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Rail mounting hardware LZX414.00.60000

Instruction Sheet



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Rail mounting hardware

Introduction

These installation instructions describe the installation of rail mounting hardware kit LZX414.00.60000. Items supplied with the rail mounting hardware are shown in [Figure 1 on page 1](#). [Figure 2 on page 2](#) shows the dimensions for the mounting hardware components.

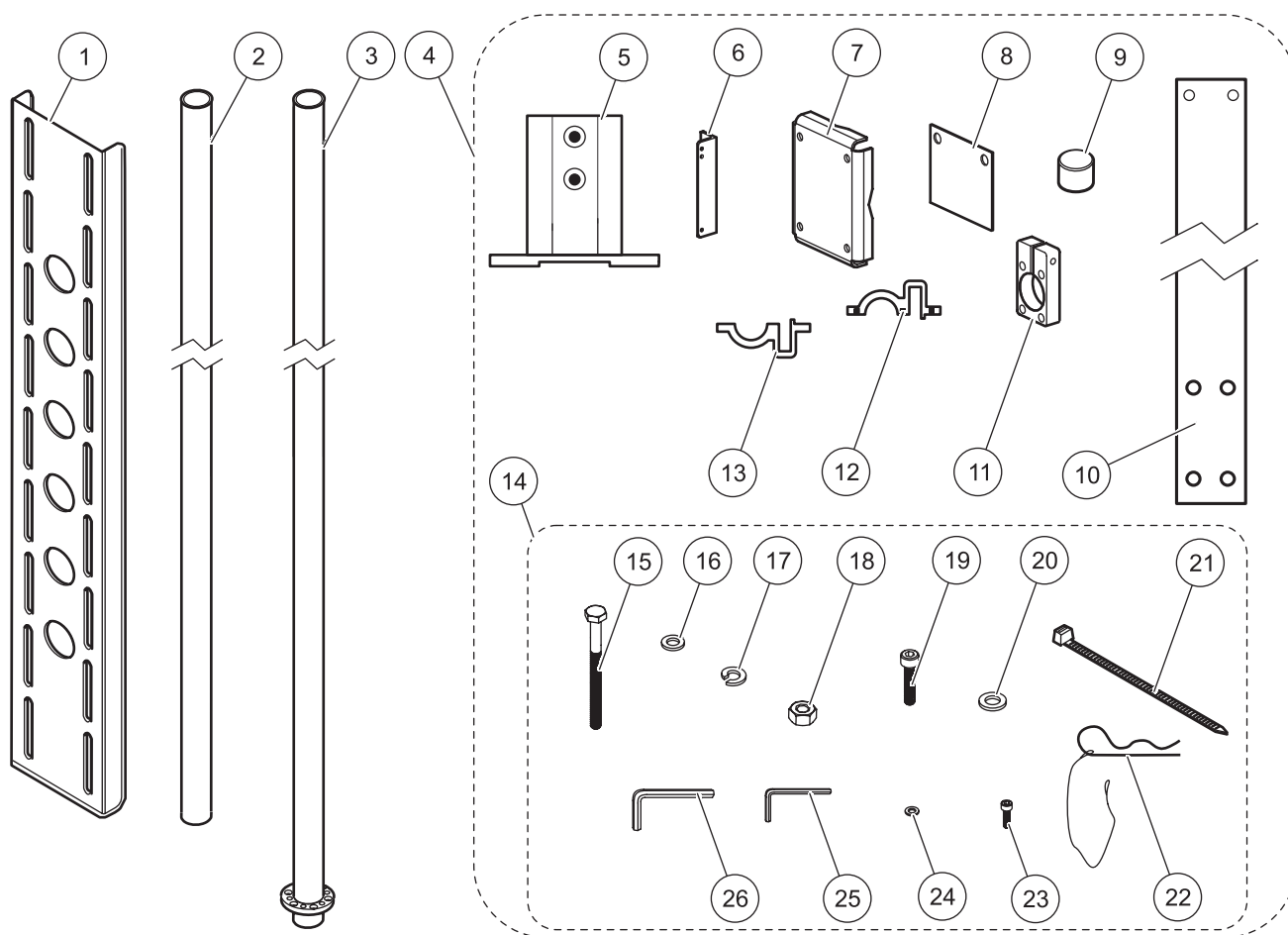


Figure 1 Items supplied with the rail mounting

1	Mounting rail HPS063	10	Fastening lug	19	Cap screw M8 x 40 mm (11x)
2	Supporting pipe (1 m) HRO307	11	Clamp (3x)	20	Washer for M10 (4x)
3	Mounting pipe (2 m) BRO075	12	Bracket, threaded AHH032 (3x)	21	Cable tie (3x)
4	Hardware set, LZY363	13	Bracket, unthreaded AHH033 (3x)	22	Spring locking pin (2x)
5	Base ATS010	14	Set of small parts LZY434	23	Cap screw M5 x 20 mm (10x)
6	Angle (2x)	15	Hex screw M8 x 120 mm (8x)	24	Spring washer for M5 (9x)
7	Clamping plate (2x)	16	Washer for M8 (12x)	25	Hex wrench 4 mm
8	Shim (3x)	17	Spring washer for M8 (19x)	26	Hex wrench 6 mm
9	Pipe cap (2x)	18	Nut M8 (16x), from LZY220		

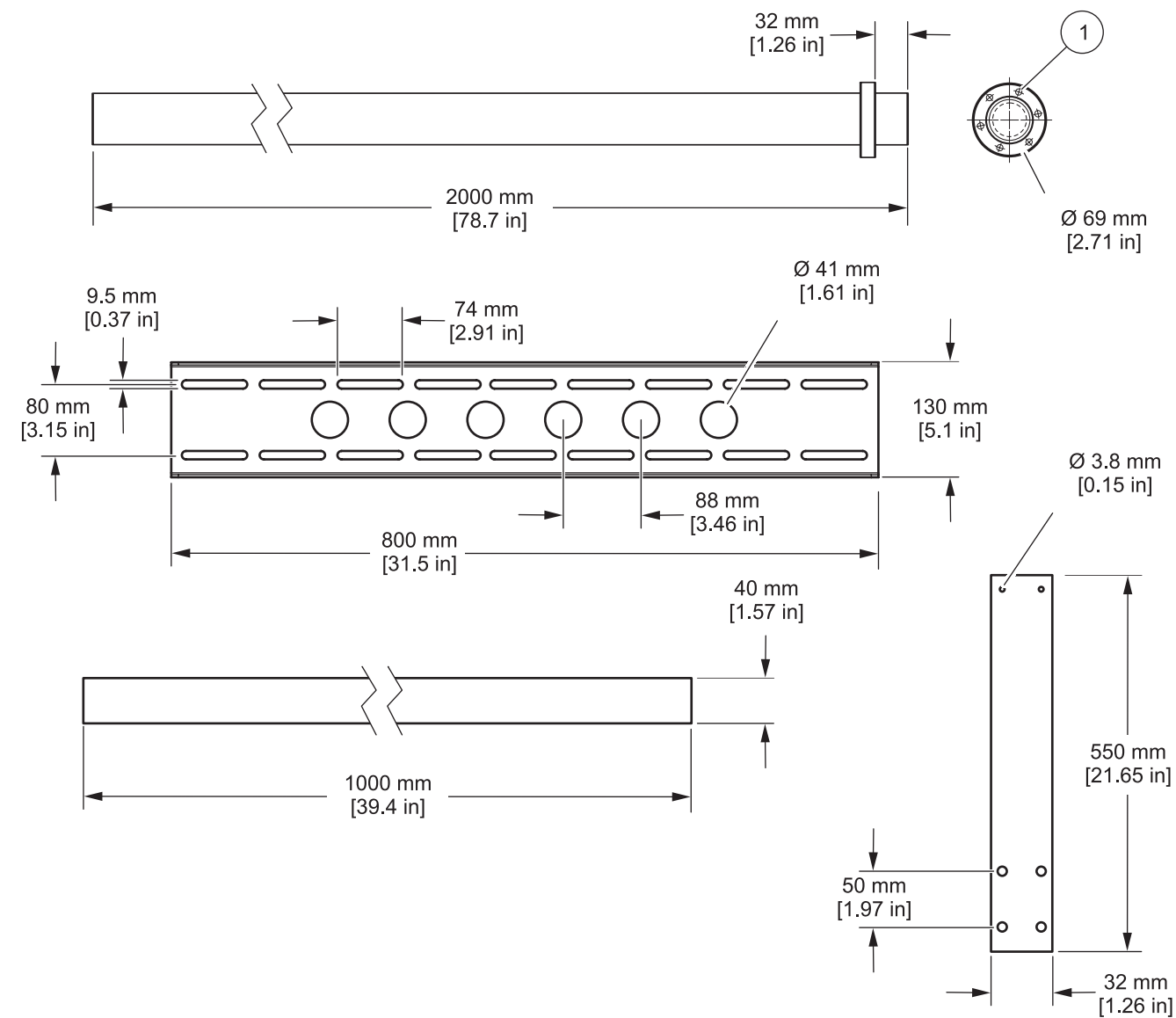


Figure 2 Mounting hardware dimensions

1	Countersunk hole, clearance for M5 (6x)
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Installation dimensions

Figure 3 defines the position of the probe when the mounting pipe is in the service position (see [Placing the probe in the service position](#) on page 12).

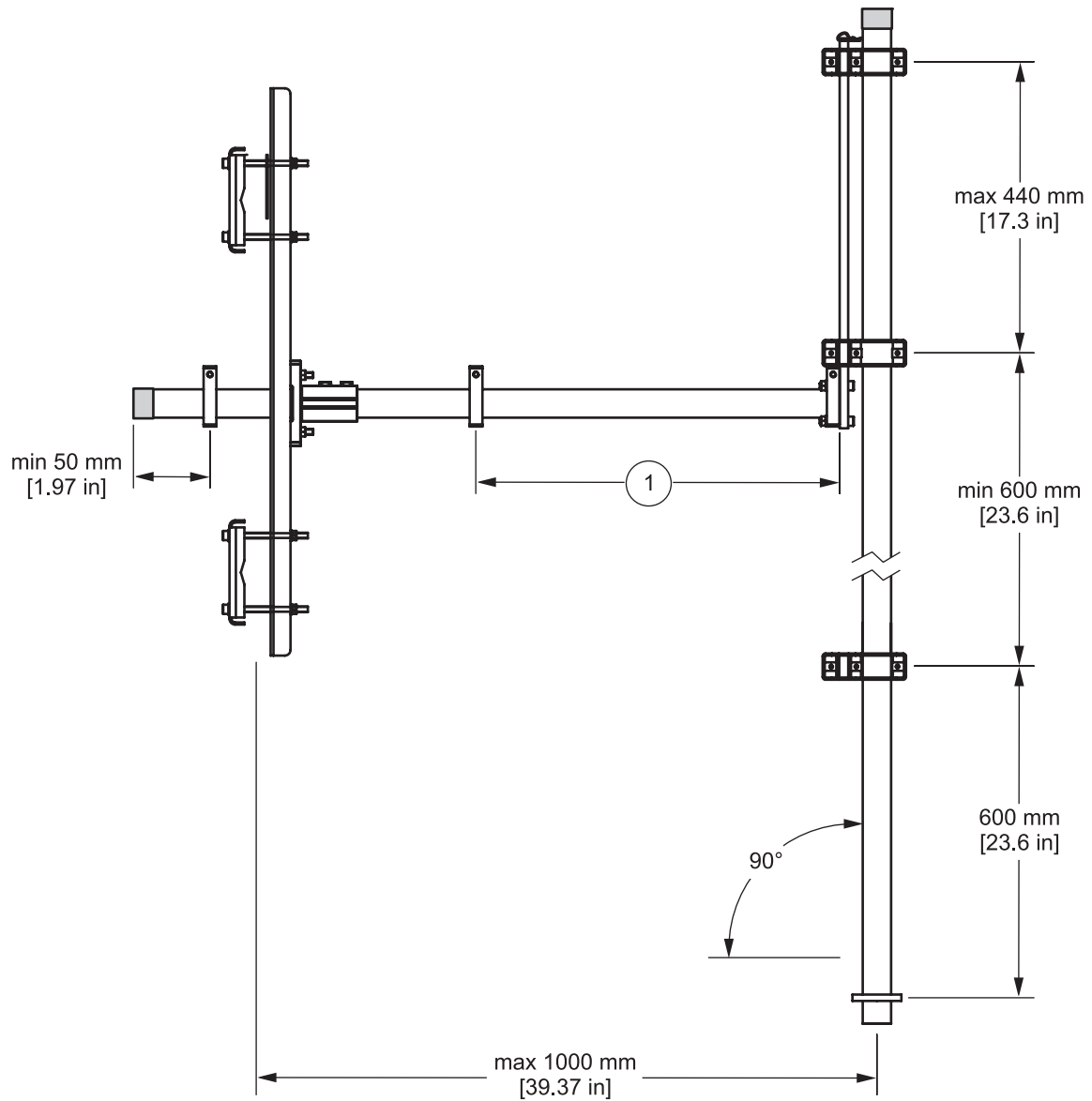


Figure 3 Installation dimensions

1 Position of the probe when mounting pipe is in the service position (dependent on the local situation).

Selecting the installation location

Important note: Refer to the probe user manual for specific installation instructions. Note all safety instructions and hazards.

Note: When selecting the installation location, always ensure there is safe access to all parts of the system and that the probe can never hit the tank wall.

During the selection of the installation location, pay attention to:

- The load bearing capacity and strength of the railings (lever forces due to flow and installation)
- The maximum cable and tubing lengths

Note: Refer to the probe user manual for operating instructions.

Railing specifications for mounting hardware

The rail mounting is designed for installation on round (Figure 4) or rectangular (Figure 5) railing profiles. Table 1 contains information on the railing specifications for installation.

Note: Check other railing profiles for suitability to ensure adequate load bearing capacity.

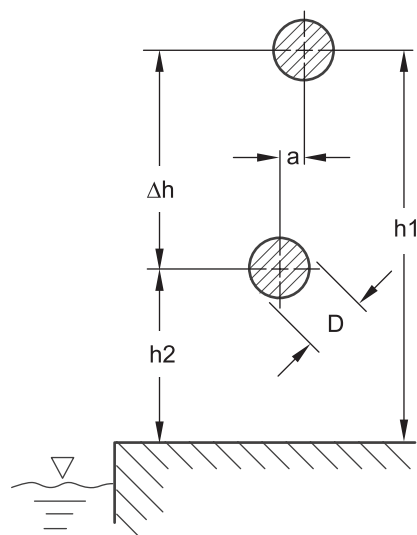


Figure 4 Section drawing of round railing profile

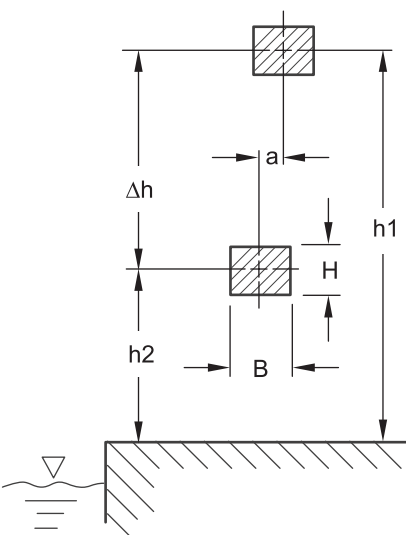


Figure 5 Section drawing of rectangular railing profile

Table 1 Rail mounting specifications

Round rail profile	Rectangular rail profile
D: 25–75 mm (1.00–2.95 in.)	B: 40–90 mm (1.57–3.54 in.); H: 40–68 mm (0.20–2.67 in.)
a: ≤ 25 mm (1.00 in.)	a: ≤ 25 mm (1.00 in.)
h1: 850–1200 mm (33.50–47.25 in.)	h1: 850–1200 mm (33.50–47.25 in.)
h2: 580–800 mm (22.80–31.50 in.)	h2: 580–800 mm (22.80–31.50 in.)
Δh: 300–620 mm (11.80–24.40 in.)	Δh: 300–620 mm (11.80–24.40 in.)

Installing the rail mounting

1. Assemble the base and the two angles using four socket head cap screws (M8 x 40 mm), washers for M10, spring washers for M8 and M8 nuts ([Figure 6 on page 6](#)).

Fit the four socket head cap screws (M8 x 40 mm) and washers for M10 to the side of the angle so that the holes in the angles are covered.

2. Loosely bolt the mounting rail and a clamping plate to the top railing using four screws (M8 x 120 mm) with washers for M8, spring washers for M8 and M8 nuts ([Figure 7 on page 7](#)). Do not tighten the screws until the entire rail mounting is aligned and adjusted for height.
3. Loosely bolt the mounting rail and the second clamping plate to the bottom railing using four screws (M8 x 120 mm) with washers for M8, spring washers for M8 and M8 nuts ([Figure 7 on page 7](#)).
 - To change the installation height of the mounting rail, slide the screws along the slots or use other slots.
 - To change the mounting height of the base, fit the base higher or lower.
 - For railings that are not vertically positioned or have different diameters, align the mounting rail vertically by fitting shims between the railings and the mounting rail.
4. Fit a clamp to the middle and end of the supporting pipe using one M8 x 40 mm screw and spring washer for each clamp ([Figure 8 on page 7](#)).
5. Bolt the fastening lug to the clamp on the end of the supporting pipe using four M8 x 40 mm socket head cap screws, washers, spring washers and nuts ([Figure 9 on page 8](#)).
6. Insert the supporting pipe through the base and fit the third clamp between the angles using one M8 x 40 mm socket head cap screw and spring washer ([Figure 10 on page 8](#)).
 - Set the supporting pipe axial offset using the distance from the clamp between the angles and the clamp in front of the base (see [Figure 3 on page 3](#) and section [Placing the probe in the service position on page 12](#)).
 - Lock the supporting pipe to avoid twisting using the clamp between the angles. Secure the probe on the vertical axis.

Important note: Fit the pipe cap on the end of the supporting pipe facing the user to prevent leg injuries due the sharp pipe edges. The pipe can be shortened as needed before fitting the pipe cap.

7. Bolt the retaining strap for the spring locking pin to one of the angles using an M5 socket head cap screw. Secure the supporting pipe against axial movement by inserting the spring locking pin into a hole ([Figure 11 on page 9](#)).
8. Loosely bolt one of the three threaded brackets to one of the unthreaded brackets using one M5 x 20 mm socket head cap screw and a spring washer. Push the bracket onto the mounting pipe; pay attention to the bottom installation dimension ([Figure 12 on page 10](#)). Tighten the screws.

- 9. Refer to the Filter Probe sc operating instructions to determine the installation position for the two top brackets and loosely fit the brackets to the mounting pipe. Refer to [Figure 3 on page 3](#) for installation dimensions.
- 10. Slide the two top brackets over the mounting lug. Align the brackets and tighten the screws.
- 11. Undo one of the screws on the top bracket and fit a strap for a spring locking pin ([Figure 13 on page 11](#)). Tighten the screw.
- 12. Adjust the tank bracket and tighten all screws. Refer to [Figure 3 on page 3](#) for installation dimensions.

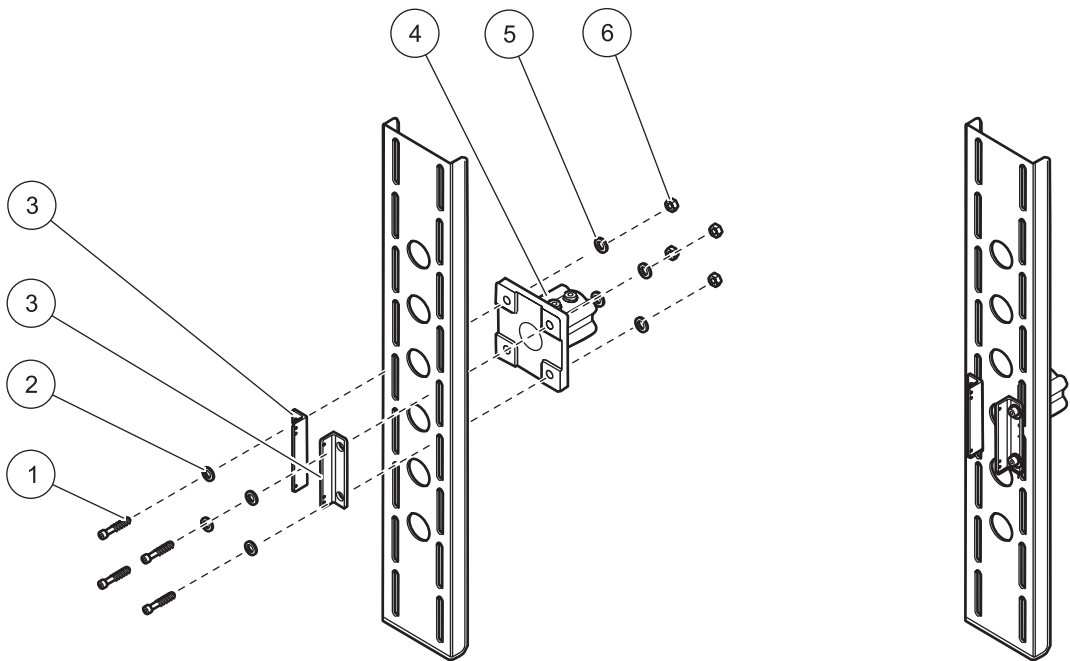


Figure 6 Fitting the base and angles

1	Socket head cap screw M8 x 40 mm	4	Base ATS010
2	Washer for M10	5	Spring washer for M8
3	Angle	6	Nut, M8

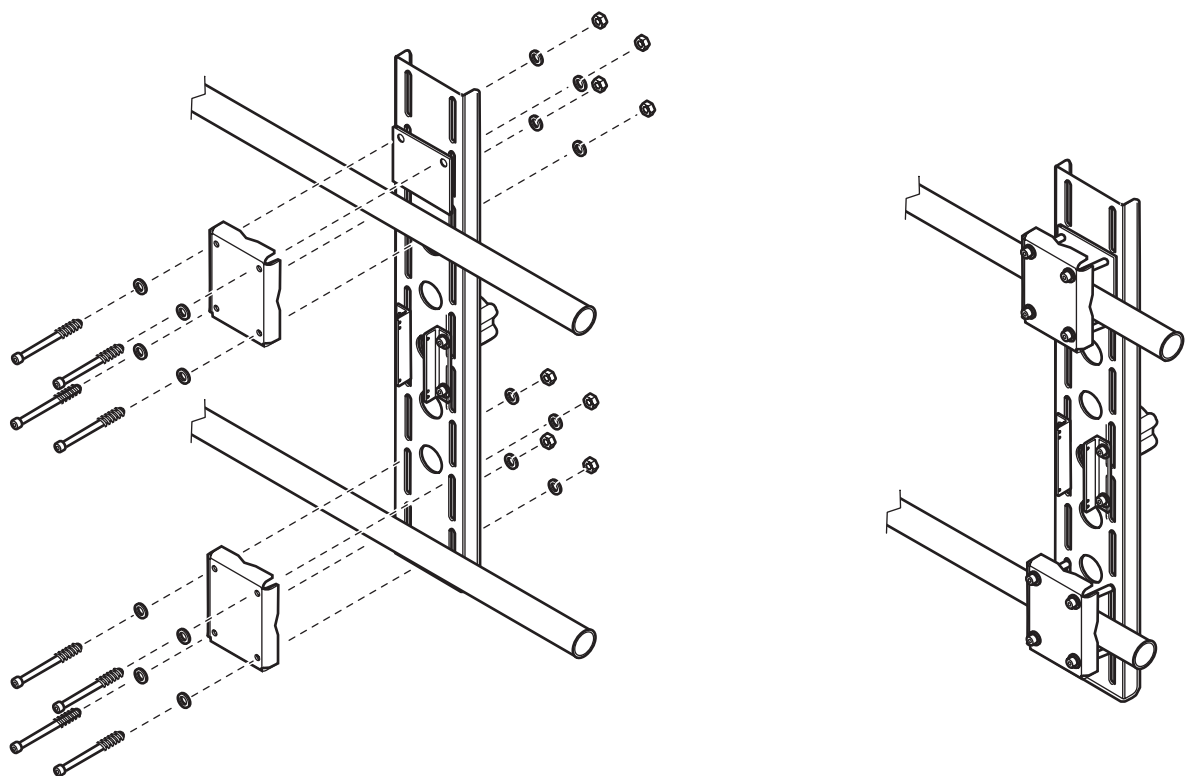


Figure 7 Installing the mounting rail

1 Shim	3 Clamping plate
2 Mounting rail	

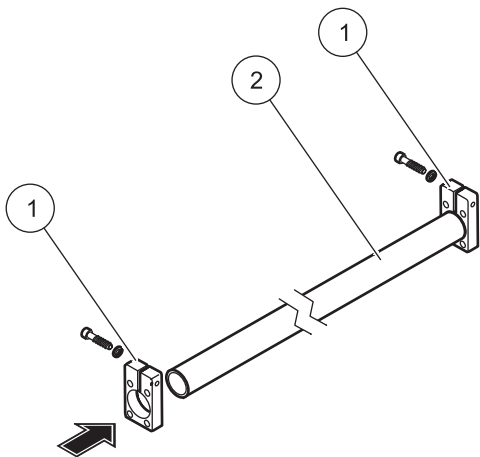


Figure 8 Fitting the clamps

1 Clamp	2 Supporting pipe
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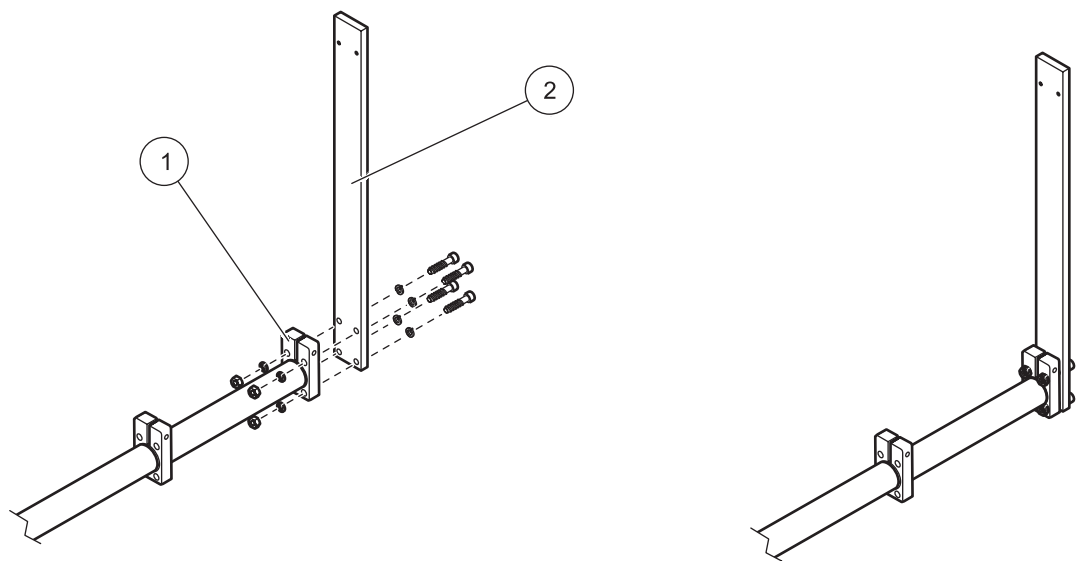


Figure 9 Fitting the mounting lug

1	Clamp	2	Fastening lug
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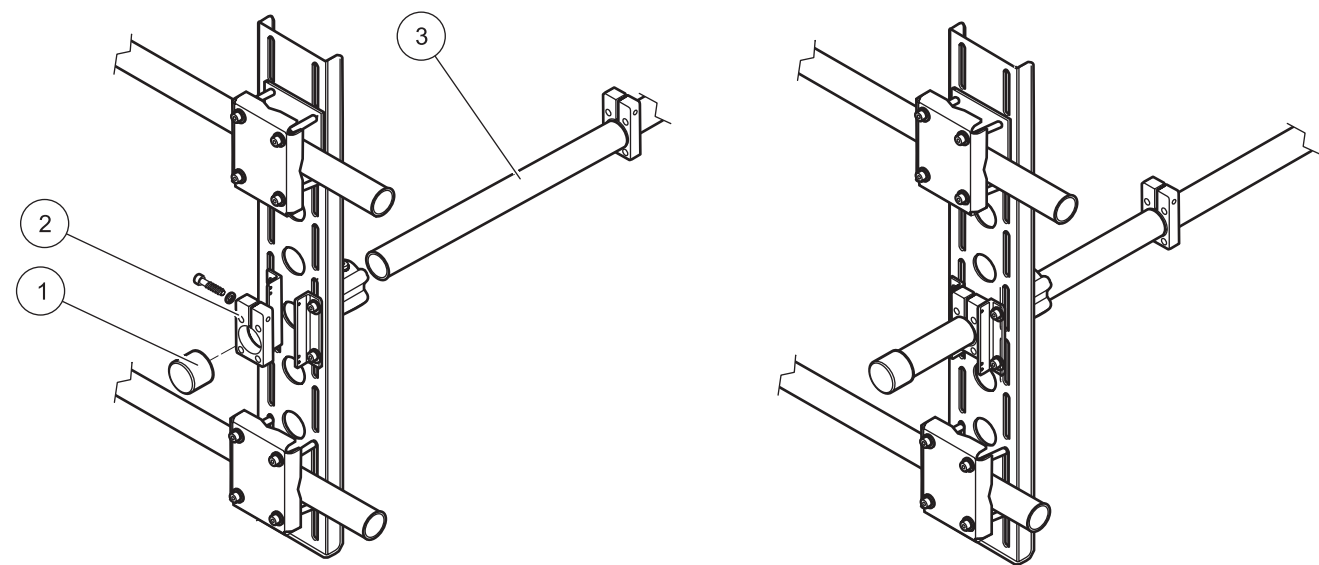


Figure 10 Fitting the supporting pipe, clamp and pipe cap

1	Pipe cap	3	Supporting pipe
2	Clamp		

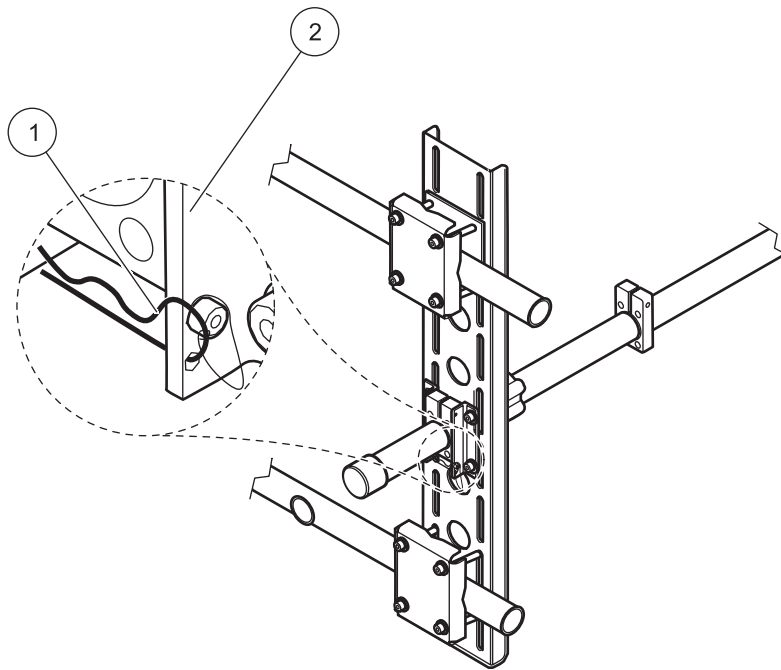


Figure 11 Securing the supporting pipe

1 Spring locking pin	2 Angle
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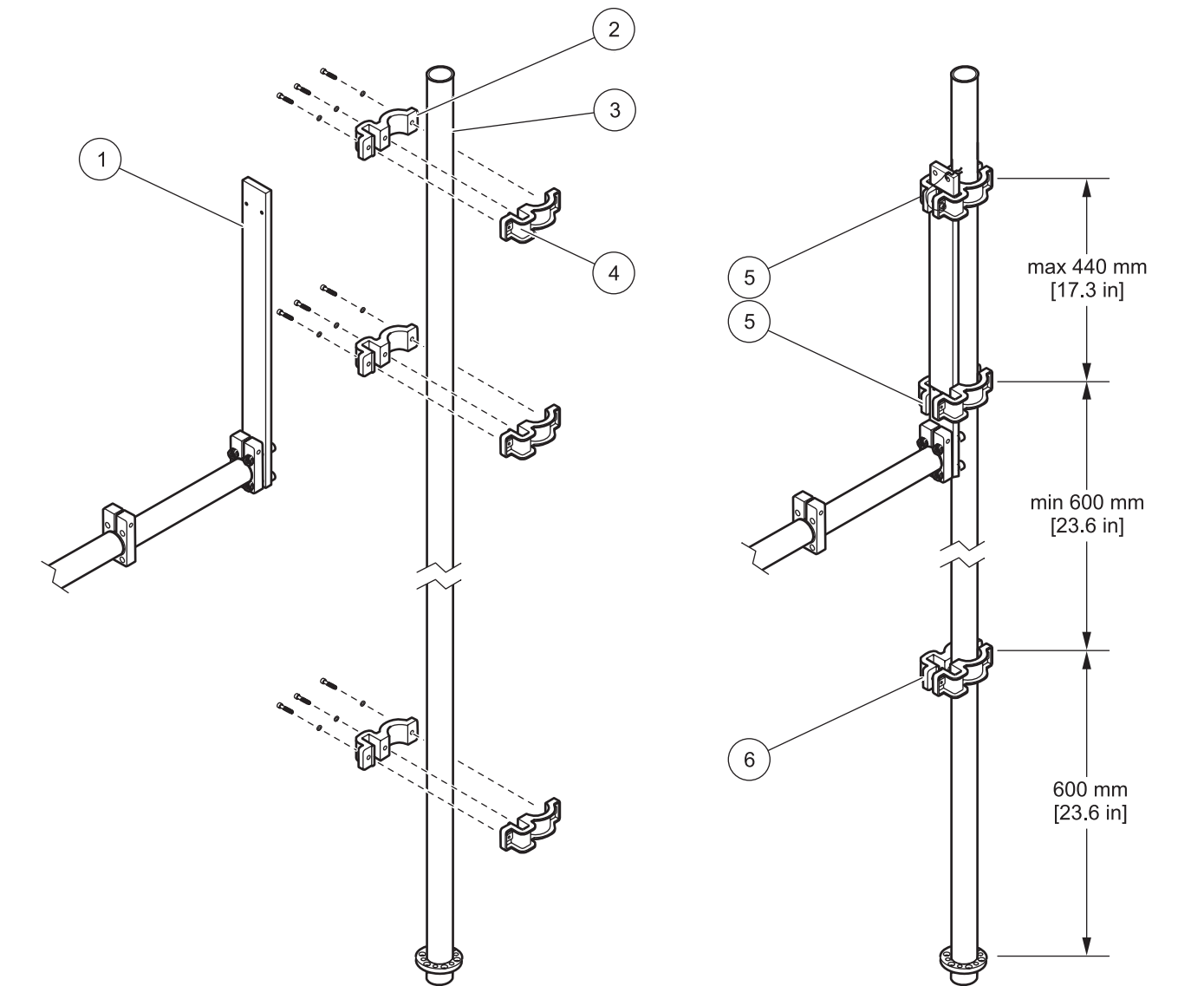


Figure 12 Fitting the mounting pipe with brackets

1	Fastening lug	4	Bracket with thread
2	Bracket without thread	5	Brackets for measuring position
3	Mounting pipe	6	Bracket for service position

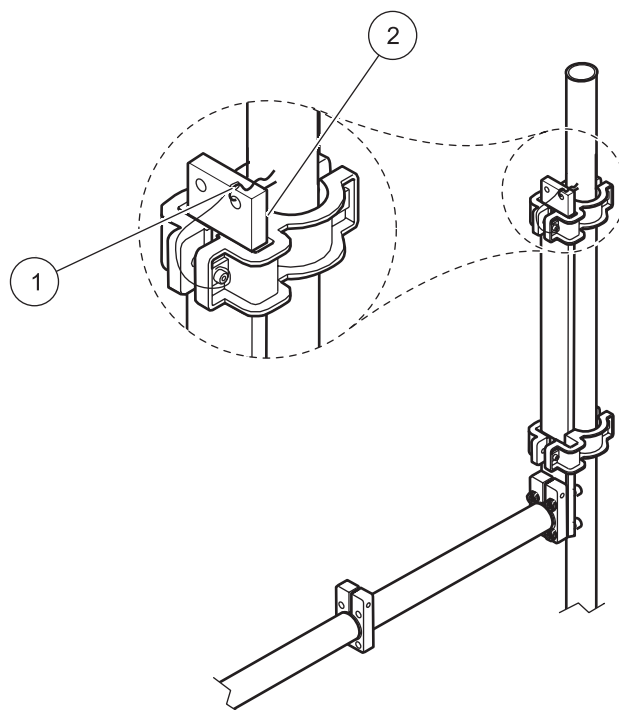


Figure 13 Securing the mounting pipe

1 Spring locking pin	2 Fastening lug
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Mounting the probe

1. Pull out the spring locking pin on the fastening lug. Remove the mounting pipe with the brackets from the fastening lug.
2. Fit the probe to the mounting pipe and push the mounting pipe with the brackets back onto the fastening lug.
3. Secure the tubing for the probe to the mounting pipe using cable ties.
4. Secure the mounting pipe on the fastening lug against floating upwards using the spring locking pin.
5. Continue as described in the operating instructions for the Filter Probe and the analyzer.

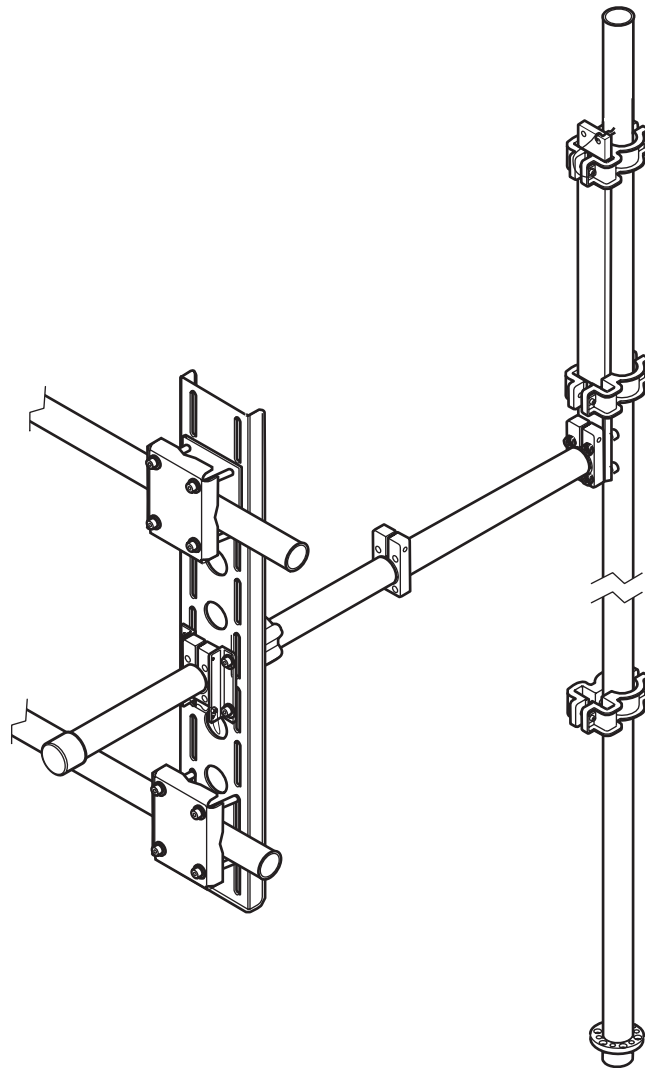


Figure 14 Installed rail mounting

Placing the probe in the service position

1. Remove the spring locking pin from the fastening lug and pull the brackets with the mounting pipe from the fastening lug.
2. Slide the mounting pipe onto the fastening lug using the bottom bracket ([Figure 15 on page 13](#)).
3. Pull the spring locking pin out of the angle and pull the supporting pipe back to the base until the clamp is in contact with the base.

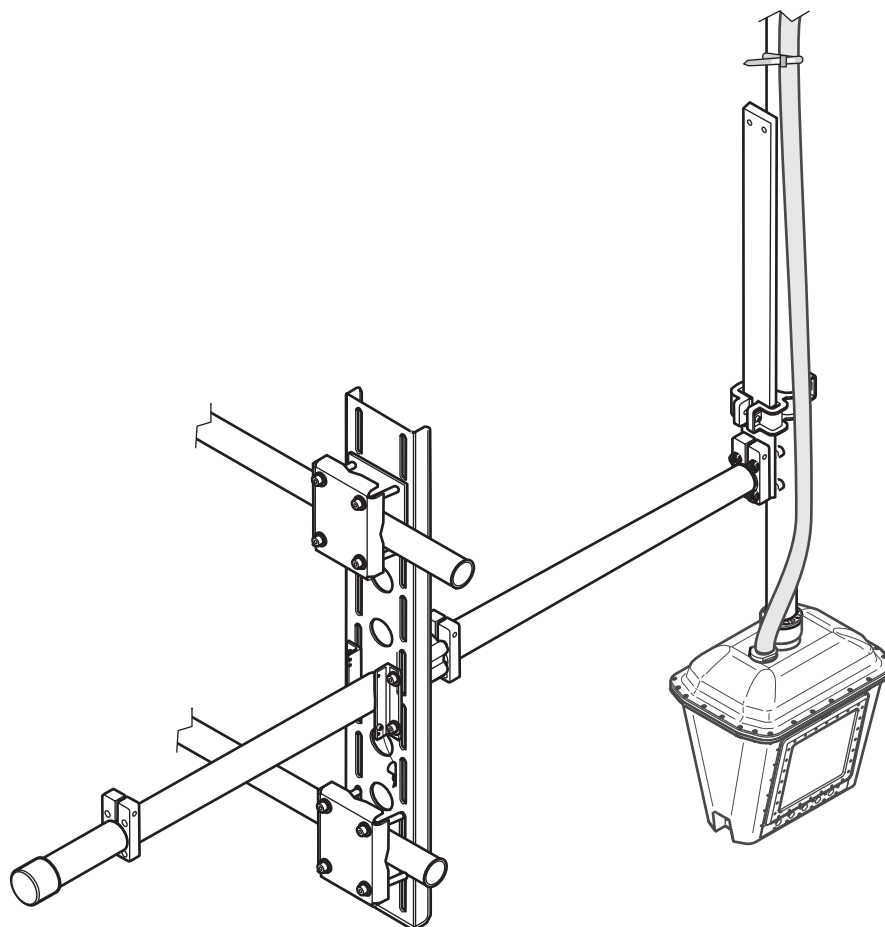


Figure 15 Filter Probe sc in the service position

Spare parts and accessories

Description	Quantity	Cat. No.
Rail Bracket Hardware Set	1	LZY363
Mounting Pipe (2 m)	1	BRO075
Supporting Pipe	1	HRO307
Hardware Set	1	LZY434
Base	1	ATS010
Bracket, complete	2 each	LZX200

Warranty, liability and complaints

HACH LANGE GmbH warrants that the product supplied is free of material and manufacturing defects and undertakes the obligation to repair or replace any defective parts at zero cost.

The warranty period for instruments is 24 months. If a service contract is taken out within 6 months of purchase, the warranty period is extended to 60 months.

With the exclusion of the further claims, the supplier is liable for defects including the lack of assured properties as follows: all those parts that, within the warranty period calculated from the day of the transfer of risk, can be demonstrated to have become unusable or that can only be used with significant limitations due to a situation present prior to the transfer of risk, in particular due to incorrect design, poor materials or inadequate finish will be improved or replaced, at the supplier's discretion. The identification of such defects must be notified to the supplier in writing without delay, however at the latest 7 days after the identification of the fault. If the customer fails to notify the supplier, the product is considered approved despite the defect. Further liability for any direct or indirect damages is not accepted.

If instrument-specific maintenance and servicing work defined by the supplier is to be performed within the warranty period by the customer (maintenance) or by the supplier (servicing) and these requirements are not met, claims for damages due to the failure to comply with the requirements are rendered void.

Any further claims, in particular claims for consequential damages cannot be made.

Consumables and damage caused by improper handling, poor installation or incorrect use are excluded from this clause.

HACH LANGE GmbH process instruments are of proven reliability in many applications and are therefore often used in automatic control loops to provide the most economical possible operation of the related process.

To avoid or limit consequential damage, it is therefore recommended to design the control loop such that a malfunction in an instrument results in an automatic change over to the backup control system; this is the safest operating state for the environment and the process.

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