

SIEMENS

SITRANS

Accessories Level accessories

Operating Instructions

<u>EA aiming devices</u>	1
<u>FMS mounting brackets</u>	2
<u>Submergence shield</u>	3
<u>Product documentation and support</u>	A

7ML1830 (Easy Aimer 2)
7ML1830 (Easy Aimer 304)
7ML1830 (Submergence shield)
7ML1830 (FMS 200)
7ML1830 (FMS 220)
7ML1830 (FMS 310)

Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury will result if proper precautions are not taken.
⚠ WARNING
indicates that death or severe personal injury may result if proper precautions are not taken.
⚠ CAUTION
indicates that minor personal injury can result if proper precautions are not taken.
NOTICE
indicates that property damage can result if proper precautions are not taken.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

Trademarks

All names identified by ® are registered trademarks of Siemens AG. The remaining trademarks in this publication may be trademarks whose use by third parties for their own purposes could violate the rights of the owner.

Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

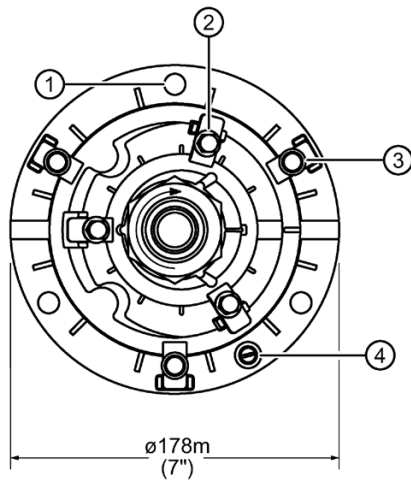
Table of contents

1	EA aiming devices	4
1.1	Easy Aimer 2.....	4
1.1.1	Application	5
1.1.2	Aiming	6
1.2	Easy Aimer 304.....	8
1.2.1	Application	9
1.2.2	Aiming	10
2	FMS mounting brackets	12
2.1	FMS 200	12
2.2	FMS 210	14
2.3	FMS 220	15
2.4	FMS 310	16
2.5	FMS 320	18
2.6	FMS 350	19
3	Submergence shield	20
3.1	Description	20
3.2	Specifications	20
3.3	Assembly	21
A	Product documentation and support.....	24
A.1	Product documentation	24
A.2	Technical support.....	25
	Index.....	26

EA aiming devices

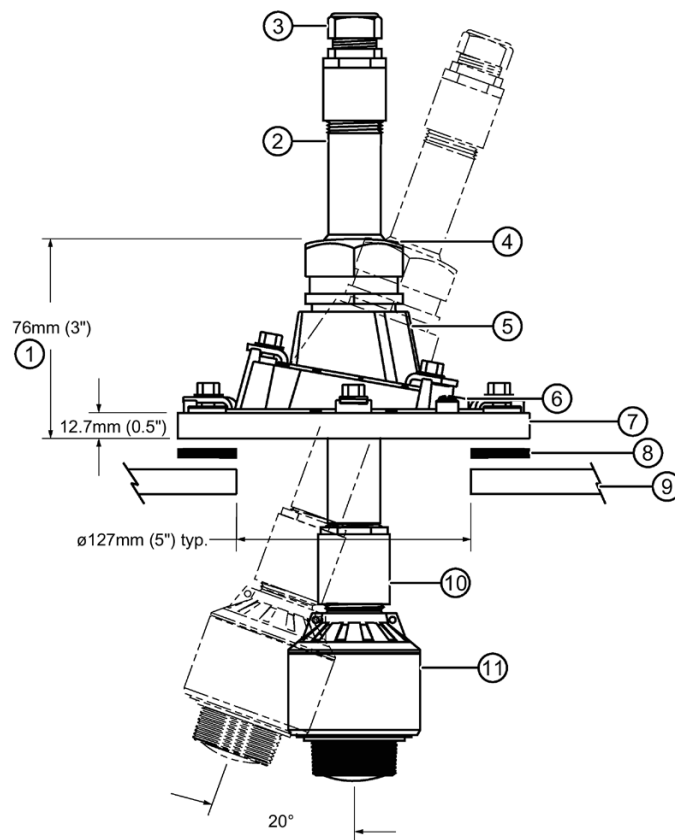
1.1 Easy Aimer 2

The Easy Aimer is an accessory device for aiming Siemens level sensors used in process material level measurement.



- ① Mounting hole (3 places).
Suits M8 or 3/8" 120° apart on 157 mm (6.2") bolt center diameter.
- ② Angle block binding screw and clamp
- ③ Sighting block binding screw and clamp
- ④ Ground screw

1. Feed the sensor cable through the supplied coupling and conduit. Then assemble the sensor, coupling, and conduit as shown. If the sensor diameter is greater than 148 mm (5.8"), use the customer supplied mounting plate. If sealing is required, include the customer supplied gasket.
2. Feed the conduit through the center hole of the Easy Aimer until the conduit is at the desired point within the Easy Aimer (typically midway).
3. Tighten the conduit gland to secure the conduit and sensor assembly in place.
4. Install the supplied locknut as shown, and complete the conduit installation.



- | | |
|--|---|
| ① Nominal | ⑦ Mounting block |
| ② 3/4 NPT or BSP conduit x 300 mm (12") long | ⑧ Customer gasket (as required) |
| ③ Optional M20 cable gland and coupling | ⑨ Customer mounting plate (as required) |
| ④ Conduit gland | ⑩ Coupling (typical) |
| ⑤ Angle block | ⑪ Sensor |
| ⑥ Sighting block | |

1.1.1 Application

In solids applications, mount the sensor so it is aimed at the low level draw point. The sighting block can be rotated through 360° with the sensor angled at 0 to 20° off vertical.

Position the Easy Aimer so the sensor's signal path is unobstructed and away from fill points.

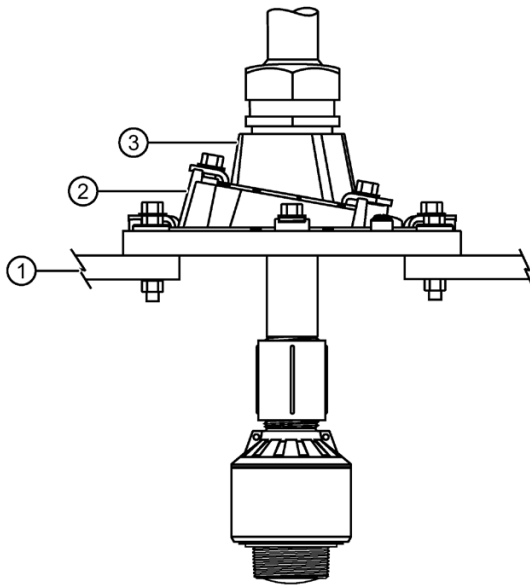
The Easy Aimer is capable of withstanding 15 psi (North America) or 0.5 bar (Europe) gauge pressure with proper installation and has a temperature rating from -40°C to 105°C (-40°F to 220°F).

Mount the Easy Aimer to an access plate with welded studs or to a flange in order to isolate the mounting holes from the pressurized environment.

1.1.2 Aiming

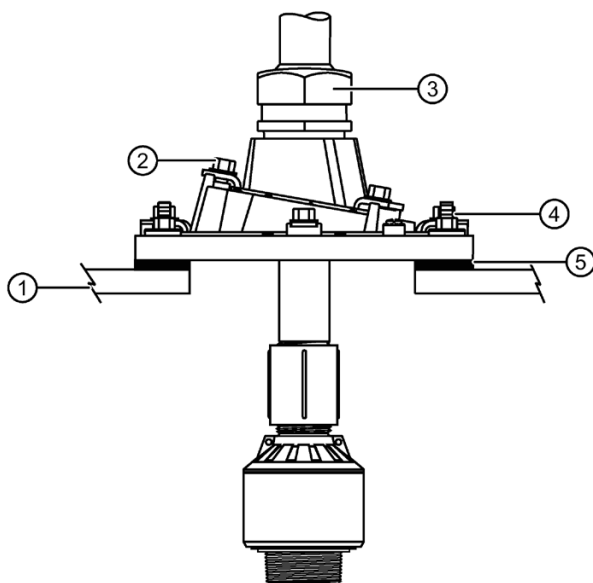
1. Install the Easy Aimer and sensor assembly by bolting the mounting block directly to the bin or via a mounting plate.
2. Leaving the sighting block binding screws fastened and loosen the angle block binding screws. Rotate the angle block until the sensor face is pointing at the desired angle. Refasten angle block binding screws.
3. Loosen the sighting block binding screws and rotate sighting block until the sensor face is pointing in the desired direction. Sighting reference graduations on the mounting block are 30° apart. Refasten sighting block binding screws.

Basic installation



- ① Angle adjustment
- ② Sighting adjustment
- ③ Mounting plate and hardware (customer supplied)

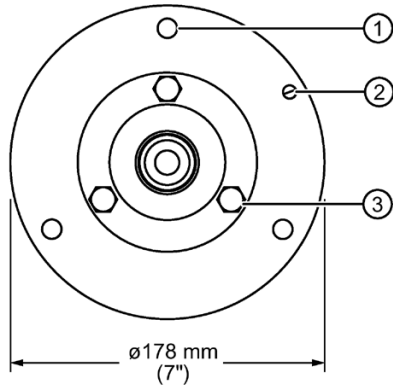
Sealed installation



- ① Mounting plate
- ② Block binding screws (6 places)
Tighten to 3 N-m (25 in lb) of torque
- ③ Conduit gland tighten to 95 N-m (70 ft lb) of torque
- ④ Mounting hardware (3 places)
Tighten to 8 N-m (6 ft lb) of torque
- ⑤ Recommended gasket thickness 1.5-1.8 mm (0.06"-0.07") (customer supplied)

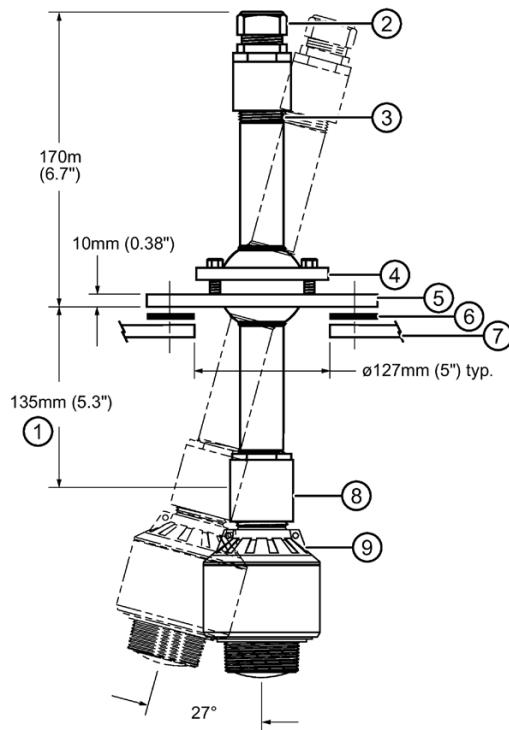
1.2 Easy Aimer 304

The Easy Aimer 304 is a stainless steel accessory device for aiming Siemens level sensors used in process material level measurement.



- ① Mounting hole (3 places)
Suits M8 or 3/8" bolt, 120° apart, 11 mm (7/16") on 157 mm
- ② Ground screw
- ③ Clamping screw (3 places)

1. Assemble the Easy Aimer as shown. For optimum performance, ensure that the ball and sockets are free of debris. Do not tighten clamping screws yet.
2. Feed the sensor cable through the supplied coupling and Easy Aimer conduit. Then assemble the sensor and coupling to the conduit. If the sensor diameter is greater than 148 mm (5.8"), include the customer mounting plate. If sealing is required, include the customer gasket.



- ① Nominal
- ② M20 cable gland and coupling (optional)
- ③ 1" NPT or BSP
- ④ Clamping plate (upper socket)
- ⑤ Mounting block (lower socket)
- ⑥ Customer gasket
recommended thickness, 1.5-1.8 mm (0.06-0.07) (as required)
- ⑦ Customer mounting plate (as required)
- ⑧ Coupling (typical)
- ⑨ Sensor

Construction (exposed materials)

304 stainless steel

1.2.1 Application

In solids applications, mount the sensor so it is aimed toward the low level draw point. The sensor can be revolved through 360° and angled at 0 to 27° off vertical.

Position the Easy Aimer so that the sensor's signal path is unobstructed and away from fill points.

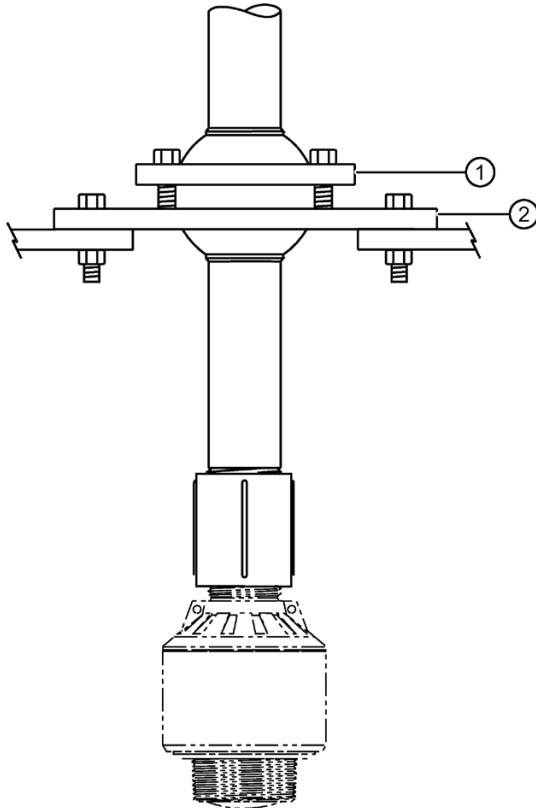
The Easy Aimer is capable of withstanding 15 psi (North America) or 0.5 bar (Europe) gauge pressure with proper installation.

Mount the Easy Aimer to an access plate with welded studs or to a flange to isolate the mounting holes from the pressurized environment.

1.2.2 Aiming

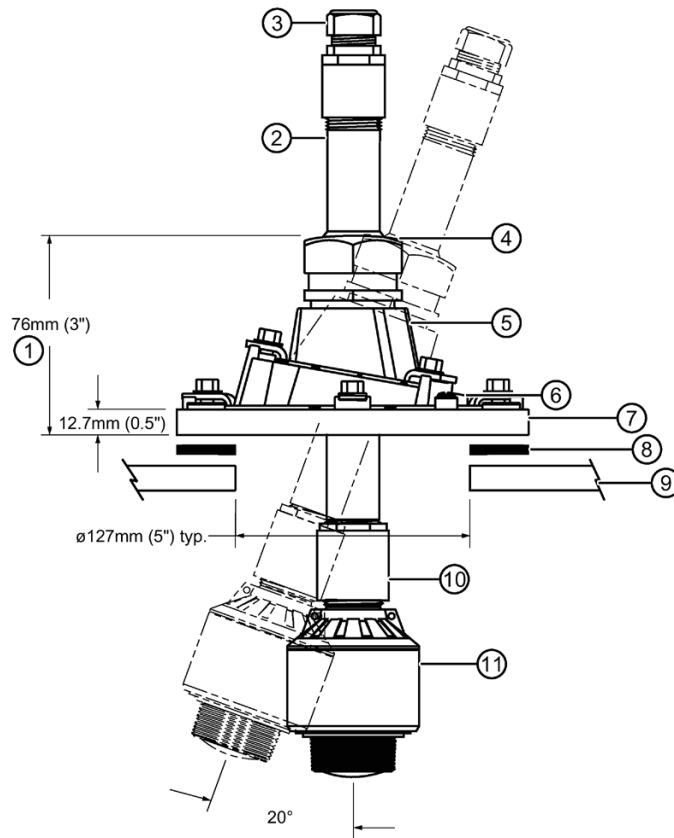
1. Install the Easy Aimer and sensor assembly by bolting the mounting block directly to the bin or via a mounting plate.
2. By manipulating the conduit, aim the sensor face at the desired point.
3. Tighten the clamping screws to secure the sensor aiming.

Basic installation



- ① Clamping plate (upper socket)
- ② Mounting plate and hardware (customer supplied)

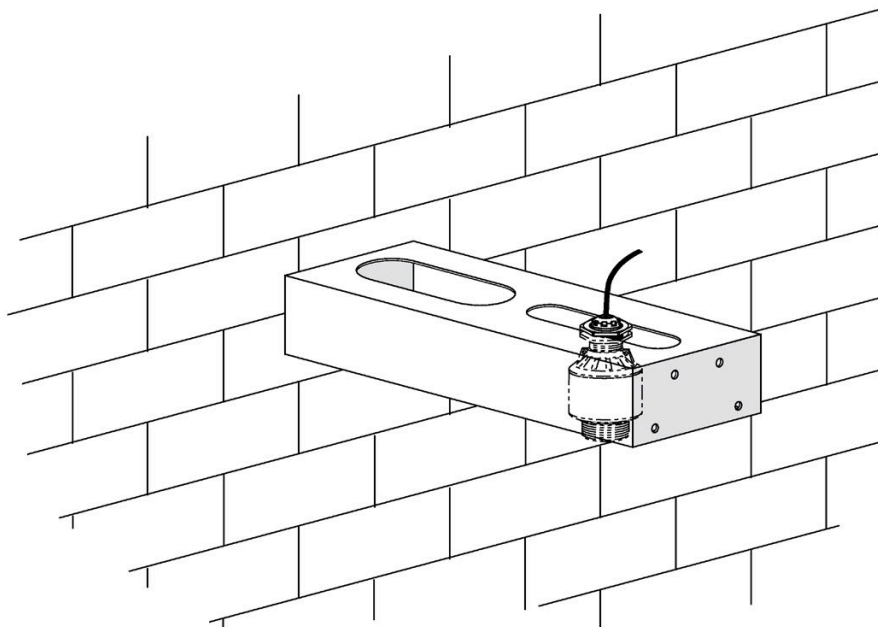
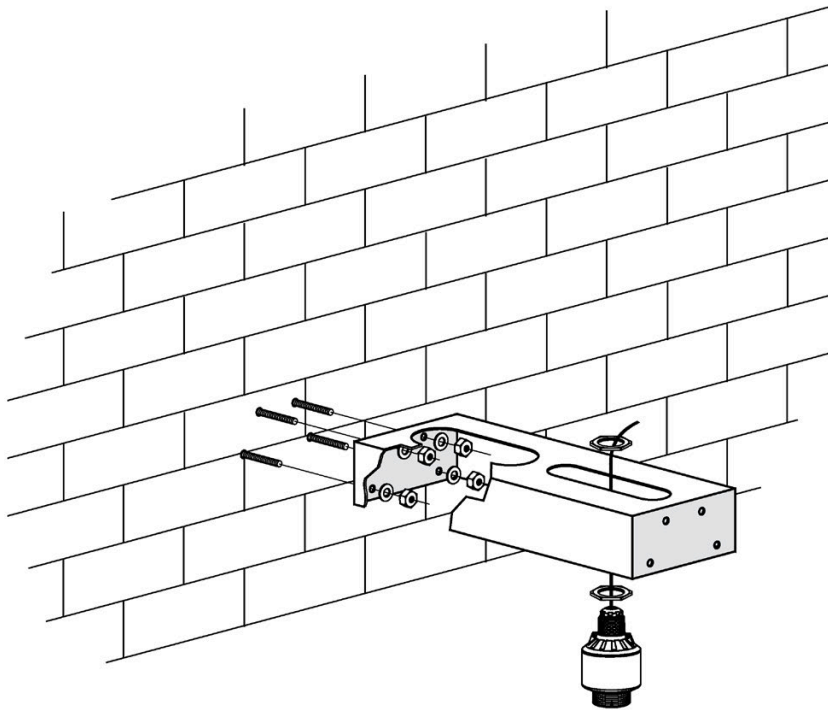
Sealed installation

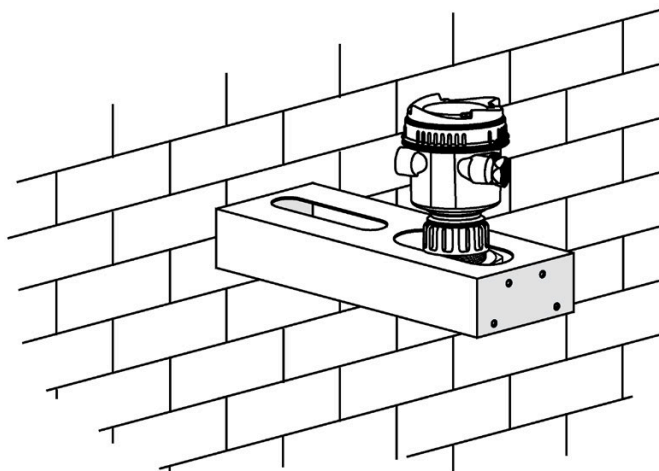
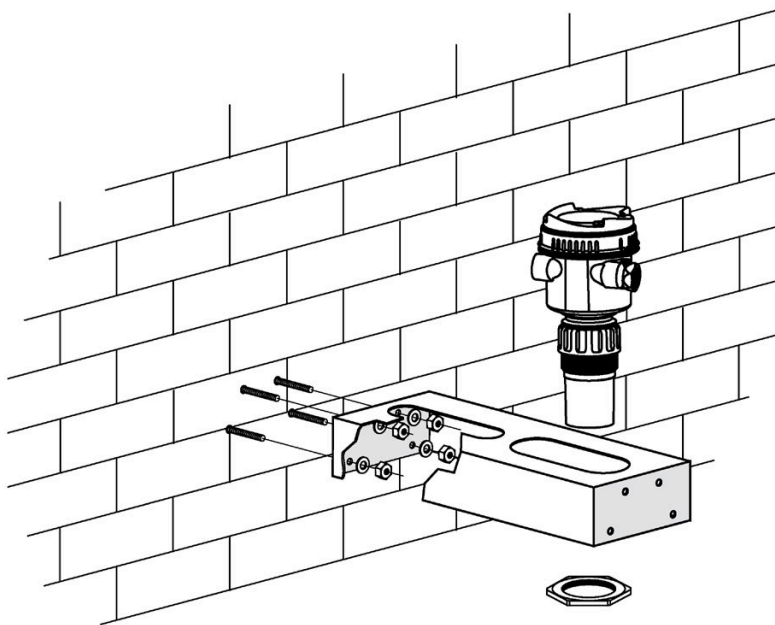
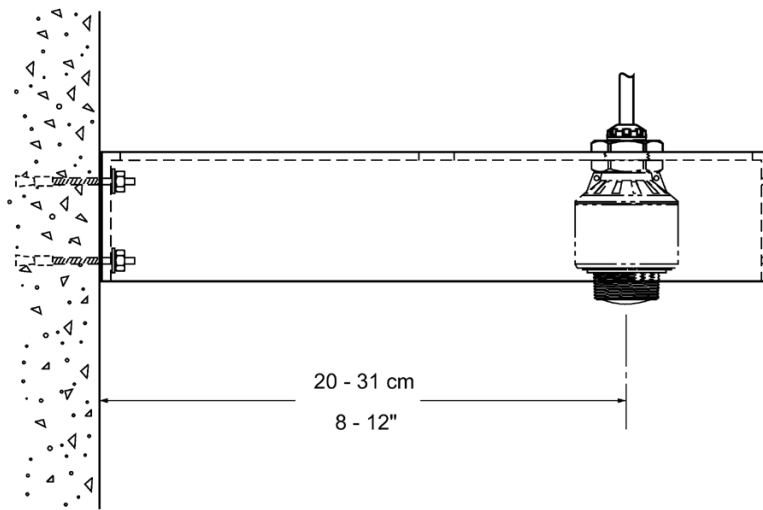


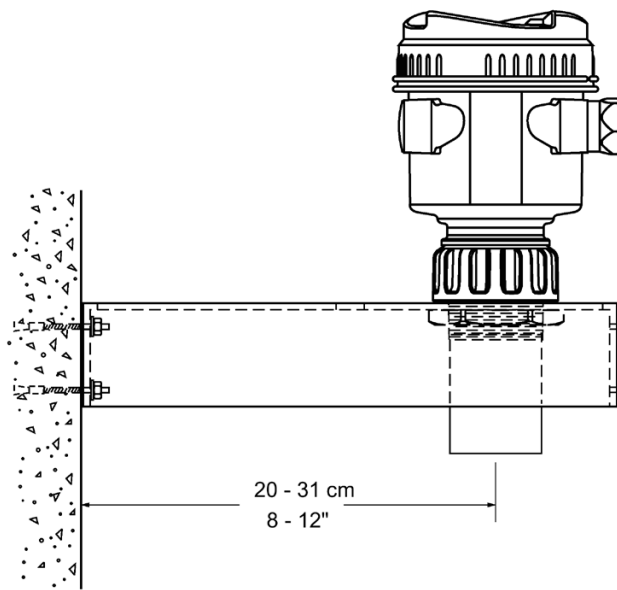
- ① Mounting plate with welded studs (customer supplied)
- ② Tighten to 20 N-m (15 ft lb) of torque
- ③ Tighten to 27 N-m (20 ft lb) of torque
- ④ Gasket (customer supplied, recommended thickness 1.5-1.8 mm (0.06-0.07"))

FMS mounting brackets

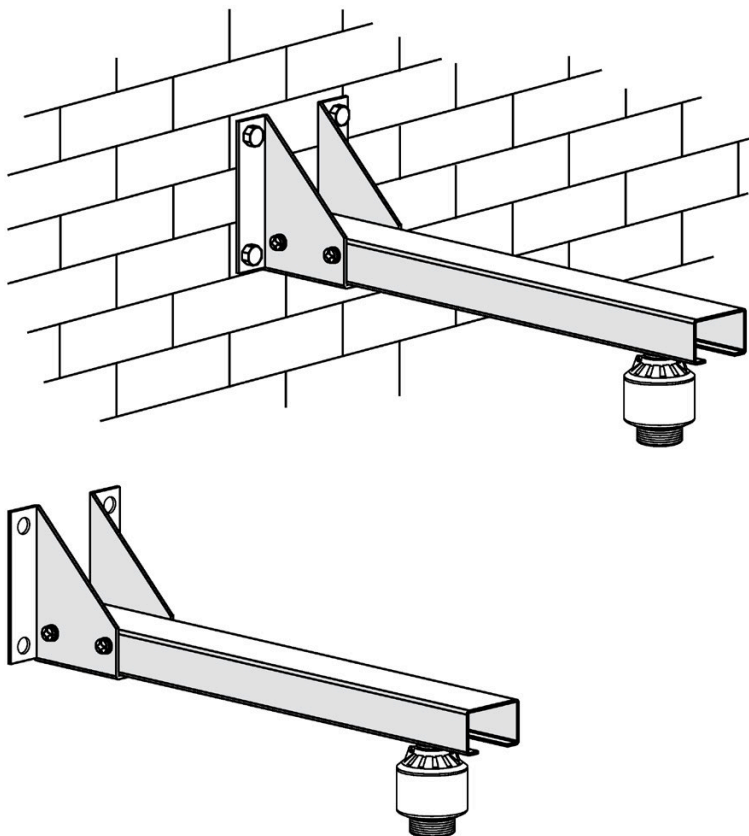
2.1 FMS 200



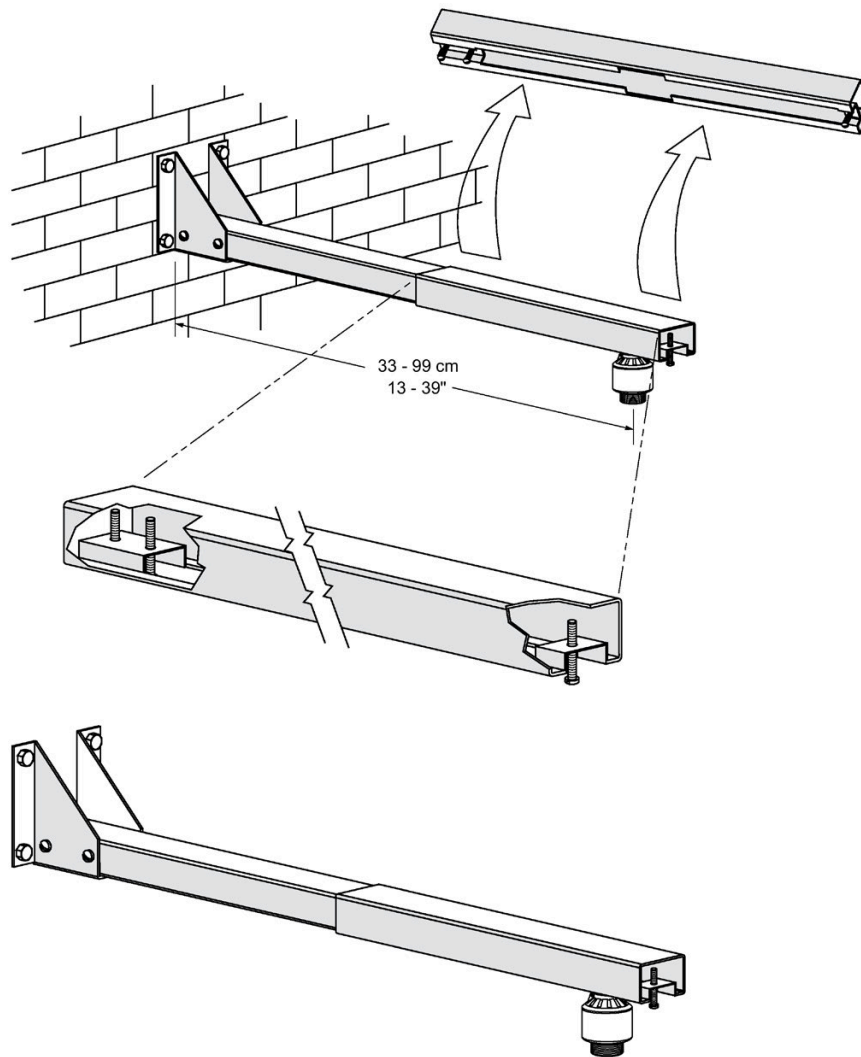




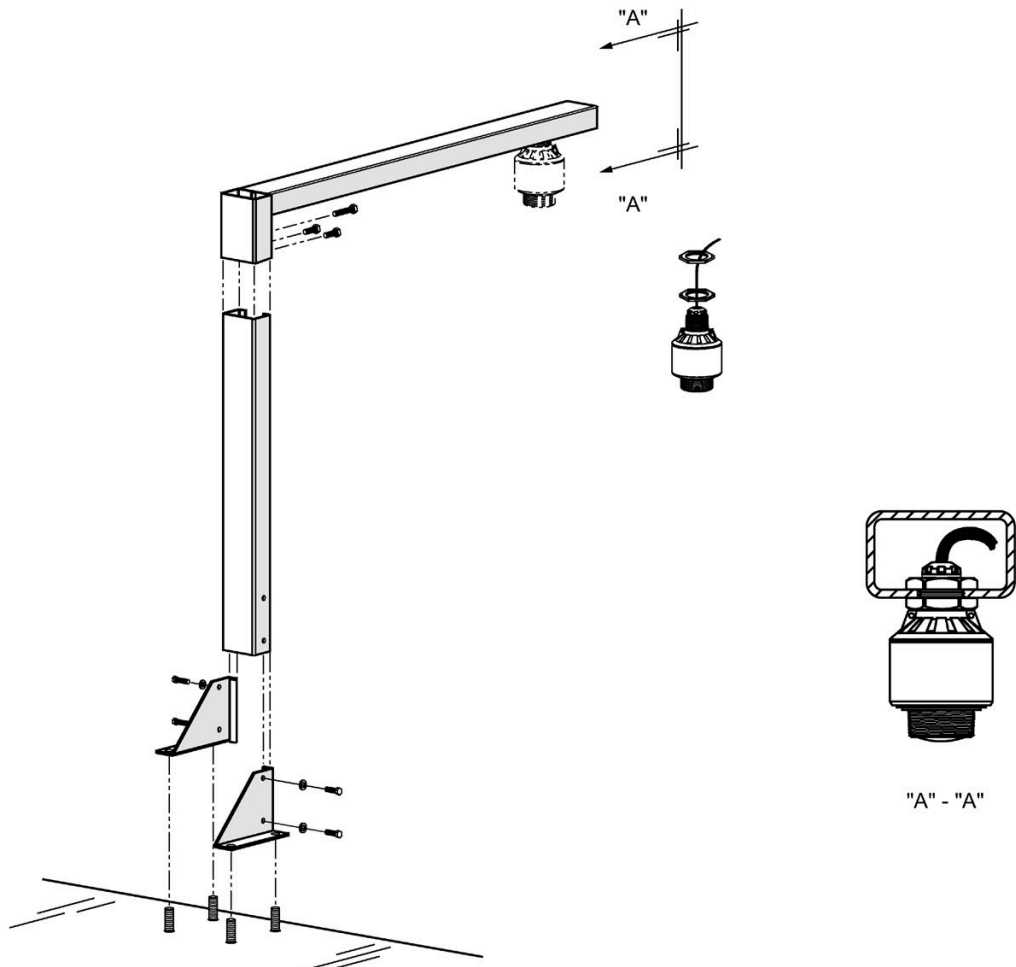
2.2 FMS 210

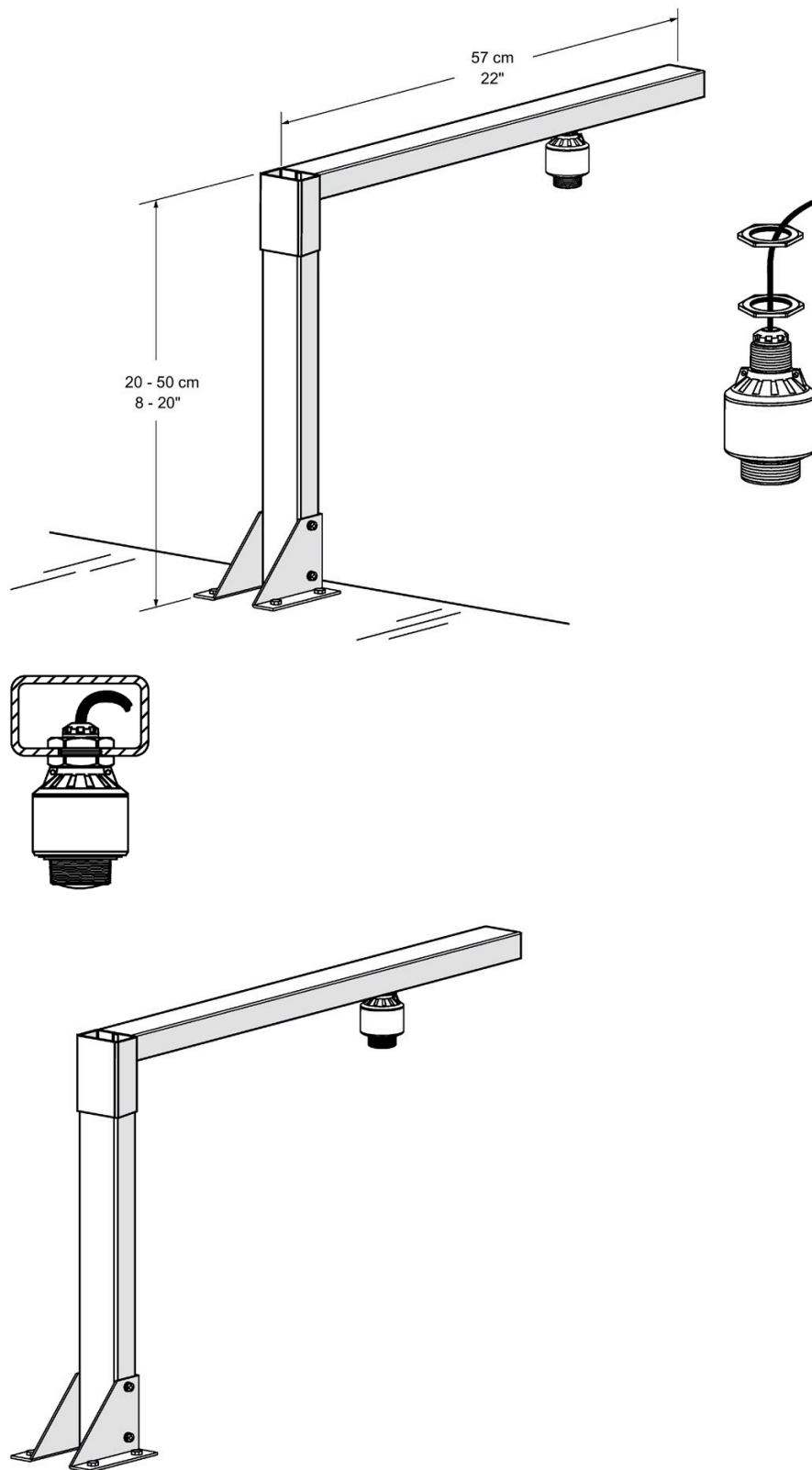


2.3 FMS 220

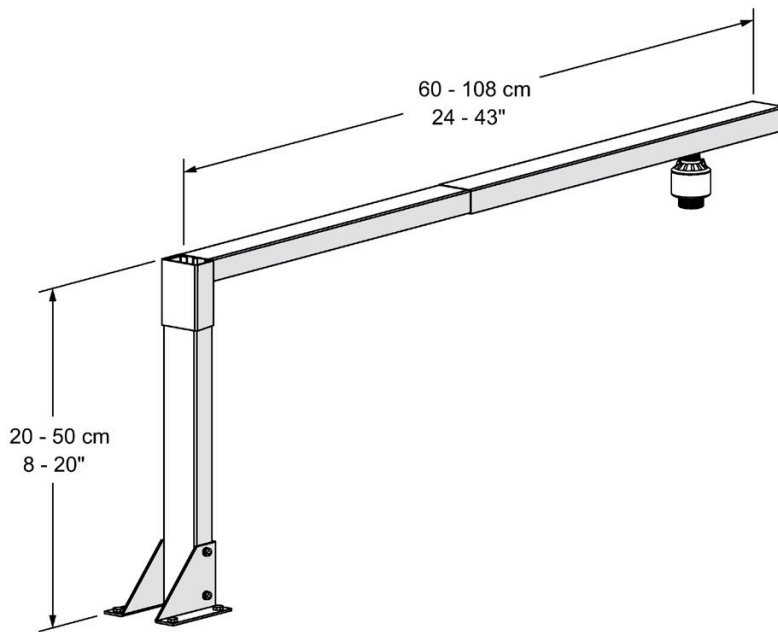
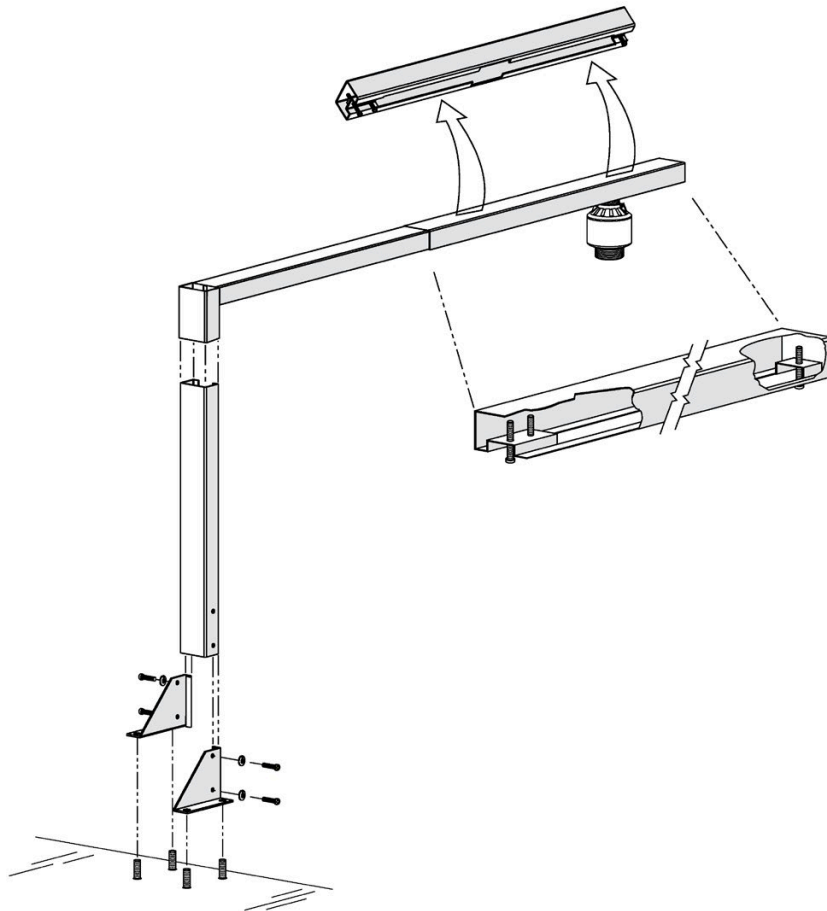


2.4 FMS 310

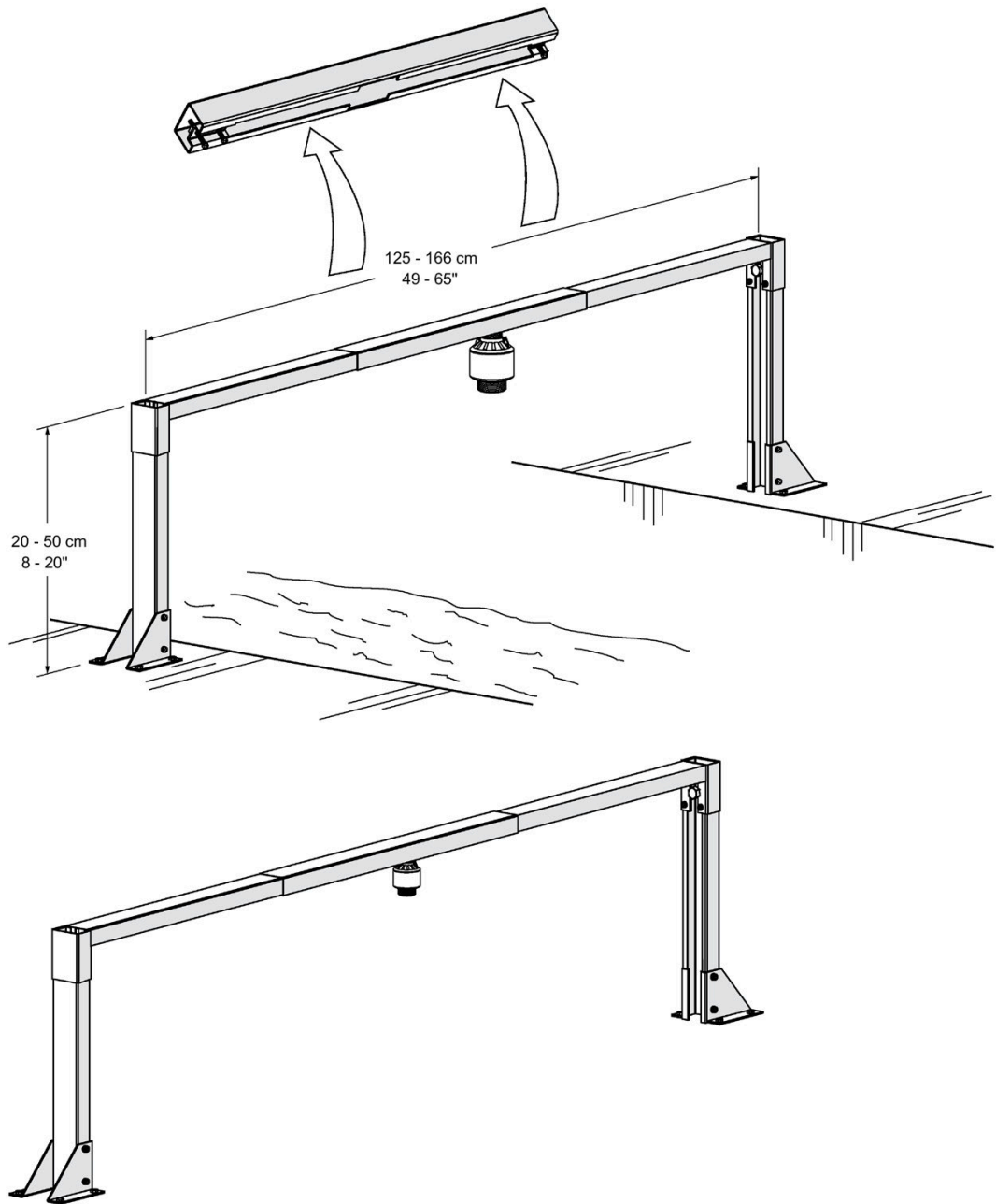




2.5 FMS 320



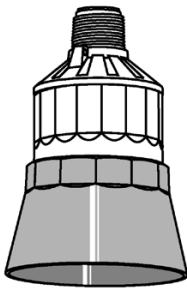
2.6 FMS 350



Submergence shield

3.1 Description

This submergence shield is designed for use with an LR120, XRS-5, XPS-10 and XPS-15. In applications where flooding is possible, the shield acts to maintain an air pocket and reliable level measurement is provided during the flooding period.

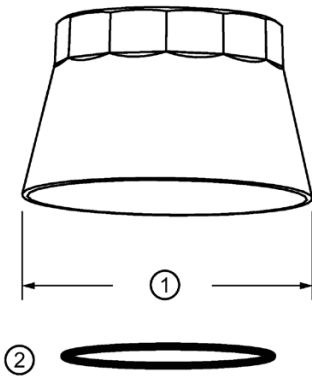


3.2 Specifications

Material

Shield - polypropylene

O-ring - silicone

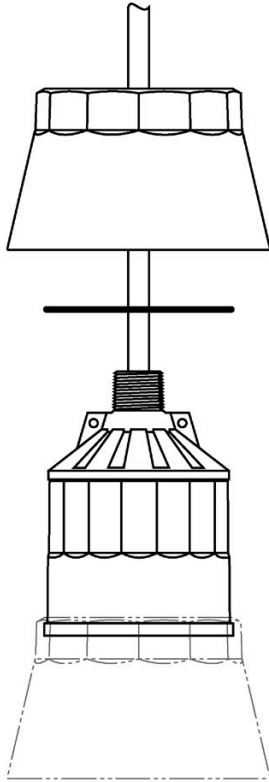


	XRS-5 / XPS-10	XPS-15	LR120
①	124 mm (4.9")	159 mm (6.3")	124 mm (4.9")
②	76 mm (3")	100 mm (4")	76 mm (3")

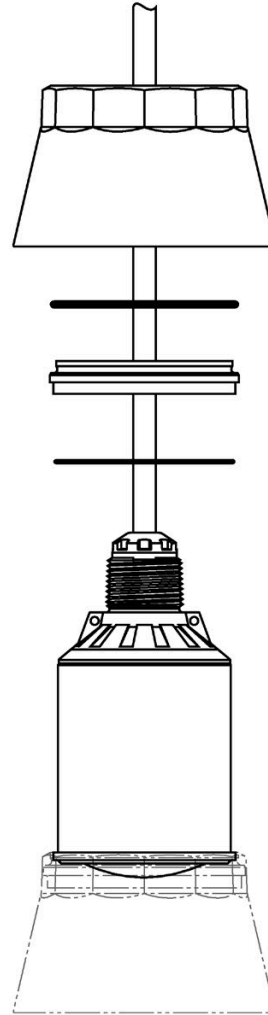
3.3 Assembly

Step 1

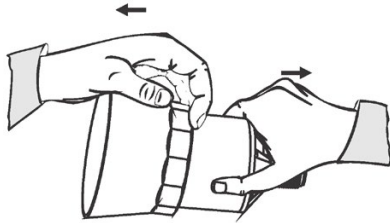
Transducer



SITRANS LR120



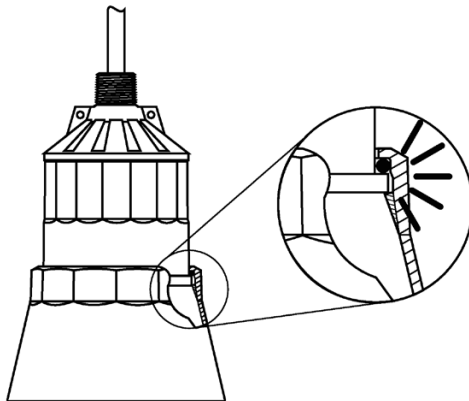
Step 2



Tip: engage pressure clips one at a time

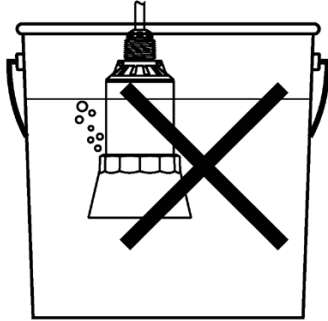


Step 3



Step 4

To test seal place the assembled unit in a bucket of water and look for bubbles leaking past the o-ring. If there are leaks, the shield has not been pulled down far enough to properly seat the pressure clips.



Note

Single use

Shield and o-ring are single usage items only. If replacing transducer, replace shield and o-ring with new parts.

Refer to transducer instructions manual for installation and application details.

Product documentation and support

A.1 Product documentation

Process instrumentation product documentation is available in the following formats:

- Certificates (<http://www.siemens.com/processinstrumentation/certificates>)
- Downloads (firmware, EDDs, software) (<http://www.siemens.com/processinstrumentation/downloads>)
- Catalog and catalog sheets (<http://www.siemens.com/processinstrumentation/catalogs>)
- Manuals (<http://www.siemens.com/processinstrumentation/documentation>)

You have the option to show, open, save, or configure the manual.

- "Display": Open the manual in HTML5 format
- "Configure": Register and configure the documentation specific to your plant
- "Download": Open or save the manual in PDF format
- "Download as html5, only PC": Open or save the manual in the HTML5 view on your PC

You can also find manuals with the Mobile app at Industry Online Support (<https://support.industry.siemens.com/cs/ww/en/sc/2067>). Download the app to your mobile device and scan the device QR code.

Product documentation by serial number

Using the PIA Life Cycle Portal, you can access the serial number-specific product information including technical specifications, spare parts, calibration data, or factory certificates.

Entering a serial number

1. Open the PIA Life Cycle Portal (<https://www.pia-portal.automation.siemens.com>).
2. Select the desired language.
3. Enter the serial number of your device. The product documentation relevant for your device is displayed and can be downloaded.

To display factory certificates, if available, log in to the PIA Life Cycle Portal using your login or register.

Scanning a QR code

1. Scan the QR code on your device with a mobile device.
2. Click "PIA Portal".

To display factory certificates, if available, log in to the PIA Life Cycle Portal using your login or register.

A.2 Technical support

Technical support

If this documentation does not completely answer your technical questions, you can enter a Support Request (<http://www.siemens.com/automation/support-request>).

Additional information on our technical support can be found at Technical Support (<http://www.siemens.com/automation/csi/service>).

Service & support on the Internet

In addition to our technical support, Siemens offers comprehensive online services at Service & Support (<http://www.siemens.com/automation/service&support>).

Contact

If you have further questions about the device, contact your local Siemens representative at Personal Contact (<http://www.automation.siemens.com/partner>).

To find the contact for your product, go to "all products and branches" and select "Products & Services > Industrial automation > Process instrumentation".

Contact address for business unit:

Siemens AG
Digital Industries
Process Automation
Östliche Rheinbrückenstr. 50
76187 Karlsruhe, Germany

Index

C

Catalog

catalog sheets, 24

Certificates, 24

Customer Support, (Refer to Technical support)

D

Downloads, 24

H

Hotline, (Refer to Support request)

M

Manuals, 24

S

Service, 25

Service and support

Internet, 25

Support, 25

Support request, 25

T

Technical support, 25

partner, 25

personal contact, 25