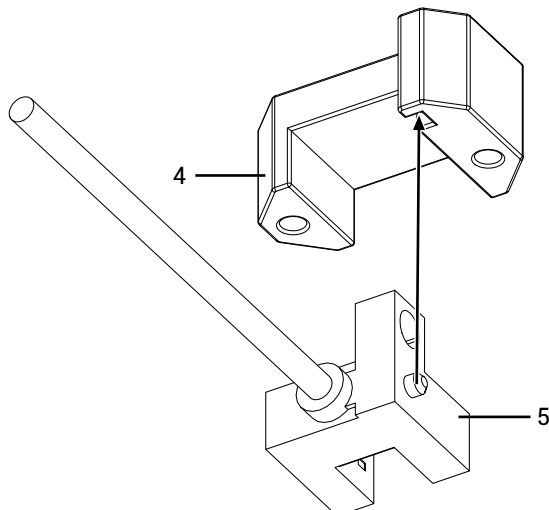
- Pierce two protective caps 2 diagonally opposite to one another using an appropriate tool, carefully pry them upwards out of actuator 1 and dispose of them.

2



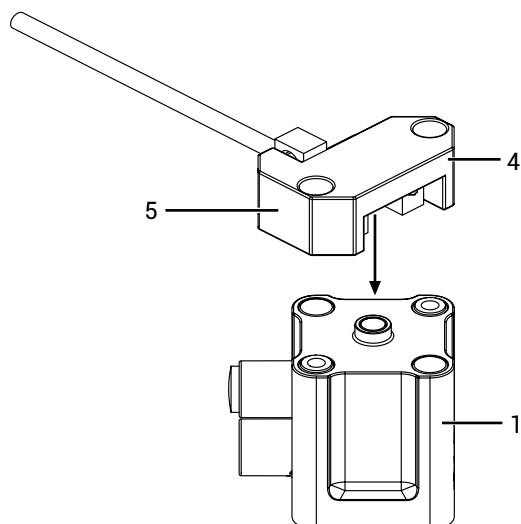
- Insert bushings 3 into the holes in actuator 1 and press them in so that they are flush.

3



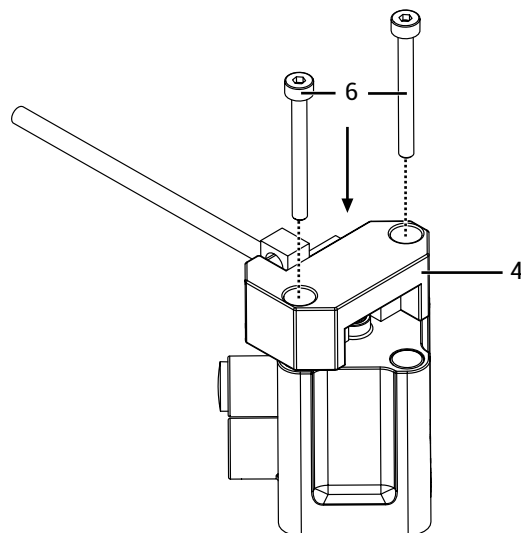
- Insert sensor pin 5 in the groove of fixing piece 4.

4



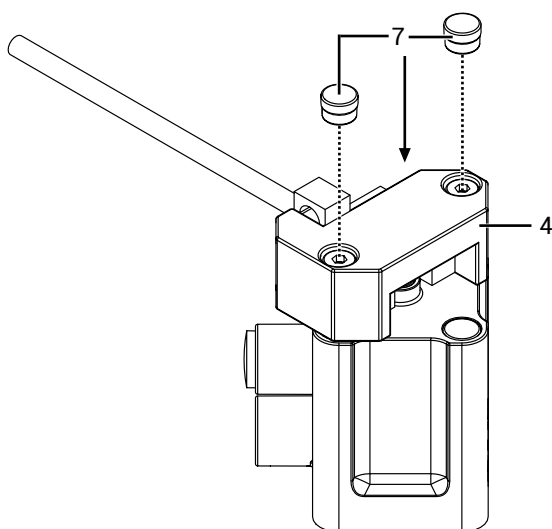
- Place fixing piece **4** together with sensor **5** onto actuator **1**.

5



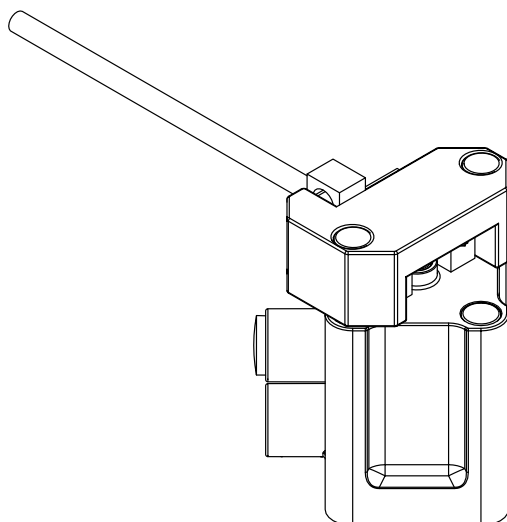
- Push screws **6** in through fixing piece **4**, screw into the bushings and tighten to 0.15–0.25 Nm (wrench size: 1.5).
- ⇒ Fixing piece **4** must be flush with and securely screwed into the actuator.

6

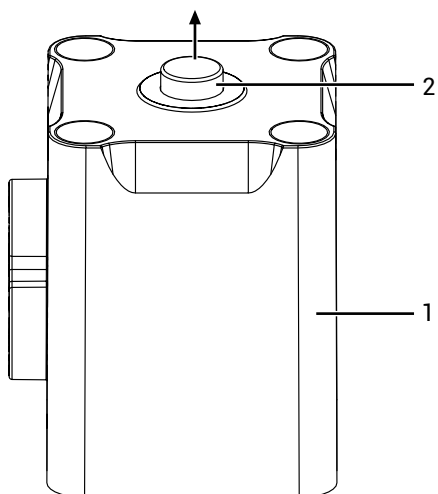


- Press protective caps **7** into fixing piece **4**.

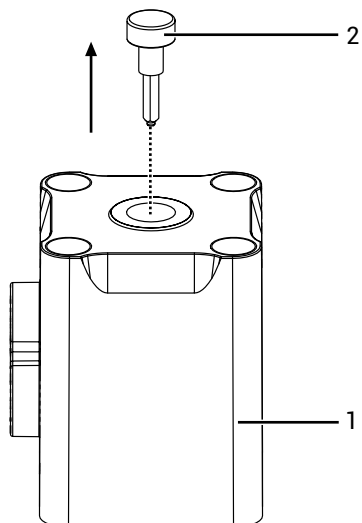
7



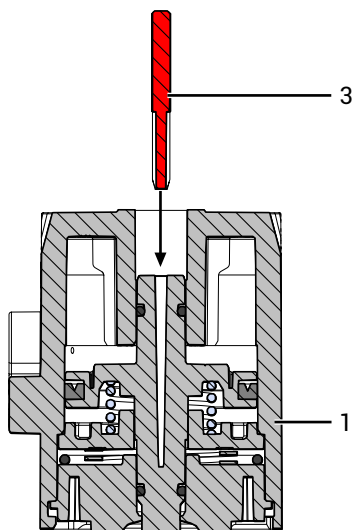
- Make the electrical connection (see chapter "Electrical connection").

1.2 Actuator size 1 and 2**1**

- Move actuator **1** into the OPEN position (indicator spindle **2** extends).

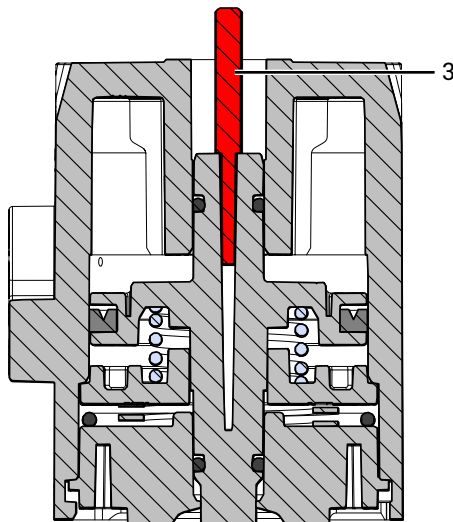
2

- Remove indicator spindle **2** from actuator **1** using an appropriate tool.

3

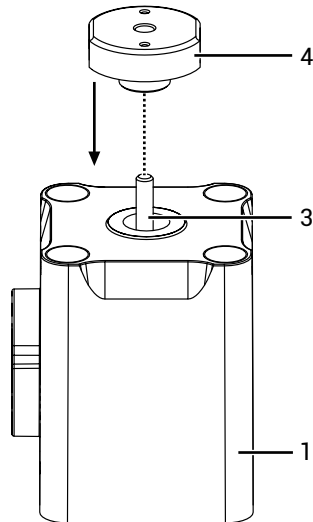
- Press the new indicator spindle **3** enclosed into actuator **1** as far as it will go.

4



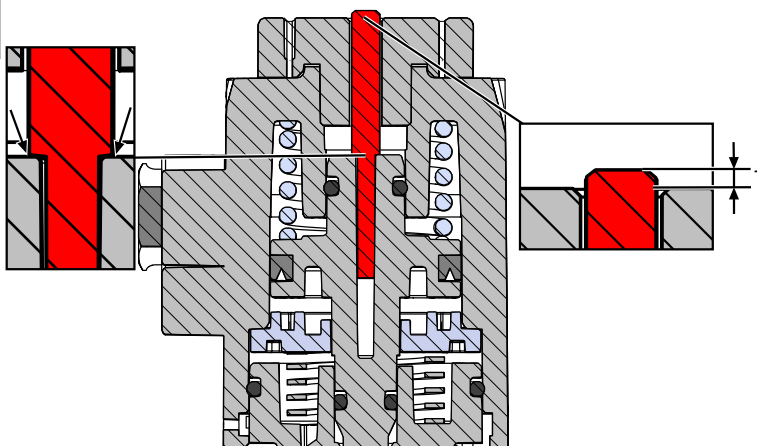
- New indicator spindle **3** enclosed is fitted.

5



- Screw adapter **4** into actuator **1** using indicator spindle **3** and tighten.
 - ⇒ Tightening torque 1 - 2 Nm.
 - ⇒ After tightening to the tightening torque, the adapter can be turned clockwise by no more than 180° in order to align the electrical position indicator.

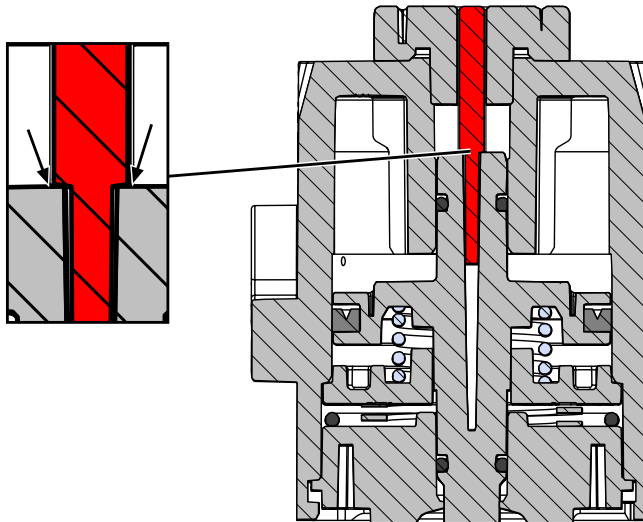
6



Control function 1, actuator size 1

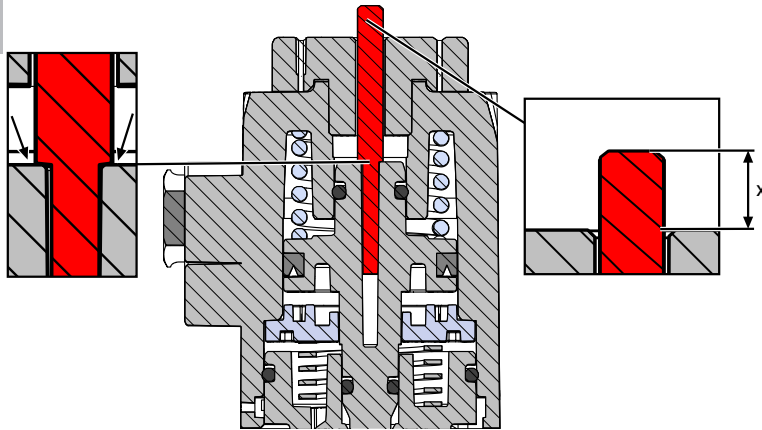
- Check the installation parameters (see magnifiers):
 - ⇒ Indicator spindle is in contact with piston.
 - ⇒ Indicator spindle extends **1 mm** (+ 0.5 mm tolerance) out of adapter.

7

**Control function 1, actuator size 2**

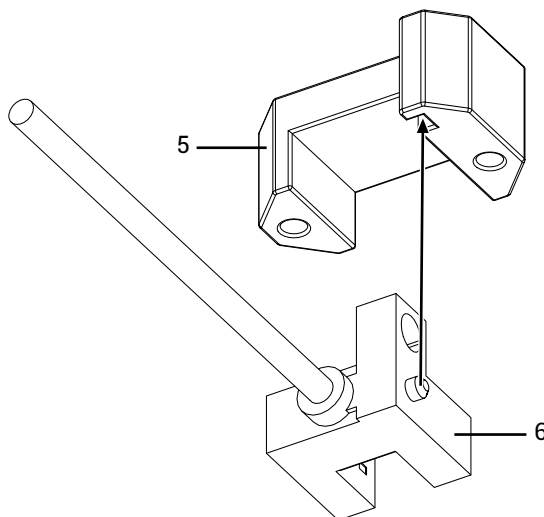
- Check the installation parameters (see magnifier):
 - ⇒ Indicator spindle is in contact with piston.
 - ⇒ Indicator spindle flush with adapter.

8

**Control function 2, actuator size 1 and actuator size 2**

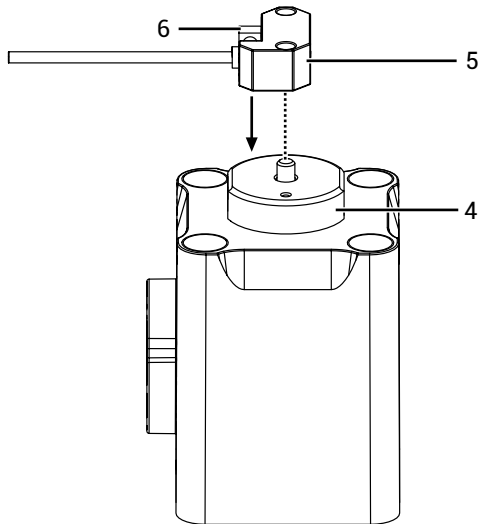
- Check the installation parameters (see magnifiers):
 - ⇒ Indicator spindle is in contact with piston.
 - ⇒ **Actuator size 1:** Indicator spindle extends $x = 3.4 \text{ mm}$ (+ 0.5 mm tolerance) out of the adapter.
 - ⇒ **Actuator size 2:** Indicator spindle extends $x = 4 \text{ mm}$ (+ 0.5 mm tolerance) out of the adapter.

9



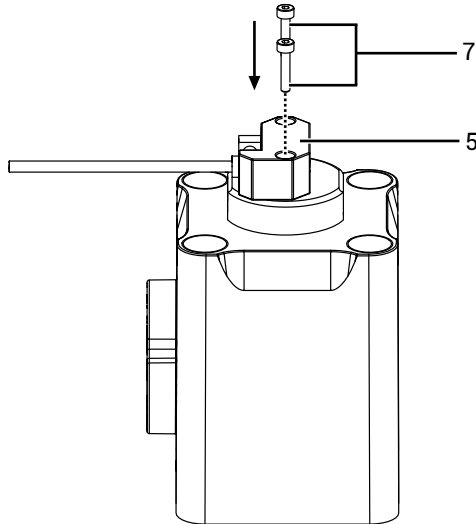
- Insert sensor pin 6 in the groove of fixing piece 5

10



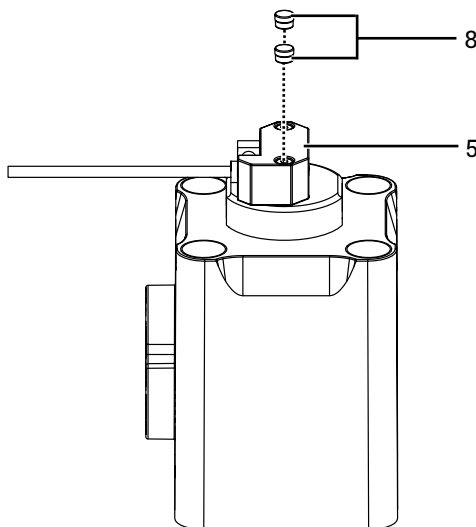
- Place fixing piece 5 together with sensor 6 on adapter 4.

11



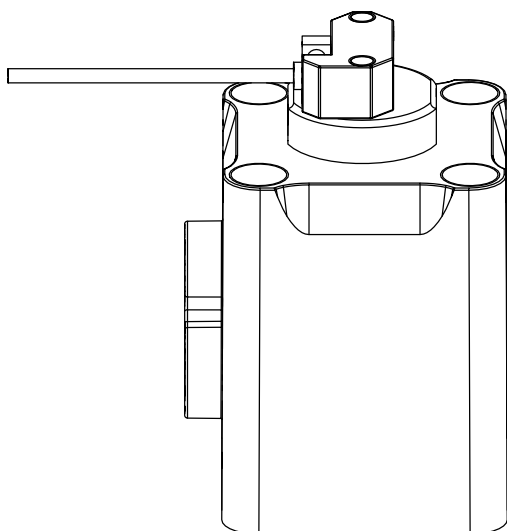
- Push screws 7 into fixing piece 5 and tighten to 0.2 Nm (wrench size: 1.5).

12



- Press protective caps 8 into fixing piece 5.

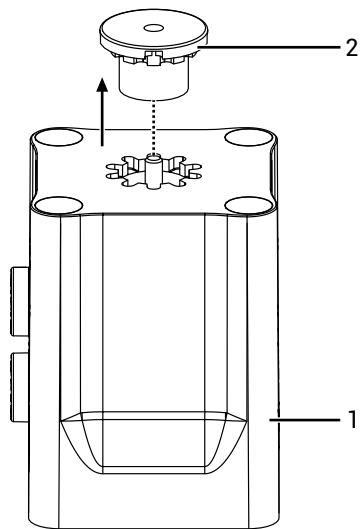
13



- Make the electrical connection (see chapter "Electrical connection").

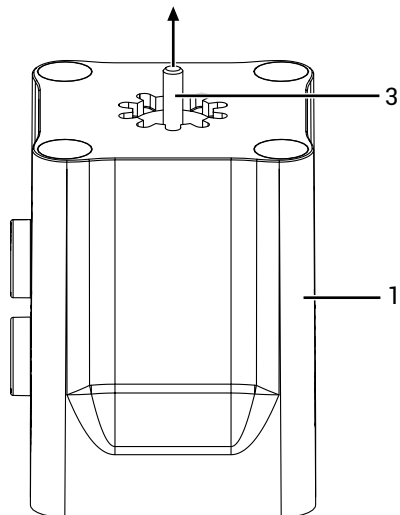
1.3 Actuator size 3 and 4

1



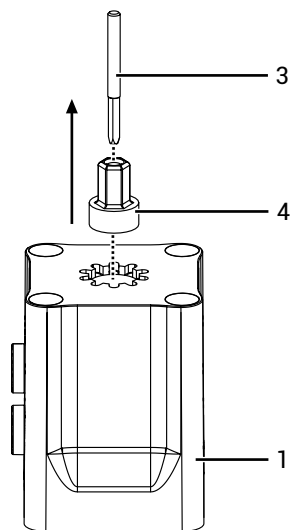
- Carefully remove protective cap 2 from actuator 1 using an appropriate tool.

2



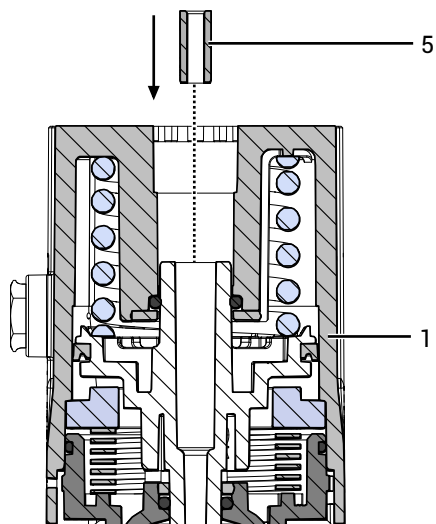
- Move actuator 1 into the OPEN position (indicator spindle 3 extends).

3



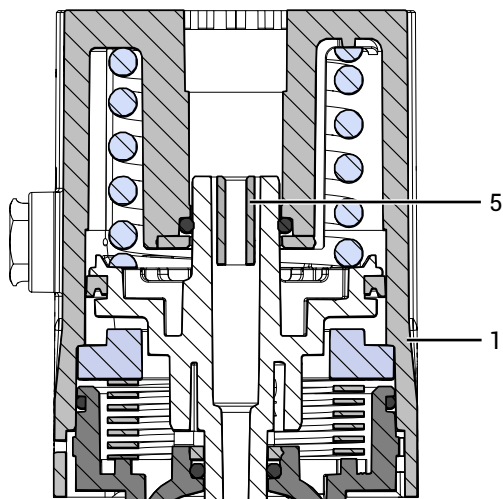
- Remove indicator spindle 3 and stroke limiter 4 from actuator 1 using an appropriate tool.

4



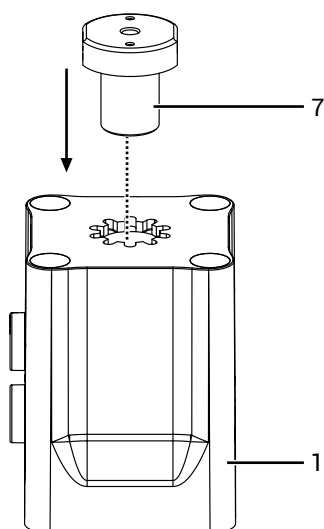
- Using an appropriate tool, knock bushing **5** into the piston so that it is flush.

5



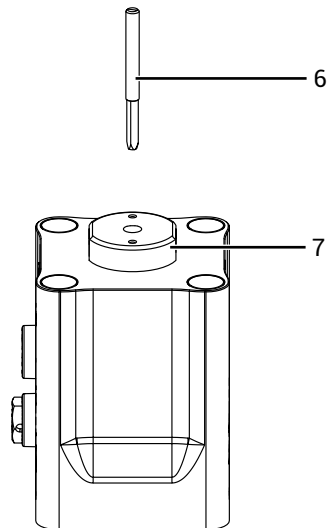
- Bushing **5** is installed flush in the piston of actuator **1**.

6



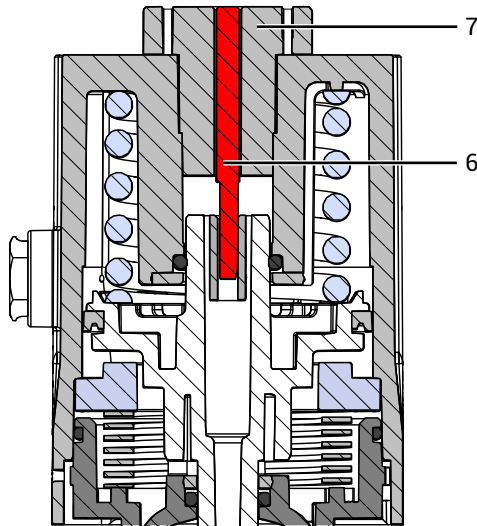
- Screw adapter **7** to actuator **1**.
 - ⇒ Tightening torque 1 - 2 Nm.
 - ⇒ After tightening to the tightening torque, the adapter can be turned clockwise by no more than 180° in order to align the electrical position indicator.

7



- Position indicator spindle 6 in bushing 5 by pushing it through adapter 7.
- ⇒ Depending on the control function, pay attention to work steps 8 and 9.

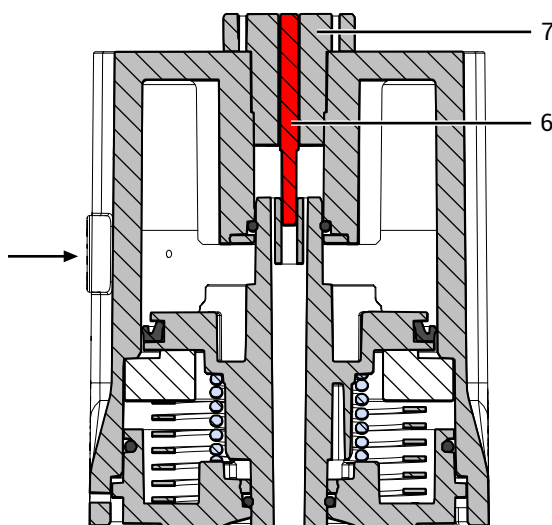
8



Control function 1, actuator size 3 and actuator size 4

- Knock indicator spindle 6 into adapter 7 so that it is flush.

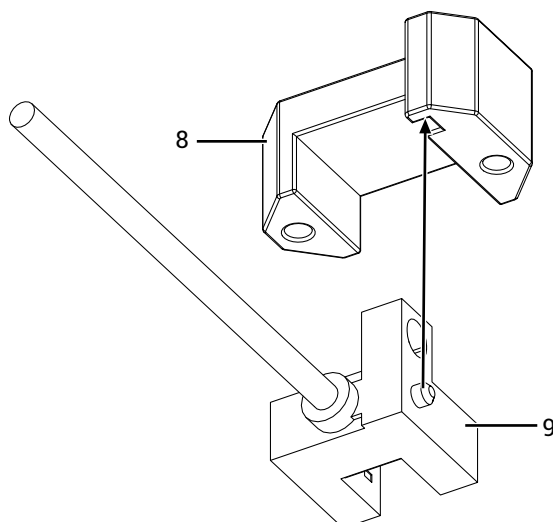
9



Control function 2, actuator size 3 and actuator size 4

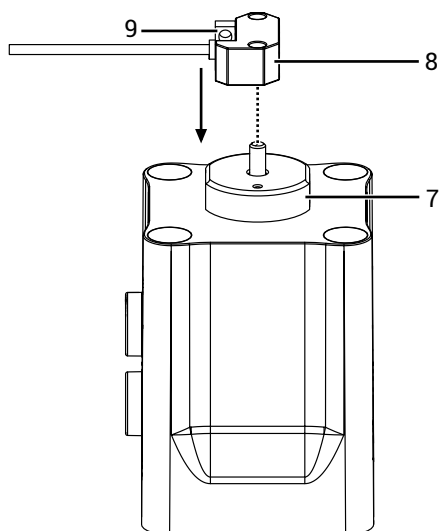
1. Operate actuator.
 2. Knock the indicator spindle into the adapter so that it is flush.
- ⇒ Allow the actuator to be operated until the fixing piece and the sensor are fitted and screwed tight.

10



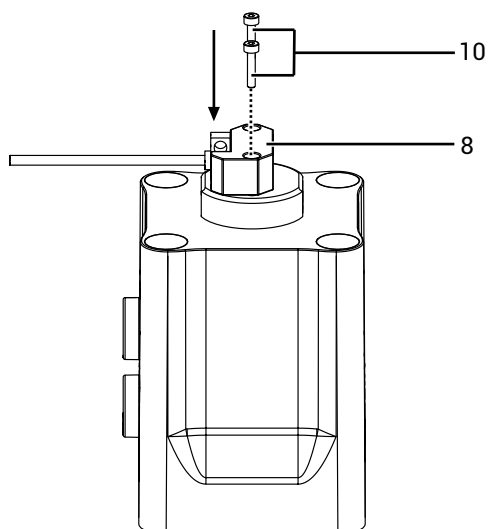
- Insert the lug of sensor **9** into the groove of fixing piece **8**.

11



- Place fixing piece **8** together with sensor **9** on adapter **7**.

12



- Push screws **10** into fixing piece **8** and tighten to 0.2 Nm (wrench size: 1.5).

13

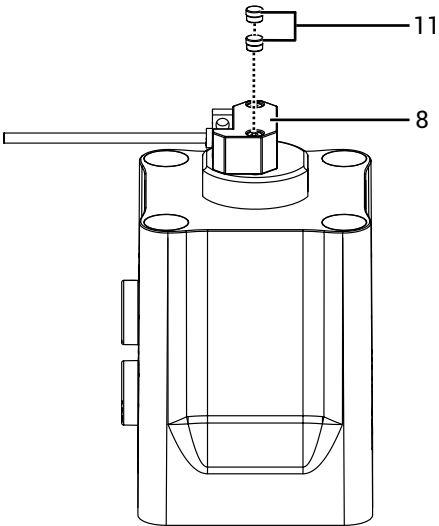


Diagram 13 shows a top-down view of the valve's actuator assembly. A horizontal line represents the cable entering the valve. A central vertical assembly consists of a base (8) and a protective cap (11) being pressed into it. The cap has a small circular feature on top. The base has a small rectangular feature on its side.

- Press protective caps **11** into fixing piece **8**.

14

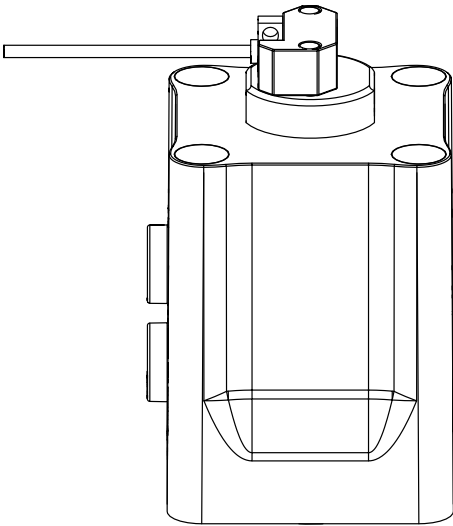
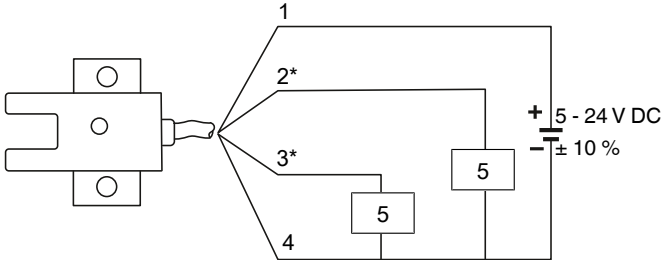


Diagram 14 shows the same top-down view of the valve's actuator assembly as in diagram 13, but with the protective cap (11) now fully seated on the base (8). The cable is still connected to the base.

- Make the electrical connection (see chapter "Electrical connection").

2 Electrical connection

2.1 PNP



The wiring diagram shows a 5-pin connector on the left. The pins are labeled 1, 2*, 3*, 4, and 5. Pin 1 is connected to a brown wire. Pin 2* is connected to a black wire. Pin 3* is connected to a white wire. Pin 4 is connected to a blue wire. Pin 5 is connected to a load. The load is represented by a rectangle with a diagonal line through it. The load is connected to a DC power source labeled + 5 - 24 V DC and - ± 10 %.

Number	Color
1	Brown
2	Black*
3	White*
4	Blue
5	Load

*Please isolate any unused cables

	Colour	Output
Output 1	Black	Light ON
Output 2	White	Dark ON

NPN version on request