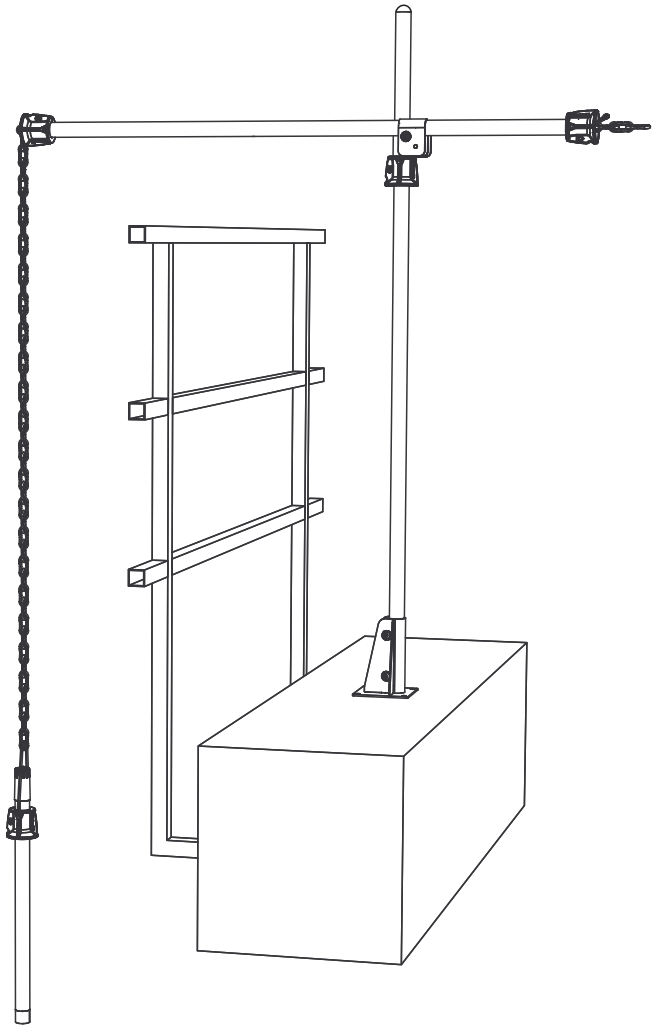
BA00430C/07/EN/14.19
71453974
2019-01-07

Operating Instructions
Flexdip CYH112

Holder for water and wastewater assemblies



Endress+Hauser
People for Process Automation

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1 About this document

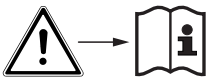
1.1 Warnings

Structure of information	Meaning
DANGER **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **will** result in a fatal or serious injury.
WARNING **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **can** result in a fatal or serious injury.
CAUTION **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or more serious injuries.
NOTICE **Cause/situation** If necessary, Consequences of non-compliance (if applicable) ▶ Action/note	This symbol alerts you to situations which may result in damage to property.

1.2 Symbols used

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

1.2.1 Symbols on the device

Symbol	Meaning
	Reference to device documentation

2 Basic safety instructions

2.1 Requirements for the personnel

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to carry out the specified activities.
- The electrical connection may be performed only by an electrical technician.
- The technical personnel must have read and understood these Operating Instructions and must follow the instructions contained therein.
- Faults at the measuring point may only be rectified by authorized and specially trained personnel.

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

2.2 Designated use

The assembly holder has been developed for use in the wastewater sector. CYH112 is designed as a modular holder system for sensors and assemblies in open basins, channels and tanks.

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

The manufacturer is not liable for damage caused by improper or non-designated use.

NOTICE

Applications outside specifications!

Incorrect measurements, malfunctions and even measuring point failure could result

- ▶ Use the product only in accordance with the specifications.
- ▶ Pay attention to the technical data on the nameplate.

2.3 Workplace safety

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

- Installation guidelines
- Local standards and regulations
- Regulations for explosion protection

2.4 Operational safety

Before commissioning the entire measuring point:

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

During operation:

- If faults cannot be rectified:
  products must be taken out of service and protected against unintentional operation.

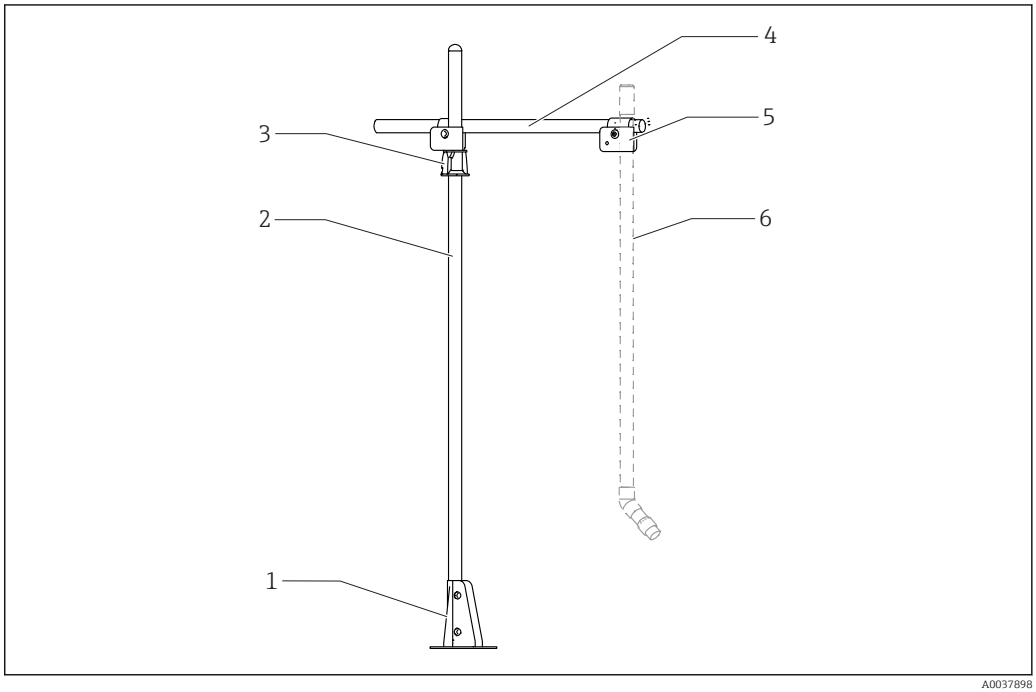
2.5 Product safety

2.5.1 State-of-the-art technology

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

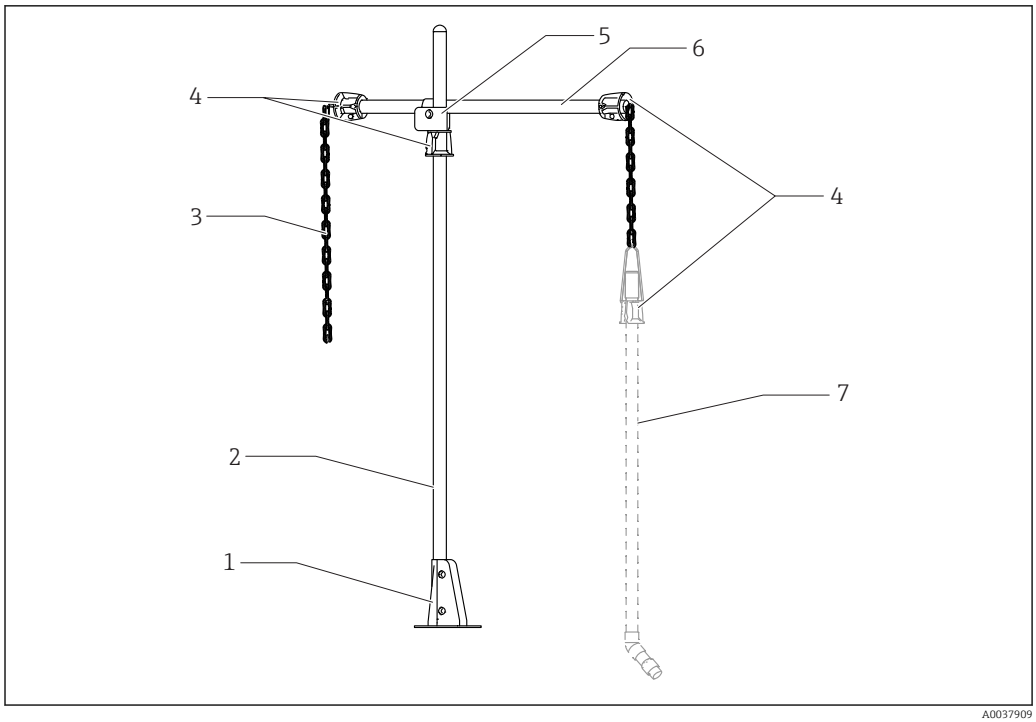
3 Product description

3.1 Product design



1 *Example of mounted CYH112 holder*

1 *Base*
2 *Main pipe*
3 *Multifunctional clamp ring*
4 *Transverse pipe*
5 *Cross clamp*
6 *Immersion pipe of the CYA112 assembly*



2 *Example of mounted CYH112 holder with chain*

1 *Base*
2 *Main pipe*
3 *Chain*
4 *Multifunctional clamp ring*
5 *Cross clamp*
6 *Transverse pipe*
7 *Immersion pipe of the CYA112 assembly*

Always hook the bracket of the assembly through the last link in the chain.

Attach the holder depending on the ambient conditions.

4 Incoming acceptance and product identification

4.1 Incoming acceptance

1. Verify that the packaging is undamaged.
   ↳ Notify the supplier of any damage to the packaging.
   Keep the damaged packaging until the issue has been resolved.
2. Verify that the contents are undamaged.
   ↳ Notify the supplier of any damage to the delivery contents.
   Keep the damaged goods until the issue has been resolved.
3. Check that the delivery is complete and nothing is missing.
   ↳ Compare the shipping documents with your order.
4. Pack the product for storage and transportation in such a way that it is protected against impact and moisture.
   ↳ The original packaging offers the best protection.
   Make sure to comply with the permitted ambient conditions.

If you have any questions, please contact your supplier or your local Sales Center.

4.2 Product identification

4.2.1 Nameplate

The nameplate provides you with the following information on your device:
- Manufacturer identification
- Order code
- Extended order code
- Serial number
- Ambient and process conditions
- Safety information and warnings

▶ Compare the information on the nameplate with the order.

4.2.2 Identifying the product

Product page

www.endress.com/cyh112

Interpreting the order code

The order code and serial number of your product can be found in the following locations:
- On the nameplate
- In the delivery papers

Obtaining information on the product

1. Go to www.endress.com.
2. Call up the site search (magnifying glass).
3. Enter a valid serial number.
4. Search.
   ↳ The product structure is displayed in a popup window.
5. Click on the product image in the popup window.
   ↳ A new window (**Device Viewer**) opens. All of the information relating to your device is displayed in this window as well as the product documentation.

4.2.3 Manufacturer's address

Endress+Hauser Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

4.3 Scope of delivery

The delivery comprises:
- Ordered version of assembly holder
- Operating Instructions

▶ If you have any queries:
Please contact your supplier or local sales center.

4.4 Certificates and approvals

Explosion protection

The CYH112 holder may also be used in hazardous areas in Zone 1 and 2.

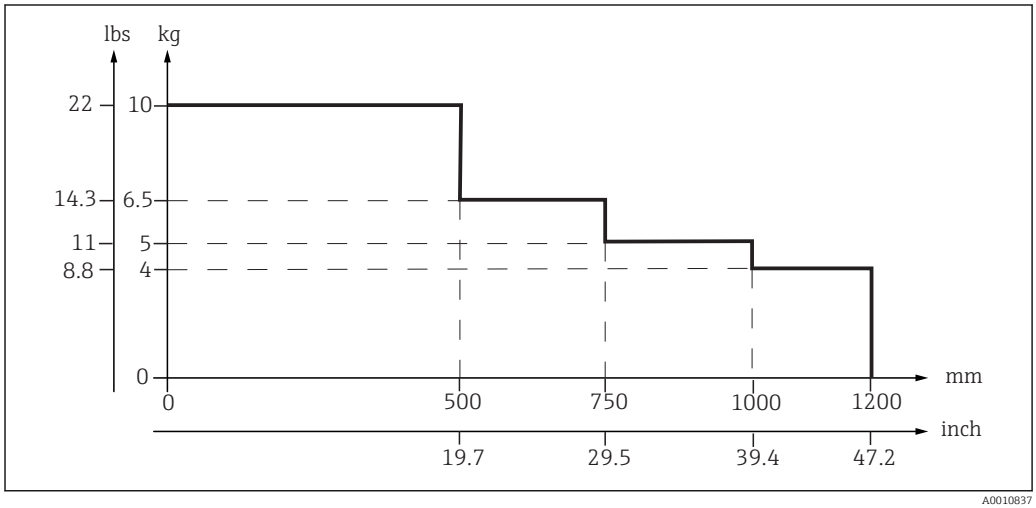
The holder does not fall within the scope of ATEX Directive 2014/34/EU as it does not have a potential source of ignition of its own. Consequently, the holder does not bear ATEX identification marking. Potential equalization must be implemented as described in the "Installation conditions" section.

5 Installation

5.1 Installation conditions

5.1.1 Mounting instructions

The maximum extension depends on the suspended load (weight of immersion pipe, assembly and cable). See the following diagram for this purpose:



3 Extension as a function of the suspended load

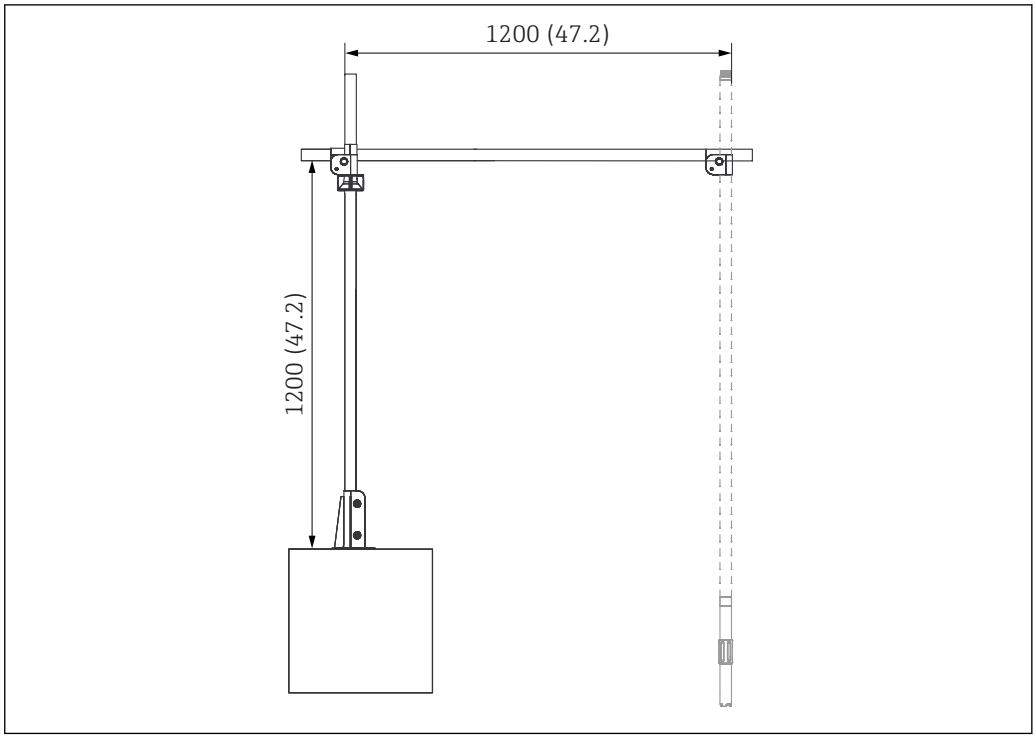
The maximum permitted load when mounting on a rail and using a pendulum holder with a pendulum adapter is 5 kg (11 lb). Potential equalization must be implemented at the place of installation. All electrically conductive parts must be interconnected.

Cable

The cable to the sensor is routed outside along the pipe. Hook-and-loop cable ties can be ordered as accessories to secure the cable.

Cable routing for the power supply must be implemented by the customer onsite.

5.1.2 Dimensions



4 *Dimensions with maximum extension. Dimensions: mm (in)*

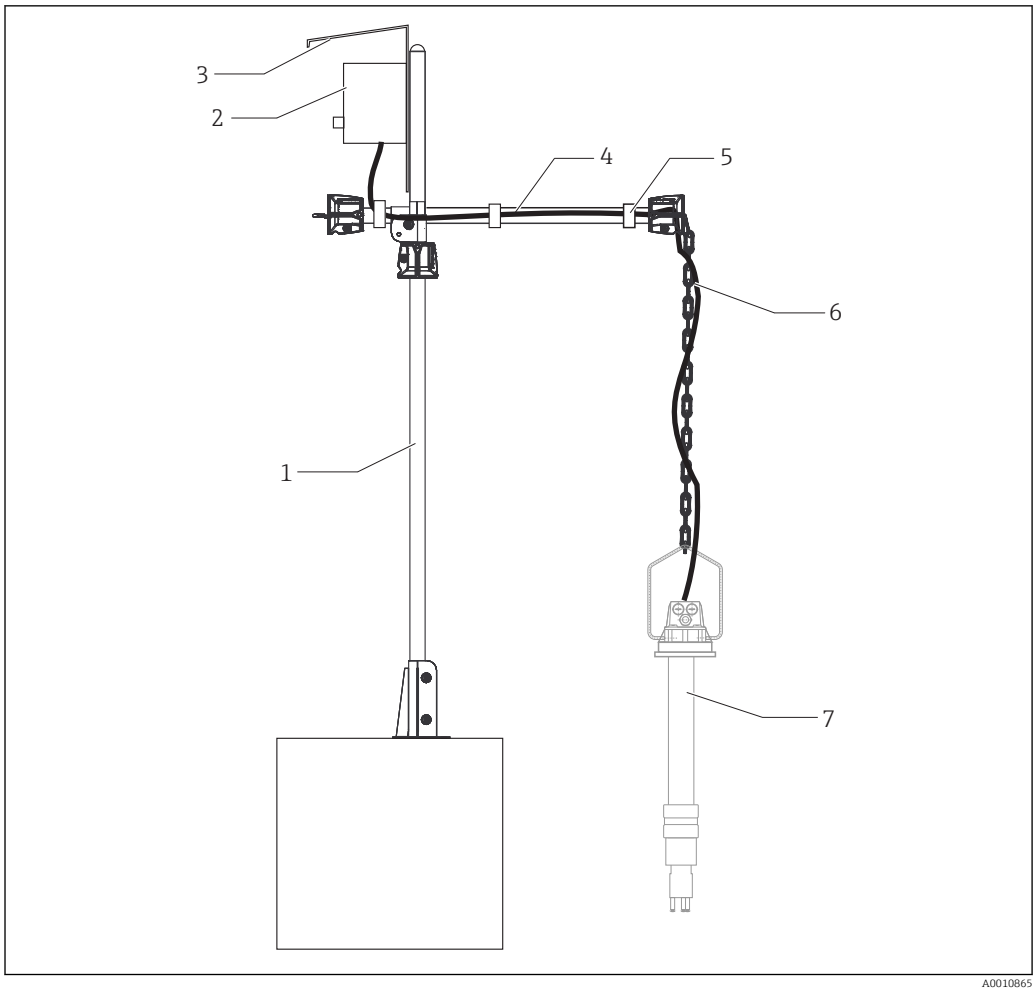
The values indicated are valid for floor, wall and rail mounting.

5.2 Mounting the holder

For more information on mounting the assembly with the holder, see Operating Instructions BA00432

5.2.1 Measuring system

A complete measuring system consists of:
- CYH112 holder
- Assembly, e.g. CYA112
- Transmitter, e.g. Liquiline CM44
- Sensor, e.g. CUS71D



5 *Measuring system with CYH112 holder*

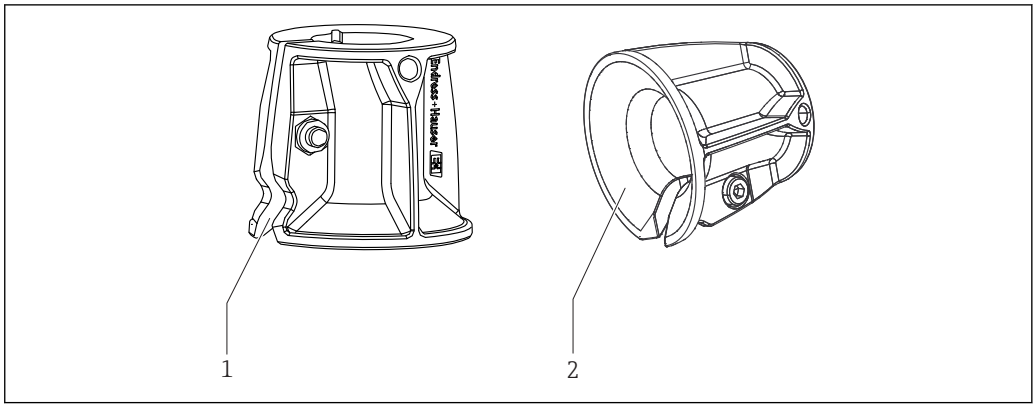
1 *Main pipe secured to floor*
2 *Transmitter*
3 *Protective cover*
4 *Transverse pipe with fastening elements*
5 *Hook-and-loop cable ties*
6 *Chain*
7 *CPA111 assembly*

5.2.2 Mounting the base

Use the M10 chemical anchor to mount the base on a concrete floor.

1. Set the base in position (the open part faces the basin rim).
   ↳ The minimum distance between the bores and the basin rim is 40 mm (1.57 in).
2. Mark the securing holes for the base on the floor.
3. Drill the securing holes with a 12 mm drill.
4. Install the 4 chemical anchors.
5. Firmly screw down the base.
6. Ground the base with a ground cable (≥ 4 mm² (≥ 12 AWG)).

5.2.3 Mounting the main pipe

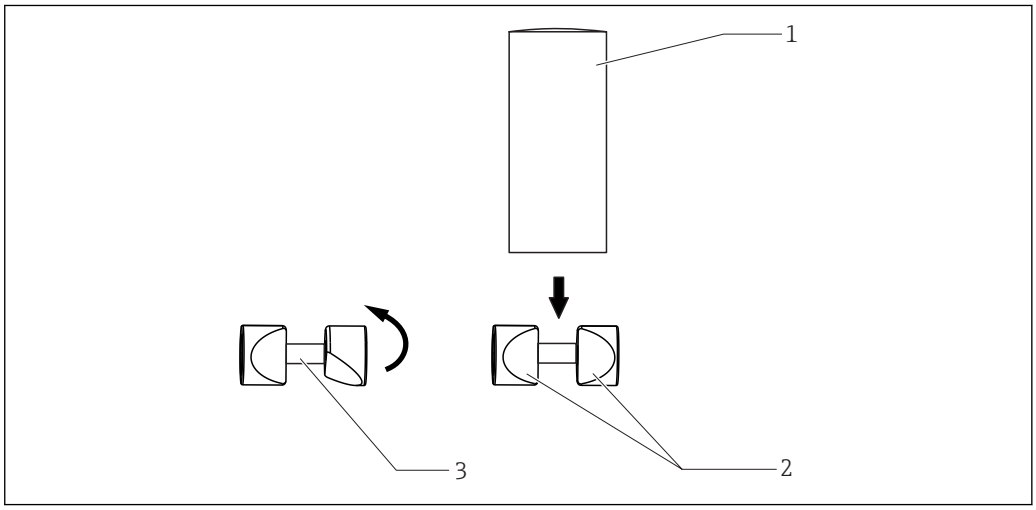


6 *Multifunctional clamp ring*

1 Slot in the multifunctional clamp ring
2 Multifunctional clamp ring, funnel-shaped side

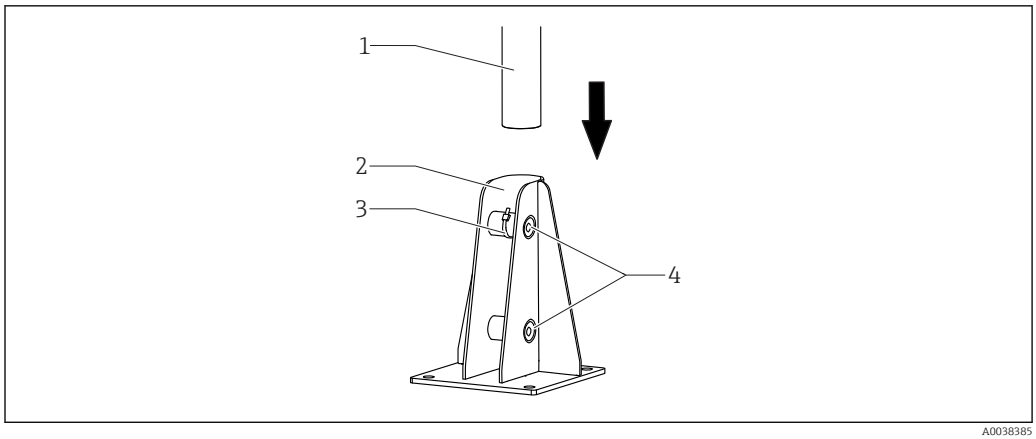
1. Attach the multifunctional clamp ring to the main pipe, with the funnel-shaped side pointing downwards.
2. Firmly tighten the multifunctional clamp ring.

The distance between the upper edge of the multifunctional clamp ring and the base plate may not exceed 1 100 mm (43.3 in). The multifunctional clamp ring acts as an anti-slip lock here.



7 *Adjusting the clamps*

1 Pipe
2 Clamps
3 Clamp screw

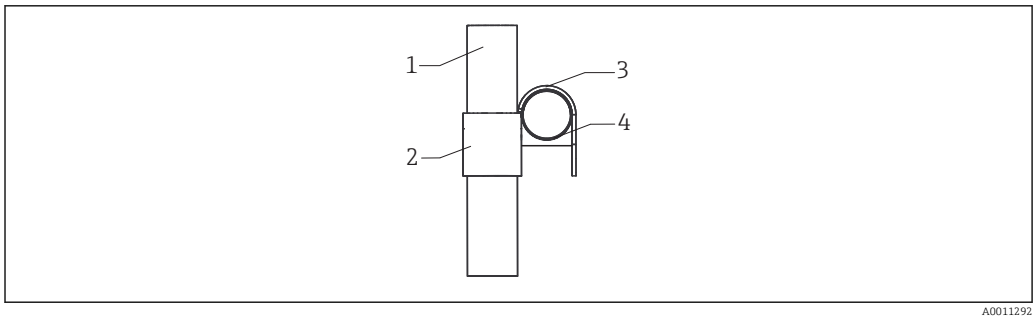


8 Base with main pipe

1 Main pipe
2 Base
3 Hook-and-loop cable ties
4 Clamps with clamp screws

1. Set the clamps in the base in position → 7, 15.
2. Insert the main pipe into the base → 8, 16.
3. Lift the main pipe approx. 5 mm (0.2 in) and fasten it.
   ↳ No backwater can form in the main pipe.
4. Fit the protection cap on the top end of the main pipe.

5.2.4 Mounting the transverse pipe for fixed-installation assemblies

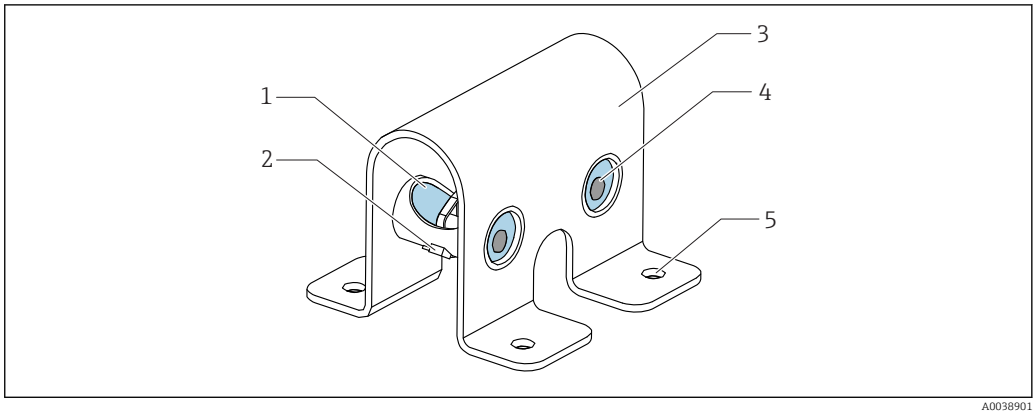


9 Mounting the cross clamp

1 Main pipe
2 Cross clamp, closed side facing the basin
3 Cross clamp, closed side facing upwards
4 Holder transverse pipe

1. Adjust the clamps on the cross clamp → 7, 15.
2. Slide the cross clamp over the transverse pipe, making sure that the closed side of the cross clamp is located at the top.
3. Attach the cross clamp, along with the transverse pipe, to the main pipe. Make sure that the closed side of the cross clamp faces the basin.
4. Align the holder.
5. Tighten the clamping screws.

5.2.5 Mounting the flange clamp



10 Flange clamp

1 Clamps
2 Hook-and-loop cable ties
3 Flange clamp
4 Clamp screw
5 Fastening holes on flange clamp

Use M8 chemical anchors to mount on a concrete floor or a concrete wall.

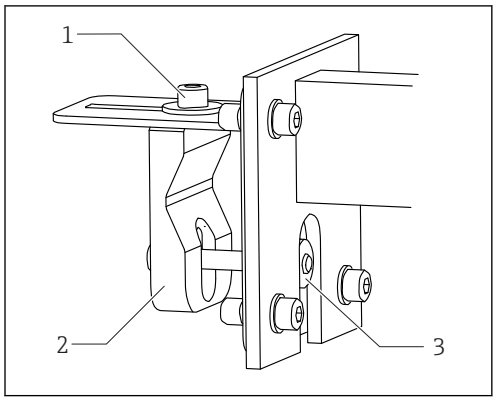
1. Mark the securing holes on the concrete.
2. Drill the securing holes with a 10 mm drill.
3. Install the chemical anchors.
4. Firmly tighten the flange clamp.
5. Ground the flange clamp with a ground cable (≥ 4 mm² (≥ 12 AWG)).

If mounting on a wall with two wall fasteners, initially only screw on the flange clamps so that they sit loosely. This makes it easier to mount the main pipe on an uneven wall.

5.2.6 Mounting the main pipe on the flange clamp

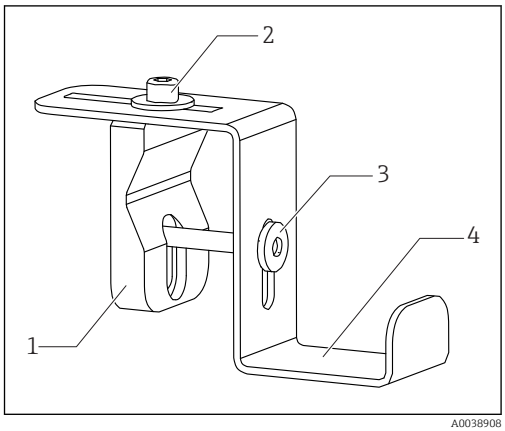
1. Attach the multifunctional clamp ring to the main pipe, with the funnel-shaped side pointing downwards → 6, 15.
   ↳ The multifunctional clamp ring acts as an anti-slip lock here.
2. Firmly tighten the multifunctional clamp ring.
3. Adjust the clamps on the flange clamp → 15.
4. Insert the main pipe through the flange clamp.
5. Align the main pipe.
6. Tighten the clamping screws.
7. Fit the protection cap on the top end of the main pipe.

5.2.7 Installing the rail mounting, pendulum holder or immersion pipe tray



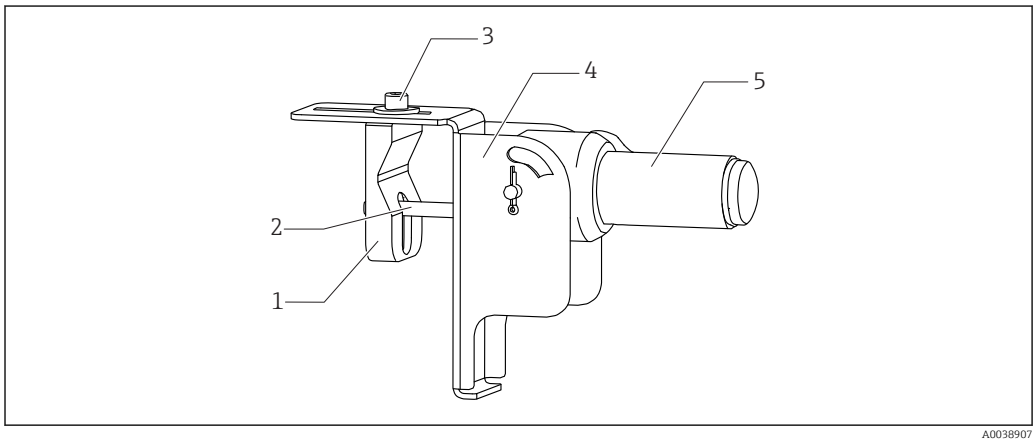
11 Rail mounting

1 Retaining screw in clamping jaw
2 Clamping jaw
3 Retaining screw



12 Immersion pipe tray

1 Clamping jaw
2 Retaining screw in clamping jaw
3 Retaining screw
4 Tray for the immersion pipe

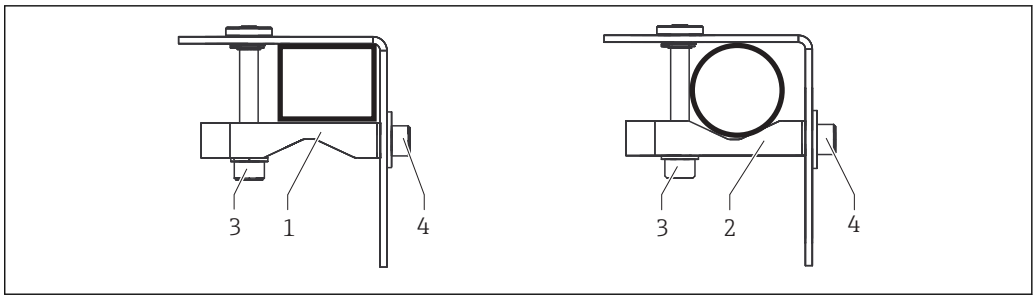


13 Pendulum holder with pendulum adapter

1 Clamping jaw
2 Retaining screw
3 Retaining screw in clamping jaw
4 Pendulum adapter
5 Pendulum holder

The rail mounting → 11, 18, the pendulum holder with pendulum adapter → 13, 18 or the immersion pipe tray → 12, 18 must each be fitted on a support (square or circular).

- Mount the holder in the desired position on the support using a clamping jaw and 2 retaining screws.



14 *Fitting the holder on the support*

1 *Mounting on a square support*
2 *Mounting on a circular support*
3 *Retaining screw*
4 *Retaining screw in clamping jaw*

In the case of square supports, mount the clamping jaw with the V-notch facing outwards; in the case of circular supports, mount with the V-notch facing inwards.

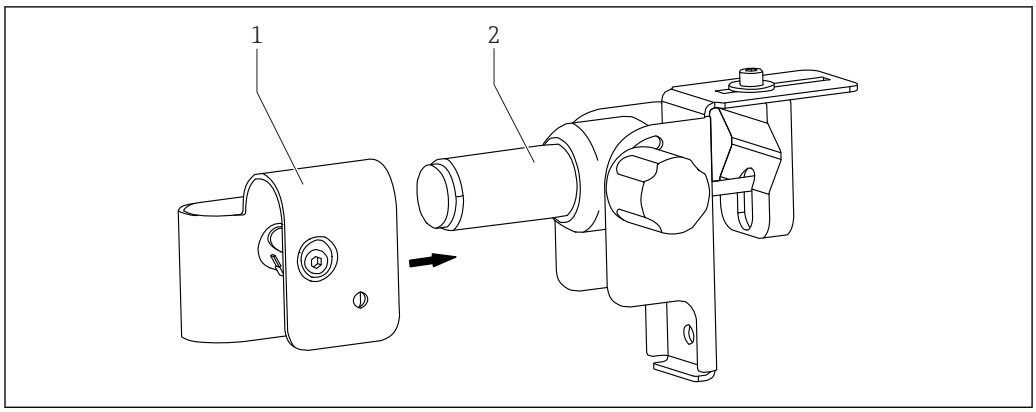
Mounting the holder:

1. Screw in the retaining screws so that they sit loosely.
2. Press the clamping jaw against the support, ensuring that the clamping jaw is parallel to the holder.
3. Tighten the retaining screw (item 4).
4. Position the retaining screw (item 3) close to the support.
5. Tighten the retaining screw (item 3).

5.2.8 Mounting the transverse pipe on rails or a coping stone for fixed-installation assemblies

1. Adjust the clamps on the cross clamp and the flange clamp → 15.
2. Mount the cross clamp for the assembly on the transverse pipe. Ensure that the closed sides point upwards and towards the basin → 16.
3. Slide the transverse pipe through the flange clamp.
4. Align the holder.
5. Tighten the clamping screws.

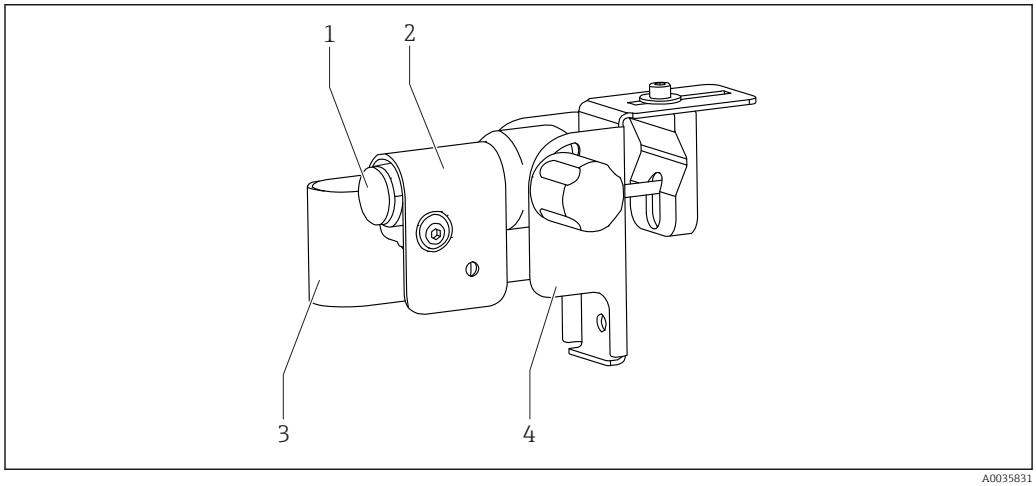
5.2.9 Mounting the cross clamp on the pendulum holder



15 *Mounting the cross clamp on the pendulum holder*

1 Cross clamp
2 Pendulum holder with pendulum adapter

1. Adjust the clamps on the cross clamp → 15.
2. Slide the cross clamp onto the pendulum holder. Ensure that the closed sides point upwards and to the basin.
3. Tighten the clamping screws.



16 *Cross clamp with pendulum holder*

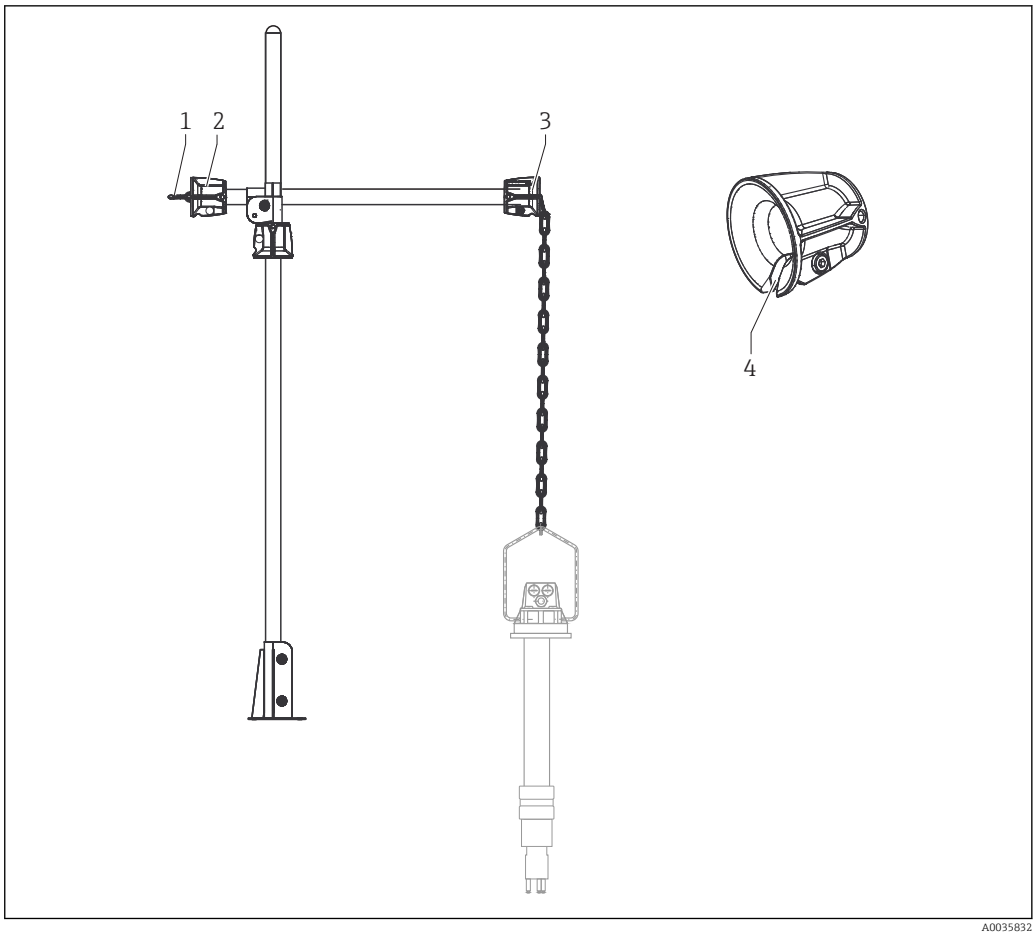
1 Pendulum holder
2 Cross clamp, closed side facing upwards
3 Cross clamp, closed side facing the basin

For information on the operation of the pendulum holder → 30

5.2.10 Mounting the transverse pipe for assembly chain retainer

Preparing the main pipe for mounting the transverse pipe:

1. Attach the multifunctional clamp ring to the main pipe, with the funnel-shaped side pointing downwards. The distance between the upper edge of the multifunctional clamp ring and the base plate may not exceed 1 100 mm (43.3 in).
2. Firmly tighten the multifunctional clamp ring.
3. Fit the protection cap on the top end of the main pipe.



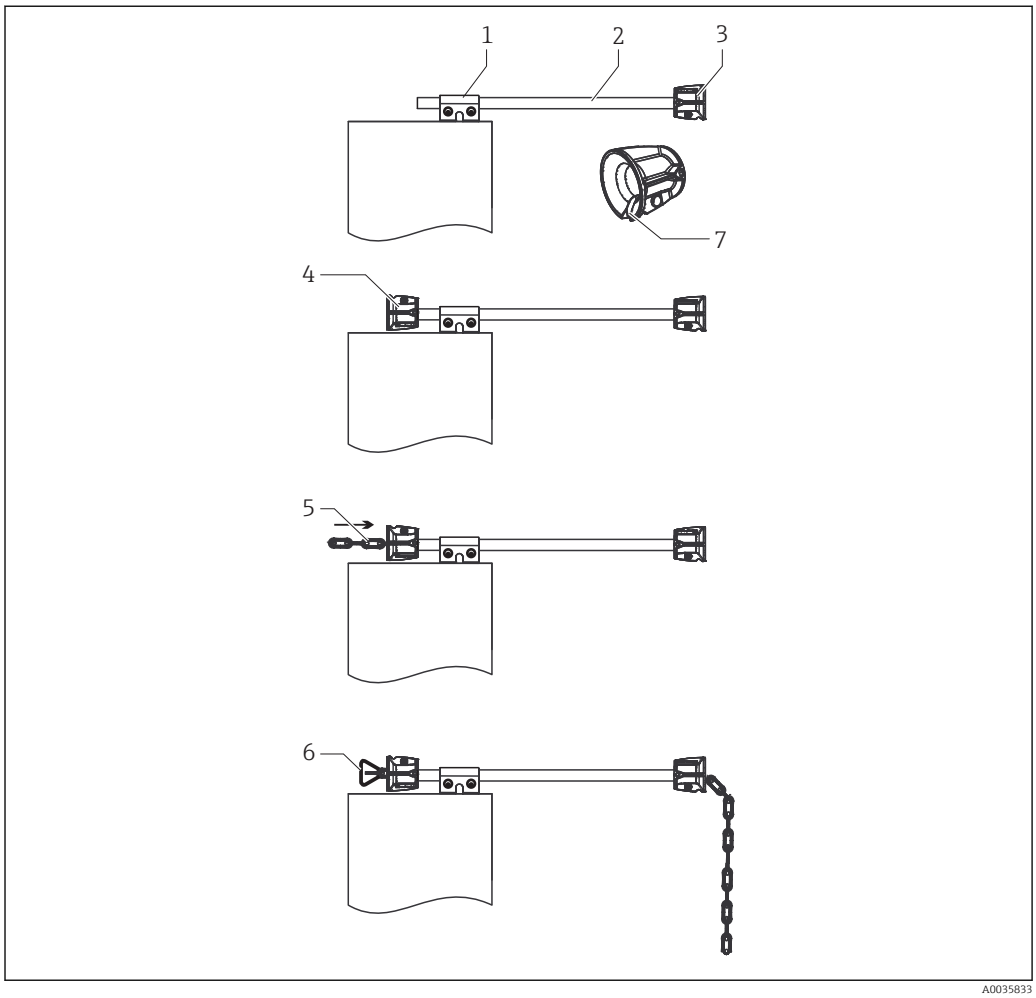
17 *Mounting the multifunctional clamp rings on the transverse pipe*

1 *Triangular carabiner as anti-slip lock for the chain*
2 *Multifunctional clamp ring (stand side), slot facing downwards*
3 *Multifunctional clamp ring (basin side), slot facing upwards*
4 *Slot in the multifunctional clamp ring*

Mounting the transverse pipe:

1. Adjust the clamps on the cross clamp → 15.
2. Slide the cross clamp over the transverse pipe. Ensure that the closed sides of the cross clamp point upwards and towards the basin.
3. Mount a multifunctional clamp ring on each end of the transverse pipe (funnel-shaped sides towards the outside → 6, 15).
4. Adjust the multifunctional clamp rings.
5. On the stand side, position the slot of the multifunctional clamp ring so that it is pointing downwards, and on the basin side position the slot so that it is pointing upwards.
6. Guide the chain through the transverse pipe.
7. Fit the chain into the slot of the multifunctional clamp ring (stand side).
8. Secure the chain with the triangular carabiner on both sides.
9. Attach the cross clamp, along with the transverse pipe, to the main pipe.
10. Align the holder.
11. Tighten the clamping screws.

5.2.11 Mounting the transverse pipe for assembly chain retainer without a main pipe

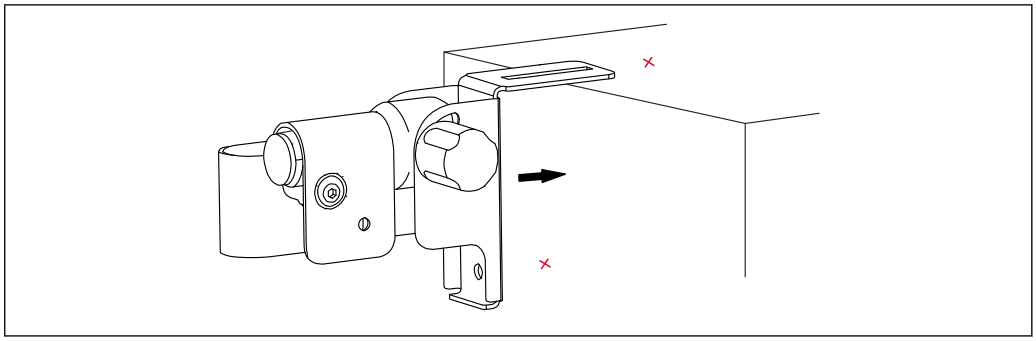


18 *Installation on coping stone*

1 *Flange clamp*
2 *Transverse pipe*
3 *Multifunctional clamp ring (basin side), slot facing upwards*
4 *Multifunctional clamp ring (stand side), slot facing downwards*
5 *Chain*
6 *Triangular carabiner*
7 *Slot in the multifunctional clamp ring*

1. Adjust the clamps on the flange clamp → 15.
2. Mount the multifunctional clamp ring on one end of the transverse pipe with the funnel-shaped side facing towards the outside → 6, 15.
3. Slide the transverse pipe through the flange clamp.
4. Mount the second multifunctional clamp ring on the other end of the transverse pipe with the funnel-shaped side facing towards the outside.
5. Guide the chain through the transverse pipe.
6. Secure the chain with the triangular carabiner.
7. Align the transverse pipe.
8. Ensure that the slot of the multifunctional clamp ring is pointing upwards on the basin side, and is pointing downwards on the stand side.
9. Tighten the clamping screws.

5.2.12 Mounting the pendulum holder on the coping stone

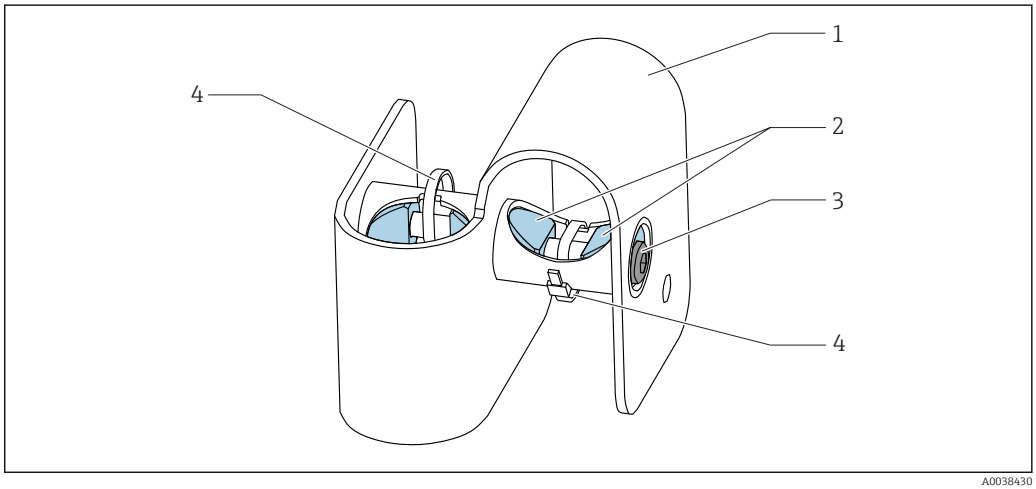


19 *Mounting the pendulum adapter on a coping stone*

Use M10 chemical anchors to mount the pendulum holder on a coping stone.

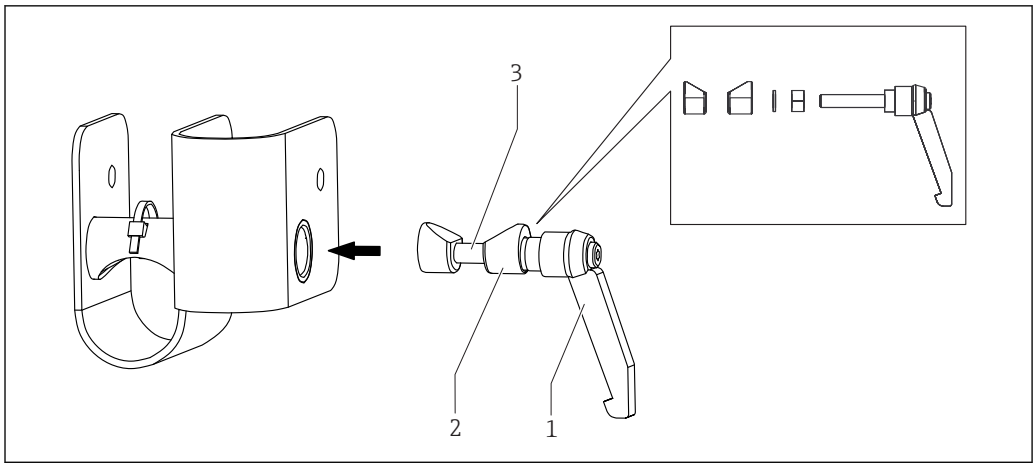
1. Mark the securing points for the pendulum holder on the floor.
2. Drill the securing holes with a 12 mm drill.
3. Install the 2 chemical anchors.
4. Firmly tighten the pendulum holder.
5. Ground the pendulum holder with a ground cable (≥ 4 mm² (≥12 AWG)).

5.2.13 Mounting the quick-action clamp



20 *Cross clamp*

1 *Cross clamp*
2 *Clamps*
3 *Clamp screw*
4 *Hook-and-loop cable ties*

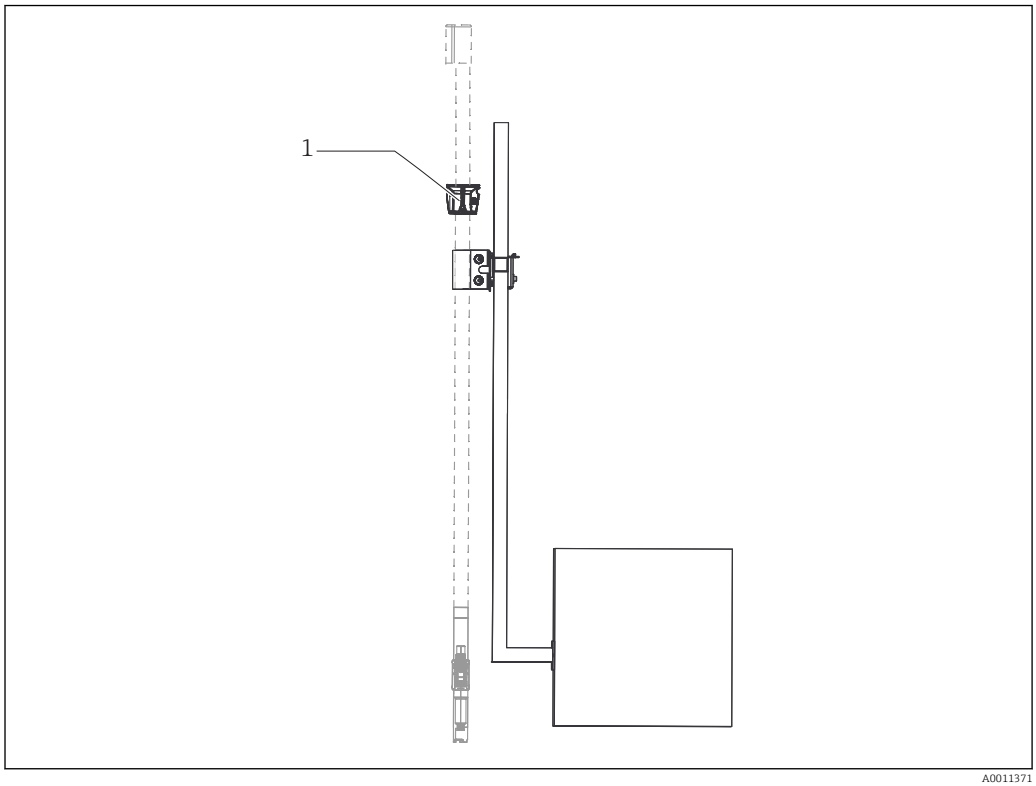


21 Mounting the quick-action clamp on the cross clamp

1 Quick-action clamp
2 Clamps
3 Clamp screw

1. Cut off the hook-and-loop cable ties used to secure the existing clamps.
2. Remove the clamping unit (clamps and clamping screw).
3. Insert the quick-action clamp.
4. Adjust the clamps.
5. Secure the quick-action clamp with a cable tie.
6. Mount the second quick-action clamp on the opposite side in the same way.

5.2.14 Mounting the anti-slip lock



22 Anti-slip lock for rail mounting

1 Multifunctional clamp ring

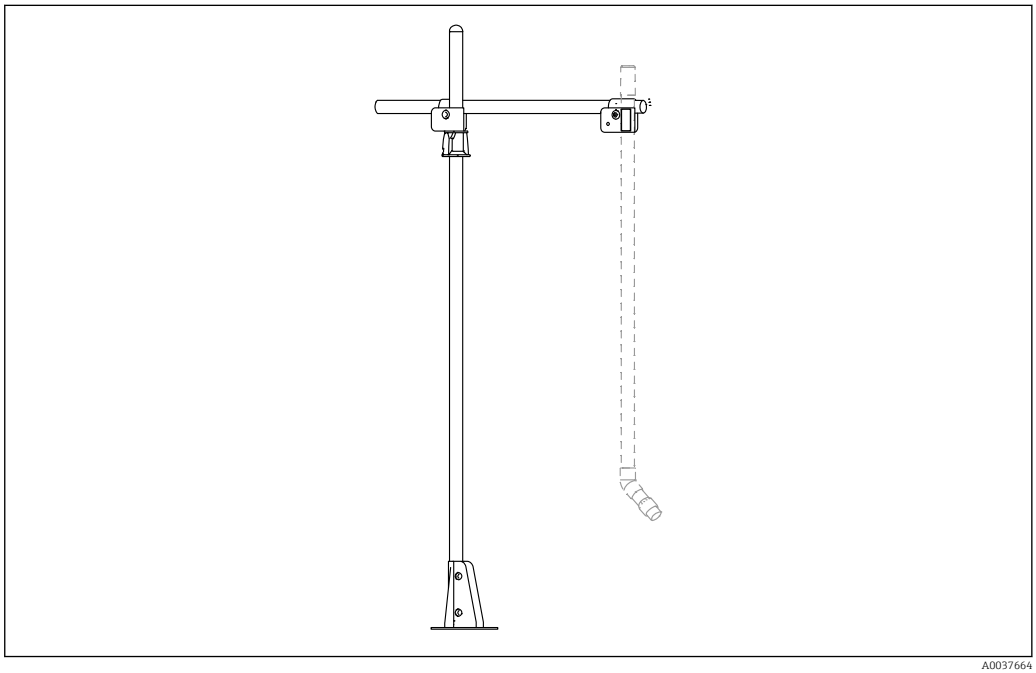
In the case of rail mounting, the multifunctional clamp ring acts as an anti-slip lock.

Multifunctional clamp ring → 35

▶ Mount the multifunctional clamp ring at the desired height.

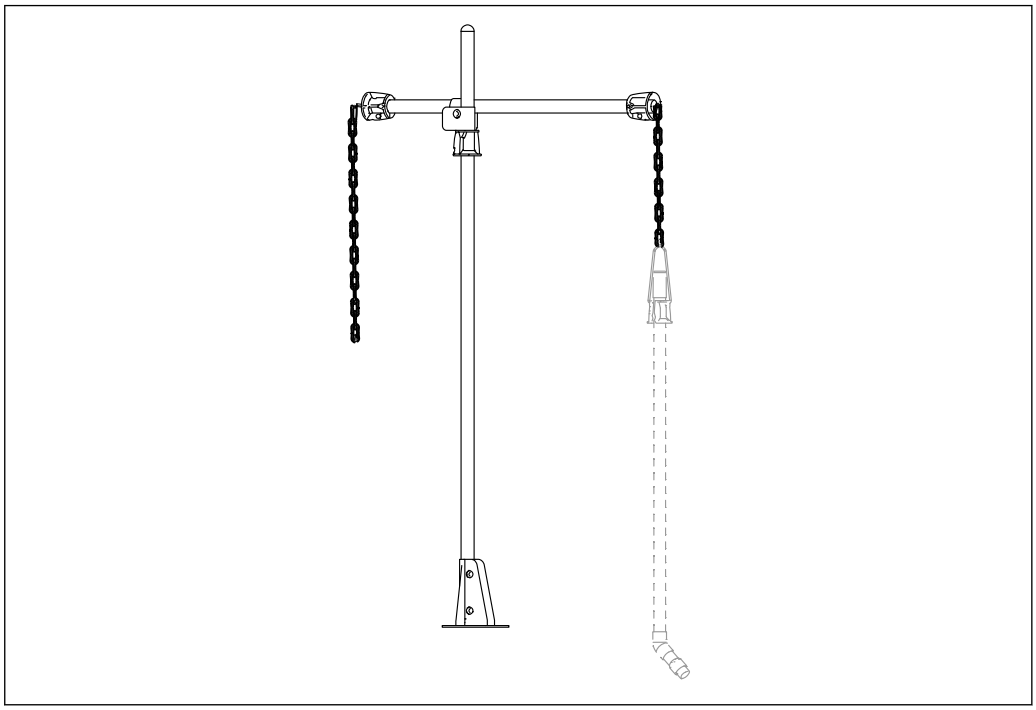
5.3 Mounting options

5.3.1 Floor mounting



A0037664

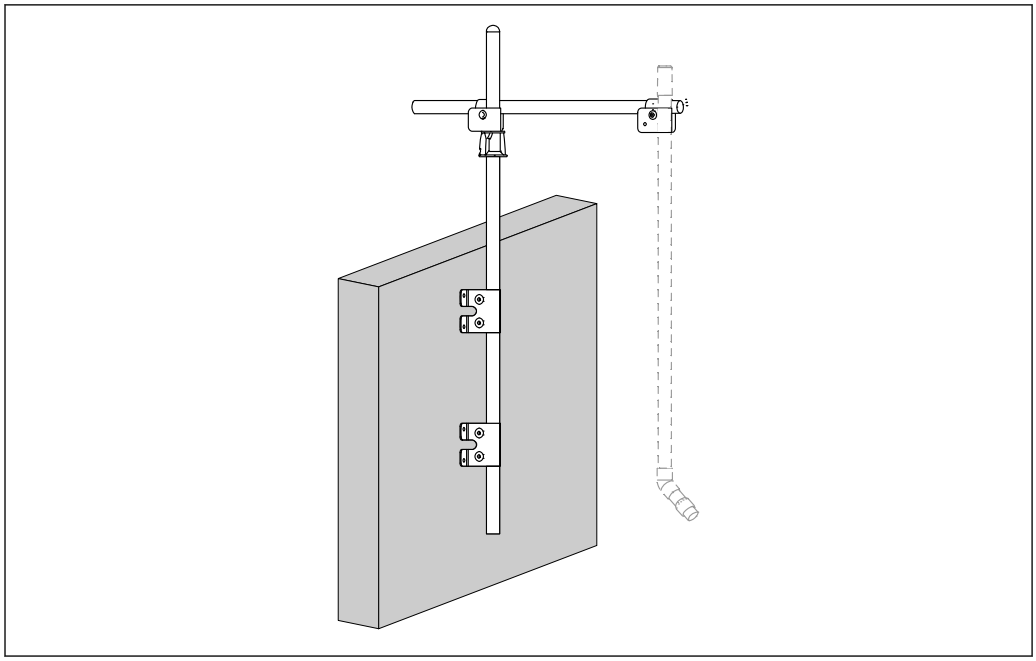
23 *Mounting on the floor with main pipe and transverse pipe*



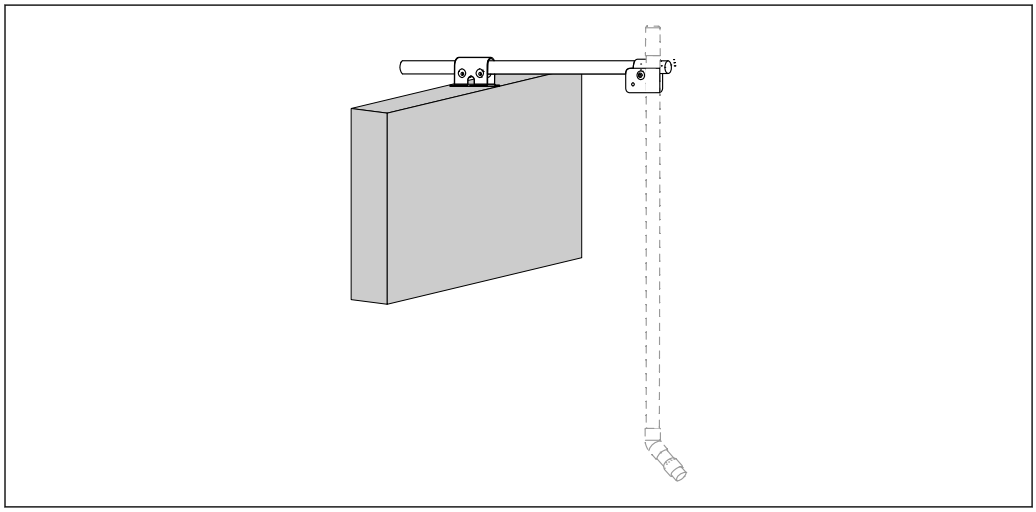
A0037665

24 *Mounting on the floor with main pipe, transverse pipe and chain*

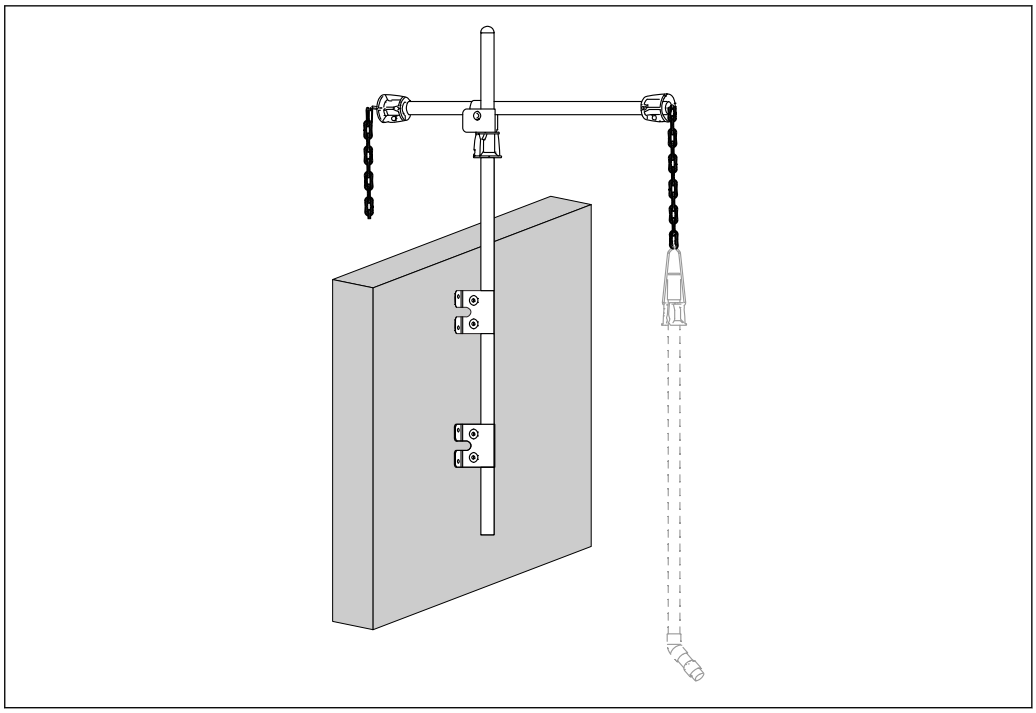
5.3.2 Wall mounting



25 *Mounting on a wall with main pipe and transverse pipe*

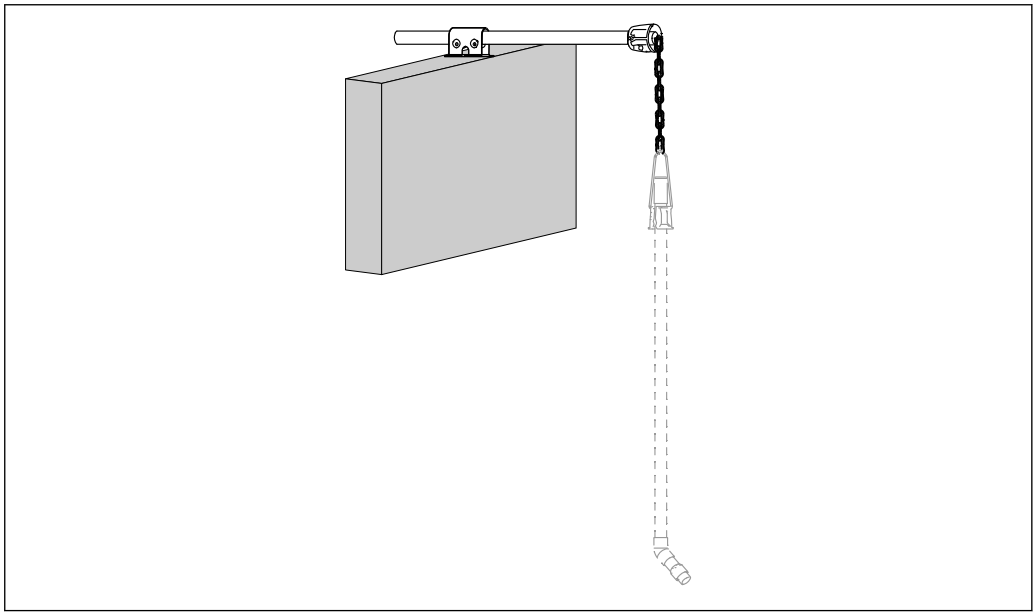


26 *Mounting on a wall with transverse pipe*



A0037901

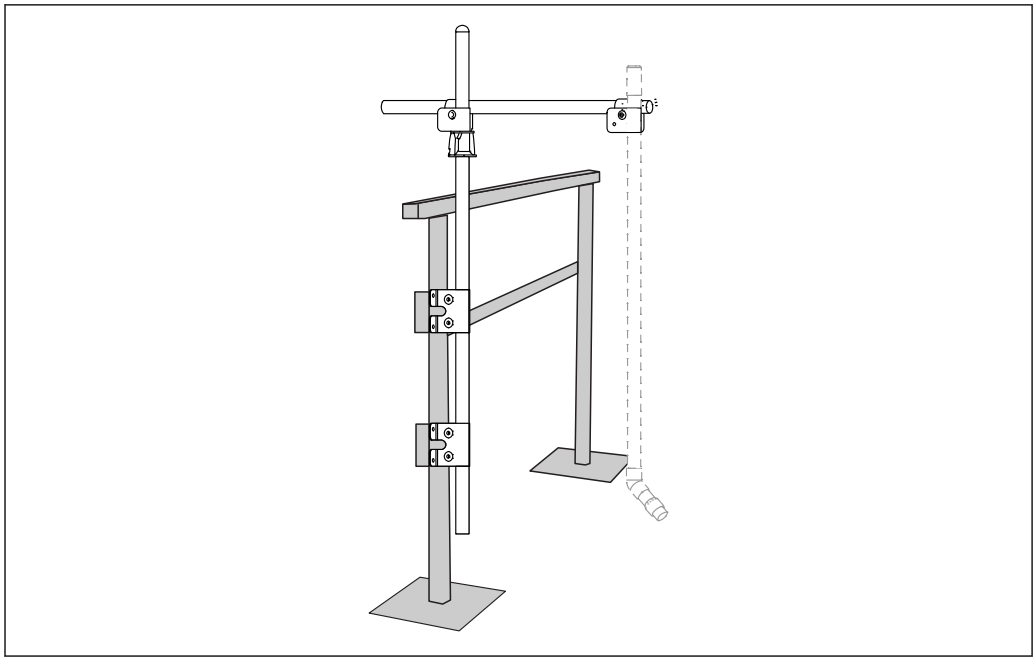
27 *Mounting on a wall with main pipe, transverse pipe and chain*



A0037902

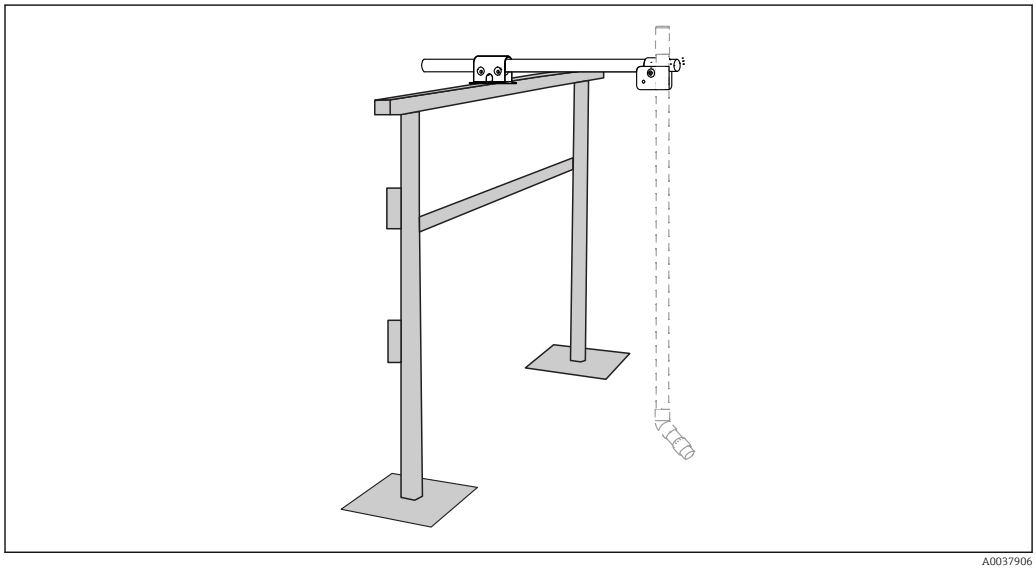
28 *Mounting on a wall with transverse pipe and chain*

5.3.3 Rail mounting



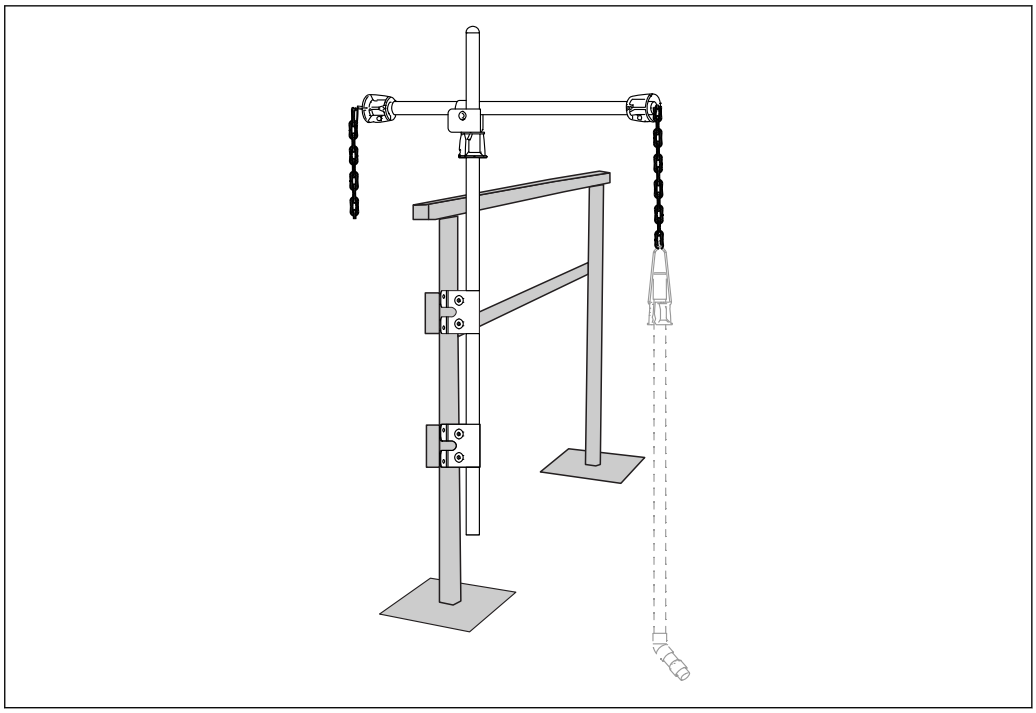
A0037904

29 Mounting on a rail with main pipe and transverse pipe



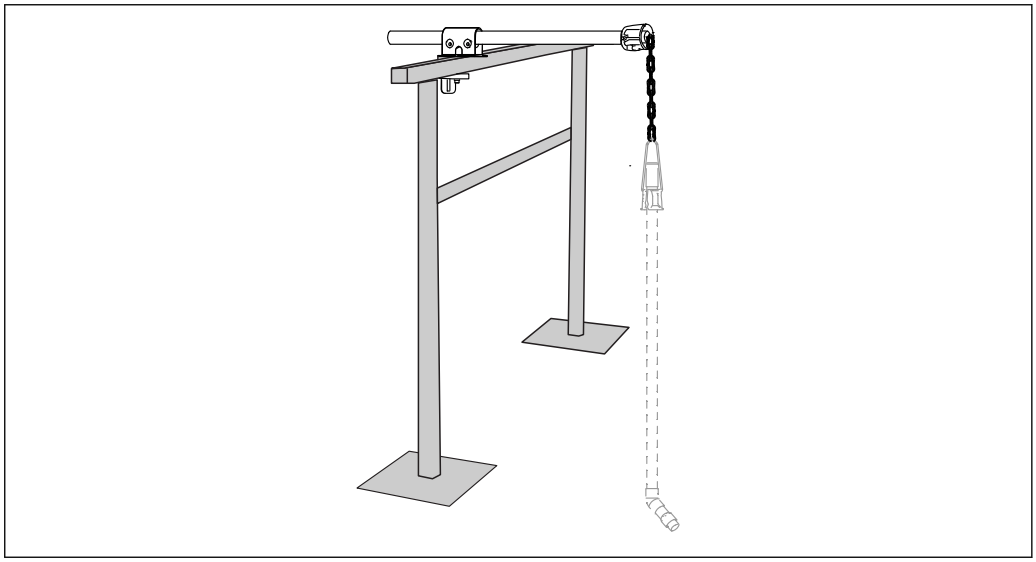
A0037906

30 Mounting on a rail with transverse pipe



A0037907

31 *Mounting on a rail with main pipe, transverse pipe and chain*



A0037908

32 *Mounting on a rail with transverse pipe and chain*

5.4 Post-installation check

- After mounting, check that all the screws are securely tightened.
- When fastening via the pendulum holder, check that the assembly can move freely.

6 Operation options

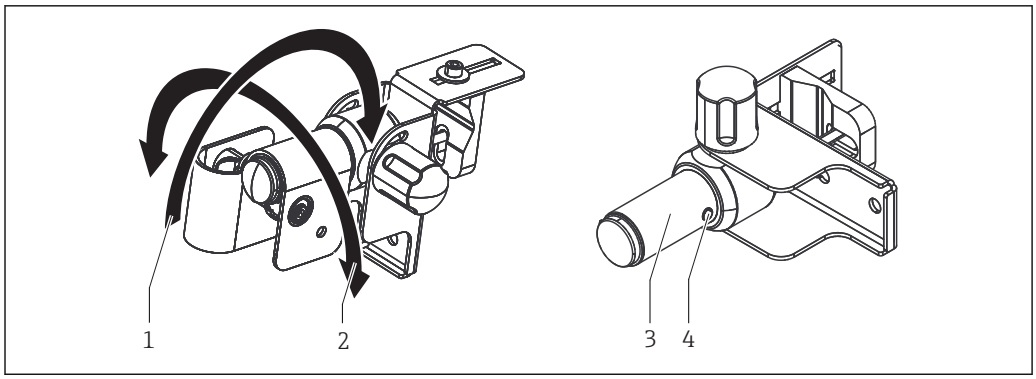
⚠ WARNING

Wastewater

There is a risk of infection when working with wastewater!

► Wear protective gloves, protective goggles and protective clothing.

6.1 Operating the pendulum holder



33 *Specifying the swing axis*

1 Swing axis with rotating sleeve blocked
2 Swing axis with rotating sleeve not blocked
3 Rotating sleeve
4 Blocking screw for rotating sleeve

At the pendulum holder, determine the swinging direction (swing axis):

► Block the rotating sleeve (item 1) or do not block the rotating sleeve (item 2).

Specifying swinging direction 1:

1. Unscrew the cross clamp from the pendulum holder.
2. Unscrew the blocking screw (item 4) slightly until the rotating sleeve can no longer rotate.
3. Reattach the cross clamp to the pendulum holder and screw it tight.
4. Release the locking lever.
5. Press the locking button to release the square-headed bolt on the opposite side.

Specifying swinging direction 2:

1. Unscrew the cross clamp from the pendulum holder.
2. Screw the blocking screw into the plastic body until the rotating sleeve can rotate slightly.
3. Reattach the cross clamp to the pendulum holder.
4. Firmly tighten the cross clamp.
5. Tighten the locking lever.

7 Maintenance

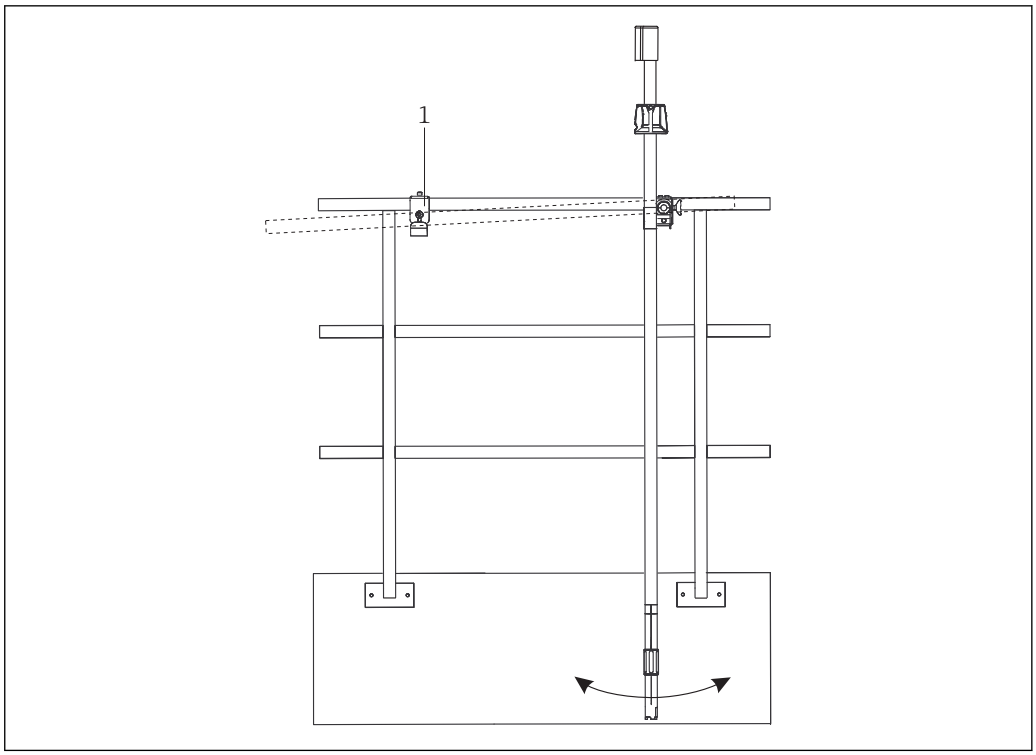
⚠ WARNING

Wastewater

There is a risk of infection when working with wastewater!

- ▶ Wear protective gloves, protective goggles and protective clothing.

7.1 Maintenance tasks

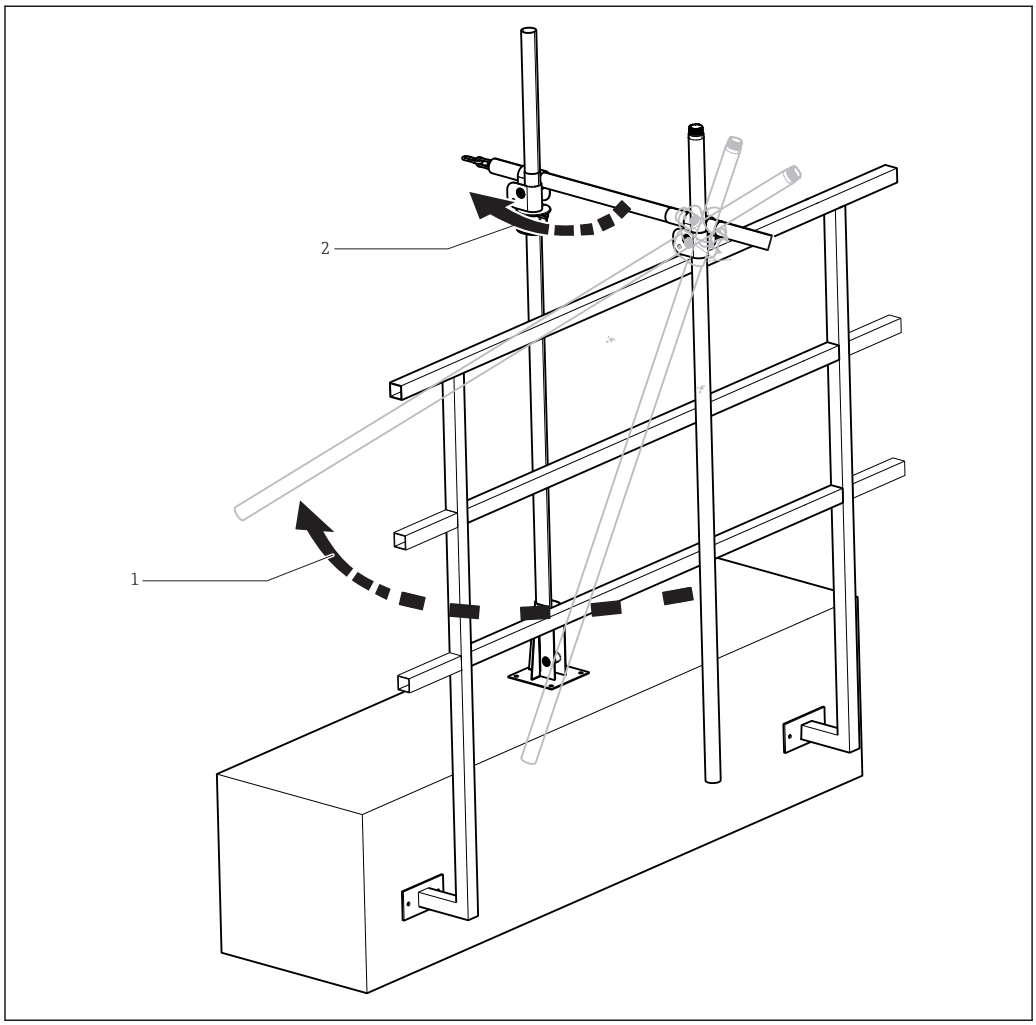


34 *Immersion pipe tray for assembly maintenance position*

1 Immersion pipe tray

The immersion pipe tray makes it easier to perform maintenance tasks with rail mounting involving a pendulum holder and cross clamp.

7.1.1 Setting the assembly to the service position (fixed installation)

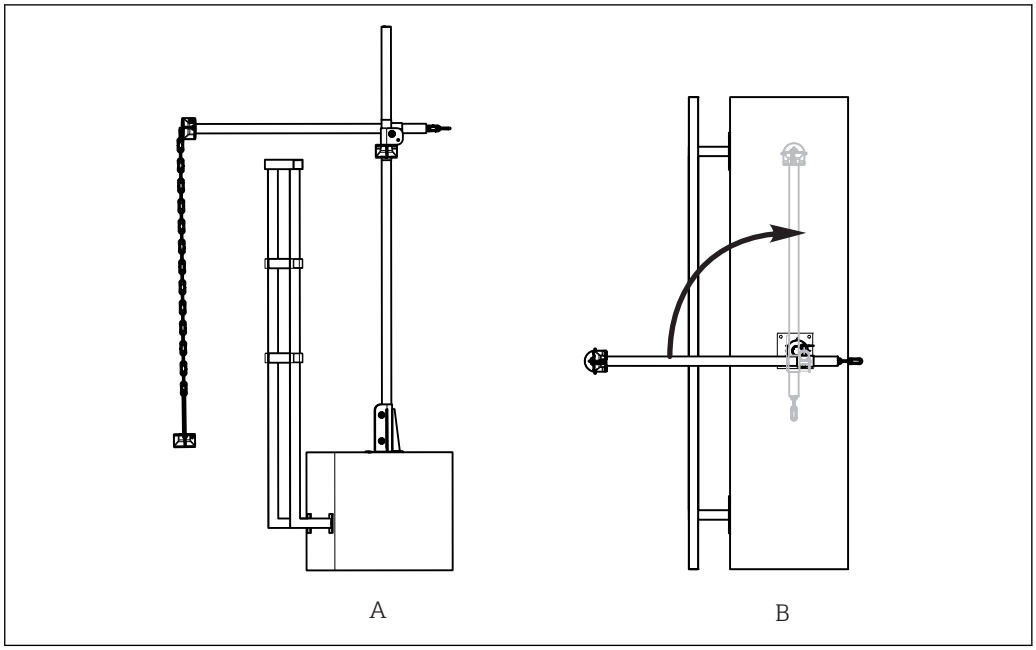


35 *Setting the assembly to the service position*

1 Rotational movement 1
2 Rotational movement 2

1. Release the clamp screws on the cross clamp.
2. Move the transverse pipe with the assembly to the stand side (rotational movement 2).
3. Turn the transverse pipe 90° (rotational movement 1).
   ↳ The assembly tilts upwards.
4. Move the transverse pipe over the basin rim and the railing.
5. Move the transverse pipe back until the desired maintenance position is reached.

7.1.2 Setting the assembly to the service position (chain retainer)



36 *Setting the assembly to the service position*

A Measuring position
B Service position

1. Pull up the assembly by the chain as far as possible.
2. Suspend the chain from the multifunctional clamp ring and secure the chain with the triangular carabiner.
3. Release the clamp screws on the cross clamp.
4. Move the transverse pipe with the assembly towards the stand side to the desired maintenance position. If necessary, lift the assembly over the railing.

7.1.3 Clamps and threads

Lubricate the clamps and threads at regular intervals.

1. Clean the clamps and threads with soapy water.
2. Dry the clamps and threads.
3. Apply a thin film of lubricant to the cleaned parts (e.g. Syntheso Glep1).

8 Repair

8.1 Return

The product must be returned if repairs or a factory calibration are required, or if the wrong product was ordered or delivered. As an ISO-certified company and also due to legal regulations, Endress+Hauser is obliged to follow certain procedures when handling any returned products that have been in contact with medium.

To ensure the swift, safe and professional return of the device:

- Refer to the website www.endress.com/support/return-material for information on the procedure and conditions for returning devices.

8.2 Disposal

- Please observe local regulations!

9 Accessories

The following are the most important accessories available at the time this documentation was issued.

▶ For accessories not listed here, please contact your Service or Sales Center.

Dipfit CLA111
- Immersion assembly for open and closed vessels with flange DN 100
- Product Configurator on the product page: www.products.endress.com/cla111

Technical Information TI00135C

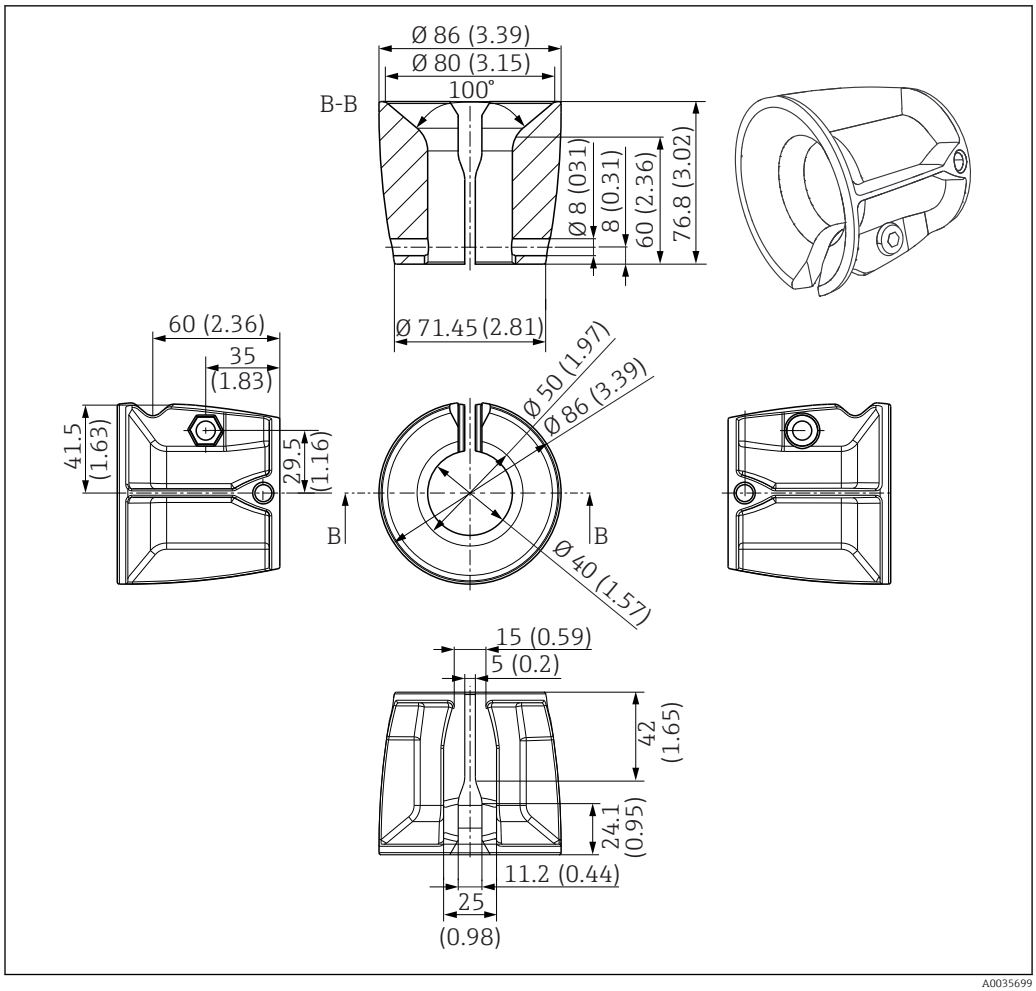
Dipfit CPA111
- Immersion and installation assembly made of plastic for open and closed vessels
- Product Configurator on the product page: www.endress.com/cpa111

Technical Information TI00112C

Flexdip CYA112
- Immersion assembly for water and wastewater
- Modular assembly system for sensors in open basins, channels and tanks
- Material: PVC or stainless steel
- Product Configurator on the product page: www.endress.com/cya112

Technical Information TI00432C

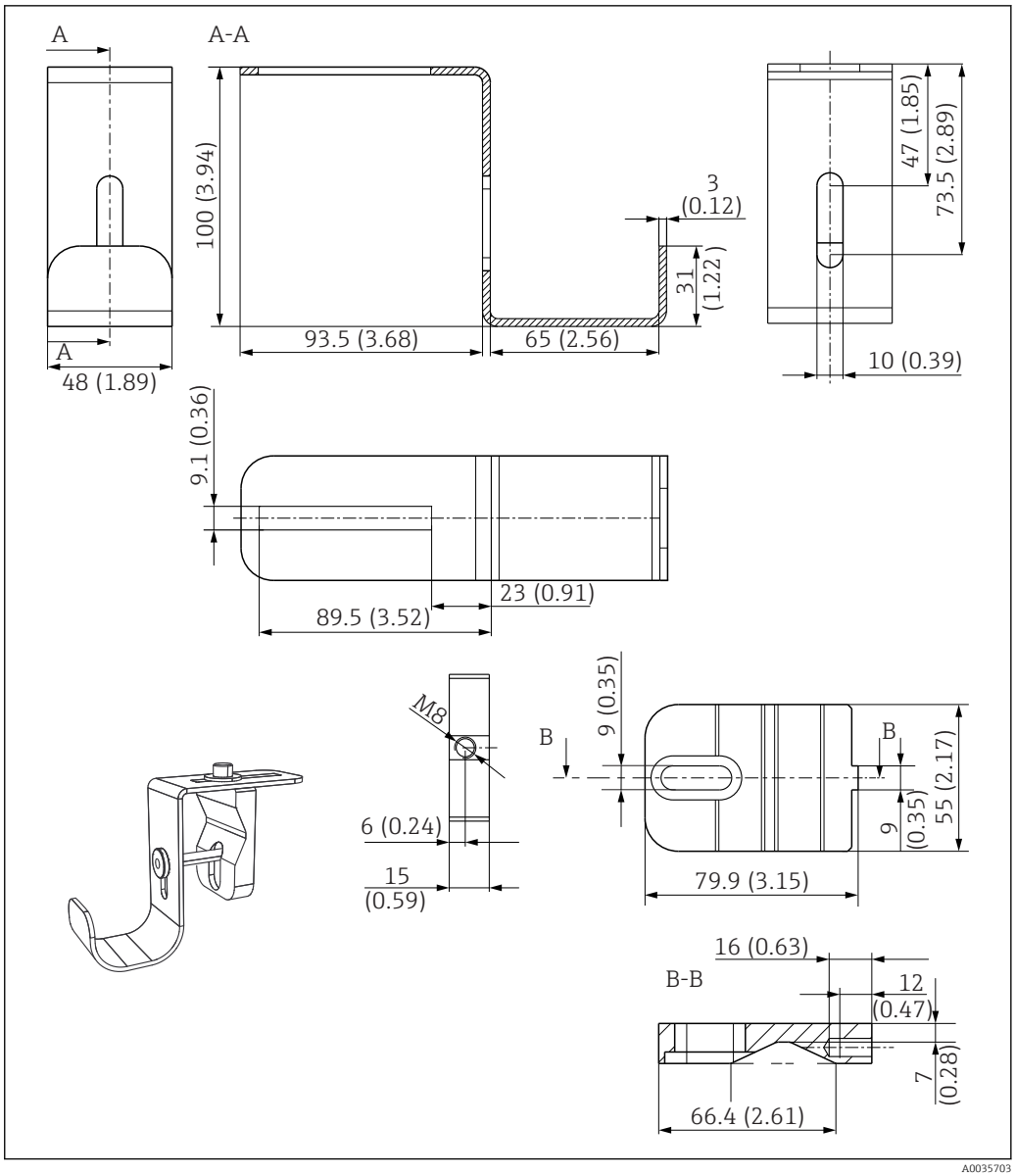
Multifunctional clamp ring
- In the case of a chain retainer, the rear multifunctional clamp ring keeps the chain fixed in place.
- In the case of the main pipe and transverse pipe, adjust the working height on the main pipe with the multifunctional clamp ring.
- The multifunctional clamp ring acts as an anti-slip lock on transverse pipes, main pipes and on assemblies.
- Material: POM - GF
- Order number: 71092049



37 *Multifunctional clamp ring. Dimensions: mm (in)*

Immersion pipe tray

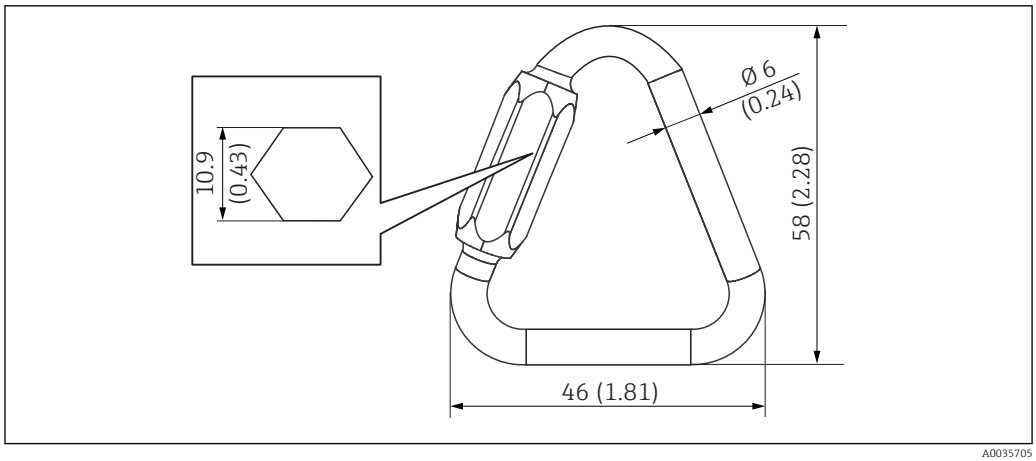
- Is used to hold the immersion pipe during maintenance work
- Material: stainless steel 1.4404 (AISI 316L)
- Order number: 71092054



38 *Immersion pipe tray. Dimensions: mm (in)*

Triangular carabiner

- Is used to secure the chain
- Material: stainless steel, quality V4A
- Order number: 71092052



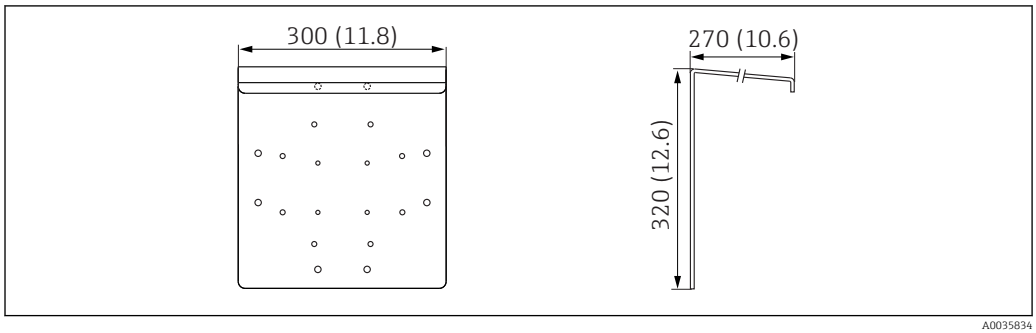
39 Triangular carabiner. Dimensions: mm (in)

Hook-and-loop cable ties (set of 4)
- Is used to secure the cables
- Material: PE/PA (polyethylene/polyamide)
- Order number: 71092051

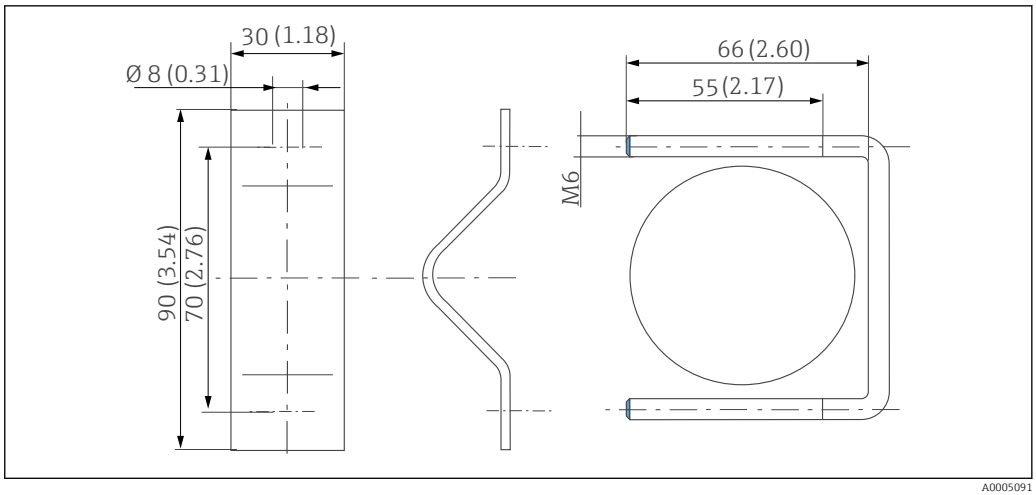
Allen key
- Across flats: AF 6
- Order number: 71092057

Pipe protection cap
- Material: PE (polyethylene)
- Order number: 71092053

Weather protection cover CYY101 for field devices
- Absolutely essential for field installation
- Material: stainless steel 1.4301 (AISI 304)
- Order number CYY101-A
- Mounting kit to secure the CYY101 weather protection cover on vertical or horizontal pipes with a diameter of up to 62 mm (2.44 in) Order No. 50062121



40 Weather protection cover for field devices. Dimensions: mm (in)



41 Circular post mounting for CYY101. Dimensions: mm (in)

Overvoltage protection
HAW56X surge arrester and associated installation material

Quick-action clamp
Order number: 71092050

Nylon chain
- Minimum length 5 m (16.4 ft)
- Order number: 71130145

10 Technical data

10.1 Environment

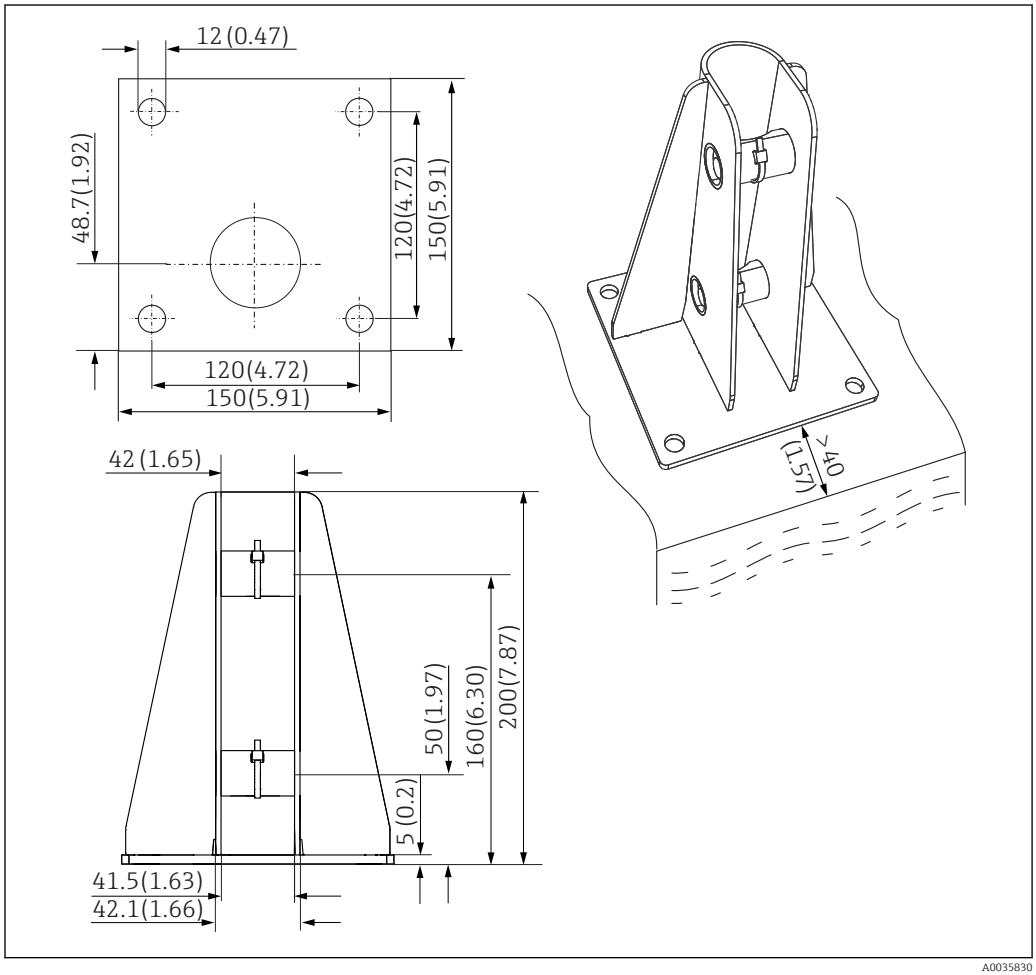
Ambient temperature range	-20 to 60 °C (-4 to 140 °F)

10.2 Mechanical construction

Design, dimensions	Main pipe:	Ø 40 mm (1.57 in), length: 500, 1000 and 1800 mm (19.7, 39.4 and 70.9 in)
	Transverse pipe:	Ø 40 mm (1.57 in), length: 500, 1000 and 1500 mm (19.7, 39.4 and 59 in)
	Chain:	5 m (16.4 ft)

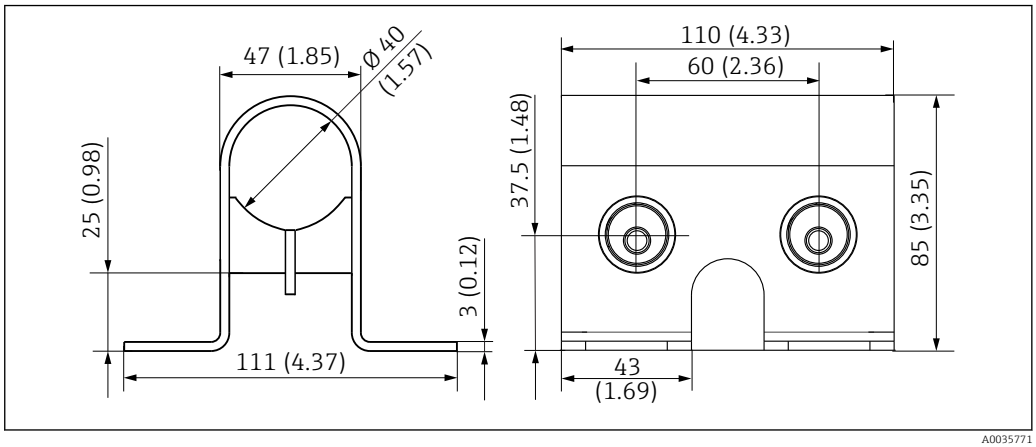
Dimensions

Base

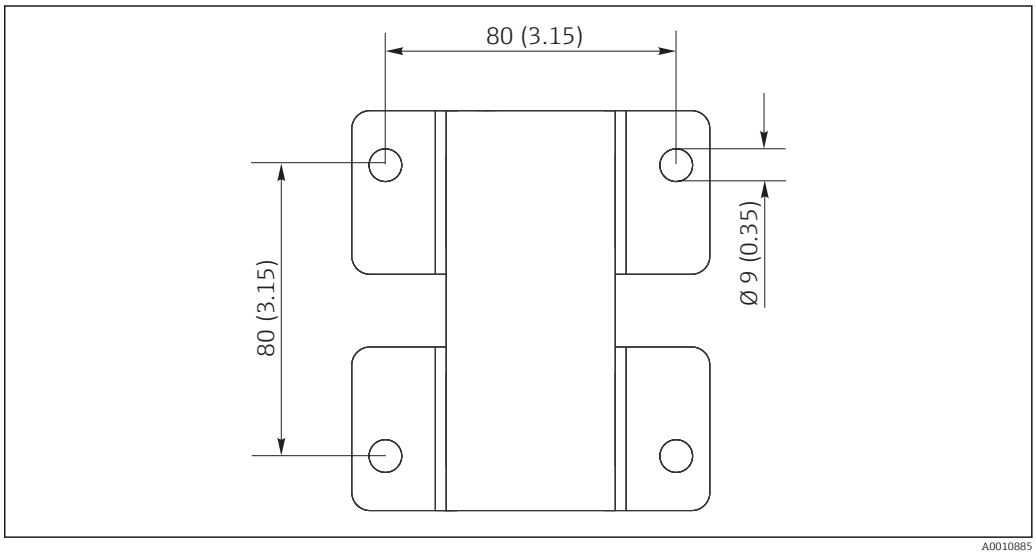


42 Dimensions of the base. Dimensions: mm (in)

Flange clamp

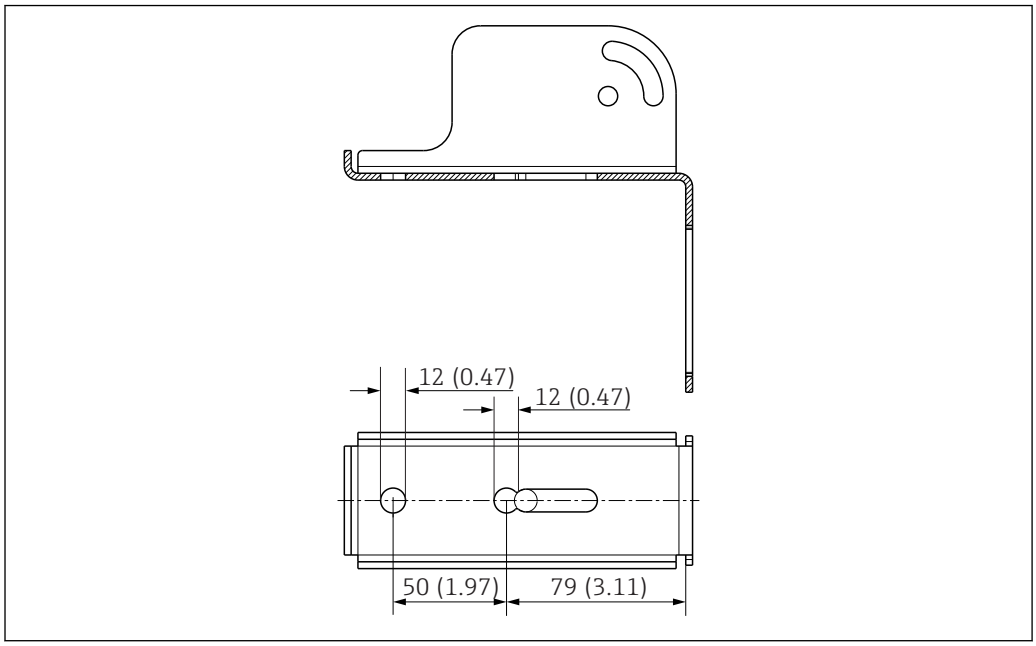


43 *Dimensions of the flange clamp. Dimensions: mm (in)*



44 *Dimensions of the boreholes of the flange clamp. Dimensions: mm (in)*

Pendulum adapter



45 *Dimensions of the pendulum adapter. Dimensions: mm (in)*

Weight

- Main pipe
  - Length 500 mm (19.7 in): 0.7 kg (1.5 lb)
  - Length 1000 mm (39.4 in): 1.5 kg (3.3 lb)
  - Length 1800 mm (70.9 in): 2.6 kg (5.7 lb)
- Transverse pipe
  - Length 500 mm (19.7 in): 0.7 kg (1.5 lb)
  - Length 1000 mm (39.4 in): 1.5 kg (3.3 lb)
  - Length 1500 mm (59 in): 2.2 kg (4.9 lb)
- Flange clamp: 0.7 kg (1.5 lb)
- Cross clamp: 0.7 kg (1.5 lb)
- Base clamping element: 1.75 kg (3.86 lb)
- Pendulum holder: 1.1 kg (2.4 lb)
- Chain (synthetic): 0.7 kg (1.5 lb)
- Chain (stainless steel): 2.15 kg (4.7 lb)
- Multifunctional clamp ring: 0.15 kg (0.33 lb)

Materials

Main pipe:	Stainless steel 1.4404 (AISI 316 L)
Transverse pipe:	Stainless steel 1.4404 (AISI 316 L)
Flange clamp:	Stainless steel 1.4404 (AISI 316 L) *
Cross clamp:	Stainless steel 1.4404 (AISI 316 L) *
Base clamping element:	Stainless steel 1.4404 (AISI 316 L) *
Pendulum holder:	Stainless steel 1.4404 (AISI 316 L) */POM/thermoplastic
Chain (synthetic):	PA (polyamide) UV-resistant, tensile-tested
Chain (stainless steel):	Stainless steel 1.4401 (AISI 316)
Multifunctional clamp ring:	POM - GF
Cap for pipe end:	PE
Quick-action clamp handle:	PA

* The flange clamp, cross clamp and base clamping element are made from the material indicated with the exception of the clamps in the clamping device, which are made from stainless steel 1.4301 or 1.4305 (AISI 304). The pendulum holder is made from the material indicated with the exception of the shaft and the clamps in the clamping device, which are made from stainless steel 1.4301 or 1.4305 (AISI 304).

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