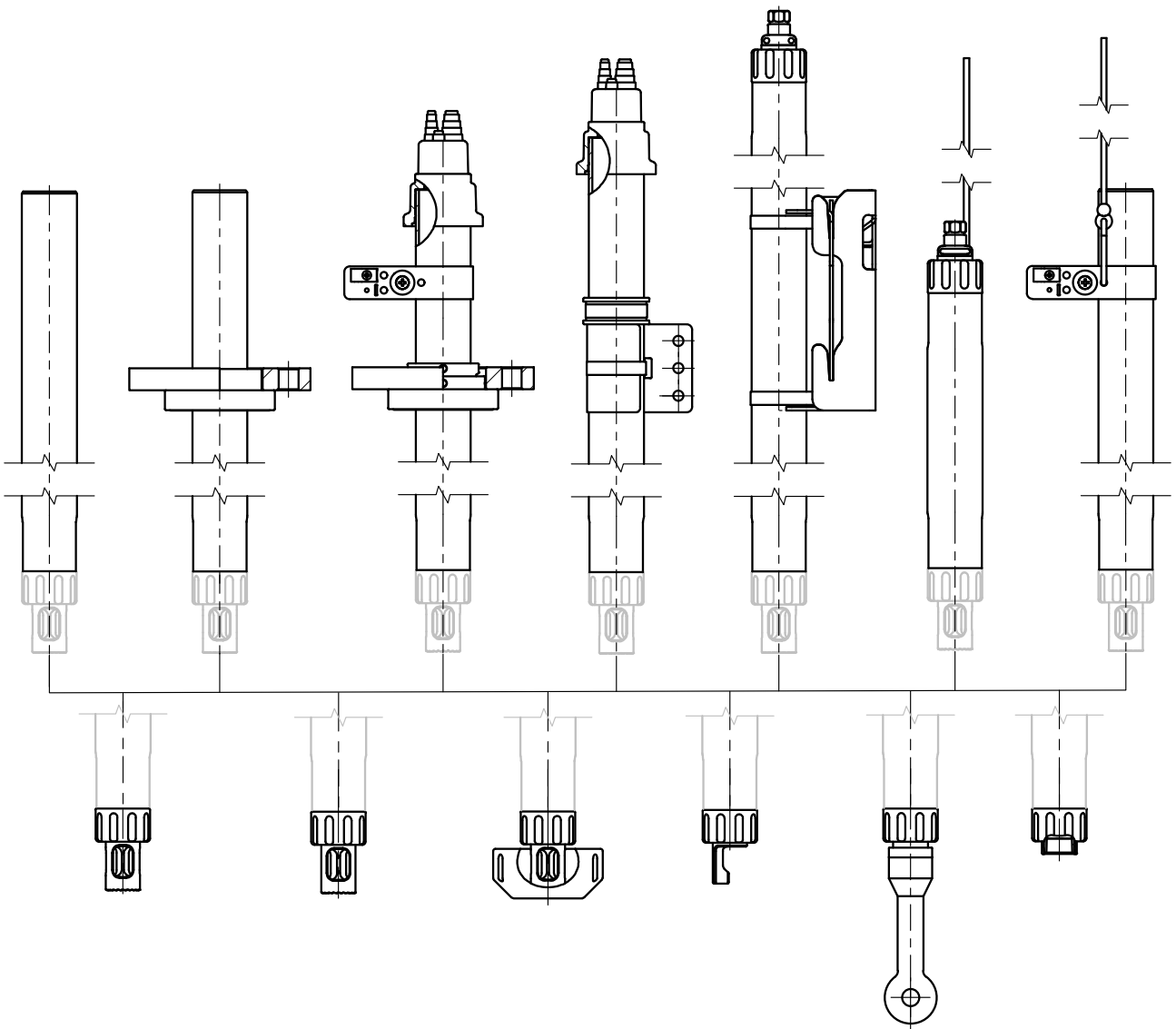


ARD50

Immersion Fitting



Read before installation.
Keep for future use.



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
	Item number in a figure
(1)	Item number in text

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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.

1.1 Intended Use

The ARD50 is an immersion fitting for installation in boilers, tanks, and open channels. The product is used to mount a sensor for measuring process parameters. The sensor is immersed in the process medium by the ARD50.

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 ARD50 can be used with the following sensor types:

Solid-electrolyte sensors	Outer diameter 12 mm, length 120 mm, sensor head thread PG 13.5
Optical sensors	Outer diameter 12 mm, length 120 mm, sensor head thread PG 13.5 with corresponding sensor adapter
Conductivity sensors	with corresponding sensor adapter

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. 33*

USE CAUTION AT ALL TIMES WHEN INSTALLING, USING, MAINTAINING OR OTHERWISE INTERACTING WITH THE PRODUCT. ANY USE OF THE PRODUCT EXCEPT AS SET FORTH HEREIN IS PROHIBITED, AND MAY RESULT IN SERIOUS INJURY OR DEATH, AS WELL AS DAMAGE TO PROPERTY. CUSTOMER SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGES RESULTING FROM OR ARISING OUT OF AN UNINTENDED USE OF THE PRODUCT.

All designations such as "device" or "product" refer to the ARD50.

1.2 Personnel Requirements

Customer shall ensure that any personnel using or otherwise interacting with the product is adequately trained and has been properly instructed.

The operating company shall comply and cause its personnel to comply with all applicable laws, regulations, codes, ordinances and relevant industry qualification standards related to product. Failure to comply with the foregoing shall constitute a violation of operating company's obligations concerning the product, including but not limited to an unintended use as described in this document.

1.3 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 moisture, ambient temperature, chemicals, and corrosion can negatively impact the safe operation of the product.

Please observe the following instructions:

- Only operate the ARD50 in compliance with the stated operating conditions.
→ *Specifications, p. 33*
- If using aggressive chemical process media, adjust the inspection and maintenance intervals accordingly. → *Inspection and Maintenance Intervals, p. 25*
- 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. 25*

1.4 Hazardous Substances

IN THE EVENT OF ANY CONTACT WITH HAZARDOUS SUBSTANCES OR OTHER INJURY HEREUNDER, SEEK IMMEDIATE MEDICAL ATTENTION OR FOLLOW APPLICABLE PROCEDURES TO ADDRESS HEALTH AND SAFETY OF PERSONNEL. FAILURE TO SEEK IMMEDIATE MEDICAL ATTENTION MAY RESULT IN SERIOUS INJURY OR DEATH.

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

- 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.

1.5 Safety Training

Upon request, Knick Elektronische Messgeräte GmbH & Co. KG will provide safety briefings and product training during initial commissioning of the product. More information is available from the relevant local contacts.

1.6 Maintenance and Spare Parts

Preventive Maintenance

Preventive maintenance can keep the product in good condition and minimize downtimes. Knick provides recommended inspection and maintenance intervals. → *Maintenance, p. 25*

Repair Service

The Knick Repair Service offers professional corrective maintenance for the product to the original quality. Upon request, a replacement unit can be obtained for the period of the repair.

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

2 Product

2.1 Package Contents

The package should contain:

- ARD50 in the version ordered
- User Manual

2.2 Example of a Product Version

The different versions of the ARD50 are coded in a product code. The codes used in the product code correspond to the version's options.

The product code is given on the nameplates, the delivery note, and the packaging sticker to identify the ARD50 version.

Immersion fitting		ARD50	-	N	P	2	K	W	0	0	B	1	0	0	-	0	0	0	
Material	PP				P														
Sensor adapter	1 x PG13.5; with rinse function					2													
Seal material	FFKM						K												
Process connection	Wall holder with locking function, stainless steel 1.4571							W	0	0									
Ambient side	Open, stainless steel bracket for cable strain relief										B								
Nominal base body length [cm]	100											1	0	0					
Special version	None																0	0	0

2.3 Product Code

Immersion fitting		ARD50	-	N														
Material	PP				P													
	PVDF				D													
Sensor adapter	1 x PG13.5				1													
	1 x PG13.5; with rinse function ¹⁾				2													
	SE655 / SE656				5													
	NPT ¾"				6													
	1 x PG13,5; with rinse function; for SE706 / SE740				K													
Sensor adapter with wetting cup	1 x PG13.5; with wetting cup ²⁾				A													
	1 x PG13.5; with rinse function; with wetting cup ^{2) 1)}				B													
Seal material	FKM				A													
	EPDM				B													
	FFKM				K													
	FFKM Perlast G75B				L													
Process connection	Flange, loose, PN10/16, DN 50					Ø	B	1										
	Flange, loose, PN10/16, DN 65					Ø	B	2										
	Flange, loose, PN10/16, DN 80					Ø	B	3										
	Flange, loose, PN10/16, DN 100					Ø	B	4										
	Flange, loose, PN10/16, DN 50, sliding flange bushing					V	B	1										
	Flange, loose, PN10/16, DN 65, sliding flange bushing					V	B	2										
	Flange, loose, PN10/16, DN 80, sliding flange bushing					V	B	3										
	Flange, loose, PN10/16, DN 100, sliding flange bushing					V	B	4										
	Flange, loose, ANSI, 150 lbs, 2"					Ø	D	1										
	Flange, loose, ANSI, 150 lbs, 2.5"					Ø	D	2										
	Flange, loose, ANSI, 150 lbs, 3"					Ø	D	3										
	Flange, loose, ANSI, 150 lbs, 4"					Ø	D	5										
	Flange, loose, ANSI, 150 lbs, 2", sliding flange bushing					V	D	1										
	Flange, loose, ANSI, 150 lbs, 2.5", sliding flange bushing					V	D	2										
	Flange, loose, ANSI, 150 lbs, 3", sliding flange bushing					V	D	3										
	Flange, loose, ANSI, 150 lbs, 4", sliding flange bushing					V	D	5										
	Wall holder with locking function, stainless steel 1.4571						W	Ø	Ø									
	Catenary suspension ³⁾						S	Ø	Ø									
	Catenary suspension, submersible version with weight ⁴⁾						S	T	Ø	E	Ø	2	5					
	Pipe clamp with adjustable stop						R	Ø	Ø									
Without process connection						Ø	Ø	Ø										

¹⁾ Combinable with ambient side options A, B, C, or D only.

²⁾ Wetting cup outer diameter 100 mm.

³⁾ Combinable with ambient side options B, D, E, or F only.

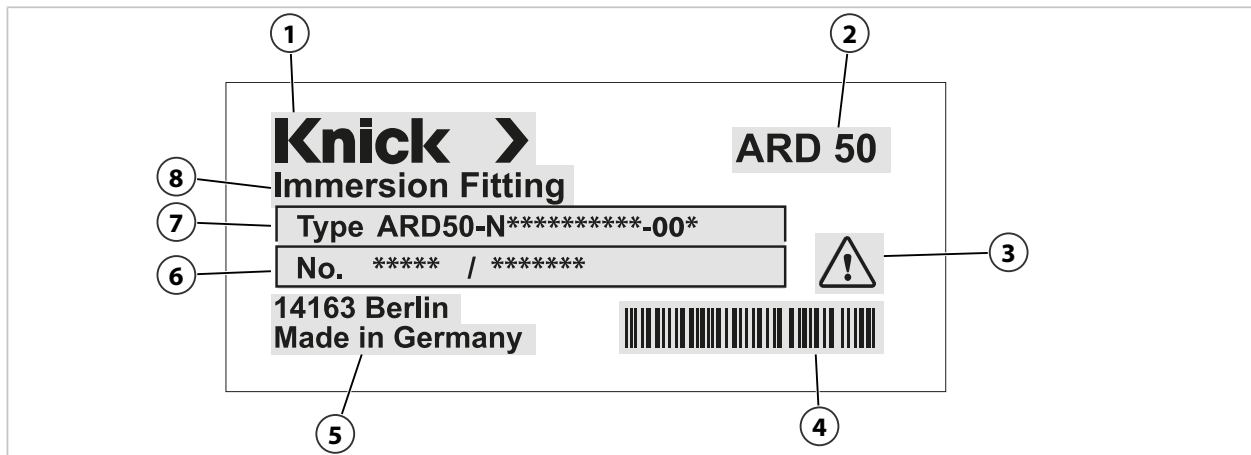
⁴⁾ Combinable with ambient side option E only. Option 025 only for nominal length.

Immersion fitting		ARD50	-	N	-	-	-	-	-	-	-	-	-	-	-	-
Ambient side	Open	A														
	Open, stainless steel bracket for cable strain relief	B														
	Rubber cap with EPDM cable support sleeves	C														
	Rubber cap with EPDM cable support sleeves, stainless steel bracket for cable strain relief	D														
	Submersible cable gland	E														
	Submersible cable gland, stainless steel bracket for cable strain relief	F														
Nominal base body length [cm]	25		0	2	5	-										
	50		0	5	0	-										
	100		1	0	0	-										
	150		1	5	0	-										
	200 ¹⁾		2	0	0	-										
	250 ¹⁾		2	5	0	-										
	Special length		*	*	*	-										
Special version	None												-	0	0	0
	Customer-specific special datasheet												-	0	0	F

¹⁾ Additional support may be required depending on the flow conditions.

2.4 Nameplate

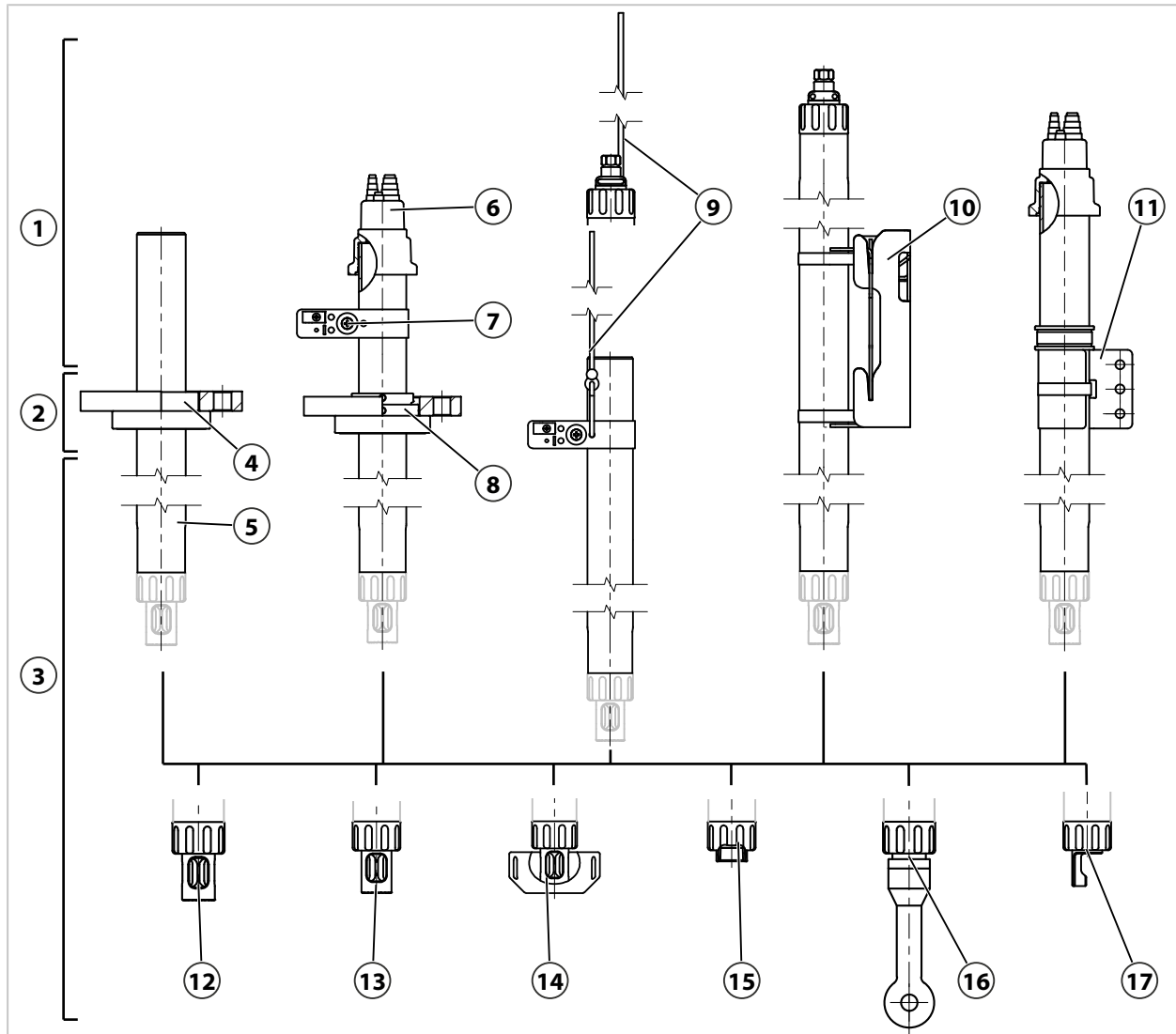
The ARD50 immersion fitting is identified by a nameplate.



1 Name of manufacturer	5 Manufacturer's address with designation of origin
2 Product name	6 Item production number / serial number
3 Safety alert symbol: Observe the product documentation!	7 Type (product code)
4 Barcode (item production number, serial number)	8 Product line

2.5 Structure of the Immersion Fitting

The ARD50 immersion fitting is a modular system. → *Product Code, p. 8*



1 Ambient side	10 Wall holder
2 Process connection	11 Pipe clamp
3 Process side	12 PG 13.5 sensor adapter
4 Loose flange, fixed flange bushing	13 PG 13.5 sensor adapter with rinse function
5 Fitting tube with sleeve geometry	14 PG 13.5 sensor adapter with wetting cup
6 Plug-in rubber cap with cable support sleeves	15 NPT 3/4" sensor adapter
7 Strain relief for cables and tubing	16 SE655/SE656 sensor adapter
8 Loose flange, sliding flange bushing	17 PG 13.5 sensor adapter with rinse function for SE705/SE740
9 Catenary suspension	

2.6 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.



Inlet check valve¹⁾.

¹⁾ Dependent on the ordered version. → *Product Code, p. 8*

2.7 Permissible Changes

The ARD50 is a modular system and can be adjusted to reflect changed conditions by the customer. The following are examples of possible changes:

- Change to a different sensor adapter → *Installing and Removing Sensors, p. 18*
- Change to the process connection → *Product Code, p. 8*
- Change to the ambient side → *Product Code, p. 8*
- Replacement of process-wetted components (seals) with other material characteristics
→ *Maintenance, p. 25*

Any changes may result in deviations between the information on the nameplate and the actual version of the ARD50. The operating company must assess and document the changes. In the event of a change to the version, the product must be identified accordingly.

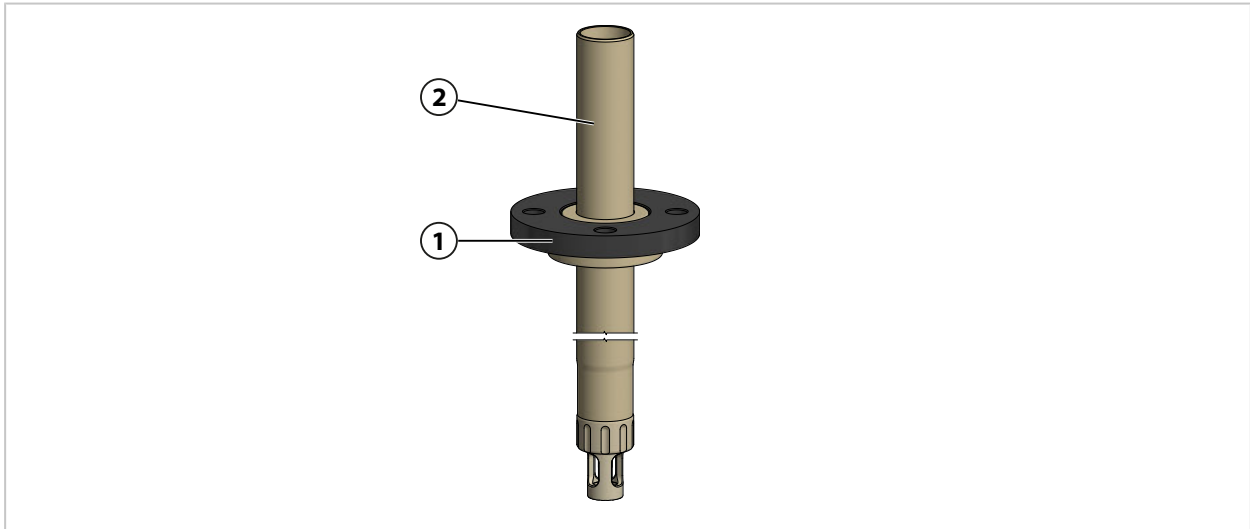
3 Installation

3.1 General Installation Instructions

- Check to ensure the ARD50 package contents are complete.
- Check the ARD50 immersion fitting for damage.
- Check the immersion depth of the immersion fitting. In a flowing process medium and at a length of greater than 2 m, provide the ARD50 with additional support as necessary.

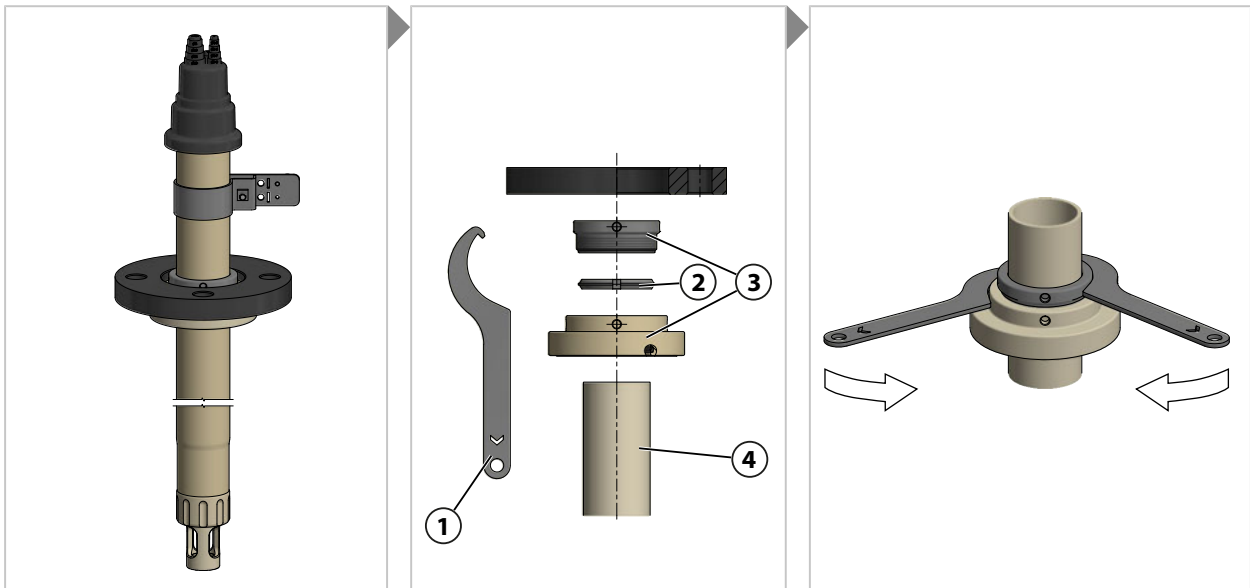
3.2 Loose Flange: Installation

Loose Flange, Fixed Flange Bushing



01. Fasten the ARD50 immersion fitting (2) with the loose flange (1) to a suitable mating flange.

Loose Flange, Sliding Flange Bushing

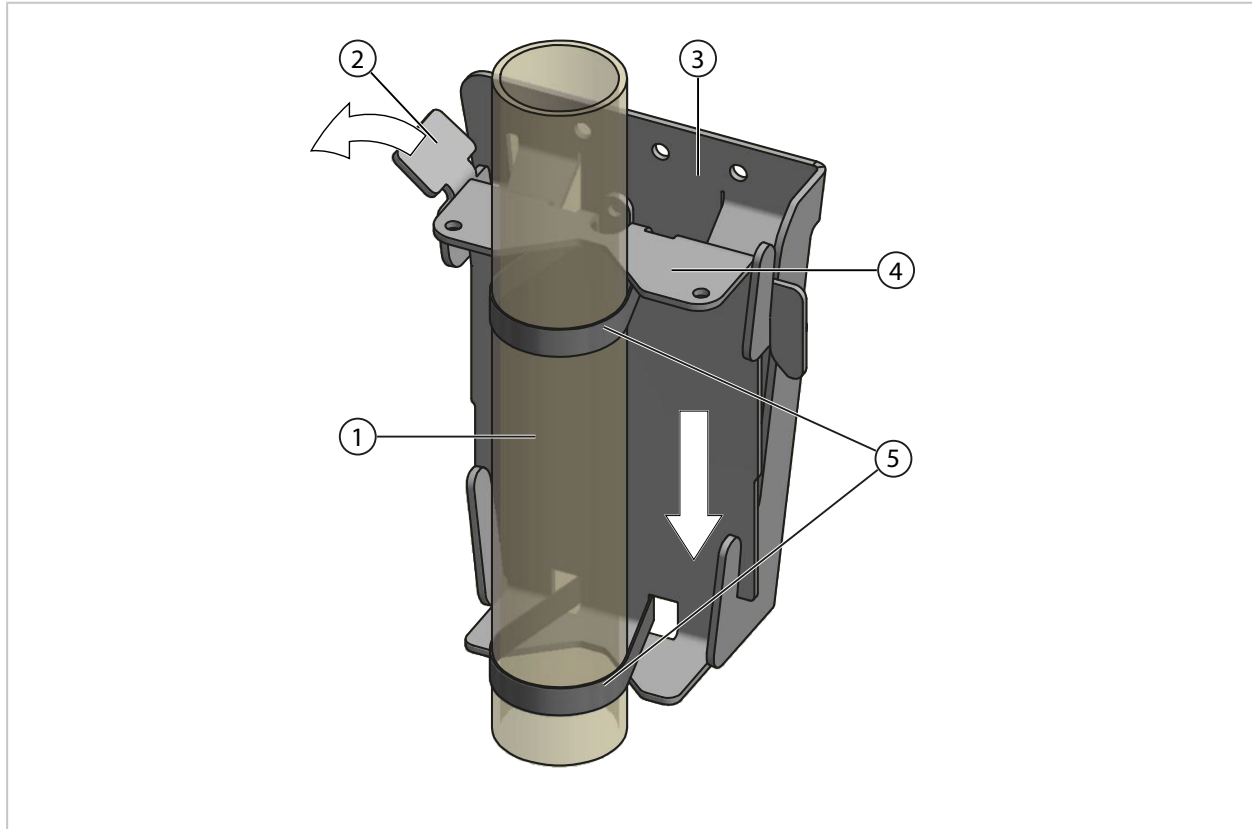


Note: The immersion depth of the ARD50 immersion fitting is adjusted using the three-part sliding flange bushing.

01. Loosen the flange bushing (3) with the two spanner wrenches (1).
02. Push the flange bushing (3) with ferrule (2) to the desired position and tighten with the two spanner wrenches (1).

Note: When tightening, the ferrule (2) is anchored in the base body (4).

3.3 Wall Holder: Installation

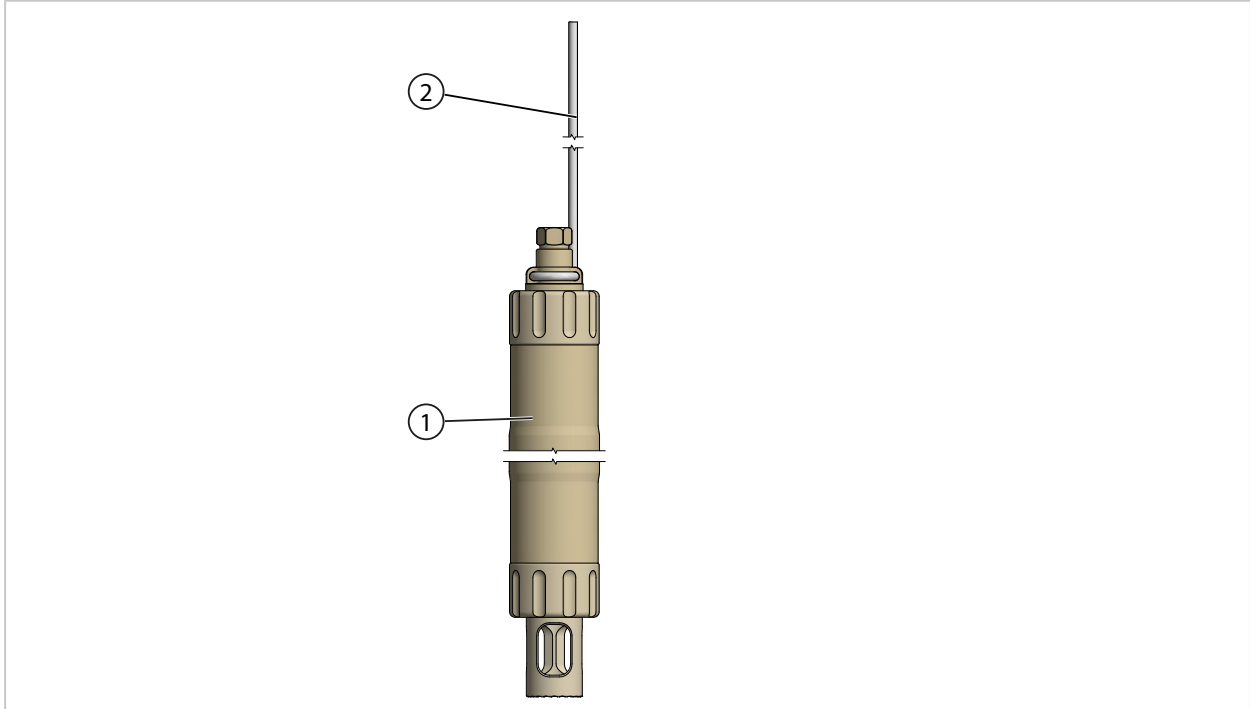


01. Push the latch **(2)** to the side and disconnect the ARD50 immersion fitting **(1)**, including the device holder **(4)**, from the wall holder **(3)**.
02. Screw the wall holder **(3)** to the wall.
03. Push the device holder **(4)** with the ARD50 immersion fitting **(1)** into the wall holder **(3)** until you hear a click.

Setting the Immersion Depth

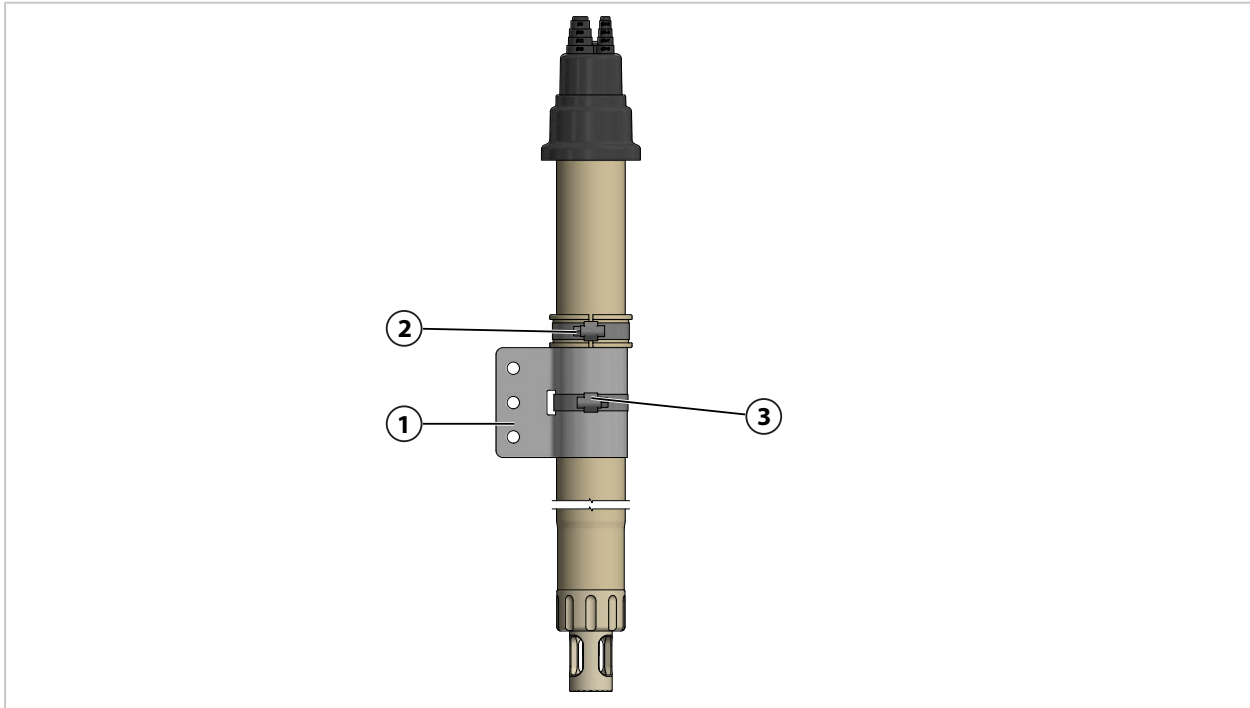
01. Loosen the hose clamps **(5)**.
02. Set the ARD50 immersion fitting **(1)** to the desired immersion depth.
03. Tighten the hose clamps **(5)**.

3.4 Catenary Suspension: Installation



01. Securely fasten the cable (2) to a suitable point in the measuring environment.

3.5 Pipe Clamp: Installation



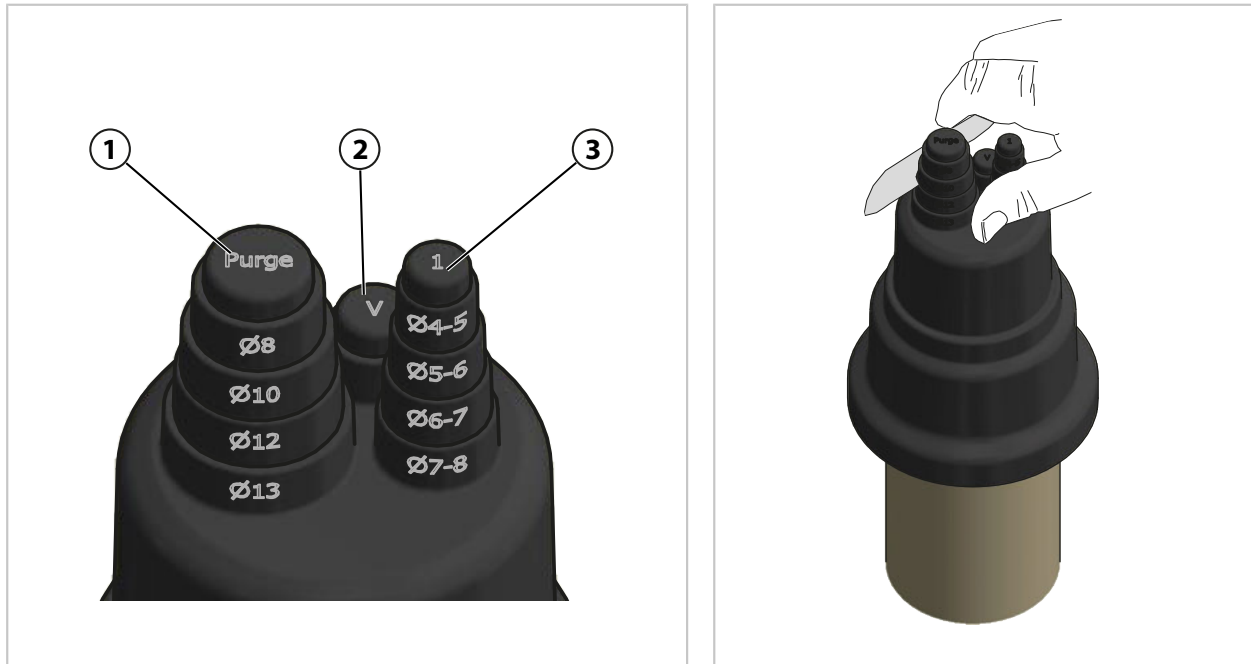
01. Screw the holder (1) to a suitable point in the measuring environment.

Setting the Immersion Depth

01. Loosen the stop ring (2) and set it to the required immersion depth.
02. Loosen the pipe clamp (3) and push the holder (1) up to the stop ring (2).
03. Tighten the stop ring (2).
04. Tighten the pipe clamp (3).

3.6 Rubber Cap: Installation

The rubber cap seals off the ambient-side fitting opening. To feed through the hoses and cables, cut off the grommets above the diameter marking.



01. Using a knife, cut off the grommet for the sensor cable **(3)** at the relevant cable diameter marking.
02. As necessary, and again using a knife, cut off the grommet for the rinsing hose **(1)** at the relevant hose diameter marking.

Note: If condensate forms during operation, or for interior ventilation of the ARD50 immersion fitting, cut off the ventilation grommet **(2)**.

03. As necessary, cut off the ventilation grommet **(2)** using a knife.

4 Commissioning

⚠ WARNING! Process medium may leak from the ARD50 in the event of damage or improper installation, and may contain hazardous substances. Follow the safety instructions. → *Safety, p. 5*

Note: Upon request, Knick will provide safety briefings and product training during initial commissioning of the product. More information is available from the relevant local contacts.

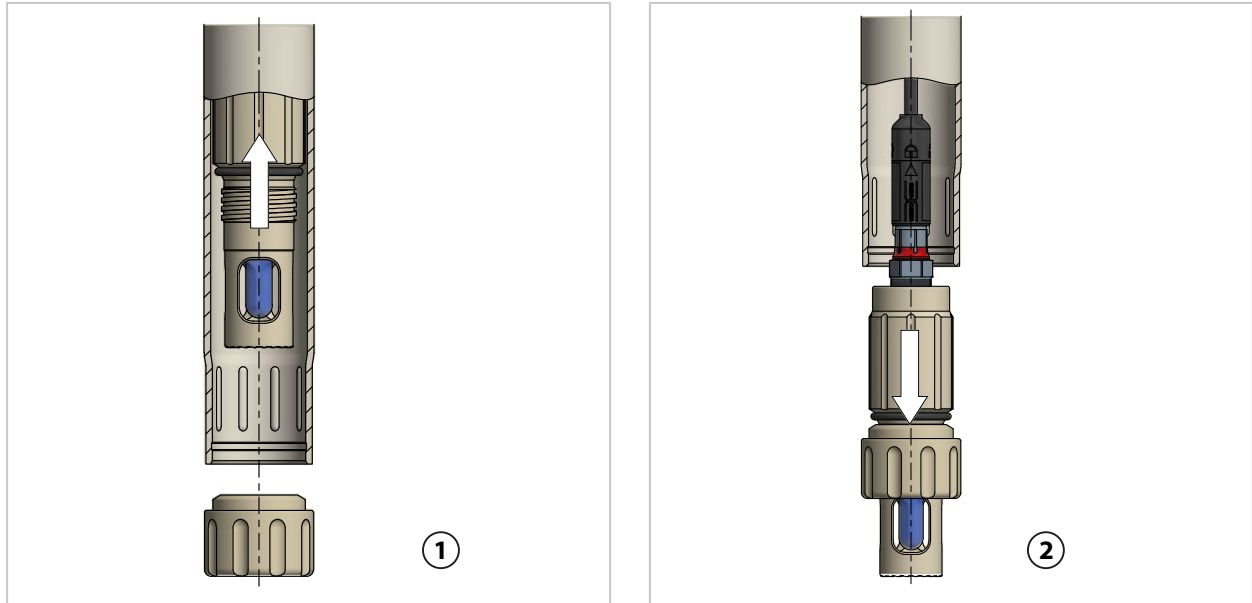
01. Install the ARD50. → *Installation, p. 13*
02. Install the sensor with the sensor cable. → *Installing and Removing Sensors, p. 18*
03. Ensure that the ARD50 is securely fastened.
 - ✓ ARD50 is ready for operation.

5 Operation

5.1 Installing and Removing Sensors

⚠ WARNING! Process media may contain hazardous substances: Rinse and clean the ARD50 after removing it from the process medium. Follow the safety instructions. → *Safety, p. 5*

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



Sensors with a PG 13.5 connection can be installed and removed either upward via the ambient-side opening **(1)** or downward via the process-side opening **(2)**.

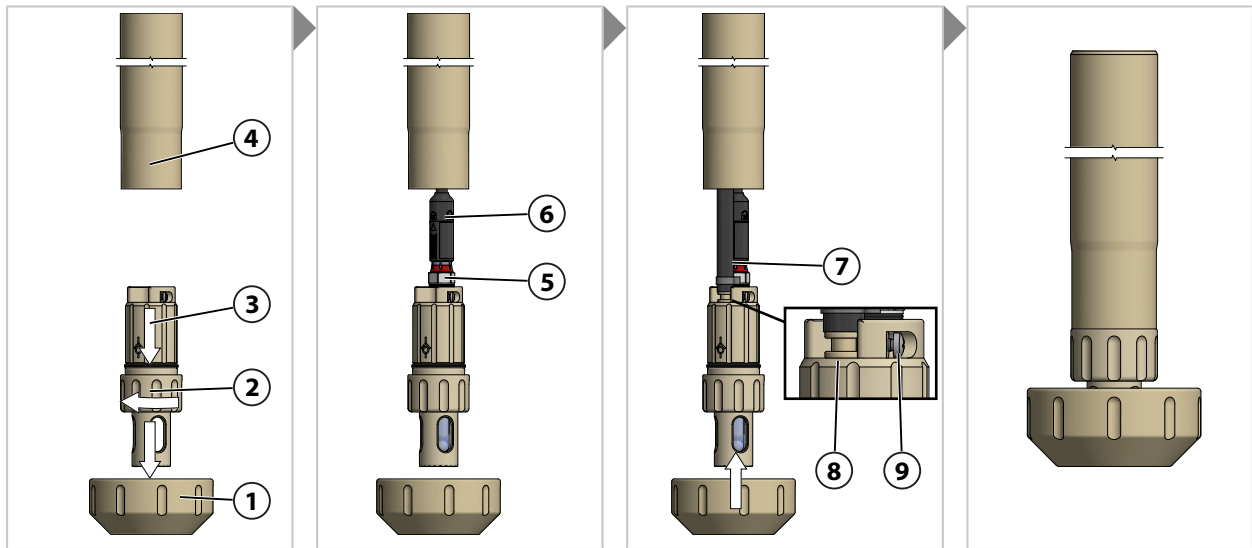
When using the ambient-side opening, unscrew the coupling nut. Take care not to lose the O-ring.

Only installation and removal via the process-side opening **(2)** is described below.

5.1.1 Installing and Removing the Sensor with PG 13.5 Sensor Adapter

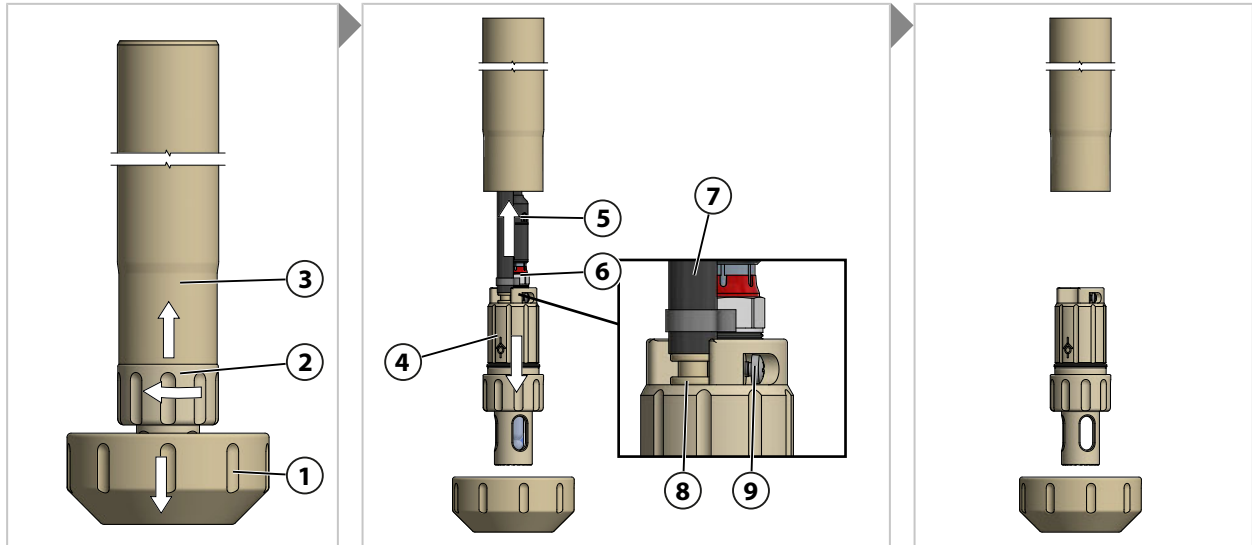
Note: When using pH sensors with a junction, align the junction with the rinsing nozzles.

Installing the Sensor with PG 13.5 Sensor Adapter, Incl. Rinse Function and Wetting Cup



01. As necessary, unscrew the wetting cup **(1)**.
02. Loosen the coupling nut **(2)** ¼ to ½ a turn.
03. Pull the sensor adapter **(3)** out of the fitting tube **(4)**.
04. Insert the sensor **(5)** into the sensor adapter **(3)** and tighten it; tightening torque 1 ... 3 Nm.
05. Pull the sensor cable **(6)** through the fitting tube **(4)** and attach it to the sensor **(5)**.
06. As necessary, pull the inlet hose DN6 through the fitting tube **(4)**, push it fully into the opening **(8)**, and tighten the screw **(9)**.
07. Push the sensor adapter **(3)** into the fitting tube **(4)**.
08. Tighten the coupling nut **(2)**.
09. As necessary, screw in the wetting cup **(1)** until you hear a click.

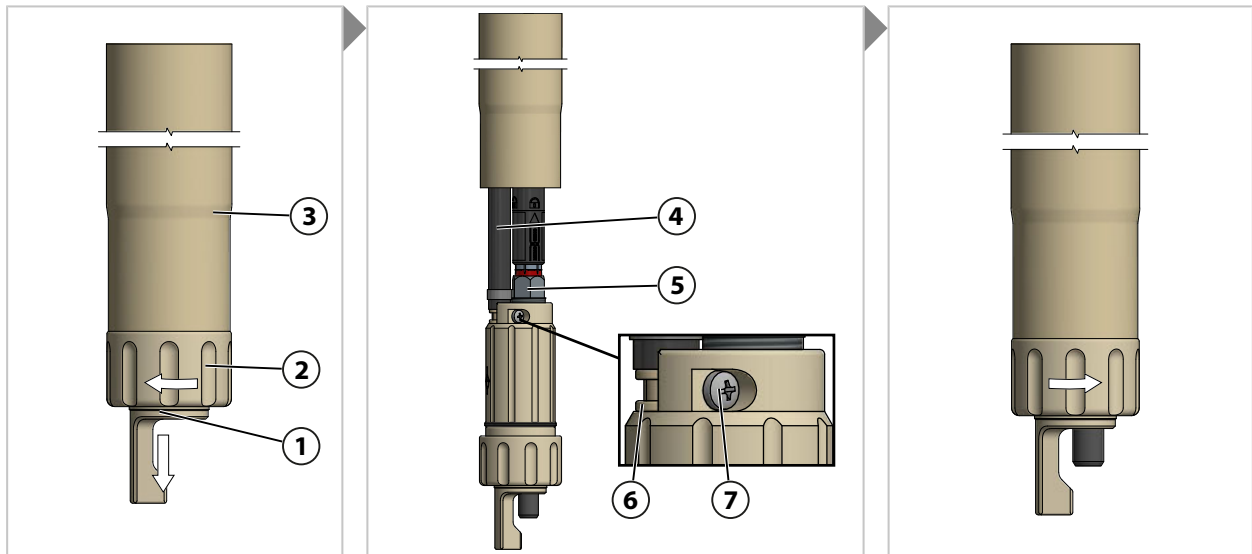
Removing the Sensor with PG 13.5 Sensor Adapter, Incl. Rinse Function and Wetting Cup



01. As necessary, unscrew the wetting cup **(1)**.
02. Loosen the coupling nut **(2)** $\frac{1}{4}$ to $\frac{1}{2}$ a turn.
03. Pull the sensor adapter **(4)** out of the fitting tube **(3)**.
04. Disconnect the sensor cable **(5)** from the sensor **(6)**.
05. Unscrew the sensor **(6)** from the sensor adapter **(4)**.
06. As necessary, loosen the screw **(9)** and pull the inlet hose DN6 **(7)** out of the opening **(8)**.

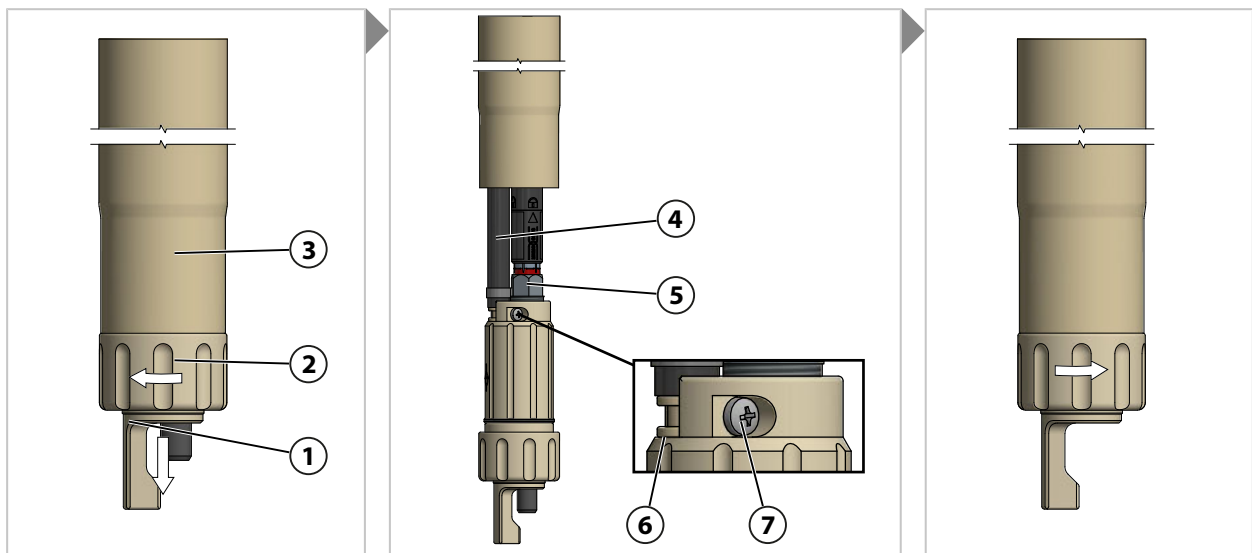
5.1.2 Installing and Removing the Sensor with SE706/SE740 Sensor Adapter

Installing the Sensor with SE706/SE740 Sensor Adapter



01. Loosen the coupling nut **(2)** $\frac{1}{4}$ to $\frac{1}{2}$ a turn.
02. Pull out the sensor adapter **(1)**.
03. Insert the sensor **(5)** into the sensor adapter **(1)** and tighten it; tightening torque 1 ... 3 Nm.
04. Pull the sensor cable through the fitting tube **(3)** and connect it to the sensor **(5)**.
05. Pull the inlet hose DN6 **(4)** through the fitting tube **(3)**, push it fully into the opening **(6)**, and tighten the screw **(7)**.
06. Tighten the coupling nut **(2)**.

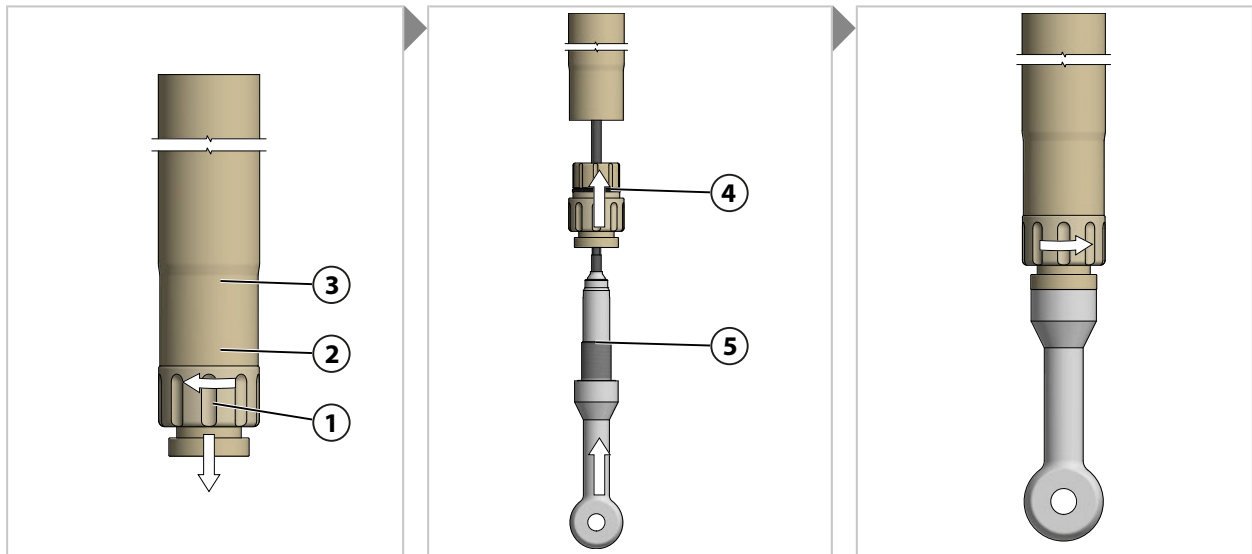
Removing the Sensor with SE706/SE740 Sensor Adapter



01. Loosen the coupling nut **(2)** $\frac{1}{4}$ to $\frac{1}{2}$ a turn.
02. Pull the sensor adapter **(1)** out of the fitting tube **(3)**.
03. Disconnect the sensor cable from the sensor **(5)**.
04. Unscrew the sensor **(5)** from the sensor adapter **(1)**.
05. As necessary, loosen the screw **(7)** and pull the inlet hose DN6 **(4)** out of the opening **(6)**.

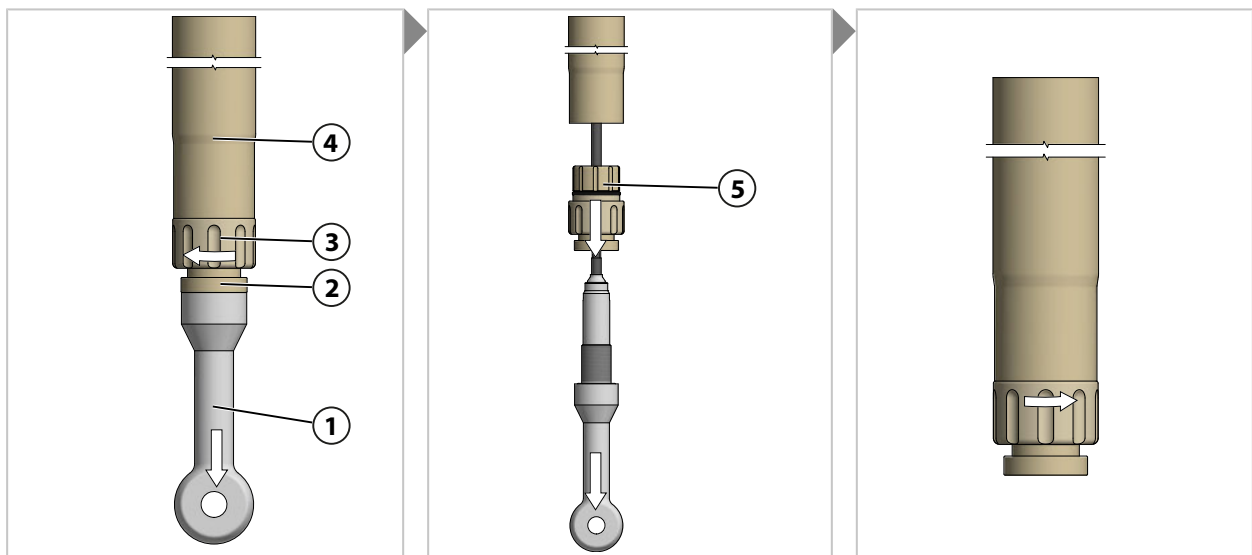
5.1.3 Installing and Removing the Sensor with SE655/SE656 Sensor Adapter

Installing the Sensor with SE655/SE656 Sensor Adapter



01. Loosen the coupling nut **(2)** $\frac{1}{4}$ to $\frac{1}{2}$ a turn.
02. Pull the sensor adapter **(4)** out of the fitting tube **(3)**.
03. Pull the sensor cable through the sensor adapter **(4)** with ring **(1)** and the fitting tube **(3)**.
04. Screw in and tighten the sensor **(5)**.
05. Push the sensor adapter **(4)** with the sensor **(5)** into the fitting tube **(3)**.
06. Tighten the coupling nut **(2)**.

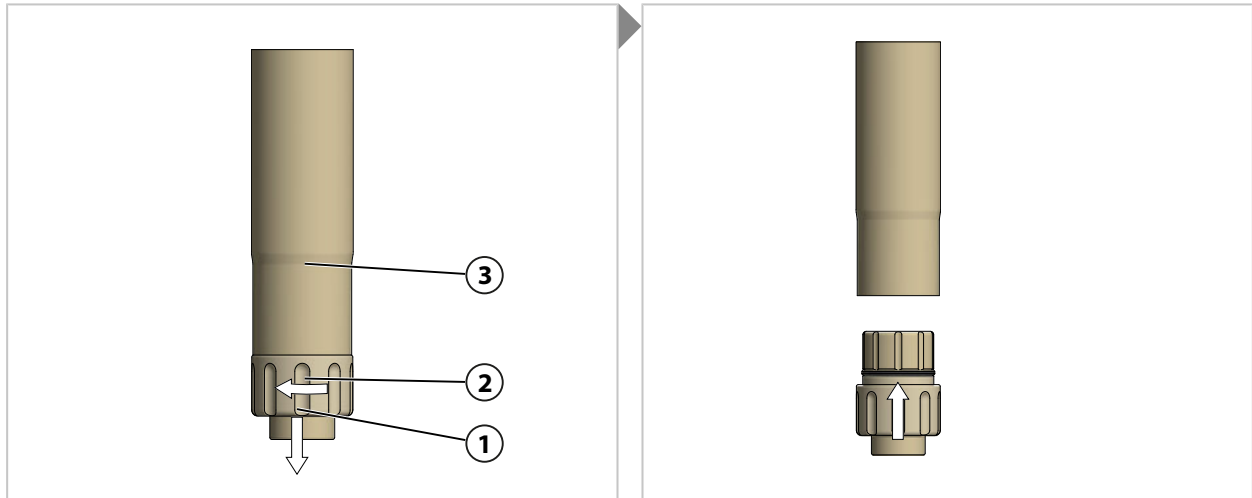
Removing the Sensor with SE655/SE656 Sensor Adapter



01. Loosen the coupling nut **(3)** $\frac{1}{4}$ to $\frac{1}{2}$ a turn.
02. Pull the sensor adapter **(5)** out of the fitting tube **(4)**.
03. Pull out the sensor cable through the sensor adapter **(5)** with ring **(2)** and the fitting tube **(4)**.
04. Remove the sensor **(1)**.
05. Push the sensor adapter **(5)** into the fitting tube **(4)**.
06. Tighten the coupling nut **(3)**.

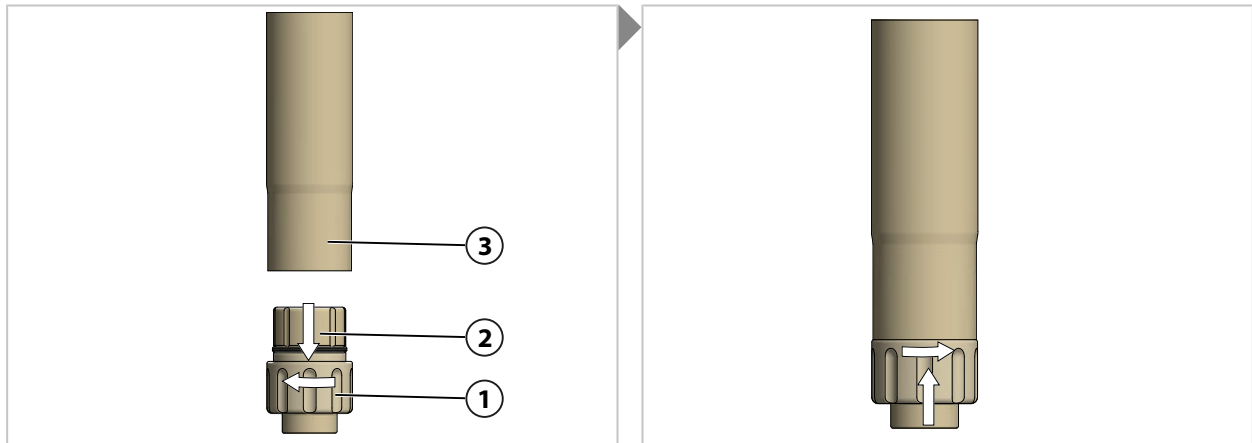
5.1.4 Installing and Removing the Sensor with NPT Sensor Adapter

Installing the Sensor with NPT 3/4" Sensor Adapter



01. Loosen the coupling nut **(2)** ¼ to ½ a turn.
02. Pull out the sensor adapter **(1)**.
03. Insert the sensor¹⁾ into the sensor adapter **(1)** and tighten it; tightening torque 1 ... 3 Nm.
04. Pul the sensor cable¹⁾ through the fitting tube **(3)** and, as necessary, connect it to the sensor.
05. Push the sensor adapter **(1)** into the fitting tube **(3)**.
06. Tighten the coupling nut **(2)**.

Removing the Sensor with NPT 3/4" Sensor Adapter



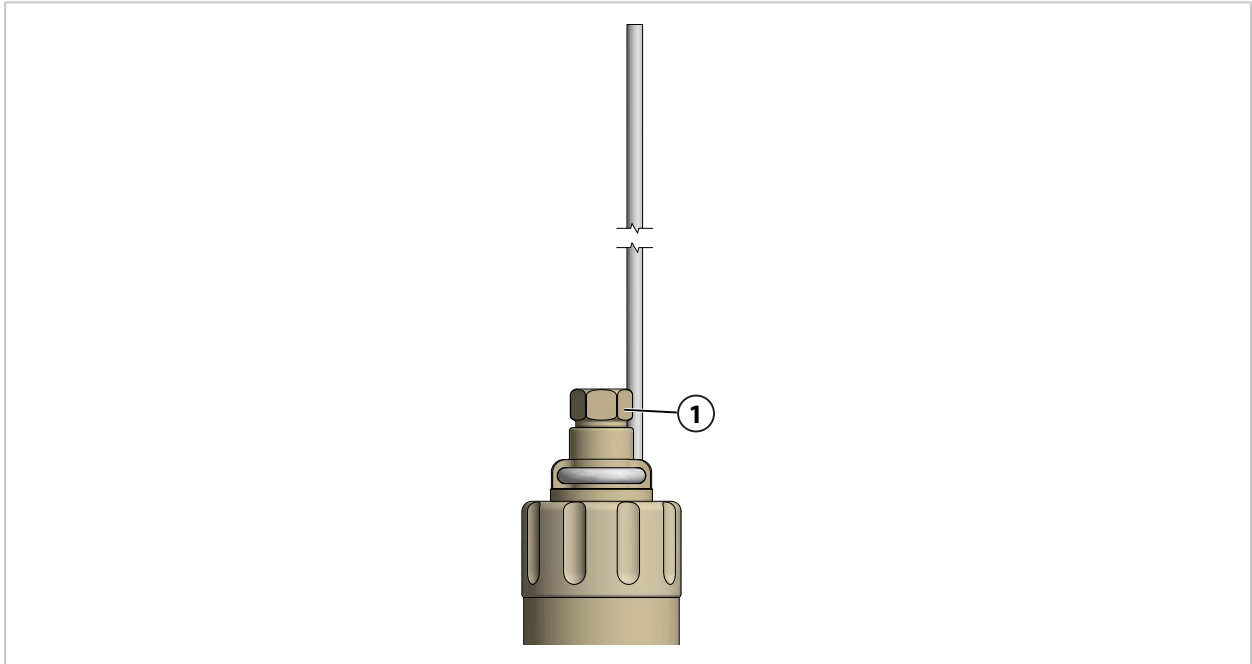
01. Loosen the coupling nut **(1)** ¼ to ½ a turn.
02. Pull the sensor adapter **(2)** out of the fitting tube **(3)**.
03. As necessary, disconnect the sensor cable¹⁾ from the sensor¹⁾.
04. Unscrew the sensor¹⁾ from the sensor adapter.

¹⁾ Not shown.

5.1.5 Option: Submersible Cable Gland

For version with ambient side options E or F. → *Product Code, p. 8*

NOTICE! Process medium may enter the ARD50 immersion fitting and damage the sensor. Tighten the cable gland **(1)**.



01. Loosen the cable gland **(1)** with the open-end wrench A/F 17.
02. Pull the sensor cable¹⁾ through the cable gland **(1)**.
03. Tighten the cable gland **(1)** with the open-end wrench A/F 17.

¹⁾ Not shown.

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	Check whether process medium is leaking into the environment through the ARD50. → <i>Troubleshooting, p. 28</i> If necessary, replace the O-rings. → <i>Replacing the O-Rings, p. 26</i>
After 6 – 12 months ²⁾	Repeat the steps carried out during the first inspection.
After approx. 2 years	In particular if using chemically aggressive process media, check the O-rings and replace them if necessary. → <i>Replacing the O-Rings, p. 26</i>

6.1.2 Knick Premium Service

Knick offers individual service packages tailored to the customer's requirements for inspections and functional tests on the product.

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

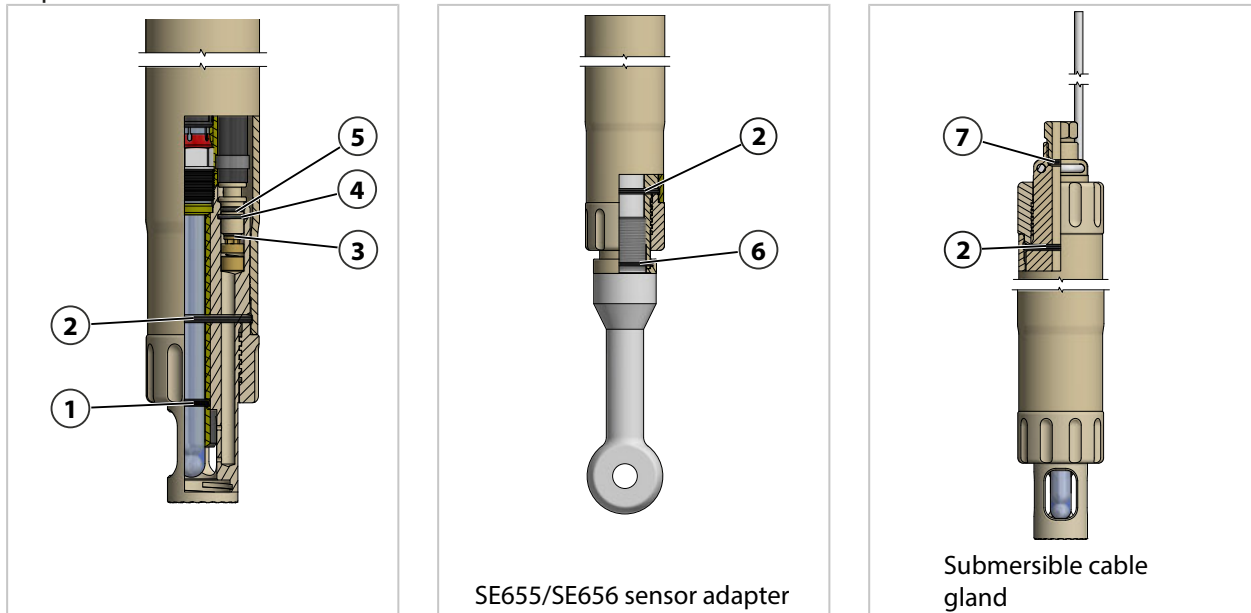
¹⁾ The stated intervals are general recommendations based on Knick's experience. The actual intervals are dependent on the specific application for which the immersion fitting is used.

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 Replacing the O-Rings

The process-wetted and drive media-wetted O-rings must be replaced in accordance with the inspection and maintenance intervals.



- | | |
|--|-----------------------------------|
| 1 O-ring 11.91 x 2.62 mm | 5 O-ring 8 x 1.5 mm |
| 2 O-ring 32.92 x 3.53 mm (may be coated) | 6 O-ring 31 x 2 mm |
| 3 O-ring 4 x 2 mm | 7 O-ring 8 x 3 mm (may be coated) |
| 4 O-ring 10 x 1.5 mm | |

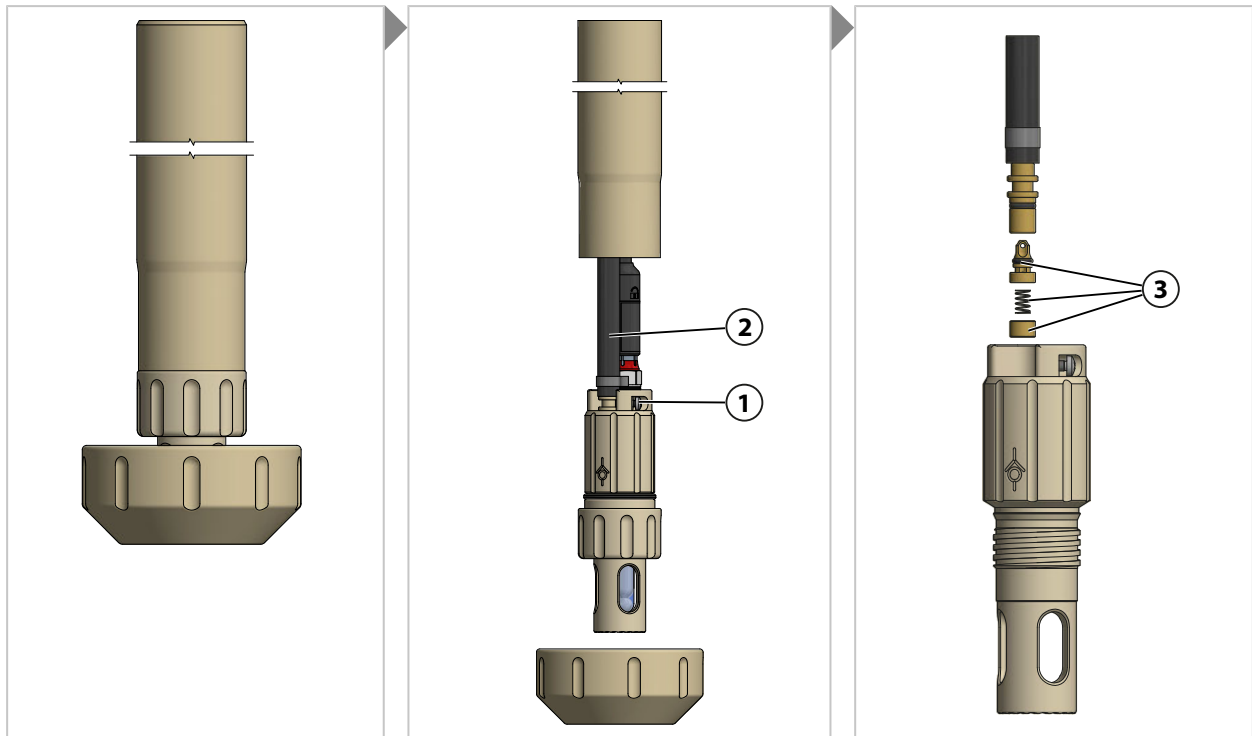
Replacing the O-Rings

01. As necessary, remove the ARD50. → *Installation, p. 13*
02. Remove the sensor. → *Installing and Removing Sensors, p. 18*
03. As necessary, remove the check valve. → *Removing the Check Valve, p. 27*
04. Replace the O-rings.

6.2.2 Removing the Check Valve

Remove the check valve to check contamination of the inlet hose and, as necessary, perform cleaning. Only for option: sensor adapter with rinse function.

Note: The check valve can only be removed after the sensor adapter has been removed.



NOTICE! Take care not to lose the small parts! Store safely for later installation.

01. As necessary, remove the sensor. → *Installing and Removing Sensors, p. 18*
02. Loosen the screw **(1)**.
03. Pull out the inlet hose DN6 **(2)**.
04. Remove the check valve **(3)**.
05. As necessary, replace the O-ring. → *Replacing the O-Rings, p. 26*
06. As necessary, clean the check valve **(3)**.

7 Troubleshooting

Malfunction state	Possible causes	Remedy
Process medium leaks into the environment through the ARD50.	Deformed fitting tube	Only operate the ARD50 within the specified pressure and temperature range. → <i>Specifications, p. 33</i>
	Sensor adapter loose	Tighten the sensor adapter's coupling nut.
	Missing or defective O-rings	Check presence and condition of O-rings. As necessary, replace O-rings → <i>Replacing the O-Rings, p. 26</i>
	Inlet hose DN6 not secured with screw	Secure the inlet hose with a screw → <i>Installing and Removing Sensors, p. 18</i>
	Missing or defective O-rings to process connection	Check presence and condition of O-rings. As necessary, replace O-rings → <i>Replacing the O-Rings, p. 26</i>

8 Removal from Operation

8.1 Immersion Fitting: Removal

⚠ WARNING! Process media may contain hazardous substances: Rinse and clean the ARD50 after removing it from the process medium. Follow the safety instructions. → *Safety, p. 5*

01. As necessary, depressurize the rinse connection.
02. Disconnect the ARD50 immersion fitting from the process connection. → *Installation, p. 13*
03. As necessary, clean or rinse the ARD50 immersion fitting.
04. Remove the sensor. → *Installing and Removing Sensors, p. 18*
05. As necessary, seal off the process connection using suitable means.

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. 36*

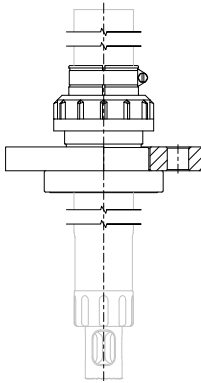
Further information can be found at www.knick.de.

8.3 Disposal

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

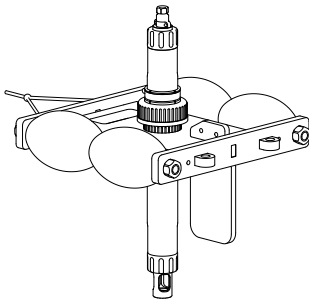
The ARD50 can contain various materials, depending on the version concerned. → *Product Code, p. 8*

9 Accessories



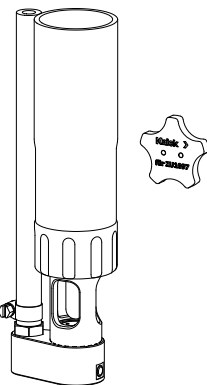
ZU1056 Sliding Flange Bushing for Quick Removal - Process Connection for ARD50 Immersion Fitting

The ZU1056 can be used to remove and install the ARD50 immersion fitting without having to loosen the loose flange's coupling. The immersion depth is continuously adjustable and does not need to be readjusted during removal or installation.



ZU1066 Floating Platform for ARD50 Immersion Fitting

The floating platform is used with the immersion fitting during measurements in water or open vessels. A removable bar stabilizes the floating platform in flowing water.



ZU1097 External Rinsing Adapter for ARD50 Immersion Fitting

The external rinsing adapter is used to clean the sensor inside the ARD50 immersion fitting. The connection hose for the rinse medium runs outside the fitting tube. The non-return valve inside the rinsing adapter prevents soiling of the connection hose.

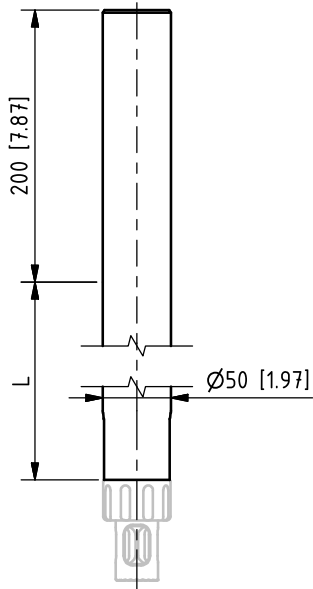


ZU0759 Protective Cap

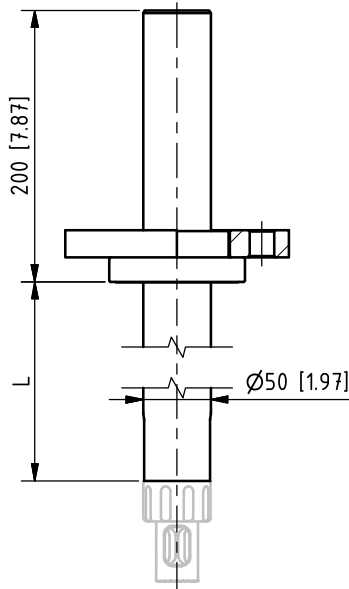
The protective cap protects against the effects of weather exposure and prevents the ingress of external liquids or particles into the area of the sensor connections.

10 Dimension Drawings

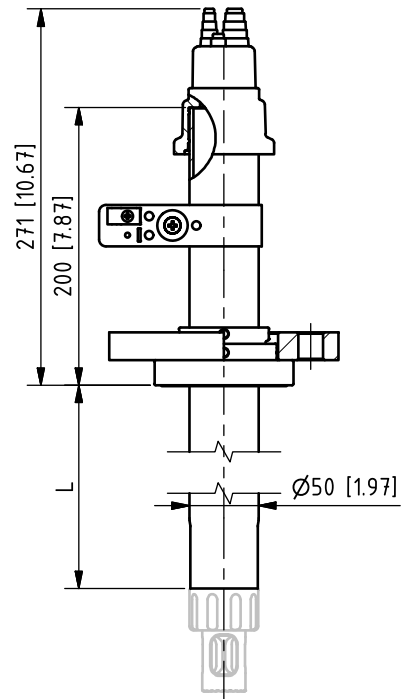
Note: All dimensions are given in millimeters [inches].



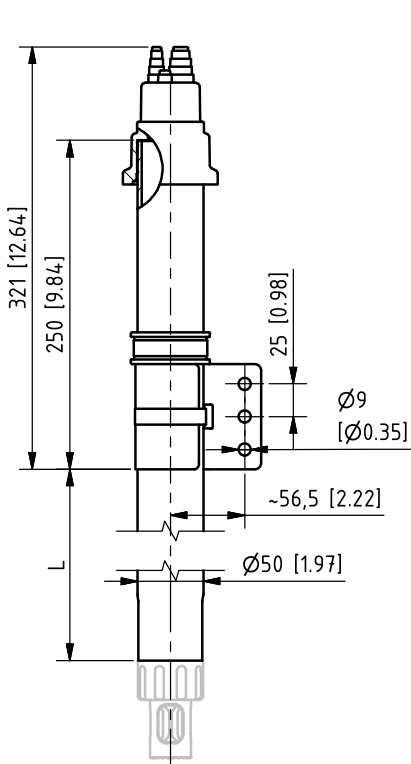
Without process connection



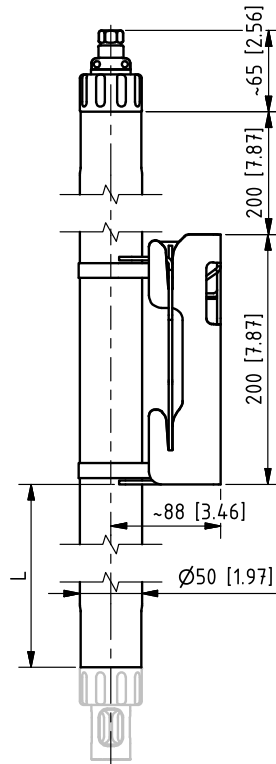
Loose flange,
fixed flange bushing



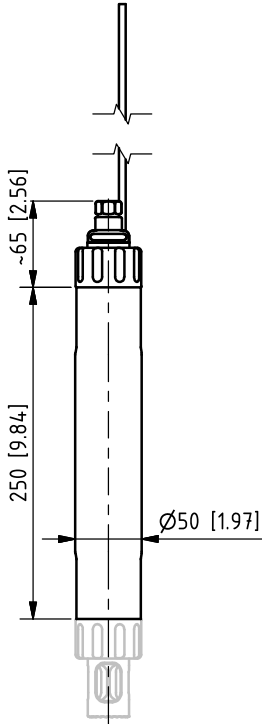
Loose flange,
sliding flange bushing



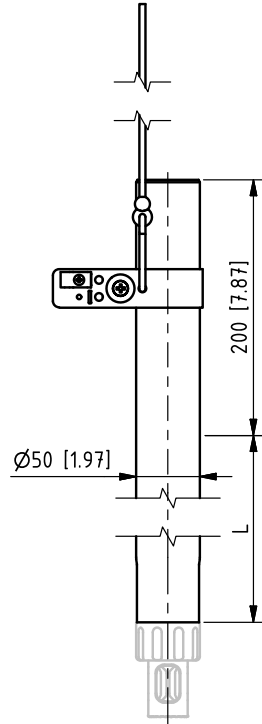
Pipe clamp



Wall holder

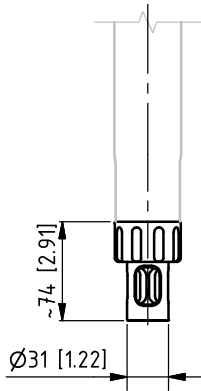


Submersible version
with catenary suspension

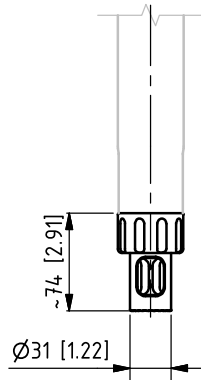


Catenary suspension

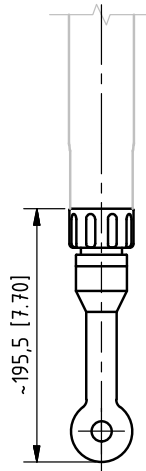
Sensor Adapters



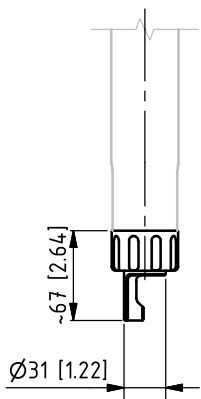
PG 13.5



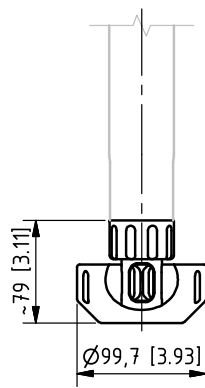
PG 13.5 with rinse function



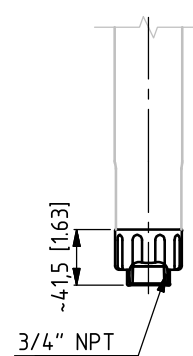
SE655 / SE656



PG 13.5 with rinse function
for SE706/SE740



Static
wetting cup



NPT 3/4"

11 Specifications

Permissible process pressure / process temperature

PP-H	
At 0 ... 30 °C (32 ... 86 °F)	1 bar (14.5 psi)
At 90 °C (194 °F)	Falling to 0.5 bar (7.3 psi)
PVDF	
At -10 ... 50 °C (14 ... 122 °F)	1 bar (14.5 psi)
At 120 °C (248 °F)	Falling to 0.5 bar (7.3 psi)

Permissible rinsing pressure / rinse medium temperature

PP-H	
At 5 ... 60 °C (41 ... 140 °F)	6 bar (90 psi)
PVDF	
At 5 ... 90 °C (41 ... 194 °F)	8 bar (116 psi)

Rinse inlet	Hose NW 6, EPDM, check valve in sensor adapter
-------------	--

Transport / storage temperature	-10 ... 70 °C (14 ... 158 °F)
---------------------------------	-------------------------------

Ambient temperature	-5 ... 55 °C (23 ... 131 °F)
---------------------	------------------------------

Degree of protection according to EN 60529

Ambient side: open	IP10
Ambient side: rubber cap	IP65
Ambient side: cable gland	IP68 (immersion depth: 10 m permanently) IP66

Sensors	→ <i>Product Code, p. 8</i>
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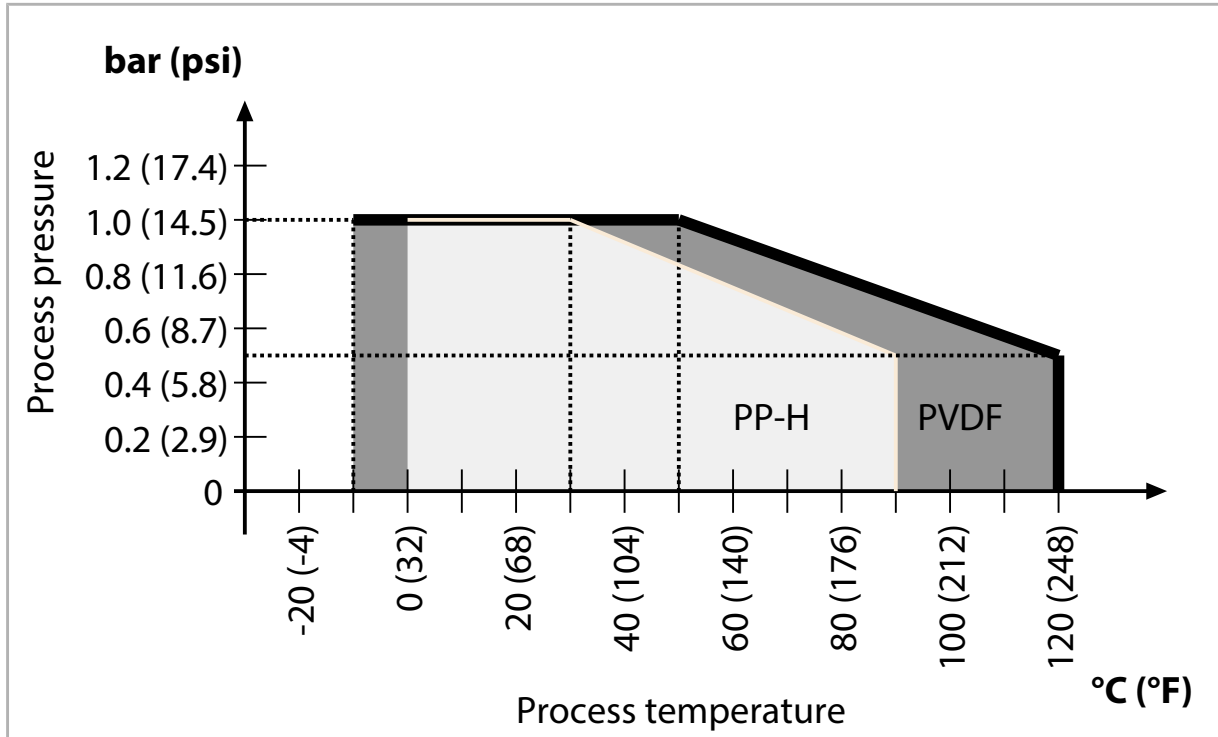
Process connections

Loose flange, EN 1092-1	DN50, DN65, DN80, DN100
Wall holder	1.4571
Pipe clamp	1.4571
Catenary suspension	Polyamide

Wetted materials	→ <i>Product Code, p. 8</i>
------------------	-----------------------------

Fitting	PP-H, PVDF
Seal material	EPDM / FKM / FFKM / FFKM Perlast G75B
Option: rinsing	PEEK, Hastelloy 2.4610

Pressure/Temperature Diagram



Appendices

→ Return Form, p. 36

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

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