DOC346.53.80706

WDMP, WQMP, SPMP-XX, DPMP-XX

User Manual

08/2024, Edition 2

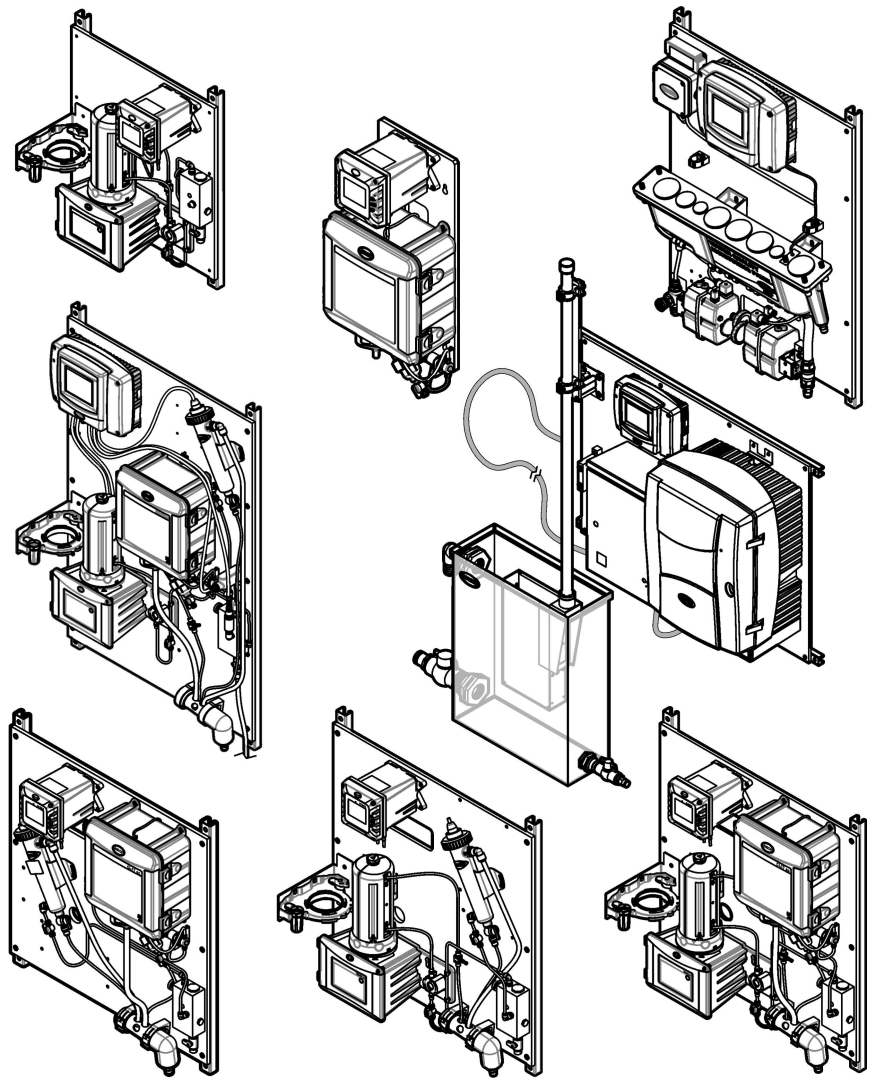


Table of Contents

Section 1 Water panels overview

The water panels are a group of water quality instruments that are pre-plumbed and wired on a single panel with a digital controller. The user hangs the panel on a wall, connects the sample and drain lines, and if necessary, prepares the sensors for operation. User manuals are supplied for the controller and the applicable instruments. Refer to the applicable user manuals for safety information, calibration and operation of the components.

This section is applicable to all of the water panels. Refer to the sections that follow for specific information about each of the water panels:

1.1 General information

In no event will the manufacturer be liable for damages resulting from any improper use of product or failure to comply with the instructions in the manual. The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation. Revised editions are found on the manufacturer's website.

1.1.1 Safety information

The manufacturer is not responsible for any damages due to misapplication or misuse of this product including, without limitation, direct, incidental and consequential damages, and disclaims such damages to the full extent permitted under applicable law. The user is solely responsible to identify critical application risks and install appropriate mechanisms to protect processes during a possible equipment malfunction.

Please read this entire manual before unpacking, setting up or operating this equipment. Pay attention to all danger and caution statements. Failure to do so could result in serious injury to the operator or damage to the equipment.

Make sure that the protection provided by this equipment is not impaired. Do not use or install this equipment in any manner other than that specified in this manual.

1.1.2 Use of hazard information

⚠DANGER

Indicates a potentially or imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠WARNING

Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION

Indicates a potentially hazardous situation that may result in minor or moderate injury.

NOTICE

Indicates a situation which, if not avoided, may cause damage to the instrument. Information that requires special emphasis.

1.1.3 Certification

EN 55011/CISPR 11 Notification Warning

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Canadian Radio Interference-Causing Equipment Regulation, ICES-003, Class A:

Supporting test records reside with the manufacturer.

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de classe A répond à toutes les exigences de la réglementation canadienne sur les équipements provoquant des interférences.

FCC Part 15, Class "A" Limits

Supporting test records reside with the manufacturer. The device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

1. The equipment may not cause harmful interference.
2. The equipment must accept any interference received, including interference that may cause undesired operation.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at their expense. The following techniques can be used to reduce interference problems:

1. Disconnect the equipment from its power source to verify that it is or is not the source of the interference.
2. If the equipment is connected to the same outlet as the device experiencing interference, connect the equipment to a different outlet.
3. Move the equipment away from the device receiving the interference.
4. Reposition the receiving antenna for the device receiving the interference.
5. Try combinations of the above.

1.2 Intended use

The water panels are intended for use by water treatment professionals who measure multiple water quality parameters in industrial water, municipal water or waste process applications. The water panel components do not treat or alter water.

1.3 Installation guidelines

⚠ DANGER	
	Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

DANGER

Electrocution hazard. Protective Earth Ground (PE) connection is required.

DANGER

Electrical shock and fire hazards. Make sure to identify the local disconnect clearly for the conduit installation.

WARNING

Electrocution hazard. The local disconnection means must disconnect all the electrical current-carrying conductors. Mains connection must keep supply polarity. The separable plug is the disconnect means for cord connected equipment.

WARNING

Electrical shock hazard. Externally connected equipment must have an applicable country safety standard assessment.

NOTICE

Do not install the controller in an environment with a caustic atmosphere without a protective enclosure. A caustic atmosphere will cause damage to electronic circuitry and components.

DANGER

Chemical or biological hazards. If this instrument is used to monitor a treatment process and/or chemical feed system for which there are regulatory limits and monitoring requirements related to public health, public safety, food or beverage manufacture or processing, it is the responsibility of the user of this instrument to know and abide by any applicable regulation and to have sufficient and appropriate mechanisms in place for compliance with applicable regulations in the event of malfunction of the instrument.

- This equipment is intended for indoor installation only.
- Do not install the equipment in a location that receives direct exposure to sunlight or ultraviolet radiation (UV).
- Install the equipment at a height where the user can easily see the components and complete maintenance tasks.
- If AC power is used, install the equipment near the electrical outlet. Protect the electrical outlet from possible fluid leaks.

1.4 General specifications

Specifications are subject to change without notice.

Specification	Details
Environmental conditions	Indoor only
Operating temperature	5 to 40 °C (41 to 104 °F)
Sample temperature	5 to 40 °C (41 to 104 °F)
Altitude	2000 m (6562 ft) maximum
Sample waste drain pressure	Ambient, free-flowing (atmospheric)
Warranty	1 year

1.5 Maintenance

⚠CAUTION

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

1.5.1 Look for leaks and blockages

Examine the system for leaks and blockages as follows:

- Inlet and drain tubing
- Sample flow valve
- O-ring seal on the sensors
- Fittings, elbows and couplers

1.5.2 Clean the panel

NOTICE

Do not use solvents or a pressurized hose to clean the panel.

1. Use a mild detergent to wash the surface of the panel.
2. Use a slightly damp cloth to clean the surface of the panel.

1.5.3 Component maintenance tasks

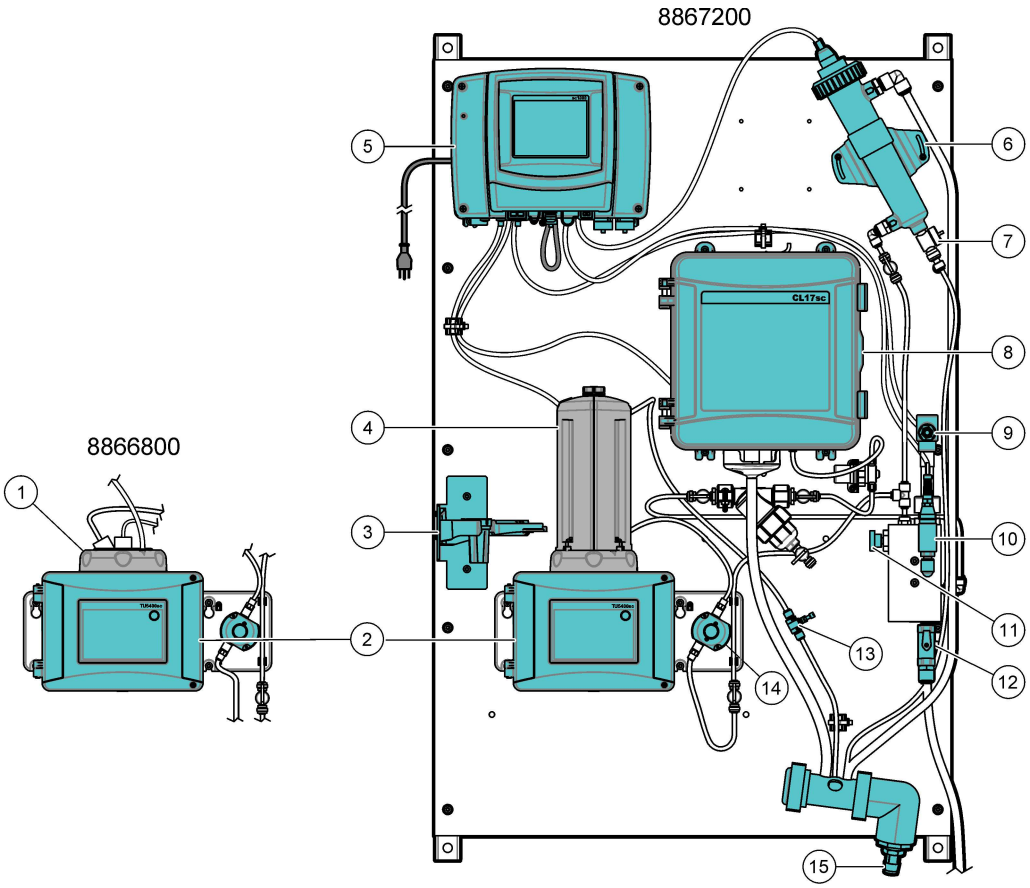
Refer to the supplied user manuals for each panel component for the recommended maintenance tasks.

Section 2 WDMP

2.1 Product overview

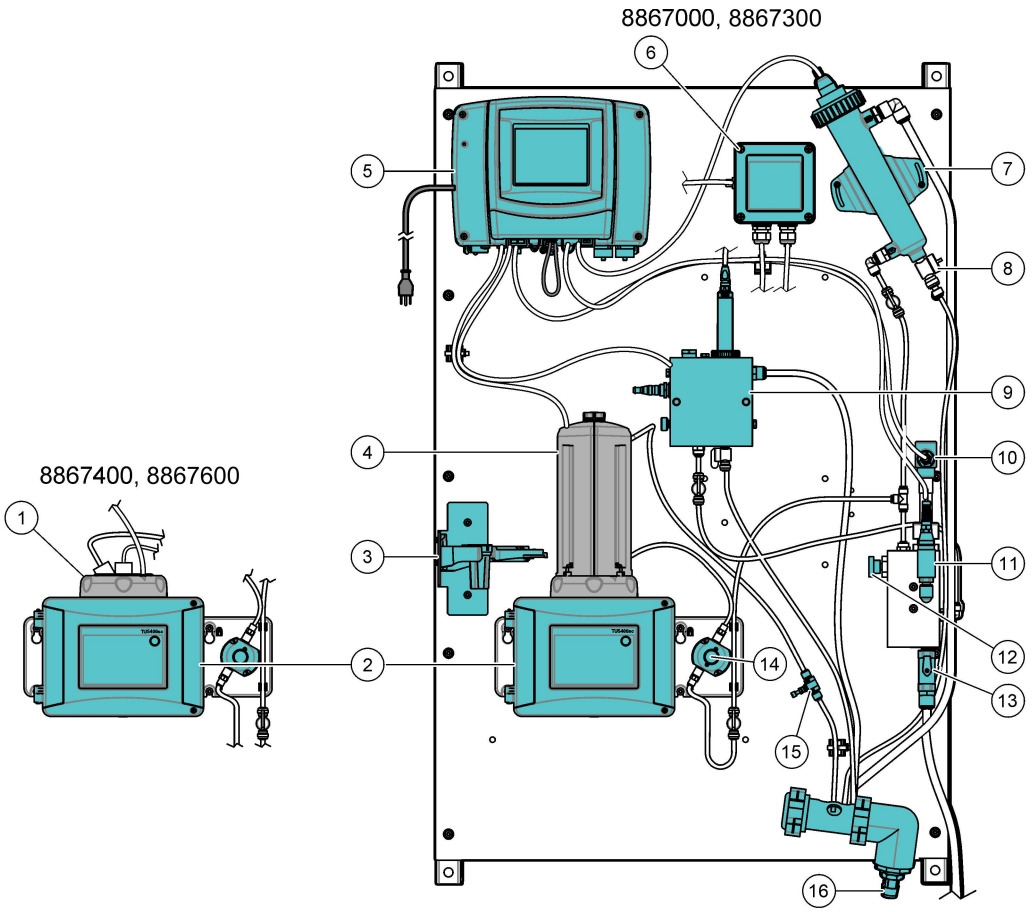
The Water Distribution Monitoring Panel sc (WDMP sc) is an assembly of instruments that monitors the water quality in a distribution system. The instruments are assembled on a panel with the electrical and plumbing connections installed at the factory. The instruments measure chlorine, conductivity, pH, turbidity, pressure and temperature. The controller on the panel sends the data to a communications network for remote monitoring. Refer to Figure 1 for the WDMP sc with the CL17sc chlorine analyzer or Figure 2 for the WDMP sc with the CLF10 or CLT10 chlorine analyzer.

Figure 1 WDMP sc overview—CL17sc chlorine analyzer



1 Process head	**9** Conductivity sensor
2 TU5300sc Turbidimeter	**10** Pressure sensor
3 Service bracket	**11** Inlet needle valve
4 Automatic Cleaning Module (ACM), optional	**12** Inlet ball valve
5 SC1000 Controller	**13** Flow regulator
6 Flow cell with pH sensor	**14** Flow sensor
7 Maintenance drain valve	**15** Drain manifold
8 CL17sc chlorine analyzer	

Figure 2 WDMP sc overview—CLF10 or CLT10 chlorine analyzer



1 Process head	**9** CLF10 or CLT10 flow cell
2 TU5300sc Turbidimeter	**10** Conductivity sensor
3 Service bracket	**11** Pressure sensor
4 Automatic Cleaning Module (ACM), optional	**12** Inlet needle valve
5 SC1000 Controller	**13** Inlet ball valve
6 CLF10 or CLT10 gateway	**14** Flow sensor
7 Flow cell with pH sensor	**15** Flow regulator
8 Maintenance drain valve	**16** Drain manifold

2.2 Specifications

Specifications are subject to change without notice. The specifications that follow are for the WDMP sc panel. Refer to the instrument user manuals for the analyzer, controller, turbidimeter and sensor specifications.

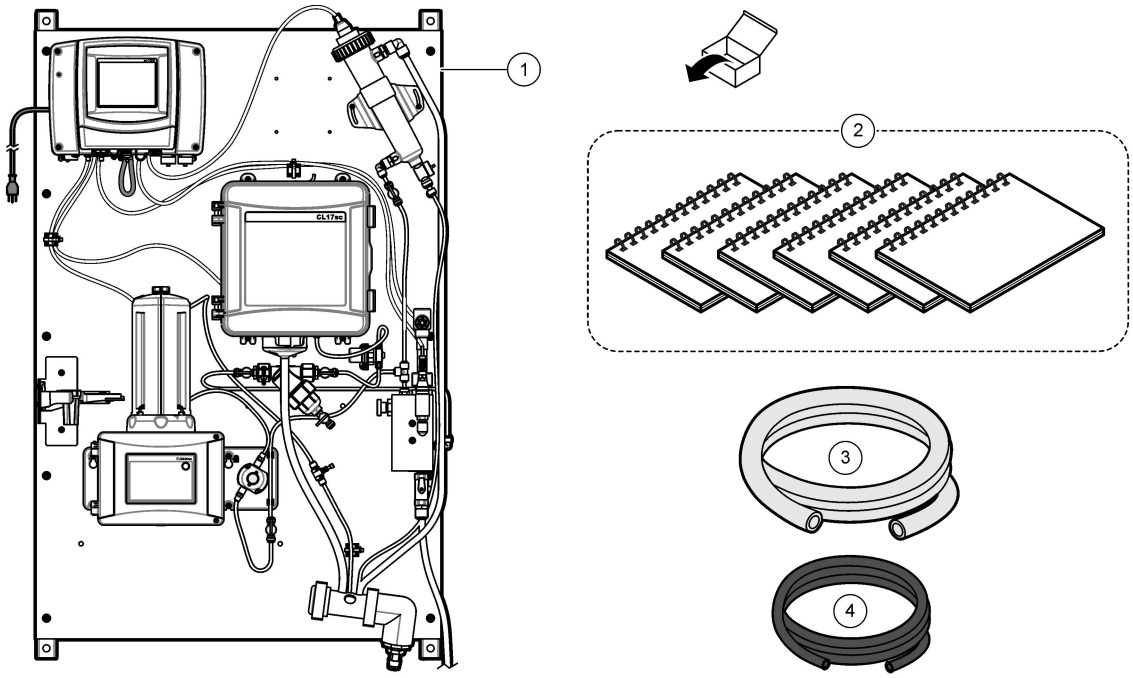
Specification	Details
Dimensions (W x H x D)	81 x 130 x 29 cm (32 x 51 x 11 inch). The dimensions are approximately the same for the six panels.
Weight	With CL17sc analyzer: 34.0 kg (75 lb)
	With CLF10 or CLT10 analyzer: 31.8 kg (70 lb)
Power requirements	100–240 (±10) VAC, 50/60 Hz; maximum 1000 VA

Specification	Details
Sample flow rate	0.4 to 0.6 L/min
Sample pressure	517 kPa (75 psi) maximum
Sample inlet connection	½-inch OD tube
Sample waste drain connection	¾-inch ID hose barb
Pressure sensor	Stainless steel (17–4 PH), Input: 7–35 VDC; Output: 4–20 mA, 0–1034 kPa (0–150 psi)
Certifications	SC1000 Controller is CE compliant and is TÜV listed to UL and CSA safety standards

2.3 Product components

Make sure that all components have been received. Refer to Figure 3. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 3 Product components



1 WDMP sc panel (with CL17sc chlorine analyzer option)	**3** Tubing, drain, ¾-inch ID × 1-inch OD, 1.8 m (6 ft)
2 User manuals (Table 1)	**4** Tubing, sample, 0.375-inch ID × 0.500-inch OD, 3 m (10 ft)

Table 1 User Manuals included with the WDMP

Component	User manual	Document number
pH sensor	pHD sc Digital Differential pH/ORP Sensors User Manual, Languages of the Americas and Asian countries	DOC023.97.80605
	pHD sc Digital Differential pH/ORP Sensors User Manual, European languages	DOC023.98.80605
Conductivity sensor	Digital Contacting Conductivity Sensor User Manual	6120318

Table 1 User Manuals included with the WDMP (continued)

Component	User manual	Document number
Turbidimeter	TU5300sc-TU5400sc Basic User Manual, EPA	DOC023.97.90501
	Automatic Cleaning Module (ACM) User Instructions (if ACM included)	DOC273.97.90480
	Flow Sensor User Instructions	DOC273.99.90491
Chlorine analyzer, CL17sc (if included)	CL17sc User Manual	DOC023.97.80614
	CL17sc Filter and Pressure Regulator Installation	DOC273.99.80617
Chlorine analyzer, CL10F or CL10T (if included)	CLT10 and CLF10 Chlorine Sensor User Manual	DOC023.97.80088
	CLT10 and CLF10 Gateway Replacement User Instructions	DOC273.99.80229
Controller	SC1000 Controller User Manual	DOC023.53.90007
	SC1000 Controller Enhanced Communications Manual	DOC023.53.90143
	PROGNOSYS User Manual	DOC023.53.90351

2.4 Installation

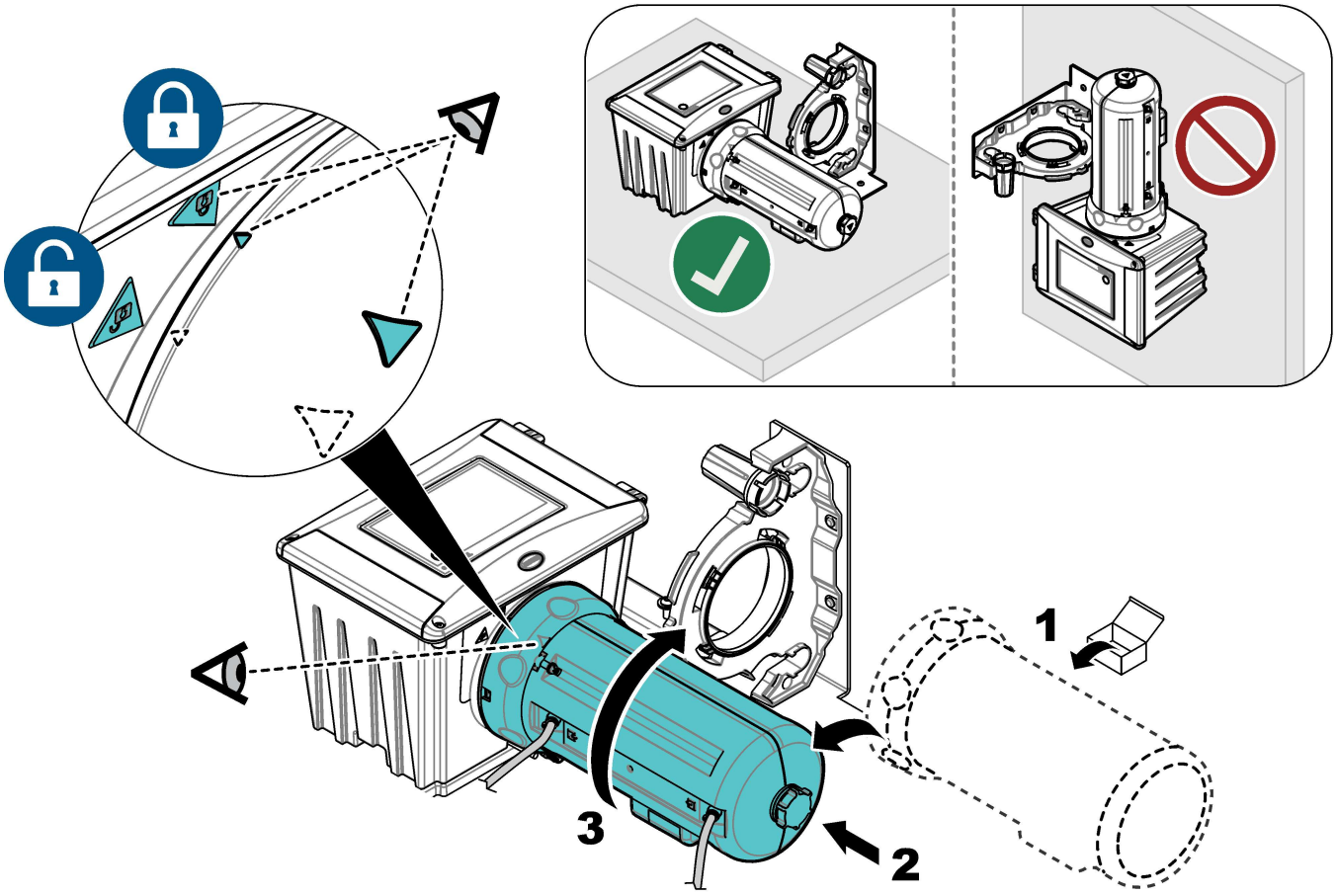
⚠WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

2.4.1 Install the ACM on the turbidimeter

If the panel includes the Automatic Cleaning Module (ACM), install the ACM with the panel in a horizontal position before the panel is mounted vertically on a wall. Refer to Figure 4.

Figure 4 Install the ACM on the turbidimeter



2.4.2 Mounting

⚠WARNING

Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

⚠WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source.

Refer to Figure 5 for product dimensions. The dimensions are approximately the same for the six panels. Refer to Figure 6 to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 5 Product dimensions

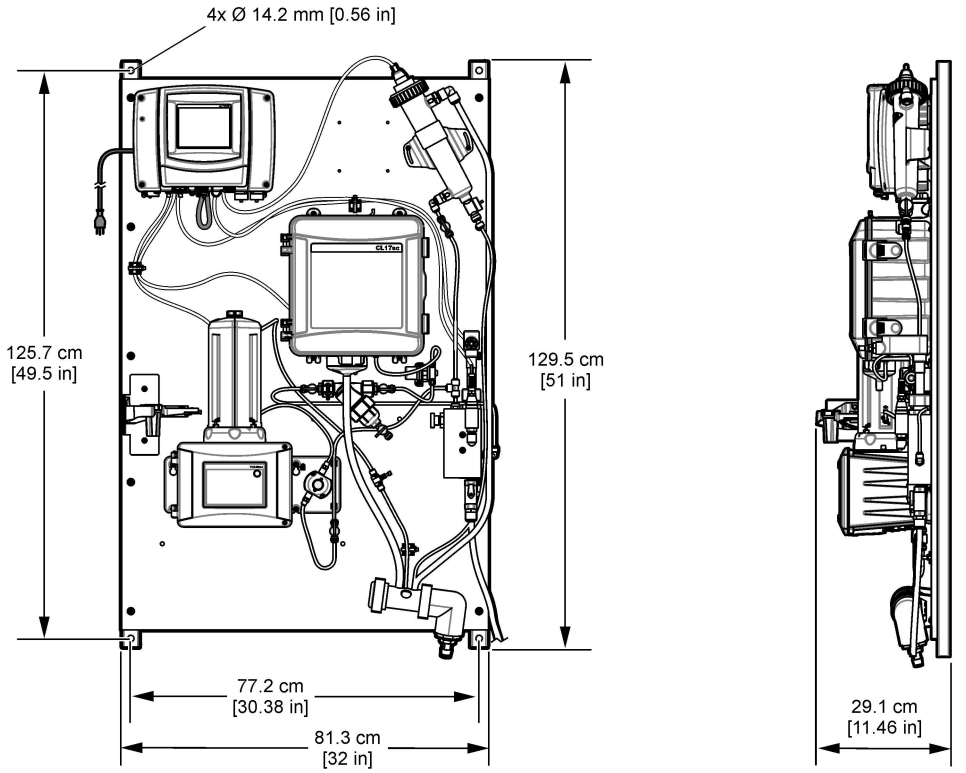
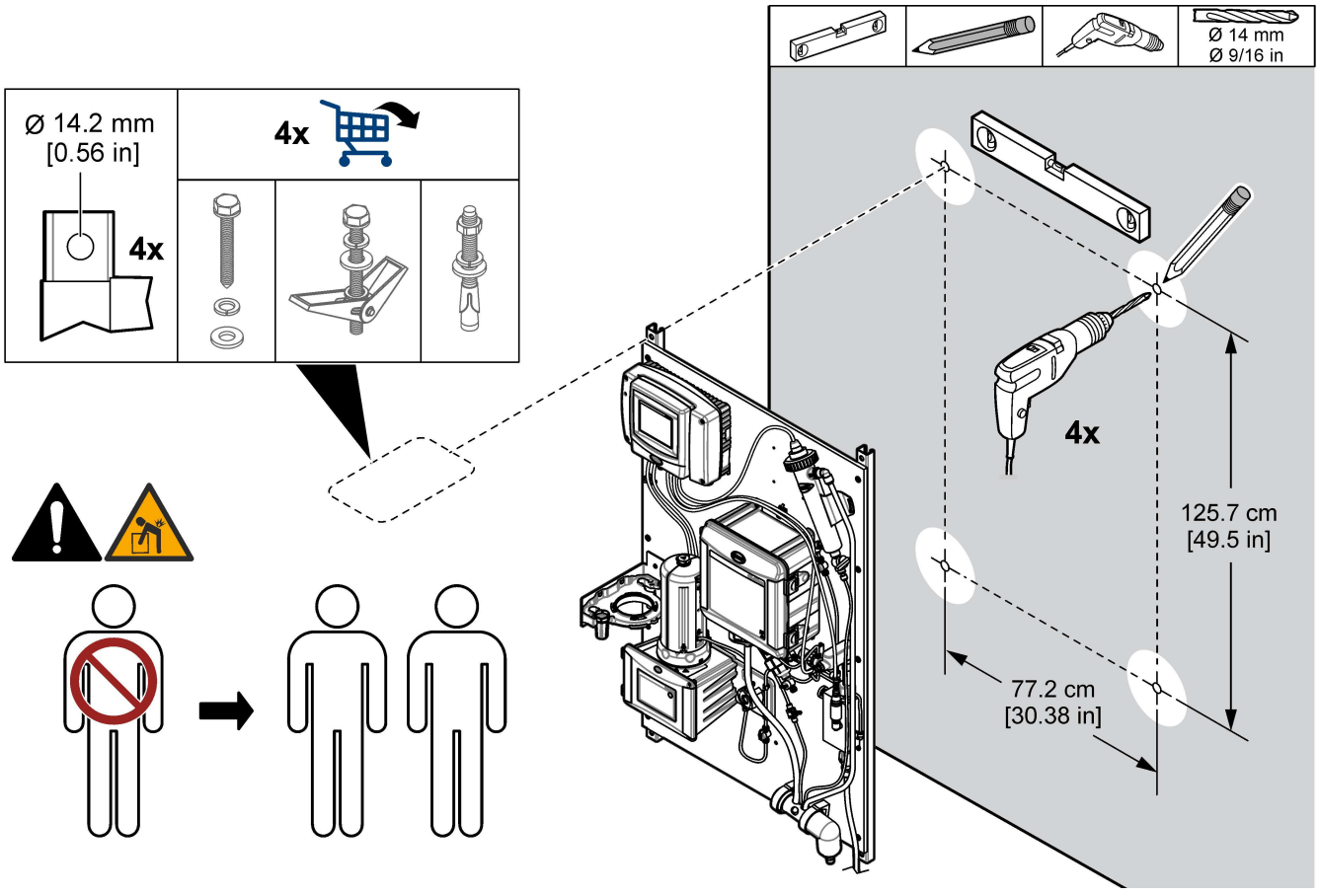


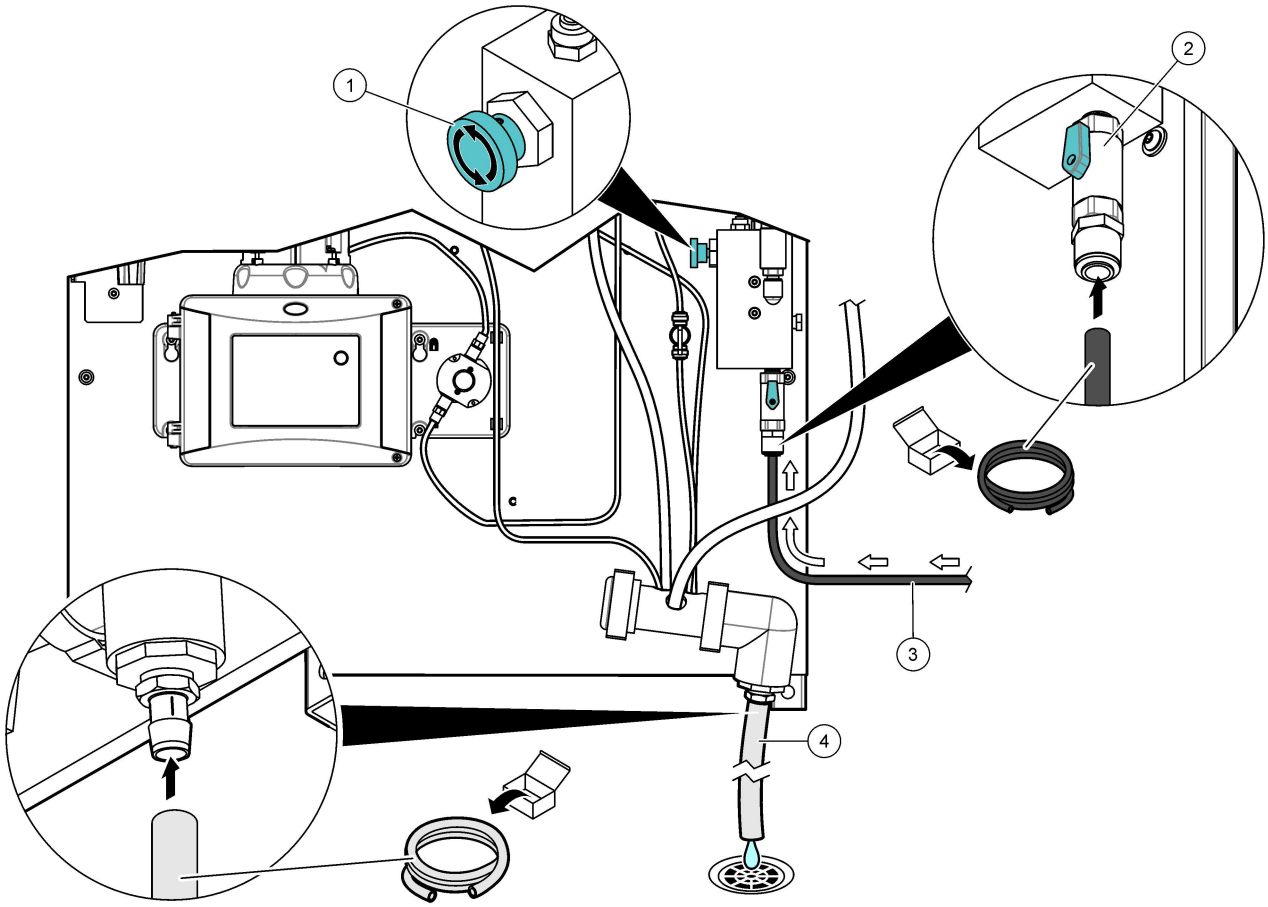
Figure 6 Hang the panel on a wall



2.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in Figure 7. Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 7 Sample and drain connections



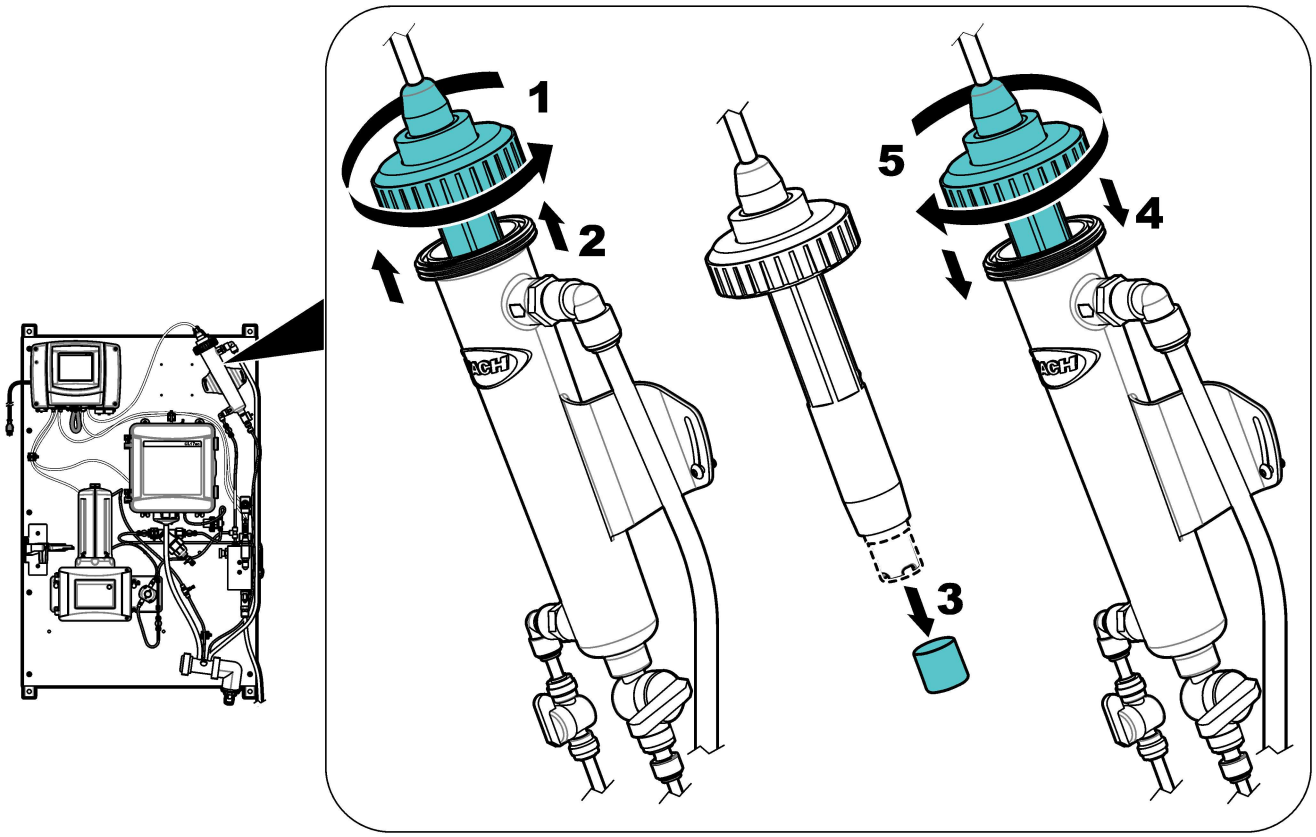
1 Inlet needle valve	**3** Sample tubing
2 Inlet ball valve	**4** Drain tubing

2.4.4 Remove the cap from the pH sensor

Remove the protective cap from the pH sensor before startup. Refer to Figure 8.

Note: *During cold weather, the manufacturer may send the pH sensor in a different package.*

Figure 8 Remove the cap from the pH sensor



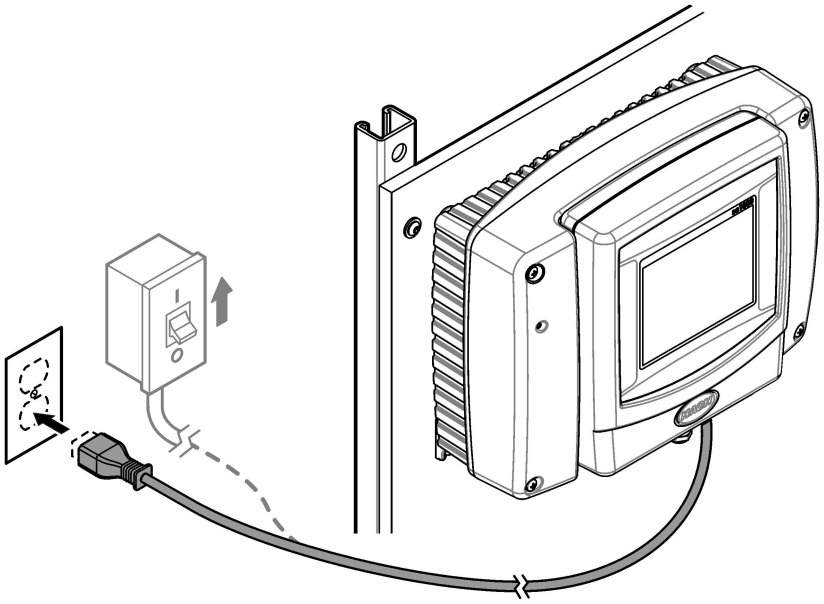
2.5 Startup

Make sure that all of the plumbing connections are complete before startup.

1. For panels with the CL17sc chlorine analyzer, install the reagents and the stir bar. Refer to the CL17sc chlorine analyzer user manual.
2. For panels with the CLF10 or CLT10 sc chlorine analyzer, fill the membrane cap with electrolyte. Refer to the user manual for the CLF10 or CLT10 sc chlorine analyzer.
3. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 8.
4. Examine the plumbing for fluid leaks. Stop the leaks if found.
5. Apply power to the controller. Refer to Figure 9. The display light comes on. The connected sensors show on the display.

   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*
6. For panels with the CL17sc chlorine analyzer, start the prime operation for the reagents. Refer to the CL17sc chlorine analyzer user manual for instructions.
7. For panels with the CLF10 or CLT10 sc chlorine analyzer, calibrate the sensor. Refer to the user manual for the CLF10 or CLT10 sc chlorine analyzer.
8. Calibrate the turbidimeter, the pH sensor and the conductivity sensor. Refer to the supplied user manuals for calibration instructions.
9. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 9 Apply power



2.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples and calibrate the analyzers and sensors regularly to make sure that the measurements are accurate. Refer to the user manual of each device for calibration instructions.

2.7 Replacement parts and accessories

Note: *Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.*

Description	Item no.
O-ring, 1.475-inch ID, 0.21-inch width	6849000
Pressure sensor	6842600
Pressure regulator	6846600
Tubing, drain, ¾-inch ID × 1-inch OD	5994800
Tubing, sample, 0.375-inch ID × 0.500-inch OD	5115900
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

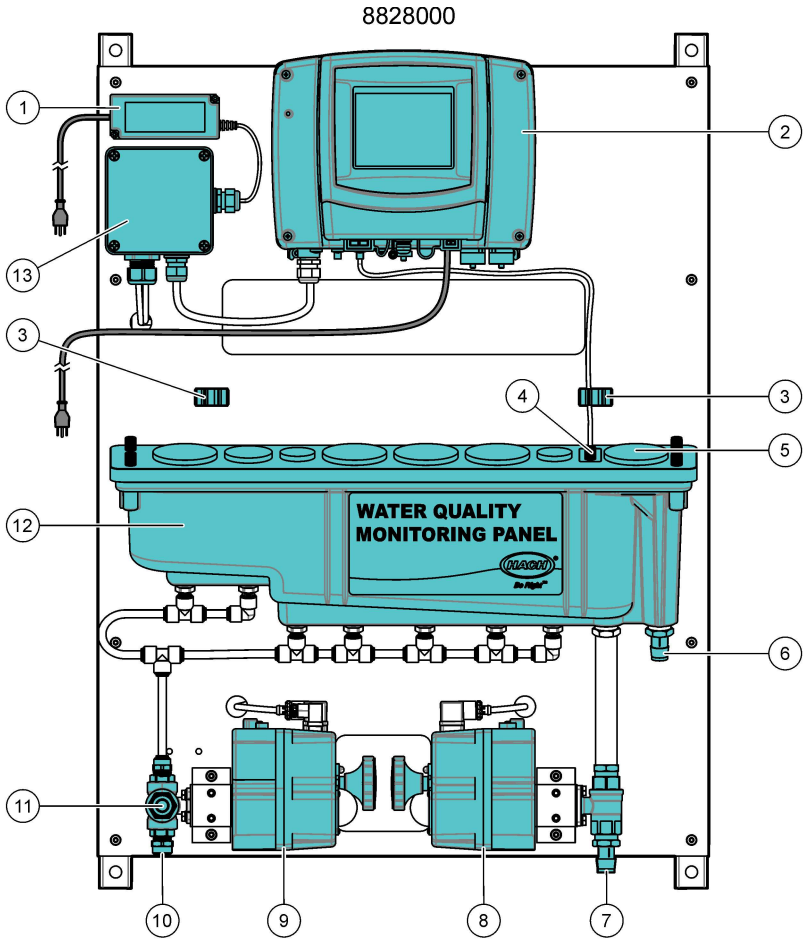
Section 3 WQMP

3.1 Product overview

The Water Quality Monitoring Panel (WQMP) has a flow channel that holds water quality sensors that continuously monitor water quality parameters. The flow channel is pre-assembled on the panel with the electrical and plumbing connections installed. Refer to Figure 10. The user can add a maximum of six sensors (with applicable adapters). Each sensor receives a direct flow of sample through the tee fittings in the sample line.

Automatic valves operate to flush the flow channel with clean water at regular intervals. The controller on the panel sends the data to a communications network for remote monitoring.

Figure 10 WQMP overview



1 AC/DC power supply	**8** Two-way automatic drain valve
2 SC1000 Controller	**9** Three-way automatic inlet valve
3 Gateway holder (2x)	**10** Sample inlet, ½-inch OD tubing
4 Level sensor	**11** Flush inlet, ¾–inch GHT socket
5 View port	**12** Flow channel with small (2x), medium (1x) and large (4x) ports
6 Sample drain, ¾–inch ID tubing	**13** Power junction box for automated valves
7 Flush drain, ¾–inch ID tubing	

3.2 Specifications

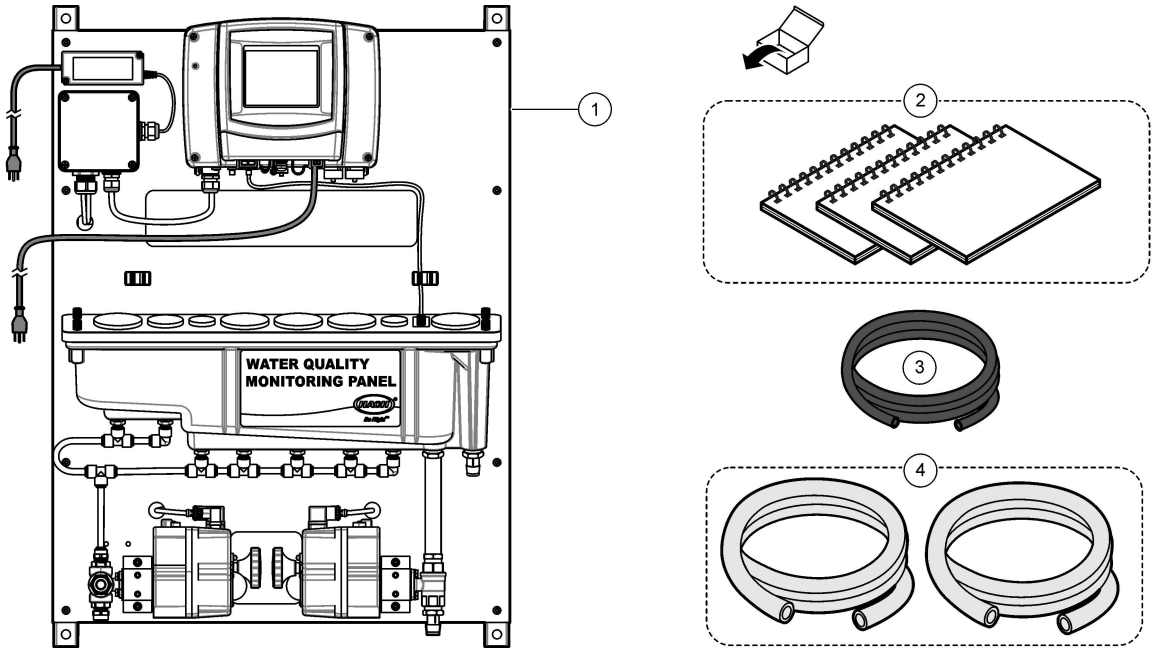
Specifications are subject to change without notice. The specifications that follow are for the WQMP panel. Refer to the instrument user manuals for the controller and sensor specifications.

Specification	Details
Dimensions (W x H x D)	72.6 x 101.6 x 21 cm (28.6 x 40 x 8.3 inch)
Weight	39.5 kg (87 lb)
Power requirements	SC1000 Controller: 100–240 (±10) VAC, 50/60 Hz; maximum 1000 VA
	OWA-60U-24 power supply: 100–240 VAC ±10%, 50/60 Hz; maximum 2.5 A
Sample flow rate	5 L/minute (1.3 gallons/minute) maximum
Flush flow rate	20 L/minute (5.3 gallons/minute) maximum
Sample pressure	138 to 517 kPa (20 to 75 psi)
Sample inlet connection	½-inch OD tube
Sample waste drain connection	¾-inch ID hose barb
Certifications	SC1000 Controller is CE compliant and is TÜV listed to UL and CSA safety standards
	OWA-60U-24 power supply is UL listed to UL and CSA standards

3.3 Product components

Make sure that all components have been received. Refer to Figure 11. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 11 Product components



1 WQMP	**3** Tubing, sample, 0.375-inch ID × 0.500-inch OD, 1.8 m (6 ft)
2 User manuals	**4** Tubing, drain, ¾-inch ID × 1-inch OD, 1.8 m (6 ft) (2x)

3.4 Installation

⚠WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

3.4.1 Mounting

⚠WARNING

Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

⚠WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source. Refer to Figure 12 for product dimensions. Refer to Figure 13 to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 12 Product dimensions

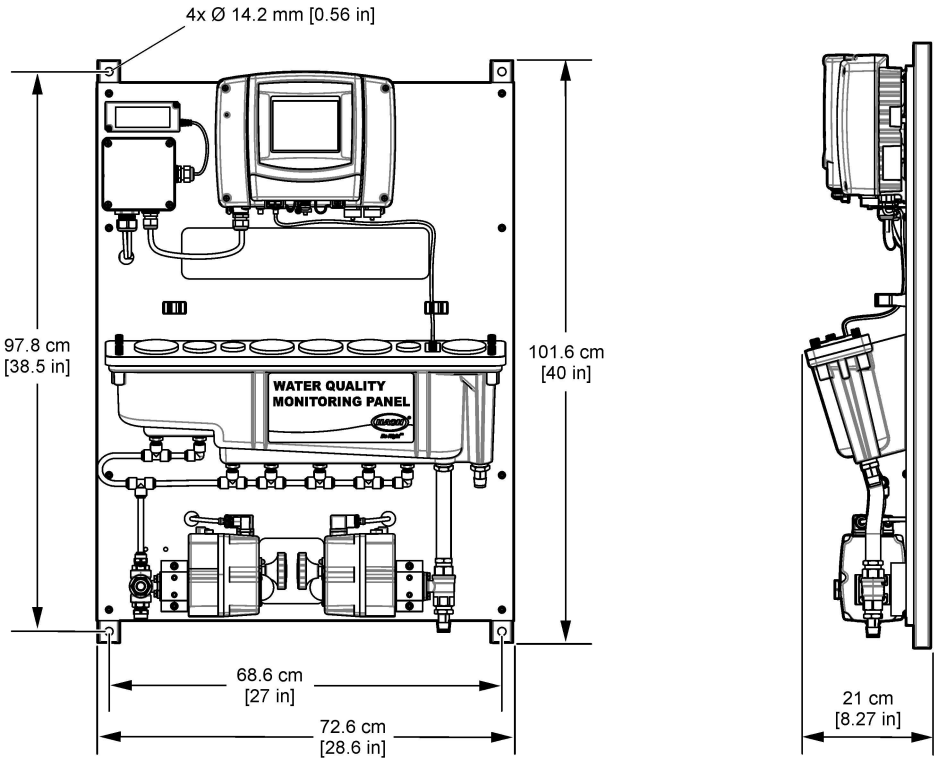
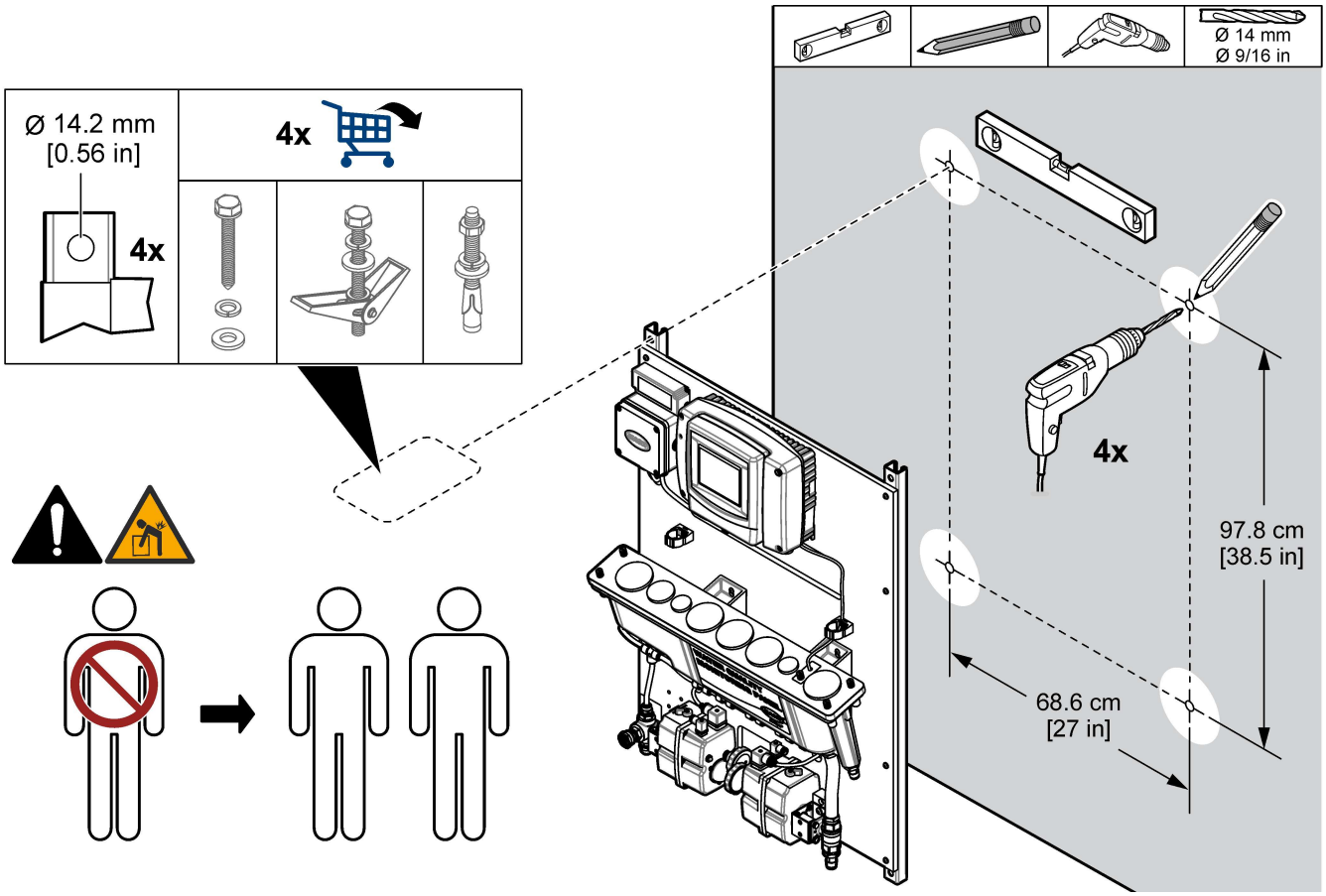


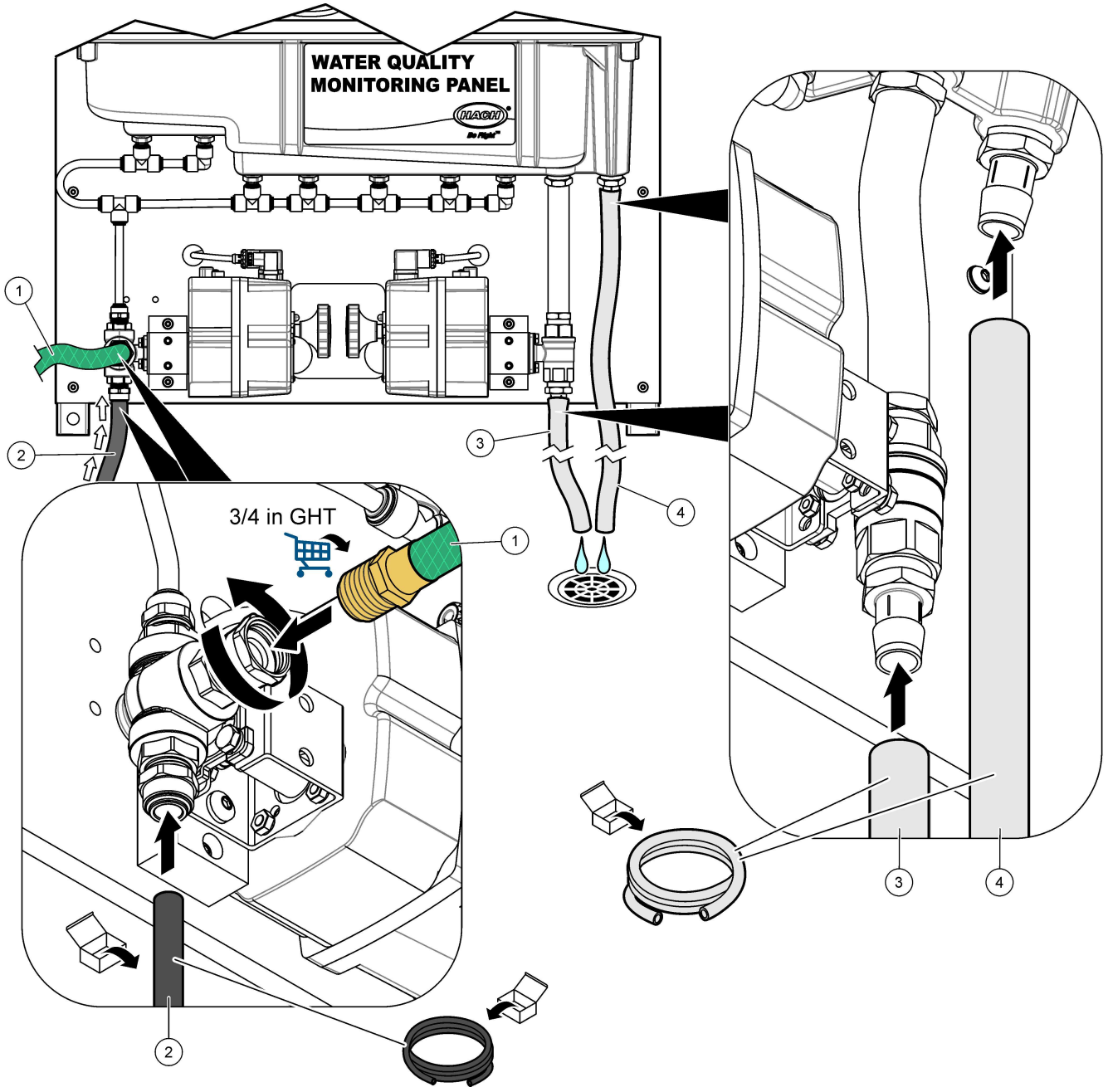
Figure 13 Hang the panel on a wall



3.4.2 Install the sample, flush and drain lines

Install the sample and drain tubing as shown in Figure 14. Make sure that the drain tubing has a constant downward slope to the external drain. Connect a garden hose to the flush inlet as shown in Figure 14. Supply clean water to the flush inlet.

Figure 14 Sample, flush and drain connections



1 Sample tubing	**3** Flush drain tubing
2 Flush line (garden hose, user-supplied)	**4** Drain tubing

3.4.3 Install the sensors

Refer to the sensor user manuals to complete the necessary preparation tasks (e.g., remove the cap from the pH sensor).

Use an adapter to install the sensors in the port holes. Refer to Figure 15. Refer to Table 2 for the possible sensors and applicable adapters. Connect the sensor cable to a connector on the controller. If the sensor uses a gateway, put the gateway in one of the gateway holders on the panel.

Figure 15 Install the sensors—pH sensor example

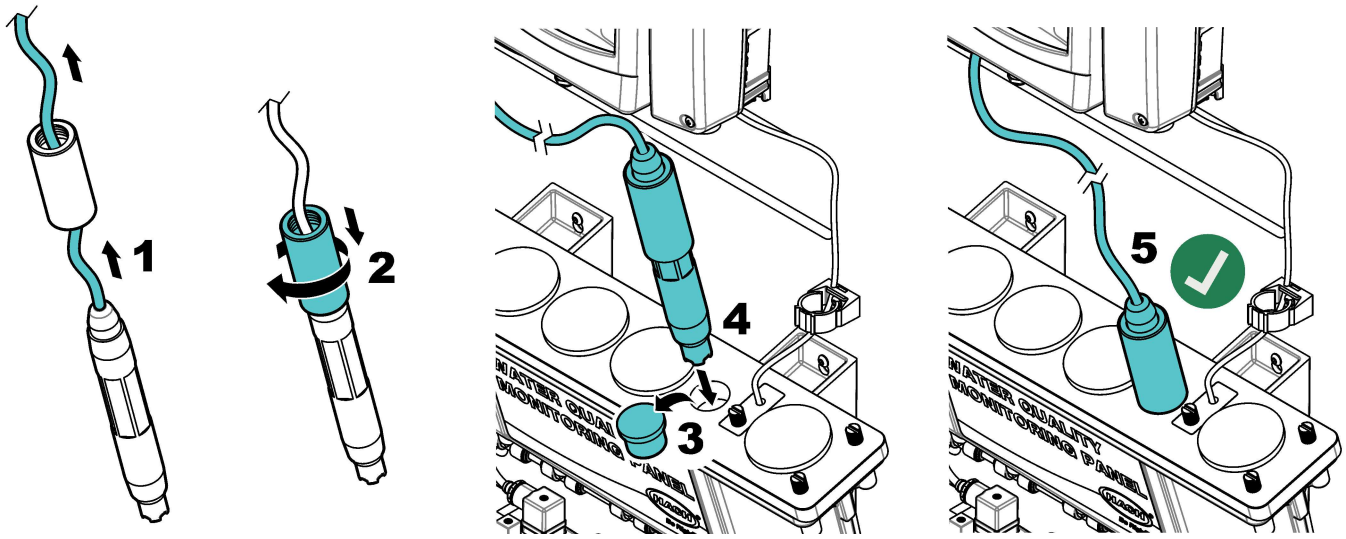


Table 2 WQMP sensor options

Port Size	Sensor options	Sensor PN	Adapter PN
Small	pHD	DPD1R1-WDMP	6859000
	ORP	DRD1R5-WDMP	
Medium	Conductivity, Inductive (3700 Series)	D3725E2T-WDMP	6858800
Large	Conductivity, Inductive, digital 3798-S sc	LXV428.99.00001	8829300
	LDO	9020000	8548600
	Nitratax plus sc nitrate sensor	LXV420.99.50002	8549400
	FP360sc Oil In Water Sensor	LXV441.99.11302	
	UVAS plus sc UV sensor	LXV418.99.50002	
	AN-ISE sc ammonium and nitrate	LXV440.99.00002	6858400
	Solitax T-Line sc Turbidity	LXV423.99.10000	
	Solitax TS-Line sc Turbidity and Suspended Solids	LXV423.99.10100	
	TSS sc Turbidity and Suspended Solids	LXV323.99.10002	

3.5 Startup

Make sure that all of the plumbing connections are complete before startup.

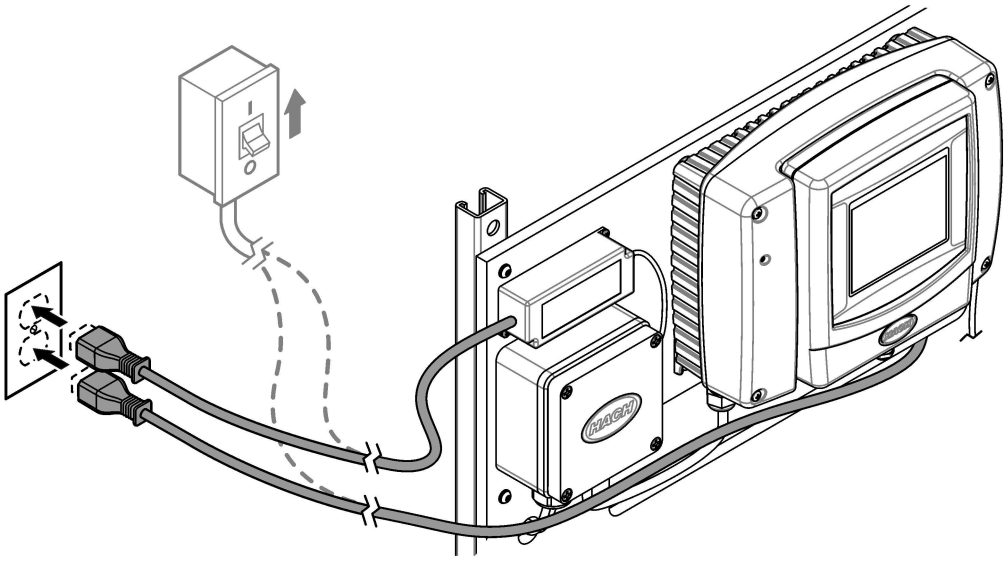
1. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 18.
2. Open the flow valve on the flush line.
3. Examine the plumbing for fluid leaks. Stop the leaks if found.
4. Apply power to the controller and the automatic valves. Refer to Figure 16. The display light comes on. The connected sensors show on the display.

   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*

5. Calibrate the installed sensors. Refer to the supplied user manuals for calibration instructions.
6. Let the panel operate for 4 to 6 hours until the measurements become stable.

   Note: *The automatic flush valves are set at the factory to automatically start a flush every 8 hours for a duration of 5 minutes. These times can be changed in the SC1000 Controller in the relay settings. Refer to* Change the automatic flush valve settings *on page 23*

Figure 16 Apply power



3.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples and calibrate the analyzers and sensors regularly to make sure that the measurements are accurate. Refer to the user manual of each device for calibration instructions.

3.6.1 Change the automatic flush valve settings

The panel has one three-way sample inlet valve and one two-way drain valve to flush the flow channel. The valves are connected to the controller Relay 1 to automatically flush the build-up of material from the bottom of the flow channel. Relay 1 is set at the factory to flush the flow channel every 8 hours for a duration of 5 minutes. To change the time interval or flush duration, change the relay settings for the SC1000 Controller as follows:

1. From the SC1000 Controller main menu, go to **SC1000 SETUP** > **RELAY** > **RELAY INT** > **RELAY 1**.
2. Make sure that **SET FUNCTION** shows **TIMER**.
3. Select **SENSOR** > **SELECT SENSOR**. Select one of the sensors, for example pHD.

   Note: *The selected sensor is not important.*
4. Change the flush interval and duration:

Option	Description
OFF DURATION	Sets the time (in seconds) when the relay is not active, for example 28,800 seconds (8 hours). The relay will become active after the specified time.
DURATION	Sets the time (in seconds) that the relay stays active (flush duration), for example 300 seconds (5 minutes).

3.7 Replacement parts and accessories

Note: *Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.*

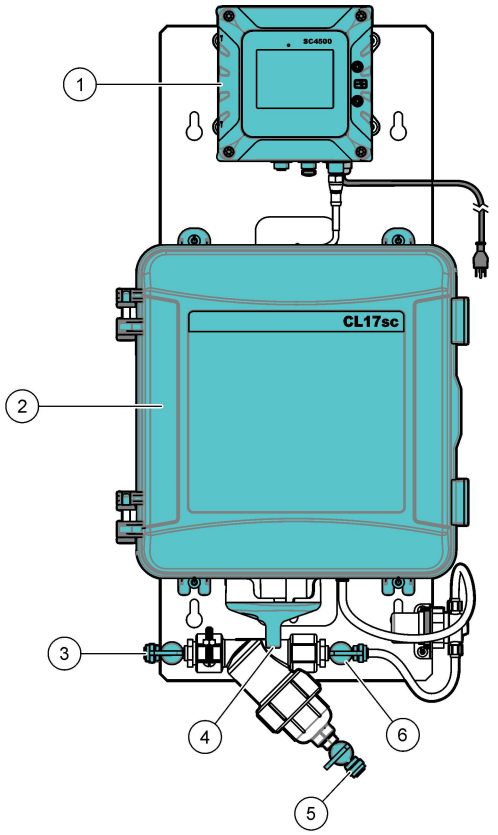
Description	Item no.
Tubing, drain, ¾-inch ID × 1-inch OD	5994800
Tubing, sample, 0.375-inch ID × 0.500-inch OD	5115900

Section 4 SPMP-CL

4.1 Product overview

The Single Parameter Monitoring Panel for chlorine (SPMP-CL) is a chlorine analyzer that is plumbed and installed on a panel. Refer to Figure 17. The controller on the panel sends the data to a communications network for remote monitoring.

Figure 17 SPMP-CL overview



1 SC4500 Controller	**4** Sample drain, ½-inch ID tubing
2 CL17sc chlorine analyzer	**5** Filter drain
3 Sample inlet, ¼-inch OD tubing	**6** Isolation valve

4.2 Specifications

Specifications are subject to change without notice. The specifications that follow are for the SPMP-CL panel. Refer to the supplied user manuals for the controller and analyzer specifications.

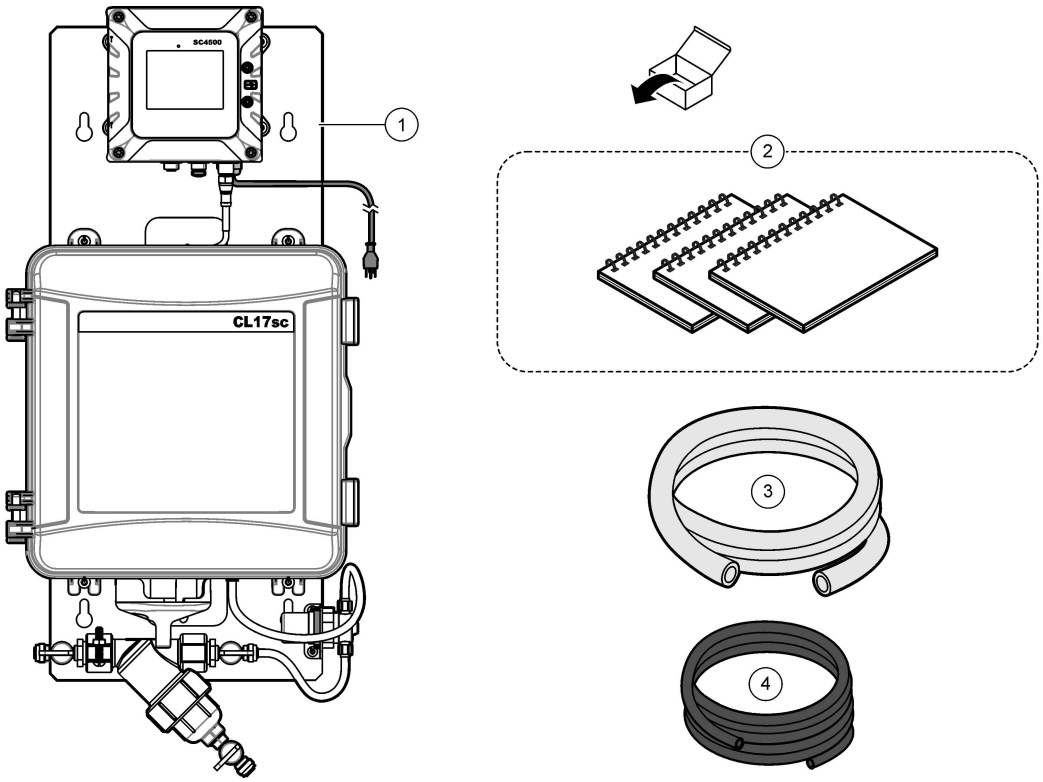
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 21.8 cm (13 x 28 x 8.6 inch)
Weight	9 kg (20 lb)
Power requirements	100–240 VAC ±10%, 50/60 Hz; maximum 1 A
Sample flow rate	60 to 200 mL/min
Sample pressure	31 to 517 kPa (4.5 to 75 psi)
Sample inlet connection	¼-inch OD tube

Specification	Details
Sample waste drain connection	½-inch ID tube
Certifications	SC4500 Controller is CE compliant and is TÜV listed to UL and CSA safety standards

4.3 Product components

Make sure that all components have been received. Refer to Figure 18. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 18 Product components



1 SPMP-CL	**3** Tubing, drain, ½-inch ID × $^{11}/_{16}$-inch OD, 3 m (10 ft)
2 Controller and analyzer user manuals	**4** Tubing, 0.170-inch ID × 0.250-inch OD, 6.1 m (20 ft)

4.4 Installation

⚠WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

4.4.1 Mounting

⚠WARNING

Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

⚠WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source.

Refer to Figure 19 for product dimensions. Refer to Figure 20 to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 19 Product dimensions

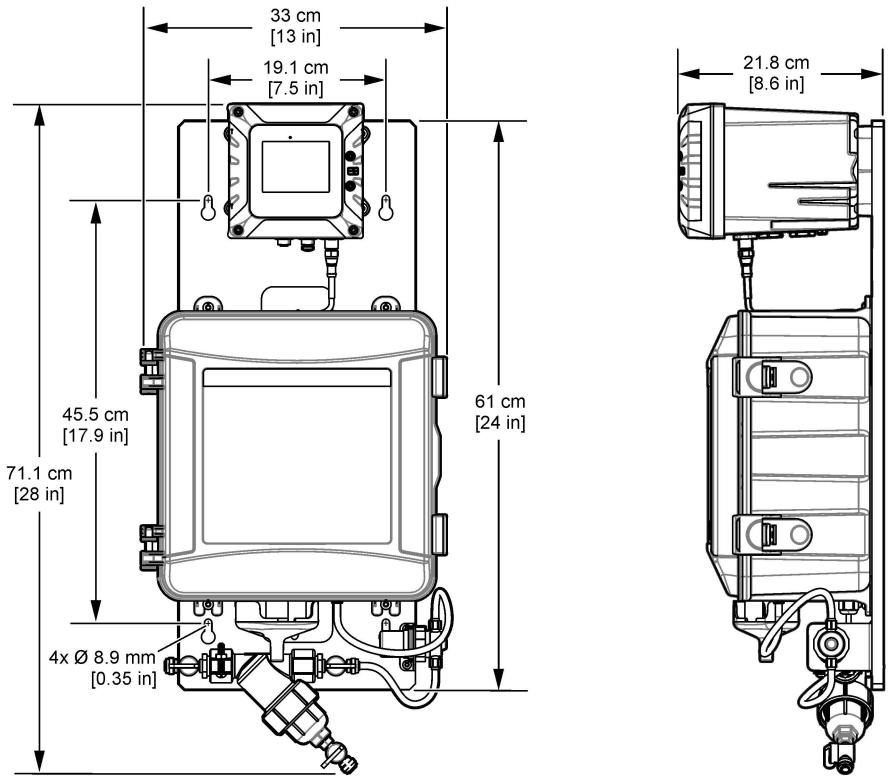
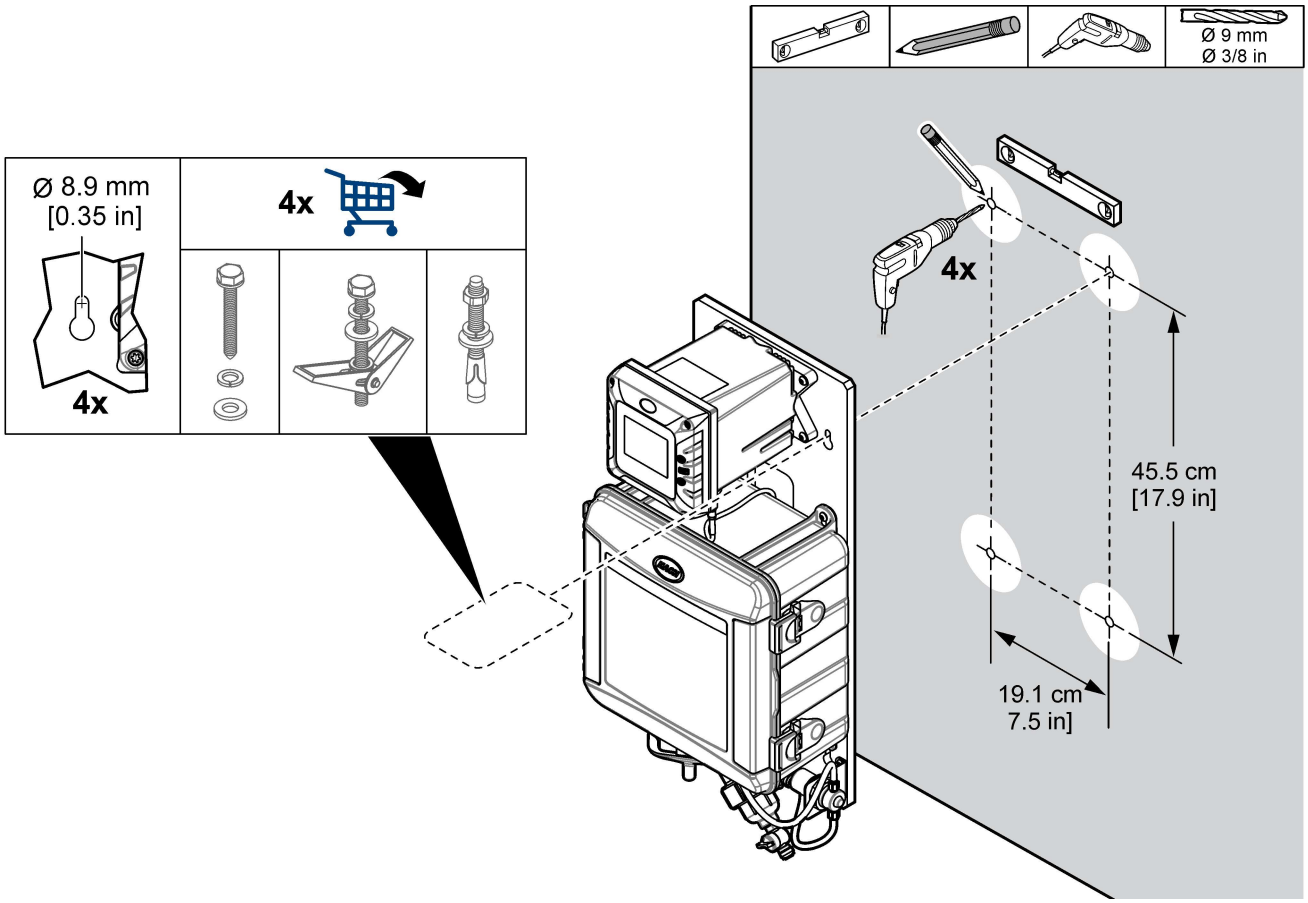


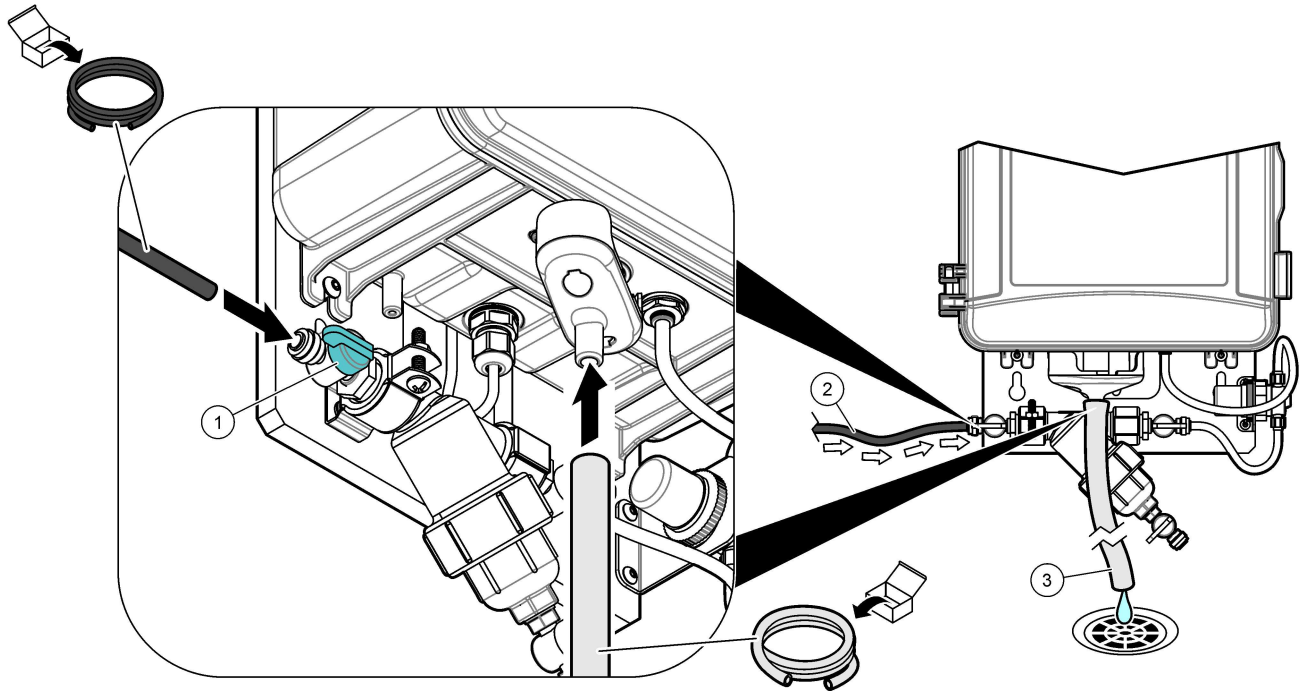
Figure 20 Hang the panel on a wall



4.4.2 Install the sample and drain lines

Install the sample and drain tubing as shown in Figure 21. Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 21 Sample and drain connections



1 Inlet ball valve	**2** Sample tubing	**3** Drain tubing

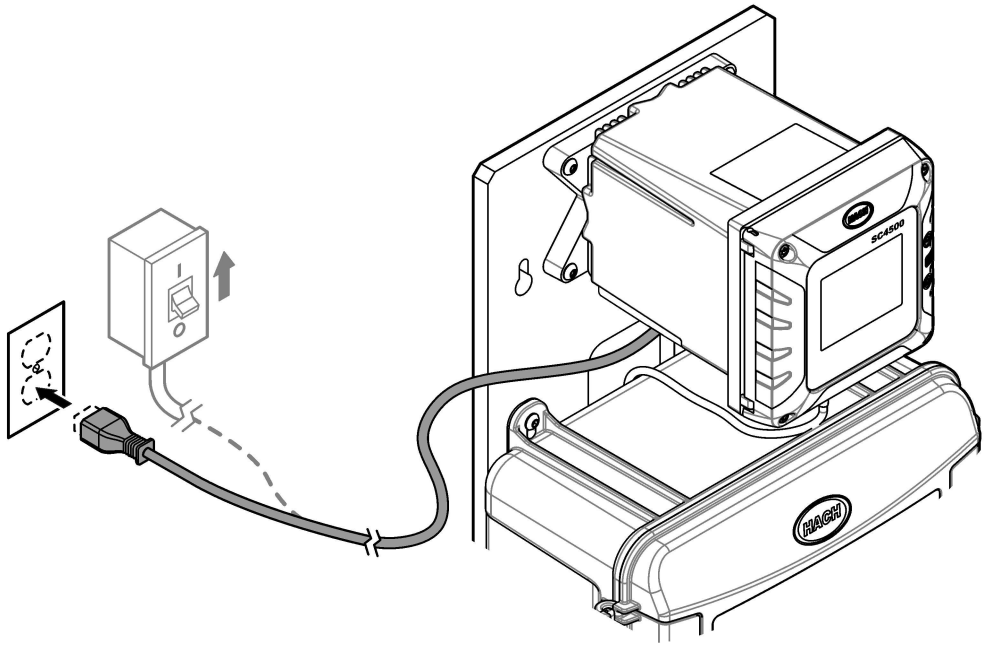
4.5 Startup

Make sure that all of the plumbing connections are complete before startup.

1. Install the reagents and stir bar in the CL17sc analyzer. Refer to the CL17sc chlorine analyzer user manual.
2. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 25.
3. Examine the plumbing for fluid leaks. Stop the leaks if found.
4. Apply power to the controller. Refer to Figure 22. The display light comes on. The analyzer shows on the display.

   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*
5. Start the prime operation for the chlorine anaylzer reagents. Refer to the CL17sc chlorine analyzer user manual for instructions.
6. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 22 Apply power



4.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples to make sure that the measurements are accurate.

4.7 Replacement parts and accessories

Note: *Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.*

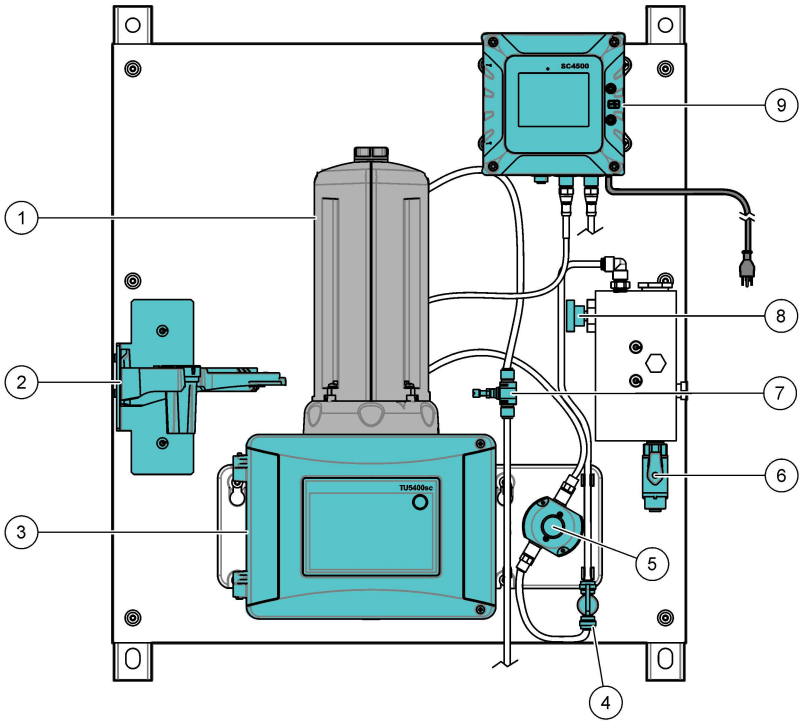
Description	Item no.
Tubing, drain, ½-inch ID × $^{11}/_{16}$-inch OD	5410800A
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 5 SPMP-TU

5.1 Product overview

The Single Parameter Monitoring Panel for turbidity (SPMP-TU) is a turbidimeter that is plumbed and installed on a panel. Refer to Figure 23. The controller on the panel sends the data to a communications network for remote monitoring.

Figure 23 SPMP-TU overview



1 Automatic Cleaning Module (ACM)	**6** Inlet ball valve
2 Service bracket	**7** Flow regulator
3 TU5300sc Turbidimeter	**8** Inlet needle valve
4 Isolation valve	**9** SC4500 Controller
5 Flow sensor	

5.2 Specifications

Specifications are subject to change without notice. The specifications that follow are for the SPMP-TU panel. Refer to the supplied user manuals for the controller and turbidimeter specifications.

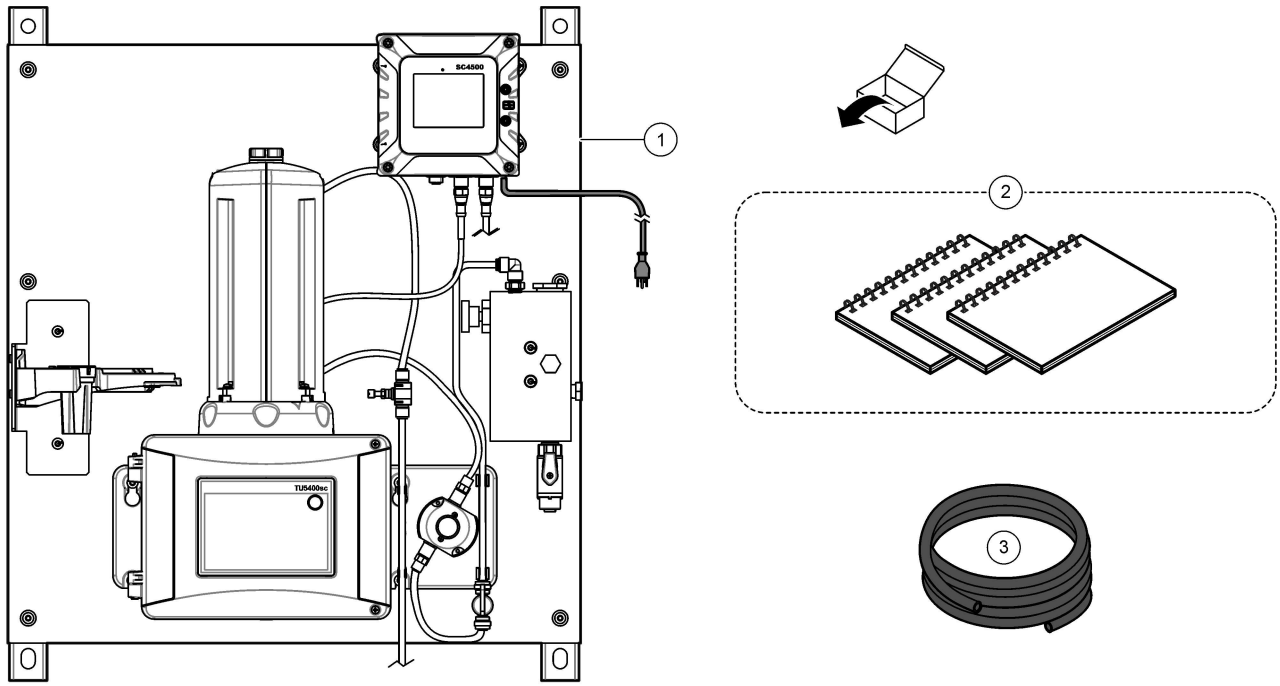
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 21.8 cm (13 x 28 x 8.6 inch)
Weight	13.8 kg (30.4 lb)
Power requirements	100–240 VAC ±10%, 50/60 Hz; maximum 1 A
Sample flow rate	100–1000 mL/minute; optimal flow rate: 200–500 mL/min
Sample pressure	517 kPa (75 psi) maximum
Sample inlet connection	¼-inch OD tube

Specification	Details
Sample waste drain connection	¼-inch OD tube
Certifications	SC4500 Controller is CE compliant and is TÜV listed to UL and CSA safety standards

5.3 Product components

Make sure that all components have been received. Refer to Figure 24. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 24 Product components



1 SPMP-TU	**3** Tubing, 0.170-inch ID × 0.250-inch OD, 3 m (10 ft)
2 Controller and turbidimeter user manuals	

5.4 Installation

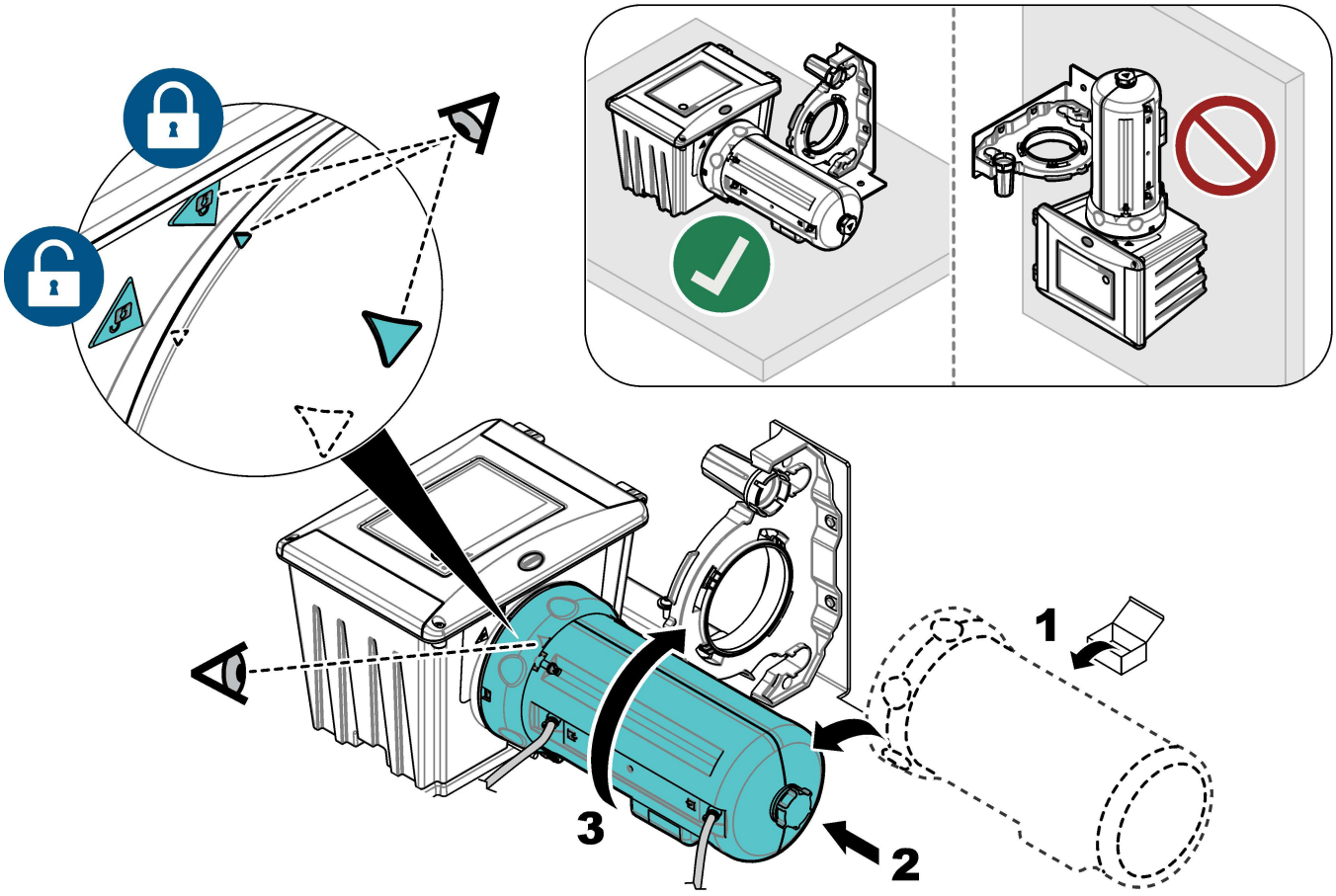
⚠ WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

5.4.1 Install the ACM on the turbidimeter

If the panel includes the Automatic Cleaning Module (ACM), install the ACM with the panel in a horizontal position before the panel is mounted vertically on a wall. Refer to Figure 25.

Figure 25 Install the ACM on the turbidimeter



5.4.2 Mounting

⚠WARNING

Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

⚠WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source.

Refer to Figure 26 for product dimensions. Refer to Figure 27 to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 26 Product dimensions

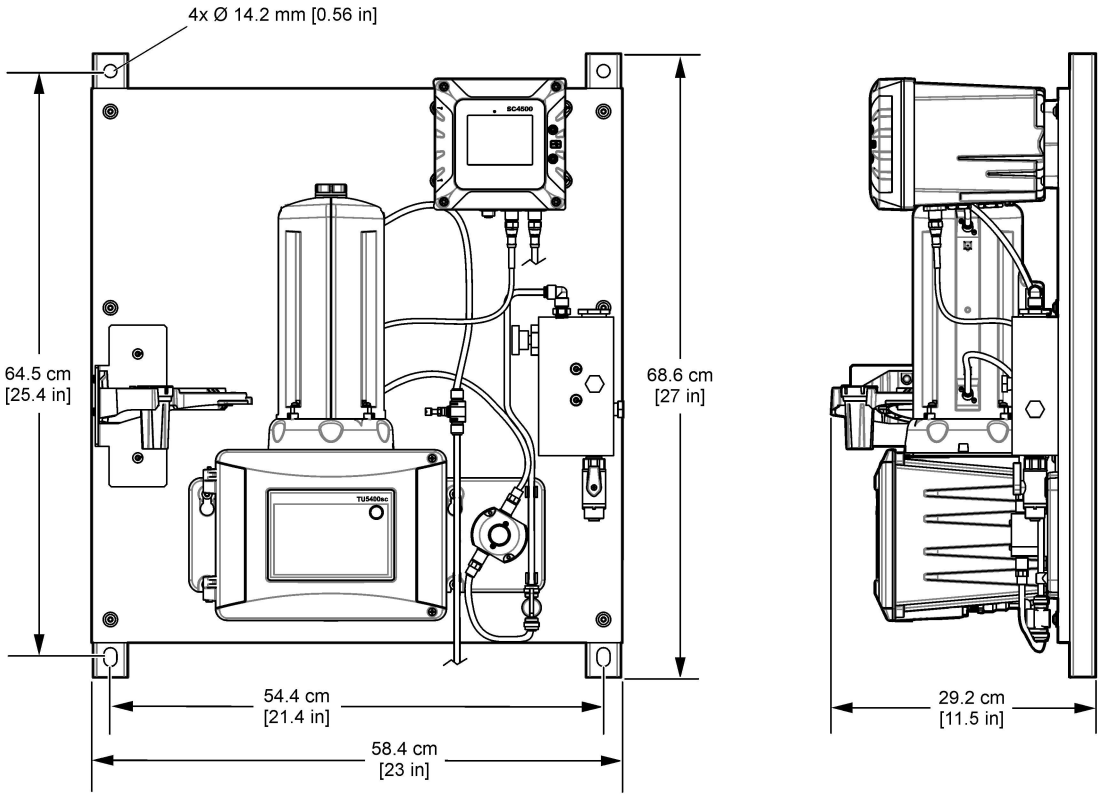
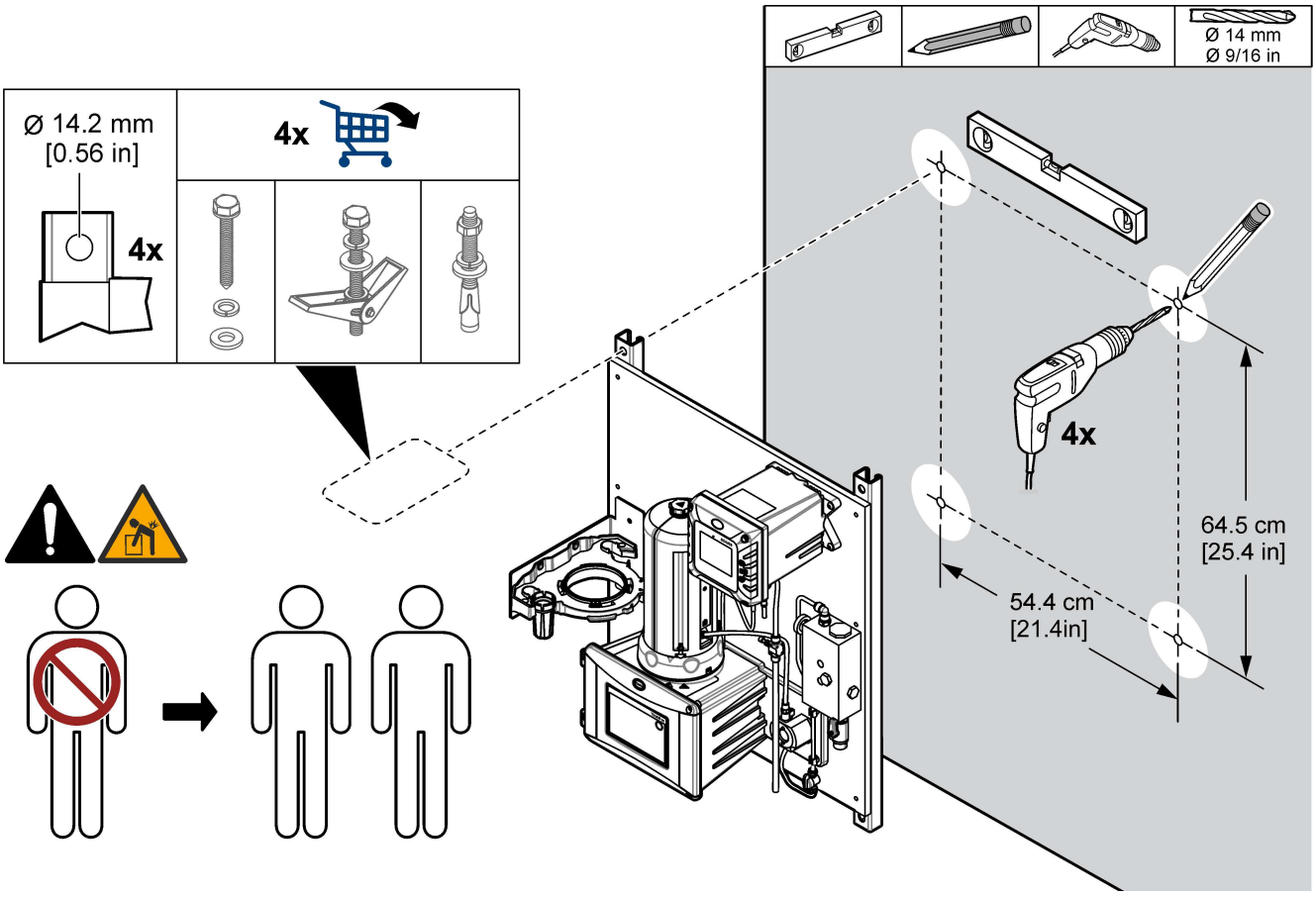


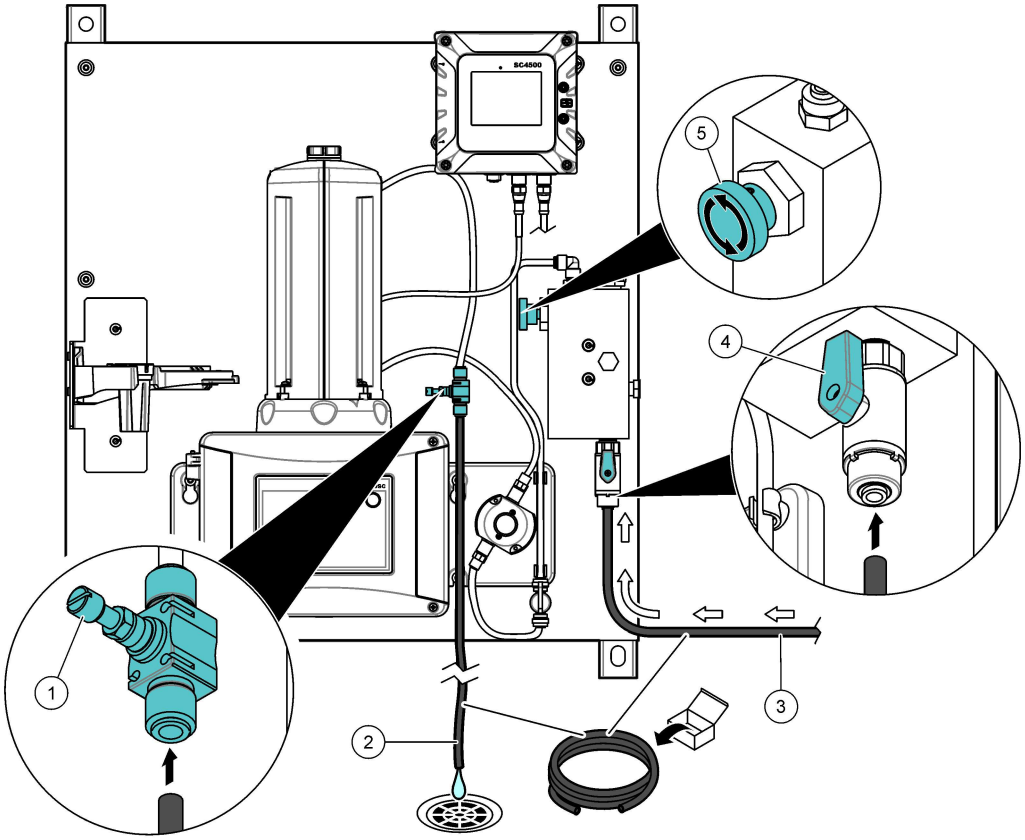
Figure 27 Hang the panel on a wall



5.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in Figure 28. Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 28 Sample and drain connections



1 Flow regulator	**3** Sample tubing	**5** Inlet needle valve
2 Drain tubing	**4** Inlet ball valve	**6** Drain valve for bubble control

5.5 Startup

Make sure that all of the plumbing connections are complete before startup.

1. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 31.
2. Examine the plumbing for fluid leaks. Stop the leaks if found.
3. Apply power to the controller. Refer to Figure 29. The display light comes on. The connected sensor shows on the display.

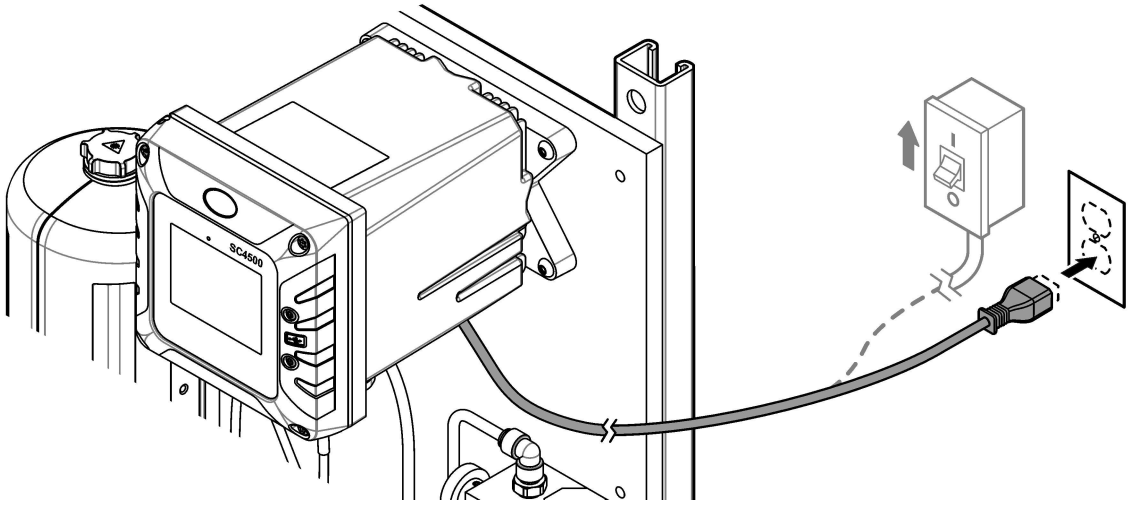
   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*
4. Set the flow rate as follows:

   a. Measure the flow rate with the flow regulator fully open. Make sure that the flow rate is in the middle of the flow specification. Refer to Specifications on page 31.

   b. Slowly close the flow regulator until the flow decreases by 20 to 30%.

   Note: *The flow regulator causes back pressure in the tubing and decreases the quantity of bubbles that can form in the vial.*
5. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 29 Apply power



5.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples to make sure that the measurements are accurate.

5.7 Replacement parts and accessories

Note: *Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.*

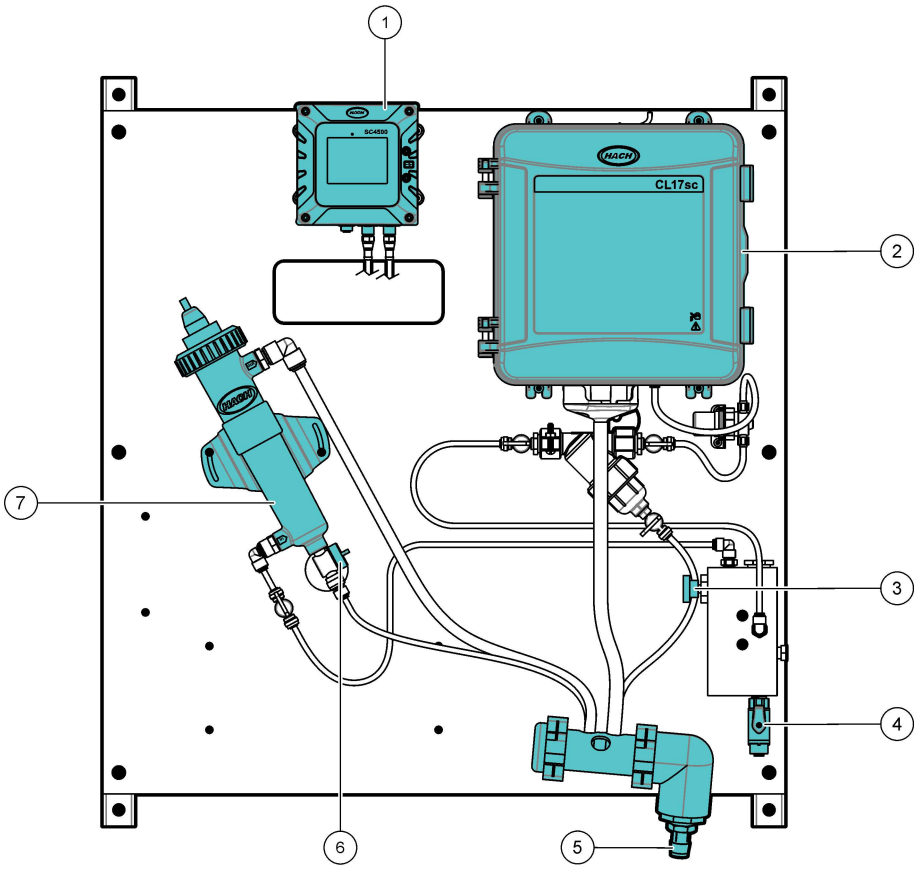
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 6 DPMP-CLPHD

6.1 Product overview

The Dual Parameter Monitoring Panel for chlorine and pH (DPMP-CLPHD) is a chlorine analyzer and pH sensor that are plumbed and installed on a panel. Refer to Figure 30. The controller on the panel sends the data to a communications network for remote monitoring.

Figure 30 DPMP-CLPHD overview



1 SC4500 Controller	**5** Drain manifold
2 CL17sc chlorine analyzer	**6** Maintenance drain valve
3 Inlet needle valve	**7** Flow cell with pH sensor
4 Inlet ball valve	

6.2 Specifications

Specifications are subject to change without notice. The specifications that follow are for the DPMP-CLPHD panel. Refer to the supplied user manuals for the controller, analyzer and sensor specifications.

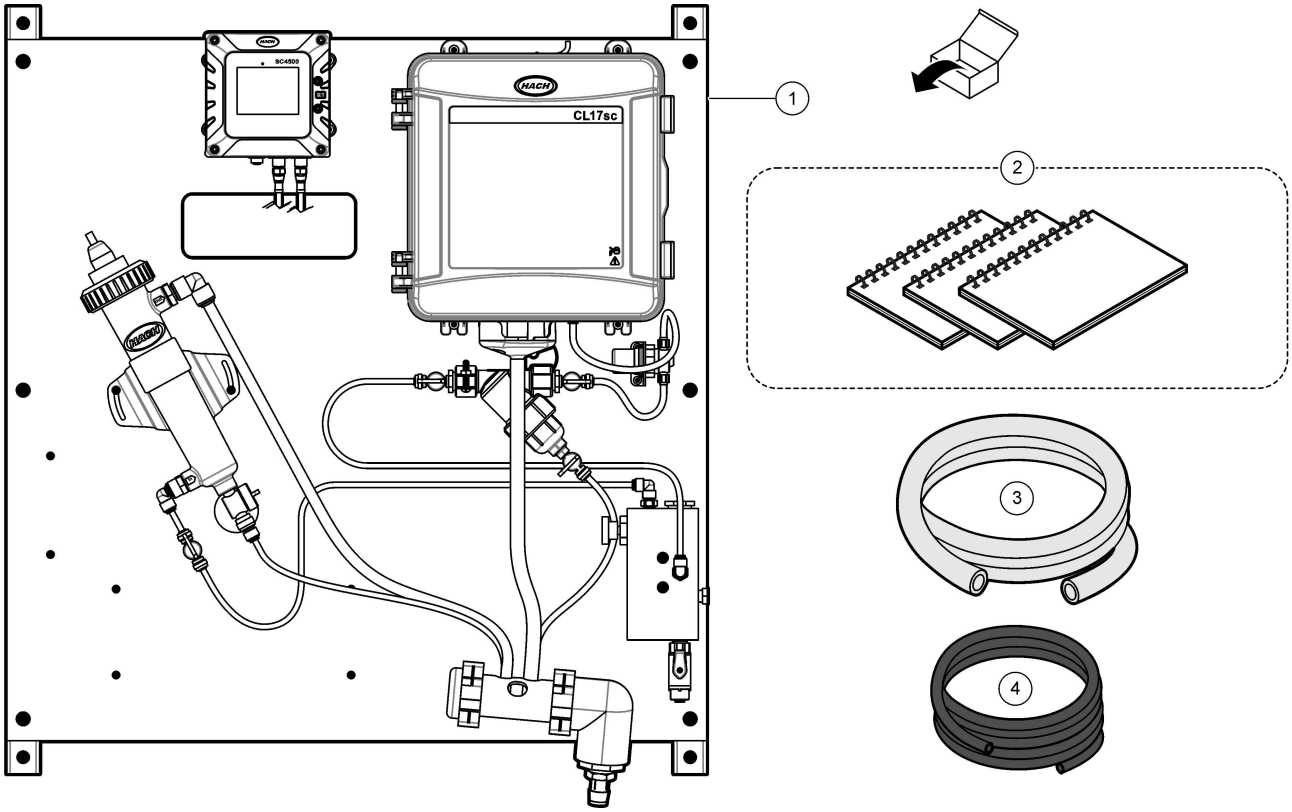
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 21.8 cm (13 x 28 x 8.6 inch)
Weight	19.3 kg (42.5 lb)
Power requirements	100–240 VAC ±10%, 50/60 Hz; maximum 1 A
Sample flow rate	600 to 800 mL/min
Sample pressure	31 to 517 kPa (4.5 to 75 psi)

Specification	Details
Sample inlet connection	¼-inch OD tube
Sample waste drain connection	¼-inch OD tube
Certifications	SC4500 Controller is CE compliant and is TÜV listed to UL and CSA safety standards

6.3 Product components

Make sure that all components have been received. Refer to Figure 31. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 31 Product components



1 DPMP-CLPHD	**3** Tubing, drain, ¾-inch ID × 1-inch OD, 1.8 m (6 ft)
2 User manuals	**4** Tubing, 0.170-inch ID × 0.250-inch OD, 3 m (10 ft)

6.4 Installation

⚠WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

6.4.1 Mounting

⚠WARNING

Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

⚠WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source. Refer to Figure 32 for product dimensions. Refer to Figure 33 to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 32 Product dimensions

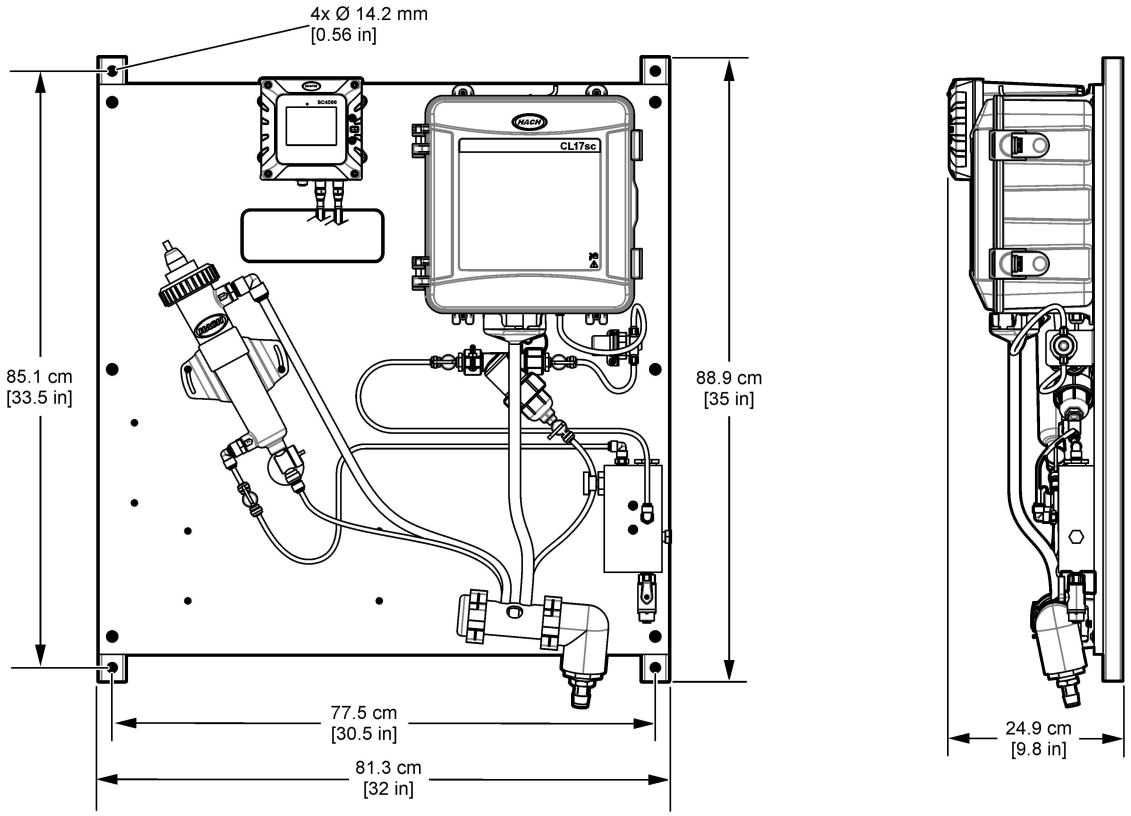
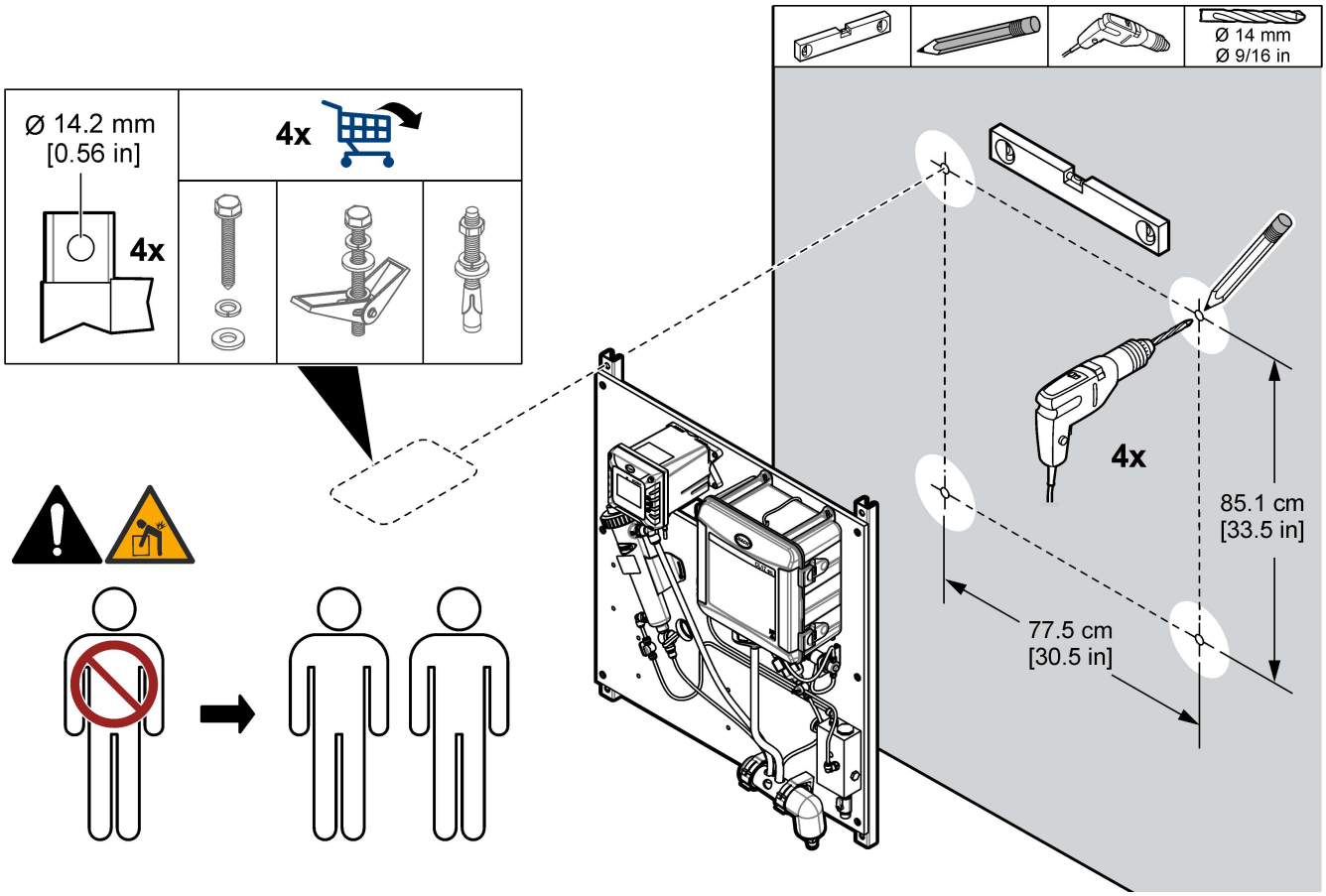


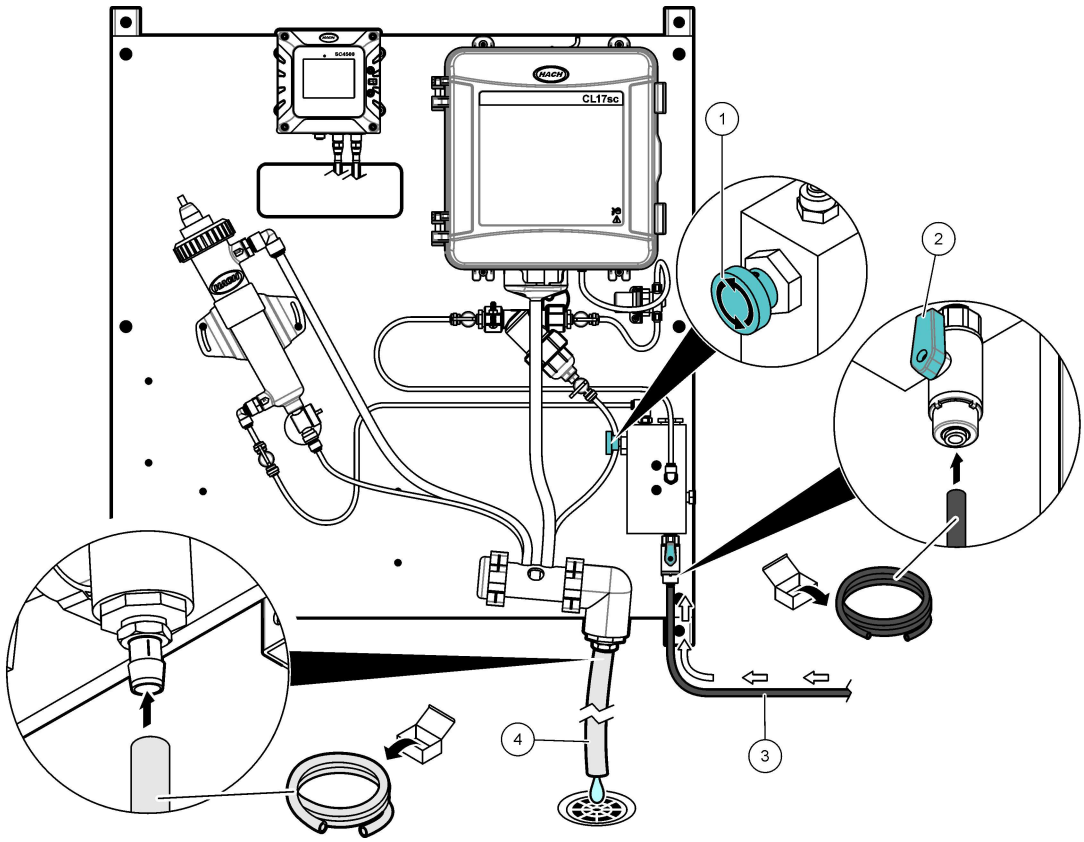
Figure 33 Hang the panel on a wall



6.4.2 Install the sample and drain lines

Install the sample and drain tubing as shown in Figure 34. Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 34 Sample and drain connections



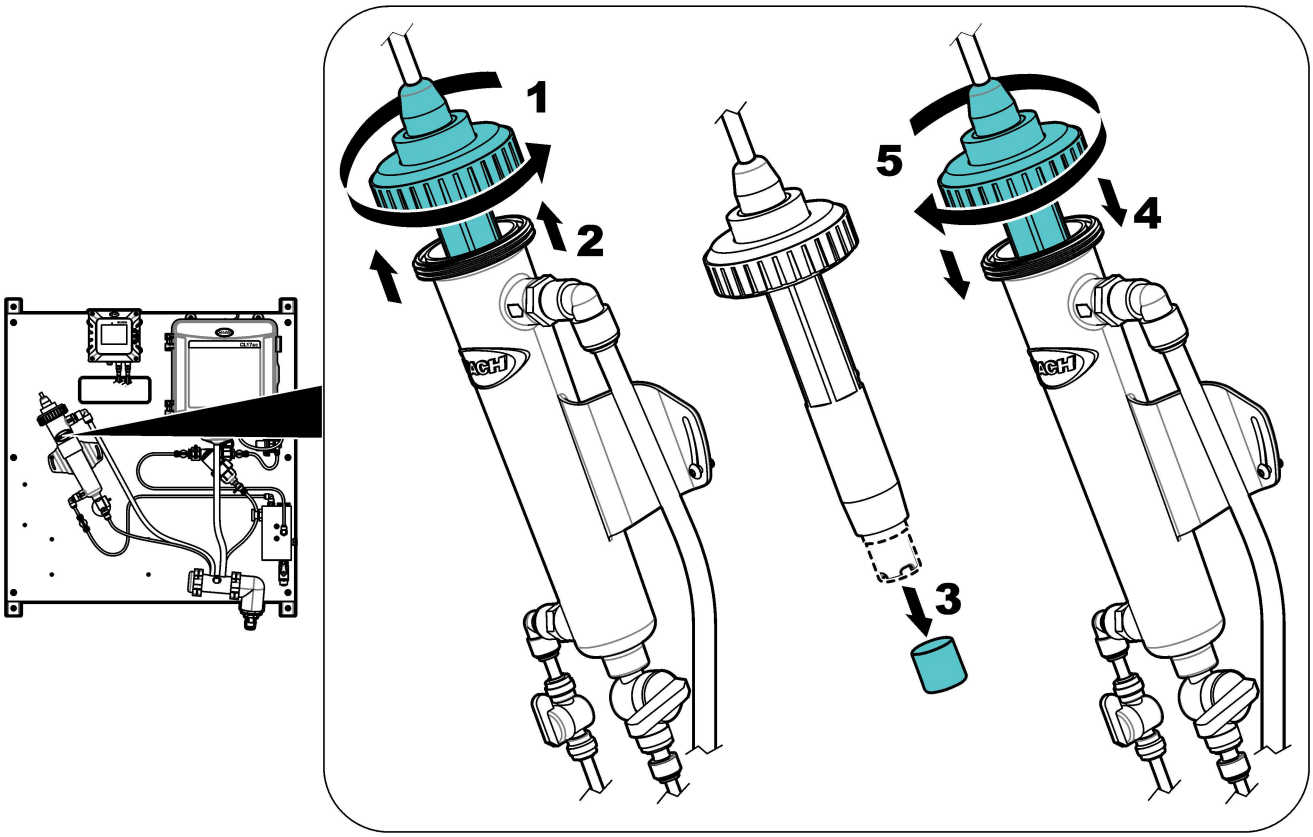
1 Inlet needle valve	**3** Sample tubing
2 Inlet ball valve	**4** Drain tubing

6.4.3 Remove the cap from the pH sensor

Remove the protective cap from the pH sensor before startup. Refer to Figure 35.

Note: *During cold weather, the manufacturer may send the pH sensor in a different package.*

Figure 35 Remove the cap from the pH sensor



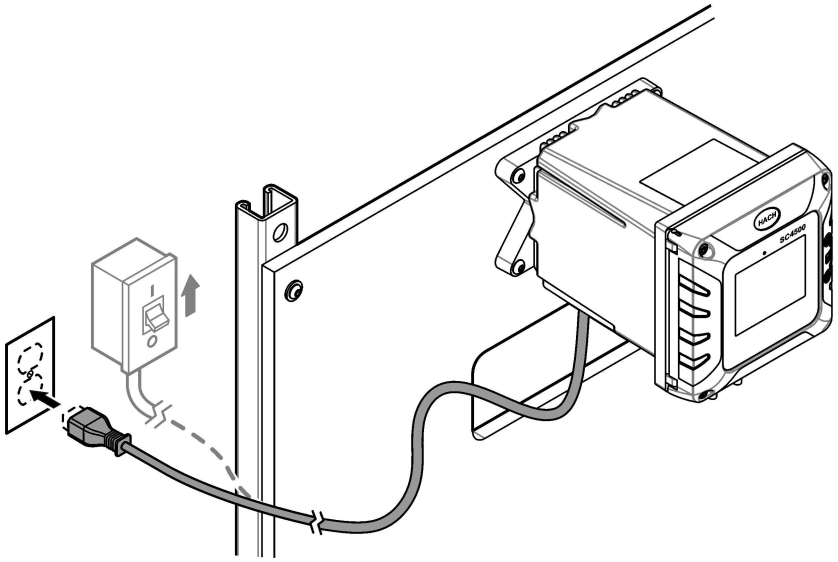
6.5 Startup

Make sure that all of the plumbing connections are complete before startup.

1. Install the reagents and stir bar in the CL17sc analyzer. Refer to the CL17sc chlorine analyzer user manual.
2. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 37.
3. Examine the plumbing for fluid leaks. Stop the leaks if found.
4. Apply power to the controller. Refer to Figure 36. The display light comes on. The analyzer shows on the display.

   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*
5. Start the prime operation for the chlorine anaylzer reagents. Refer to the CL17sc chlorine analyzer user manual for instructions.
6. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 36 Apply power



6.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples to make sure that the measurements are accurate.

6.7 Replacement parts and accessories

Note: *Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.*

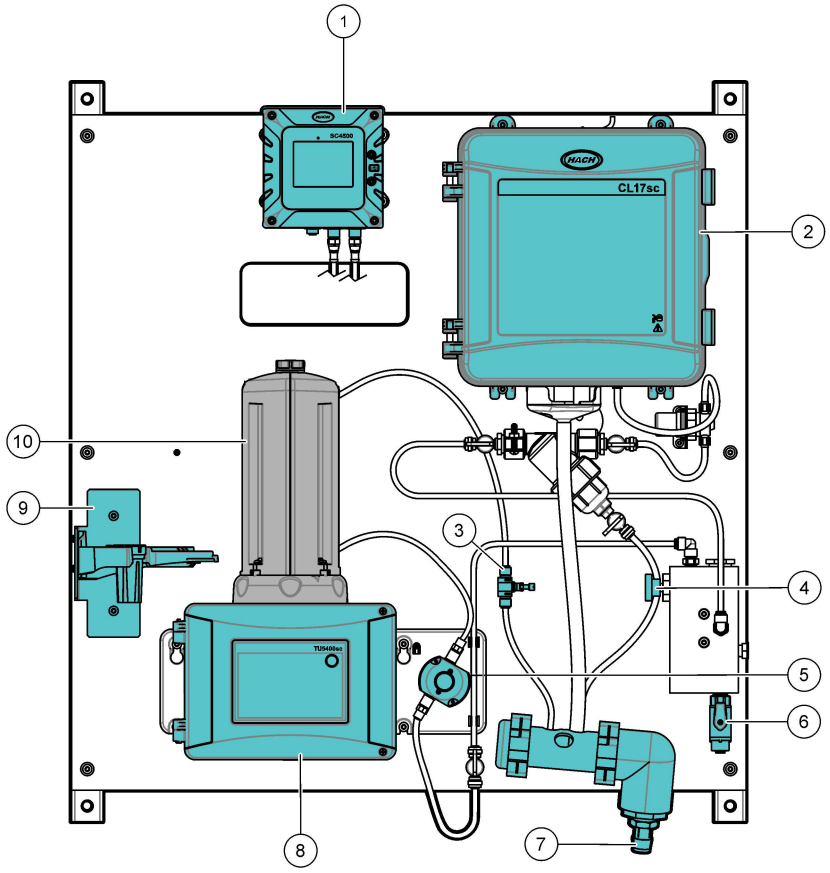
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 7 DPMP-CLTU

7.1 Product overview

The Dual Parameter Monitoring Panel for chlorine and turbidity (DPMP-CLTU) is a chlorine analyzer and turbidimeter that are plumbed and installed on a panel. Refer to Figure 37. The controller on the panel sends the data to a communications network for remote monitoring.

Figure 37 DPMP-CLTU overview



1 SC4500 Controller	**6** Inlet ball valve
2 CL17sc chlorine analyzer	**7** Drain manifold
3 Flow regulator	**8** TU5300sc Turbidimeter
4 Inlet needle valve	**9** Service bracket
5 Flow sensor	**10** Automatic Cleaning Module (ACM)

7.2 Specifications

Specifications are subject to change without notice. The specifications that follow are for the DPMP-CLTU panel. Refer to the supplied user manuals for the controller, analyzer and turbidimeter specifications.

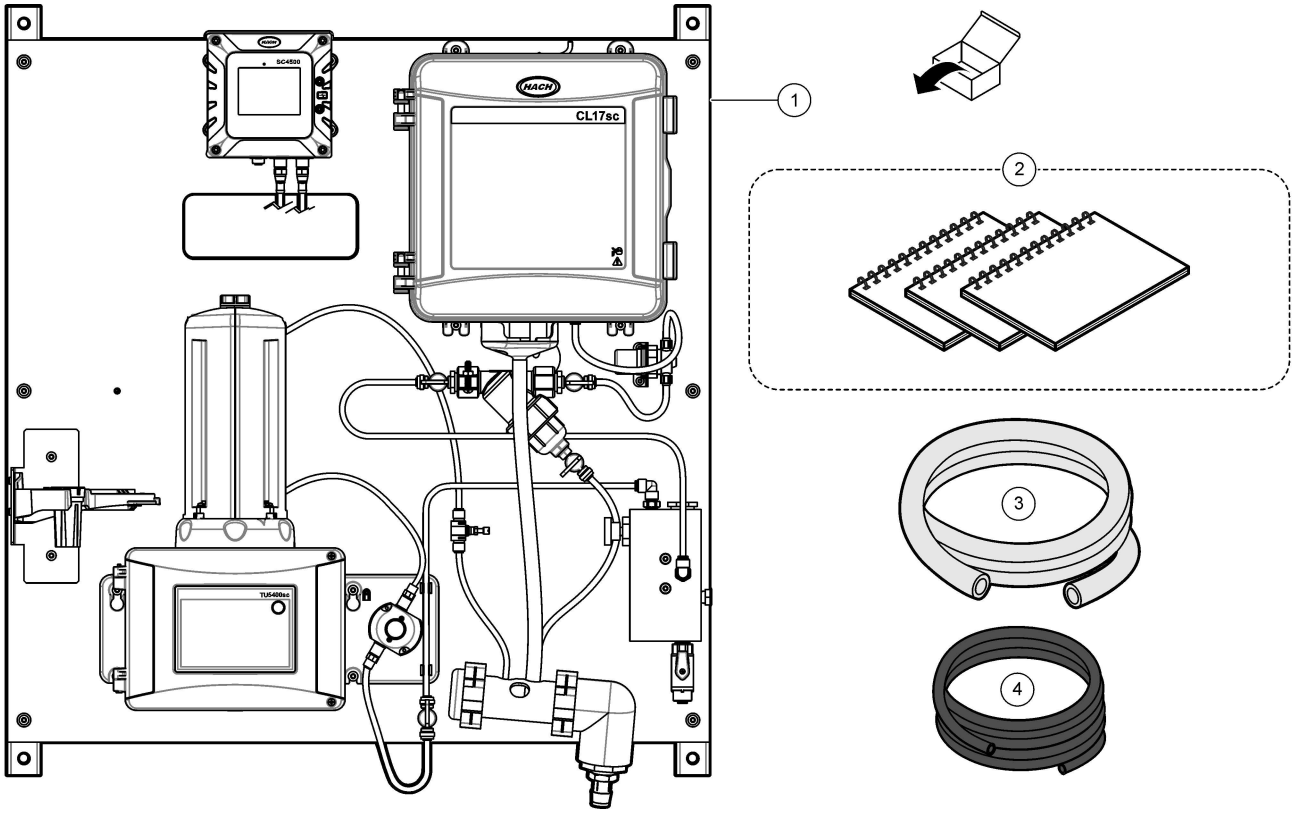
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 21.8 cm (13 x 28 x 8.6 inch)
Weight	22.5 kg (49.5 lb)
Power requirements	100–240 VAC ±10%, 50/60 Hz; maximum 1 A
Sample flow rate	200 to 1000 mL/min

Specification	Details
Sample pressure	31 to 517 kPa (4.5 to 75 psi)
Sample inlet connection	¼-inch OD tube
Sample waste drain connection	¾-inch ID hose barb
Certifications	SC4500 Controller is CE compliant and is TÜV listed to UL and CSA safety standards

7.3 Product components

Make sure that all components have been received. Refer to Figure 38. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 38 Product components



1 DPMP-CLTU	**3** Tubing, drain, ¾-inch ID × 1-inch OD, 1.8 m (6 ft)
2 User manuals	**4** Tubing, 0.170-inch ID × 0.250-inch OD, 3 m (10 ft)

7.4 Installation

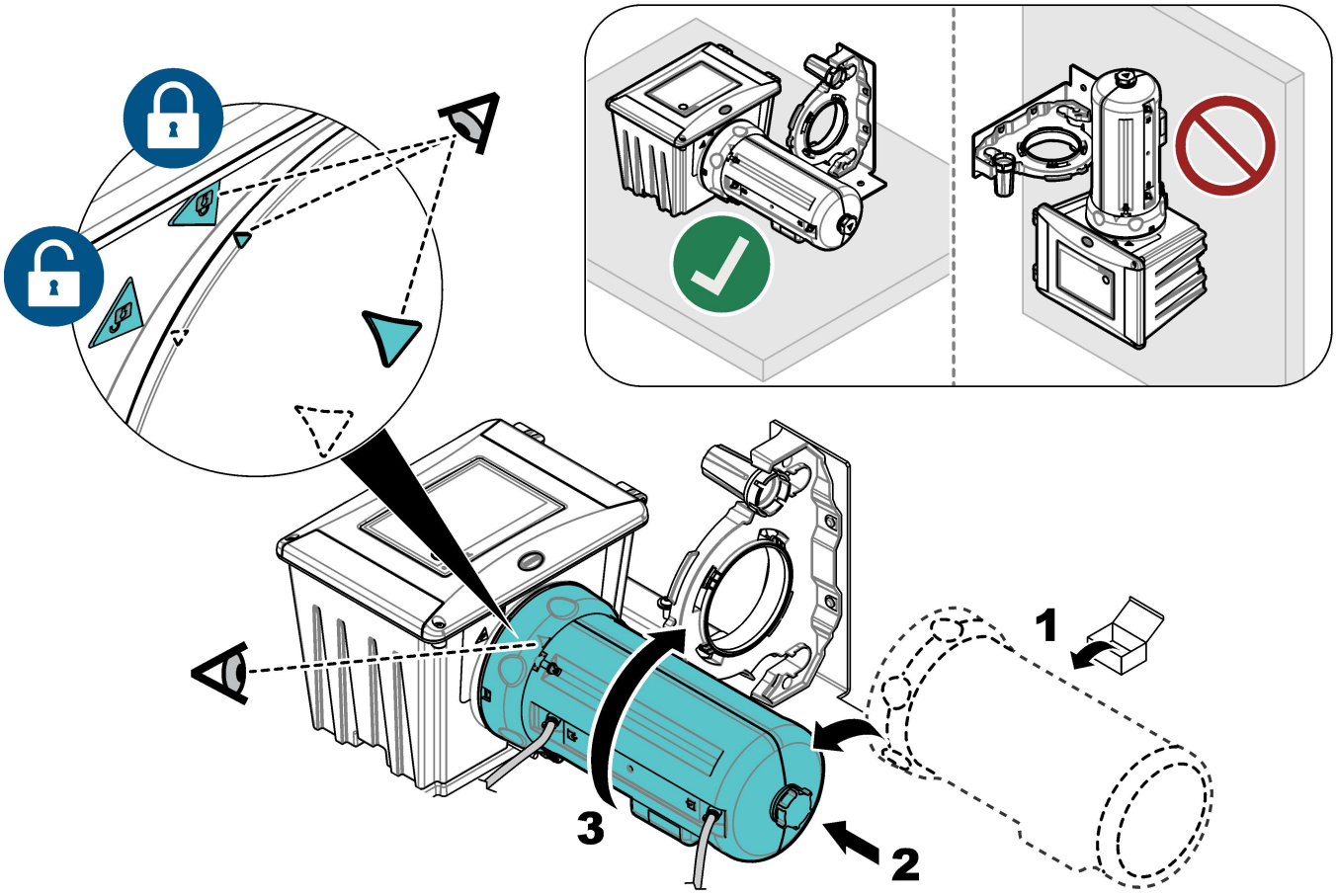
⚠ WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

7.4.1 Install the ACM on the turbidimeter

If the panel includes the Automatic Cleaning Module (ACM), install the ACM with the panel in a horizontal position before the panel is mounted vertically on a wall. Refer to Figure 39.

Figure 39 Install the ACM on the turbidimeter



7.4.2 Mounting

⚠WARNING

Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

⚠WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source. Refer to Figure 40 for product dimensions. Refer to Figure 41 to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 40 Product dimensions

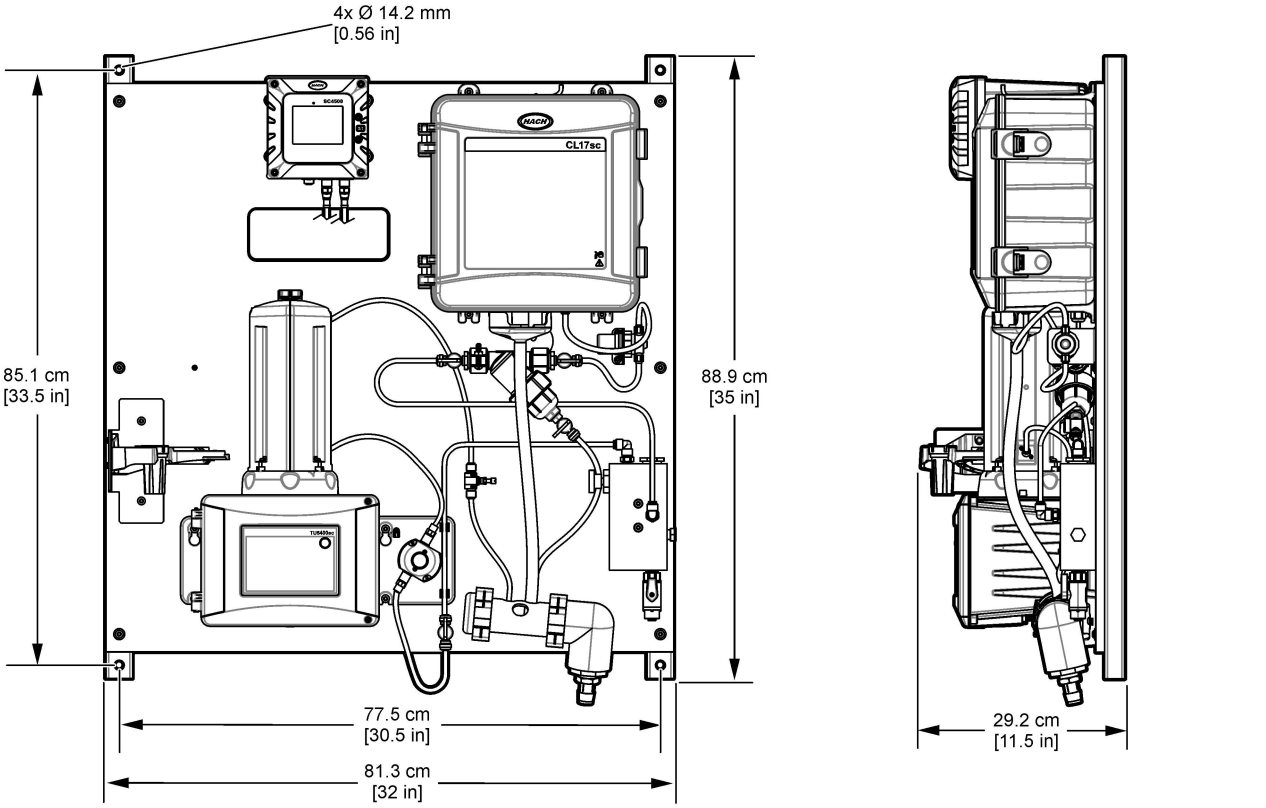
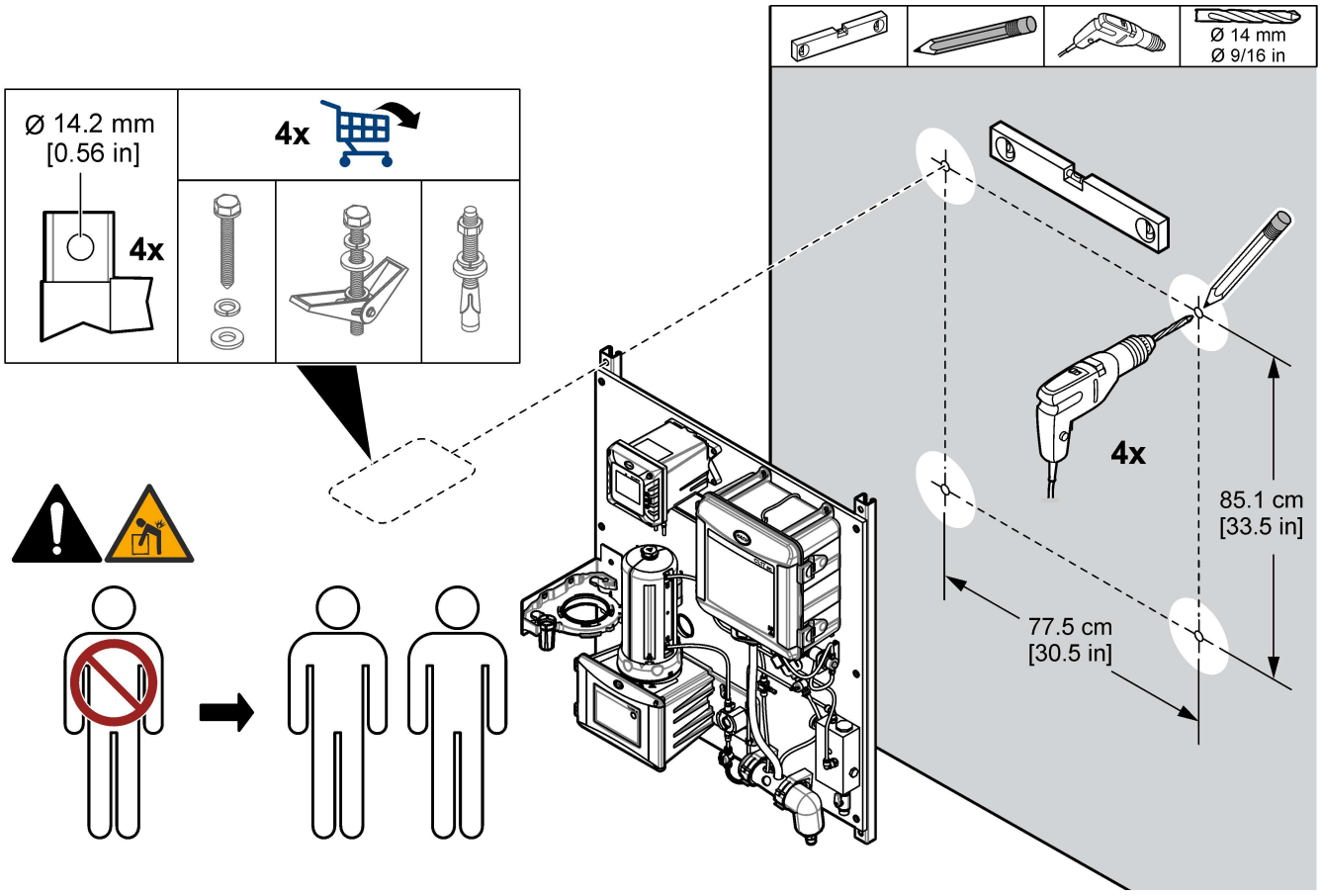


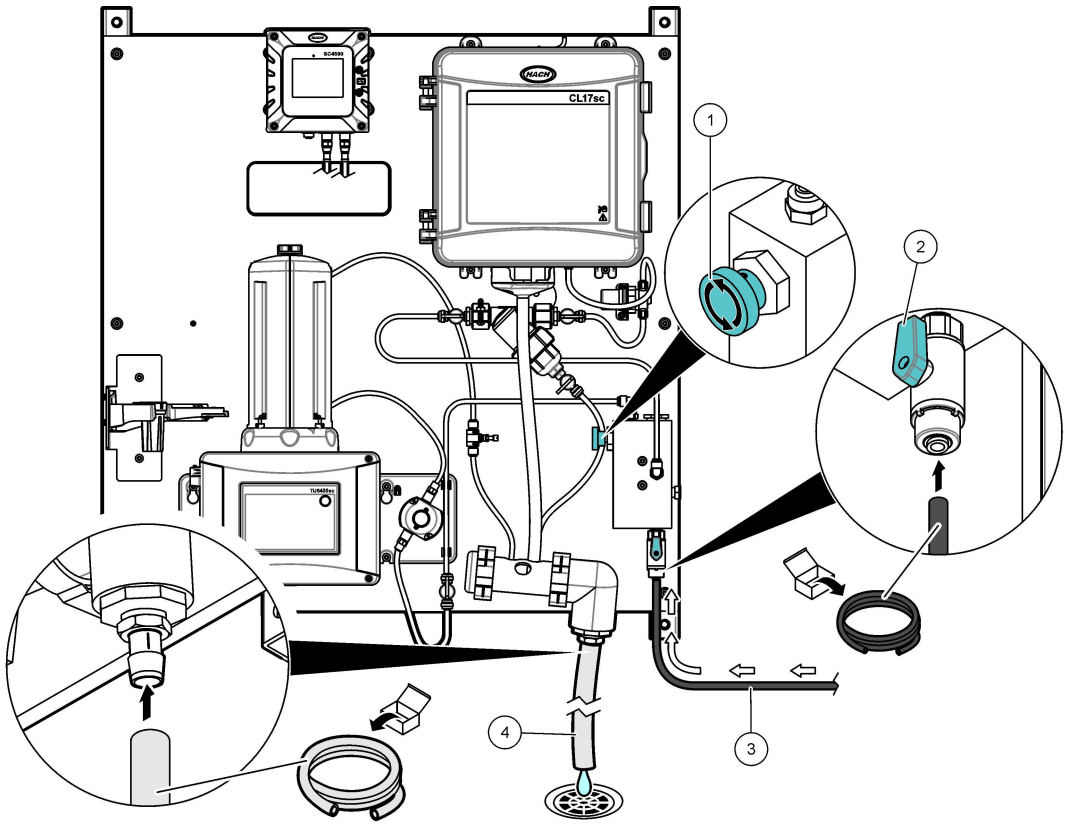
Figure 41 Hang the panel on a wall



7.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in Figure 42. Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 42 Sample and drain connections



1 Inlet needle valve	**3** Sample tubing
2 Inlet ball valve	**4** Drain tubing

7.5 Startup

Make sure that all of the plumbing connections are complete before startup.

1. Install the reagents and stir bar in the CL17sc analyzer. Refer to the CL17sc chlorine analyzer user manual.
2. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 45.
3. Examine the plumbing for fluid leaks. Stop the leaks if found.
4. Apply power to the controller. Refer to Figure 43. The display light comes on. The connected sensor shows on the display.

   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*
5. Set the flow rate as follows:

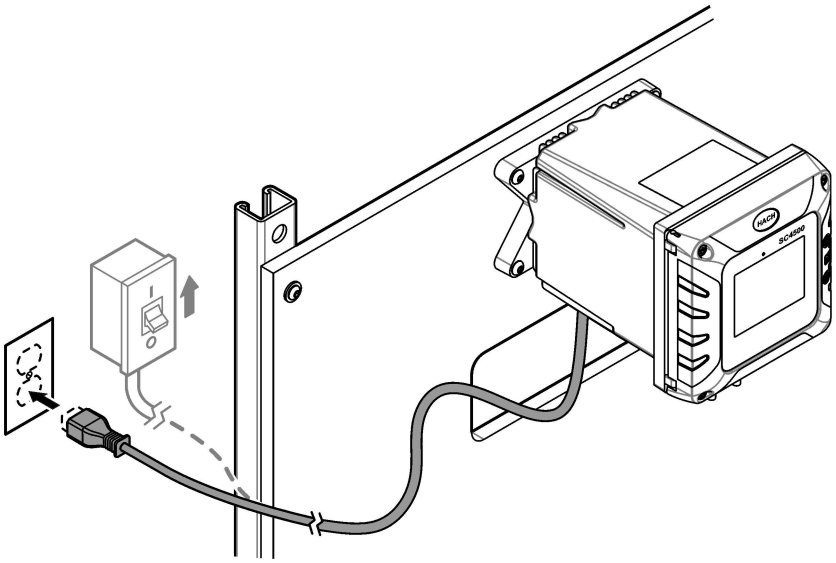
   a. Measure the flow rate with the flow regulator fully open. Make sure that the flow rate is in the middle of the flow specification. Refer to Specifications on page 45.

   b. Slowly close the flow regulator until the flow decreases by 20 to 30%.

   Note: *The flow regulator causes back pressure in the tubing and decreases the quantity of bubbles that can form in the vial.*

6. Start the prime operation for the chlorine anaylzer reagents. Refer to the CL17sc chlorine analyzer user manual for instructions.
7. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 43 Apply power



7.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples to make sure that the measurements are accurate.

7.7 Replacement parts and accessories

Note: *Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.*

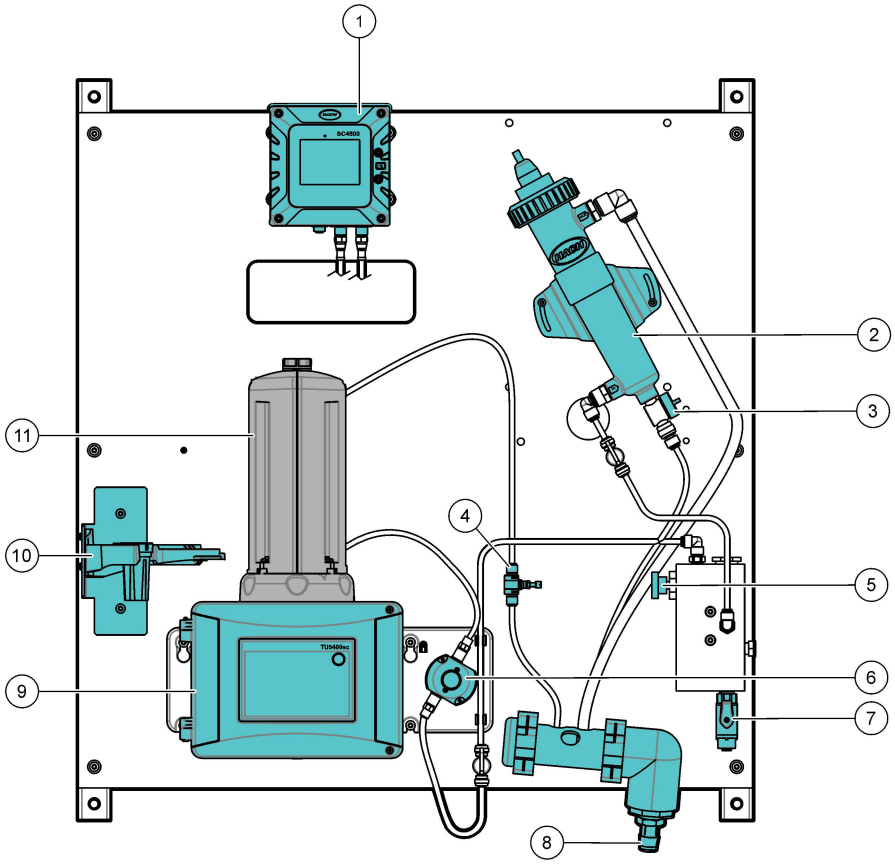
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 8 DPMP-TUPHD

8.1 Product overview

The Dual Parameter Monitoring Panel for turbidity and pH (DPMP-TUPHD) is a turbidimeter and pH sensor that are plumbed and installed on a panel. Refer to Figure 44. The controller on the panel sends the data to a communications network for remote monitoring.

Figure 44 DPMP-TUPHD overview



1 SC4500 Controller	**7** Inlet ball valve
2 Flow cell with pH sensor	**8** Drain manifold
3 Maintenance drain valve	**9** TU5300sc Turbidimeter
4 Flow regulator	**10** Service bracket
5 Inlet needle valve	**11** Automatic Cleaning Module (ACM)
6 Flow sensor	

8.2 Specifications

Specifications are subject to change without notice. The specifications that follow are for the DPMP-TUPHD panel. Refer to the supplied user manuals for the controller, turbidimeter and sensor specifications.

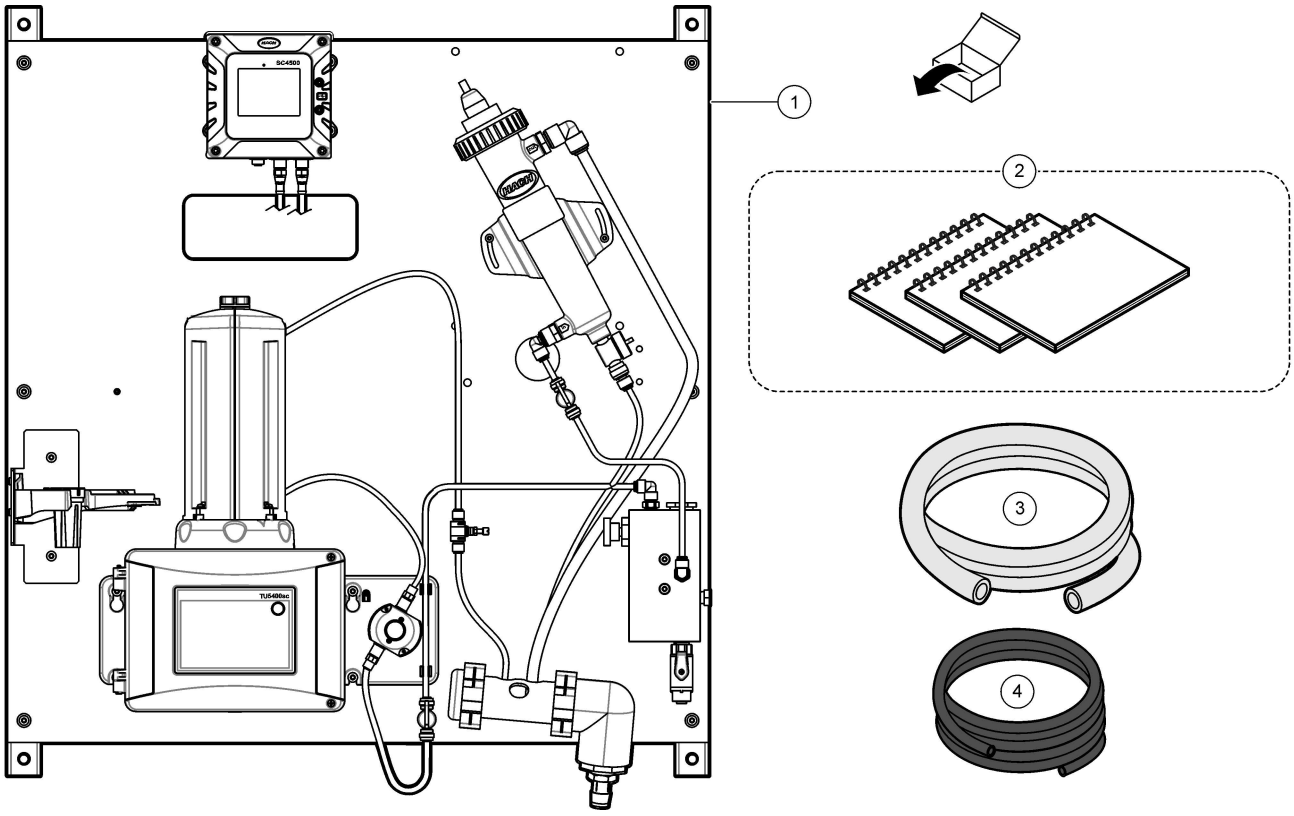
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 29.2 cm (13 x 28 x 11.5 inch)
Weight	22.5 kg (49.5 lb)
Power requirements	100–240 VAC ±10%, 50/60 Hz; maximum 1 A

Specification	Details
Sample flow rate	500 to 2000 mL/min
Sample pressure	31 to 517 kPa (4.5 to 75 psi)
Sample inlet connection	¼-inch OD tube
Sample waste drain connection	¾-inch ID hose barb
Certifications	SC4500 Controller is CE compliant and is TÜV listed to UL and CSA safety standards

8.3 Product components

Make sure that all components have been received. Refer to Figure 45. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 45 Product components



1 DPMP-TUPHD	**3** Tubing, drain, ¾-inch ID × 1-inch OD, 1.8 m (6 ft)
2 User manuals	**4** Tubing, 0.170-inch ID × 0.250-inch OD, 3 m (10 ft)

8.4 Installation

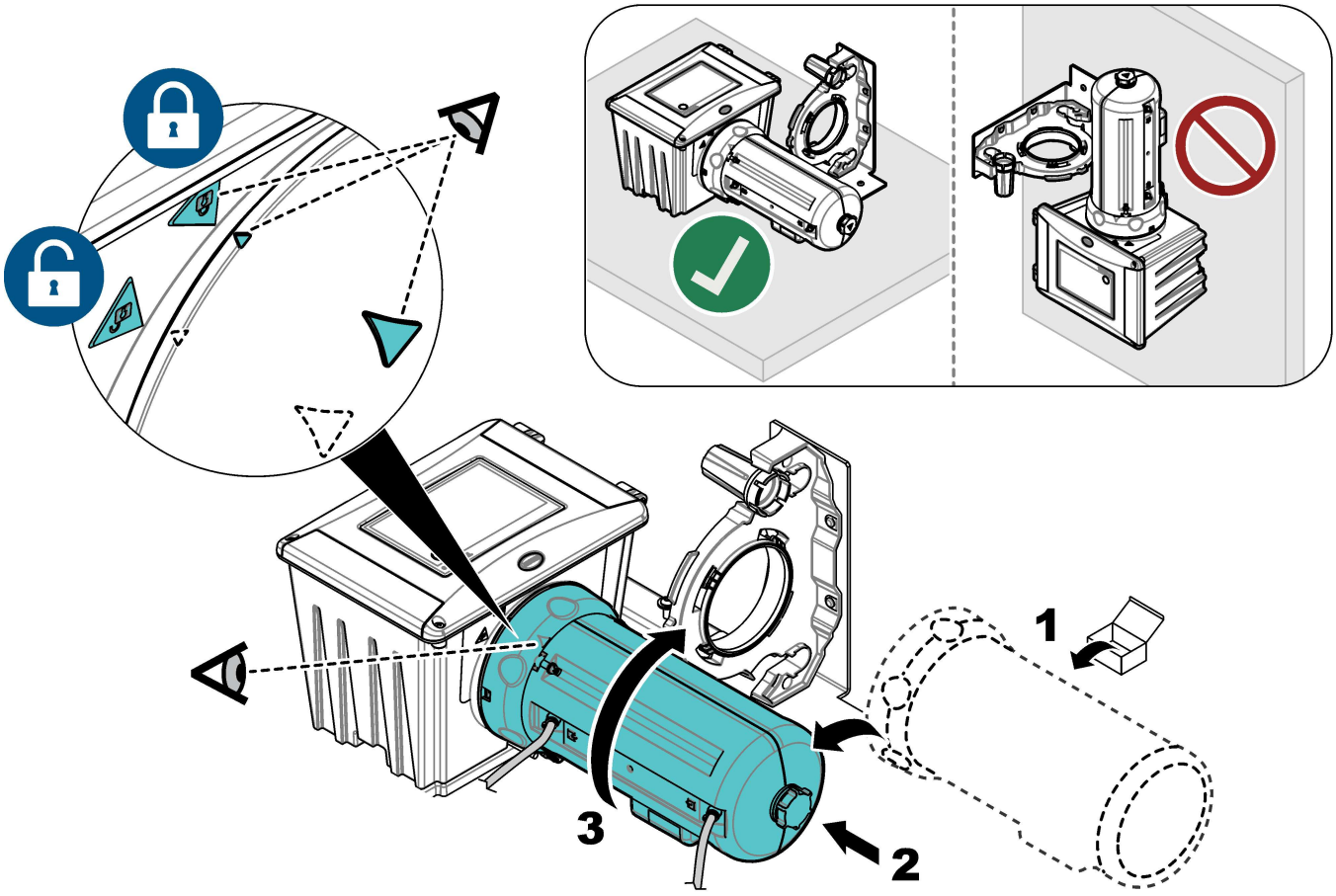
⚠ WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

8.4.1 Install the ACM on the turbidimeter

If the panel includes the Automatic Cleaning Module (ACM), install the ACM with the panel in a horizontal position before the panel is mounted vertically on a wall. Refer to Figure 46.

Figure 46 Install the ACM on the turbidimeter



8.4.2 Mounting

⚠WARNING

Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

⚠WARNING

Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source. Refer to Figure 47 for product dimensions. Refer to Figure 48 to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 47 Product dimensions

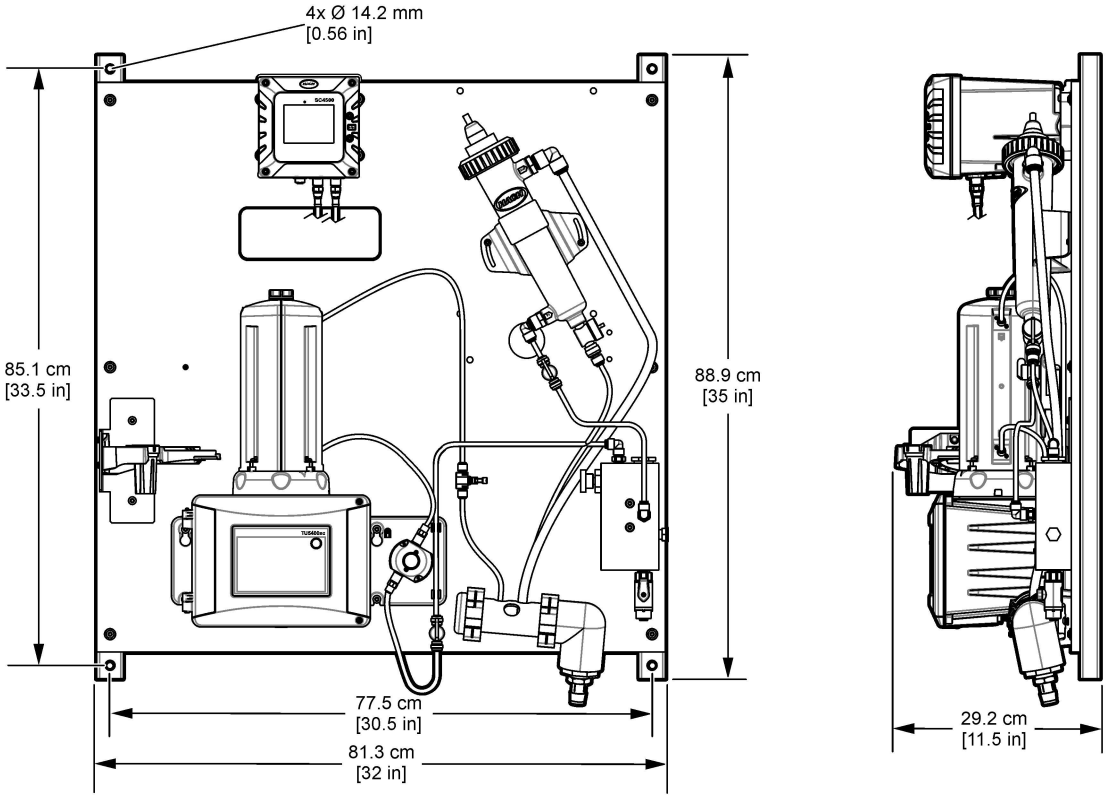
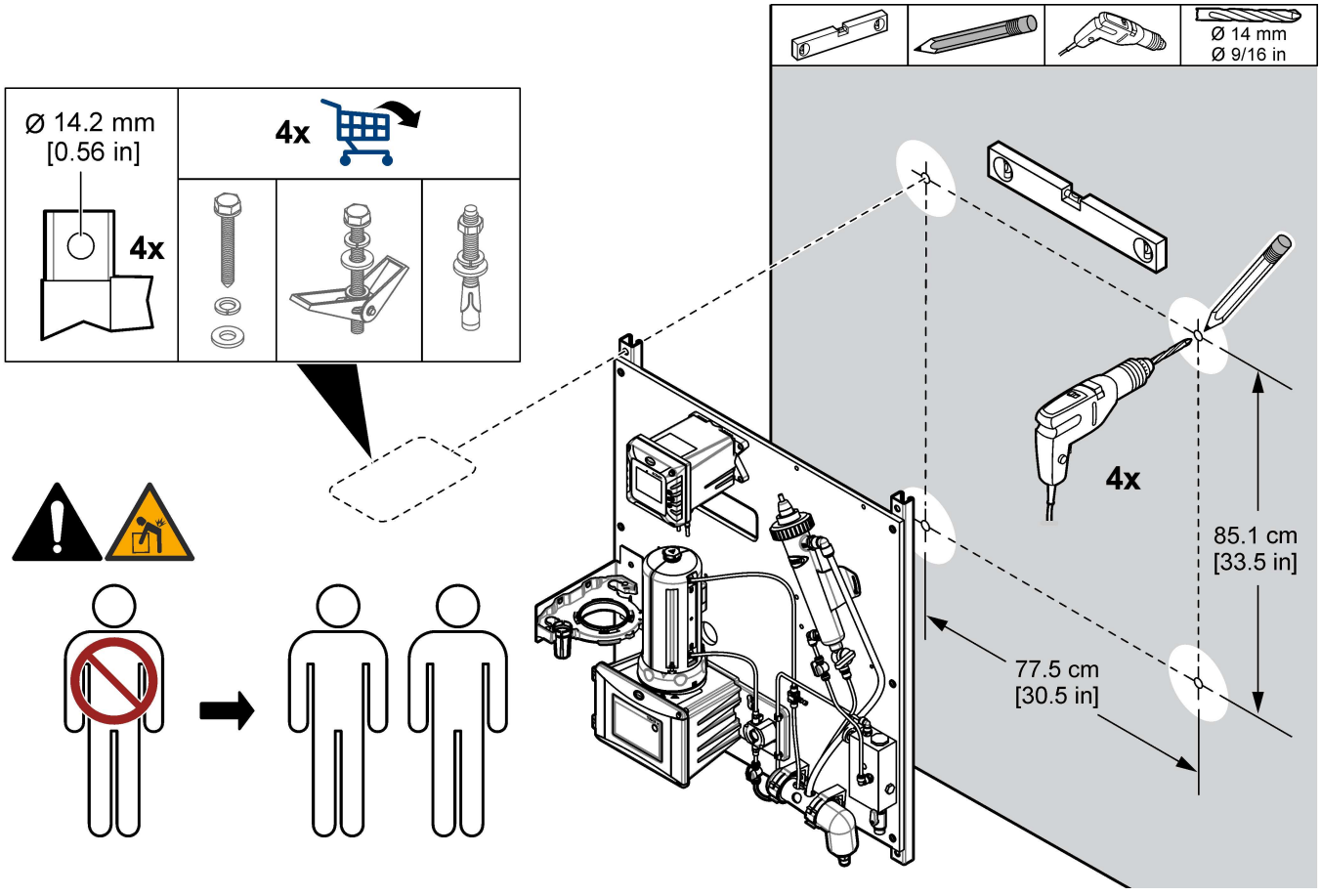


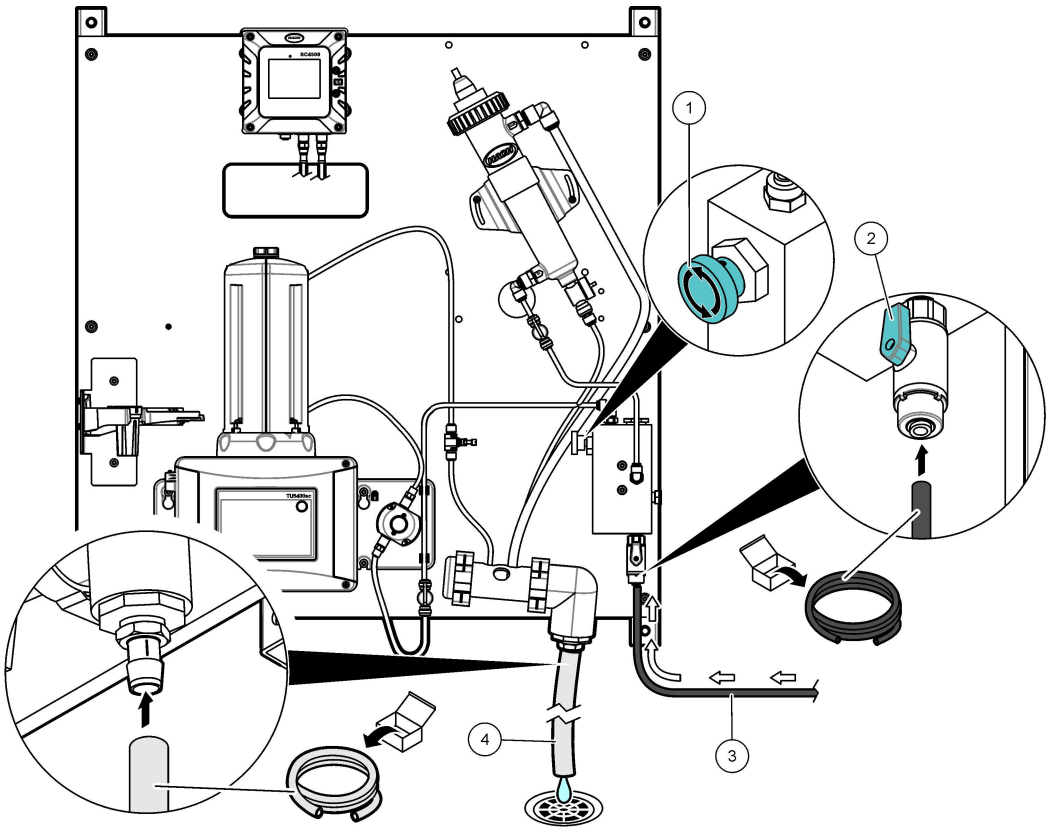
Figure 48 Hang the panel on a wall



8.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in Figure 49. Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 49 Sample and drain connections



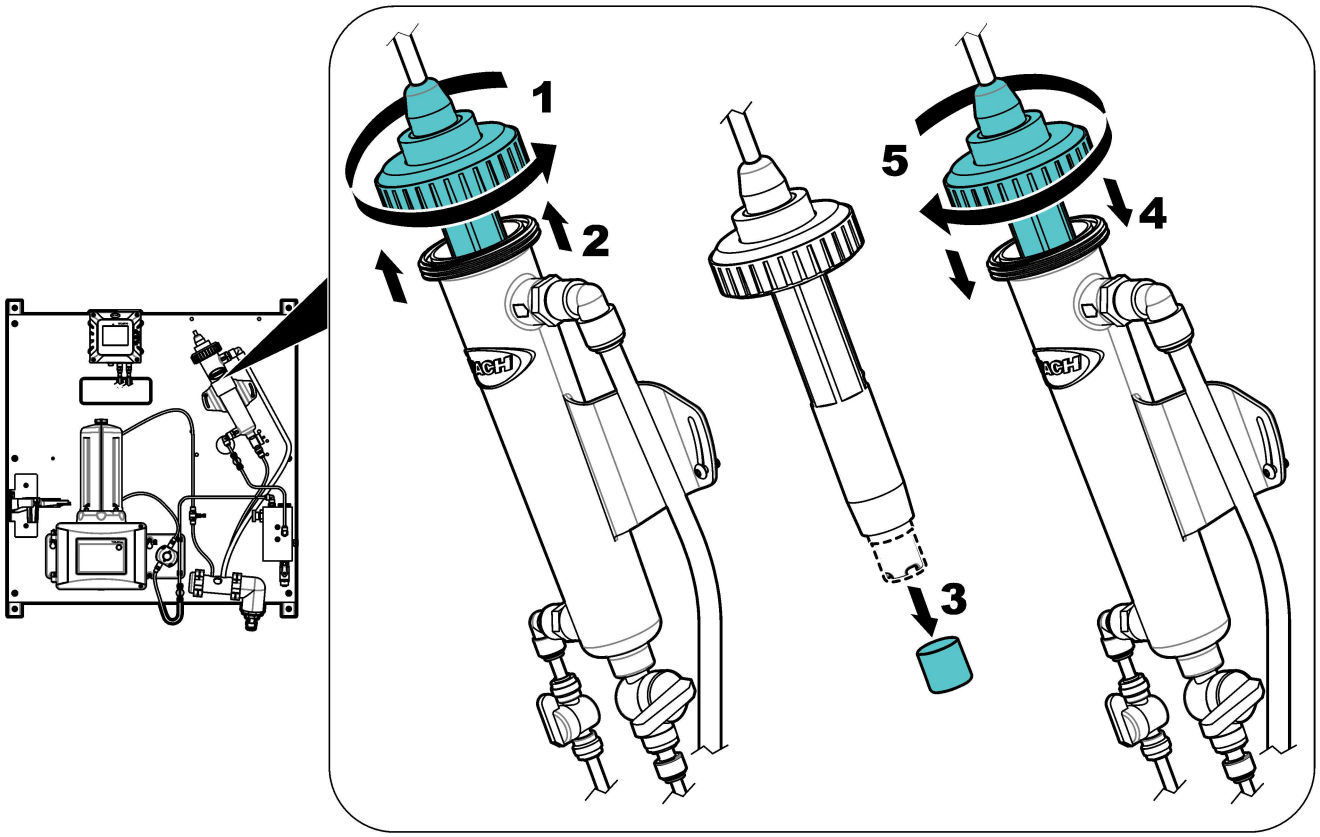
1 Inlet needle valve	**3** Sample tubing
2 Inlet ball valve	**4** Drain tubing

8.4.4 Remove the cap from the pH sensor

Remove the protective cap from the pH sensor before startup. Refer to Figure 50.

Note: *During cold weather, the manufacturer may send the pH sensor in a different package.*

Figure 50 Remove the cap from the pH sensor



8.5 Startup

Make sure that all of the plumbing connections are complete before startup.

1. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 51.
2. Examine the plumbing for fluid leaks. Stop the leaks if found.
3. Apply power to the controller. Refer to Figure 51. The display light comes on. The connected sensor shows on the display.

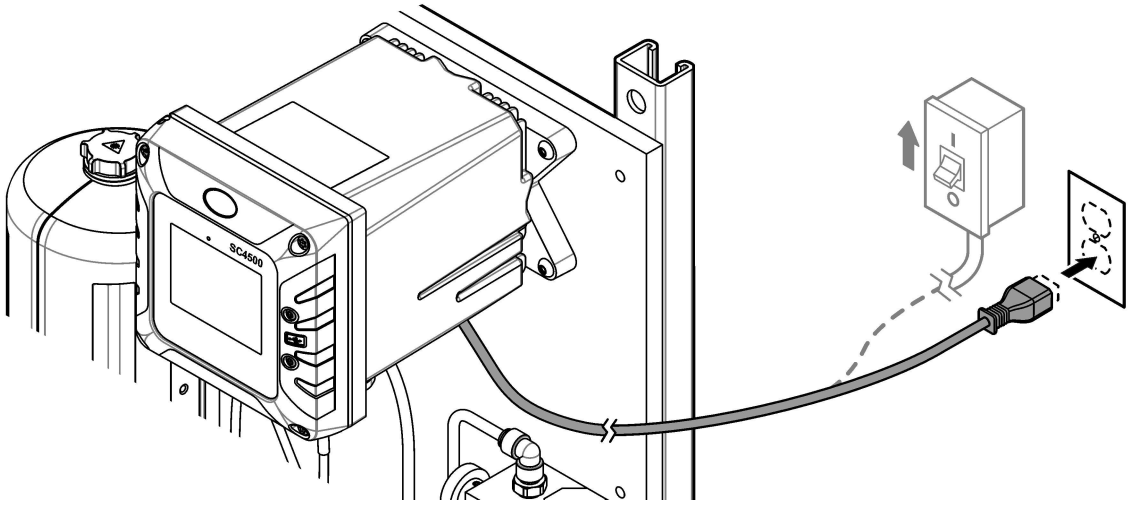
   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*
4. Set the flow rate as follows:

   a. Measure the flow rate with the flow regulator fully open. Make sure that the flow rate is in the middle of the flow specification. Refer to Specifications on page 51.

   b. Slowly close the flow regulator until the flow decreases by 20 to 30%.

      Note: *The flow regulator causes back pressure in the tubing and decreases the quantity of bubbles that can form in the vial.*
5. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 51 Apply power



8.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples to make sure that the measurements are accurate.

8.7 Replacement parts and accessories

Note: *Product and Article numbers may vary for some selling regions. Contact the appropriate distributor or refer to the company website for contact information.*

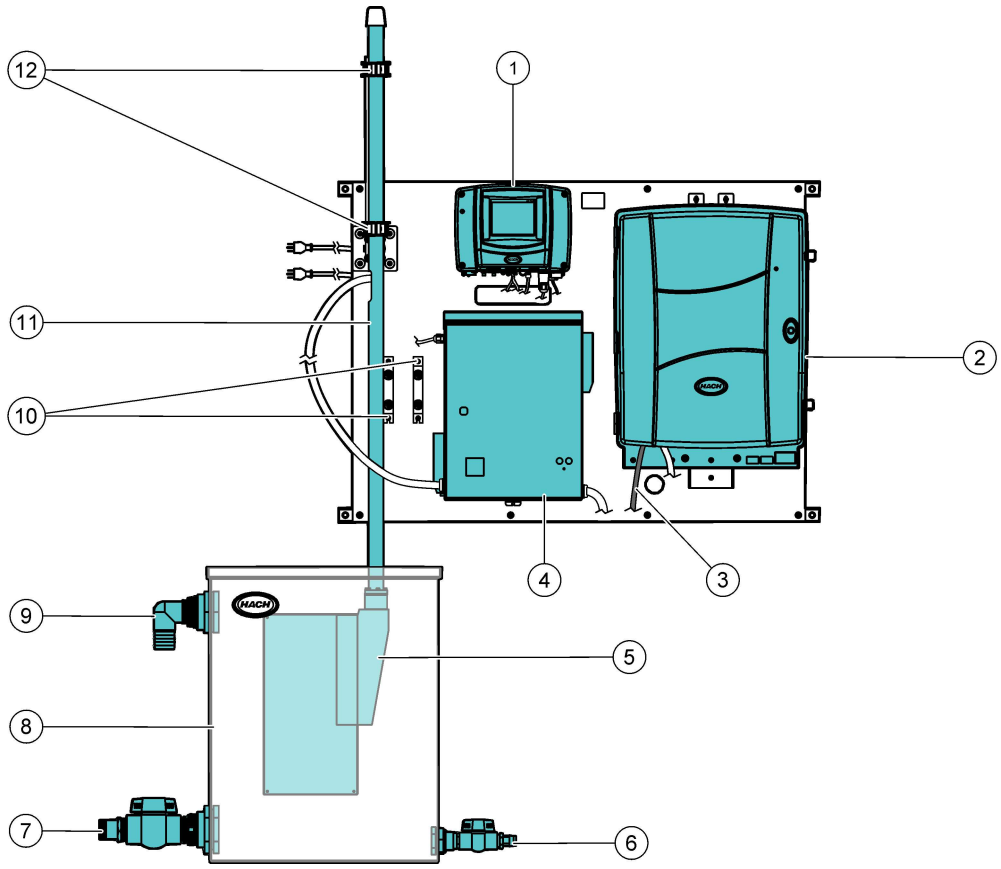
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 9 DPMP-POFTX

9.1 Product overview

The Dual Parameter Monitoring Panel for phosphate (DPMP-POFTX) is a phosphate analyzer and filtration system that are installed on a panel. The user mounts the panel, then installs the immersion pole with the connected filter module holder on the panel. Refer to Figure 52. The controller on the panel sends the data to a communications network for remote monitoring. An optional Solitax turbidity sensor can connect to the controller.

Figure 52 DPMP-POFTX overview



1 SC1000 Controller	**7** Outlet ball valve, 2-inch hose barb
2 Phosphax sc LR phosphate analyzer	**8** Tank assembly, 95 L (25 gallon)
3 Analyzer drain	**9** Overflow drain, 2-inch hose barb
4 Filtrax control unit	**10** Spacers
5 Filter module holder	**11** Immersion pole
6 Inlet ball valve, 1-inch hose barb	**12** Mounting clamps for immersion pole

9.2 Specifications

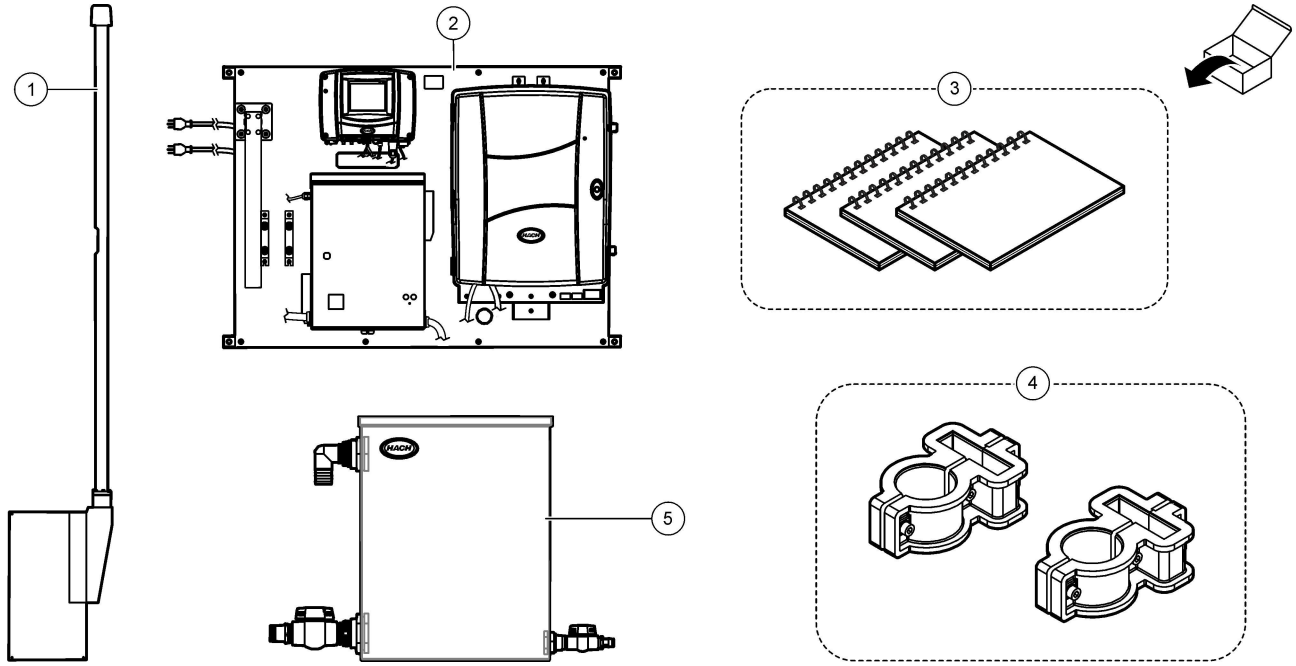
Specifications are subject to change without notice. The specifications that follow are for the DPMP-POFTX panel. Refer to the supplied user manuals for the controller, filter and analyzer specifications.

Specification	Details
Dimensions (W x H x D)	Panel: 129.5 x 91.4 x 45.7 cm (51 x 36 x 18 inch) Tank: 61.6 x 79.5 x 22.2 cm (24.25 x 31.30 x 8.75 inch)
Weight	101 kg (222 lb) with installed reagents, Filtrax system and optional Solitax sensor; 68 kg (150 lb) without reagents, Filtrax system and optional Solitax sensor.
Power requirements	SC1000 Controller: 100–240 (±10) VAC, 50/60 Hz; maximum 1000 VA
	Filtrax: 115 (±10) VAC, 50/60 Hz, maximum 2100 VA
	Phosphax sc: 115–230 VAC, 500 VA, 4.35 A
Sample flow rate through tank assembly	40.0 L/minute (10.6 gallons/minute) maximum
Sample inlet connection	1-inch ID hose barb
Sample waste drain connection	2-inch ID hose barb
Certifications	SC1000 Controller is CE compliant and is TÜV listed to UL and CSA safety standards
	Filtrax is TÜV listed to UL and CSA safety standards
	Phosphax sc is TÜV listed to UL and CSA safety standards

9.3 Product components

Make sure that all components have been received. Refer to Figure 53. If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 53 Product components



1 Filter module holder with immersion pole	**4** Mounting clamps for immersion pole
2 DPMP-POFTX water panel	**5** Tank assembly, 95 L (25 gallon)
3 User manuals	

9.4 Installation

⚠ WARNING

Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

9.4.1 Mounting

⚠ WARNING

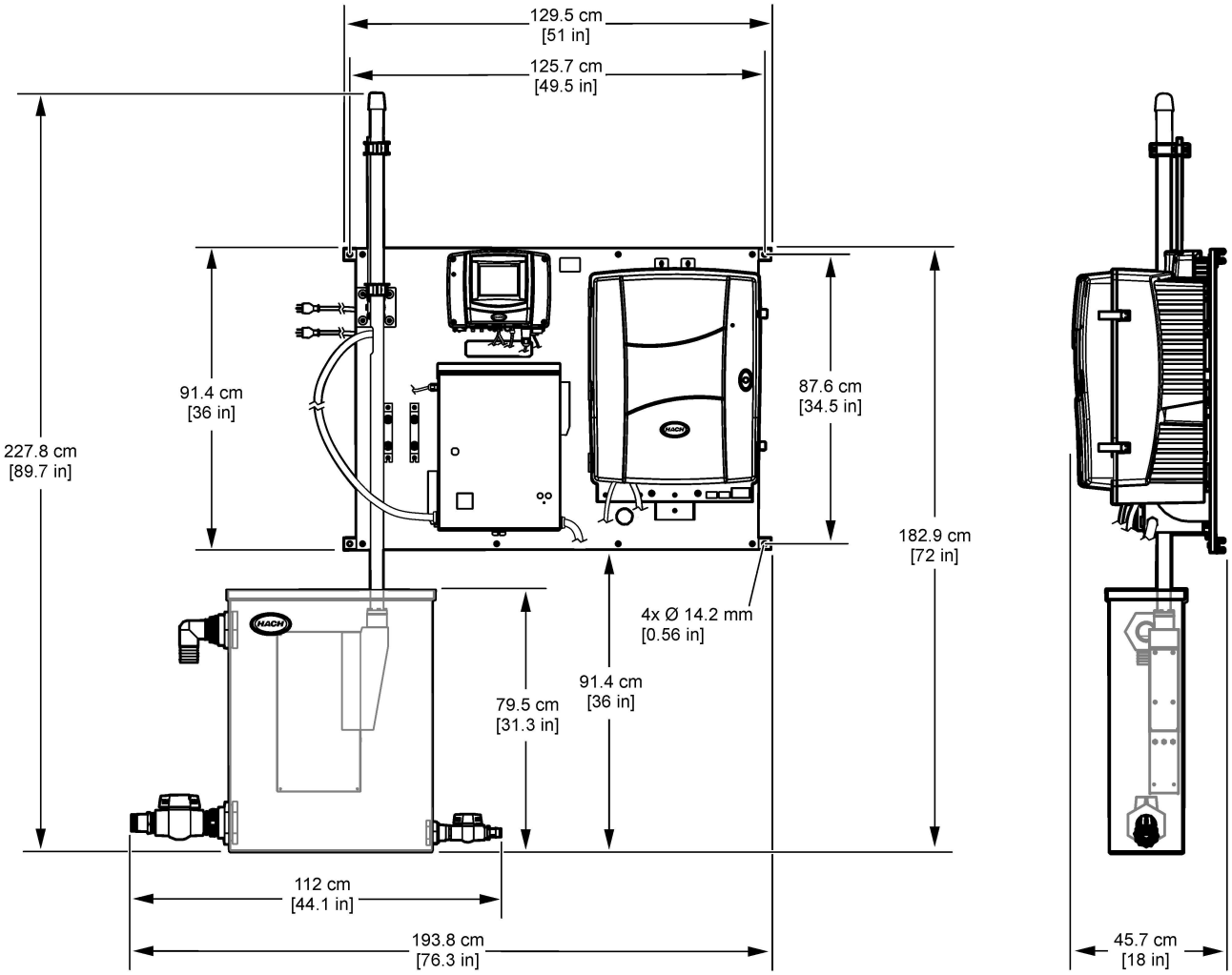
Personal injury hazard. Make sure that the wall mounting is able to hold 4 times the weight of the equipment.

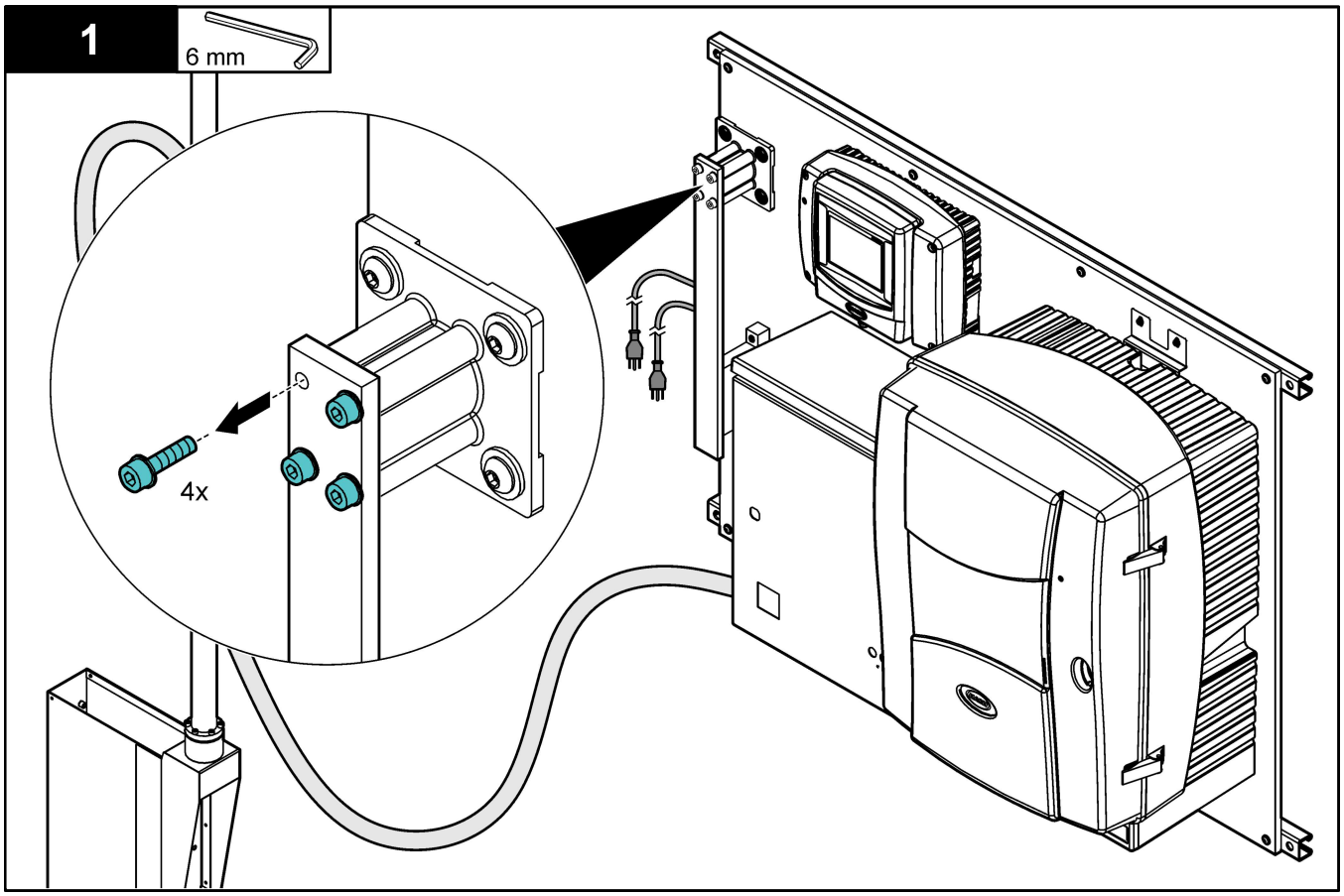
⚠ WARNING

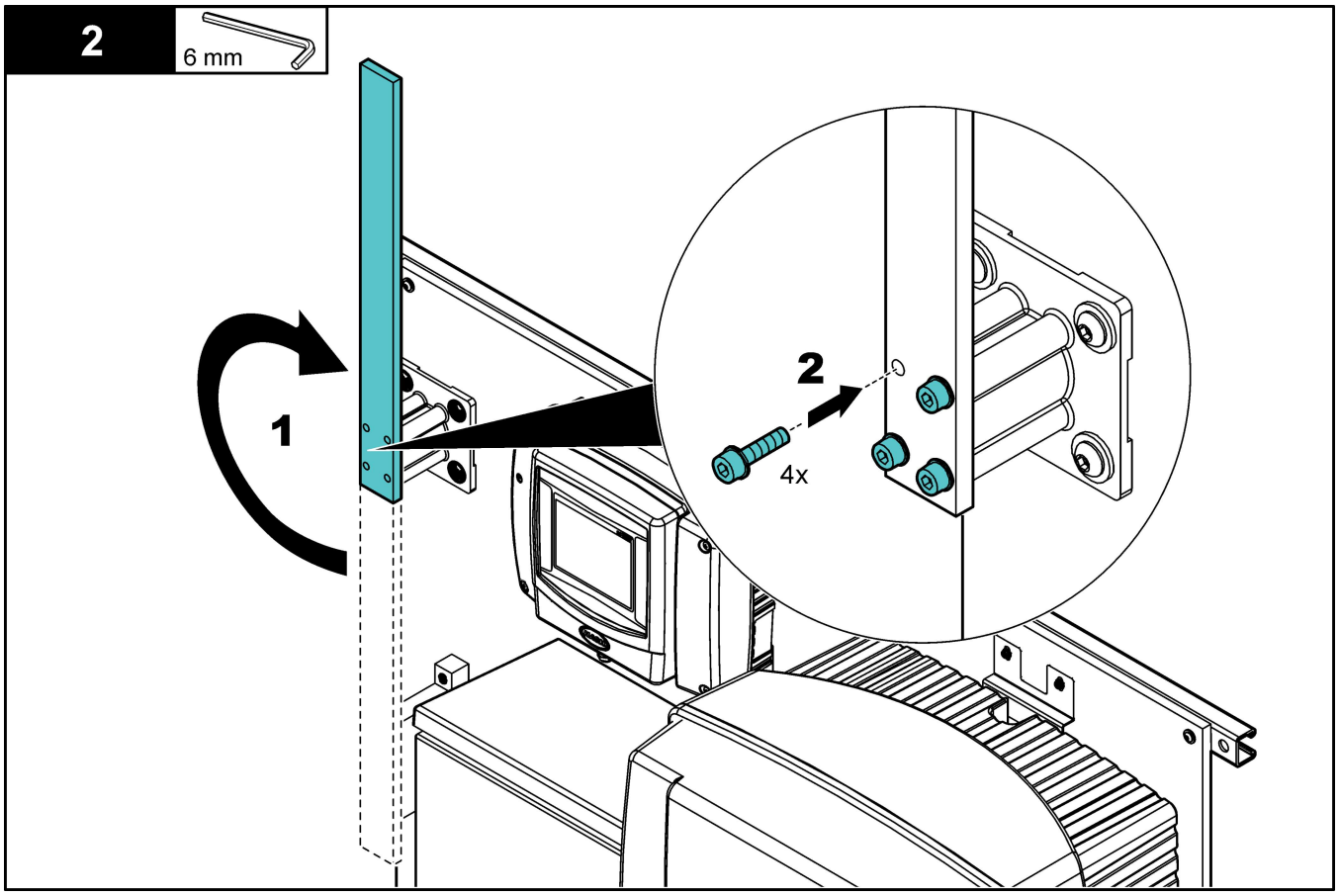
Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

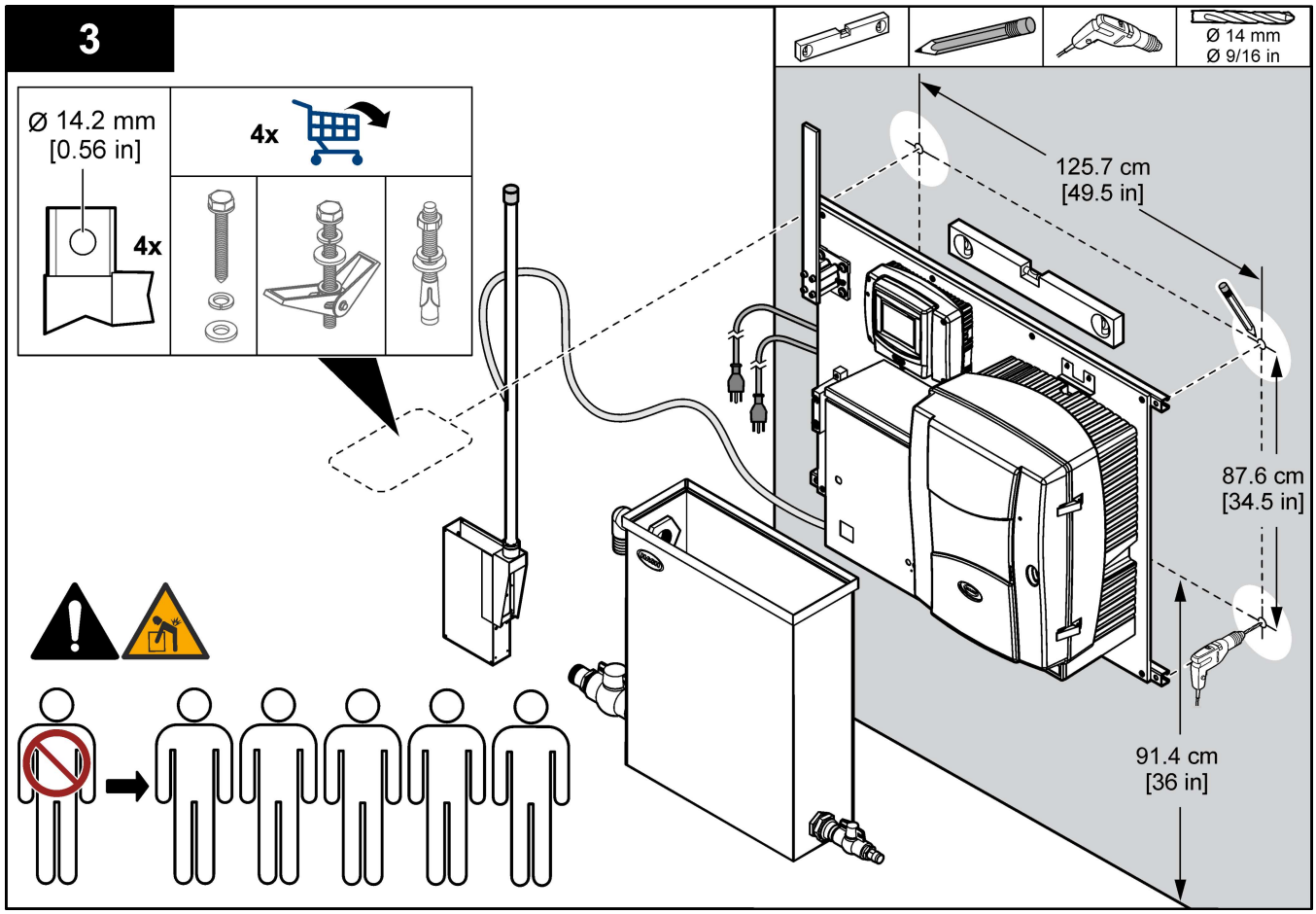
Attach the panel on a flat, vertical wall surface in an indoor location away from direct sunlight. Then, install the immersion pole on the panel with the connected filter module holder in the tank assembly. Install the instrument in a location and position where the user can easily disconnect the instrument from the power source. Refer to Figure 54 for product dimensions. Refer to the illustrated steps that follow to attach the panel to a wall. Mounting hardware is supplied by the user.

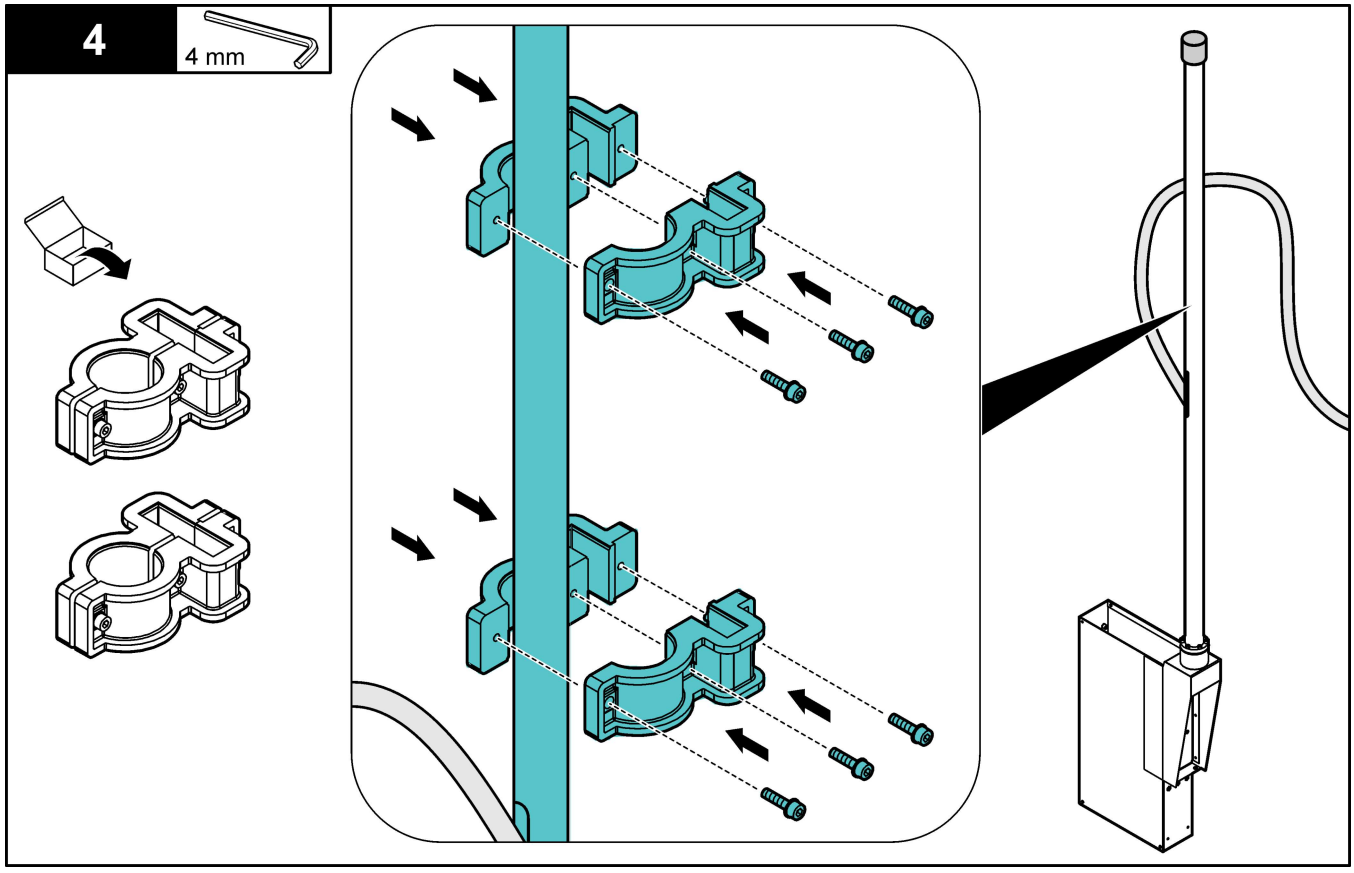
Figure 54 Product dimensions



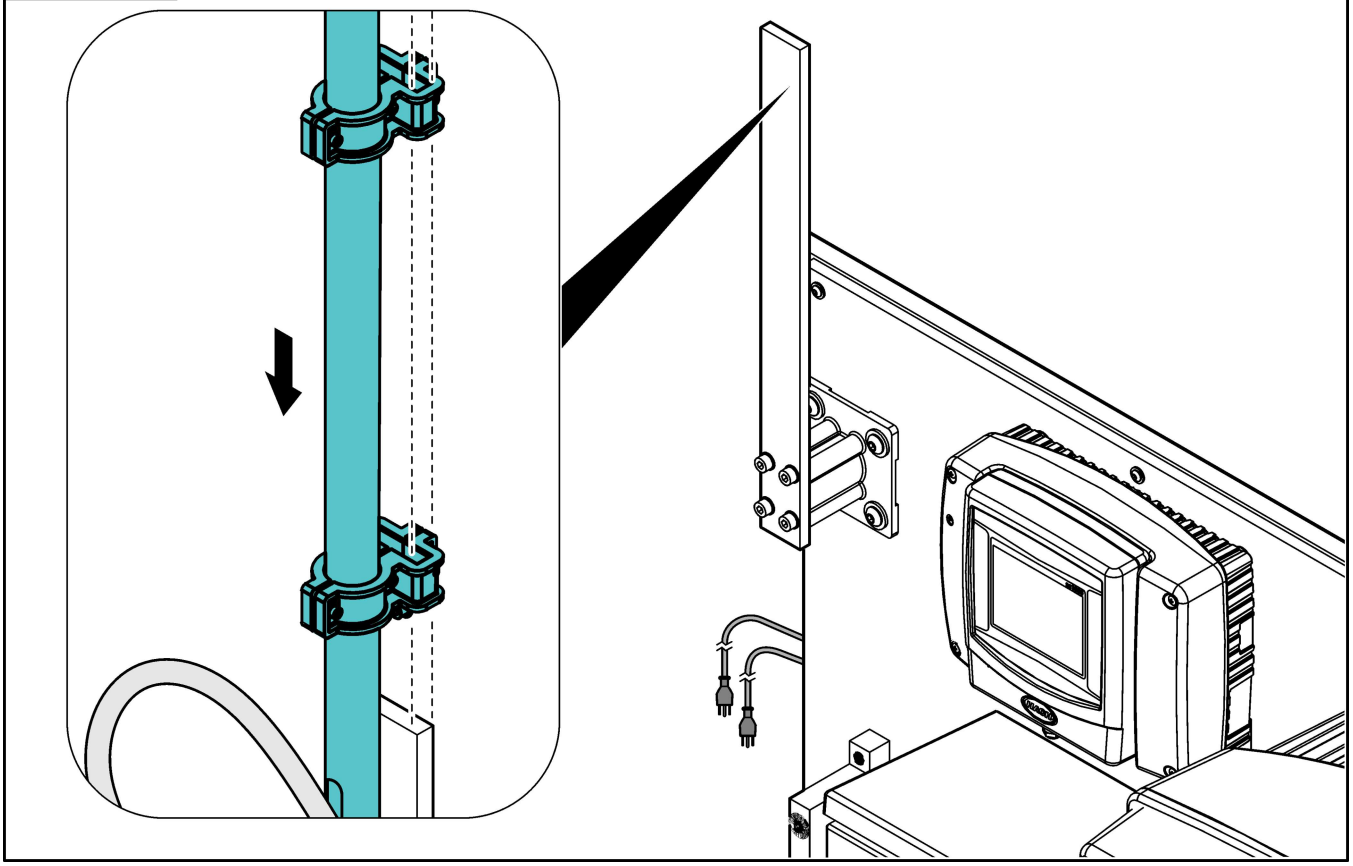

1
6 mm
4x


2
6 mm
1
2
4x

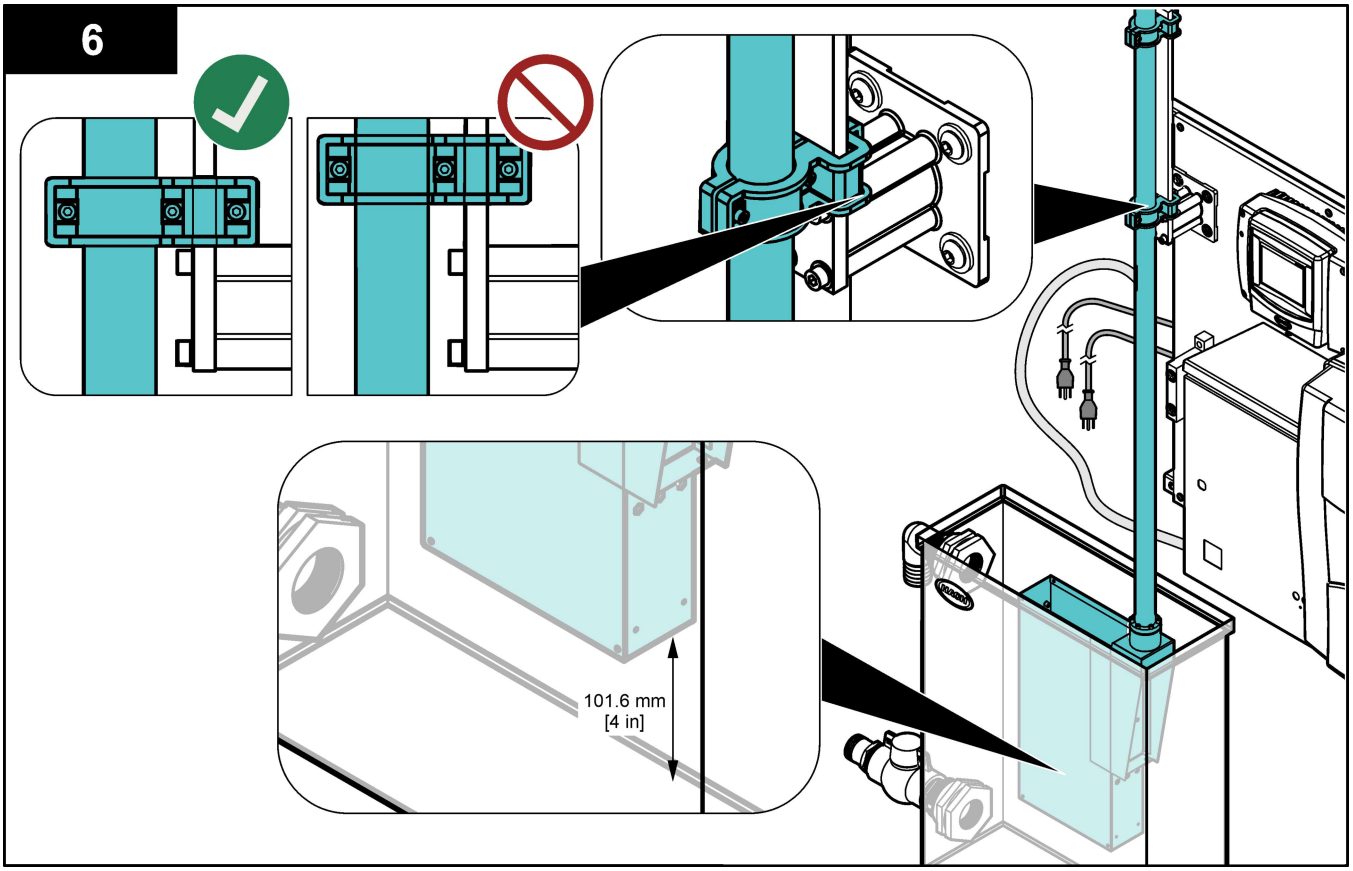

3
Ø 14.2 mm
[0.56 in]
4x
4x
Ø 14 mm
Ø 9/16 in
125.7 cm
[49.5 in]
87.6 cm
[34.5 in]
91.4 cm
[36 in]


4
4 mm

5



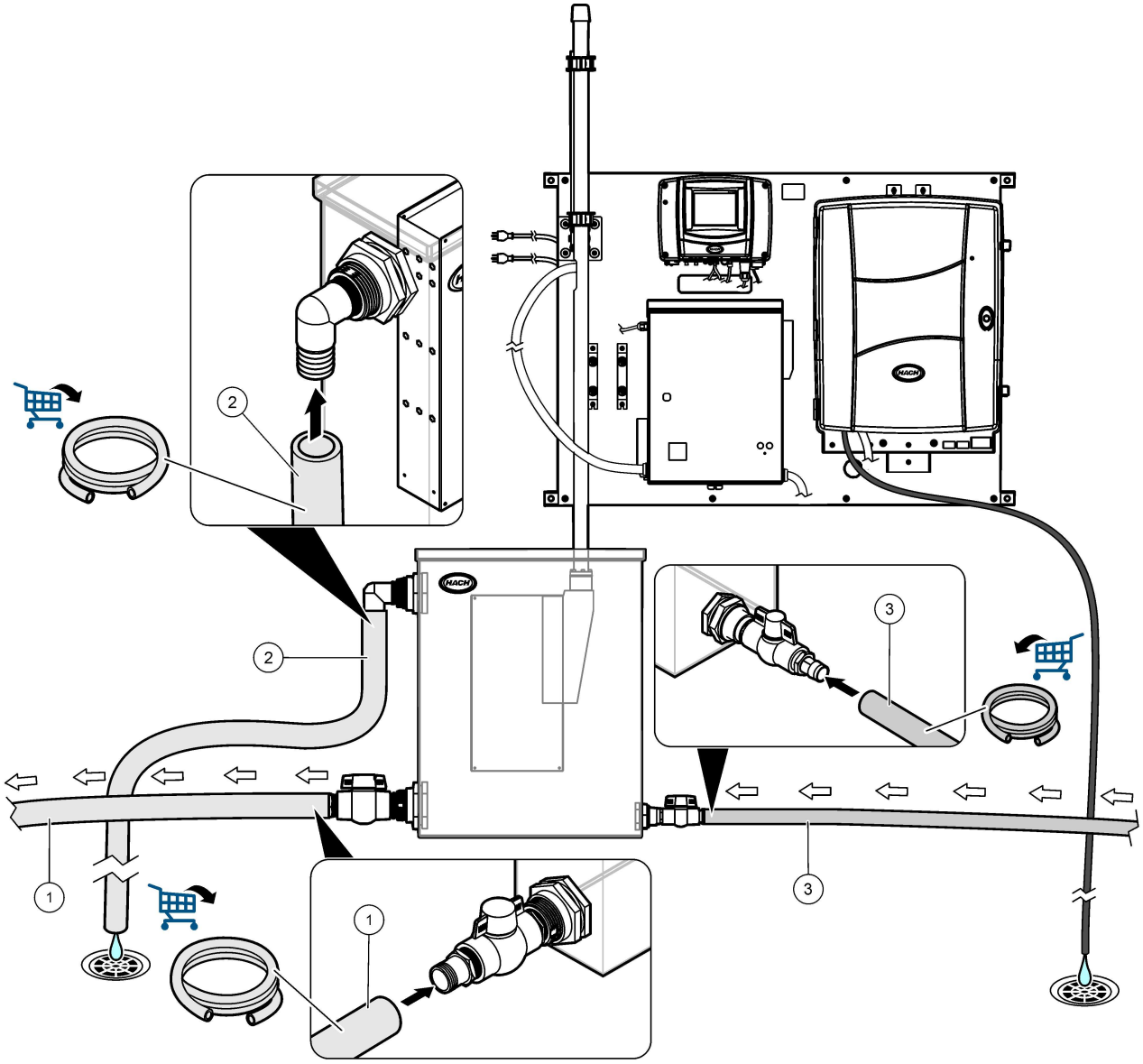
6



9.4.2 Install the sample and drain lines

Install the sample and drain tubing as shown in Figure 55. Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 55 Sample and drain connections



1 Outlet: 2-inch ID, 2-3/8-inch OD tubing	**3** Inlet: 1-inch ID, 1-5/16-inch OD tubing
2 Drain: 2-inch ID, 2-3/8-inch OD tubing	

9.5 Startup

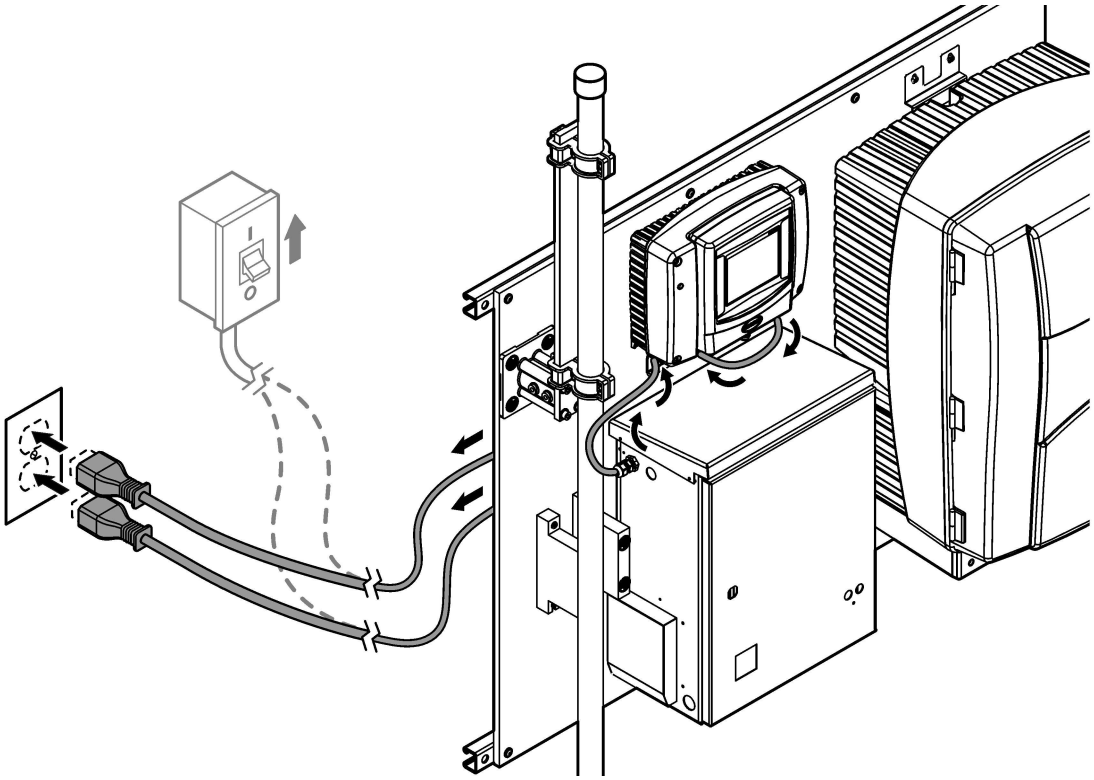
Make sure that all of the plumbing connections are complete before startup.

1. Install the filter modules in the Filtrax filter holder. Refer to the Filtrax user manual.
2. Make sure that the pump cartridges are installed in the Filtrax control unit. Refer to the Filtrax user manual.
3. Make sure that the collecting tray is installed in the analyzer. Make sure that the humidity sensor is connected in the analyzer. Refer to the analyzer user manual.

4. Install the prepared reagents, cleaning and standard solutions in the analyzer. Refer to the analyzer user manual. Close the analytics panel and door when done.
5. Open the inlet valve on the tank assembly to let sample flow through the tank. Make sure that the flow rate and pressure are within the limits. Refer to Specifications on page 60.
6. Examine the plumbing for fluid leaks. Stop the leaks if found.
7. Apply power to the Filtrax control unit. Refer to Figure 56.
8. Set the parameters for the Fitrax control unit. Refer to the Filtrax user manual.
9. Apply power to the controller. The display light comes on. The analyzer shows on the controller display.

   Note: *To supply AC power to the controller with conduit, refer to the controller user manual.*
10. Start the prepumping sequence. Refer to the analyzer user manual.
11. Start a manual calibration. Refer to the analyzer user manual.
12. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 56 Apply power



9.6 Operation

After the startup procedure is complete and the measurements are stable, monitor the measurements regularly. Measure grab samples to make sure that the measurements are accurate.

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