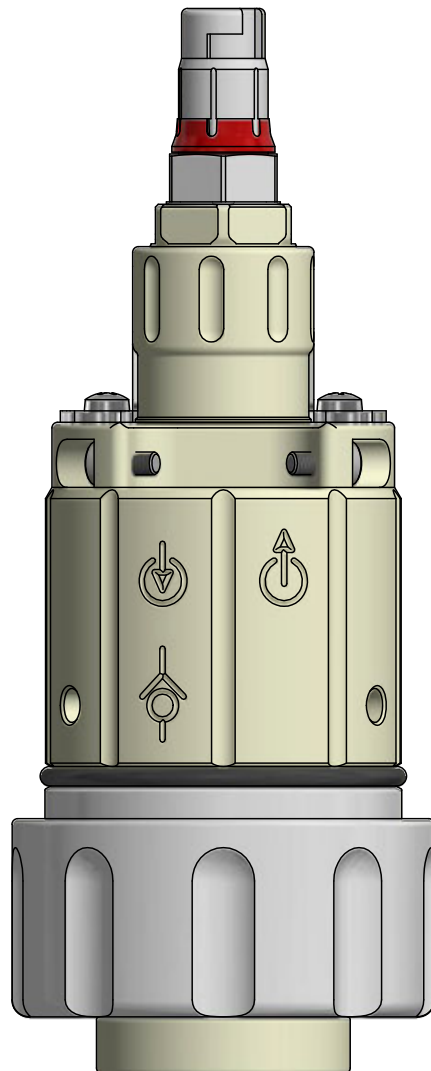


Supplementary
Documentation

ARD75

Sensor adapter with lock-gate
function



Read before installation.
Keep for future use.

www.knick.de



Supplemental Directives

READ AND SAVE THIS DOCUMENT FOR FUTURE REFERENCE. BEFORE ATTEMPTING TO ASSEMBLE, INSTALL, OPERATE OR MAINTAIN THE PRODUCT, PLEASE ENSURE A COMPLETE UNDERSTANDING OF THE INSTRUCTIONS AND RISKS DESCRIBED HEREIN. ALWAYS OBSERVE ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH INSTRUCTIONS IN THIS DOCUMENT COULD RESULT IN SERIOUS INJURY AND/OR PROPERTY DAMAGE. THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.



These supplemental directives explain how safety information is laid out in this document and what content it covers.

Safety Chapter

This document's safety chapter is designed to give the reader a basic understanding of safety. It illustrates general hazards and gives strategies on how to avoid them.

Warnings

This document uses the following warnings to indicate hazardous situations:

Symbol	Category	Meaning	Remark
	WARNING	Designates a situation that can lead to death or serious (irreversible) injury.	The warnings contain information on how to avoid the hazard.
	CAUTION	Designates a situation that can lead to slight or moderate (reversible) injury.	
<i>None</i>	NOTICE	Designates a situation that can lead to property or environmental damage.	

Symbols Used in this Document

Symbol	Meaning
→	Reference to additional information
✓	Interim or final result in instructions for action
▶	Sequence of figures attached to an instruction for action
①	Item number in a figure
(1)	Item number in text

Table of Contents

1 Safety	4
1.1 Intended Use.....	4
1.2 Residual Risks.....	4
1.3 Hazardous Substances.....	5
2 Product	6
2.1 Package Contents.....	6
2.2 Sensor Adapter Design and Function	6
2.3 Symbols and Markings	7
2.4 Limit Positions	8
3 Installation	9
3.1 Inlet and Outlet Hose: Installation.....	9
3.2 Drive Medium: Installation.....	11
4 Commissioning	13
5 Operation	14
5.1 Moving into the Service and Process Position	14
5.2 Installing and Removing the Sensor Adapter	15
5.3 Installing and Removing Sensors	17
5.4 Cleaning and Rinsing the Sensor.....	19
6 Maintenance	20
6.1 Inspection and Maintenance	20
6.1.1 Inspection and Maintenance Intervals.....	20
6.2 Corrective Maintenance.....	21
6.2.1 Corrective Maintenance Safety Instructions	21
6.2.2 Removing and Installing the Rinsing Chamber	21
6.2.3 Removing and Installing the Immersion Tube	23
6.2.4 Replacing the O-Rings.....	25
7 Troubleshooting	27
8 Removal from Operation	28
8.1 Sensor Adapter: Removal	28
8.2 Returns	28
8.3 Disposal.....	28
9 Accessories	29
9.1 Check Valve RV/01	29
9.2 Accessories.....	29
10 Dimension Drawings	30
11 Specifications	31
Appendices	32
Index	34

1 Safety

This document contains important instructions for the use of the product. Always follow all instructions and operate the product with caution. If you have any questions, please contact Knick Elektronische Messgeräte GmbH & Co. KG (sometimes hereafter referred to as "Knick") using the information provided on the back page of this document.

Also follow the Safety Instructions provided in the User Manual for the ARD75 immersion fitting.

1.1 Intended Use

The sensor adapter with lock-gate function is intended for installation in the ARD75 immersion fitting. The sensor is immersed in the process medium by the sensor adapter. The sensor adapter with lock-gate function is powered pneumatically or water-hydraulically.

In the service position, the sensor can be rinsed or cleaned under process conditions.

If the product is used with any product or part not authorized by Knick, the operating company assumes all risks and liabilities related thereto.

The sensor adapter with lock-gate function is suitable for use with the following sensor types:

Solid-electrolyte sensors	Body diameter 12 mm, body length 120 mm, sensor head thread PG 13.5
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For further information, refer to the applicable documentation of the sensor manufacturer.

The defined operating conditions must be observed when using this product. → *Specifications, p. 31*

All designations such as "device" or "product" refer to the sensor adapter.

1.2 Residual Risks

The product has been developed and manufactured in accordance with generally accepted safety rules and regulations, as well as an internal risk assessment. Despite the foregoing, the product may among others bear the following risks:

Environmental Influences

The effects of chemicals and ambient temperature can negatively impact the safe operation of the product. Observe the following instructions:

- Only operate the ARD75 in compliance with the stated operating conditions.
→ *Specifications, p. 31*
- If using aggressive chemical process media, adjust the inspection and maintenance intervals accordingly. → *Inspection and Maintenance Intervals, p. 20*
- Adhering and sticky process media can impact on the functionality of the product (e.g., by causing components to stick together). Adjust the inspection and maintenance intervals accordingly.
→ *Inspection and Maintenance Intervals, p. 20*

1.3 Hazardous Substances

In certain situations (e.g., sensor replacement or corrective maintenance), personnel may come into contact with hazardous substances in the process medium.

- Process medium
- Rinsing or cleaning medium

The operating company is responsible for conducting a hazard assessment.

See the relevant manufacturers' safety data sheets for hazard and safety instructions on handling hazardous substances.

If the sensor adapter with lock-gate function is connected to the drinking water supply, impurities caused by the rinse and process media is possible. Note the information in EN 1717. Install a suitable check valve at the water or rinse connection. → *Accessories, p. 29*

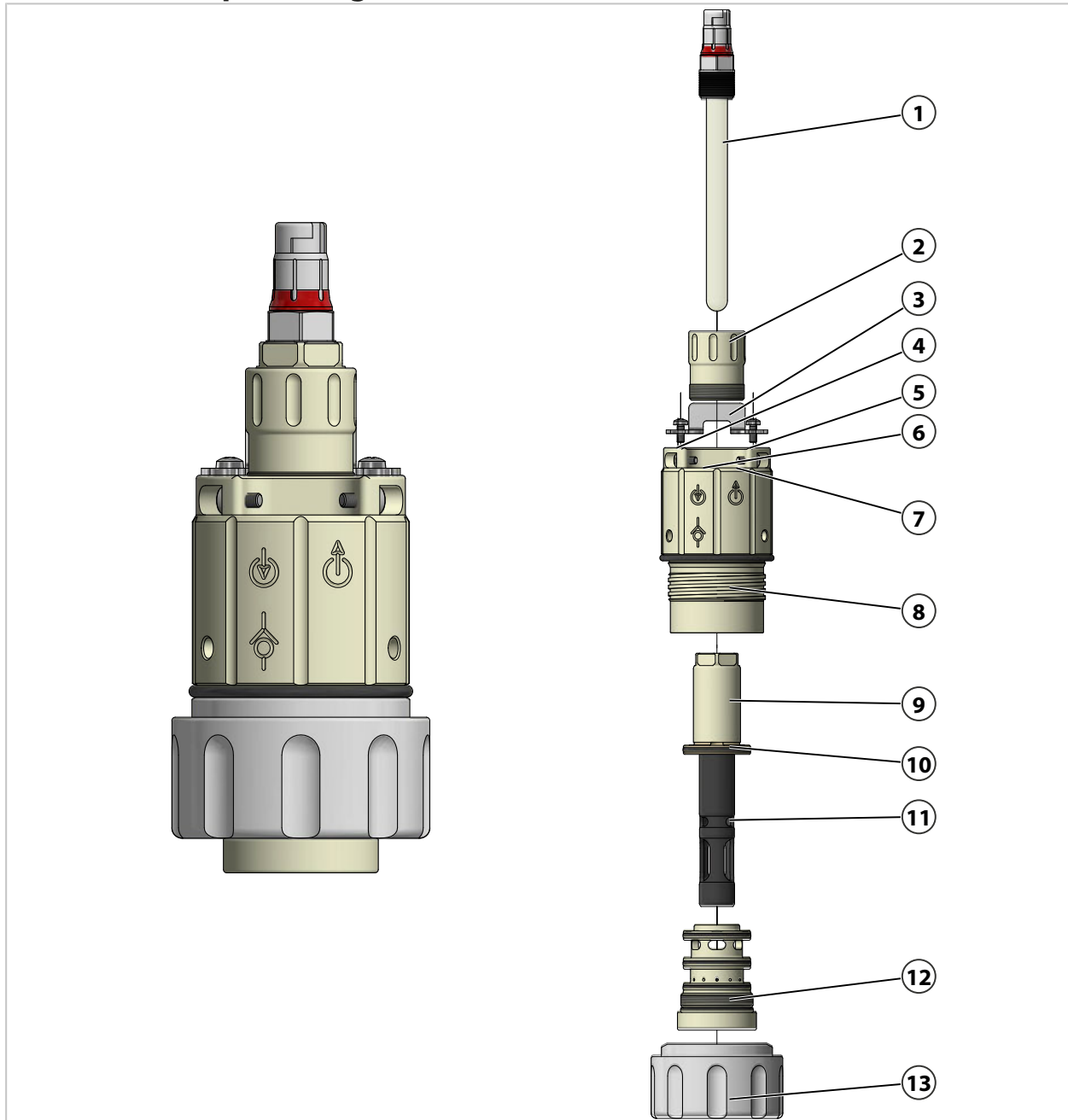
2 Product

2.1 Package Contents

The package should contain:

- Sensor adapter with lock-gate function in the version ordered
- Supplementary Documentation

2.2 Sensor Adapter Design and Function



- | | |
|--|-----------------------------------|
| 1 Sensor | 8 Sensor adapter / cylinder drive |
| 2 Protection sleeve | 9 Piston rod with sensor holder |
| 3 Drive medium tubing holder | 10 Piston with O-ring |
| 4 Drive medium connection process position | 11 Immersion tube |
| 5 Drive medium connection service position | 12 Rinsing chamber |
| 6 Inlet of rinse medium with check valve | 13 Coupling nut |
| 7 Rinse medium outlet | |

Sensor Adapter Function

The sensor adapter with lock-gate function contains a cylinder with a double-acting piston (piston rod with sensor holder and immersion tube **(9)** and **(11)**). Depending on the pressurization **(4)** or **(5)**, the piston **(10)** is moved with the sensor **(1)** to the service or process position. → *Limit Positions, p. 8*

The piston rod with sensor holder **(9)** is connected to the immersion tube **(11)**.







If the sensor is not present or present but improperly installed, the piston **(10)** does not move to the process position due to guaranteed pressure equalization between the two sides of the piston **(10)**. → *Moving into the Service and Process Position, p. 14* This acts as protection from any unintended movement to the process position.

The openings in the immersion tube **(11)** enable contact between the sensor tip and the process medium when in the process position. In the service position, the immersion tube **(11)** moves through the rinsing chamber **(12)**. The sensor **(1)** can be rinsed or cleaned.

The layout of the openings in the immersion tube **(11)**, in combination with the O-ring positions, lock the outlet **(7)** of the rinsing chamber **(12)** while the sensor adapter **(8)** is moved to the process position.

The inlet **(6)** of the rinsing chamber features a check valve for preventing any retroactive contamination of the pipe network.

2.3 Symbols and Markings

	Special conditions and danger points! Observe the safety information and instructions on safe use of the product as outlined in the product documentation.
	Connection of the drive medium for moving to the process position.
	Connection of the drive medium for moving to the service position.
	Outlet for cleaning, rinse, or calibration media.
	Inlet for cleaning, rinse, or calibration media.
	Inlet check valve.

2.4 Limit Positions

The sensor adapter with lock-gate function can assume two limit positions (service or process position).

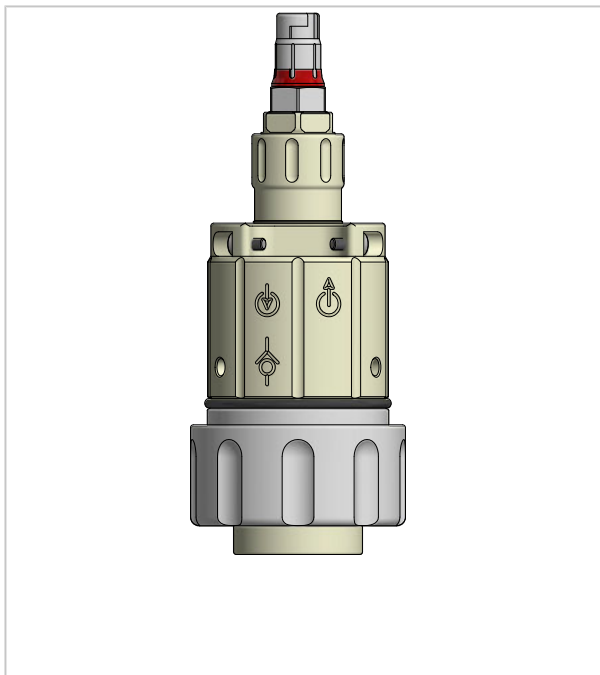
Service Position

- Piston is in the upper cylinder position.
- Sensor tip is immersed in the rinsing chamber.
- Sensor tip is not in contact with the process medium.
- Sensor can be cleaned under process conditions.
- In the service position, the sensor can be cleaned by adding a rinse medium to the rinsing chamber. When using the Unical 9000 electro-pneumatic controller, a pH sensor can be calibrated by adding calibration fluid.

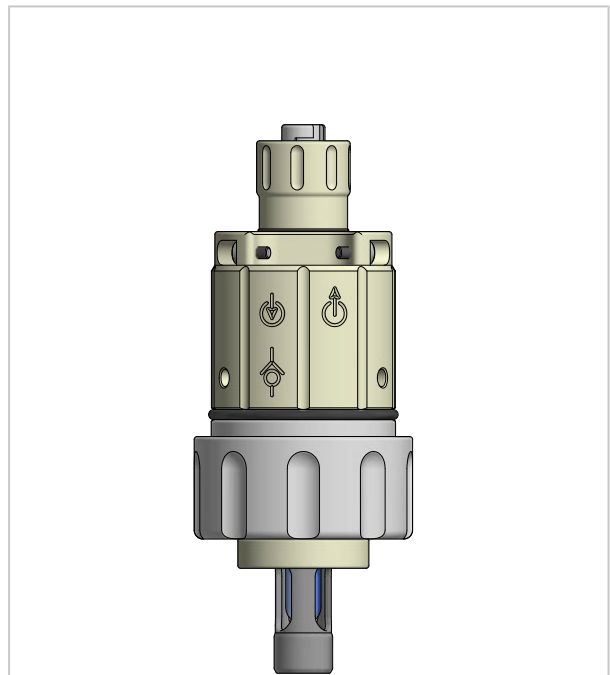
Process Position

- Piston is in the lower cylinder position.
- Sensor tip is retracted from the rinsing chamber.
- Sensor tip is in contact with the process medium.
- Process parameters can be measured.

Service position



Process position



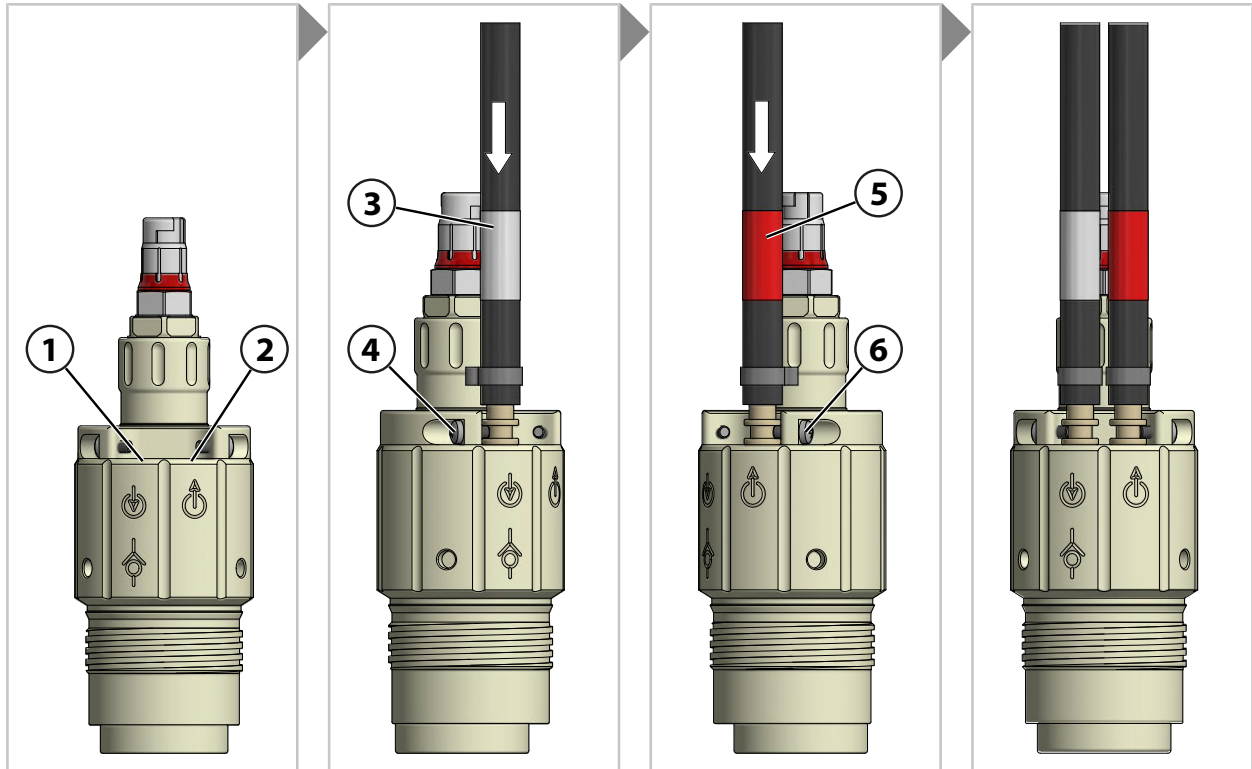
3 Installation

3.1 Inlet and Outlet Hose: Installation

NOTICE! Drinking water may be contaminated by rinse and process media when connecting to drinking water pipes. Observe the information contained in EN 1717. Install a suitable check valve (e.g., check valve RV01) at the water or rinse connection. → *Accessories, p. 29*

Note: The inlet hose is white, the outlet hose is red.

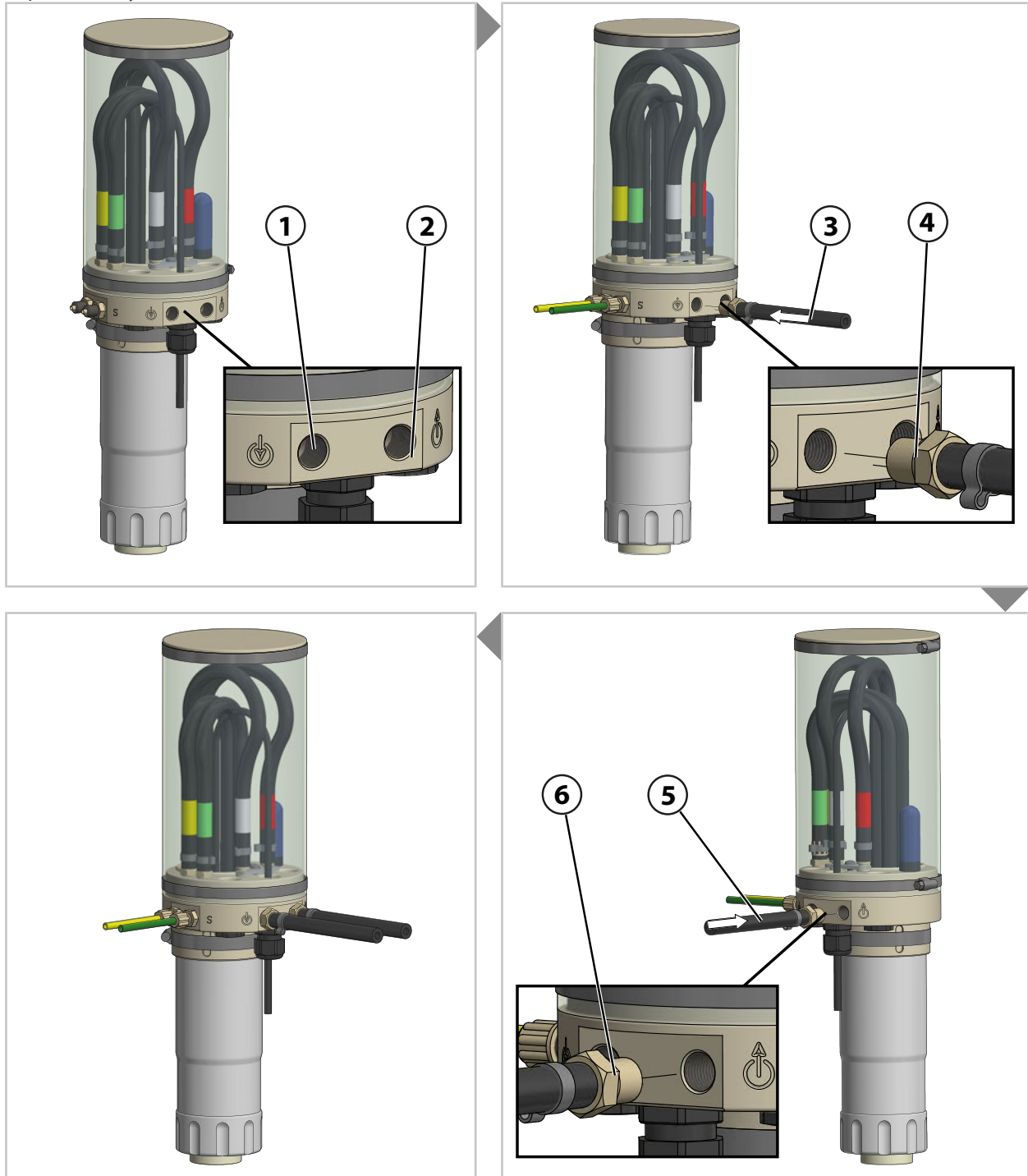
Without Cap



01. Loosen the screw **(4)** and push the inlet hose DN6 **(3)** fully into the opening **(1)**.
02. Tighten the screw **(4)**.
03. Repeat steps 01 and 02 for screw **(6)** and outlet hose DN6 **(5)** in opening **(2)**.

With Cap

When using the ARD75 with a protective cap, the inlet and outlet hose from the sensor adapter to the cap is already installed.

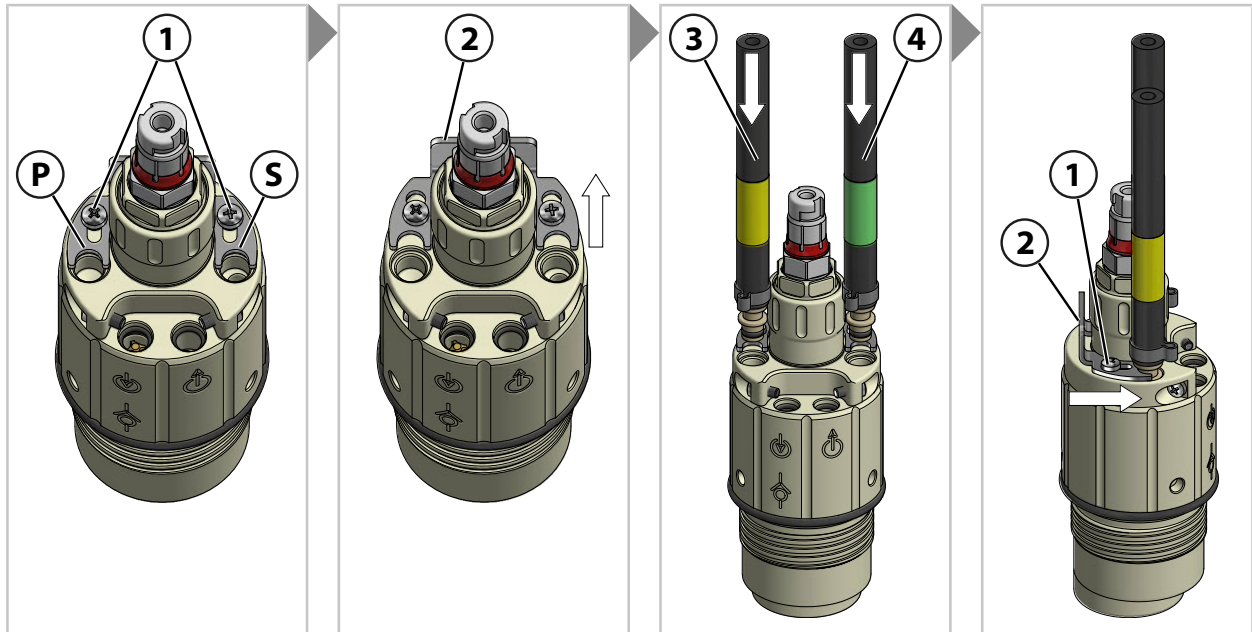


01. Screw the inlet hose DN6 **(3)** with joining piece **(4)** fully into the opening **(1)**.
02. Tighten the joining piece **(4)** with an open-end wrench A/F 17.
03. Repeat steps 01 and 02 for outlet hose DN6 **(5)** with joining piece **(6)** in opening **(2)**.

3.2 Drive Medium: Installation

Note: The connection hose of the drive medium for moving to the process position is yellow, for the service position green.

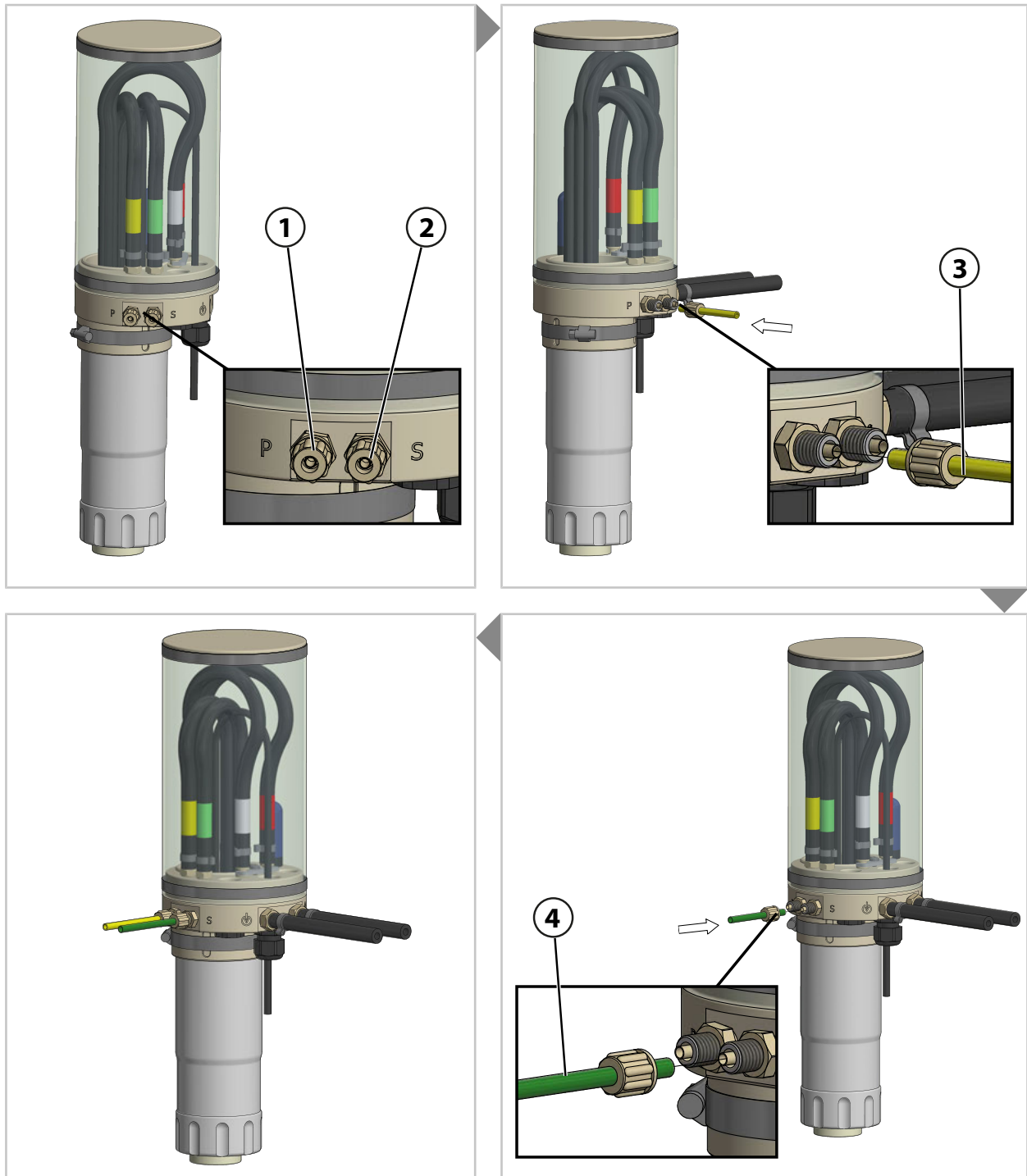
Without Cap



01. Loosen the screws **(1)** and pull out the holder **(2)** as far as the back stop. Raise slightly if necessary.
02. Fully push in the process drive medium hose **(3)** and the service drive medium hose **(4)**.
03. Push the holder **(2)** as far as the front stop.
04. Tighten the screws **(1)**.

With Cap

When using the ARD75 with a protective cap, the drive medium connection hoses from the sensor adapter to the protective cap are already installed.



01. Unscrew the coupling nut **(1)** with ferrule¹⁾.
02. Fully push in the coupling nut **(1)** with hose **(3)** for connection of the process medium.
03. Fasten the coupling nut **(1)** finger tight.
04. Repeat steps 01 to 03 for coupling nut **(2)** with ferrule and hose **(4)**.

¹⁾ Not shown.

4 Commissioning

⚠ WARNING! If the sensor adapter is damaged or improperly installed, process medium, potentially containing hazardous substances, may escape. Follow the safety instructions. → *Safety, p. 4*

01. Install the inlet and outlet hose. → *Inlet and Outlet Hose: Installation, p. 9*
02. Install the drive medium hoses. → *Drive Medium: Installation, p. 11*
03. Install the sensor. → *Installing and Removing Sensors, p. 17*
04. Install the sensor adapter with lock-gate function in ARD75.
→ *Installing and Removing the Sensor Adapter, p. 15*
05. Test for leaks.
 - ✓ The ARD75 with sensor adapter is ready for operation.

5 Operation

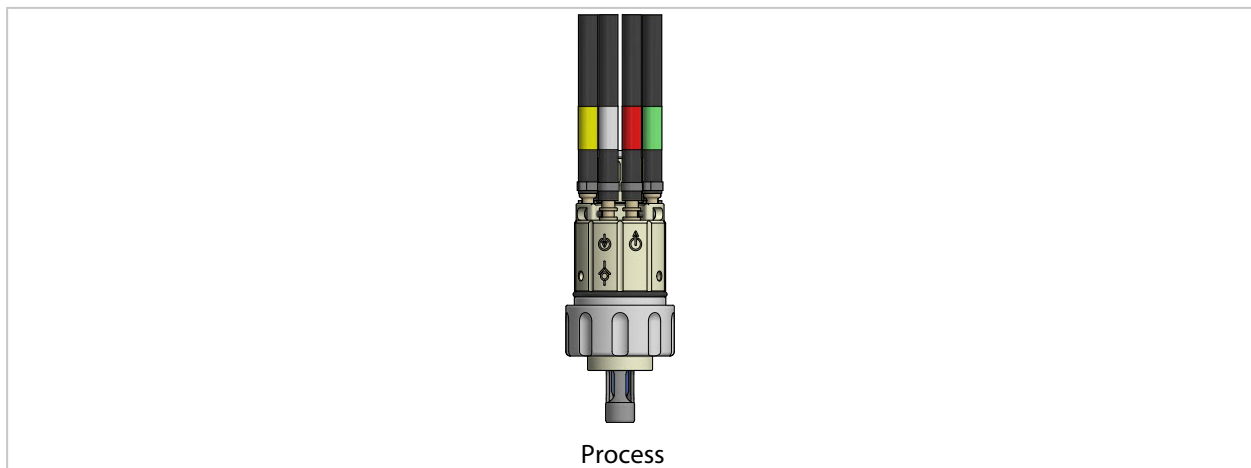
5.1 Moving into the Service and Process Position

⚠ WARNING! Process or rinse medium can leak from the sensor adapter and may contain hazardous substances. Only move the sensor adapter into the process position if a sensor is installed.
→ *Installing and Removing Sensors, p. 17*

Moving into the process or service position may be differently triggered, depending on the installation of the ARD75 and the sensor adapter with lock-gate function.

Moving into Process Position

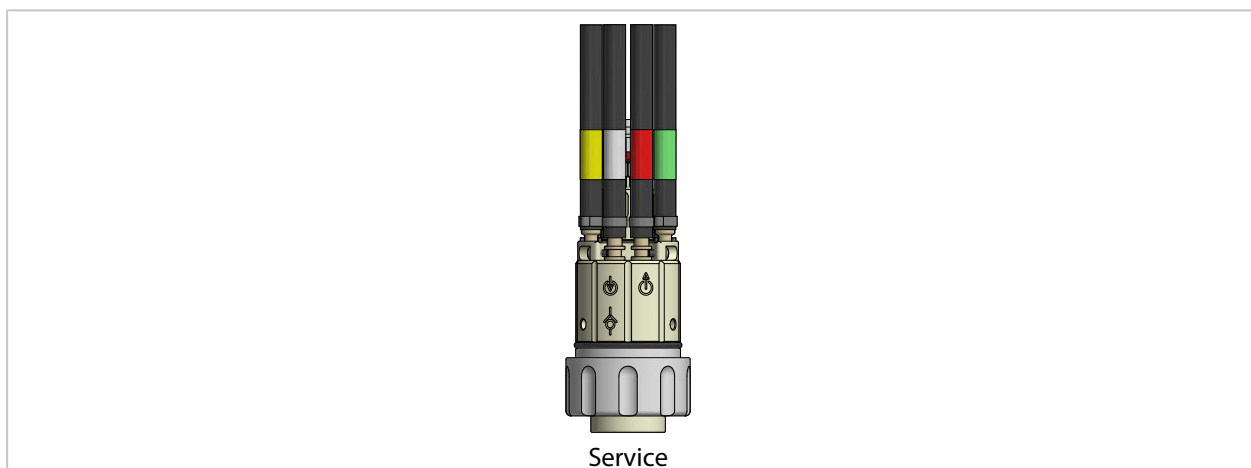
Moving into the process positions is triggered by pressurization with drive medium. The hose marked yellow is pressurized. The hose marked green is depressurized.



01. Install the sensor. → *Installing and Removing Sensors, p. 17*
02. Move the ARD75 into the PROCESS position.
 - ✓ Sensor tip is in the process.

Moving into Service Position

Moving into the service position is triggered by pressurization with drive medium. The hose marked green is pressurized. The hose marked yellow is depressurized.



01. Move the ARD75 into the SERVICE position.
 - ✓ Sensor tip is in the rinsing chamber.

5.2 Installing and Removing the Sensor Adapter

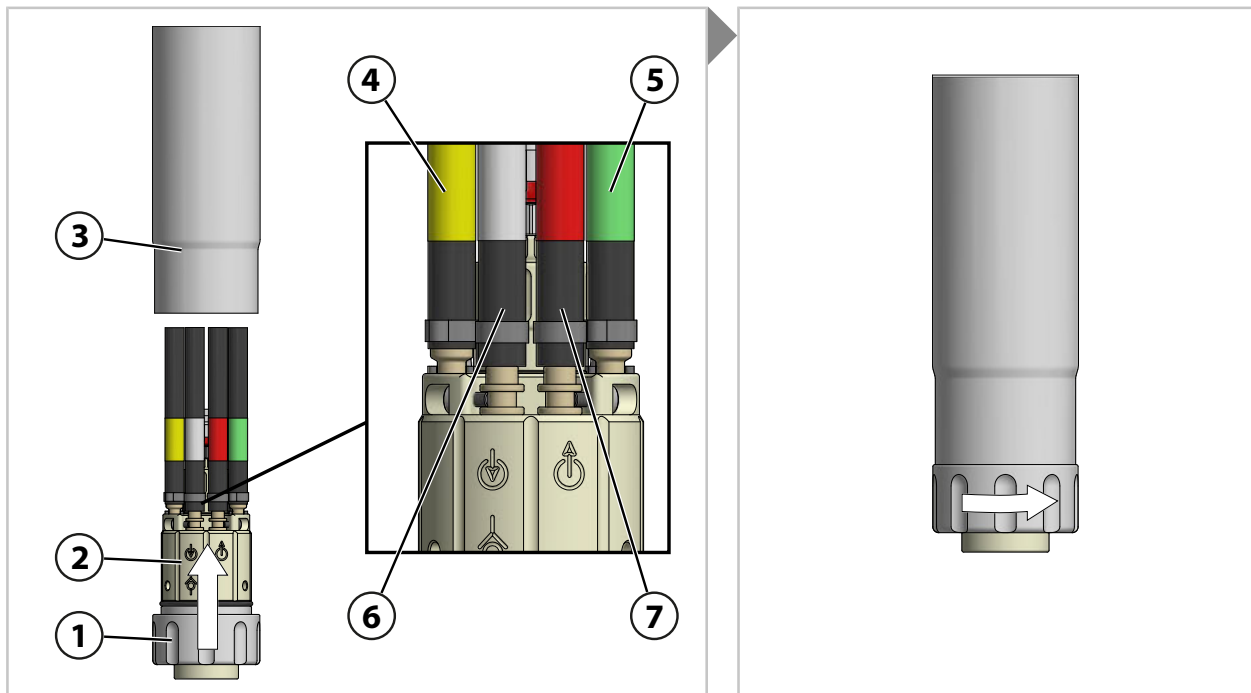
⚠ WARNING! Process media may contain hazardous substances: Rinse and clean the ARD75 after removing it from the process medium. Follow the safety instructions. → *Safety, p. 4*

⚠ CAUTION! Risk of cutting injuries from broken sensor glass. Handle the sensor with care.

The sensor adapter can be installed and removed both via the process-side and ambient-side opening of the ARD75 fitting tube.

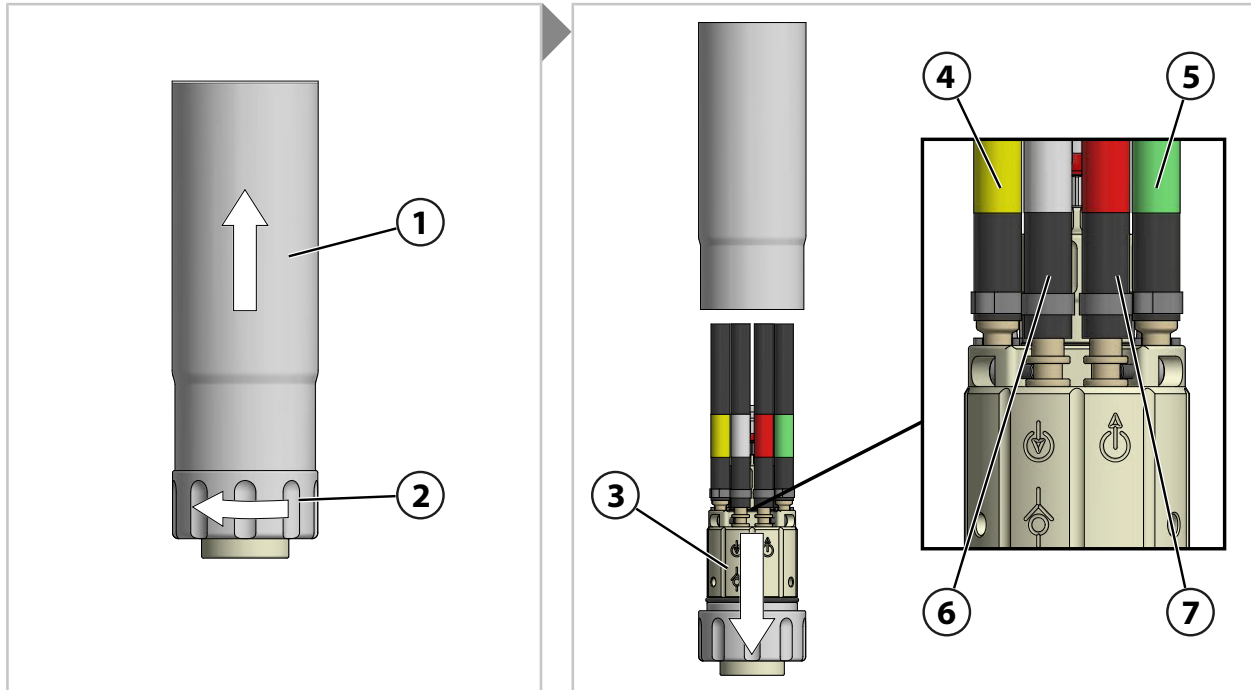
Note: Only installation and removal of the sensor adapter via the process-side opening of the ARD75 fitting tube is set out here.

Installation



01. Loosen the coupling nut **(1)** of the ARD75 by $\frac{1}{4}$ to $\frac{1}{2}$ a turn.
02. Pull the hoses **(4)** and **(5)** for the process and service connection through the fitting tube **(3)** of the ARD75.
03. Install the process and service connection. → *Drive Medium: Installation, p. 11*
04. Pull the hoses **(6)** and **(7)** for the inlet and outlet hose through the fitting tube **(3)** of the ARD75.
05. Install the inlet and outlet hose. → *Inlet and Outlet Hose: Installation, p. 10*
06. Pull the sensor cable through the fitting tube **(3)** of the ARD75.
07. Install the sensor. → *Installing and Removing Sensors, p. 17*
08. Connect the sensor cable to the sensor.
09. Push in the sensor adapter **(2)** up into the fitting tube **(3)** of the ARD75 as far as the coupling nut stop.
10. Fasten the coupling nut **(1)** finger tight.

Removal



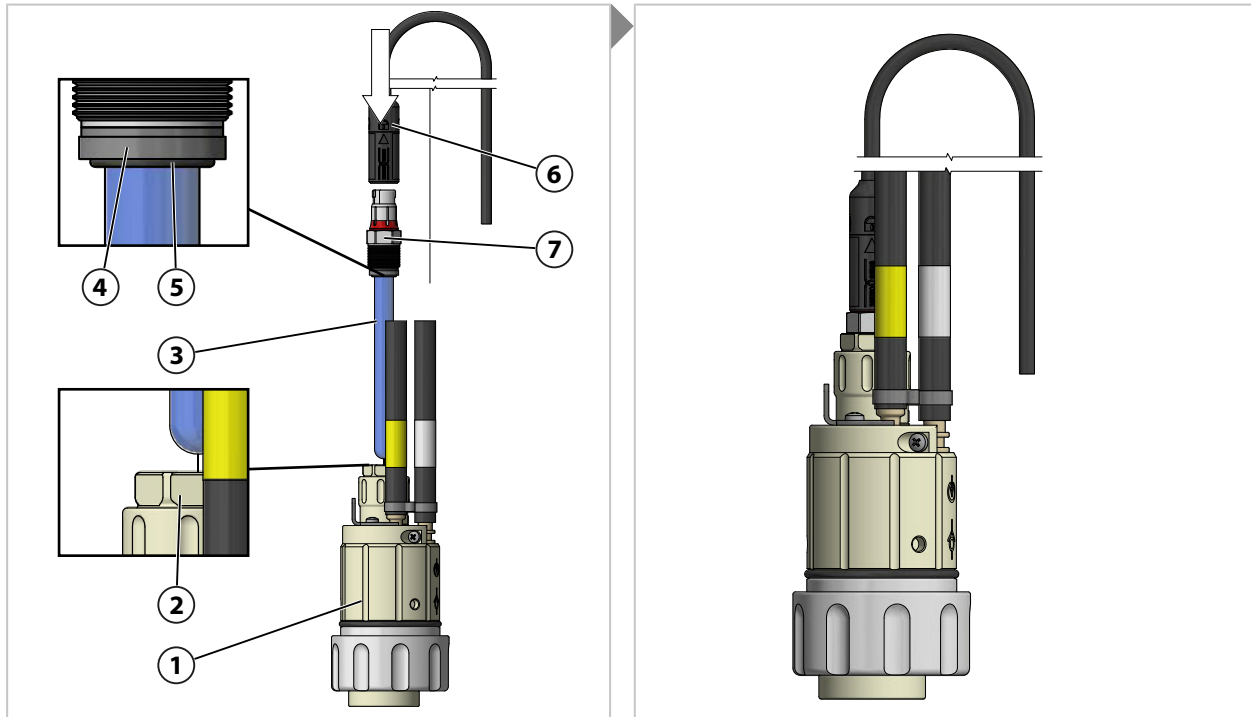
01. Loosen the coupling nut **(2)** of the ARD75 by $\frac{1}{4}$ to $\frac{1}{2}$ a turn.
02. Pull out the sensor adapter **(3)**.
03. Disconnect the sensor cable from the sensor.
04. Remove the sensor. → *Installing and Removing Sensors, p. 17*
05. Pull the sensor cable out through the fitting tube **(1)** of the ARD75.
06. Uninstall the inlet and outlet hose. → *Inlet and Outlet Hose: Installation, p. 10*
07. Pull the hoses **(6)** and **(7)** for the inlet and outlet hose out through the fitting tube **(3)** of the ARD75.
08. Uninstall the process and service connection. → *Drive Medium: Installation, p. 11*
09. Pull the hoses **(4)** and **(5)** for the process and service connection out through the fitting tube **(3)** of the ARD75.

5.3 Installing and Removing Sensors

⚠ WARNING! Process media may contain hazardous substances: Rinse and clean the ARD75 after removing it from the process medium. Follow the safety instructions. → *Safety, p. 4*

⚠ CAUTION! Risk of cutting injuries from broken sensor glass. Handle the sensor with care. Follow the safety instructions in the sensor manufacturer's documentation.

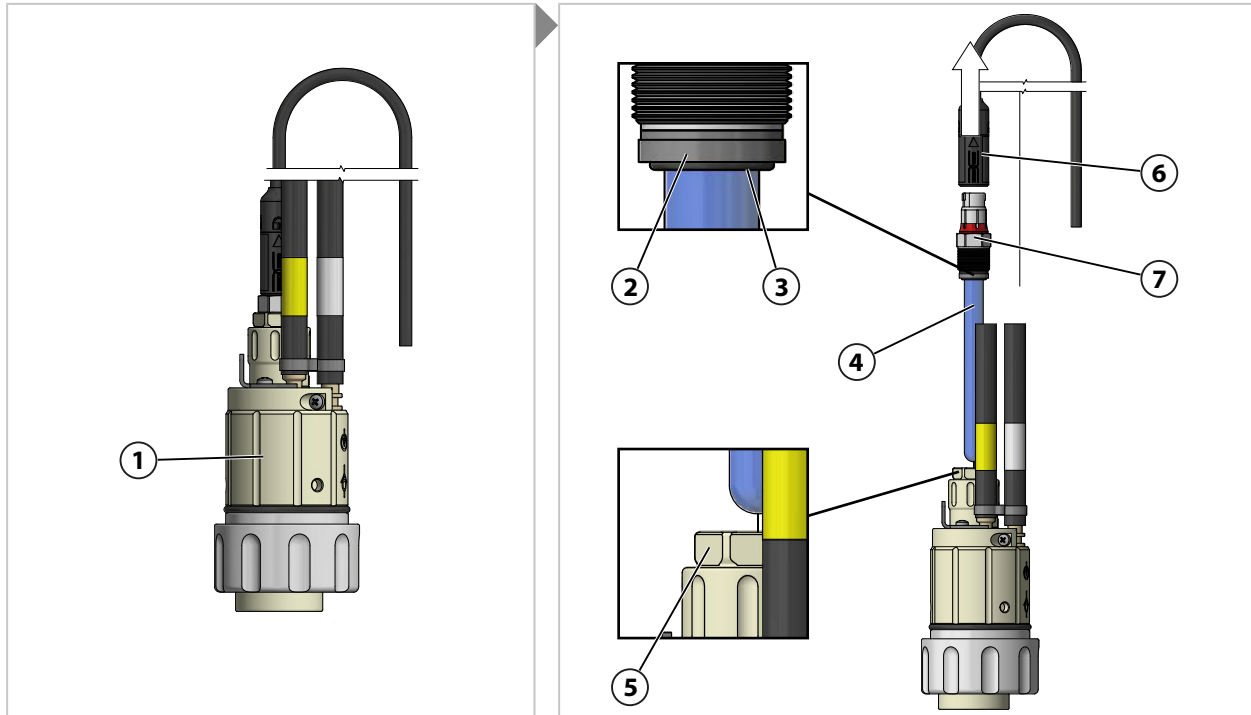
Sensor Installation



01. Move the sensor adapter **(1)** into the service position.
→ *Moving into the Service and Process Position, p. 14*
02. Remove the sensor adapter **(1)** from the fitting tube of the ARD75 and, if necessary, rinse it off.
→ *Installing and Removing the Sensor Adapter, p. 15*
03. Check the washer **(4)** and O-ring **(5)** of the sensor **(3)** for correct positioning and damage, and replace them if necessary.
04. Push the sensor **(3)** into the sensor adapter **(1)**.
05. Hold the sensor holder **(2)** (A/F 24) with a suitable tool and tighten the sensor head **(7)** (A/F 19) with 1 ... 3 Nm. Recommended tool: Sensor spanning wrench ZU0647 → *Accessories, p. 29*
06. Guide the sensor cable through the fitting tube of the ARD75.
07. Fit the sensor cable **(6)** on the sensor **(3)**, and if necessary close the bayonet coupling by turning.

Note: The arc length of the sensor cable must be sufficient to allow the cable to move freely during the stroke movement of the sensor adapter.

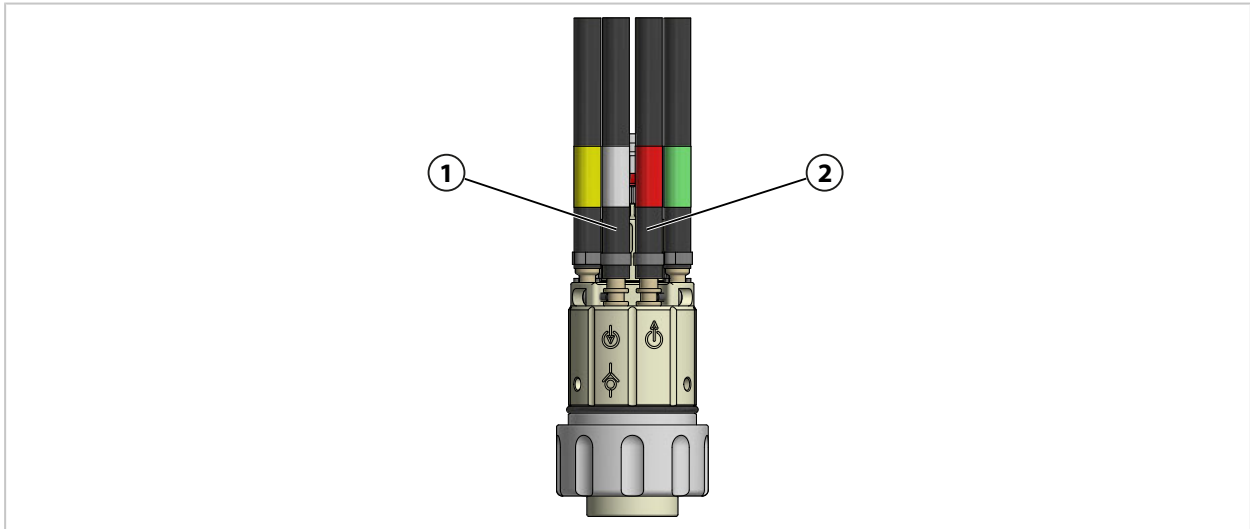
Sensor Removal



01. Move the sensor adapter **(1)** into the service position.
→ *Moving into the Service and Process Position, p. 14*
02. Remove the sensor adapter **(1)** from the fitting tube of the ARD75 and, if necessary, rinse it off.
→ *Installing and Removing the Sensor Adapter, p. 15*
03. Disconnect the sensor cable **(6)** from the sensor **(4)**.
04. Hold the sensor holder **(5)** (A/F 24) with a suitable tool and loosen the sensor head **(7)** (A/F 19).
Recommended tool: Sensor spanning wrench ZU0647. → *Accessories, p. 29*
05. Pull the sensor **(4)** out of the sensor adapter **(1)**.
06. Check the compression ring **(2)** and O-ring **(3)** on the sensor **(4)** for presence and damage, and replace them if necessary.
07. If the sensor glass is broken, check the immersion tube seal for damage and replace it if necessary.

5.4 Cleaning and Rinsing the Sensor

Note: Only clean or rinse the sensor while in the service position, when the sensor adapter is sealed from the process.



01. Move the sensor adapter into the service position.
→ *Moving into the Service and Process Position, p. 14*
 02. Supply the cleaning or rinse medium to the sensor adapter via the inlet hose **(1)**.
 03. Perform cleaning or rinsing in line with operational requirements.
 04. Move into the process position. → *Moving into the Service and Process Position, p. 14*
- Note:** Always keep the outlet hose **(2)** open.

6 Maintenance

6.1 Inspection and Maintenance

6.1.1 Inspection and Maintenance Intervals

NOTICE! Different process conditions (e.g., pressure, temperature, chemically aggressive media) will affect the inspection and maintenance intervals. Analyze the specific application and process conditions at hand. Define appropriate intervals based on similar application cases where experience has already been gained.

Interval ¹⁾	Work required
First inspection after a few days/ weeks	Move the sensor adapter into the service position and observe the outlet. If the product is not tight, process medium will escape from the outlet hose. → <i>Troubleshooting, p. 27</i> As necessary, replace process-wetted and dynamically loaded O-rings. → <i>Replacing the O-Rings, p. 25</i>
After 6 – 12 months ²⁾	Repeat the measures implemented during the first inspection.
After 10,000 – 20,000 strokes	Replacing the process-wetted and dynamically loaded O-rings is recommended. → <i>Replacing the O-Rings, p. 25</i>
After approx. 2 years	In particular if using chemically aggressive cleaning agents, check the rinse-wetted gaskets and replace them if necessary. → <i>Replacing the O-Rings, p. 25</i> Maintenance of the dynamically loaded O-ring by re-greasing → <i>Replacing the O-Rings, p. 25</i>

¹⁾ The stated intervals are recommendations based on Knick's experience. The actual intervals are dependent on the specific application for which the sensor adapter is used.

²⁾ Following successful first inspection and confirmation of the suitability of all materials used, the interval may be lengthened.

6.2 Corrective Maintenance

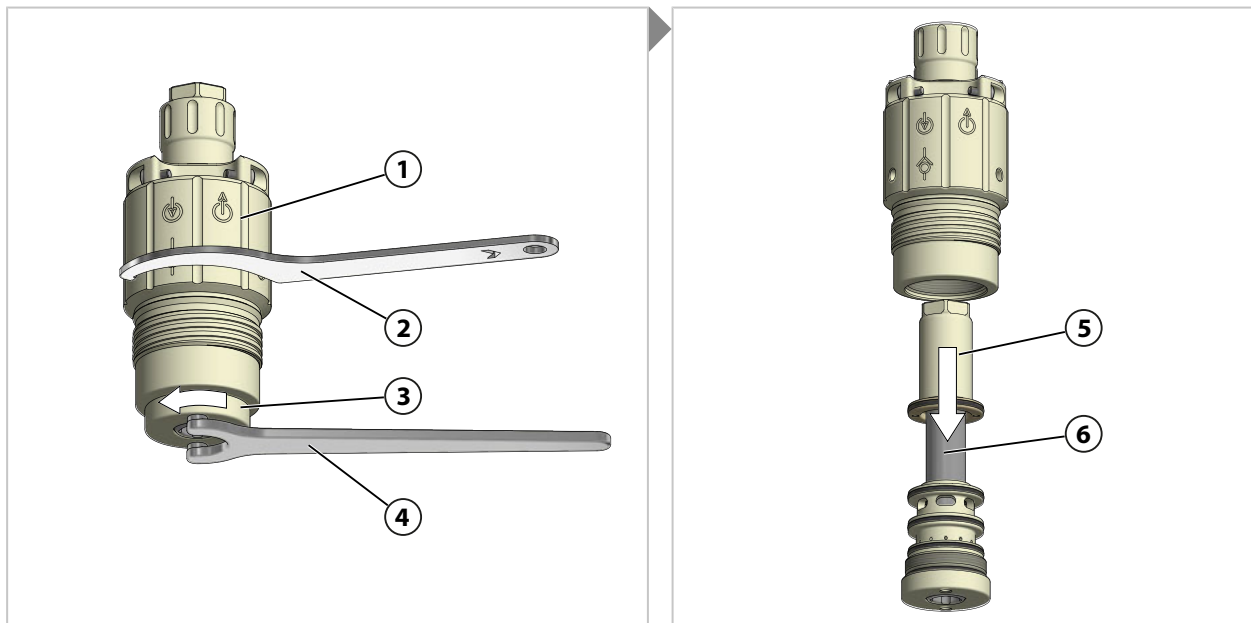
6.2.1 Corrective Maintenance Safety Instructions

▲ WARNING! Process media may contain hazardous substances: Rinse and clean the ARD75 after removing it from the process medium. Follow the safety instructions. → *Safety, p. 4*

▲ CAUTION! Risk of cutting injuries from broken sensor glass. Handle the sensor with care.

6.2.2 Removing and Installing the Rinsing Chamber

Note: The rinsing chamber needs to be removed for procedures such as maintenance, cleaning, or troubleshooting. → *Troubleshooting, p. 27*



Removal

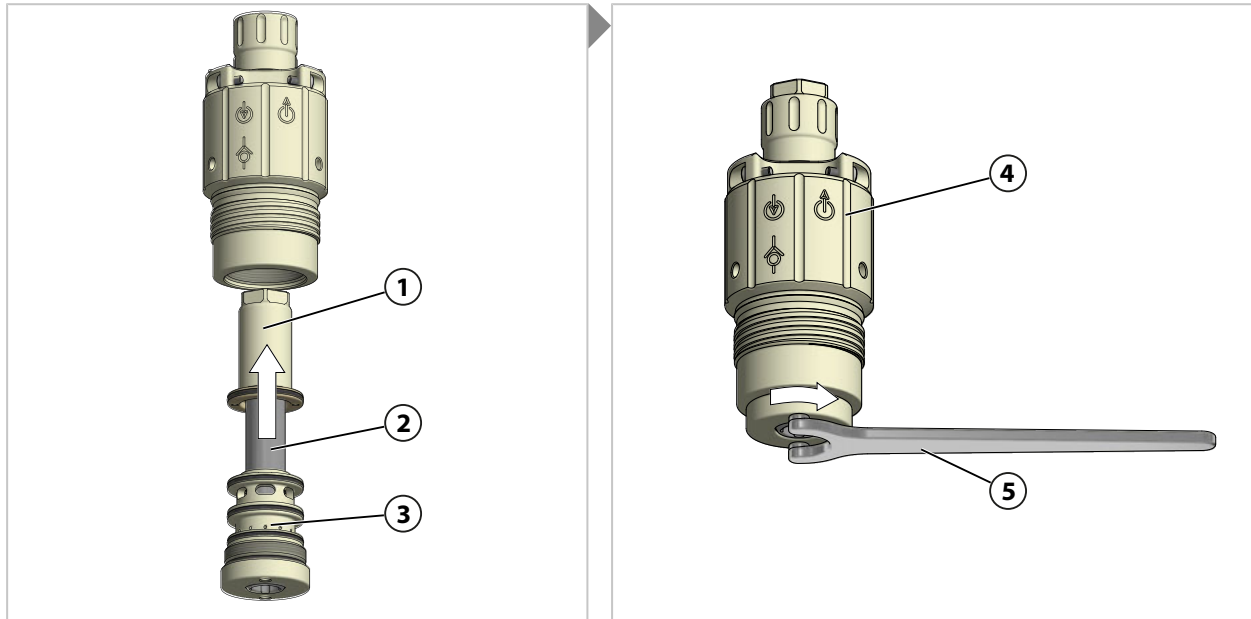
01. Remove the sensor adapter **(1)** from the fitting tube of the ARD75 and, if necessary, rinse it off.
→ *Installing and Removing the Sensor Adapter, p. 15*
02. Remove the sensor. → *Installing and Removing Sensors, p. 17*
03. Fasten the sensor adapter **(1)** with the hook wrench **(2)**. Recommended tool: ZU1155 tool set
→ *Accessories, p. 29*
04. Using the rinsing chamber face pin spanner wrench **(4)**, loosen the coupling CW at the bottom of the rinsing chamber **(3)**. Recommended tool: ZU1155 tool set → *Accessories, p. 29*
05. Pull out the rinsing chamber **(3)** by hand.

Note: Dirt deposits, gasket materials, or operational circumstances may result in the need to apply considerable force to release the rinsing chamber **(3)**. A combination of rotating and sudden pull movements is recommended.

Note: The seals between the immersion tube **(6)** and the rinsing chamber **(3)** create a friction contact. In normal cases, this causes the drive components (piston rod with sensor holder **(5)**) and immersion tube **(6)**) to also be pulled out.

Installation

NOTICE! A loosened screw joint between the piston rod and the immersion tube can cause process medium, potentially containing hazardous substances, to escape from the sensor adapter. Prior to every installation, fully tighten the screw joint. → *Removing and Installing the Immersion Tube, p. 23*

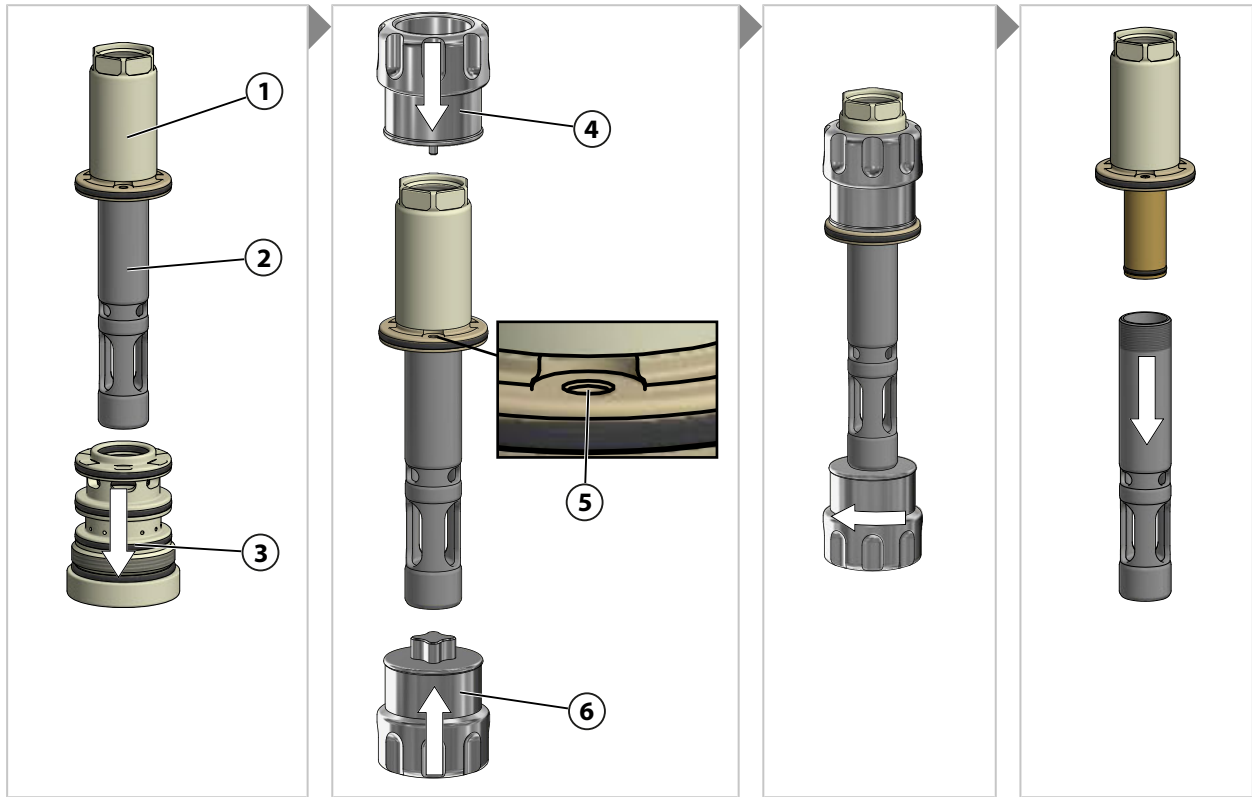


01. Fully tighten the screw joint between the piston rod (1) and the immersion tube (2).
02. Push the rinsing chamber (3) with the piston rod (1) and immersion tube (2) into the sensor adapter (4).
03. Using the face pin spanner wrench, fully tighten the rinsing chamber (5). Recommended tool: ZU1155 tool set → *Accessories, p. 29*

6.2.3 Removing and Installing the Immersion Tube

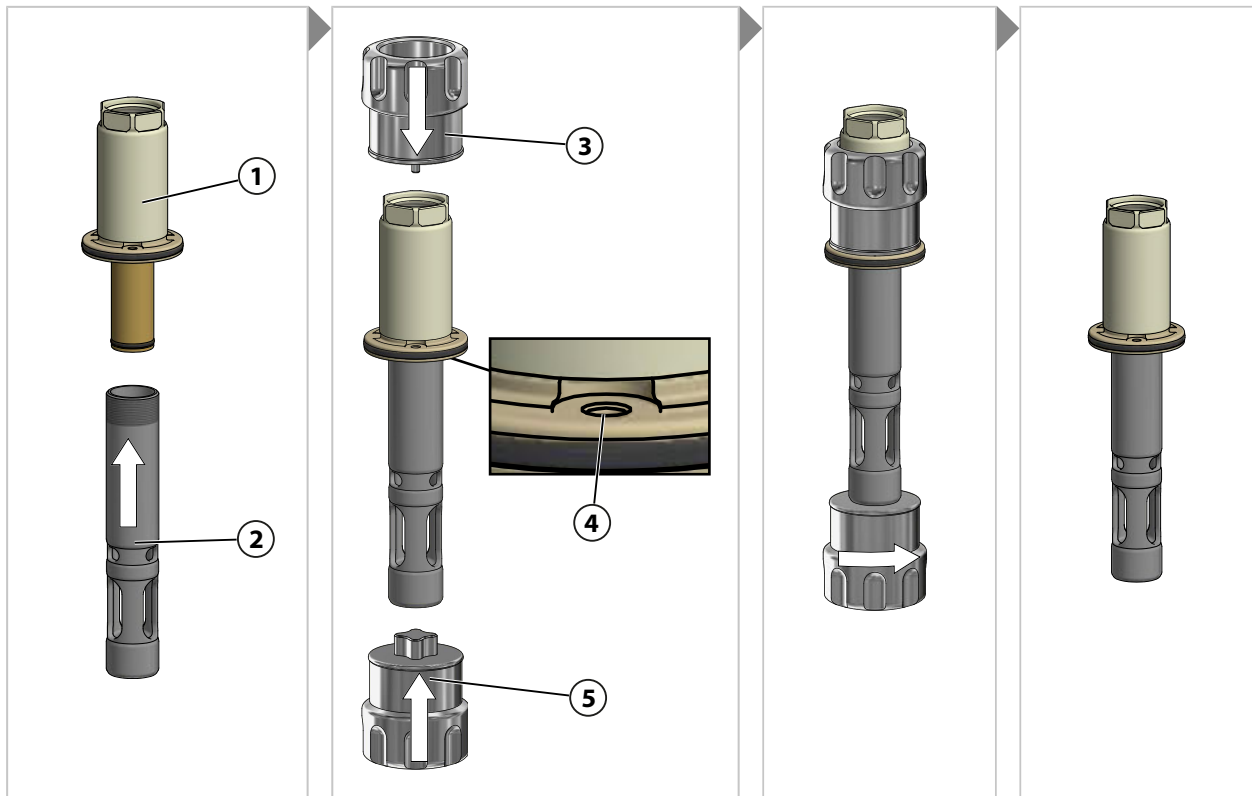
Note: The immersion tube needs to be removed for procedures such as maintenance, cleaning, or troubleshooting. → *Troubleshooting, p. 27*

Removal



01. Remove the sensor adapter from the fitting tube of the ARD75 and, if necessary, clean it off.
→ *Installing and Removing the Sensor Adapter, p. 15*
02. Remove the sensor. → *Installing and Removing Sensors, p. 17*
03. Remove the rinsing chamber **(3)** with the piston rod **(1)** and immersion tube **(2)**.
→ *Removing and Installing the Rinsing Chamber, p. 21*
04. Pull the rinsing chamber **(3)** down off the immersion tube **(2)**.
05. Insert the immersion tube face pin spanner wrench **(6)** in the openings of the immersion tube **(2)**.
Recommended tool: ZU1155 accessories → *Accessories, p. 29*
06. Insert the piston rod face pin spanner wrench **(4)** into the openings **(5)** of the piston rod **(1)**.
Recommended tool: ZU1155 accessories → *Accessories, p. 29*
07. Turn the immersion tube face pin spanner wrench **(6)** against the piston rod face pin spanner wrench **(4)** and loosen the coupling.
08. Unscrew the immersion tube **(2)**.

Installation

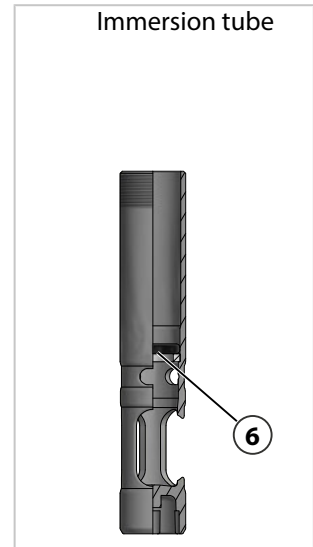
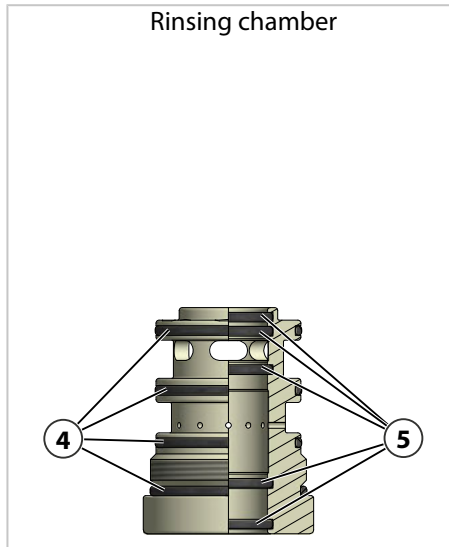
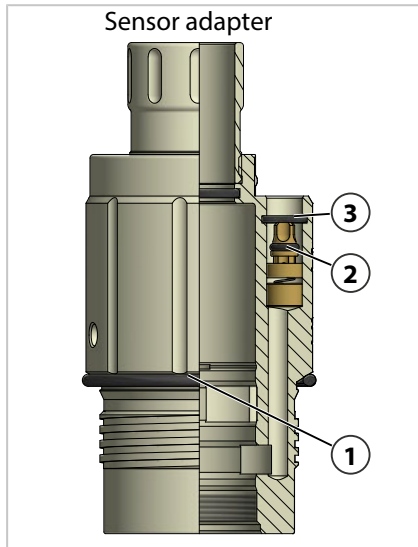


01. Screw the immersion tube **(2)** into the piston rod **(1)**.
02. Insert the piston rod face pin spanner wrench **(3)** into the openings **(4)** of the piston rod **(1)**.
Recommended tool: ZU1155 accessories → *Accessories, p. 29*
03. Insert the immersion tube face pin spanner wrench **(5)** into the opening of the immersion tube **(2)**. Recommended tool: ZU1155 accessories → *Accessories, p. 29*
04. Turn the piston rod face pin spanner wrench **(3)** against the immersion tube face pin spanner wrench **(5)** and fully tighten the immersion tube **(2)**.

6.2.4 Replacing the O-Rings

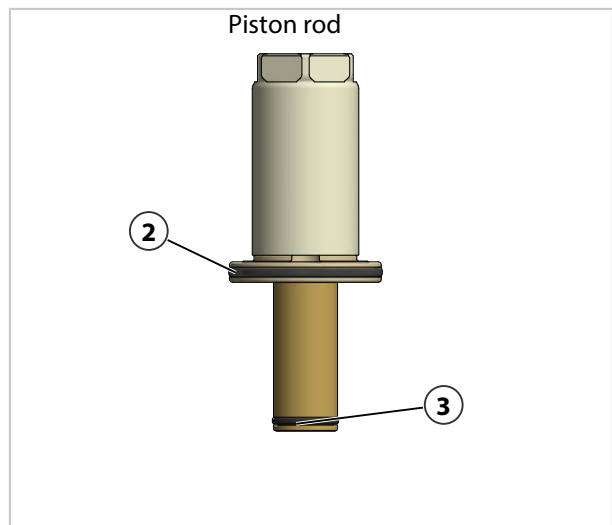
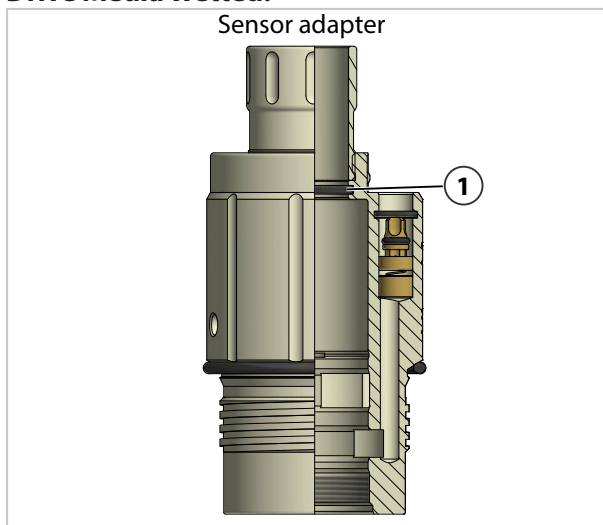
Note: Replace the process media wetted and drive media wetted O-rings in accordance with the inspection and maintenance Intervals. → *Inspection and Maintenance Intervals, p. 20*

Process Media Wetted:



- | | |
|---|---|
| <ul style="list-style-type: none"> 1 O-ring 53.57 x 3.53 mm 2 O-ring 4 x 2 mm 3 O-ring 10 x 1.5 mm | <ul style="list-style-type: none"> 4 O-ring 33 x 2 mm 5 O-ring 20 x 2 mm (dynamically loaded) 6 O-ring 11.91 x 2.62 mm |
|---|---|

Drive Media Wetted:



- | | |
|--|--|
| <ul style="list-style-type: none"> 1 O-ring 27 x 2 mm (dynamically loaded) 2 O-ring 33 x 2 mm (dynamically loaded) | <ul style="list-style-type: none"> 3 O-ring 13 x 1.5 mm |
|--|--|

Replacing the O-Rings

01. Move the sensor adapter into the service position.
→ *Moving into the Service and Process Position, p. 14*
02. Remove the sensor adapter. → *Installing and Removing the Sensor Adapter, p. 15*
03. Remove the rinsing chamber, piston rod, and immersion tube.
→ *Removing and Installing the Rinsing Chamber, p. 21*
→ *Removing and Installing the Immersion Tube, p. 23*
04. Replace the O-rings.
05. Install the rinsing chamber, piston rod, and immersion tube.
→ *Removing and Installing the Rinsing Chamber, p. 21*
→ *Removing and Installing the Immersion Tube, p. 23*
06. Install the sensor adapter. → *Installing and Removing the Sensor Adapter, p. 15*

7 Troubleshooting

USE CAUTION WHEN CONDUCTING ANY TROUBLESHOOTING. FAILURE TO ABIDE BY THE REQUIREMENTS SET FORTH HEREIN MAY RESULT IN SERIOUS INJURY OR DEATH, AS WELL AS DAMAGE TO PROPERTY.

Malfunction state	Possible causes	Remedy
Medium constantly escapes from the outlet hose.	O-rings damaged or missing.	Replace the O-rings. → <i>Replacing the O-Rings, p. 25</i>
		Send in the sensor adapter. → <i>Removal from Operation, p. 28</i>
Sensor glass shattered.	Mechanical impact on the sensor glass (e.g., by process medium).	Replace faulty sensor. → <i>Installing and Removing Sensors, p. 17</i>
		Remove any glass splinters from the sensor adapter. Check the O-ring in the immersion tube and replace if necessary. → <i>Replacing the O-Rings, p. 25</i>
Sensor adapter does not move.	Dynamically loaded O-rings damaged or missing	Check the O-rings. Replace if necessary. → <i>Replacing the O-Rings, p. 25</i>
	No sensor installed (extension protection effective).	Install the sensor. → <i>Installing and Removing Sensors, p. 17</i>
	Drive pressure too low.	Check the drive pressure. Increase it if necessary. → <i>Specifications, p. 31</i>

8 Removal from Operation

8.1 Sensor Adapter: Removal

▲ WARNING! Process media may contain hazardous substances: Rinse and clean the ARD75 after removing it from the process medium. Follow the safety instructions. → *Safety, p. 4*

01. Move the sensor adapter into the service position.
→ *Moving into the Service and Process Position, p. 14*
02. Remove the ARD75 from the process. Clean it if necessary.
03. Disconnect the sensor cable from the sensor.
04. Disconnect the drive medium. → *Drive Medium: Installation, p. 11*
05. Disconnect the inlet and outlet hose. → *Inlet and Outlet Hose: Installation, p. 10*
06. Remove the sensor adapter. Clean and rinse it if necessary.
→ *Installing and Removing the Sensor Adapter, p. 15*
07. Remove the sensor. → *Installing and Removing Sensors, p. 17*

8.2 Returns

If required, send the product in a clean condition and securely packed to your local contact.
→ *knick.de*

If there has been contact with hazardous substances, the product must be decontaminated or disinfected prior to shipment. The consignment must always be accompanied by a corresponding return form to prevent service employees being exposed to potential hazards. → *Return Form, p. 33*

Further information can be found at www.knick.de.

8.3 Disposal

The local codes and regulations must be observed when disposing of the product.

9 Accessories

9.1 Check Valve RV/01

If the inlet of the sensor adapter with lock-gate function is connected to a drinking water supply, contamination by rinse, cleaning, and process media may be expected. Install a suitable check valve (e.g., check valve RV/01) at the water or rinse connection.

The RV/01 check valve is encoded in a product code.

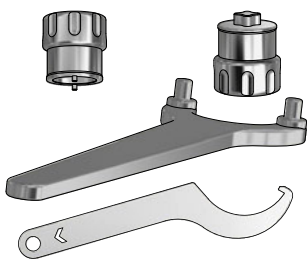
Check valve		RV/01	-	-	-	-	-
Material of housing, valve body	Stainless steel 1.4404		H				
	PEEK		E				
Seal material	FKM			A			
	EPDM			B			
	FFKM			C			
	FKM – FDA			F			
	EPDM – FDA			E			
	FFKM – FDA			H			
Inlet connection, female thread	G $\frac{1}{4}$ "					4	
	G $\frac{1}{8}$ "					8	
Inlet connection, male thread	G $\frac{1}{4}$ "						4
	G $\frac{1}{8}$ "						8

9.2 Accessories



ZU0647 Sensor spanning wrench

ZU0647 "Sensor spanning wrench" is used to properly tighten sensors. It prevents damage to the plastic thread of the sensor head PG 13.5 caused by applying an excessive tightening torque (e.g., when using an open-end wrench).



ZU1155 Tool set

This tool set is used for maintenance work on the piston rod with sensor holder and the immersion tube. It makes it easy to disconnect the immersion tube from the piston rod and thus quickly replace the O-rings.

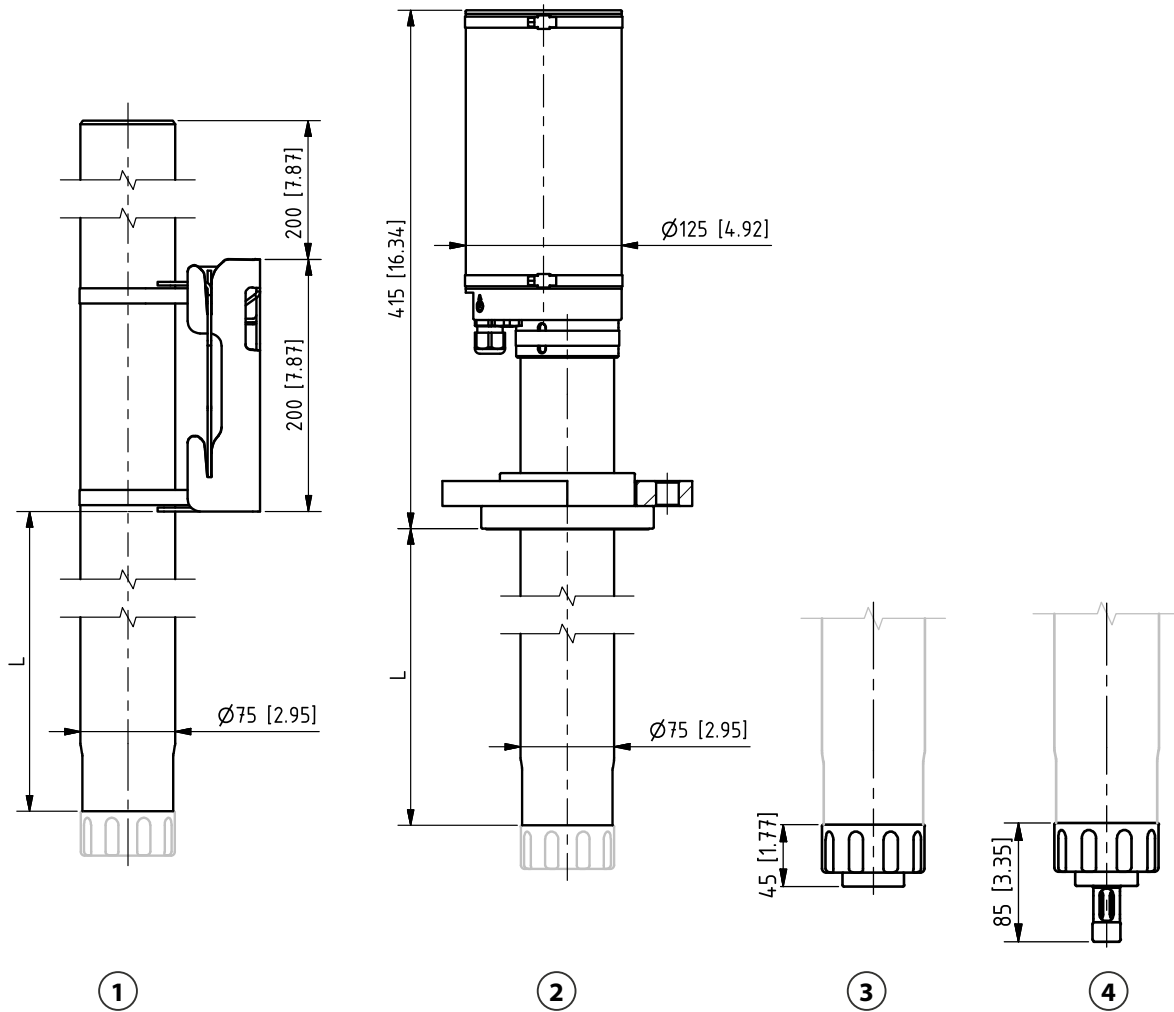


RV01 Check valve

The RV01 check valve prevents process medium or calibration, cleaning, or rinse media from flowing back into the inlet of the ARD75.

10 Dimension Drawings

Note: All dimensions are given in millimeters [inches].



L = nominal length of the fitting tube; see the User Manual for the ARD75, chapter: Product code

- | | |
|--|--|
| 1 ARD75 with sensor adapter and ambient side open | 3 ARD75 with sensor adapter in service position |
| 2 ARD75 with sensor adapter and cap | 4 ARD75 with sensor adapter in process position |

11 Specifications

Permissible process pressure/process temperature

PP-H

5 ... 30 °C (41 ... 86 °F)	1 bar (14.5 psi)
30 ... 60 °C (86 ... 140 °F)	Falling linearly to 0.75 bar (10.9 psi)

PVDF

5 ... 50 °C (41 ... 122 °F),	1 bar (14.5 psi)
50 ... 90 °C (122 ... 194 °F)	Falling linearly to 0.75 bar (10.9 psi)

Drive pressure 4 ... 8 bar (58 ... 116 psi)

Ambient temperature

Material: PP-H	5 ... 55 °C (41 ... 131 °F)
Material: PVDF	5 ... 55 °C (41 ... 131 °F)

Sensors Solid-electrolyte sensors, body diameter 12 mm, body length 120 mm, sensor head thread PG 13.5

Wetted materials

Fitting body in PP-H	PP-H, PVDF, PEEK
Fitting body in PVDF	PVDF, PEEK

Quality of compressed air

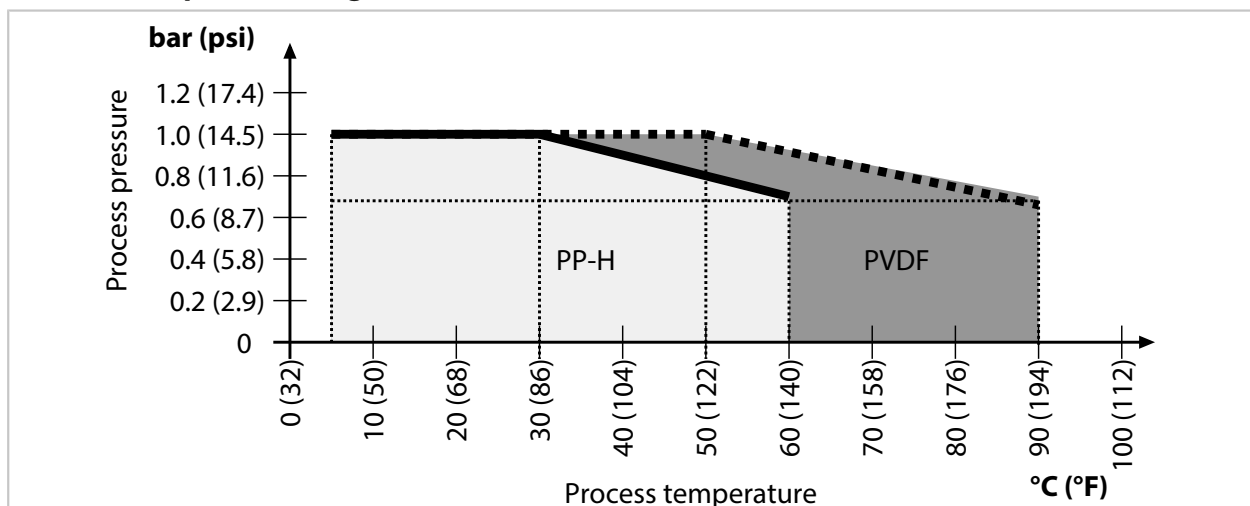
Standard	According to ISO 8573-1
Quality class	3.3.3 or 3.4.3
Solid contaminants	3 (max. 5 µm, max. 5 mg/m ³)
Water content for temperatures > 15 °C (59 °F)	Class 4, pressure dew point 3 °C (37.4 °F) or lower
Water content for temperatures 5 ... 15 °C (41 ... 59 °F)	Class 3, pressure dew point -20 °C (-1 °F) or lower
Oil content	Class 3 (max. 1 mg/m ³)

Water quality Filtered 100 µm

Connections

Rinse inlet	Hose DN6, EPDM, check valve in sensor adapter
Rinsing outlet	Hose DN6, EPDM

Pressure/Temperature Diagram



Appendices

→ Return Form, p. 33

Return Form

Declaration of potential hazards in the enclosed products from exposure to hazardous substances* or mixtures

* Classification preferably according to CLP regulation

We can only accept and carry out the service order if this declaration is filled out completely.

Please include it with the shipping documents.

If you have any questions, please contact our repairs department in Berlin.

RMA number (can be obtained by calling +49 30 80 191-241):

Customer information (must be completed if no RMA number is available):

Company:

Address:

Contact: Tel./Email:

Information on the product:

Product name:

Serial number:

Included accessories:

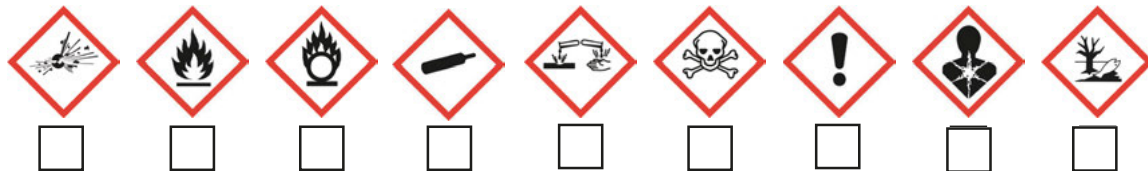
The product being returned is new/unused.

The product has not been exposed to hazardous substances or mixtures.

The product has been exposed to hazardous substances or mixtures.

State the classification of the hazardous substance, as applicable together with the hazard statements (or R-phrases), or at minimum provide the relevant hazard pictograms:

.....



The product has been exposed to infectious substances.

The product was subjected to suitable cleaning procedures to prevent exposure to hazards prior to return.

The product was not freed of hazardous substances prior to return.

I have answered the above questions to the best of my knowledge.

Name: Company:

Date: Signature:

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Declaration of Contamination

Index

A

Accessories	29
Ambient temperature	31
Appendices	32

C

Causes, malfunctions	27
Cleaning	19
Commissioning	13
Connections	31
Corrective Maintenance	21

D

Decommissioning	28
Dimension drawings	30
Dimension specifications	30
Dimensions	30
Disposal	28
Drinking water connection	
Check valve	9
Contamination	9
EN 1717	9
Drive media	
Installation	11
Drive pressure	31

E

Environmental factors	4
Error elimination	27

F

First inspection	20
------------------	----

H

Hazard assessment	5
Hazardous substances	5

I

Icons	7
Inlet	
Connection	31
Inlet hose	
Installation	9
Inspection	
Inspection intervals	20
Installation	9
Drive media	11
Immersion tube	24
Inlet hose	9
Rinsing chamber	22
Sensor	17
Sensor adapter	15
Intended use	4
Introductory safety chapter	2

M

Maintenance	20
Maintenance intervals	20
Malfunction states	27
Markings	7

N

Notes on safety information	2
-----------------------------	---

O

Operation	14
O-rings	25
Outlet	
Connection	31
Outlet hose	
Installation	9

P

Package contents	6
Pressure/temperature diagram	31
Process position	8
Moving into process position	14
Process pressure, permissible	31
Process temperature	31
Product	6

Q

Quality of compressed air	31
---------------------------	----

R

Remedies, malfunctions	27
Removal	
Immersion tube	23
Rinsing chamber	21
Sensor	18
Sensor adapter	16
Residual risks	4
Return form	32
Returns	28
Rinsing	19
Risk assessment	4

S

Safety chapter	4
Safety data sheets	5
Safety instructions	2
Sensor	
Cleaning	19
Glass breakage	27
Installation	17
Removal	18
Rinsing	19
Spanning wrench	29
Sensor adapter	
Installation	15
Removal	16
Sensor adapter design	6
Sensor adapter function	7
Sensor types, permissible	4
Service position	8
Moving into service position	14
Specifications	31
Supplemental directives	2

T

Troubleshooting	27
-----------------	----

W

Warnings	2
Water quality	31
Wetted materials	31



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website under the corresponding product description.

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