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LENNTECH
WATER TREATMENT SOLUTIONS

Technical Information
Flexdip CYH112

Holder for water and wastewater assemblies

Application

- Water and wastewater
- Plant construction

Your benefits

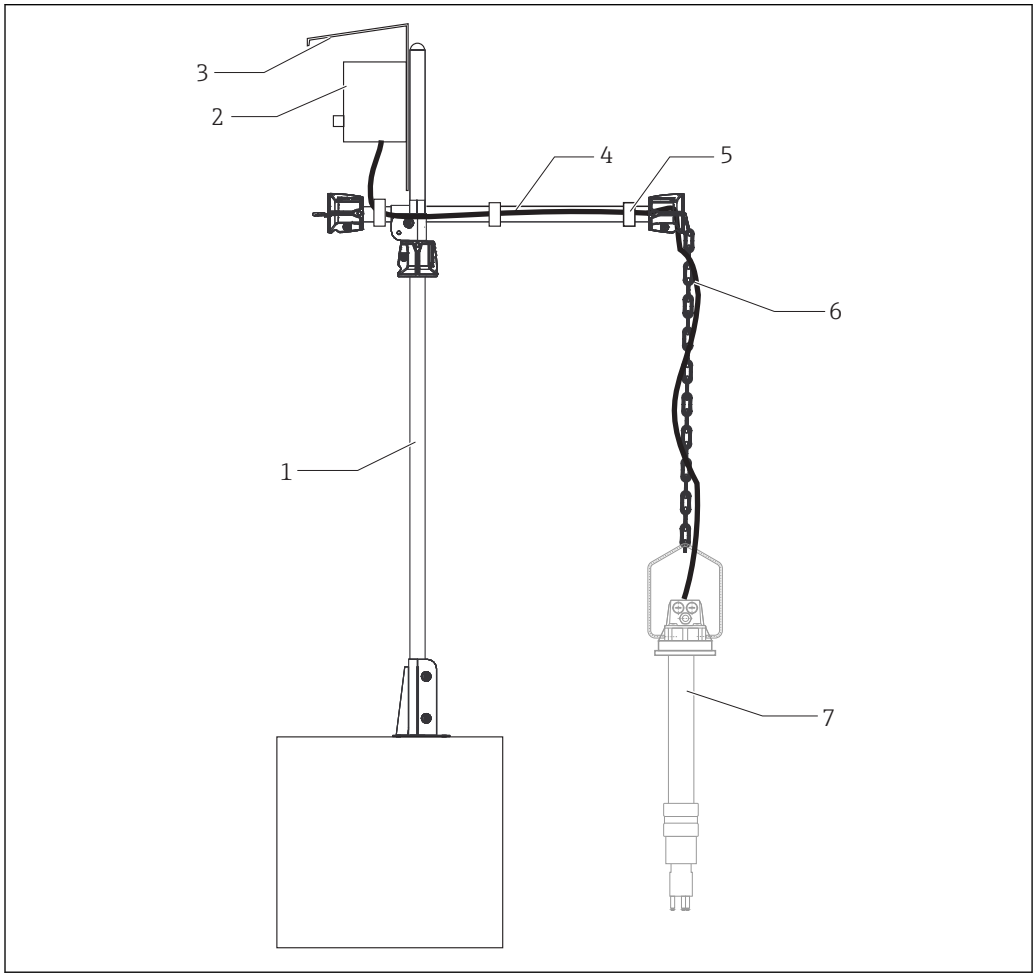
- Simple, cost-effective and easily extensible
- Holder can be installed on the floor, wall, coping stone or rail
- Can be adapted to ambient conditions
- Sensor installation on a cantilever arm with chain, fixed immersion pipe or free swinging installation
- Introduces sensors into the process safely and reliably
- Float version available for variable levels
- Holder largely adjustable in terms of height, extension and orientation
- Extensible and easy to retrofit
- Available as stainless steel or plastic version
- Captive threaded joints
- Easy to install and service

Endress+Hauser
People for Process Automation

Function and system design

Measuring system

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



1 *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*

The holder system permits any combination of the components.

The main pipe is suitable for mounting a transmitter with a weather protection cover. A junction box and a surge arrester can additionally be mounted on the weather protection cover. The holes for mounting must be drilled by the customer on site for this purpose.

The transverse pipe is used to position the sensors with regard to the distance from the wall and the immersion location. The assembly is used to adjust the immersion depth and to securely position the sensor in the medium. Hook-and-loop cable ties are preferably used for routing the sensor cable on the holder (see the Product structure). Cable routing for the power supply must be implemented by the customer onsite.

The following assemblies can be used:
- Flexdip CYA112
- Dipfit W CLA111
- Dipfit W CPA111
- Existing assemblies that meet the requirements of the CYH112 holder as chain or fixed-installation assemblies (weight, dimensions, lock)

Elements

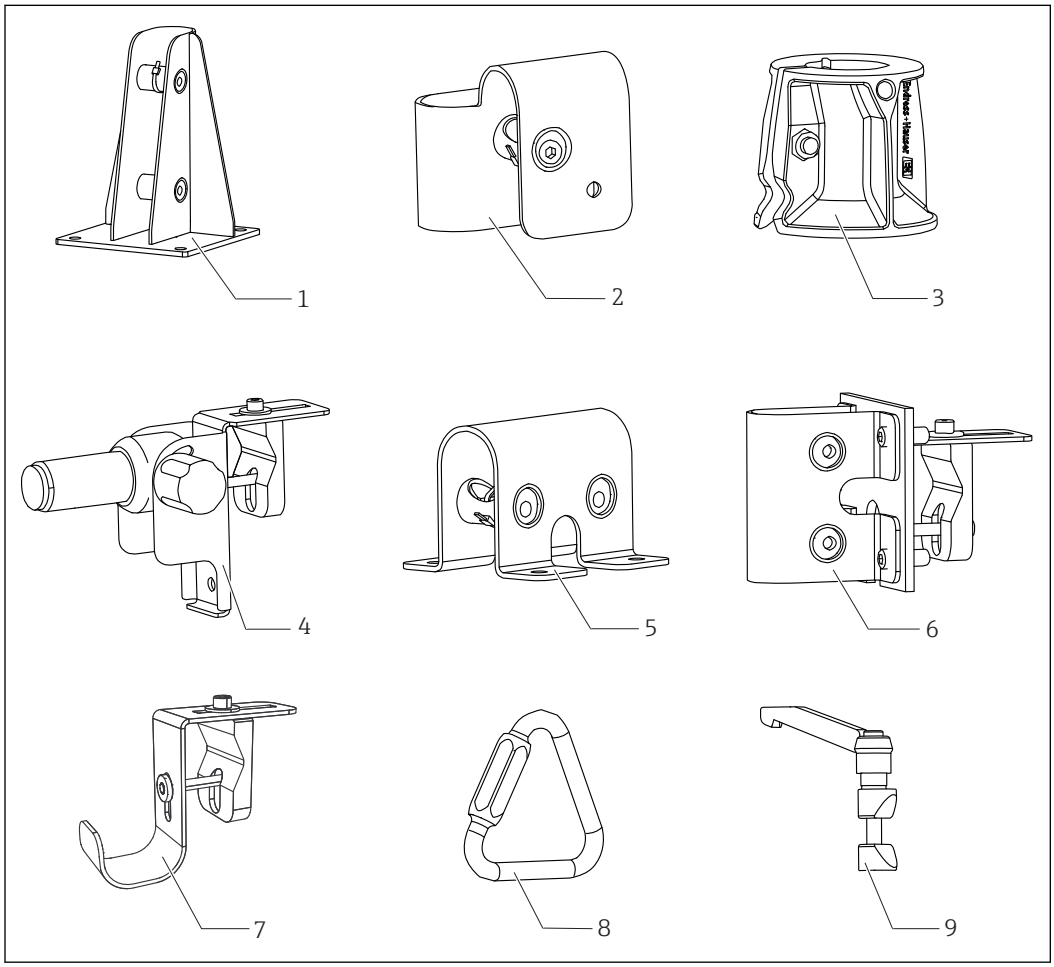
The holder consists of the two basic elements - the main pipe and the transverse pipe - as well as the functional components (e.g. multifunctional clamp ring). This permits a wide variety of configurations to suit different installation requirements.

Main elements

Main pipe	Ø 40 mm (1.6 in) , lengths: 500 mm (19.7 in), 1000 mm (39.4 in), 1800 mm (70.9 in)
Transverse pipe	Ø 40 mm (1.6 in), lengths: 500 mm (19.7 in), 1000 mm (39.4 in), 1500 mm (59.1 in)
Chain	Length: 5 m (16.4 ft)

The chain is supplied with 2 multifunctional clamp rings and 1 triangular carabiner (secures the chain). The open ends of the main pipe and transverse pipe are covered by caps. The main pipe remains open at the end.

Functional components



2 Functional components for the CYH112 holder

1 Base
2 Cross clamp
3 Multifunctional clamp ring
4 Pendulum holder with pendulum adapter
5 Flange clamp
6 Rail mounting
7 Immersion pipe tray
8 Triangular carabiner (secures the chain)
9 Quick-action clamp

Base
The base is used to:
- Mount an upright post on the floor
- Mount a transverse pipe on a wall

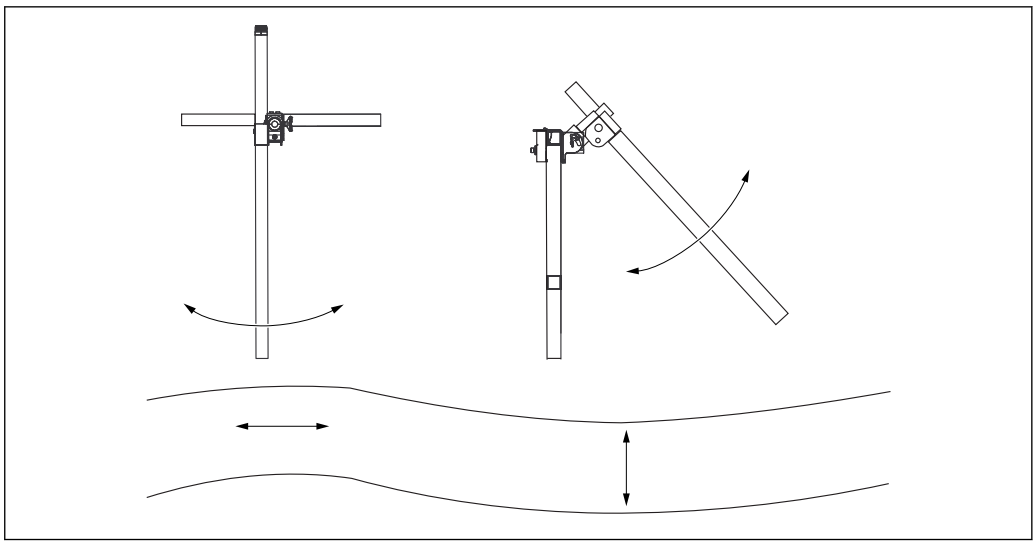
Cross clamp
Two pipes can be joined at an angle of 90° with the cross clamp.

Multifunctional clamp ring
The multifunctional clamp ring has the following functions:
- For holders with a chain, the multifunctional clamp ring is used as the chain outlet on the basin side. On the stand side, the multifunctional clamp ring is used to secure the chain in conjunction with the triangular carabiner.
- In the case of the main pipe and transverse pipe, the working height on the main pipe can be adjusted with the multifunctional clamp ring.
- On main pipes and transverse pipes, the multifunctional clamp ring acts as an anti-slip lock.

Triangular carabiner
The chain is secured with the triangular carabiner.

Quick-action clamp as retrofit kit
- Allows user-friendly operation of the cross clamp and flange clamp for the quick extension, retraction and rotation of the transverse pipe. The pipe can therefore be clamped without any tools.
- Facilitates sensor maintenance work with rail mounting.

Pendulum holder
- Holds the assembly while still permitting assembly movement.
- For rail mounting, the holder is reduced to a pendulum holder with a cross clamp. This permits pendulum movements in both axes.

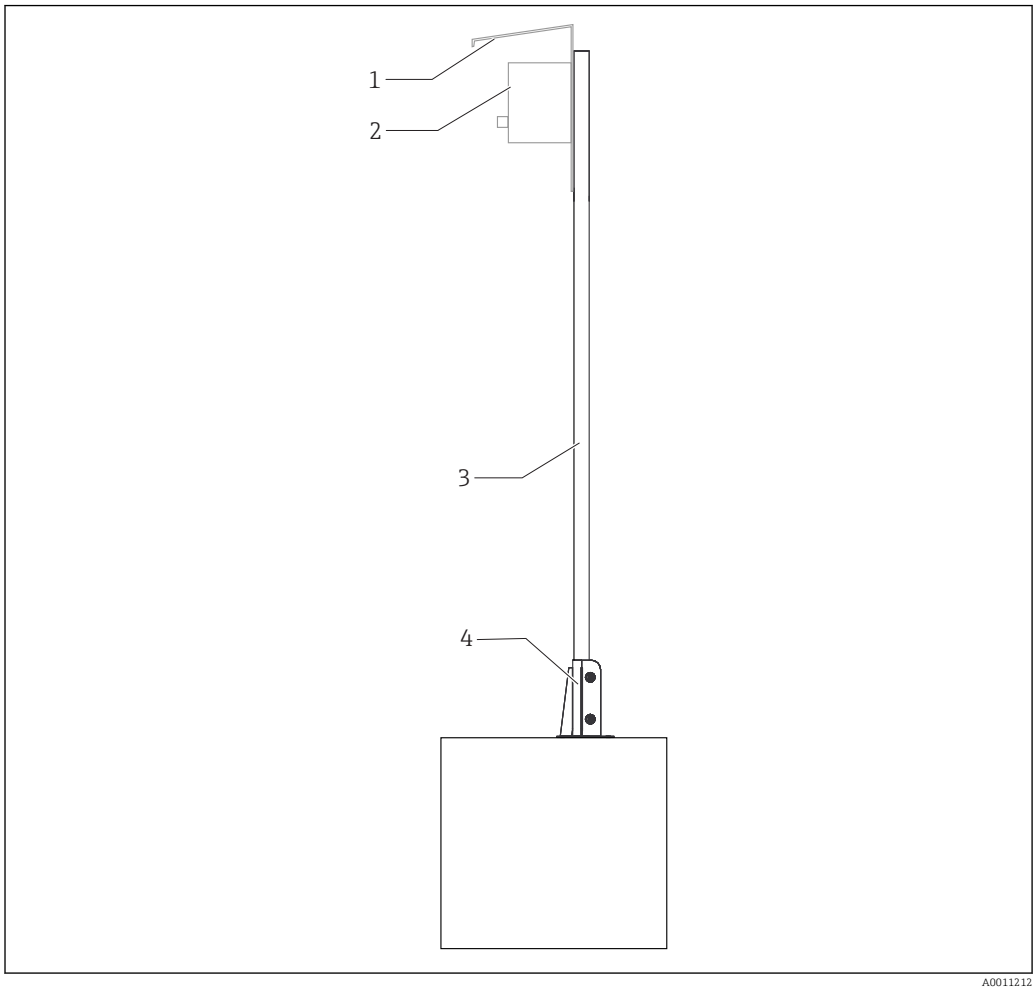


3 Pendulum movements in both axes

Flange clamp
Is used to mount a pipe. The pipe can be readjusted and repositioned after releasing the clamping elements.

Versions

Upright post for transmitter



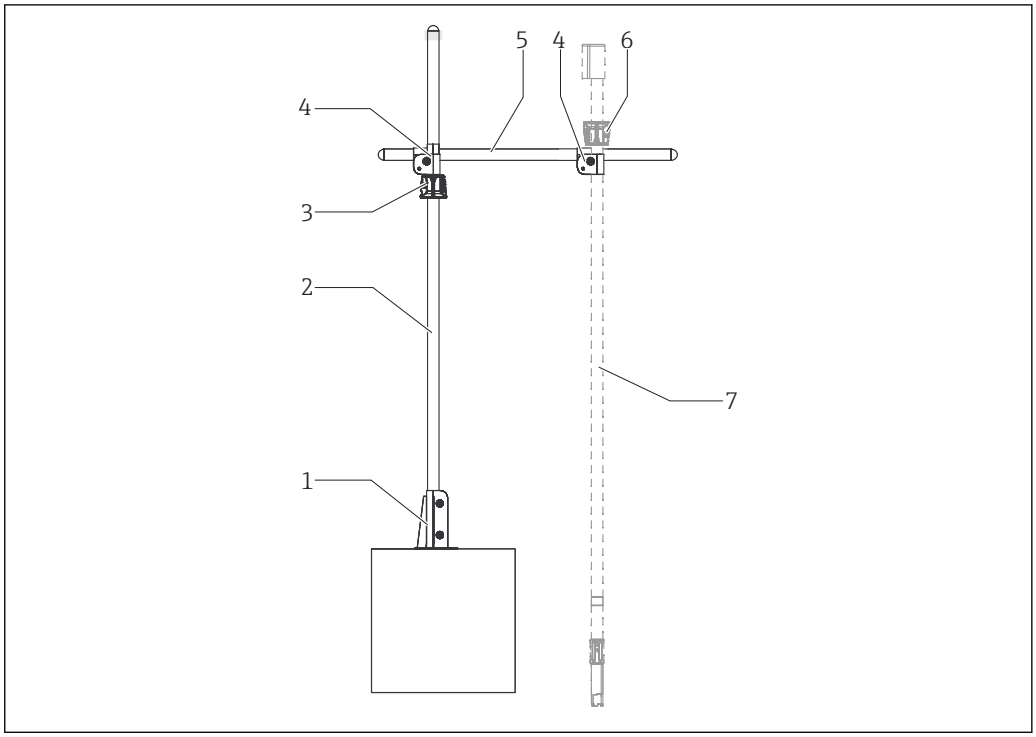
4 *Upright post for transmitter*

1 Weather protection cover (not included in delivery)
2 Transmitter (not included in delivery)
3 Main pipe 1 800 mm (70.9 in)
4 Base for floor mounting

Order structure information: main pipe with floor mounting

Order code: CYH112-AB60A11A1

Main pipe for floor mounting with fixed holder



5 *Main pipe for floor mounting with fixed holder*

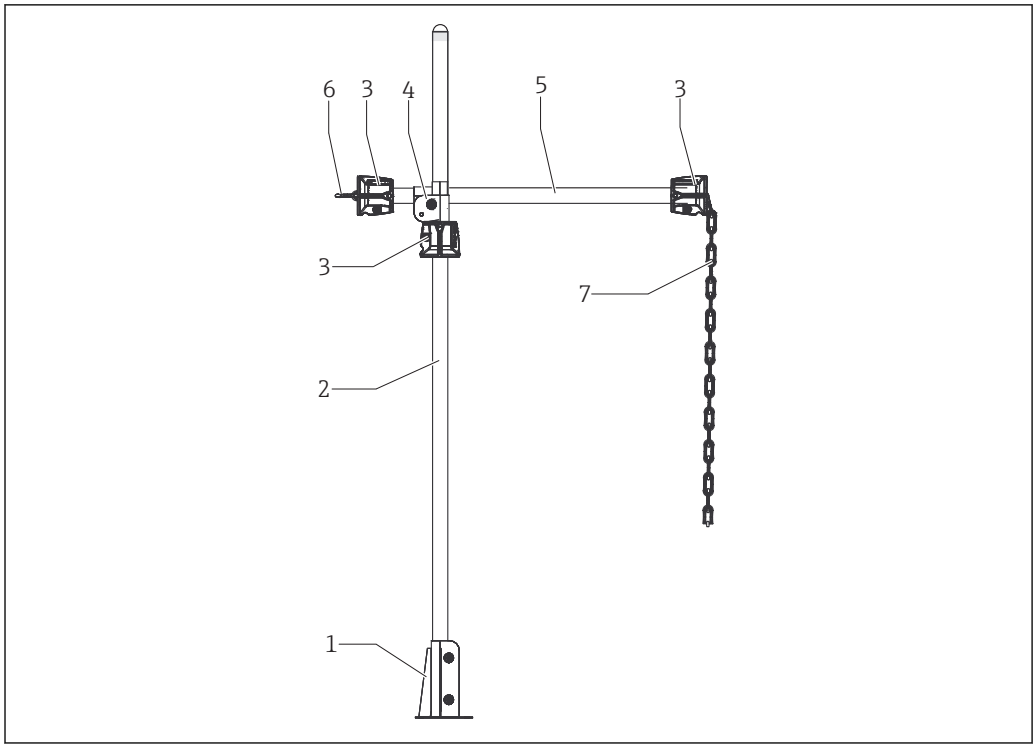
1 *Base for floor mounting*
2 *Main pipe 1 800 mm (70.9 in)*
3 *Multifunctional clamp ring*
4 *Cross clamp*
5 *Transverse pipe 1 000 mm (39.4 in)*
6 *Additional multifunctional clamp ring (not included in delivery)*
7 *CYA112 assembly (not included in delivery)*

Order structure information: main pipe for floor mounting, transverse pipe

Order code: CYH112-AB60B50D1

The version is suitable for attaching a fixed assembly. Here, the multifunctional clamp ring (item 3) serves as a support for the transverse pipe. The additional multifunctional clamp ring (item 6) acts as an anti-slip lock.

Main pipe for floor mounting with chain retainer



6 Main pipe for floor mounting with chain retainer

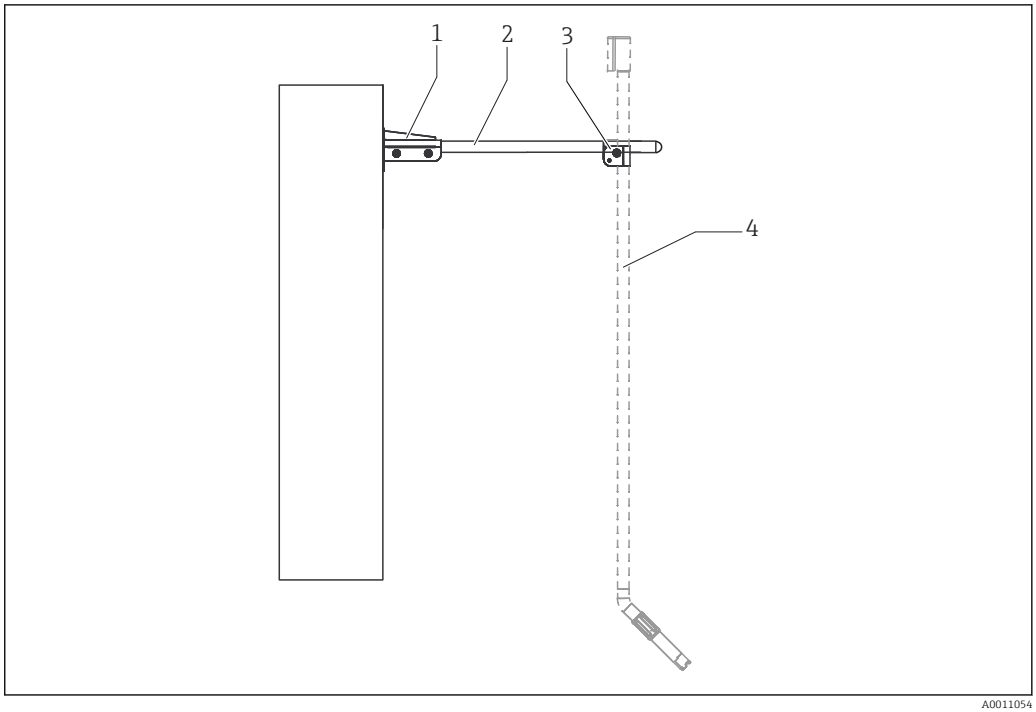
1 *Base for floor mounting*
2 *Main pipe 1 800 mm (70.9 in)*
3 *Multifunctional clamp ring*
4 *Cross clamp*
5 *Transverse pipe 1 000 mm (39.4 in)*
6 *Triangular carabiner*
7 *Chain*

Order structure information: main pipe for floor mounting, transverse pipe, chain

Order code: CYH112-AB60B50B1

The triangular carabiner secures the chain at the end of the pipe. The immersion depth of the assembly can be adjusted by adjusting the triangular carabiner.

Wall mounting with transverse pipe and fixed holder



7 *Wall mounting with transverse pipe and fixed holder*

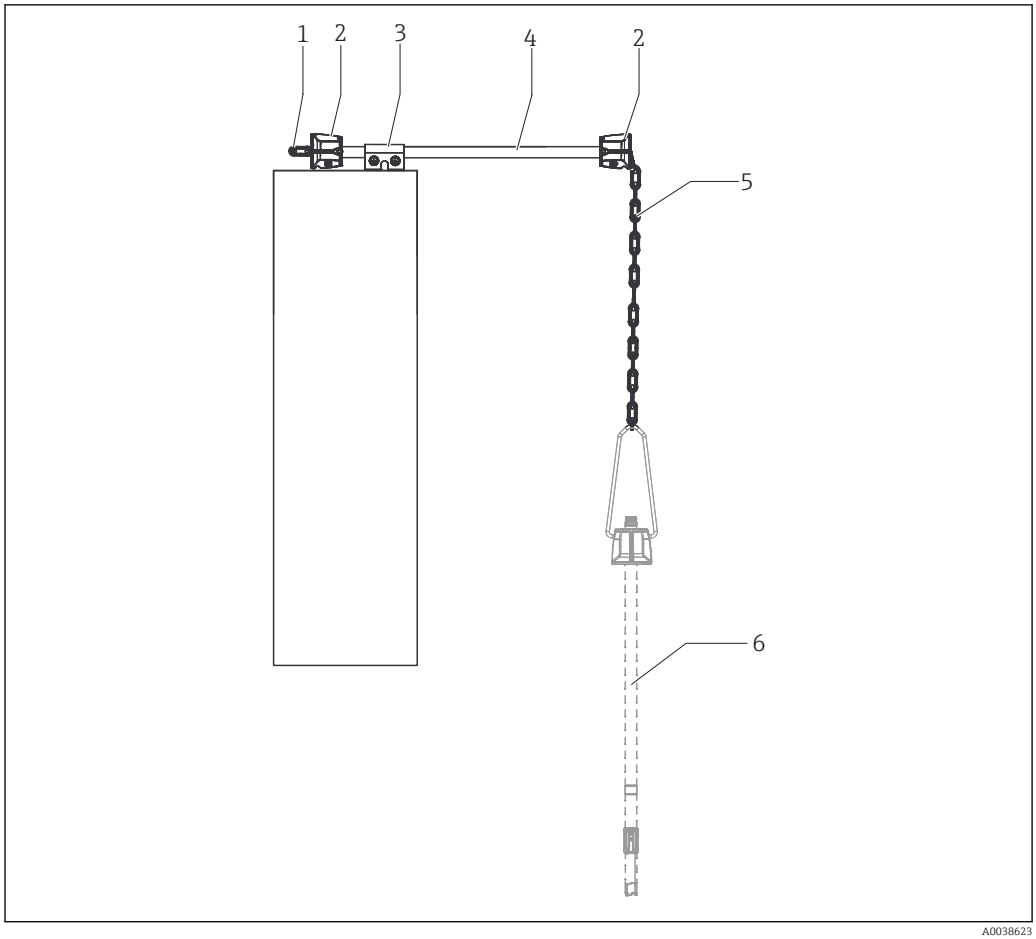
1 Base
2 Transverse pipe 500 mm (19.7 in)
3 Cross clamp
4 CYA112 assembly (not included in delivery)

Order structure information: no main pipe, transverse pipe with wall mounting

Order code: CYH112-AA11C30D1

The version is suitable for attaching a fixed assembly.

Coping stone mounting with chain retainer



8 Coping stone mounting with chain retainer

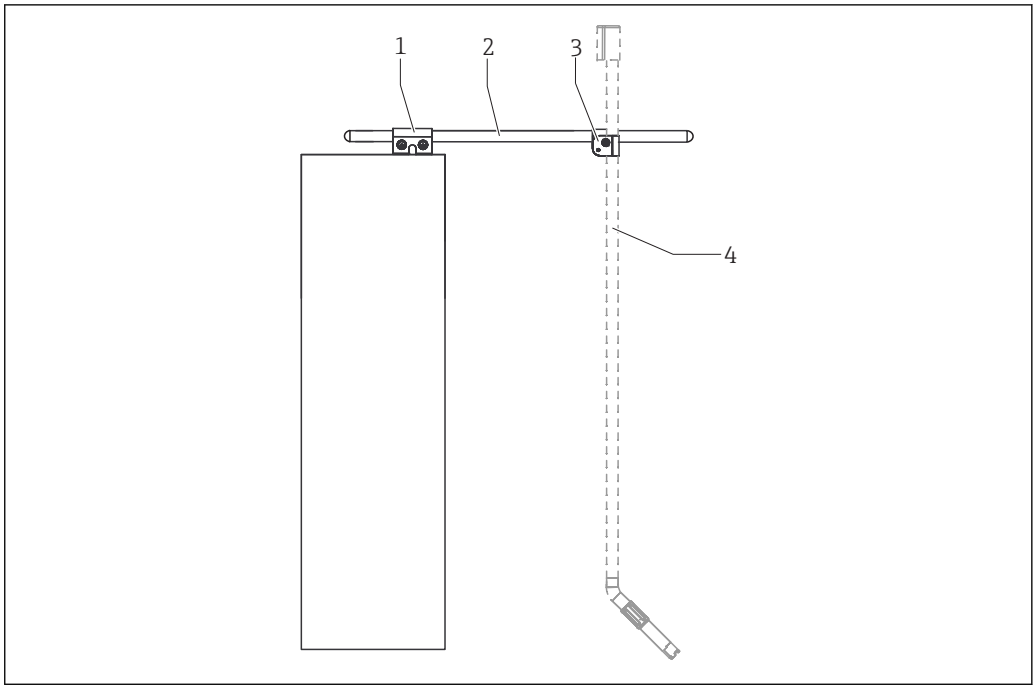
1 *Triangular carabiner*
2 *Multifunctional clamp ring*
3 *Flange clamp*
4 *Transverse pipe 1 000 mm (39.4 in)*
5 *Chain*
6 *CYA112 assembly (not included in delivery)*

Order structure information: no main pipe, transverse pipe with coping stone mounting

Order code: CYH112-AA11D50B1

The version is suitable for an assembly suspended from a chain. The triangular carabiner secures the chain at the end of the pipe. The immersion depth of the assembly can be adjusted by adjusting the triangular carabiner.

Coping stone mounting with immersion pipe



9 *Coping stone mounting with immersion pipe*

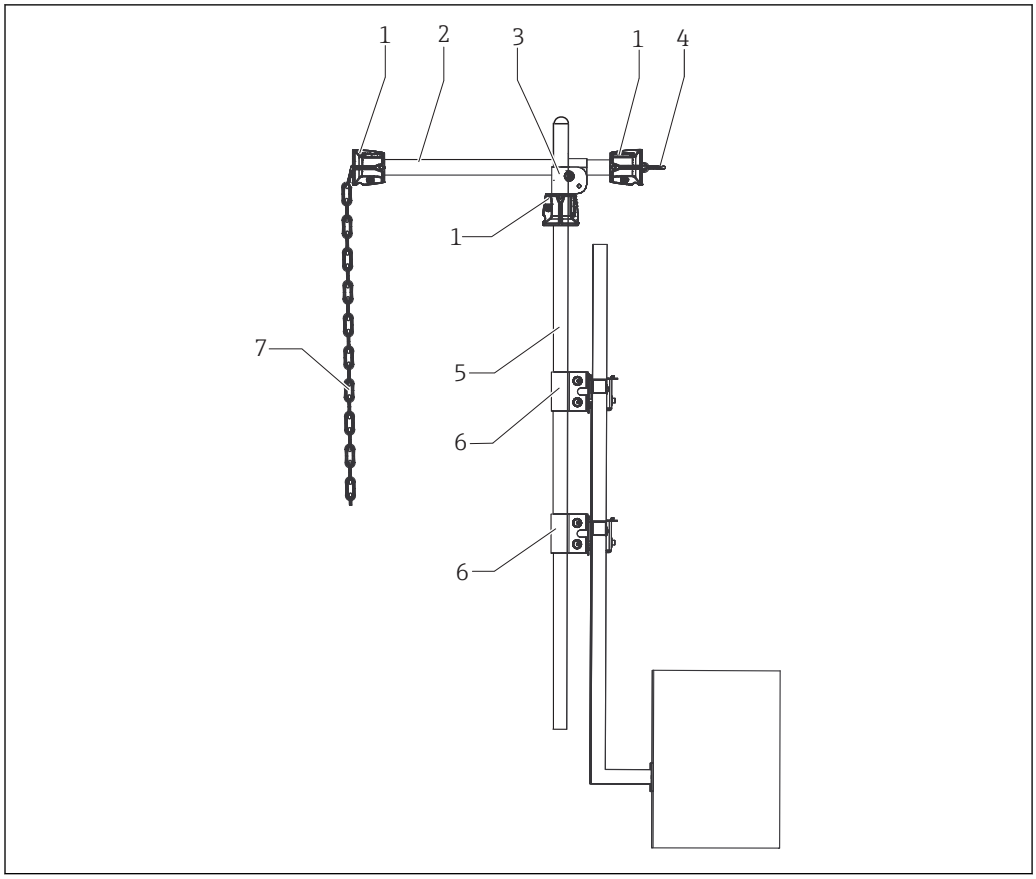
1 *Flange clamp*
2 *Transverse pipe 1 000 mm (39.4 in)*
3 *Cross clamp*
4 *CYA112 assembly (not included in delivery)*

Order structure information: no main pipe, transverse pipe with coping stone mounting

Order code: CYH112-AA11D50D1

The version is suitable for attaching a fixed assembly.

Main pipe on rail with chain retainer



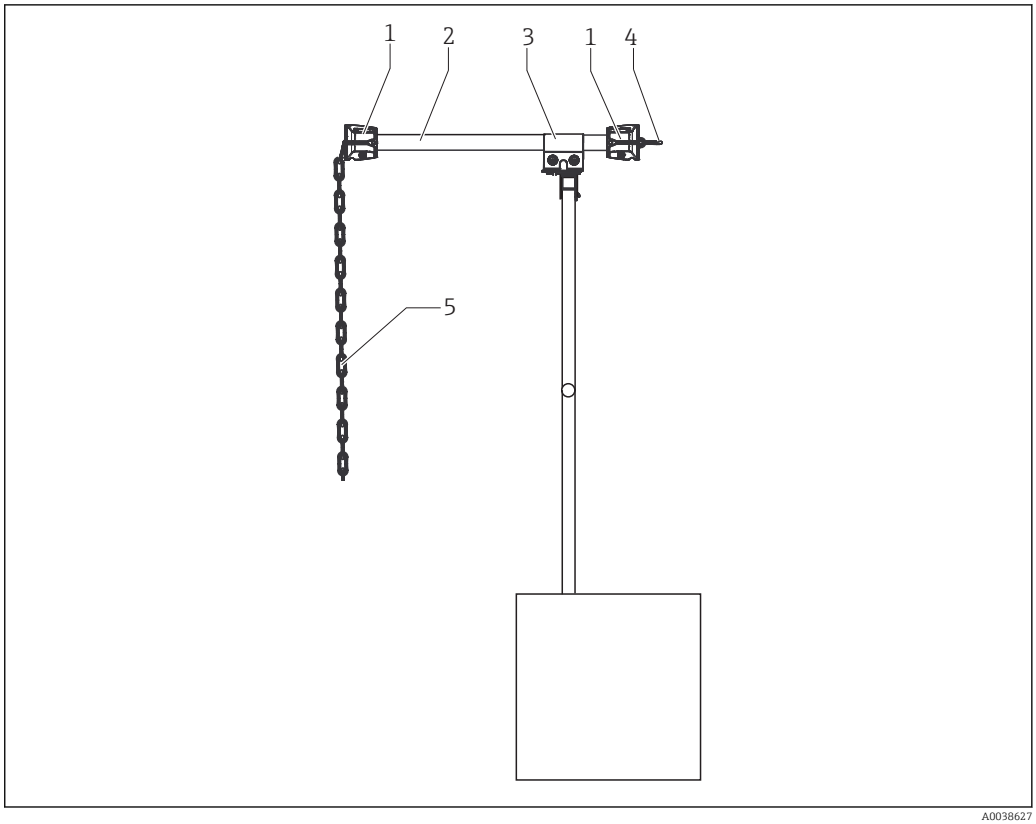
10 Main pipe on rail with chain retainer

1 Multifunctional clamp ring
2 Transverse pipe 500 mm (19.7 in)
3 Cross clamp
4 Triangular carabiner
5 Main pipe 1 800 mm (70.9 in)
6 Flange clamp
7 Chain

Order structure information: main pipe with 1 or 2 flange clamps for rail mounting (depending on load), transverse pipe, chain

Order code: CYH112-AF60B30B1

Transverse pipe on rail with chain retainer



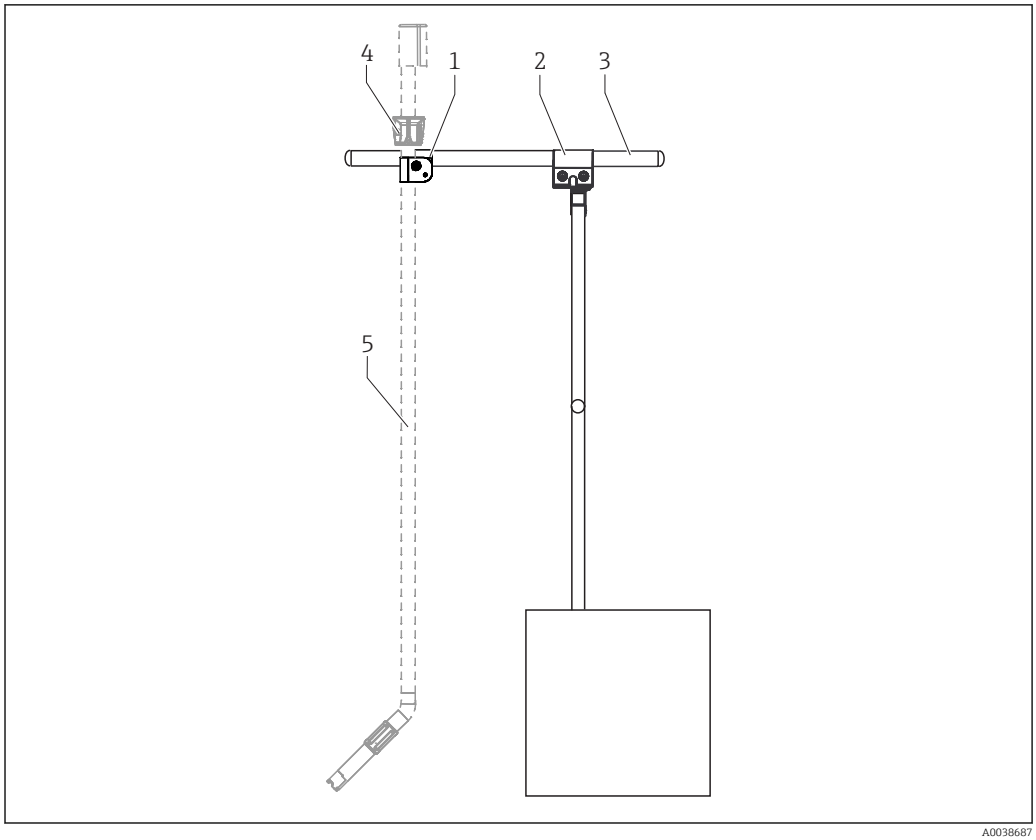
11 Transverse pipe on rail with chain retainer

1 Multifunctional clamp ring
2 Transverse pipe 500 mm (19.7 in)
3 Flange clamp
4 Triangular carabiner
5 Chain

Order structure information: no main pipe, transverse pipe with rail mounting, chain

Order code: CYH112-AA11E30B1

Transverse pipe on rail with immersion pipe



12 Transverse pipe on rail with immersion pipe

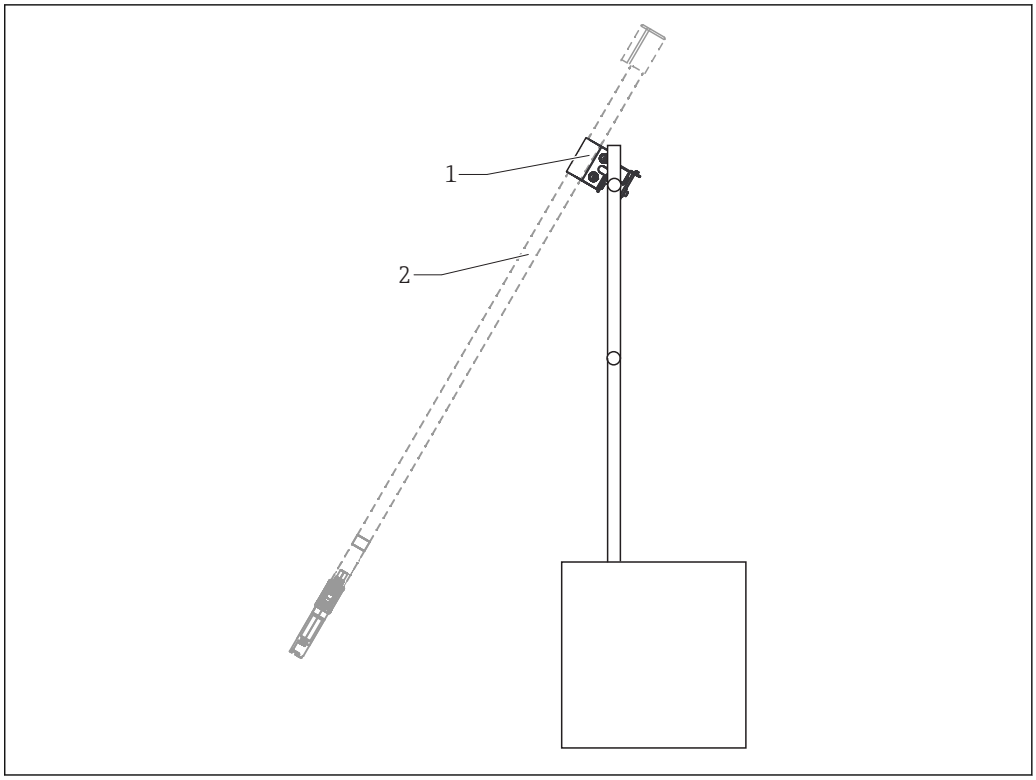
1 Cross clamp
2 Flange clamp
3 Transverse pipe 500 mm (19.7 in)
4 Triangular carabiner (not included in delivery)
5 CYA112 assembly (not included in delivery)

Order structure information: no main pipe, transverse pipe with rail mounting

Order code: CYH112-AA11E30D1

The version is suitable for attaching a fixed assembly.

Rail mounting with angled position of immersion pipe



13 Rail mounting with angled position of immersion pipe

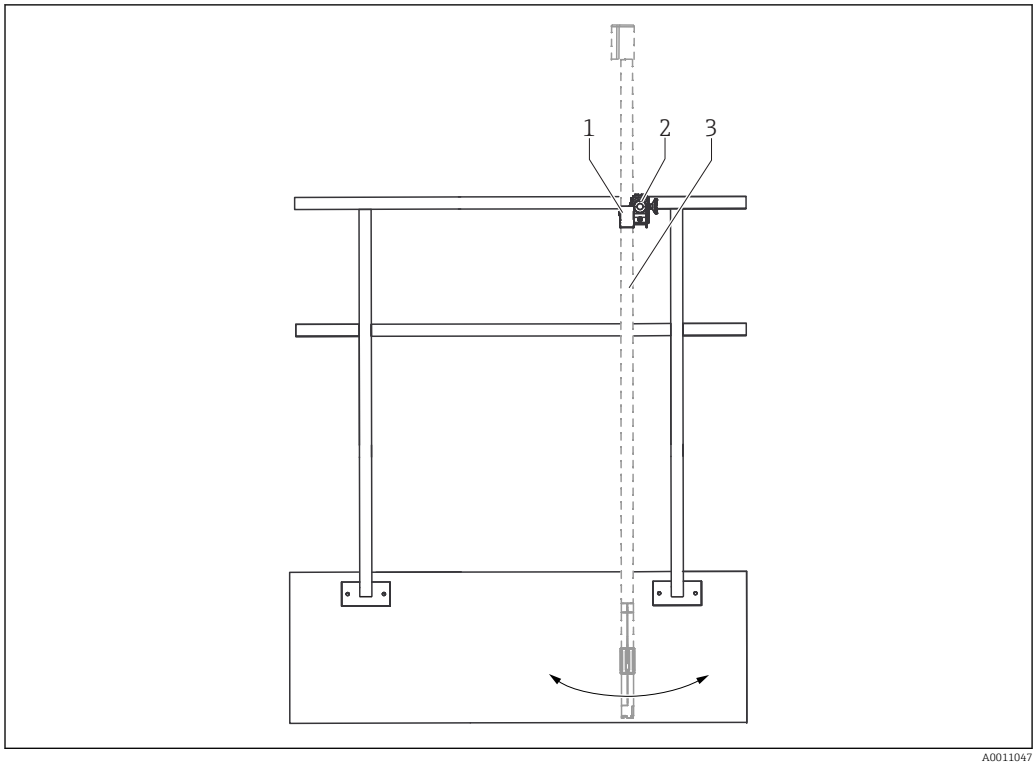
1 Flange clamp
2 CYA112 assembly (not included in delivery)

Order structure information: no main pipe, no transverse pipe

Order code: CYH112-AE11A11A1

The version is suitable for attaching a fixed assembly which is mounted on a rail at an angle.

Pendulum holder on rail with immersion pipe



14 Pendulum holder on rail with immersion pipe

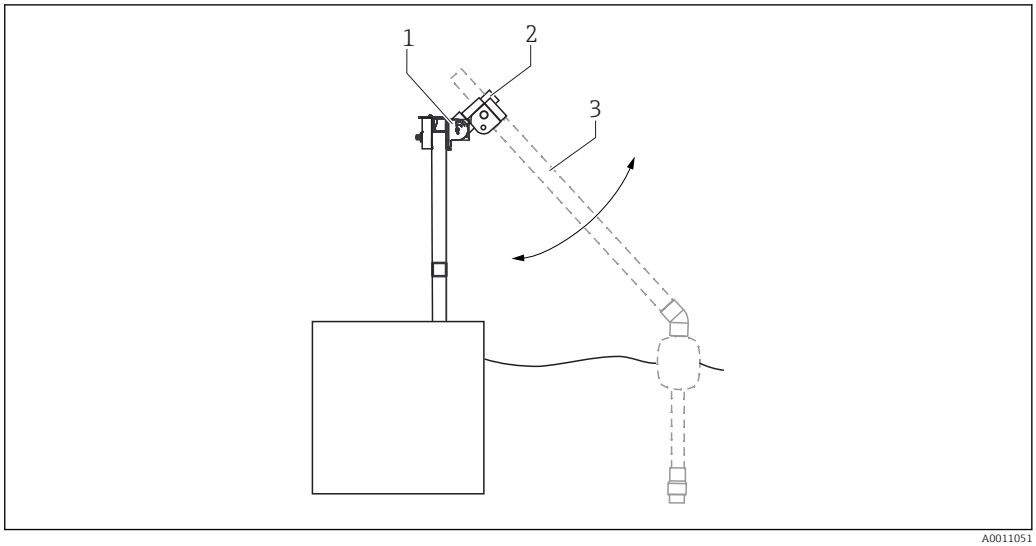
1 Cross clamp
2 Pendulum holder
3 CYA112 assembly (not included in delivery)

Order structure information: no main pipe, no transverse pipe

Order code: CYH112-AA11A11E1

The version is suitable for attaching an assembly that is mounted on the rail via the pendulum holder. The assembly can also swing in the direction indicated. For this purpose, the holder for the cross clamp is set to the "Free run" position.

Rail mounting with float



15 Rail mounting with float

1 Pendulum holder
2 Cross clamp
3 CYA112 assembly with float (not included in delivery)

Order structure information: no main pipe, no transverse pipe, suitable for attaching an assembly

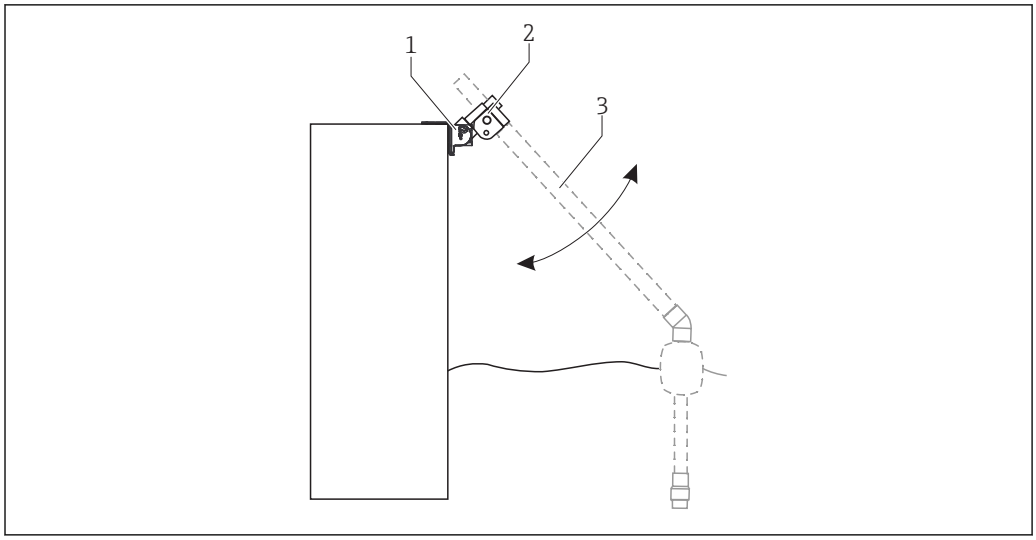
Order code: CYH112-AA11A11E1

Rail mounting with a float is suitable for:
- Varying liquid levels
- Places of measurement at a distance from the basin rim

The version is suitable for attaching an assembly that is mounted on the rail via the pendulum holder. The pendulum holder allows the assembly to follow the water level with the float.

The sensor is carried by the float. For service purposes (e.g. sensor maintenance), simply take the assembly by the pendulum holder and pull it to the basin rim to retrieve the sensor from the medium. One-man operation is therefore easily possible.

Coping stone mounting with float



16 Coping stone mounting with float

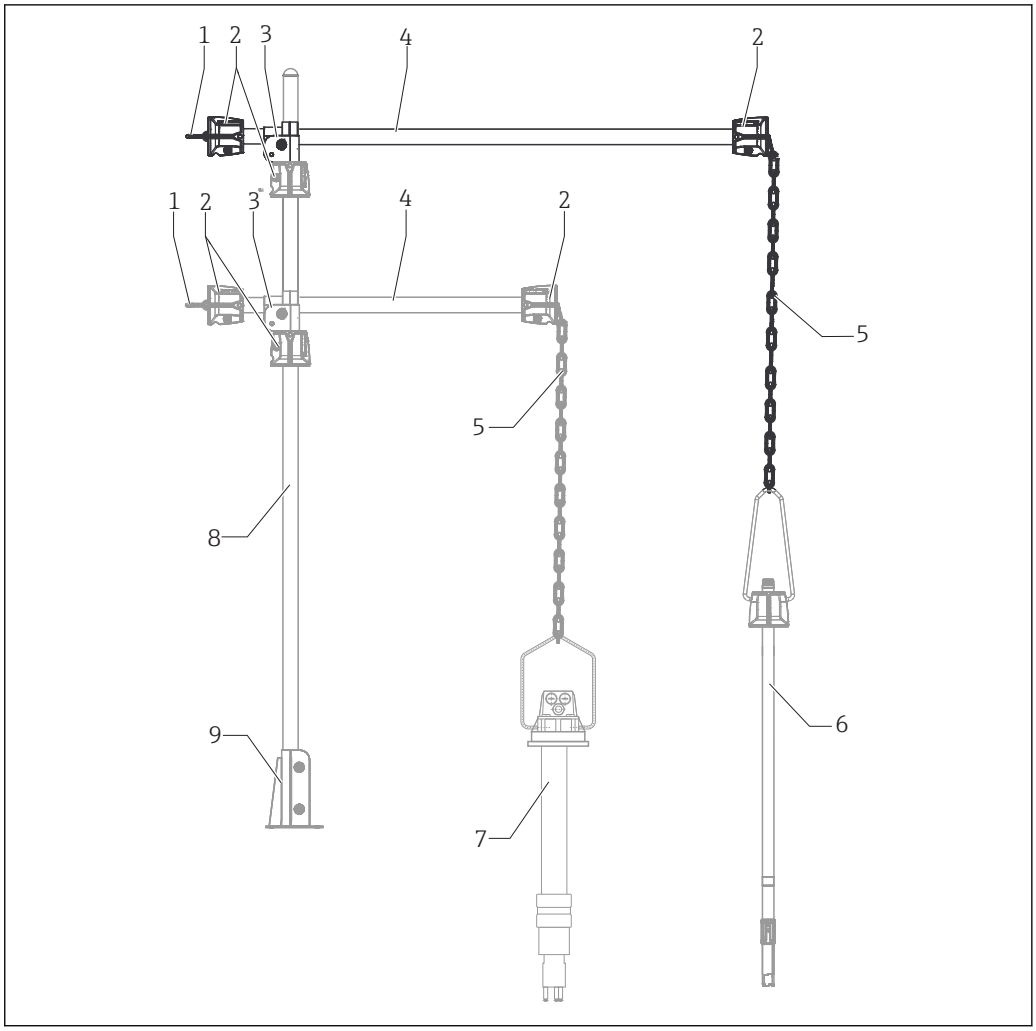
1 Pendulum holder
2 Cross clamp
3 CYA112 assembly with float (not included in delivery)

Order structure information: no main pipe, no transverse pipe

Order code: CYH112-AA11A11F1

The version is suitable for attaching an assembly that is mounted on a coping stone via the pendulum holder. The pendulum holder allows the assembly to follow the water level with the float.

Expanding an existing installation



17 Second transverse pipe with assembly suspended from a chain

1 Triangular carabiner
2 Multifunctional clamp ring
3 Cross clamp
4 Transverse pipe
5 Chain
6 CYA112 assembly (not included in delivery)
7 CPA111 assembly (not included in delivery)
8 Main pipe (not included in delivery)
9 Base (not included in delivery)

Order code: CYH112-AA11B50B1

Power supply

Potential equalization

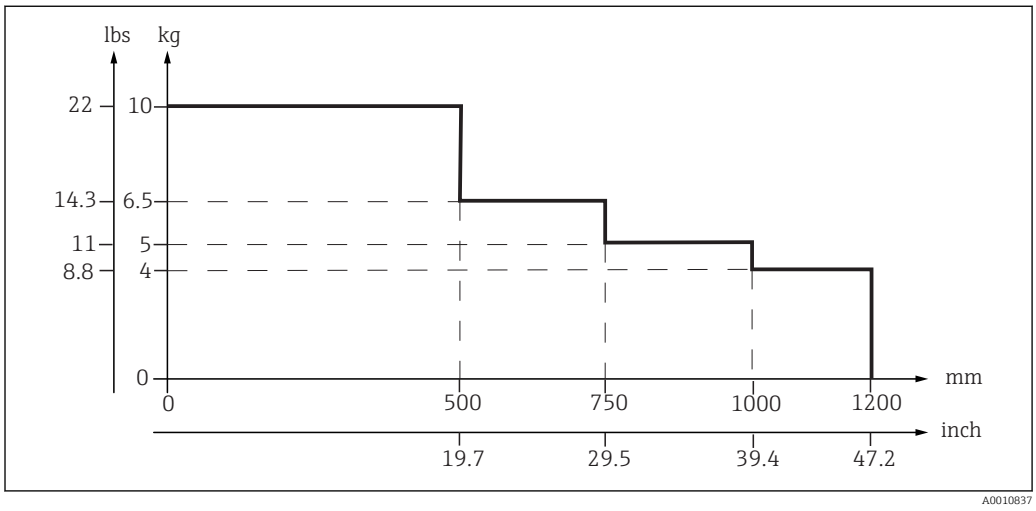
Potential equalization must be implemented at the place of installation. All electrically conductive parts must be interconnected.

If using the pendulum holder, the electrically conductive connection between the transverse pipe or rail and the assembly holder (cross clamp) must be established at the place of installation.

Installation

Installation instructions

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



18 *Extension as a function of the suspended load*

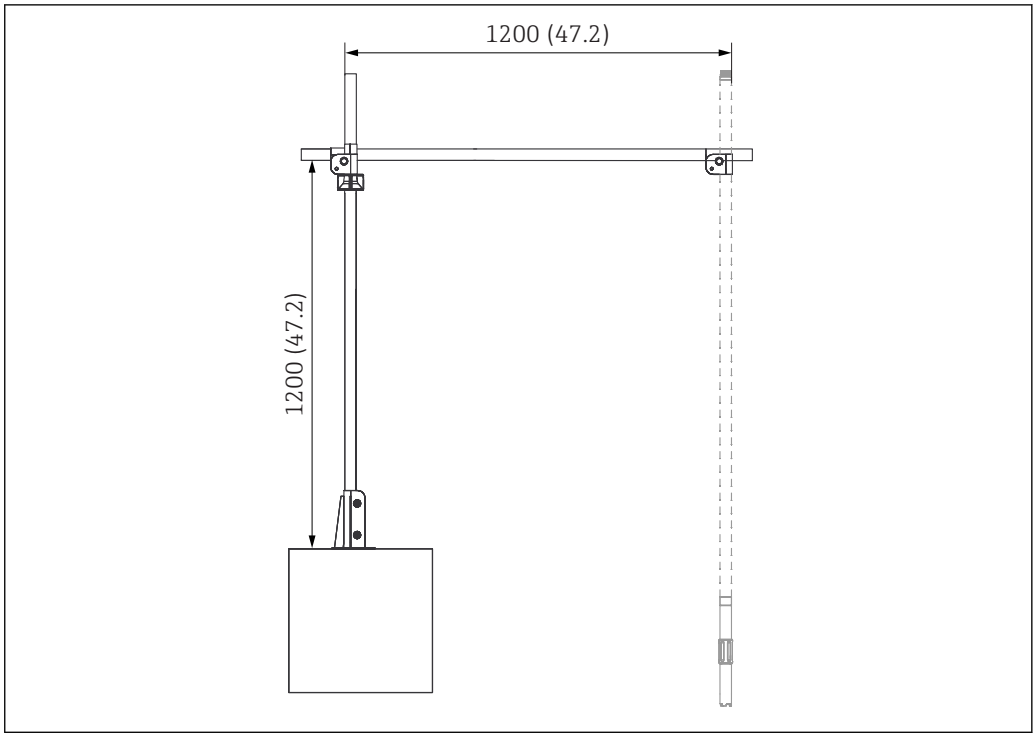
The maximum permitted load when mounting on a rail and using a pendulum holder with a pendulum adapter is 5 kg (11 lb). Potential equalization must be implemented at the place of installation. All electrically conductive parts must be interconnected.

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.

Dimensions



19 Dimensions with maximum extension. Dimensions: mm (in)

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

Mounting the holder

For detailed information on mounting the holder, see Operating Instructions BA00430

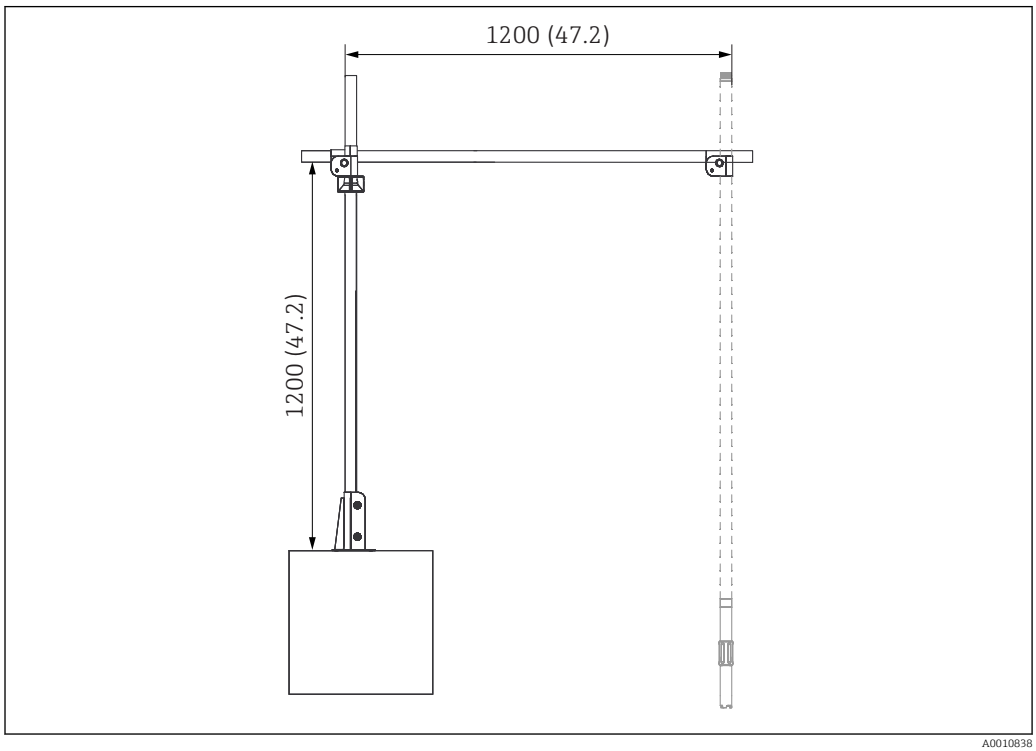
Environment

Ambient temperature range

-20 to 60 °C (-4 to 140 °F)

Mechanical construction

Design, dimensions



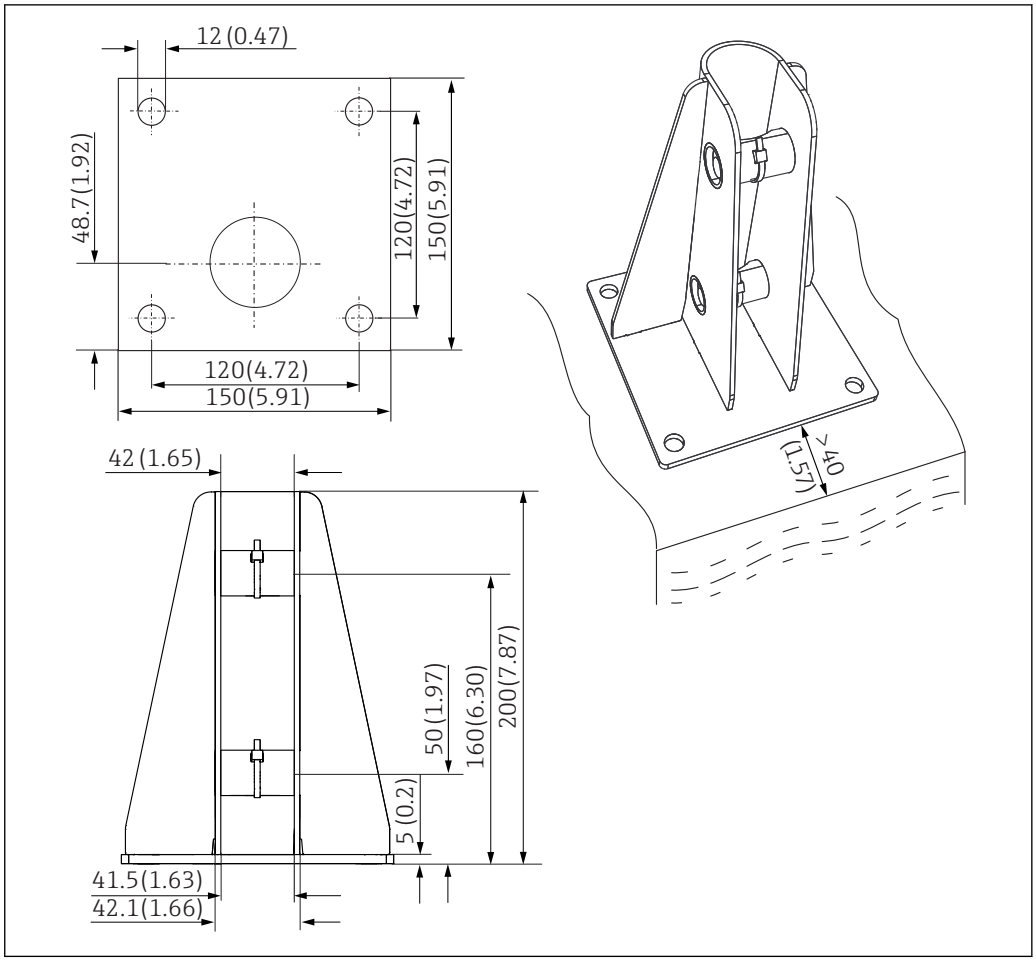
20 Dimensions with maximum extension. Dimensions: mm (in)

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

Dimensions

Main pipe	Ø 40 mm (1.6 in), lengths: 500 mm (19.7 in), 1000 mm (39.4 in),1800 mm (70.9 in)
Transverse pipe	Ø 40 mm (1.6 in), lengths: 500 mm (19.7 in), 1000 mm (39.4 in), 1500 mm (59.1 in)
Chain	5 m (16.4 ft)

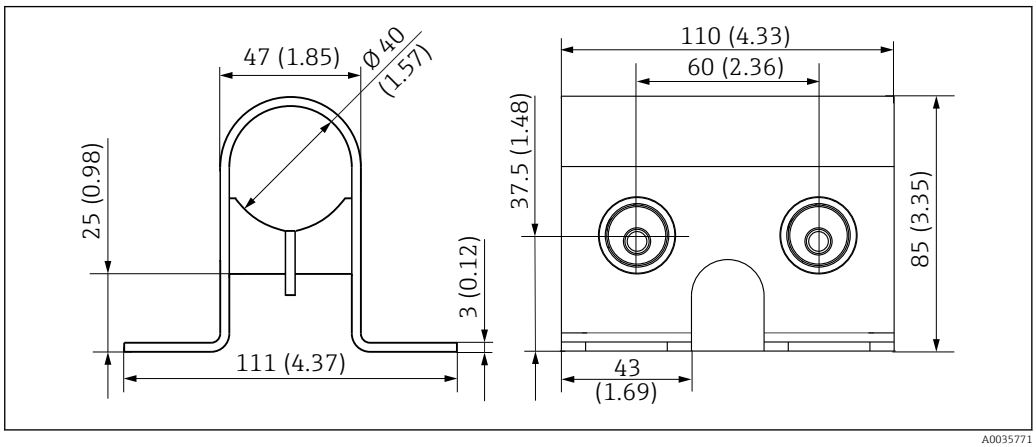
Base plate



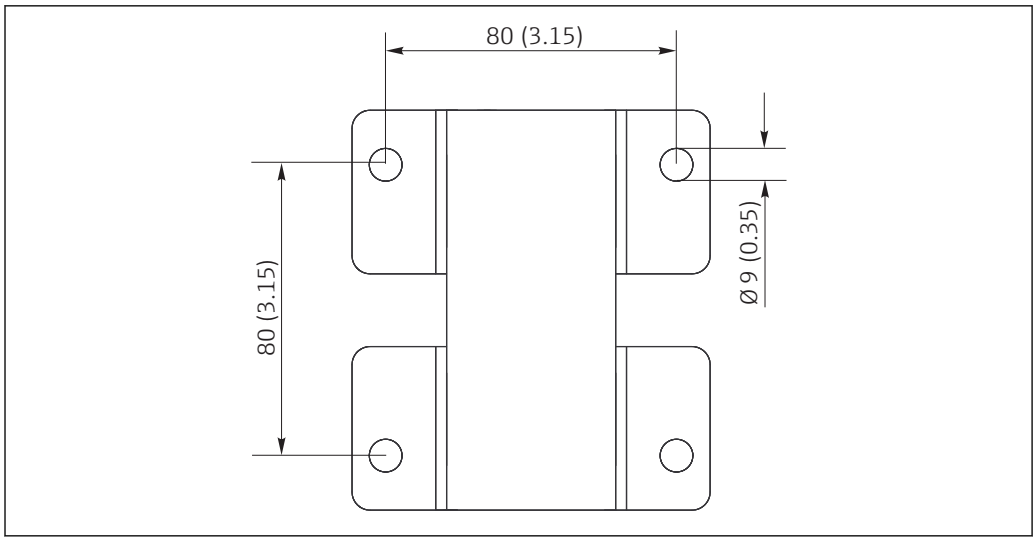
21 Dimensions of the base. Dimensions: mm (in)

The minimum distance between the bores and the basin rim is 40 mm (1.6 in).

Flange clamp

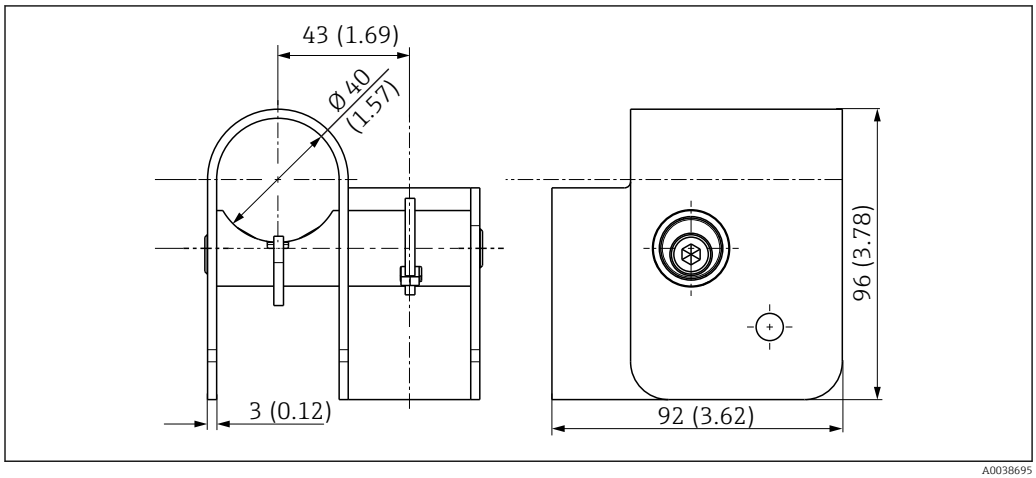


22 Dimensions of the flange clamp. Dimensions: mm (in)



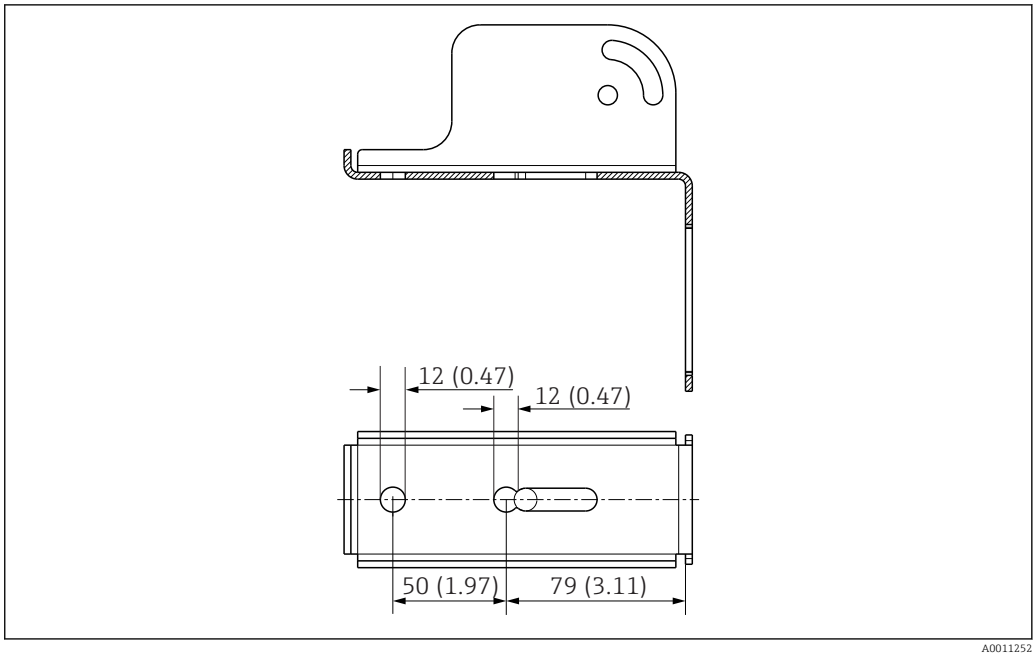
23 Dimensions of the boreholes of the flange clamp. Dimensions: mm (in)

Cross clamp



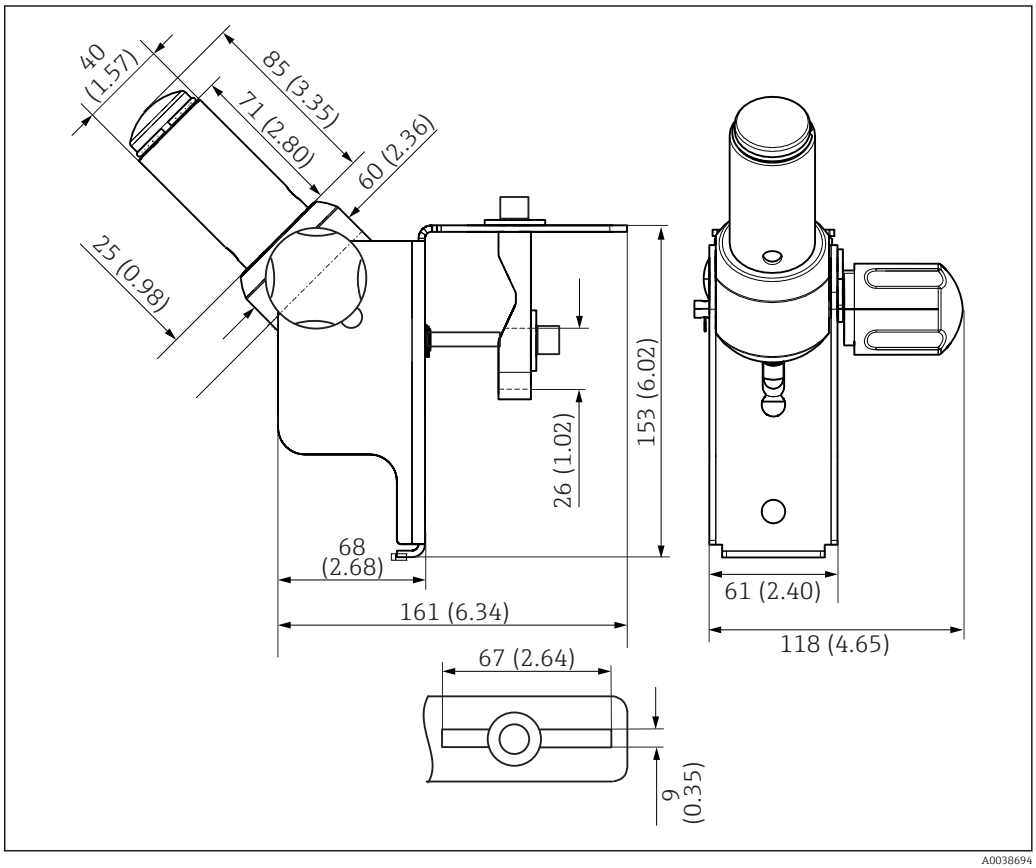
24 Dimensions of cross clamp. Dimensions: mm (in)

Pendulum holder



25 Dimensions of the pendulum adapter. Dimensions: mm (in)

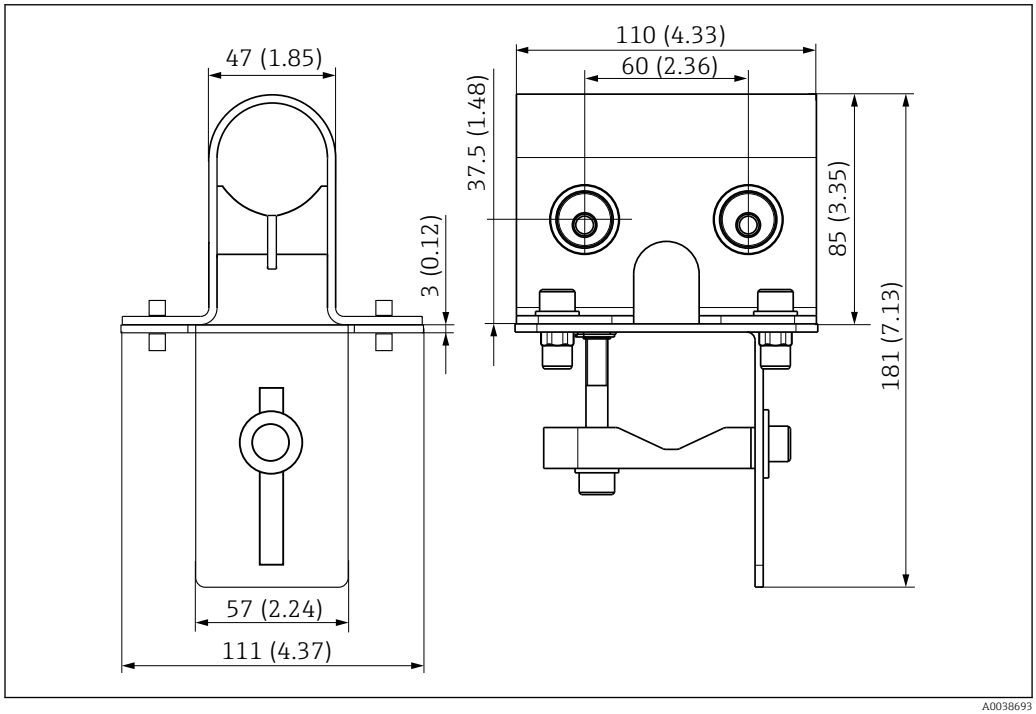
Pendulum holder



26 Dimensions of pendulum holder (without cross clamp). Dimensions: mm (in)

Rail mounting

Handrail cross-section	Square or circular
Edge length or diameter	30 to 60 mm (1.2 to 2.4 in)
Alignment for circular handrails	Any
Alignment for square handrails	Vertical or horizontal



27 Dimensions for rail mounting. 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).

Certificates and approvals

Ex approval

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.

Ordering information

Scope of delivery

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

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

Product page

www.endress.com/cyh112

Product Configurator

On the product page there is a **Configure** button to the right of the product image.

1. Click this button.
   ↳ The Configurator opens in a separate window.
2. Select all the options to configure the device in line with your requirements.
   ↳ In this way, you receive a valid and complete order code for the device.
3. Export the order code as a PDF or Excel file. To do so, click the appropriate button on the right above the selection window.

For many products you also have the option of downloading CAD or 2D drawings of the selected product version. Click the **CAD** tab for this and select the desired file type using picklists.

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

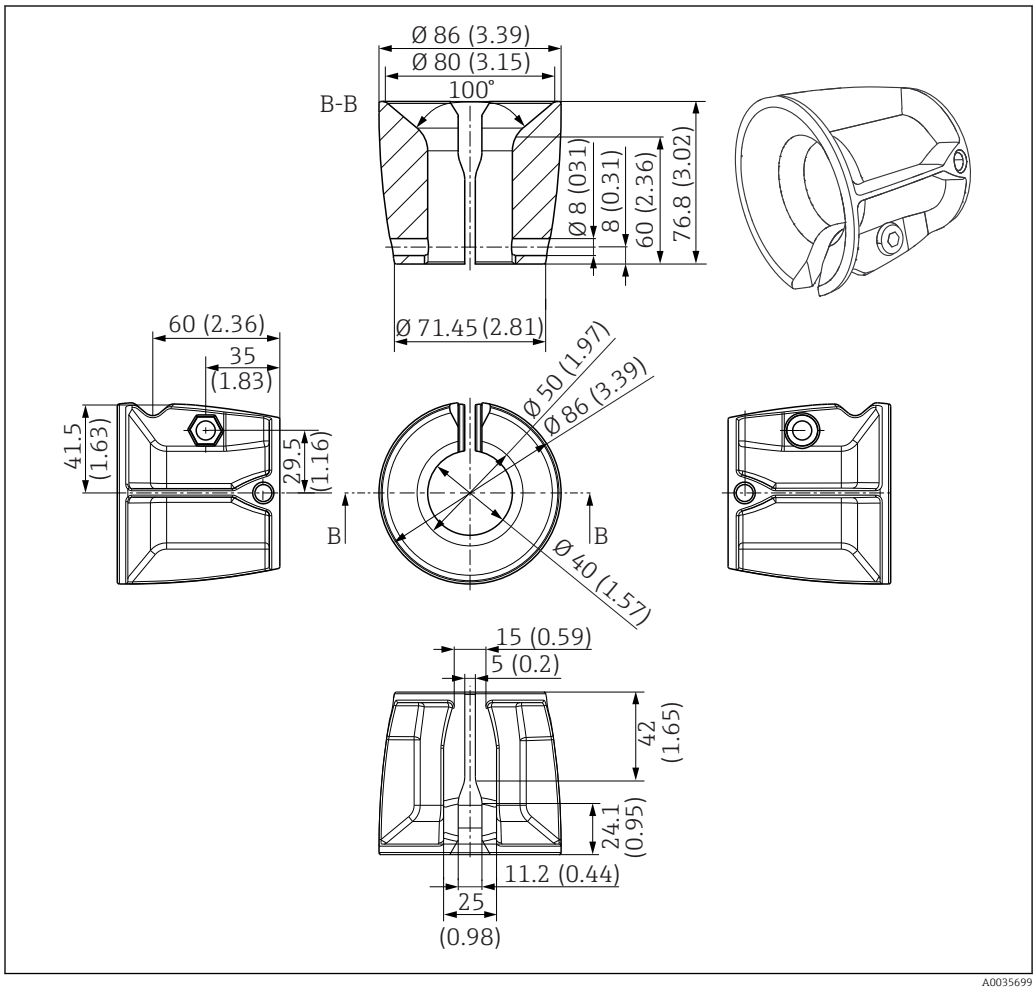
Dipfit CPA111
- Immersion and installation assembly made of plastic for open and closed vessels
- Product Configurator on the product page: www.endress.com/cpa111

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

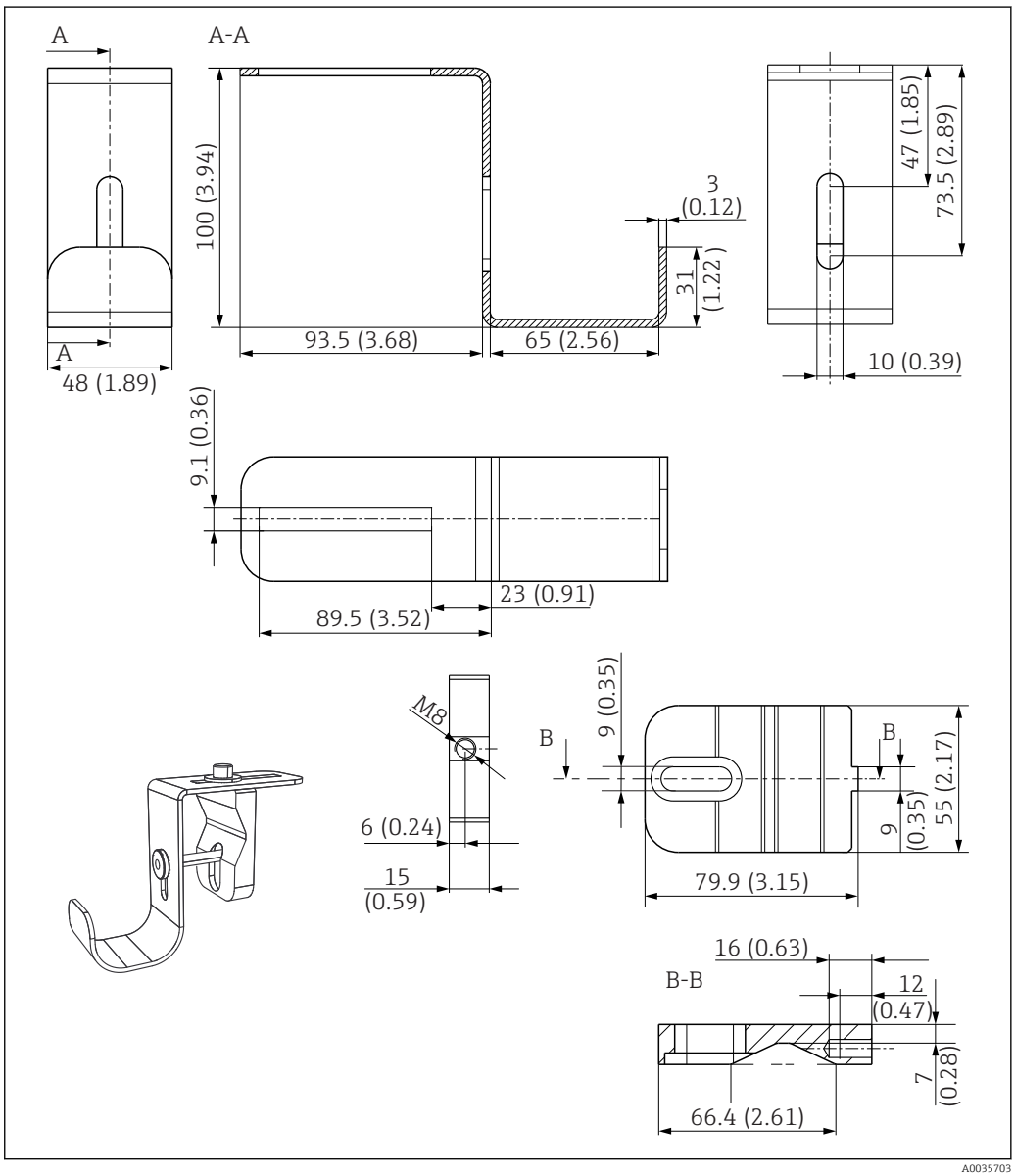
Technical Information TI00432C

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



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

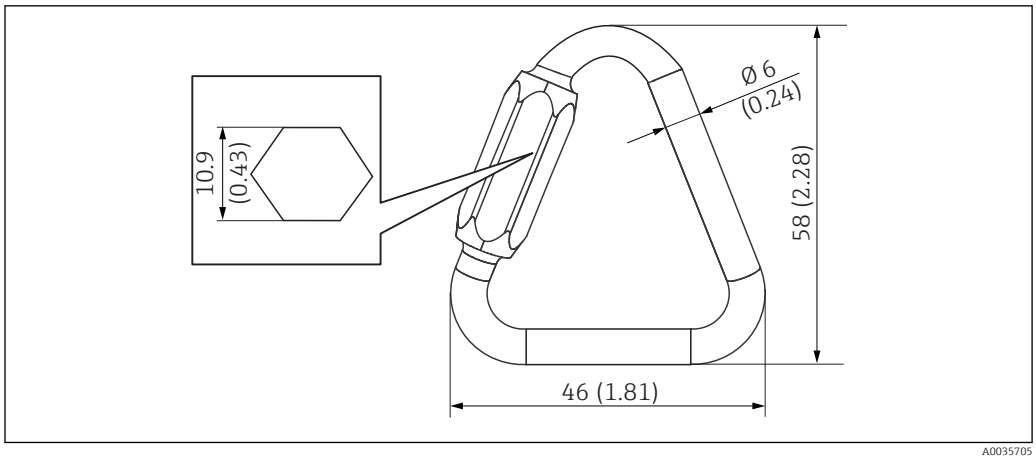
Immersion pipe tray
- Is used to hold the immersion pipe during maintenance work
- Material: stainless steel 1.4404 (AISI 316L)
- Order number: 71092054



29 Immersion pipe tray. Dimensions: mm (in)

Quick-action clamp
- Replaces the threaded joint
- Material: stainless steel 1.4301 (AISI 304); handle: PA
- Order number: 71092050

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



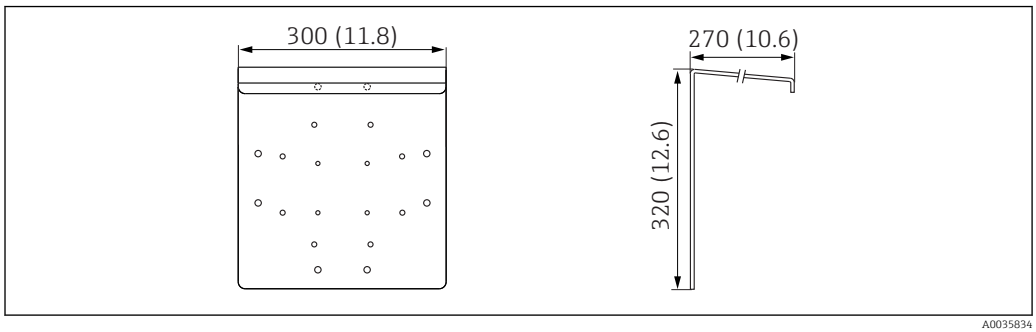
30 Triangular carabiner. Dimensions: mm (in)

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

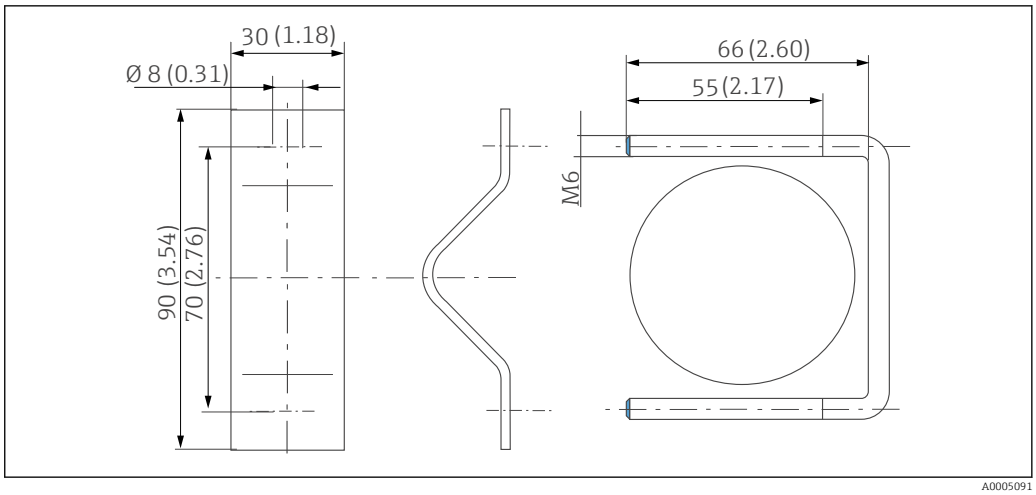
Allen key
- Across flats: AF 6
- Order number: 71092057

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



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



32 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

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