

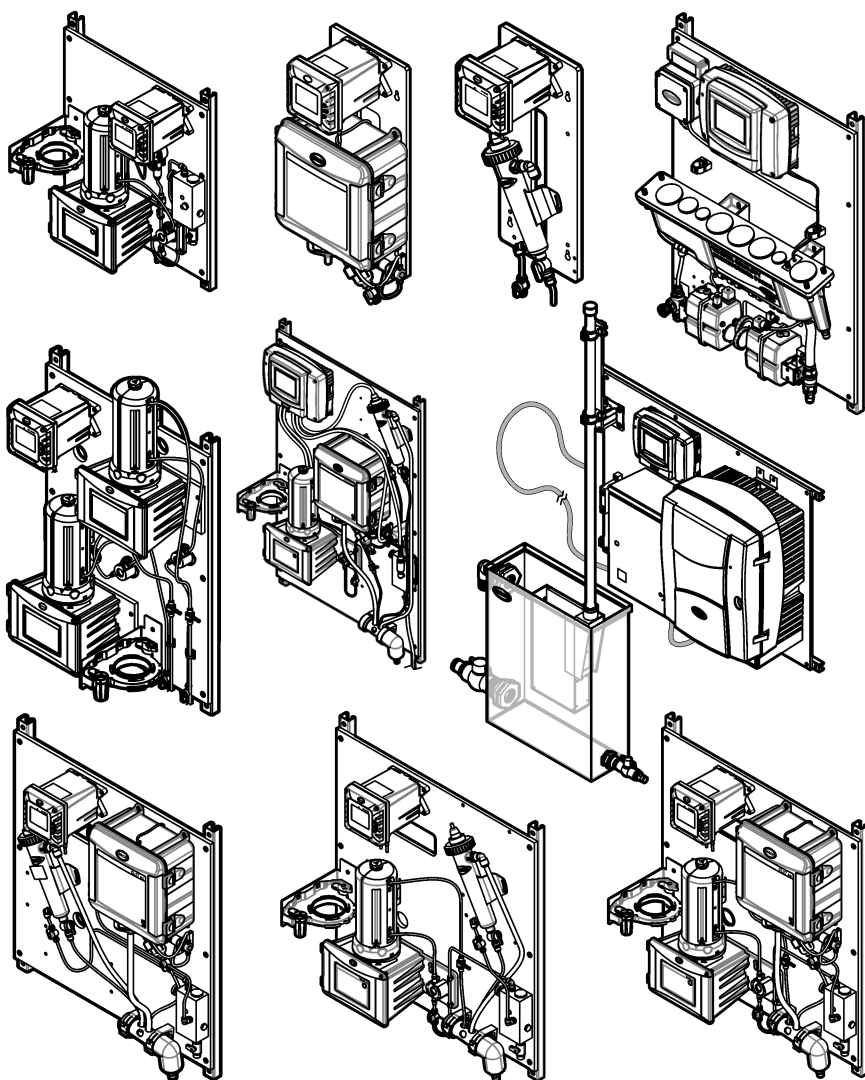


DOC346.53.80706

WDMP, WQMP, SPMP-XX, DPMP-XX

User Manual

11/2025, Edition 4



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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:

- [WDMP](#) on page 9
- [WQMP](#) on page 27
- [SPMP-CL and SPMP-ULRCL](#) on page 41
- [SPMP-PHD](#) on page 47
- [SPMP-TU](#) on page 55
- [DPMP-TU5300](#) on page 61
- [DPMP-CLPHD](#) on page 69
- [DPMP-CLTU](#) on page 77
- [DPMP-TUPHD](#) on page 83
- [DPMP-POFTX](#) on page 91

1.1 General information

In no event will the manufacturer be liable for direct, indirect, special, incidental or consequential damages resulting from any defect or omission in this manual unless otherwise required by applicable law or contract between the parties. 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.

If the equipment is used in a manner that is not specified by the manufacturer, the protection provided by the equipment may be 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

1.4.1 Safety requirements for panels with no controller

Controllers that are installed on the panel by the user must have a certificate for product safety from a Nationally Recognized Testing Laboratory (NRTL). An NRTL is an independent testing laboratory that is certified by the Occupational Health and Safety Administration (OSHA).

The NRTL safety certificate verifies that products are considered safe for use in the U.S.A. and Canada and obey all relevant country safety standards.

All Hach controllers are safety certified per the above requirements.

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.

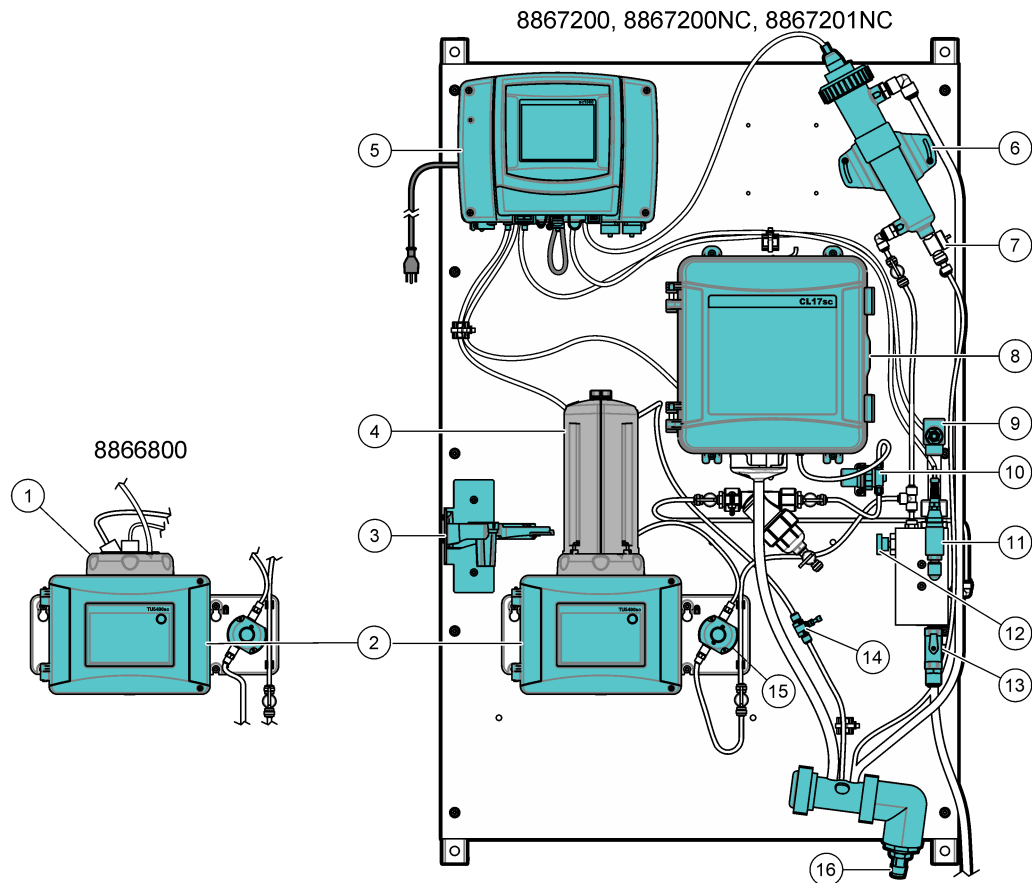
Section 2 WDMP

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 measure chlorine, conductivity, pH, turbidity, pressure and temperature. The instruments are assembled on a panel with most electrical and plumbing connections installed at the factory. The controller on the panel sends the data to a communications network for remote monitoring. The user must make electrical connections on the panels that ship without the controller.

Refer to [Figure 1](#) and [Table 1](#) for the WDMP sc panels that include the CL17sc chlorine analyzer. Refer to [Figure 2](#) and [Table 2](#) for the WDMP sc panels that include the CLF10 or CLT10 chlorine analyzer. All WDMP sc panels include the conductivity, pH, temperature and pressure sensors.

Figure 1 WDMP sc overview—CL17sc chlorine analyzer

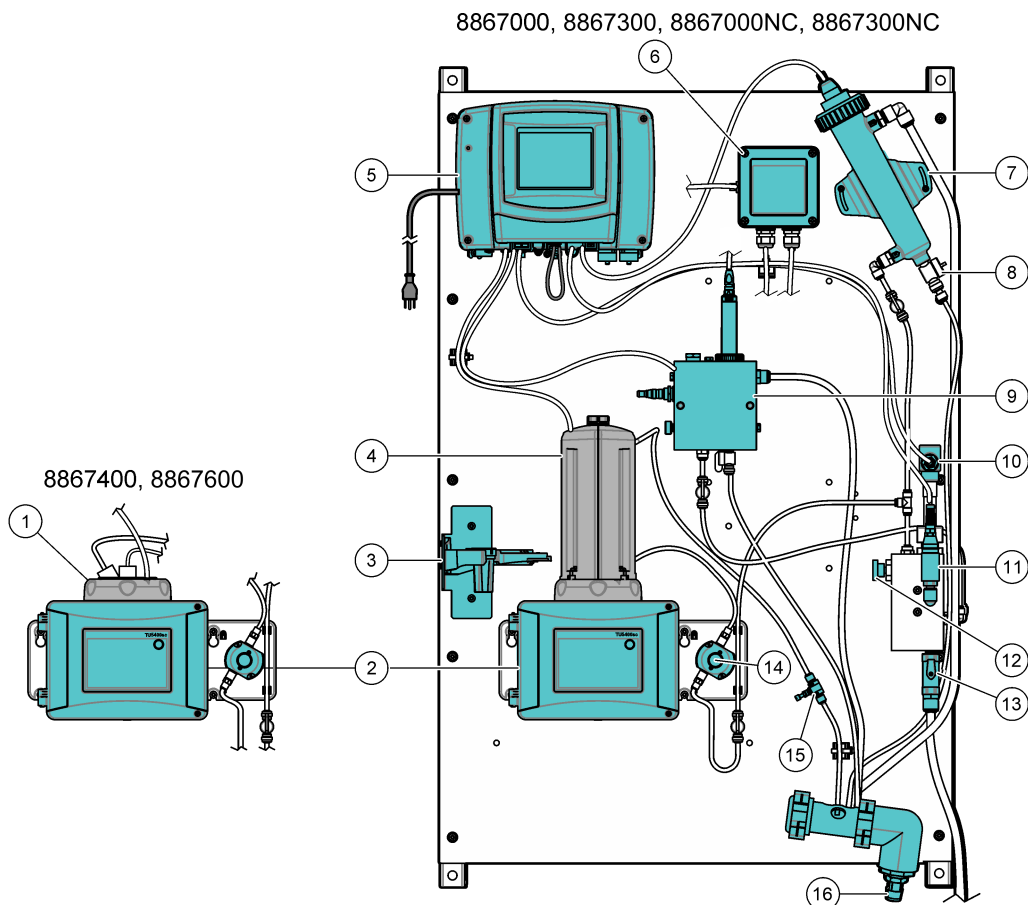


1 Process head	9 Conductivity sensor
2 TU5300sc Turbidimeter	10 Pressure regulator
3 Service bracket	11 Pressure sensor
4 Automatic Cleaning Module (ACM), optional	12 Inlet needle valve
5 SC1000 Controller	13 Inlet ball valve
6 Flow cell with pH sensor	14 Flow regulator
7 Maintenance drain valve	15 Flow sensor
8 CL17sc chlorine analyzer	16 Drain manifold

Table 1 Panels with CL17sc chlorine analyzer

Part number	SC1000	CL17sc	TU5300sc	TU5400sc	ACM
8866800	✓	✓	✓		
8867200	✓	✓	✓		✓
8867200NC		✓	✓		✓
8867201NC		✓		✓	✓

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

Table 2 Panels with CLF10 or CLT10 chlorine analyzer

Part number	SC1000	CLF10	CLT10	TU5300sc	ACM
8867000	✓		✓	✓	✓
8867000NC			✓	✓	✓
8867300	✓	✓		✓	✓
8867300NC		✓		✓	✓
8867400	✓	✓		✓	
8867600	✓		✓	✓	

2.2 Specifications

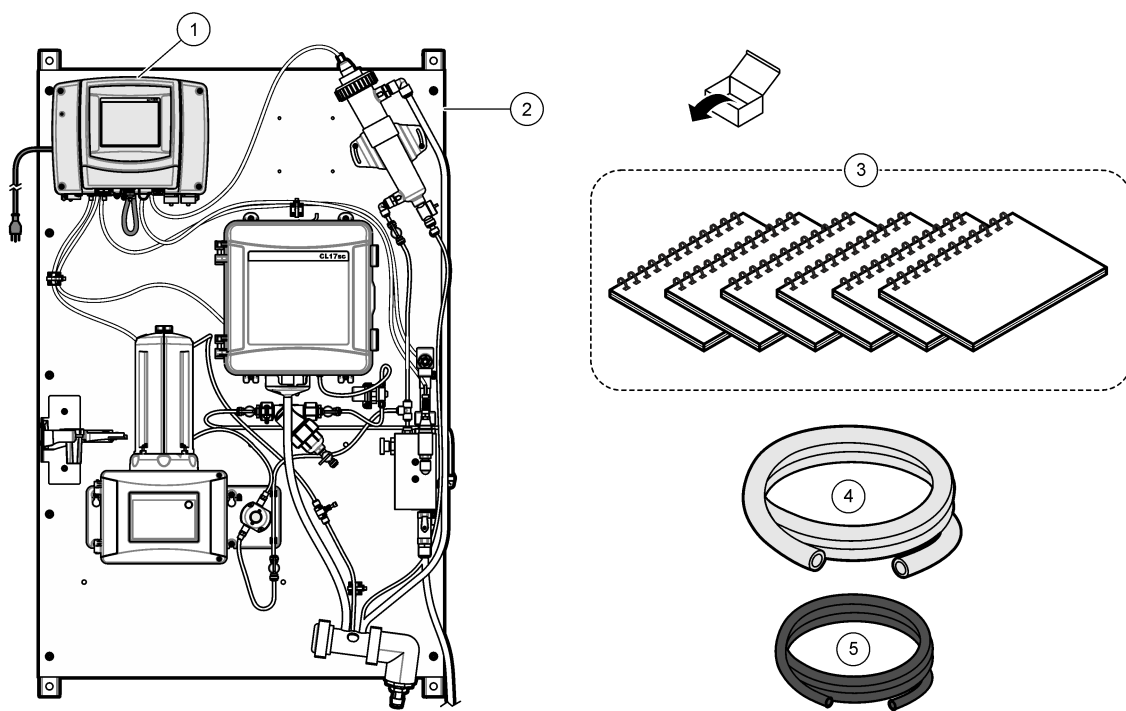
Specifications are subject to change without notice. The specifications that follow are for the WDMP sc panel. Refer to the instrument user manuals for the analyzer, controller, turbidimeter and sensor specifications.

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
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 SC1000 Controller (not included with WDMP panels 8867200NC, 8867201NC, 8867000NC, 8867300NC)	4 Tubing, drain, 3/4-inch ID × 1-inch OD, 1.8 m (6 ft)
2 WDMP sc panel (with CL17sc chlorine analyzer option)	5 Tubing, sample, 0.375-inch ID × 0.500-inch OD, 3 m (10 ft)
3 User manuals (Table 3)	

Table 3 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
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

Table 3 User Manuals included with the WDMP (continued)

Component	User manual	Document number
Controller (if included)	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 SC1000 Controller (if applicable)

⚠ DANGER



Electrocution hazard. Always remove power to the instrument before making electrical connections.

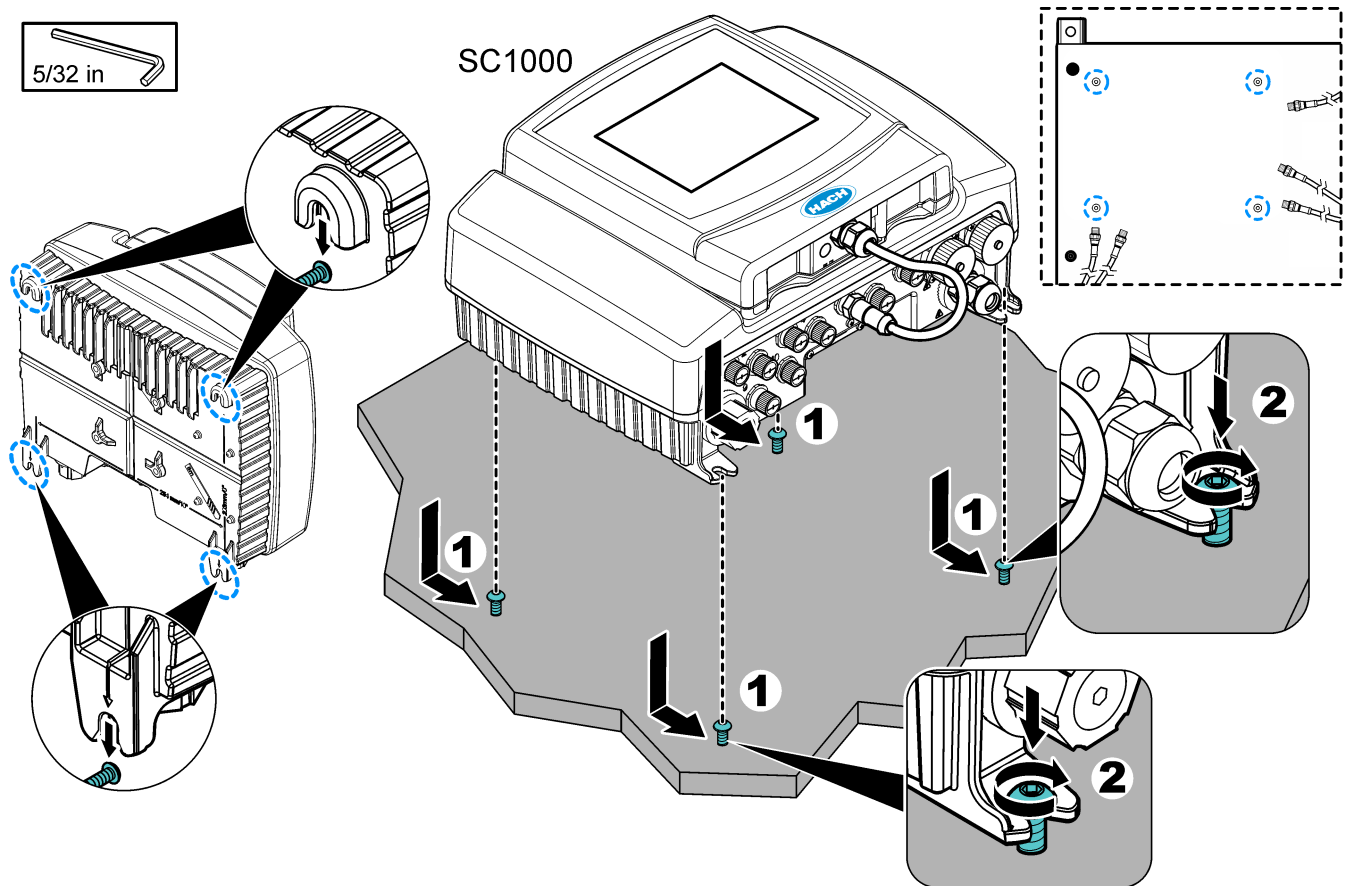
The user must install an SC1000 Controller on the WDMP panels that ship without a controller (8867200NC, 8867201NC, 8867000NC, 8867300NC). Mount the controller and make the electrical connections as follows:

- [Attach the controller to the panel](#) on page 15
- [Connect the instrument cables](#) on page 16
- [Install the pressure gauge](#) on page 16

2.4.1.1 Attach the controller to the panel

The SC1000 Controller probe module has four mounting holes that align with four mounting bolts on the panel. Refer to [Figure 4](#) to attach the controller to the panel.

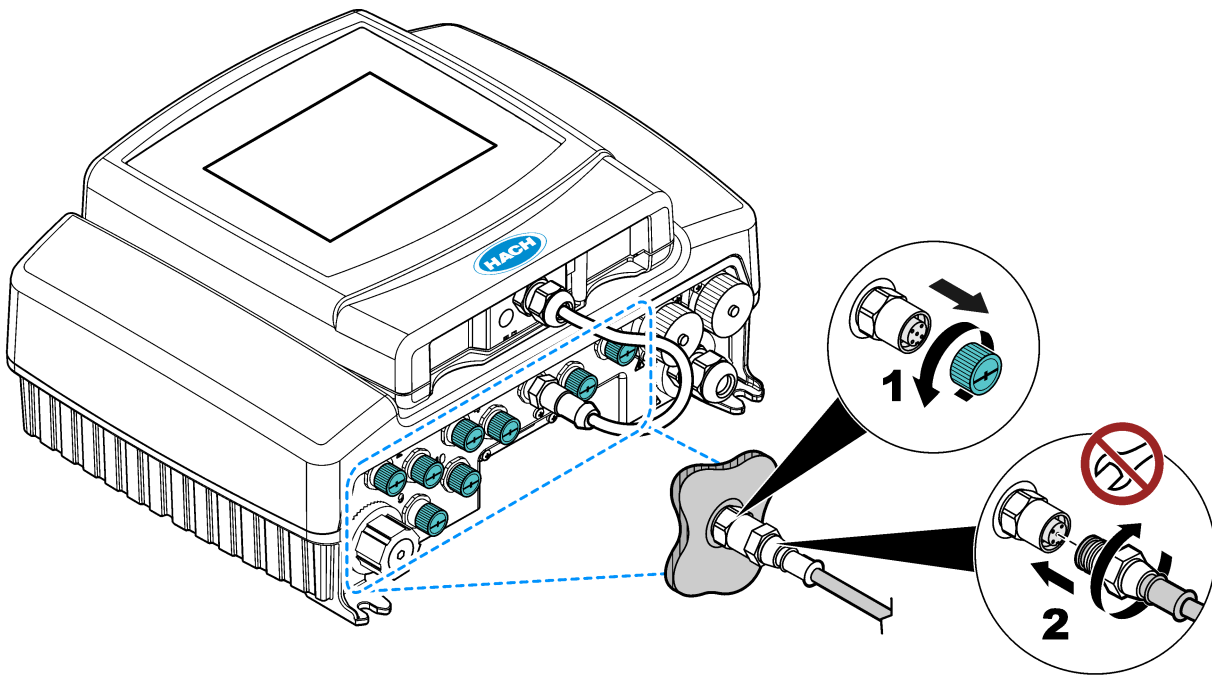
Figure 4 Attach the SC1000 Controller to the panel



2.4.1.2 Connect the instrument cables

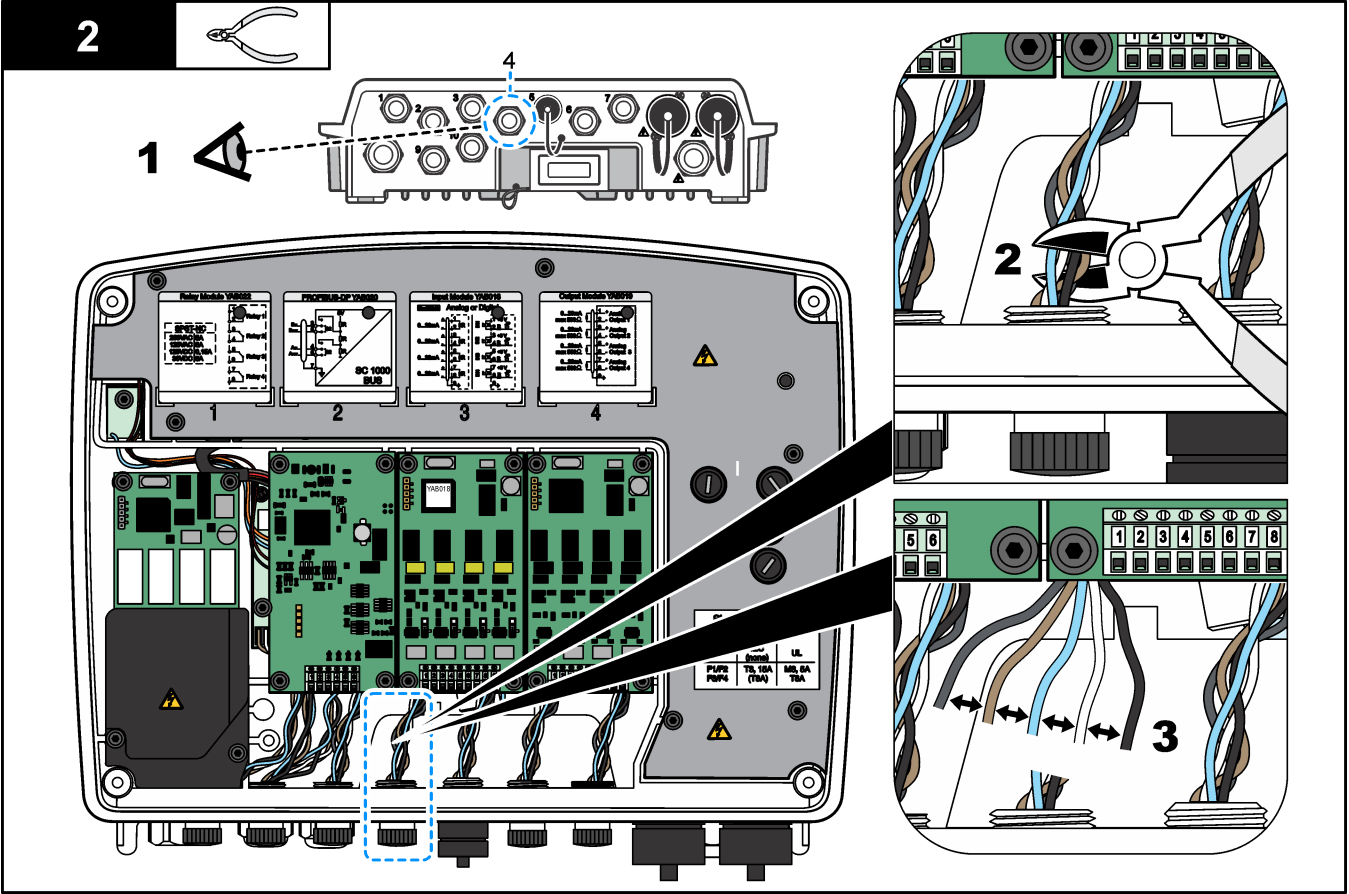
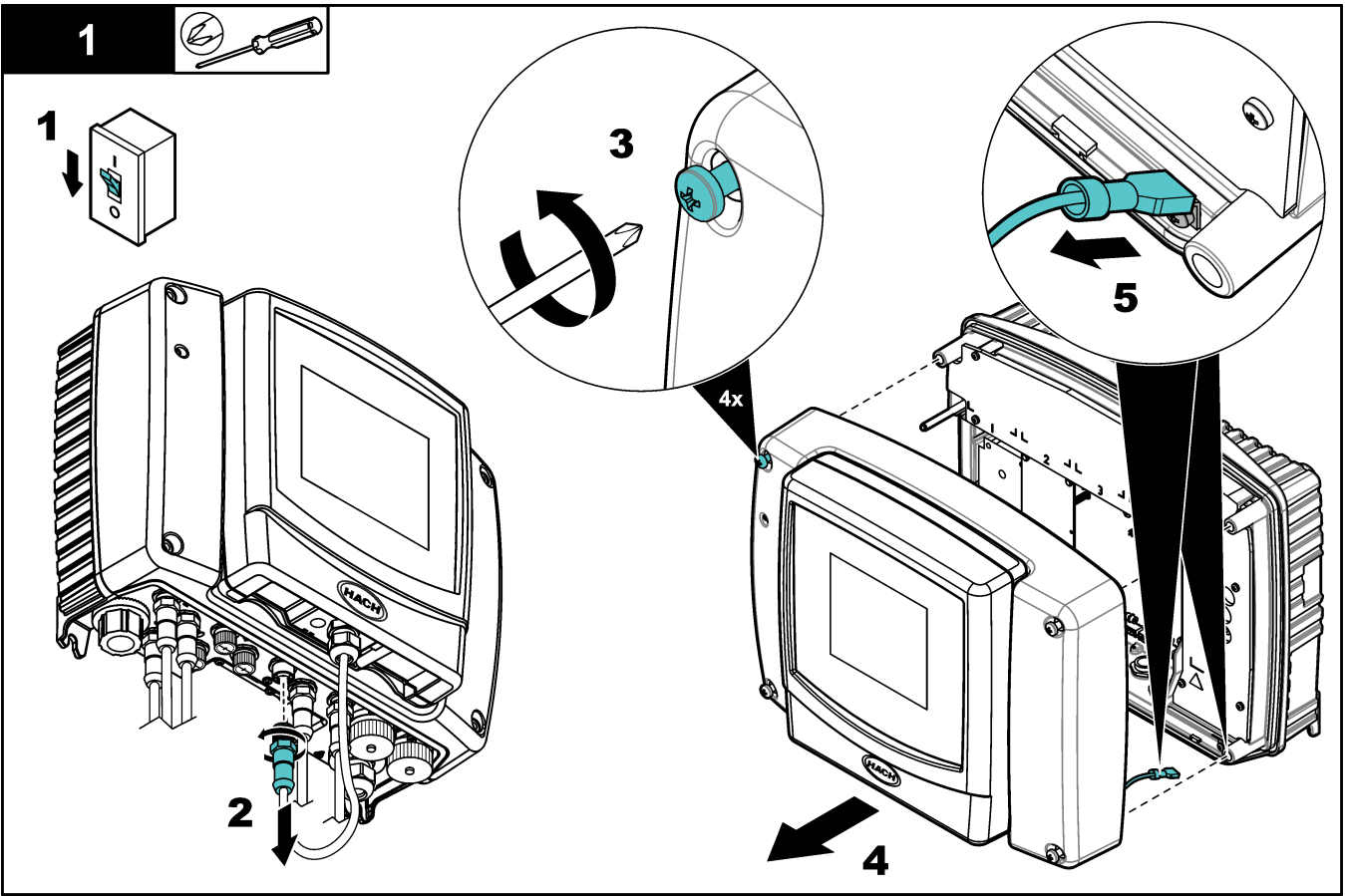
Connect each cable from the instruments on the WDMP panel to one of the digital SC connectors on the SC1000 Controller. Refer to [Figure 5](#).

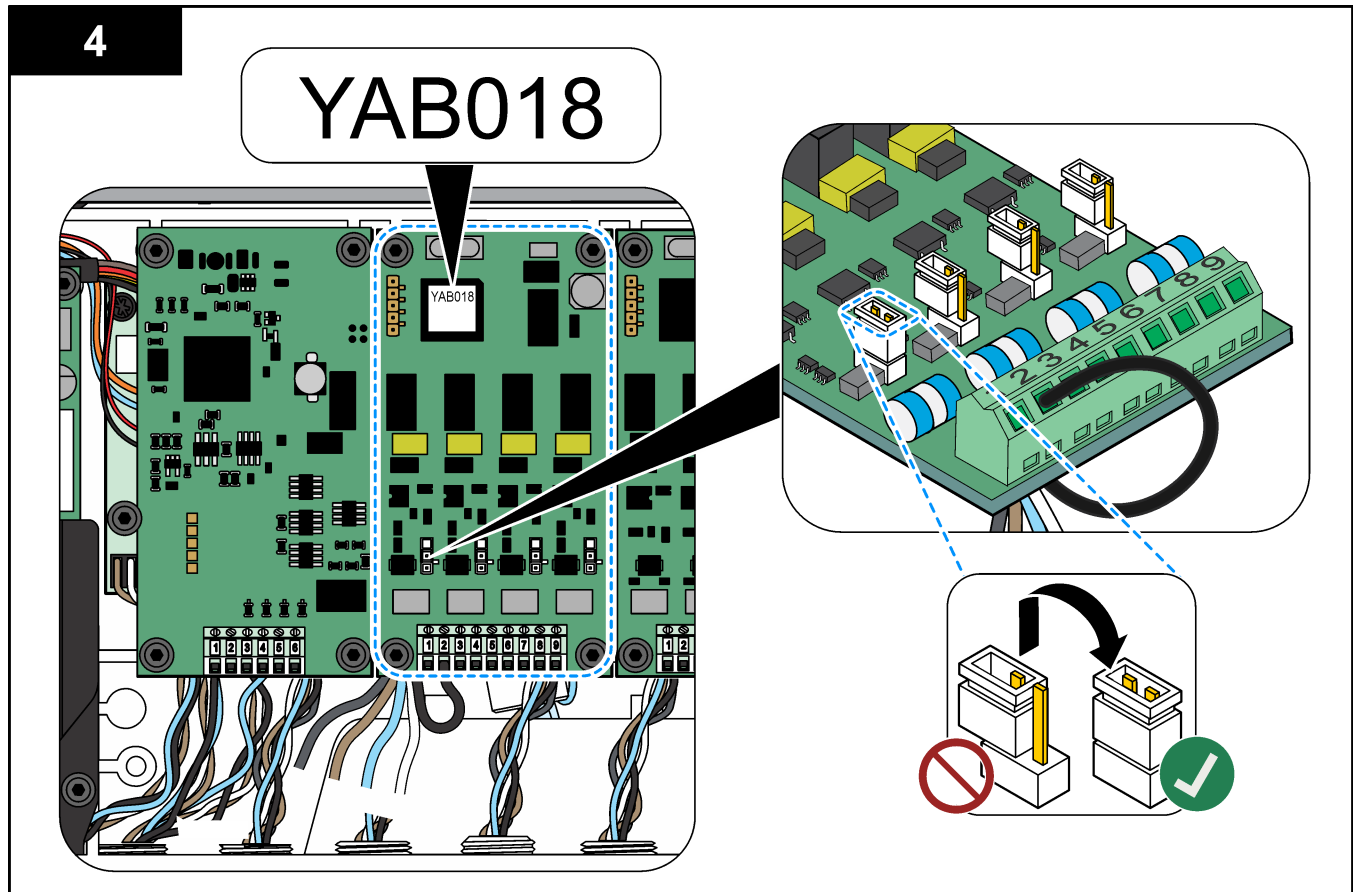
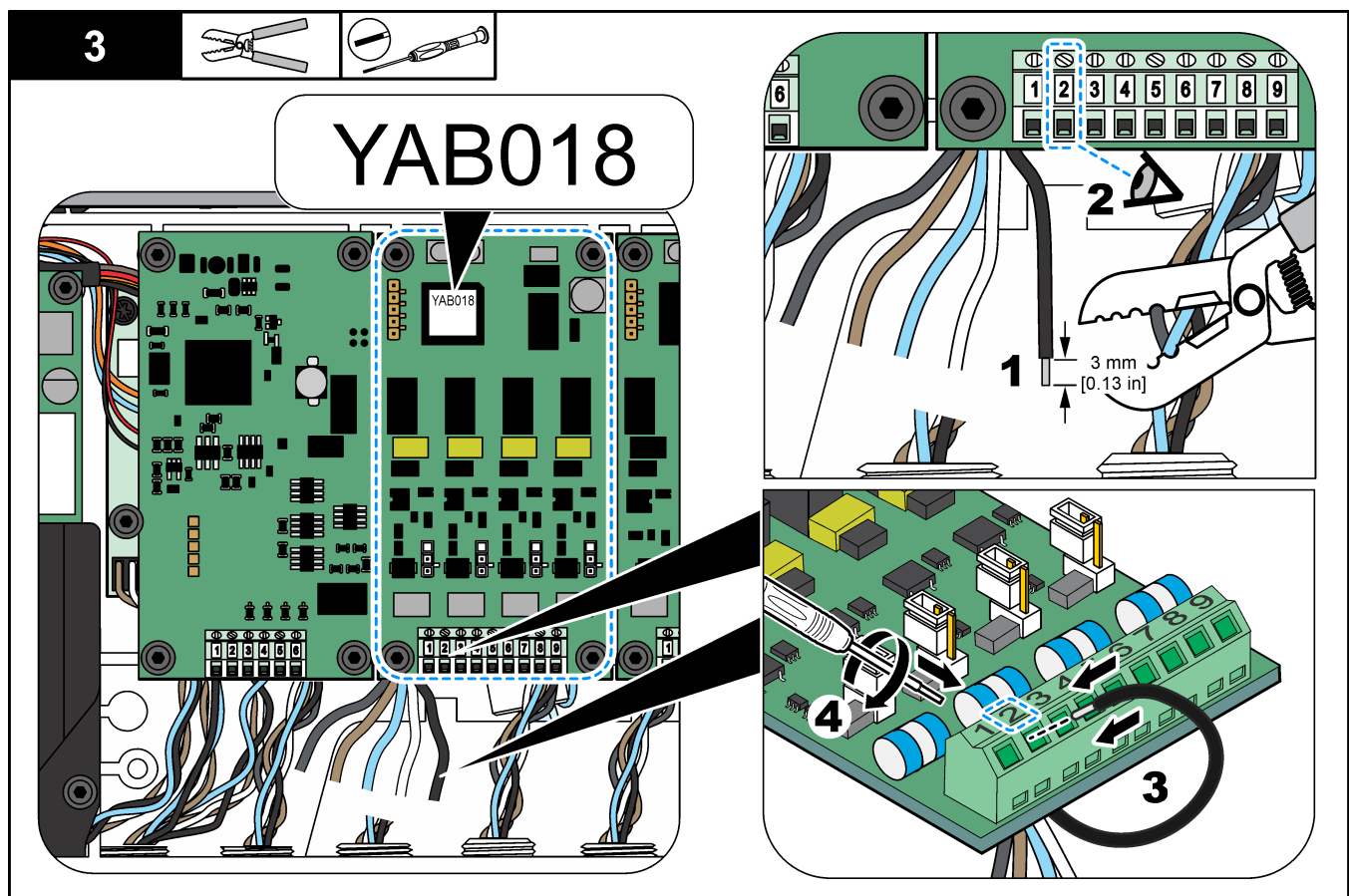
Figure 5 Connect the instrument cables to the controller



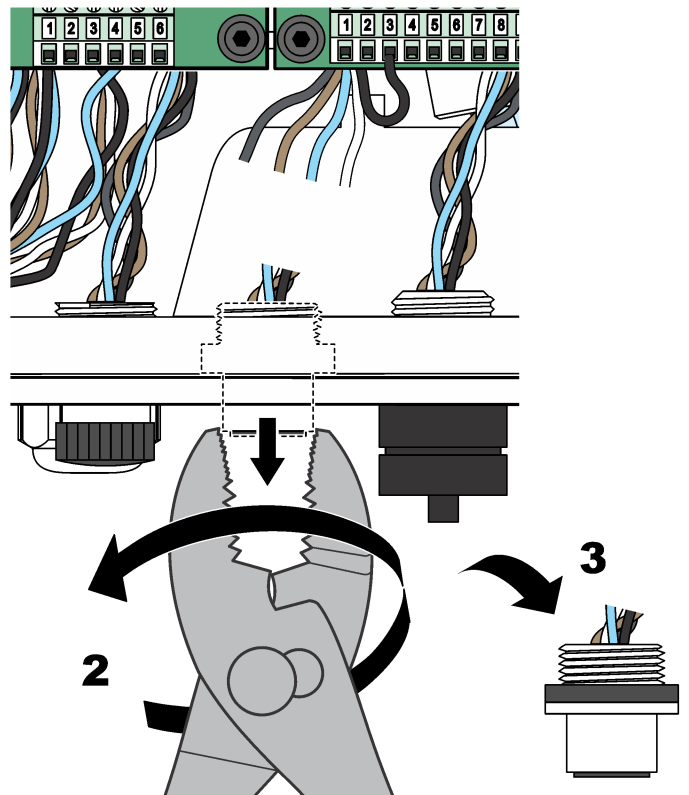
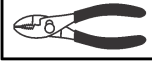
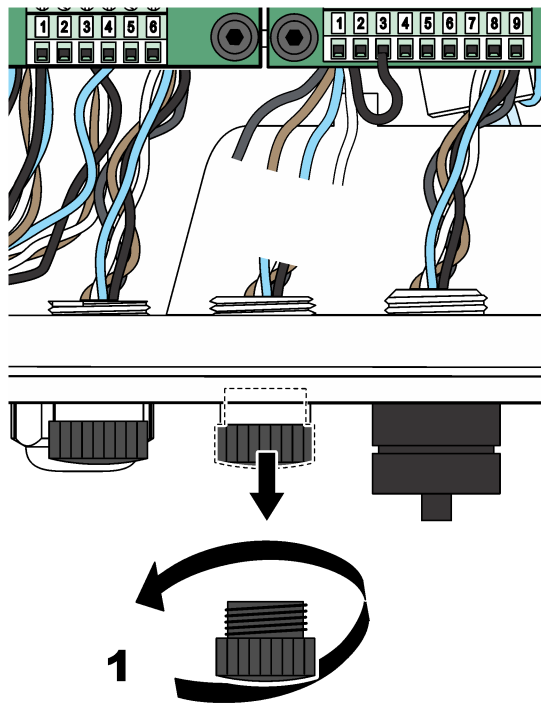
2.4.1.3 Install the pressure gauge

The pressure gauge is mounted on the WDMP panels at the factory. Refer to the illustrated steps that follow to connect the wires from the pressure gauge to the SC1000 Controller.

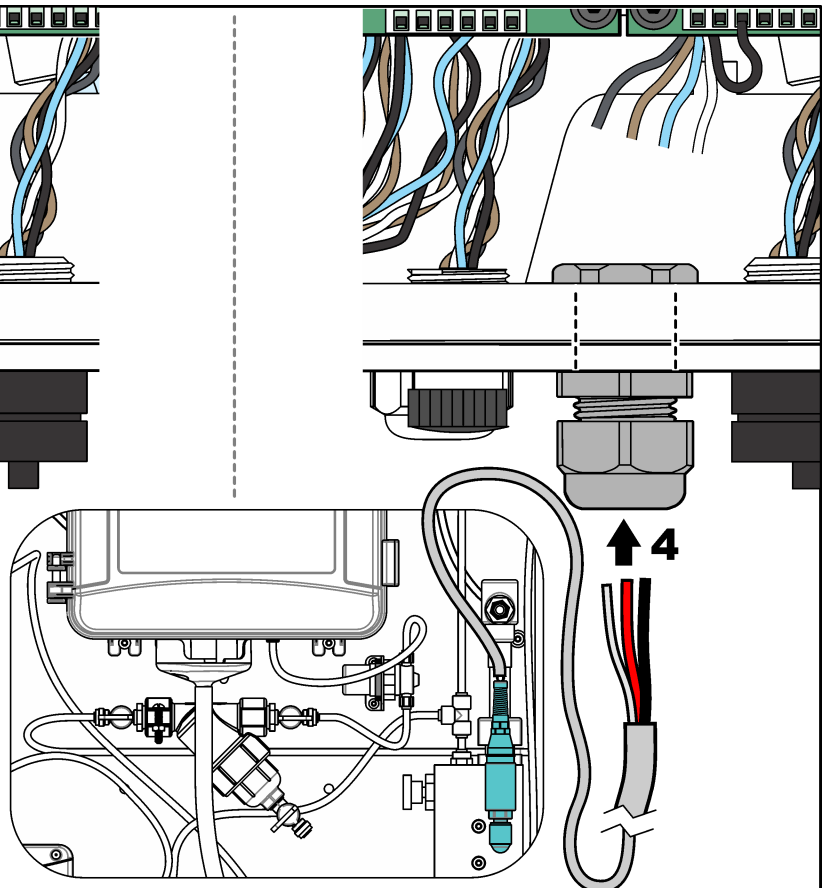
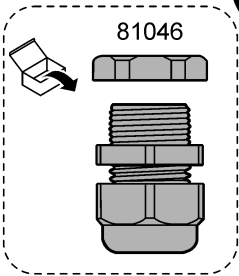
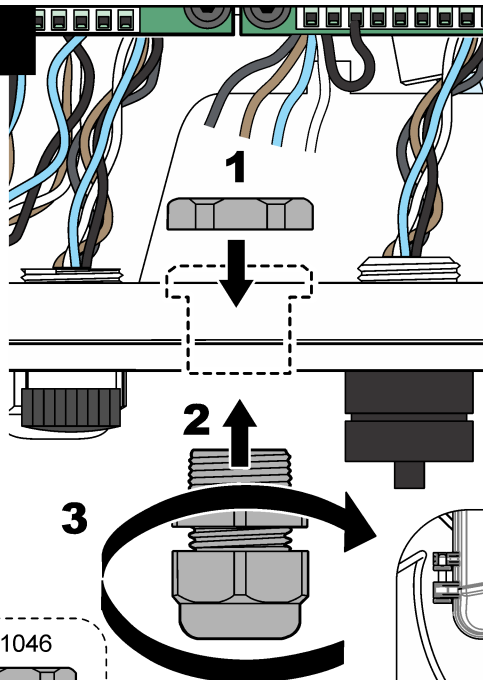


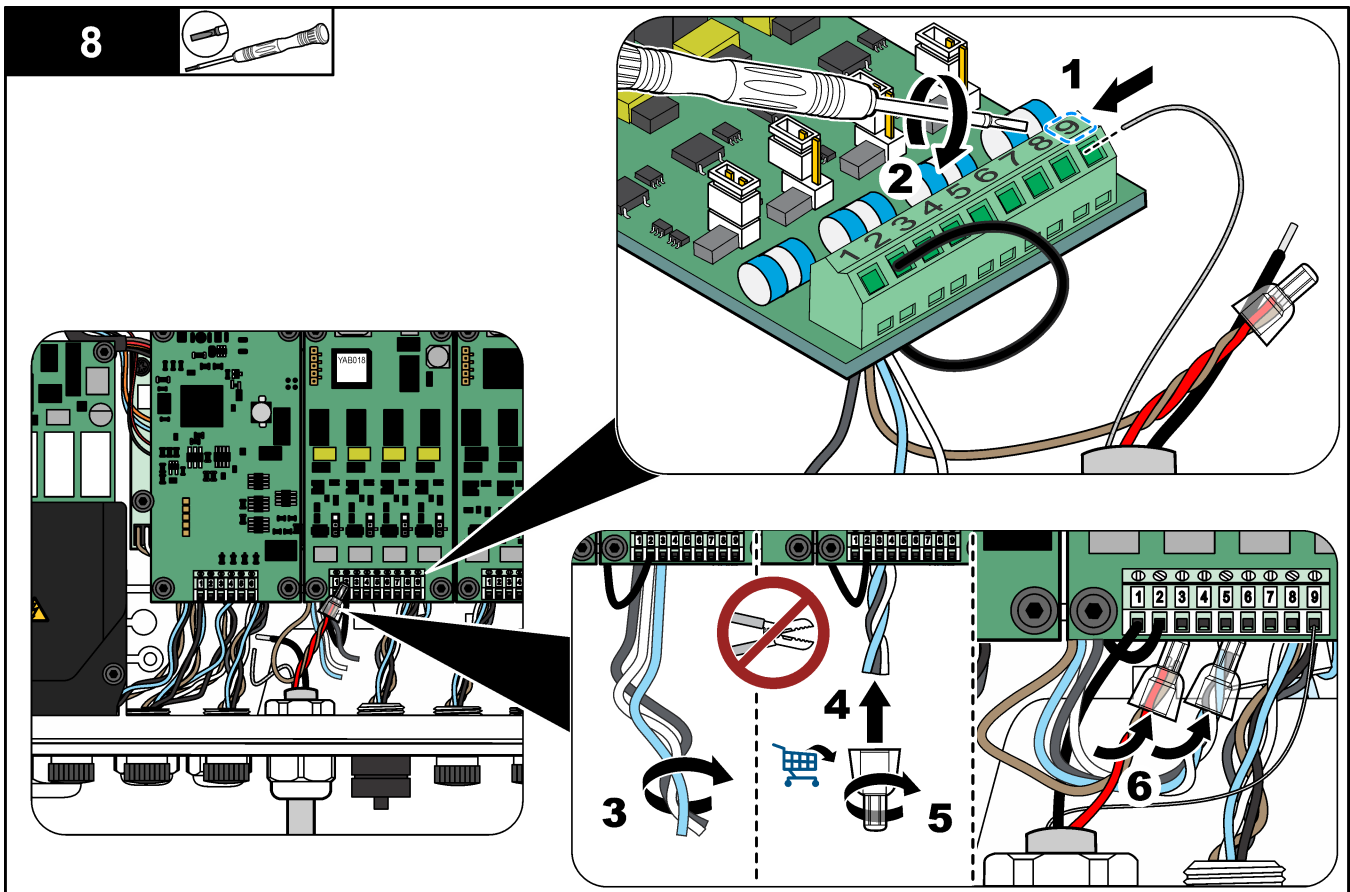
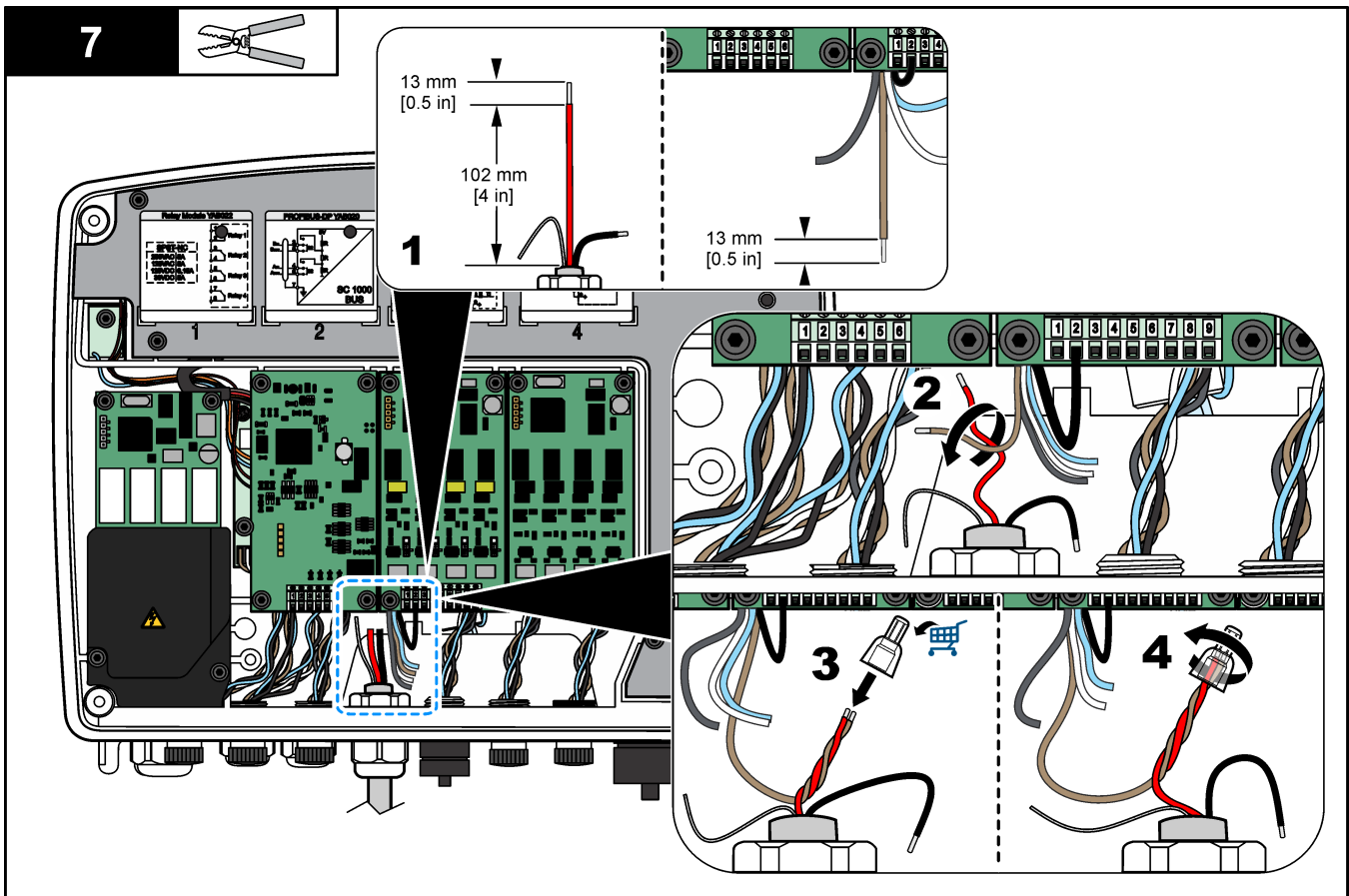


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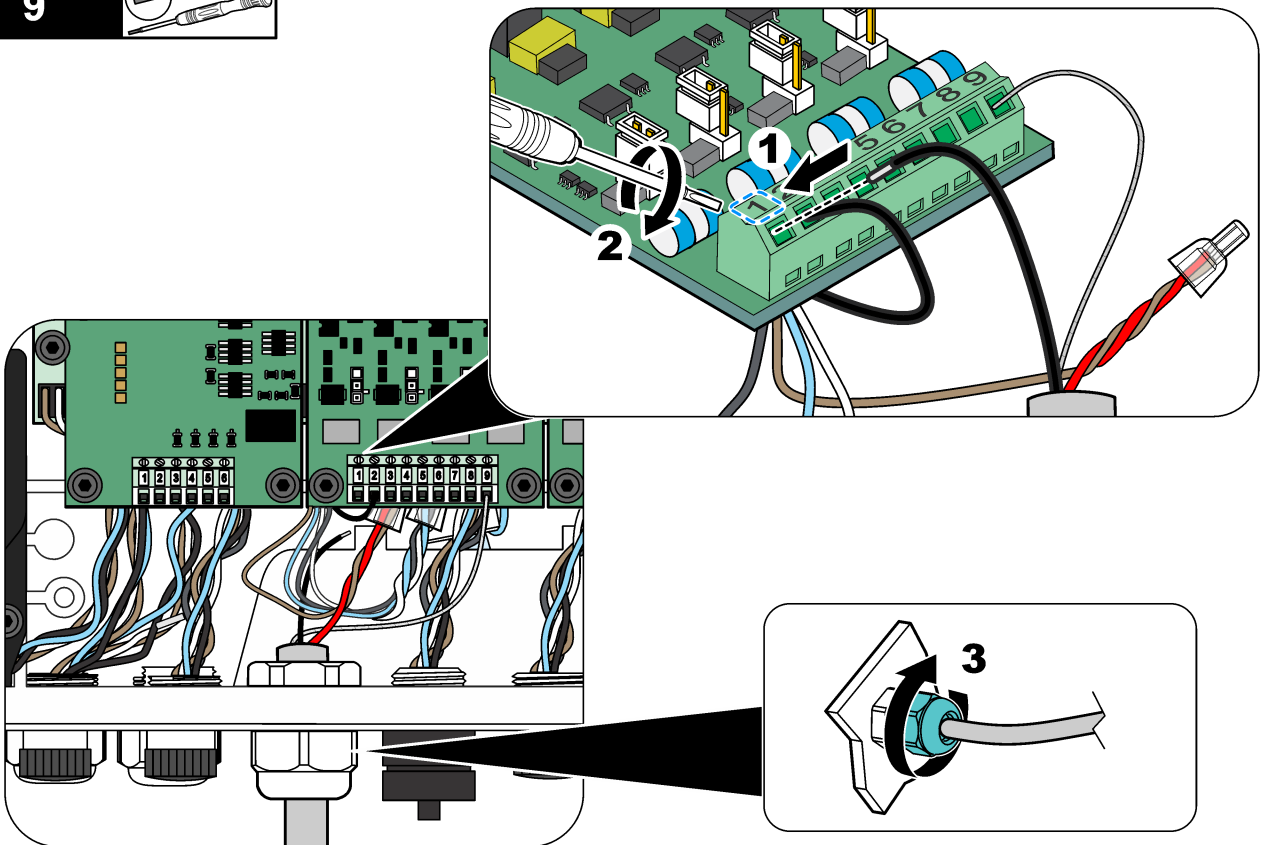


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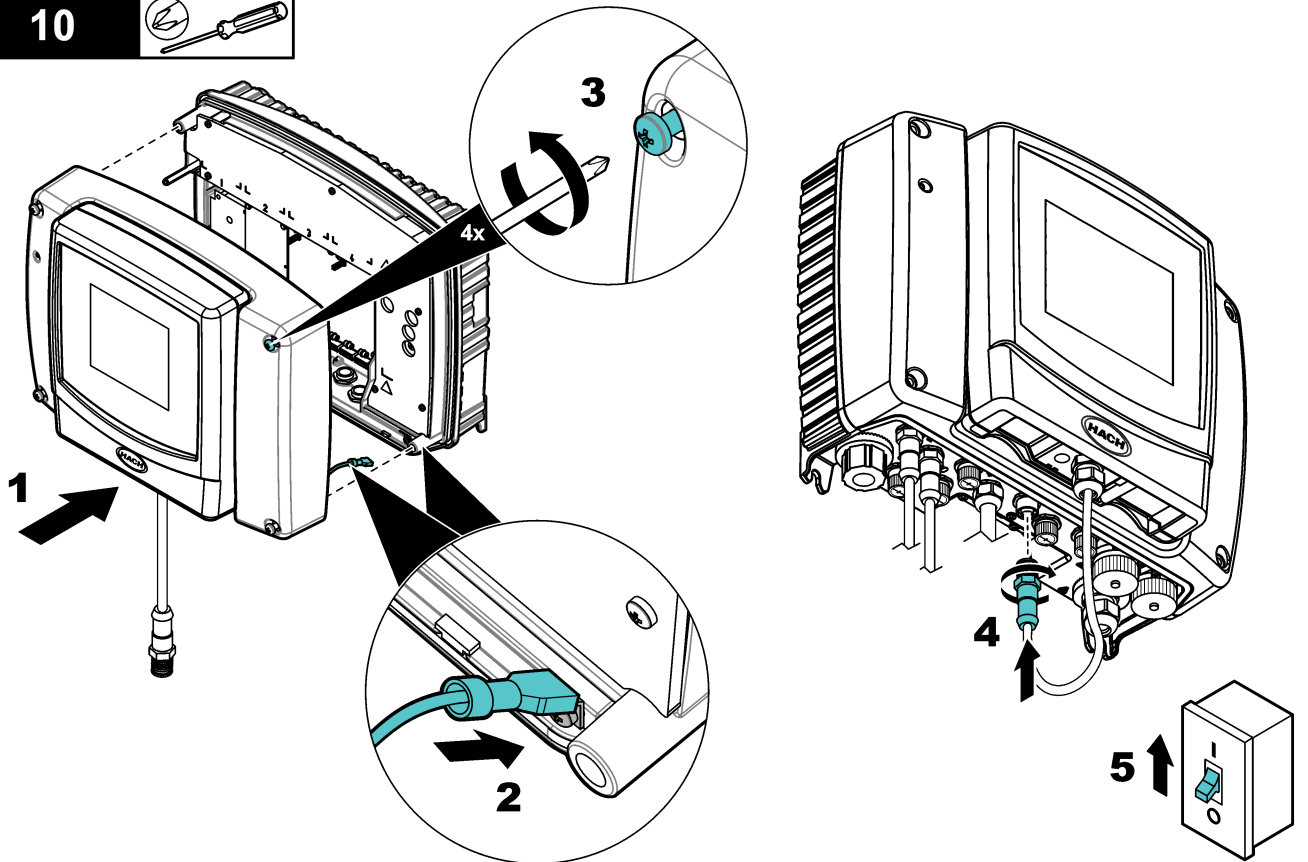




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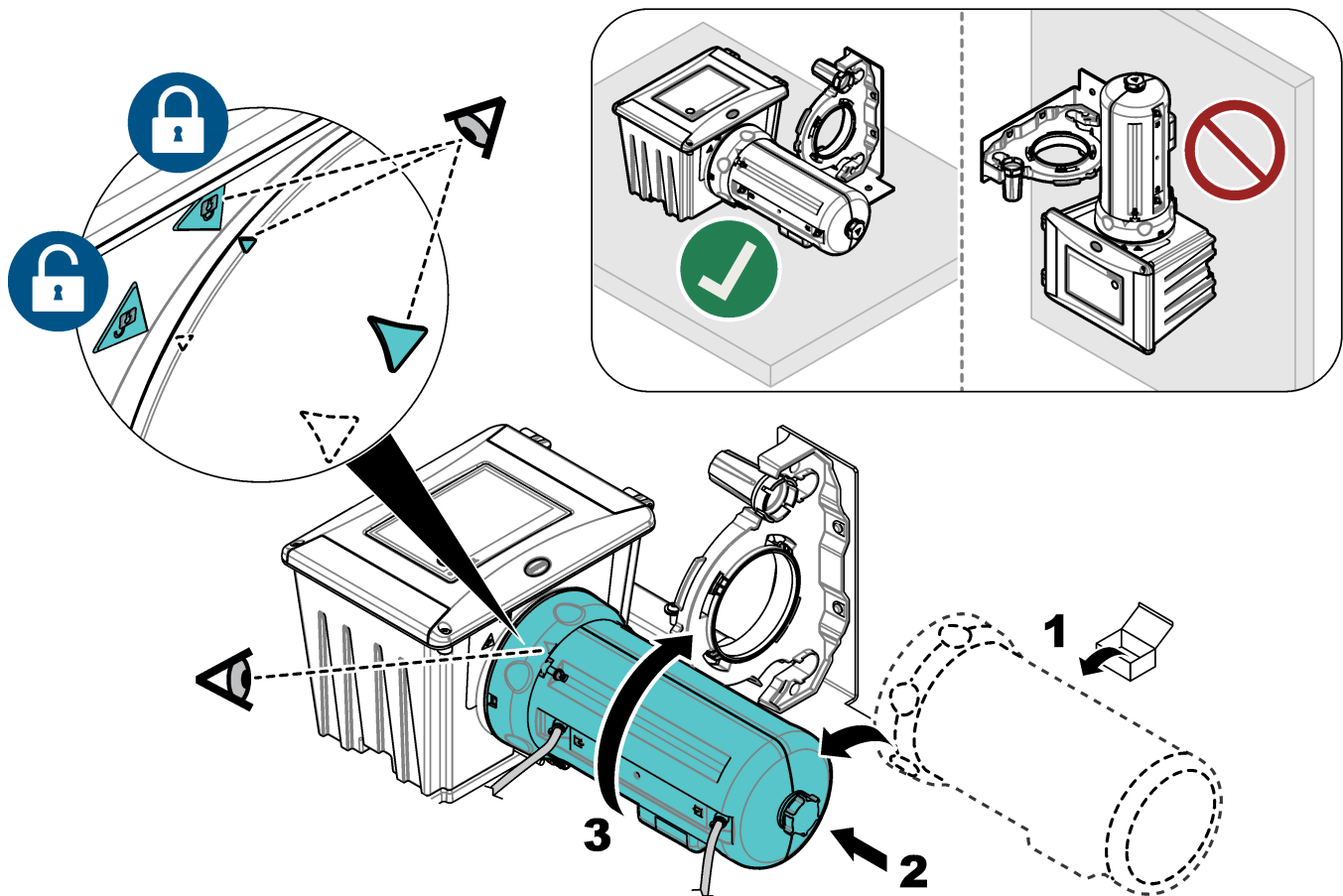
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2.4.2 Install the ACM on the turbidimeter

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 6](#).

Figure 6 Install the ACM on the turbidimeter



2.4.3 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 7](#) for product dimensions. The dimensions are approximately the same for the six panels. Refer to [Figure 8](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 7 Product dimensions

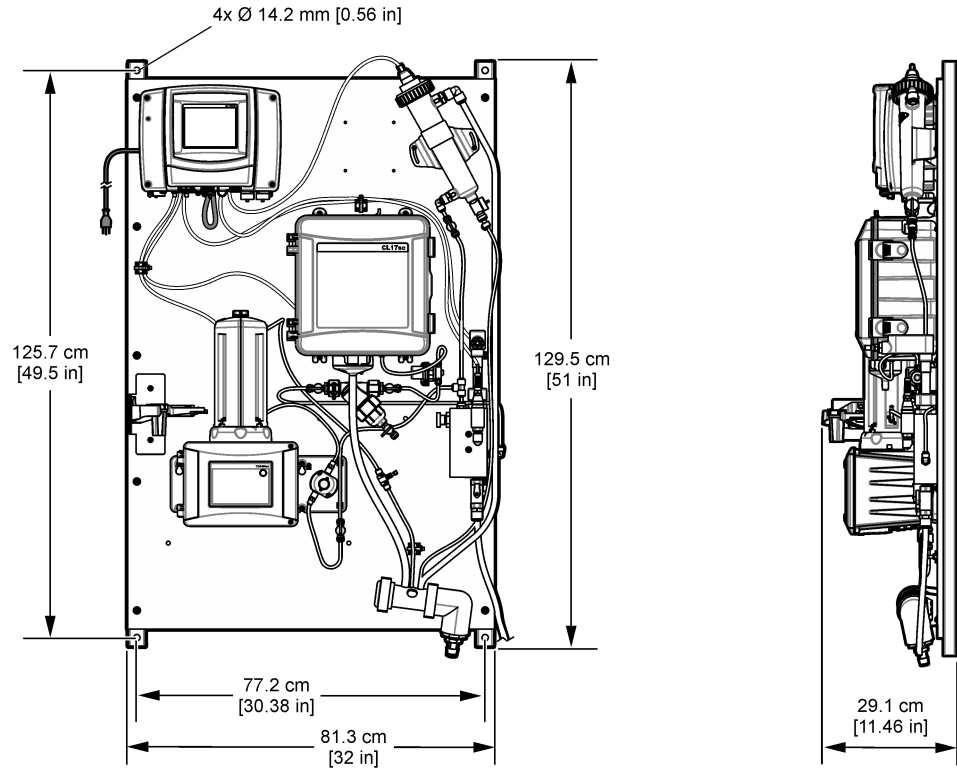
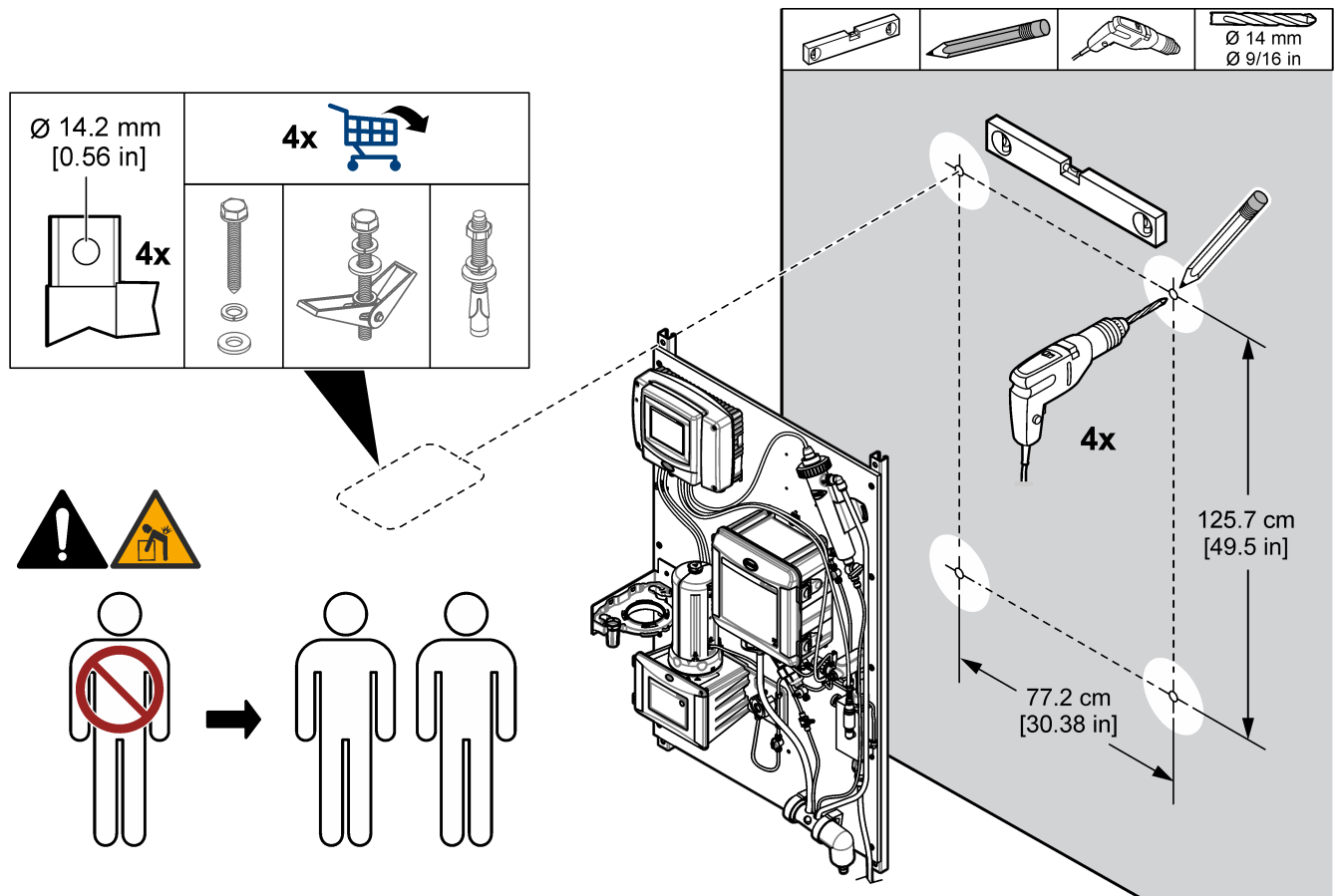


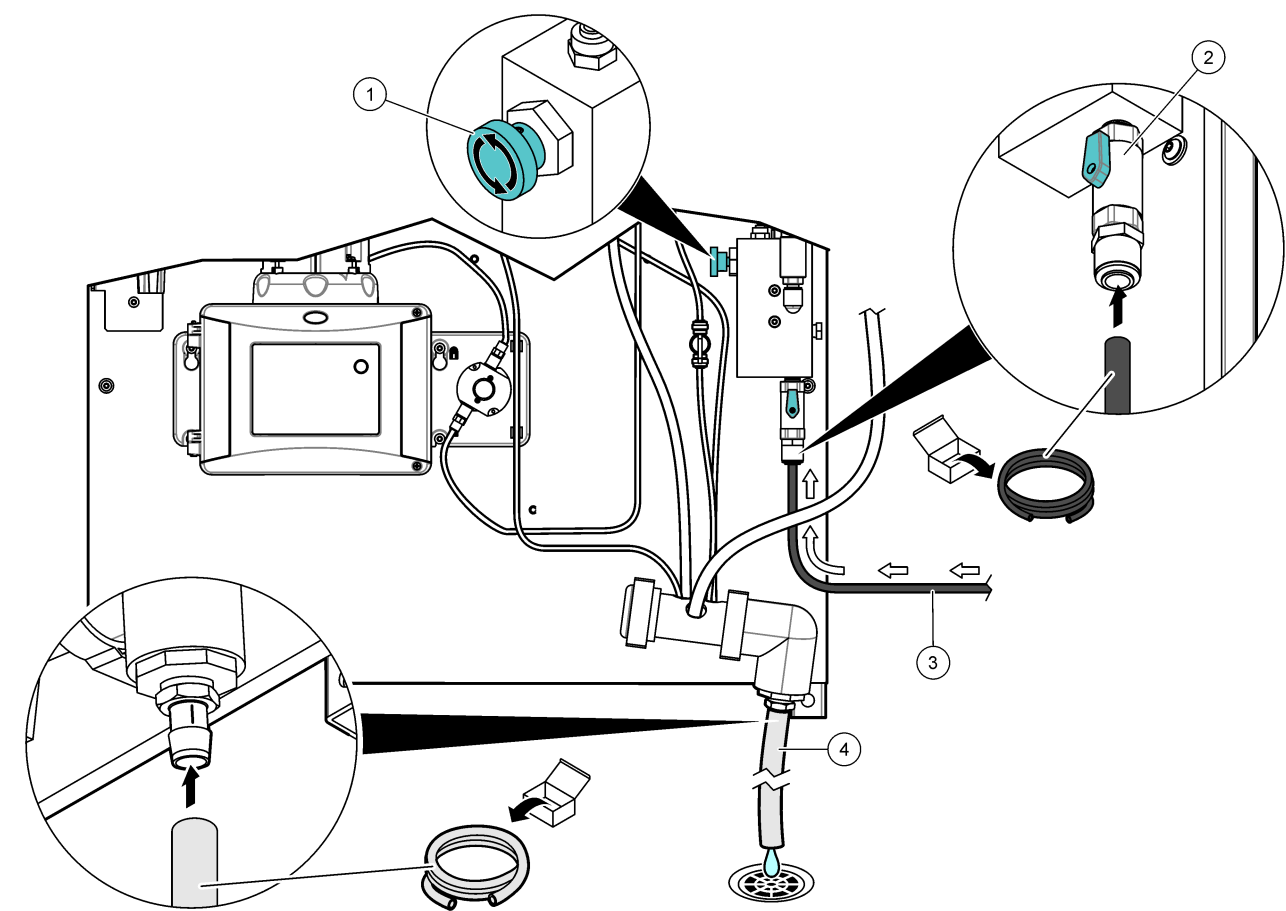
Figure 8 Hang the panel on a wall



2.4.4 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 9](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 9 Sample and drain connections



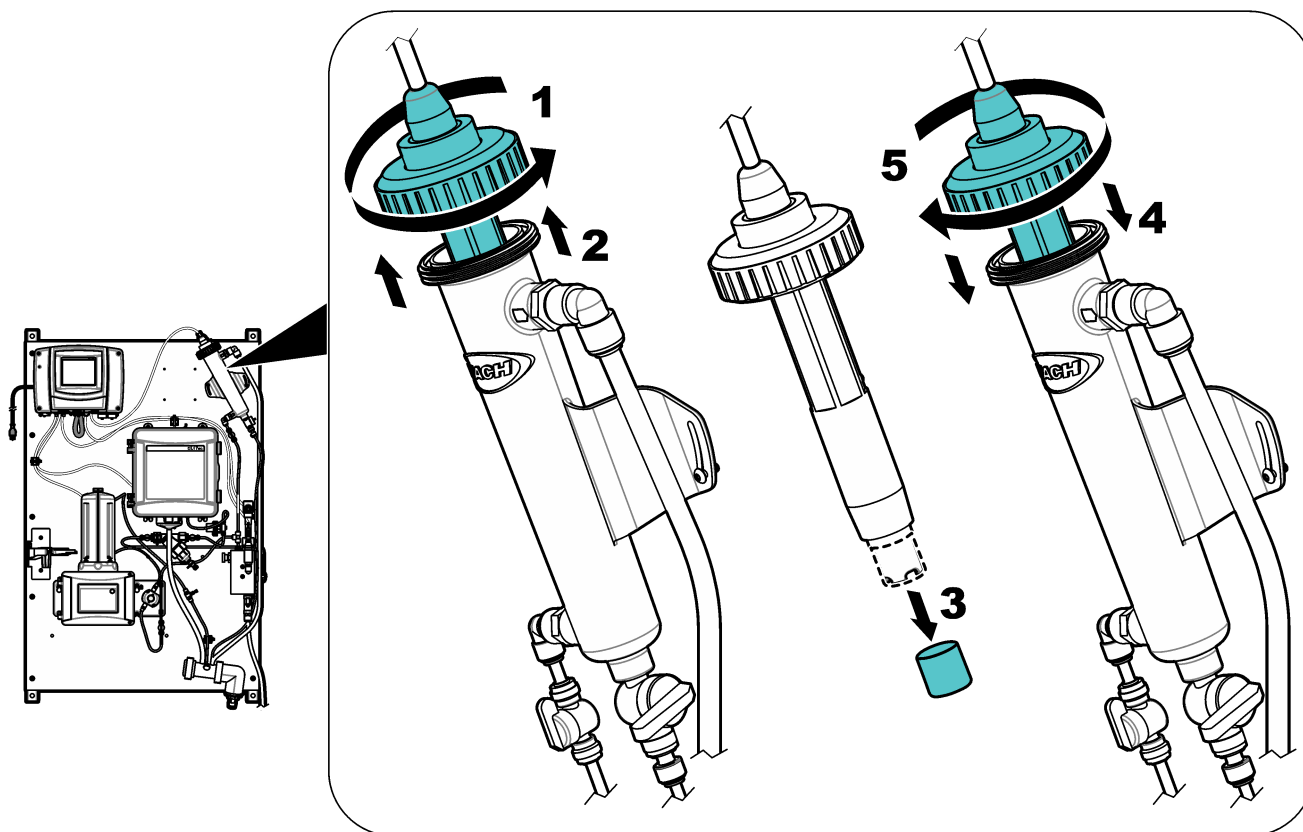
1 Inlet needle valve	3 Sample tubing
2 Inlet ball valve	4 Drain tubing

2.4.5 Remove the cap from the pH sensor

Remove the protective cap from the pH sensor before startup. Refer to [Figure 10](#).

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

Figure 10 Remove the cap from the pH sensor



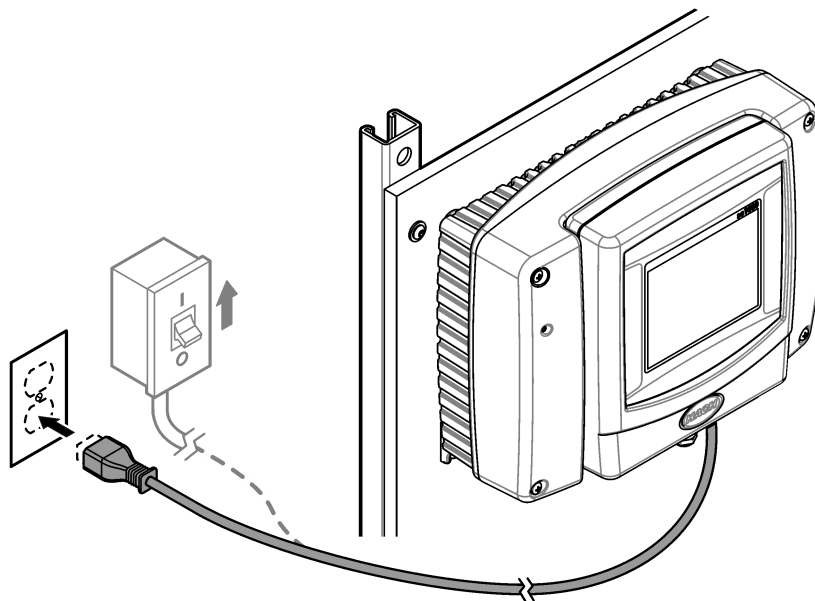
2.5 Startup

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 12.
4. Examine the plumbing for fluid leaks. Stop the leaks if found.
5. Apply power to the controller. Refer to [Figure 11](#). 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. If the panel came without a controller, set a name for the pressure sensor as follows:
 - a. From the main menu, select **SC1000 SETUP > CURRENT INPUTS > mA INPUT INT** and select **CURRENT INPUT 1**.
 - b. Go to **EDIT NAME** and enter **PRESSURE**.
7. For panels with the CL17sc chlorine analyzer, start the prime operation for the reagents. Refer to the CL17sc chlorine analyzer user manual for instructions.

8. 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.
9. Calibrate the turbidimeter, the pH sensor and the conductivity sensor. Refer to the supplied user manuals for calibration instructions.
10. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 11 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, 3/4-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

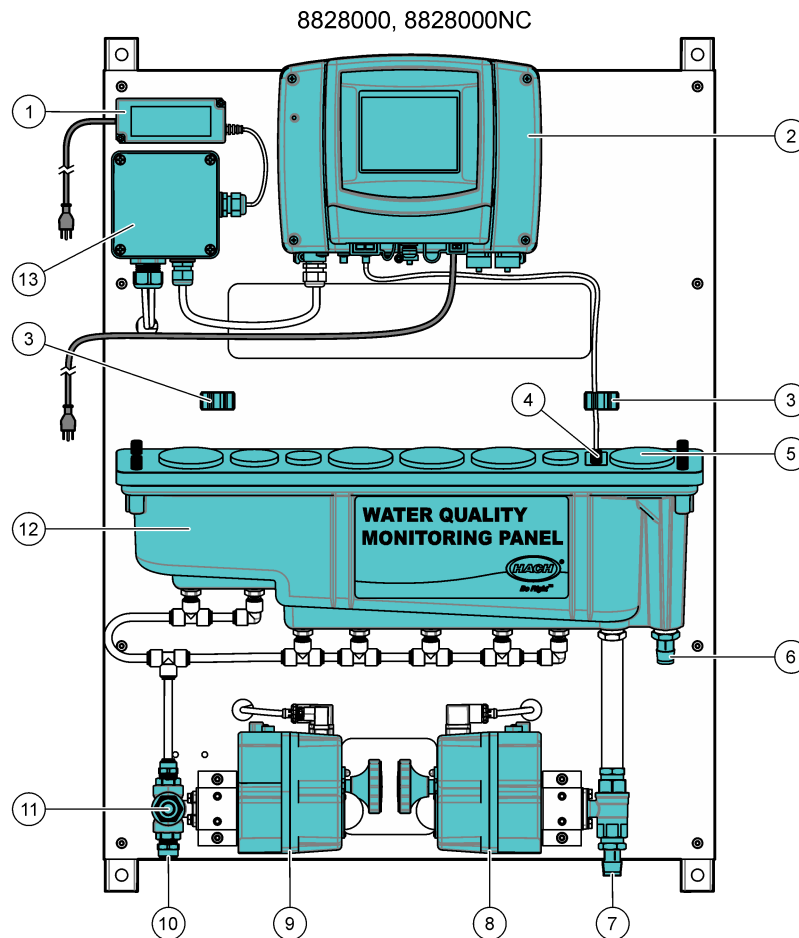
Section 3 WQMP

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 most electrical and plumbing connections installed at the factory. The user must make electrical connections on the panels that ship without the controller. Refer to [Figure 12](#) and [Table 4](#).

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 12 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	

Table 4 WQMP part numbers

Part number	Description
8828000	WQMP with the SC1000 Controller
8828000NC	WQMP without the SC1000 Controller

3.2 Specifications

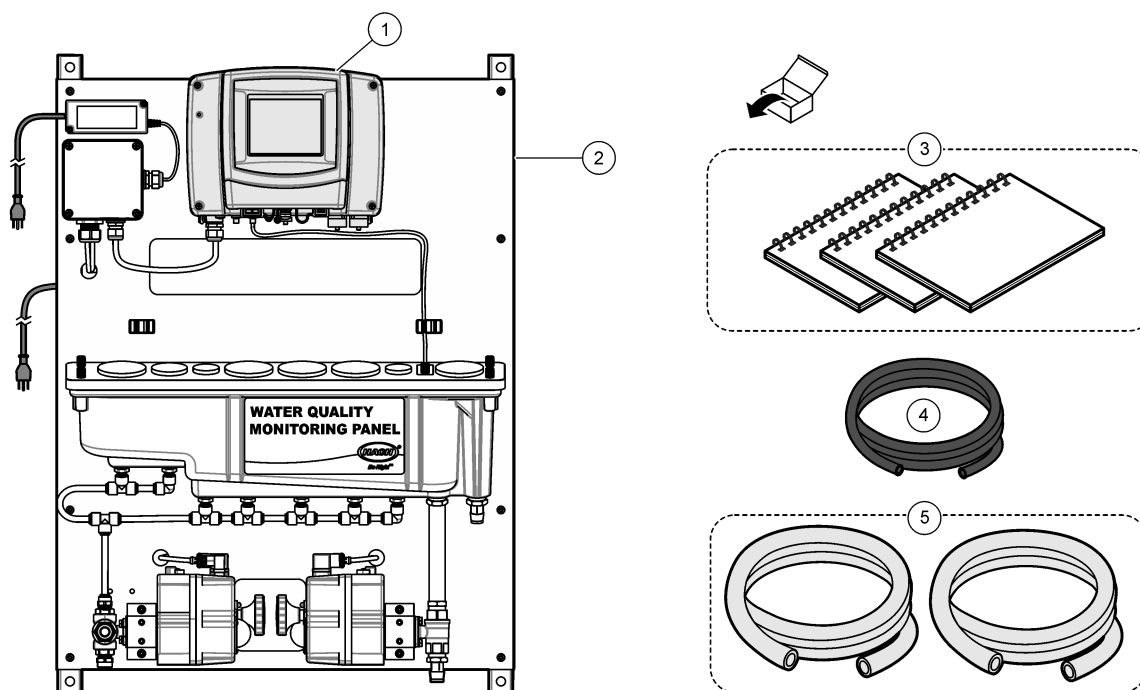
Specifications are subject to change without notice. The specifications that follow are for the WQMP panel. Refer to the instrument user manuals for the controller and sensor specifications.

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 13](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 13 Product components



1 SC1000 Controller (not included with WQMP panel 8828000NC)	3 User manuals	5 Tubing, drain, 3/4-inch ID × 1-inch OD, 1.8 m (6 ft) (2x)
2 WQMP	4 Tubing, sample, 0.375-inch ID × 0.500-inch OD, 1.8 m (6 ft)	

3.4 Installation

⚠ WARNING



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

3.4.1 Install the SC1000 Controller (if applicable)

⚠ DANGER



Electrocution hazard. Always remove power to the instrument before making electrical connections.

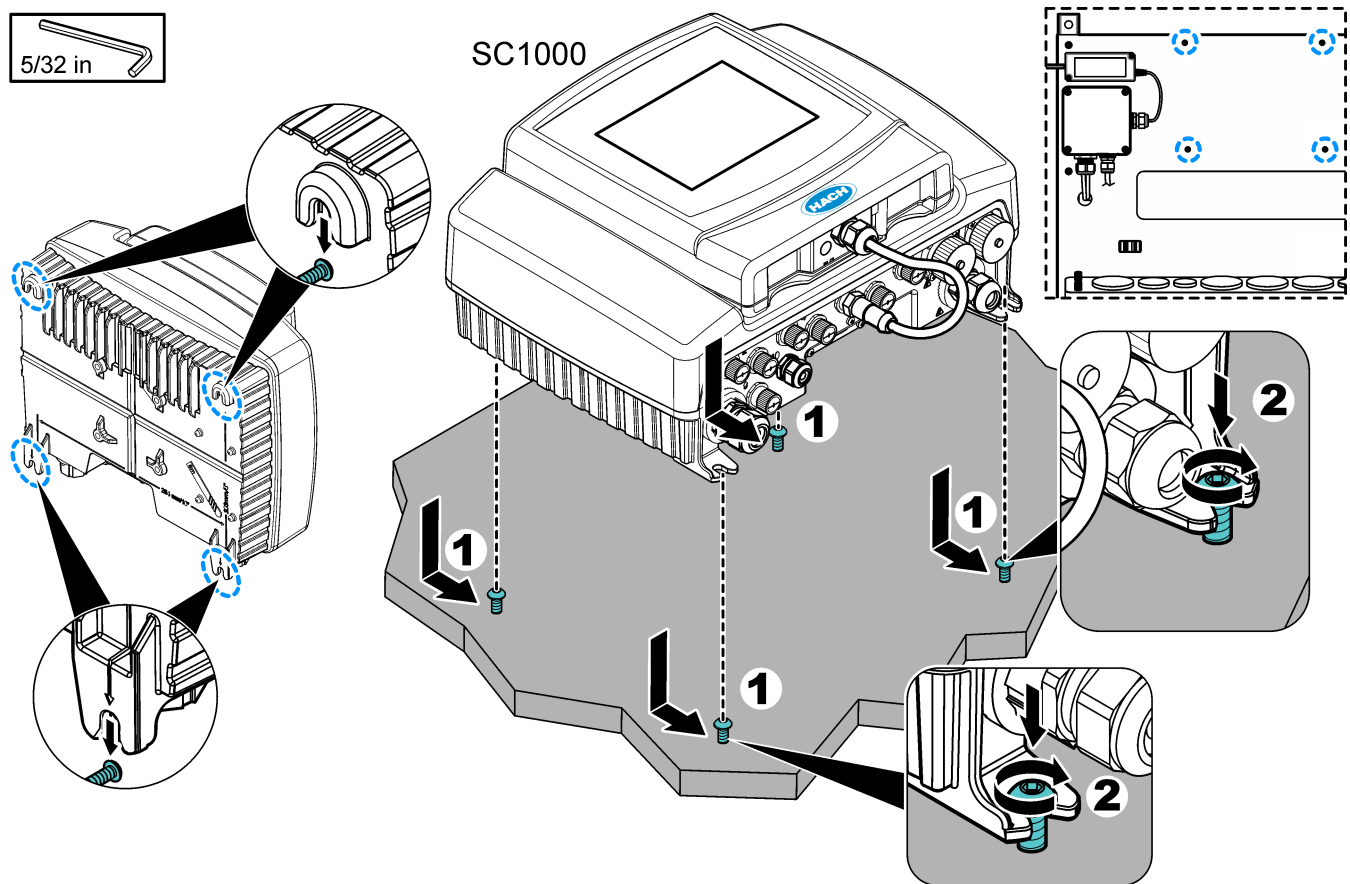
The user must install an SC1000 Controller on the WQMP panel that ships without a controller (8828000NC). Mount the controller and make the electrical connections as follows:

- [Attach the controller to the panel](#) on page 30
- [Install the junction box and level sensor](#) on page 31

3.4.1.1 Attach the controller to the panel

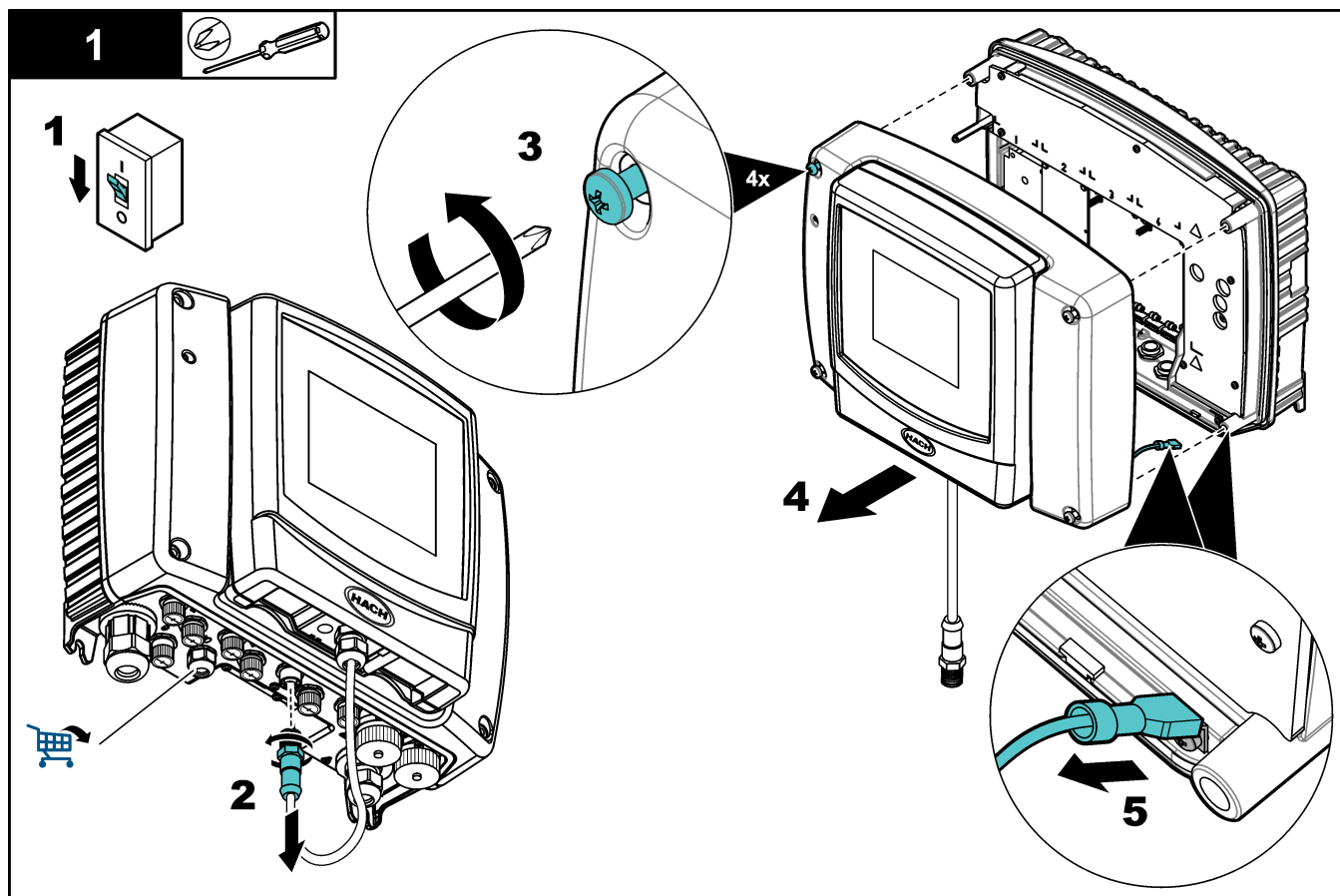
The SC1000 Controller probe module has four mounting holes that align with four mounting bolts on the panel. Refer to [Figure 4](#) to attach the controller to the panel.

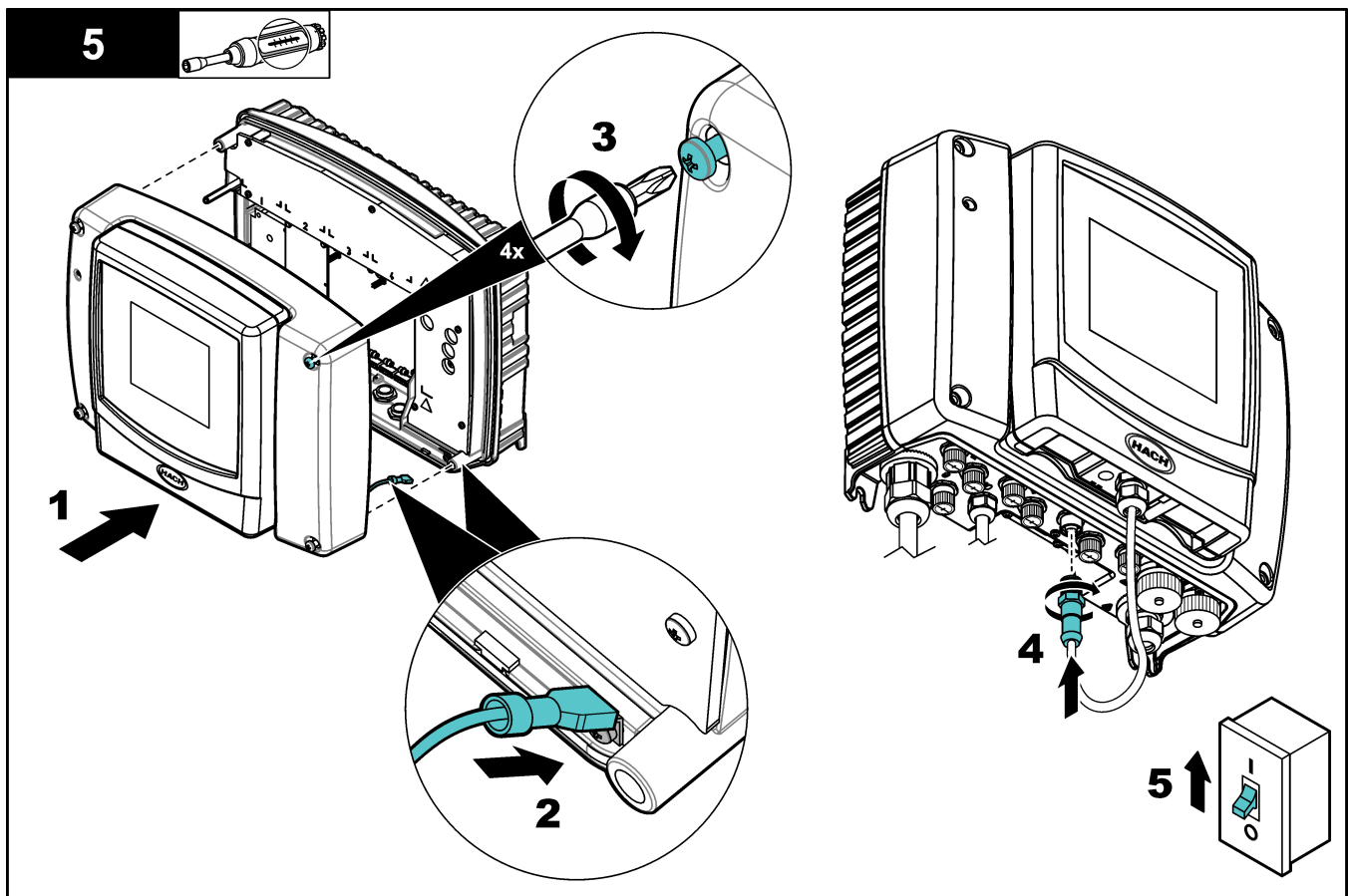
Figure 14 Attach the SC1000 Controller to the panel



3.4.1.2 Install the junction box and level sensor

Refer to the illustrated steps that follow to install the wires from the junction box and the level sensor in the SC1000 Controller. During startup, make sure to configure the level sensor. Refer to [Startup](#) on page 38.





3.4.2 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 15](#) for product dimensions. Refer to [Figure 16](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 15 Product dimensions

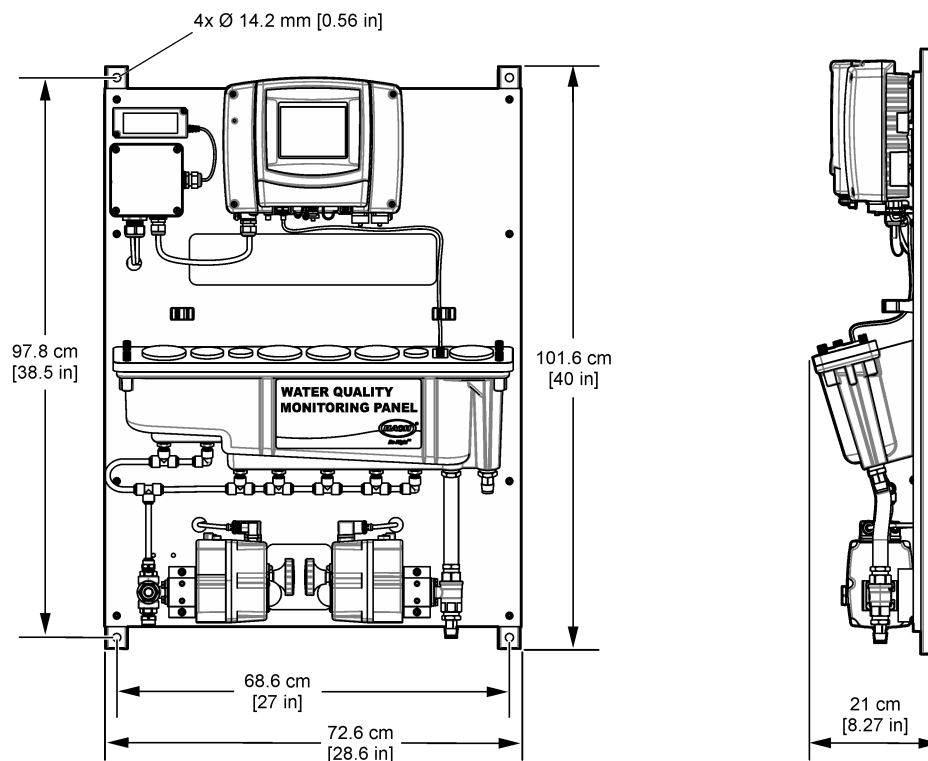
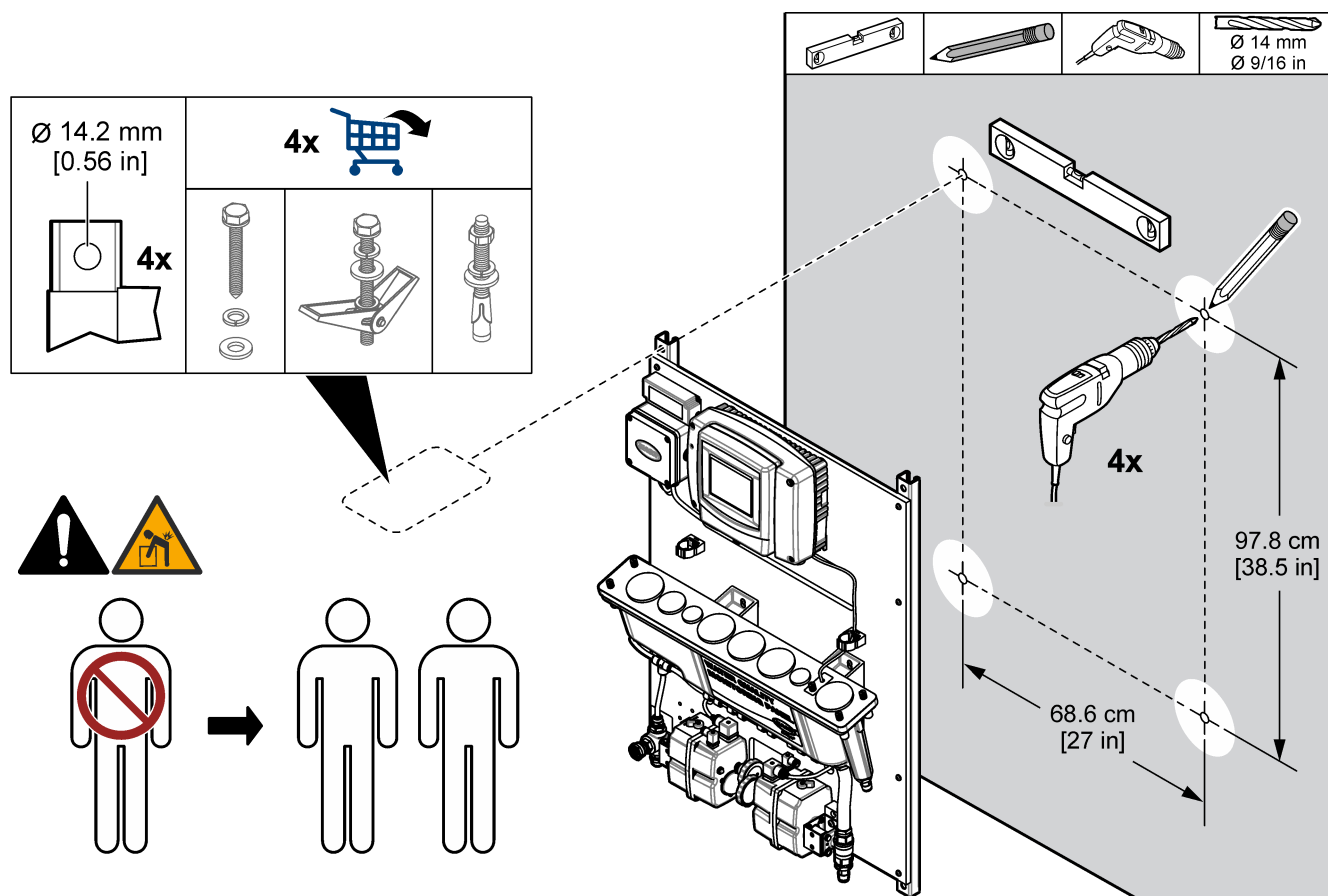


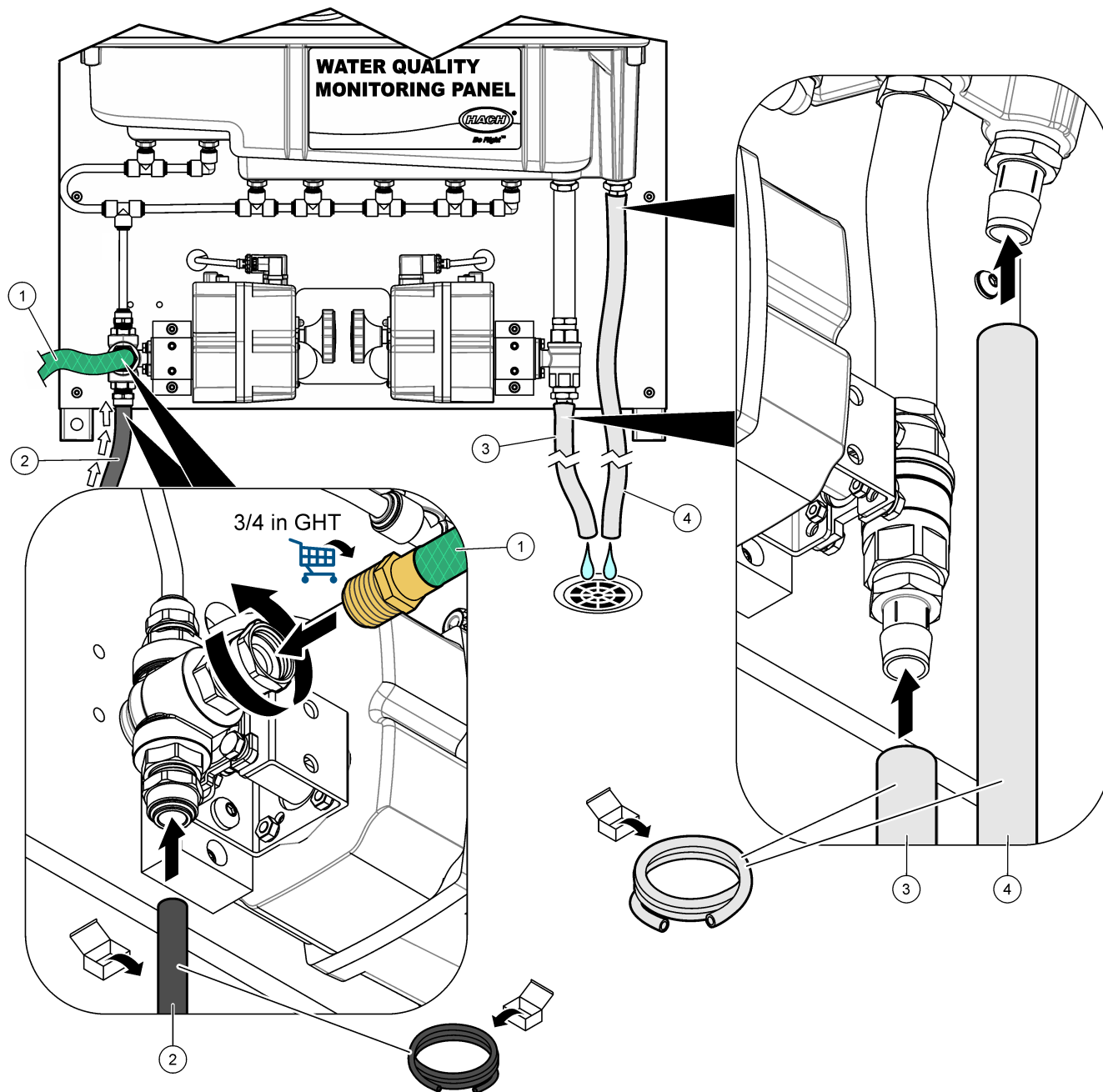
Figure 16 Hang the panel on a wall



3.4.3 Install the sample, flush and drain lines

Install the sample and drain tubing as shown in [Figure 17](#). 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 17](#). Supply clean water to the flush inlet.

Figure 17 Sample, flush and drain connections



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

3.4.4 Install the sensors

Refer to [Table 5](#) for the sensors that can be installed in the flow channel with the use of the applicable adapters.

Table 5 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	

1. Refer to the sensor user manuals to complete the necessary sensor preparation tasks (e.g., remove the cap from the pH sensor).
2. Use the applicable adapter to install the sensors in the port holes. Refer to [Figure 18](#).
3. Connect each cable from the sensors (or gateway) to one of the digital SC connectors on the SC1000 Controller. Refer to [Figure 19](#). If the sensor uses a gateway, put the gateway in one of the gateway holders on the panel. Refer to [Figure 20](#).

Figure 18 Install the sensors—pH sensor example

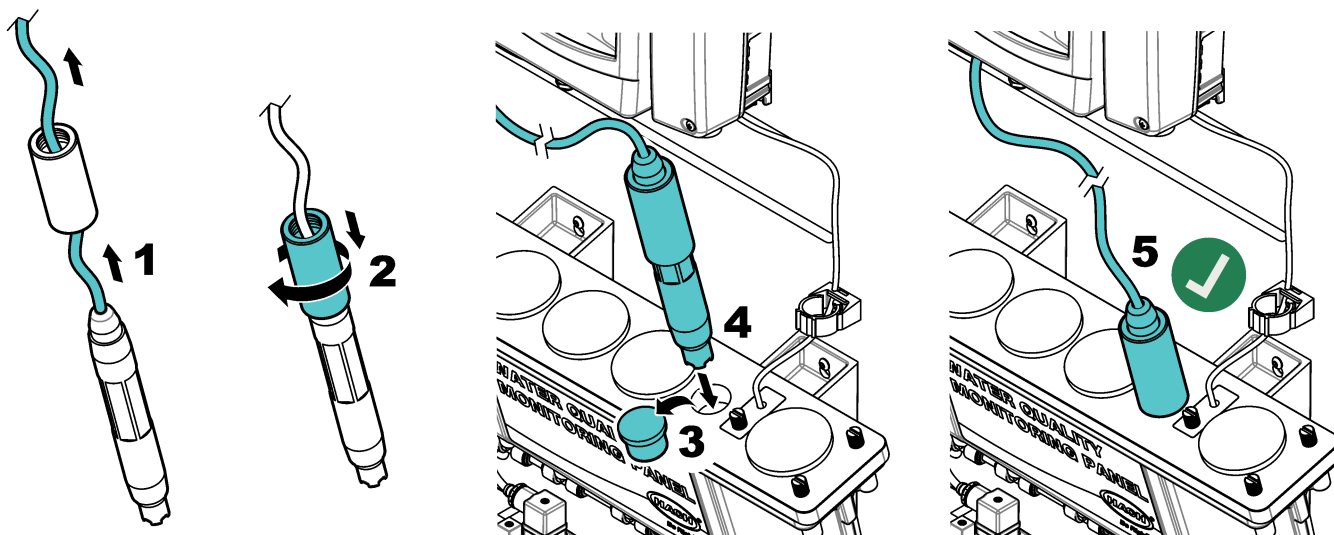


Figure 19 Connect the sensors to the SC1000 Controller

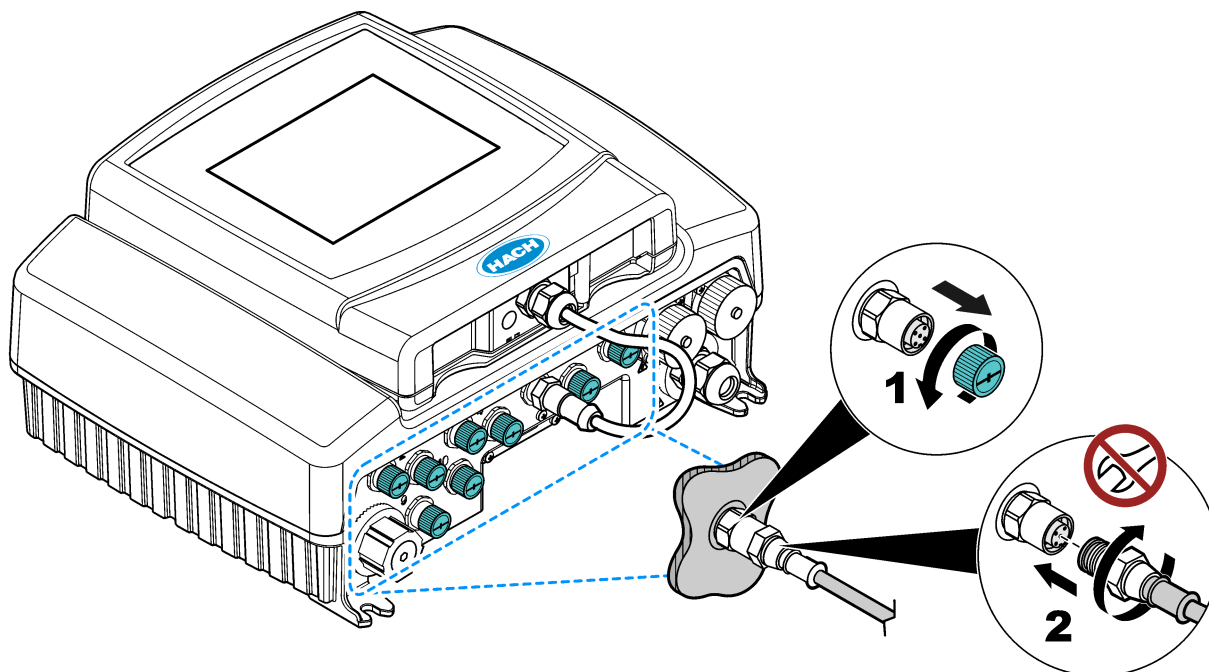
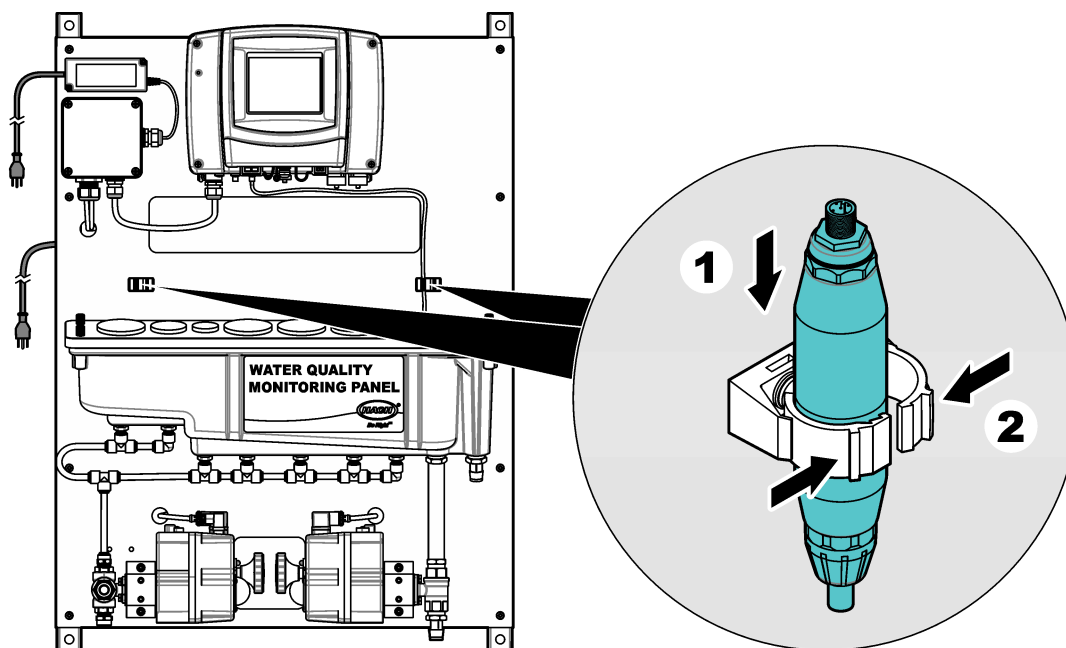


Figure 20 Install the gateway



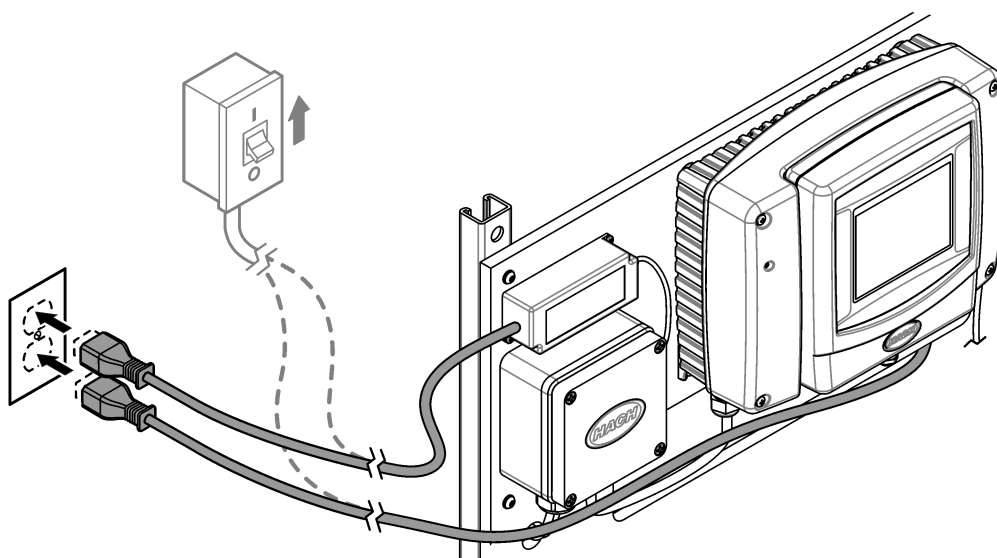
3.5 Startup

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 28.
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 21](#). 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. If the panel came without a controller (8828000NC), configure the level sensor as follows:
 - a. From the main menu, select **SC1000 SETUP > CURRENT INPUTS > mA INPUT INT** and select **CURRENT INPUT 1**.
 - b. Go to **EDIT NAME** and enter LEVEL.
 - c. Go to **SET FUNCTION** and select **DIGITAL**.
 - d. Go to **LOGIC** and select **REVERSE**.
 - e. Move the level sensor up and down in the flow channel. The reading for LEVEL changes if the level sensor is configured correctly.
6. Calibrate the installed sensors. Refer to the supplied user manuals for calibration instructions.
7. 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 40

Figure 21 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 pH.D.
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.

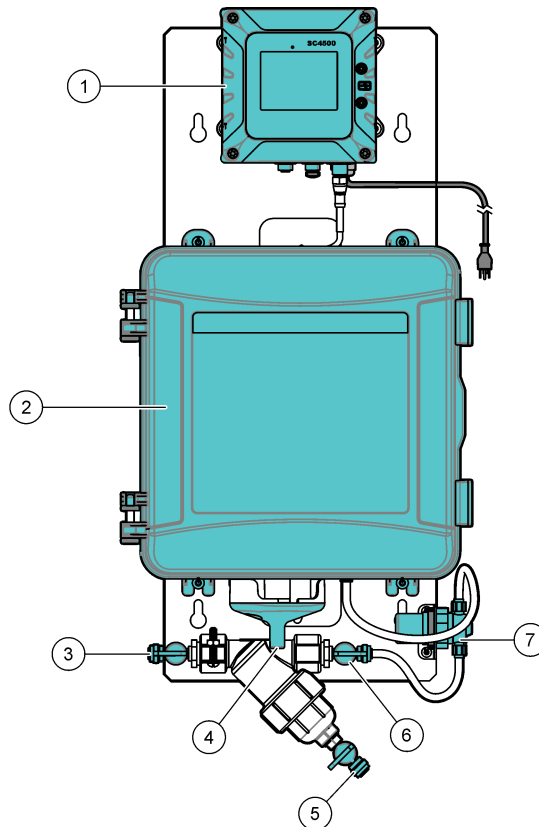
Description	Item no.
Automatic 3-way ball valve assembly, ½-inch NPT, 24 V	8830700
Automatic 2-way ball valve assembly, ¾-inch NPT, 24 V	8830800
Tubing, drain, ¾-inch ID × 1-inch OD	5994800
Tubing, sample, 0.375-inch ID × 0.500-inch OD	5115900

Section 4 SPMP-CL and SPMP-ULRCL

4.1 Product overview

The Single Parameter Monitoring Panel for chlorine (SPMP-CL or SPMP-ULRCL) is a chlorine analyzer that is plumbed and installed on a panel. Refer to [Figure 22](#). The controller on the panel sends the data to a communications network for remote monitoring.

Figure 22 SPMP-CL/SPMP-ULRCL overview



1 SC4500 Controller	5 Filter drain
2 CL17sc (or Ultra Low Range CL17sc) chlorine analyzer	6 Isolation valve
3 Sample inlet, ¼-inch OD tubing	7 Pressure regulator
4 Sample drain, ½-inch ID tubing	

4.2 Specifications

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

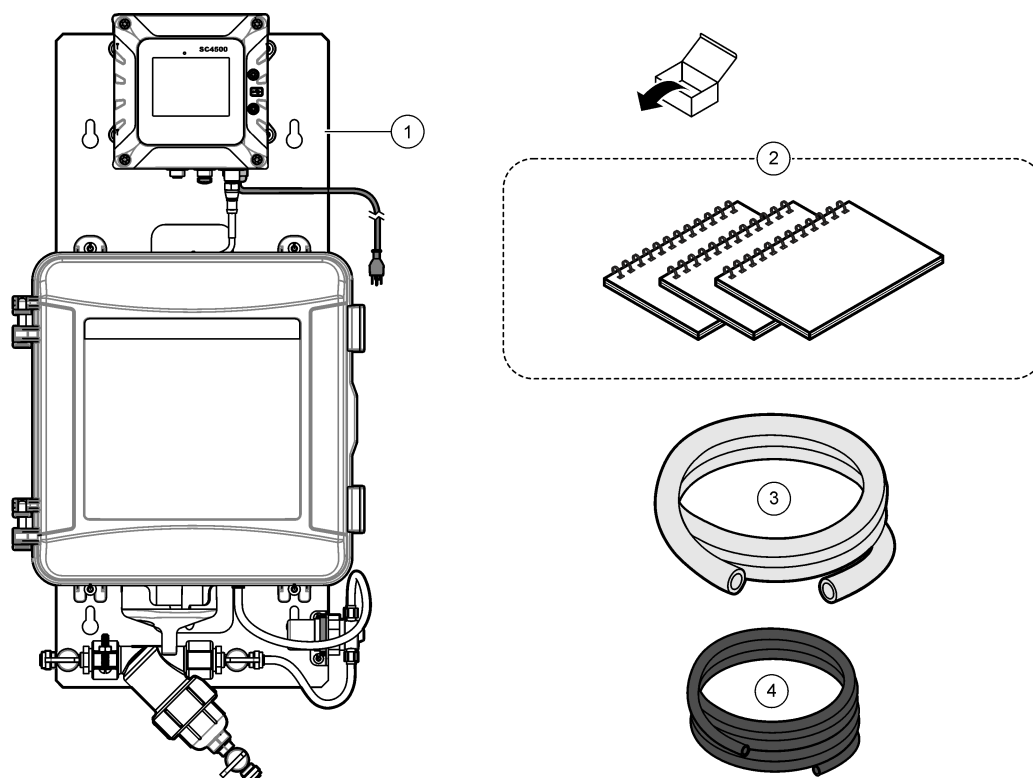
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 21.8 cm (13 x 28 x 8.6 inch)
Weight	9 kg (20 lb)
Power requirements	100–240 VAC ±10%, 50/60 Hz; maximum 1 A
Sample flow rate	60 to 200 mL/min
Sample pressure	31 to 517 kPa (4.5 to 75 psi)

Specification	Details
Sample inlet connection	¼-inch OD tube
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 23](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 23 Product components



1 SPMP-CL or SPMP-ULRCL	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 24](#) for product dimensions. Refer to [Figure 25](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 24 Product dimensions

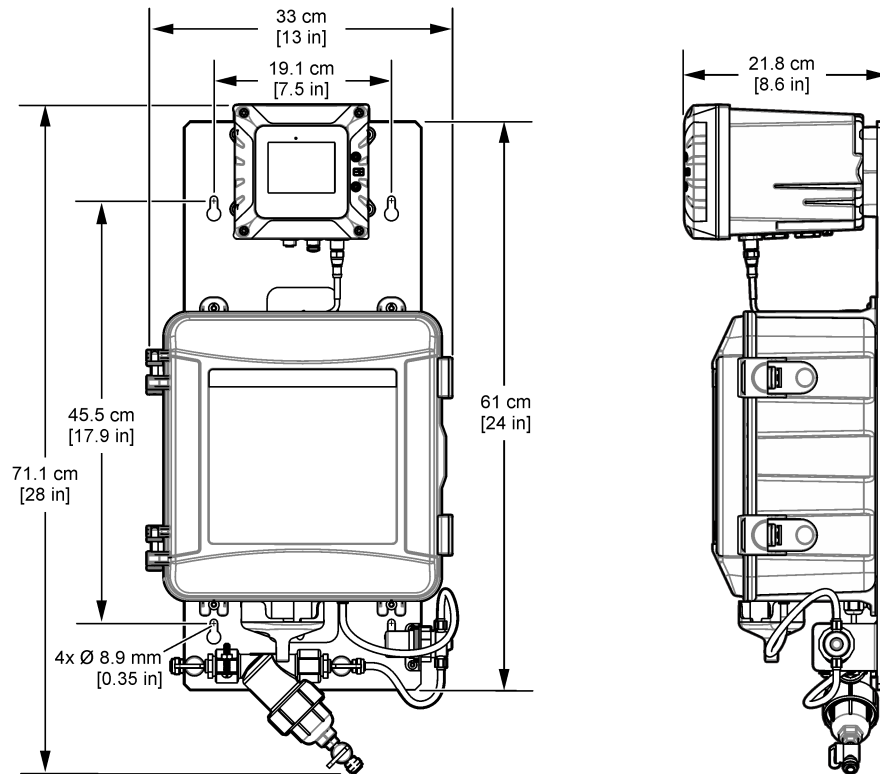
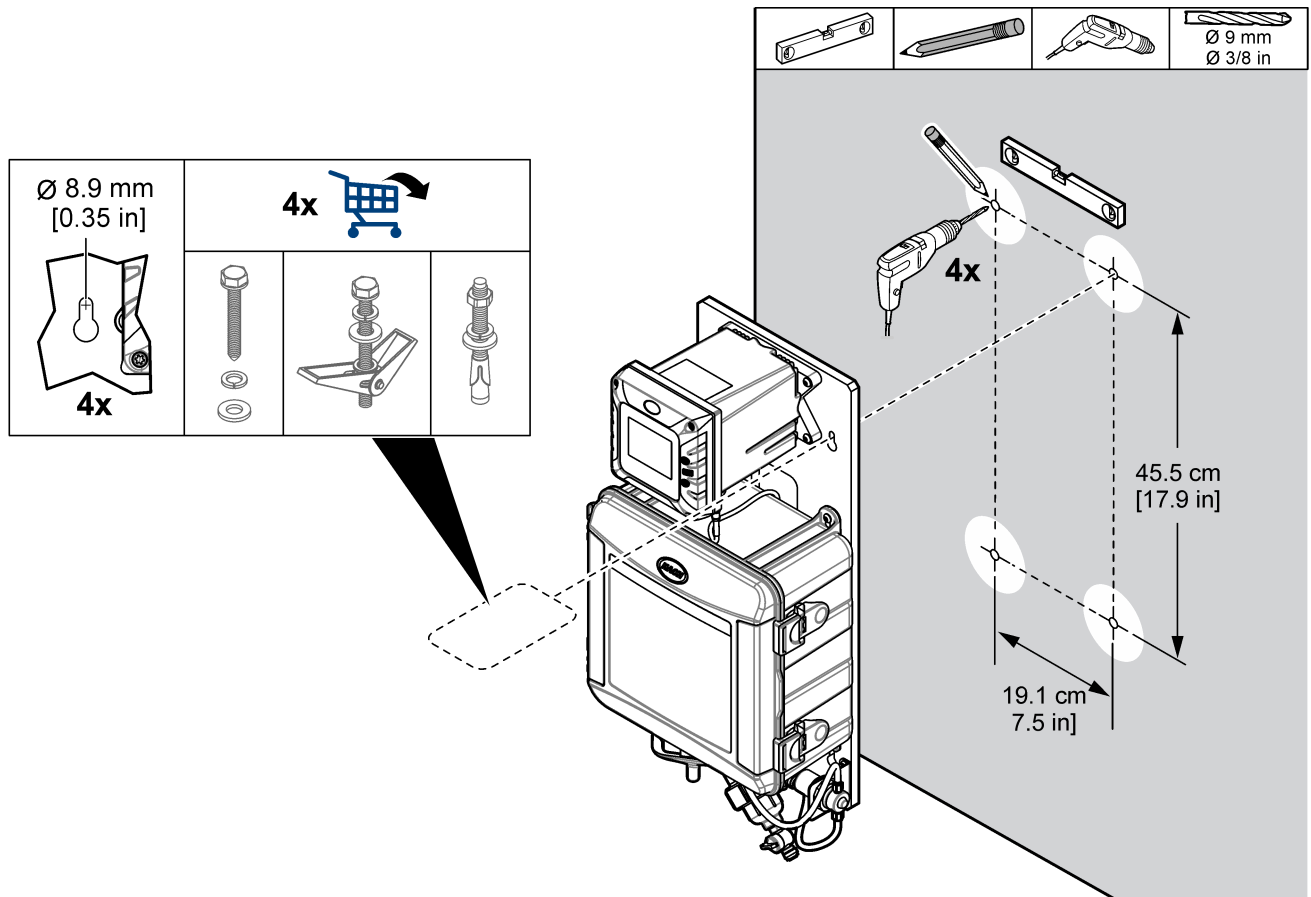


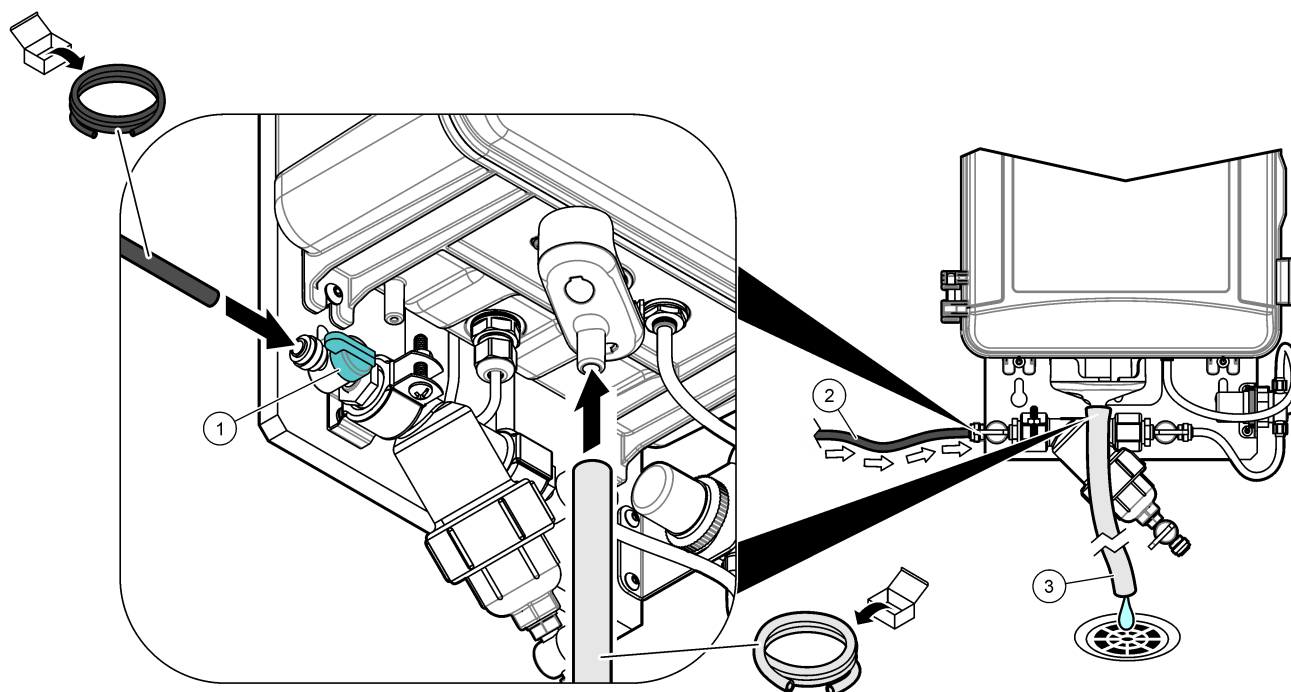
Figure 25 Hang the panel on a wall



4.4.2 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 26](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 26 Sample and drain connections



1 Inlet ball valve

2 Sample tubing

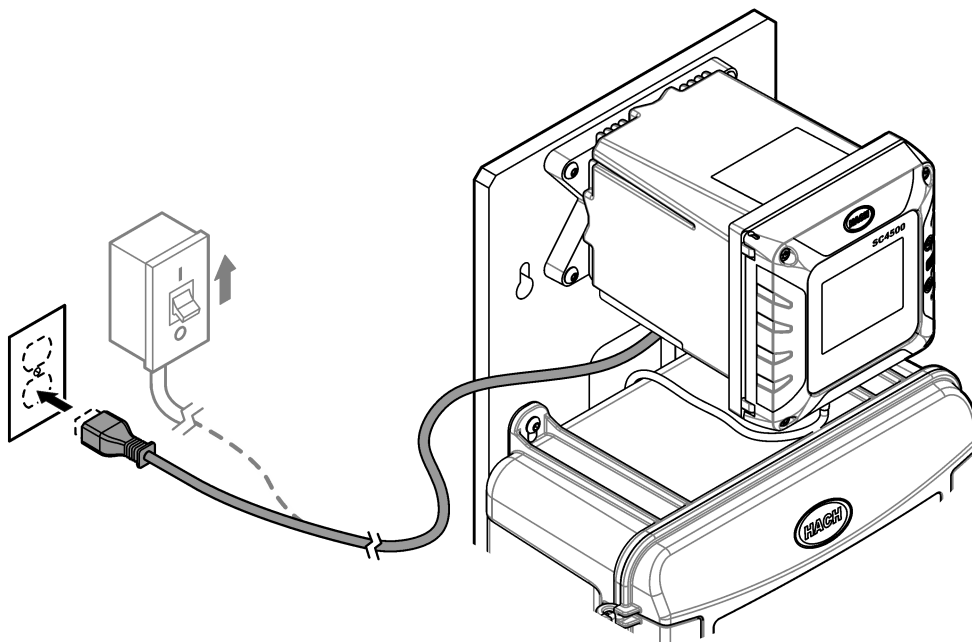
3 Drain tubing

4.5 Startup

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

1. Install the reagents and stir bar in the analyzer. Refer to the CL17sc (or Ultra Low Range 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 41.
3. Examine the plumbing for fluid leaks. Stop the leaks if found.
4. Apply power to the controller. Refer to [Figure 27](#). 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 analyzer reagents. Refer to the CL17sc (or Ultra Low Range CL17sc) chlorine analyzer user manual for instructions.
6. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 27 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.

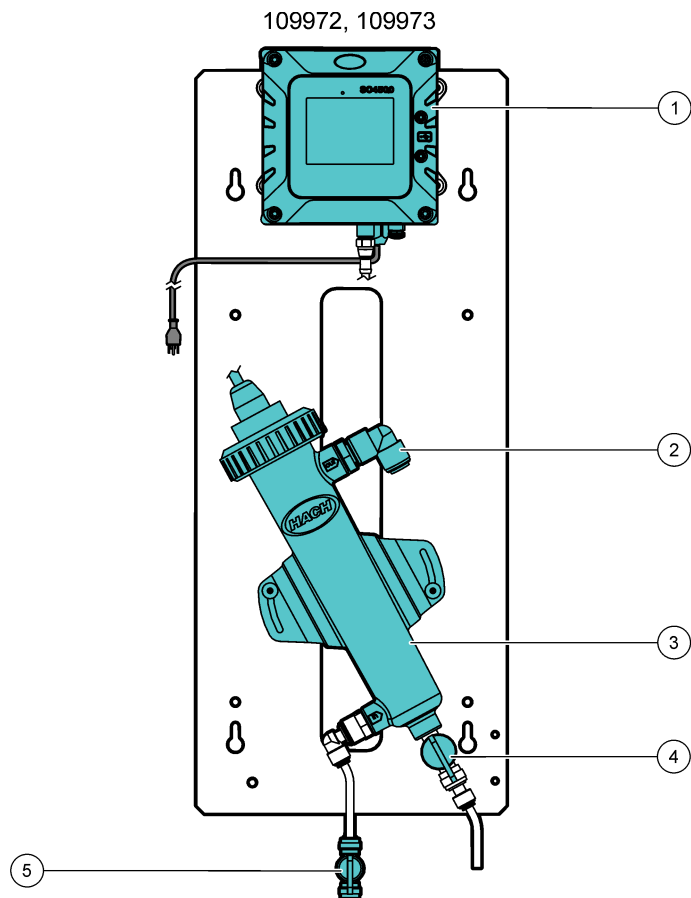
Description	Item no.
Tubing, drain, ½-inch ID × 11/16-inch OD	5410800A
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 5 SPMP-PHD

5.1 Product overview

The Single Parameter Monitoring Panel for pH (109972, 109973) is a pH sensor that is plumbed and installed on a panel. Refer to [Figure 28](#). The controller on the panel sends the data to a communications network for remote monitoring.

Figure 28 SPMP-PHD overview



1 SC4500 Controller	4 Maintenance drain valve
2 Drain tubing connector	5 Inlet ball valve
3 Flow cell with pH sensor	

5.2 Specifications

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

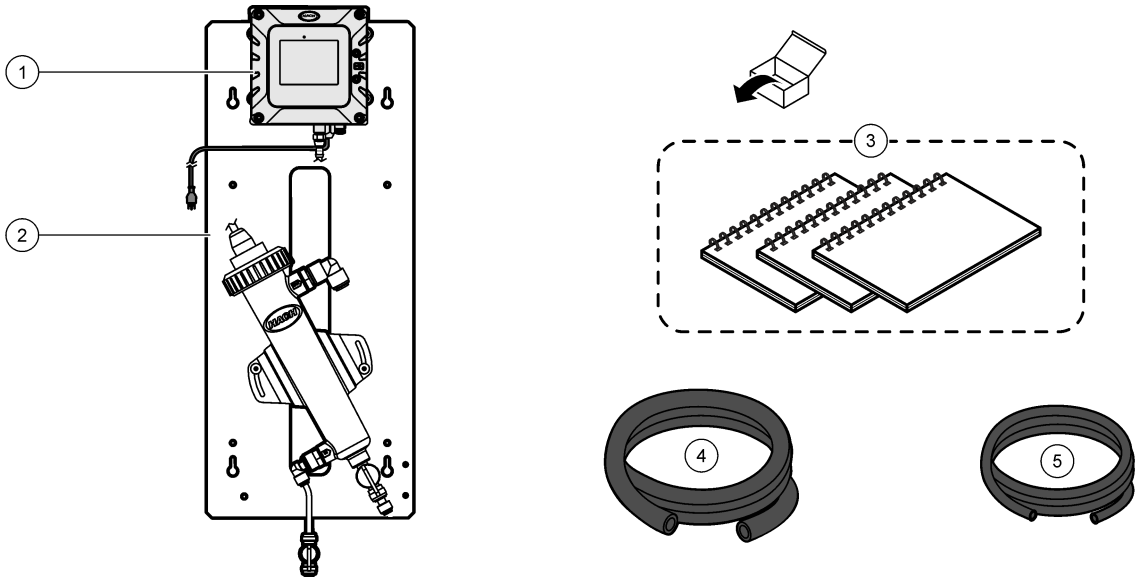
Specification	Details
Dimensions (W x H x D)	25.4 x 62.8 x 21.9 cm (10 x 24.7 x 8.6 inch)
Weight	4.6 kg (10.2 lb)
Power requirements	100–240 VAC $\pm$ 10%, 50/60 Hz; maximum 1 A
Sample flow rate	500–833 mL/min
Sample pressure	345 kPa (50 psi) maximum
Sample inlet connection	¼-inch OD tube

Specification	Details
Sample waste drain connection	½-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 29](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 29 Product components



1 SC4500 Controller (not included with 109973)	4 Tubing, drain, 0.375-inch ID × 0.500-inch OD, 1.8 m (6 ft)
2 SPMP-PHD (109972, 109973)	5 Tubing, 0.170-inch ID × 0.250-inch OD, 6.1 m (20 ft)
3 User manuals	

5.4 Installation

⚠ WARNING

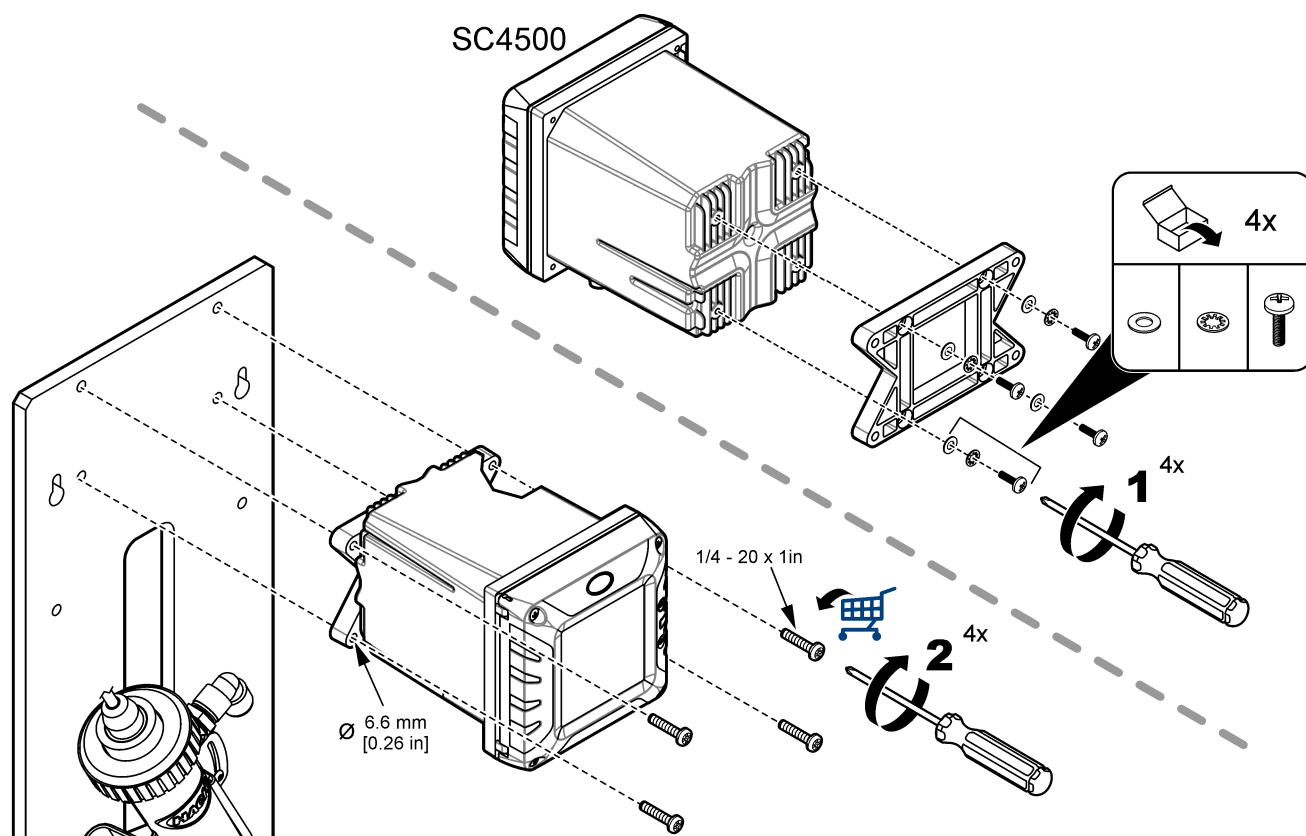


Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

5.4.1 Attach the controller to the panel (if applicable)

The user must install an SC4500 Controller on the SPMP-PHD panel that ships without a controller (109973). The SC Controller has four mounting holes that align with four mounting bolts on the panel. Refer to [Figure 30](#) to attach the controller to the panel.

Figure 30 Attach the SC Controller to the panel



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 31](#) for product dimensions. Refer to [Figure 32](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 31 Product dimensions

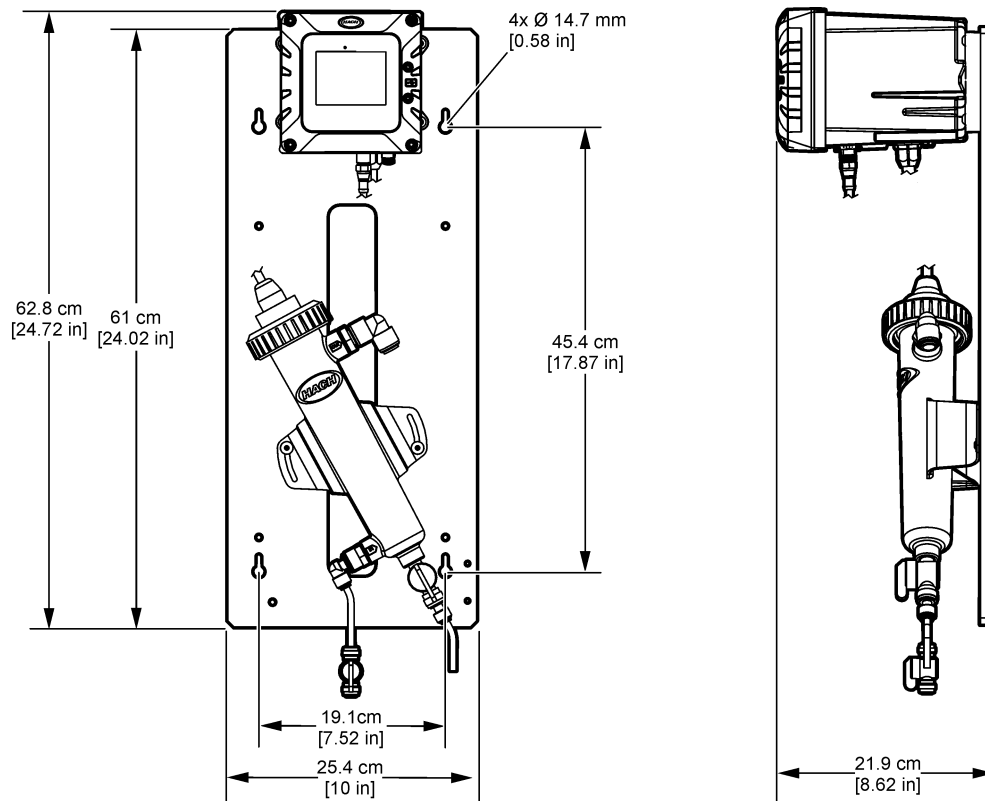
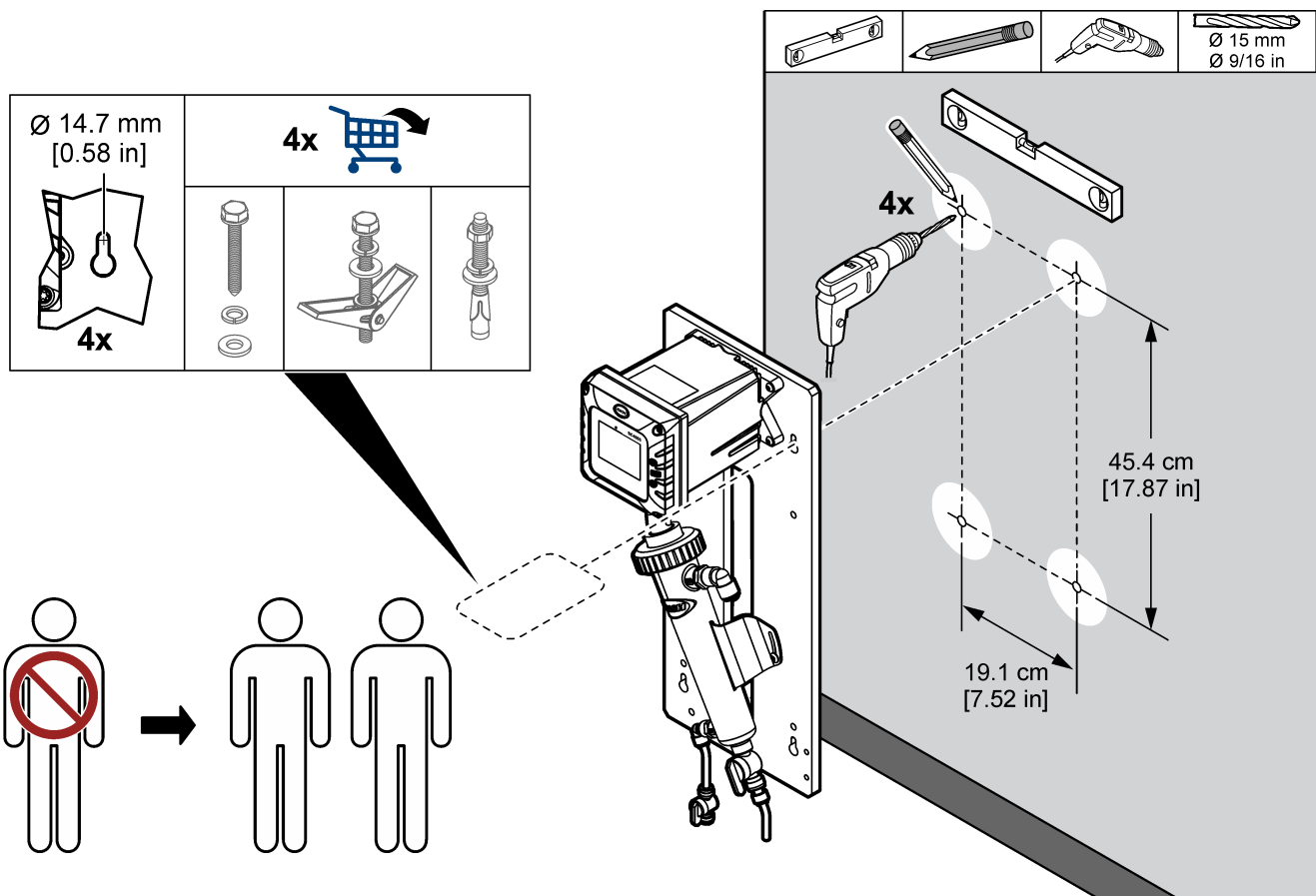


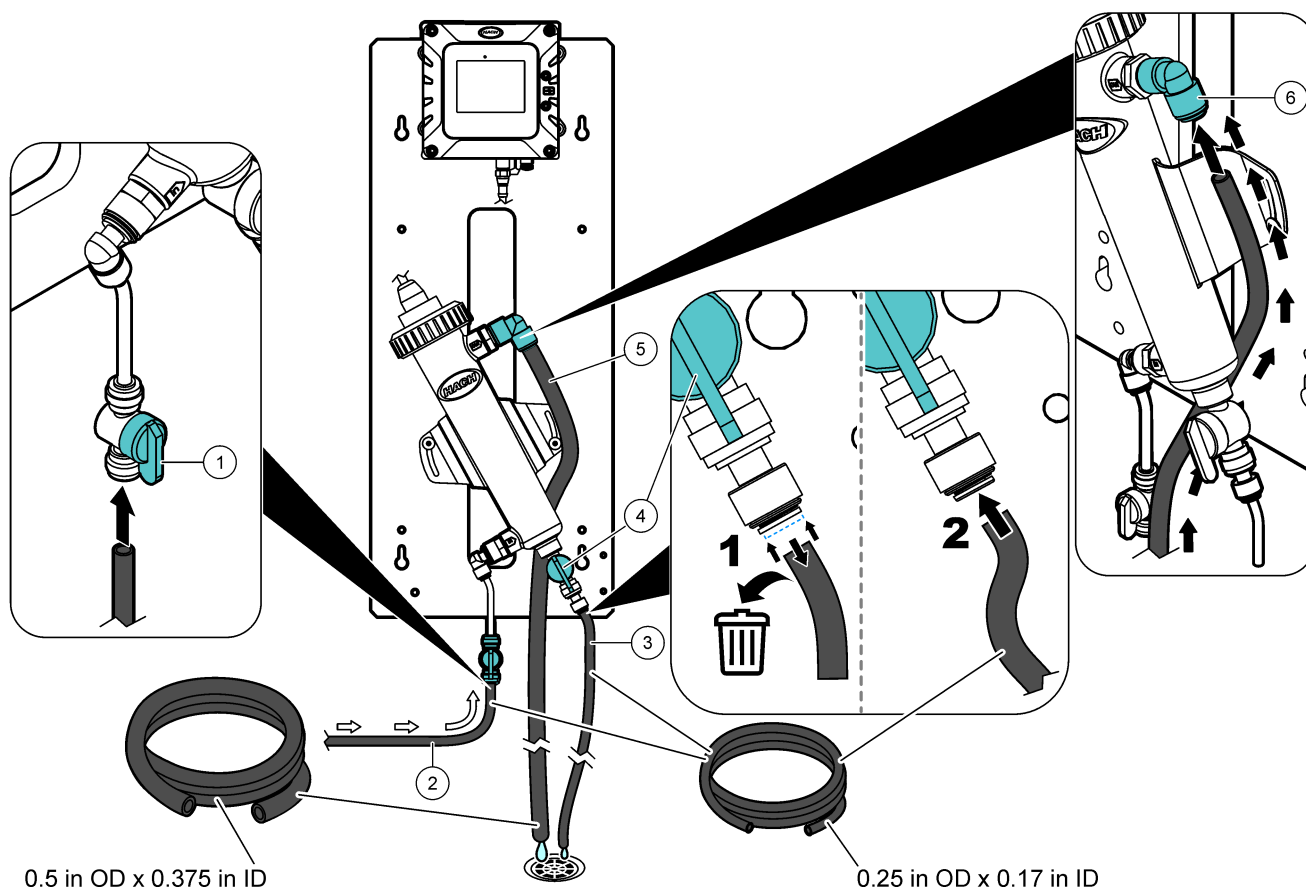
Figure 32 Hang the panel on a wall



5.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 33](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 33 Sample and drain connections



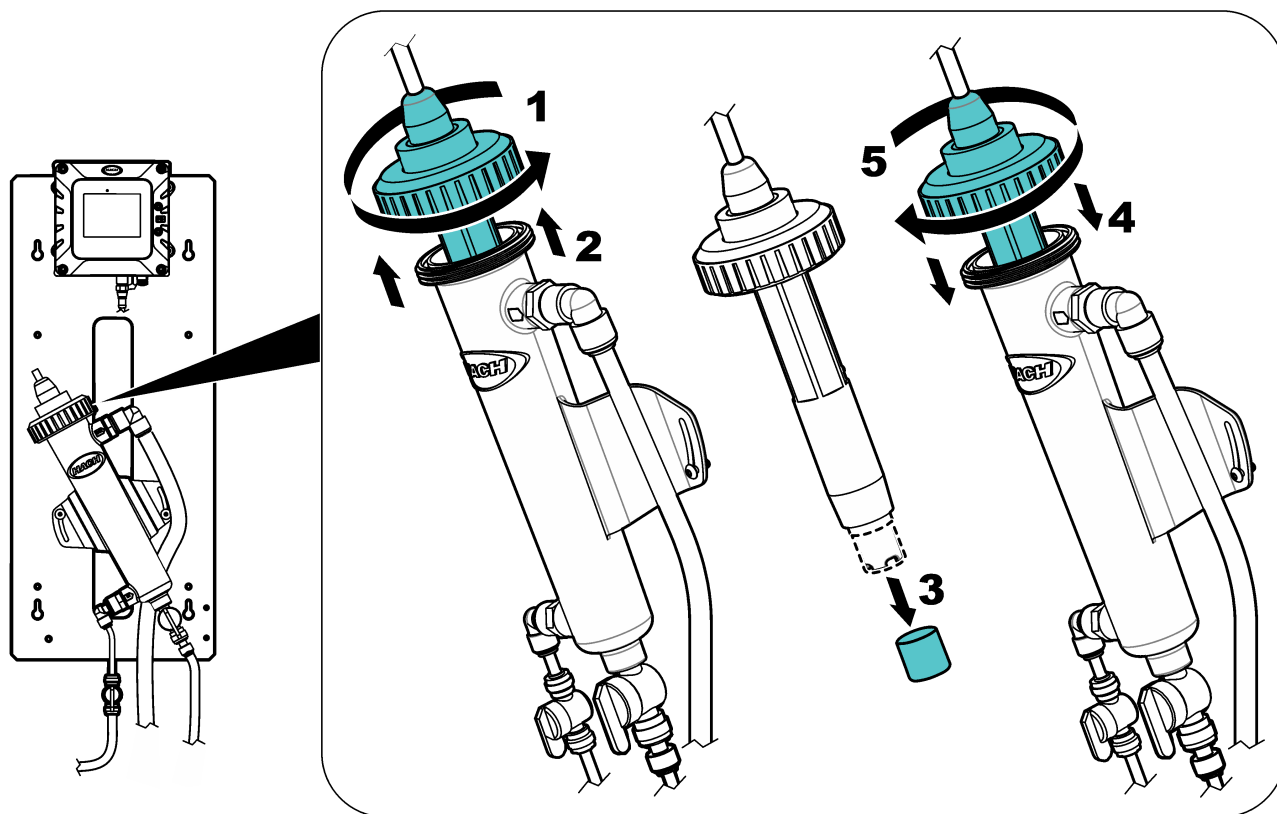
1 Inlet ball valve	3 Maintenance drain tubing	5 Drain tubing
2 Sample tubing	4 Maintenance drain valve	6 Drain tubing connector

5.4.4 Remove the cap from the pH sensor

Remove the protective cap from the pH sensor before startup. Refer to [Figure 34](#).

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

Figure 34 Remove the cap from the pH sensor



5.5 Startup

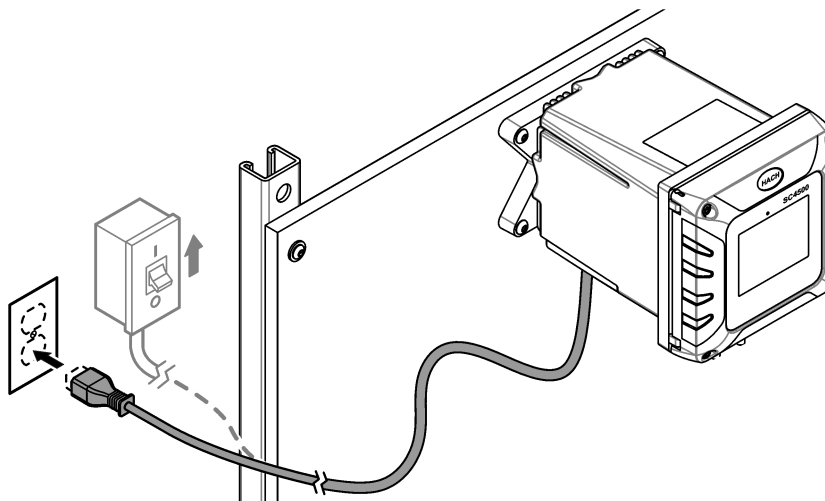
Make sure that all of the plumbing connections are complete before startup.

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 47.
2. Examine the plumbing for fluid leaks. Stop the leaks if found.
3. Apply power to the controller. Refer to [Figure 35](#). 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. Let the panel operate for 4 to 6 hours until the measurements become stable.

Figure 35 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.

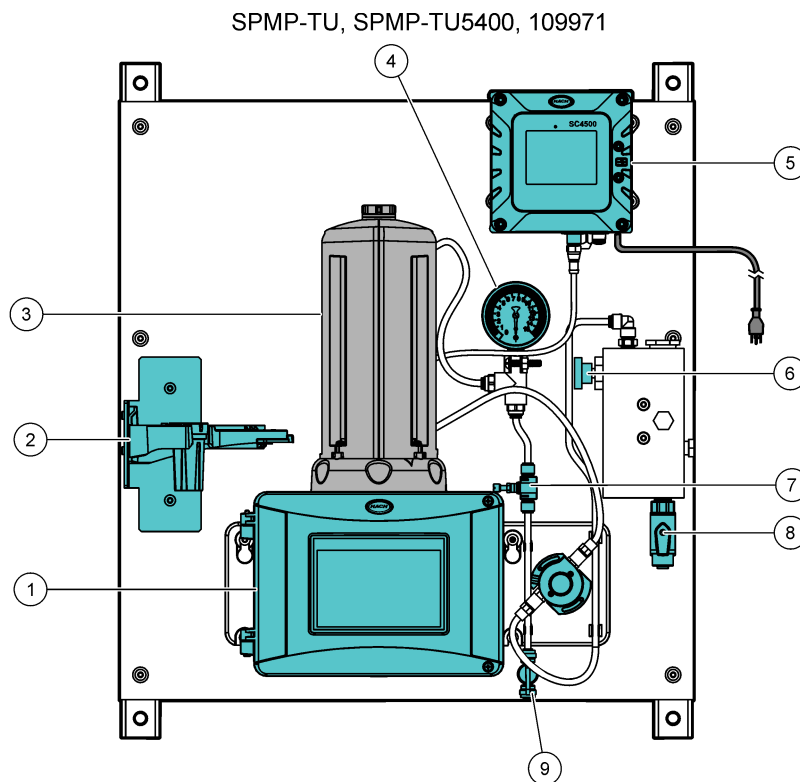
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A
Tubing, drain, 0.375-inch ID × 0.500-inch OD	960380

Section 6 SPMP-TU

6.1 Product overview

The Single Parameter Monitoring Panel for turbidity (SPMP-TU, SPMP-TU5400 or 109971) is a turbidimeter that is plumbed and installed on a panel. Refer to [Figure 36](#). The controller on the panel sends the data to a communications network for remote monitoring.

Figure 36 SPMP-TU/SPMP-TU5400 overview



1 TU5300sc (or TU5400sc) Turbidimeter	6 Inlet needle valve
2 Service bracket	7 Flow regulator
3 Automatic Cleaning Module (ACM)	8 Inlet ball valve
4 Pressure gauge, 0 to 15 psi (included with 109971 only)	9 Drain valve for bubble control
5 SC4500 Controller	

6.2 Specifications

Specifications are subject to change without notice. The specifications that follow are for the SPMP-TU, SPMP-TU5400 and 109971 panels. Refer to the supplied user manuals for the controller and turbidimeter specifications.

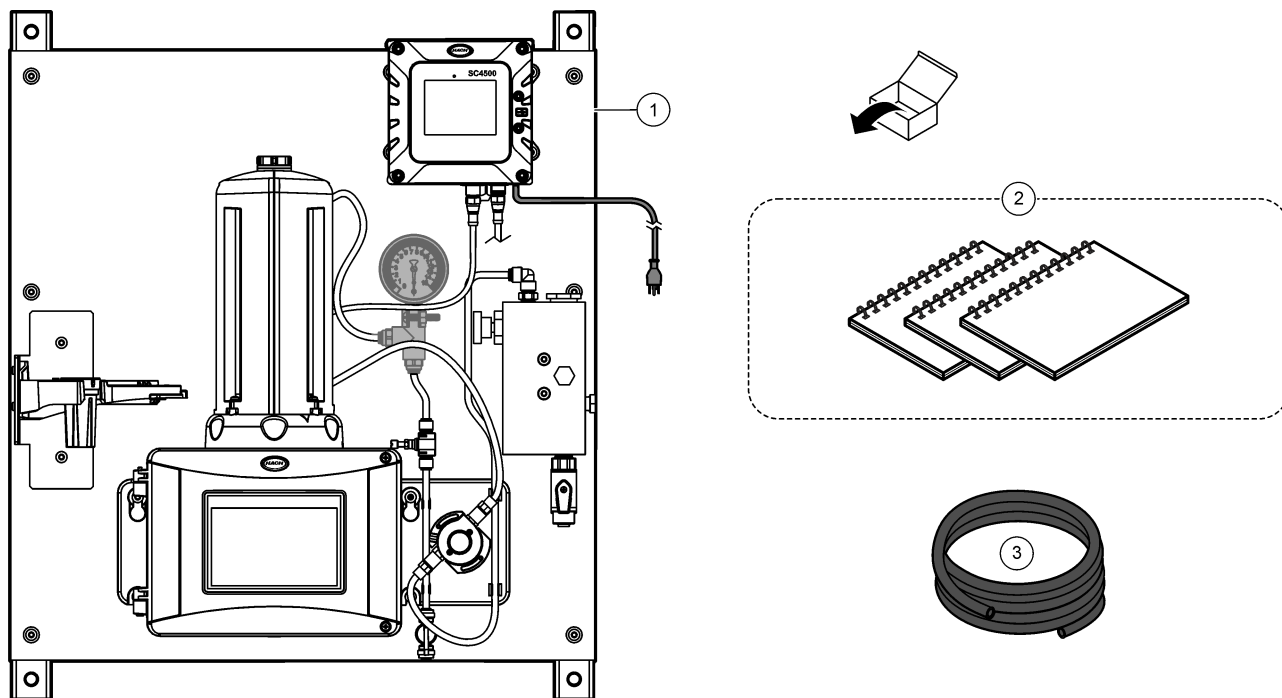
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 21.8 cm (13 x 28 x 8.6 inch)
Weight	14.0 kg (30.8 lb)
Power requirements	100–240 VAC $\pm$ 10%, 50/60 Hz; maximum 1 A
Sample flow rate	100–1000 mL/minute; optimal flow rate: 200–500 mL/min
Sample pressure	517 kPa (75 psi) maximum

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 37](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 37 Product components



1 SPMP-TU, SPMP-TU5400 or 109971	3 Tubing, 0.170-inch ID × 0.250-inch OD, 3 m (10 ft)
2 Controller and turbidimeter user manuals	

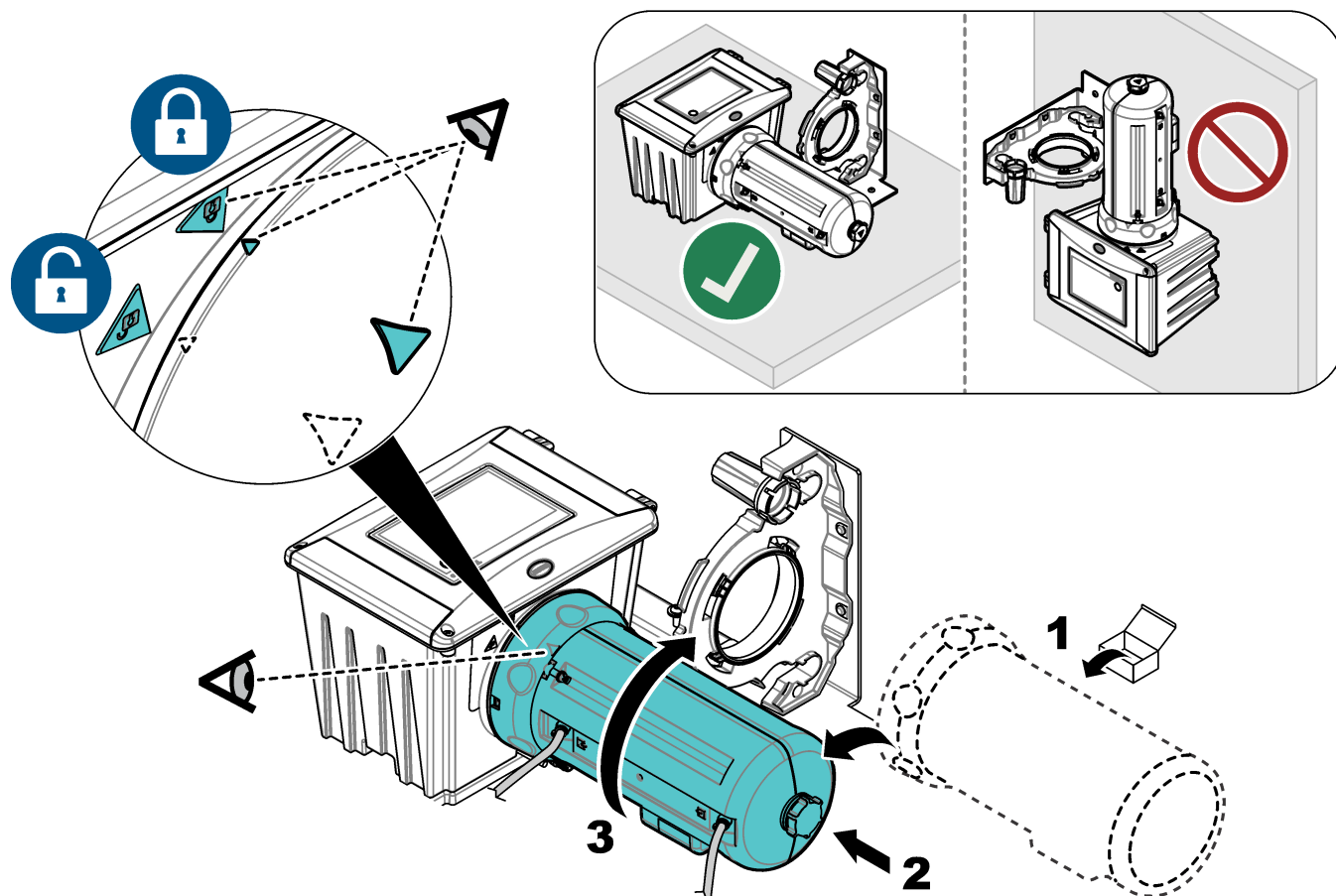
6.4 Installation

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

6.4.1 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 38](#).

Figure 38 Install the ACM on the turbidimeter



6.4.2 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 39](#) for product dimensions. Refer to [Figure 40](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 39 Product dimensions

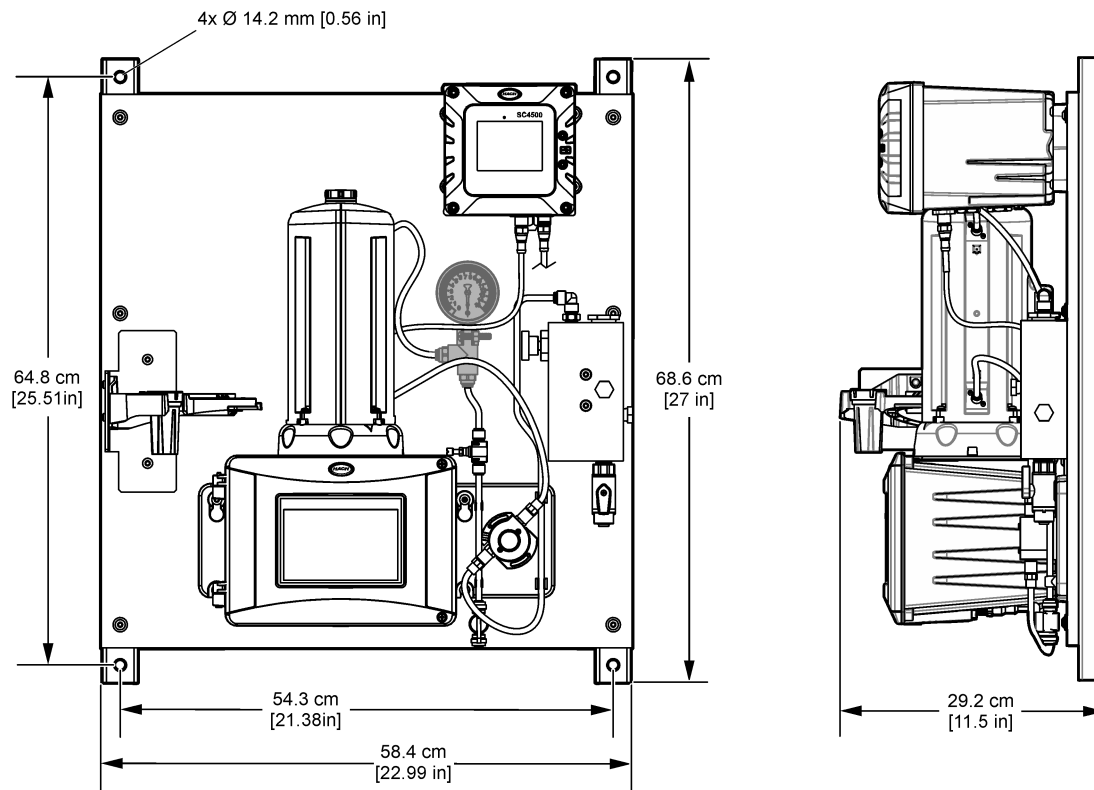
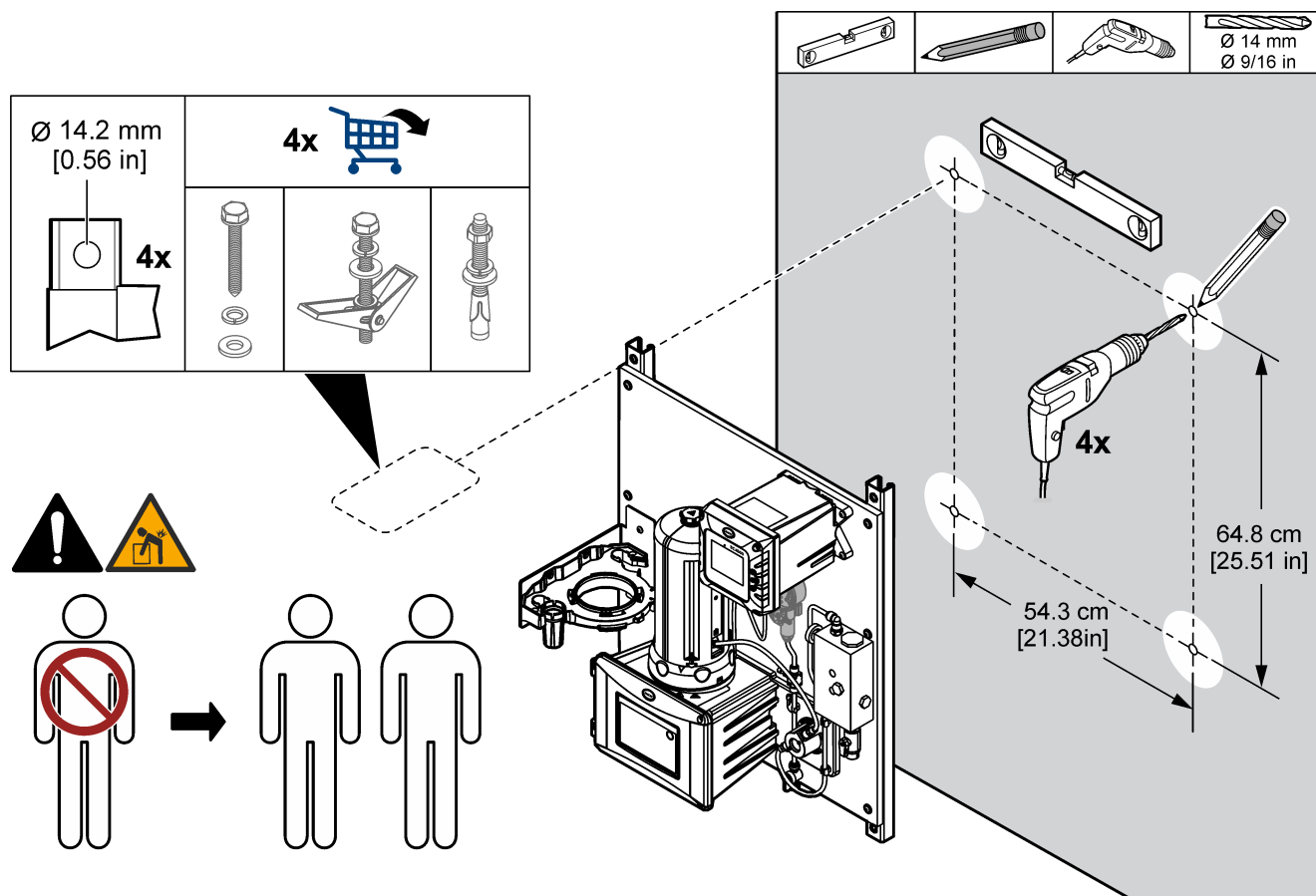


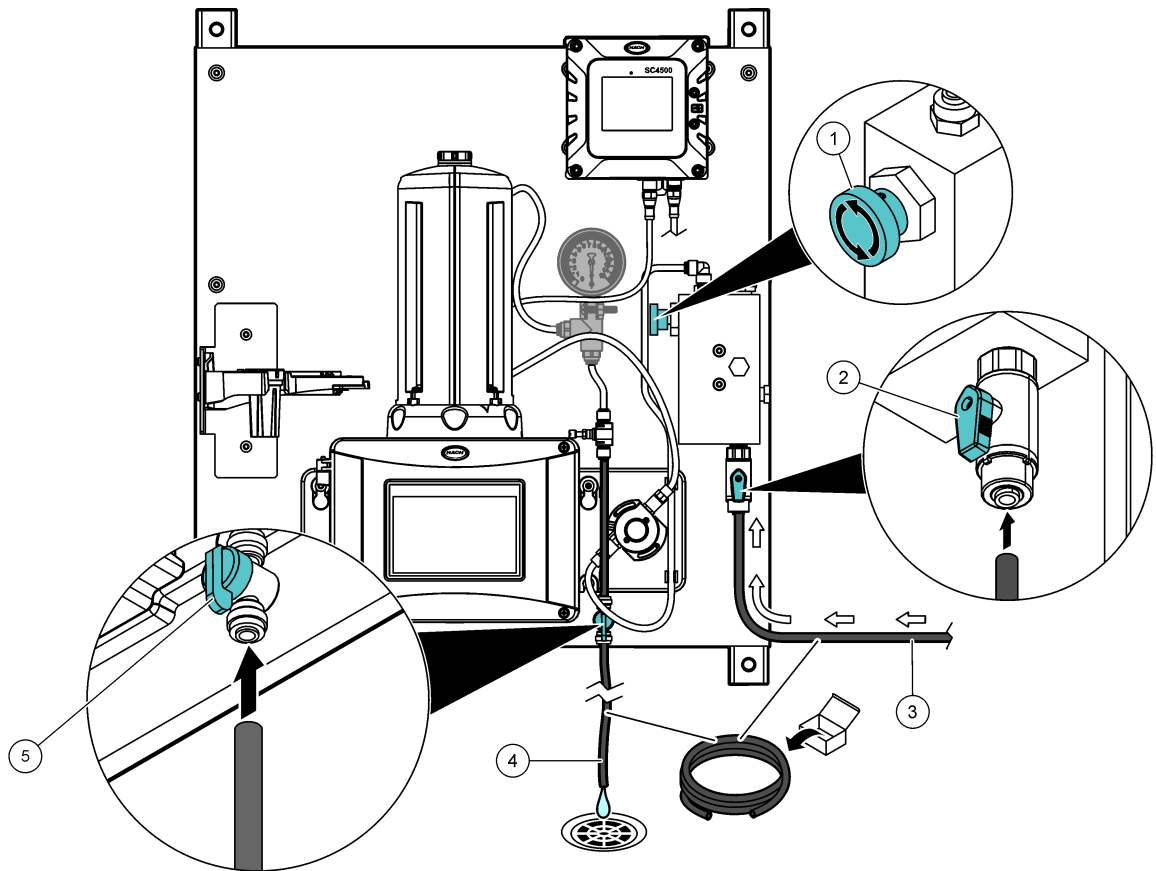
Figure 40 Hang the panel on a wall



6.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 41](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 41 Sample and drain connections



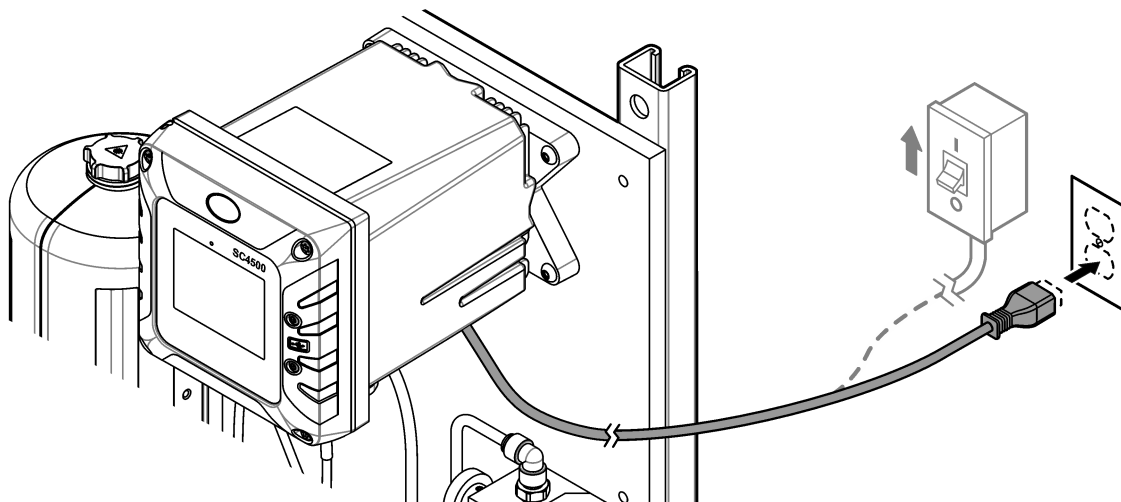
1 Inlet needle valve	3 Sample tubing	5 Drain valve for bubble control
2 Inlet ball valve	4 Drain tubing	

6.5 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 55.
2. Examine the plumbing for fluid leaks. Stop the leaks if found.
3. Apply power to the controller. Refer to [Figure 42](#). 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 55.
 - 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 42 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.

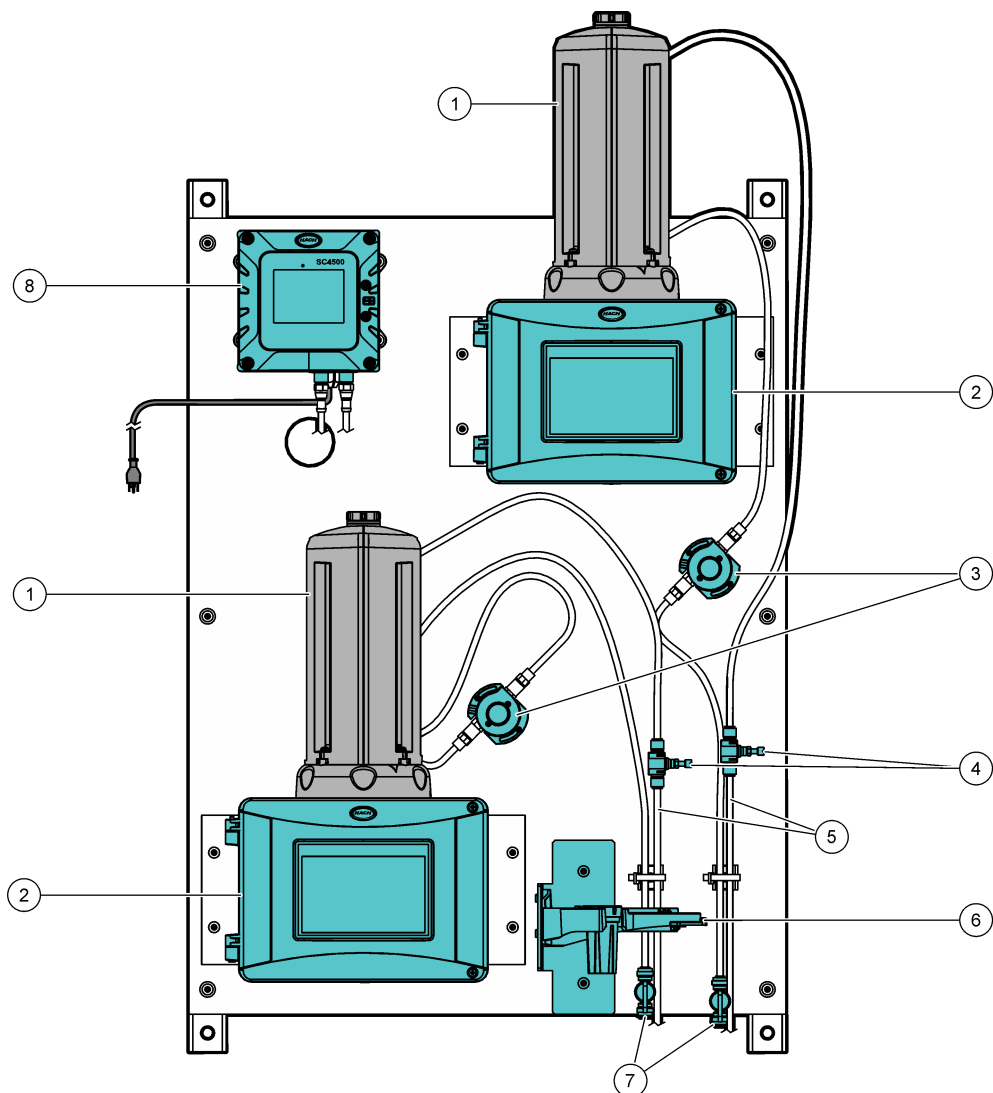
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 7 DPMP-TU5300

7.1 Product overview

The Dual Parameter Monitoring Panel for turbidity (109970) is an assembly of two turbidimeters that are plumbed and installed on a panel. Refer to [Figure 43](#). The controller on the panel sends the data to a communications network for remote monitoring.

Figure 43 DPMP-TU5300 (109970) overview



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

7.2 Specifications

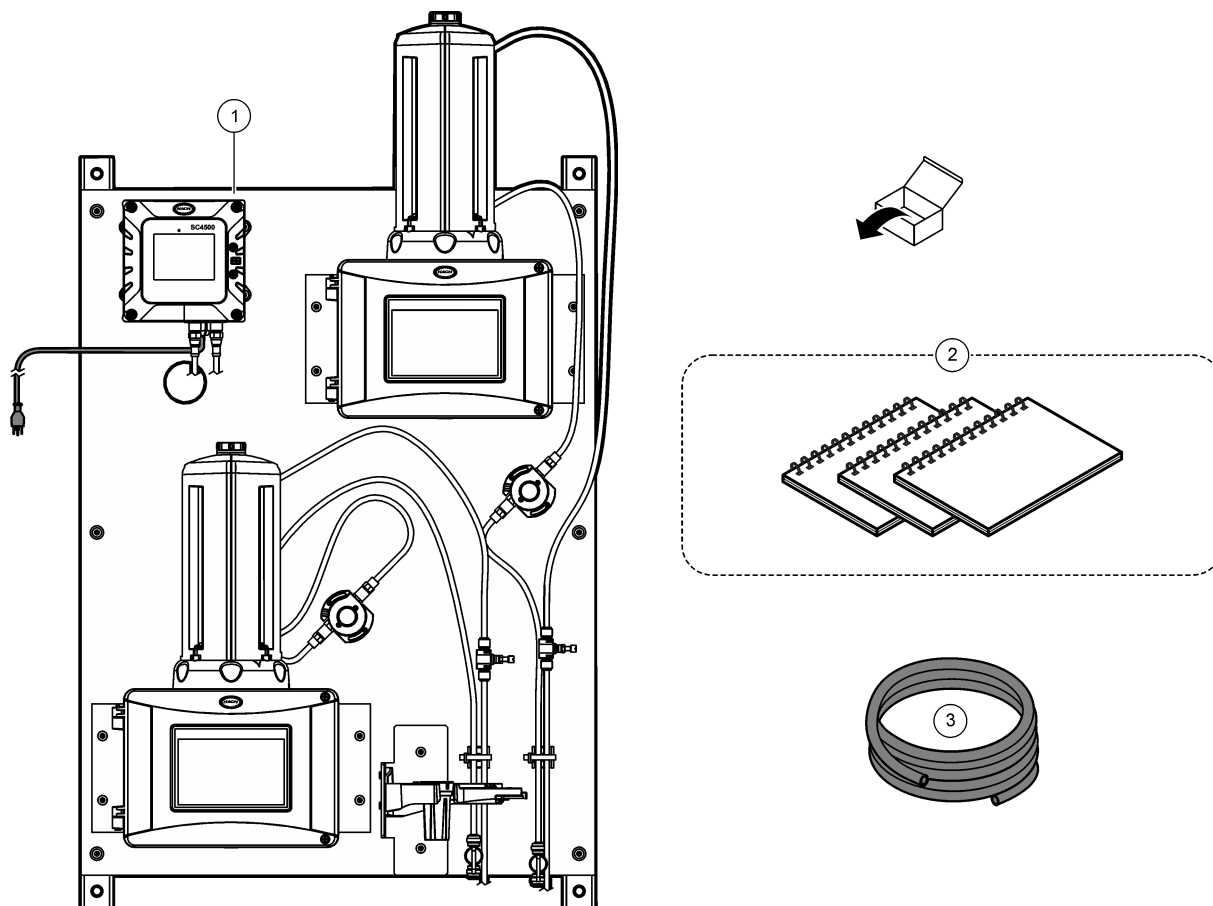
Specifications are subject to change without notice. The specifications that follow are for the DPMP-TU5300 (109970) panel. Refer to the supplied user manuals for the controller and turbidimeter specifications.

Specification	Details
Dimensions (W x H x D)	61 x 106 x 29.1 cm (24 x 42 x 11.5 inch)
Weight	19.9 kg (43.8 lb)
Power requirements	100–240 VAC $\pm$ 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
Sample waste drain connection	¼-inch OD tube
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 44](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 44 Product components



1 DPMP-TU5300

2 Controller and turbidimeter user manuals

3 Tubing, 0.170-inch ID × 0.250-inch OD, 12 m (40 ft)

7.4 Installation

⚠ WARNING

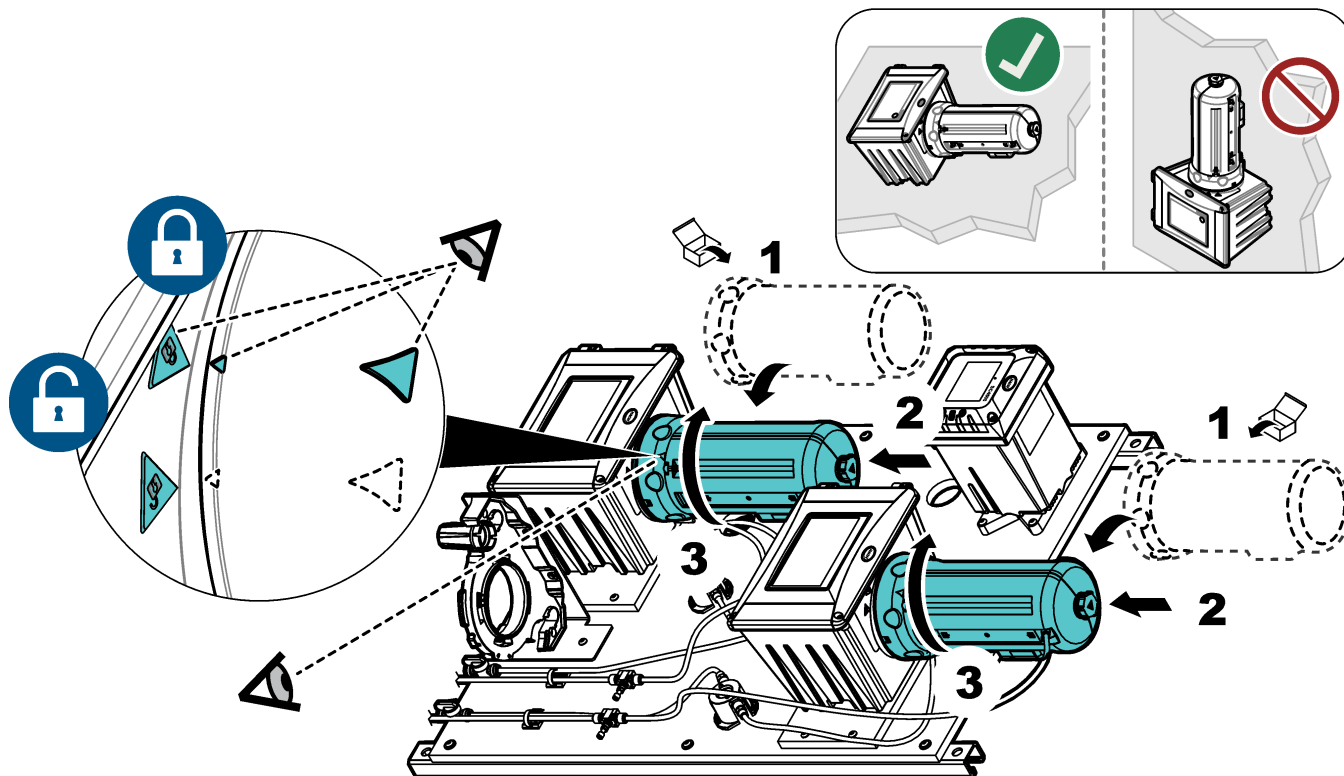


Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

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 45](#).

Figure 45 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 46](#) for product dimensions. Refer to [Figure 47](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 46 Product dimensions

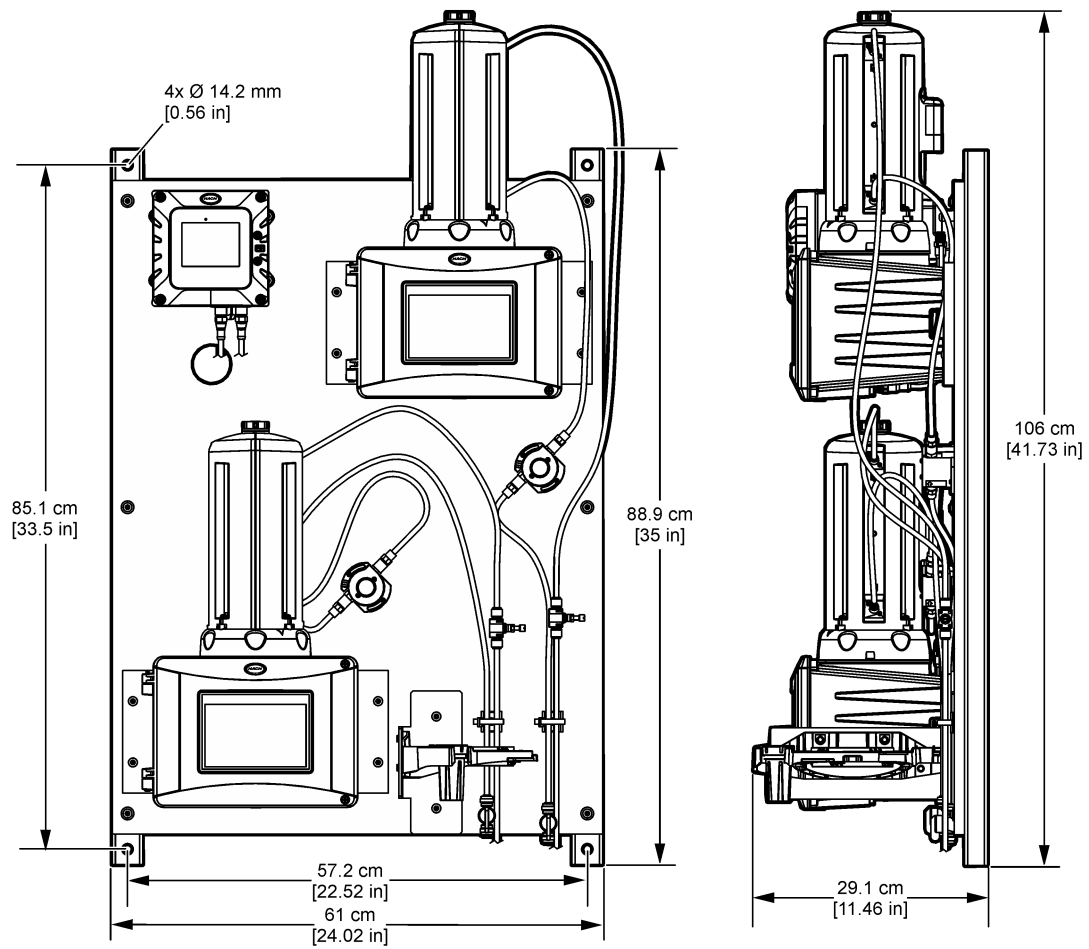
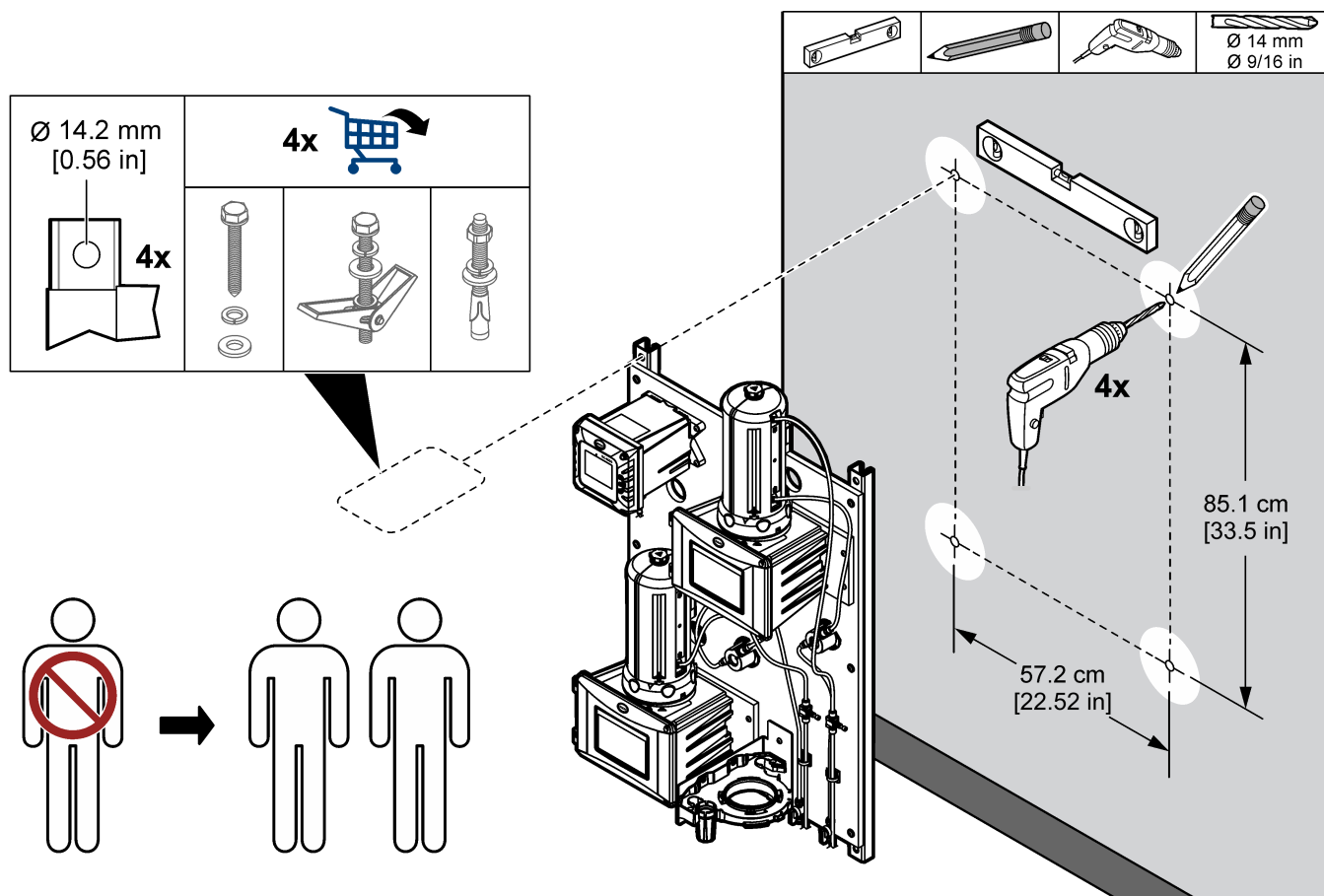


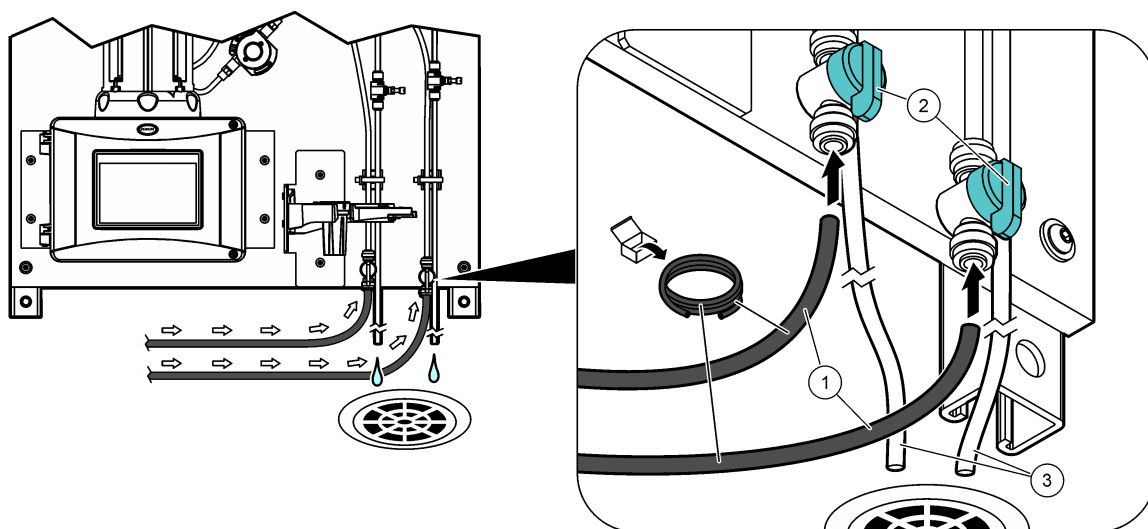
Figure 47 Hang the panel on a wall



7.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 48](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 48 Sample and drain connections

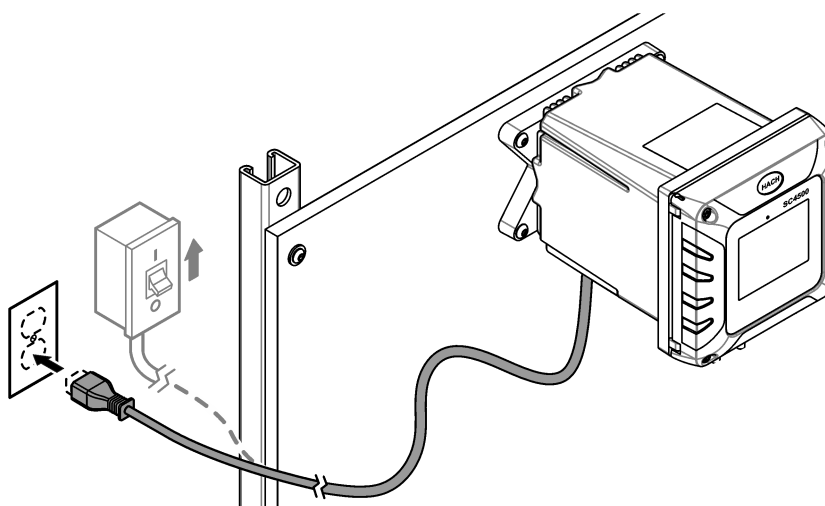


7.5 Startup

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 62.
2. Examine the plumbing for fluid leaks. Stop the leaks if found.
3. Apply power to the controller. Refer to [Figure 49](#). 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 62.
 - 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 49 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.

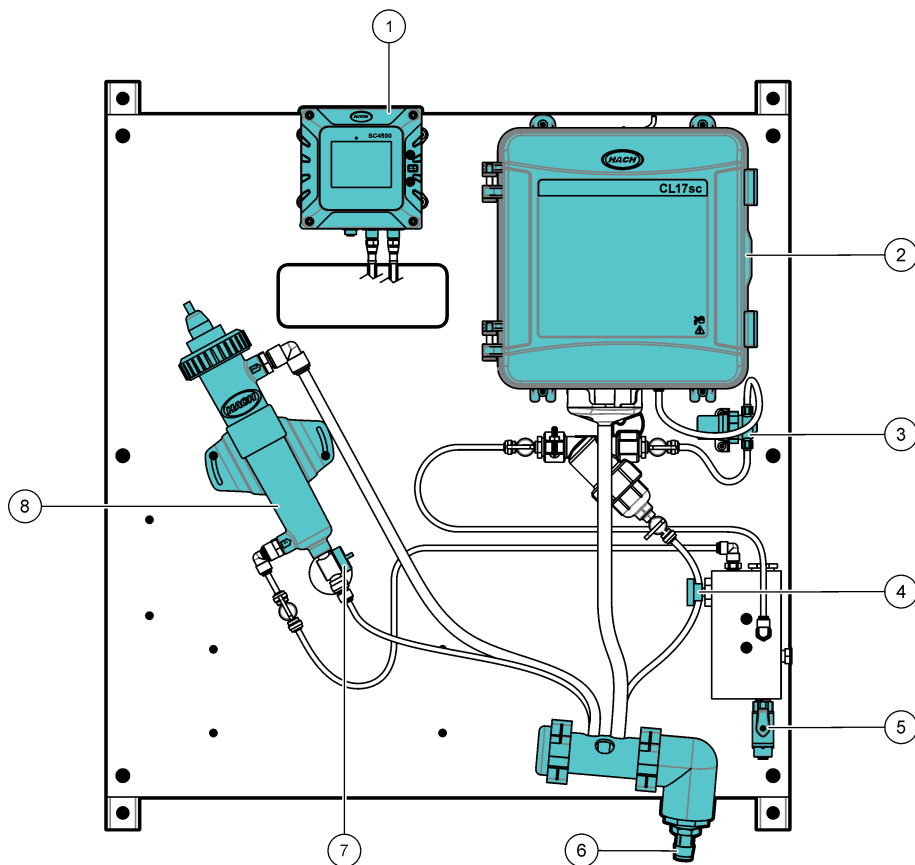
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 8 DPMP-CLPHD

8.1 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 50](#). The controller on the panel sends the data to a communications network for remote monitoring.

Figure 50 DPMP-CLPHD overview



1 SC4500 Controller	5 Inlet ball valve
2 CL17sc chlorine analyzer	6 Drain manifold
3 Pressure regulator	7 Maintenance drain valve
4 Inlet needle valve	8 Flow cell with pH sensor

8.2 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 $\pm$ 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)

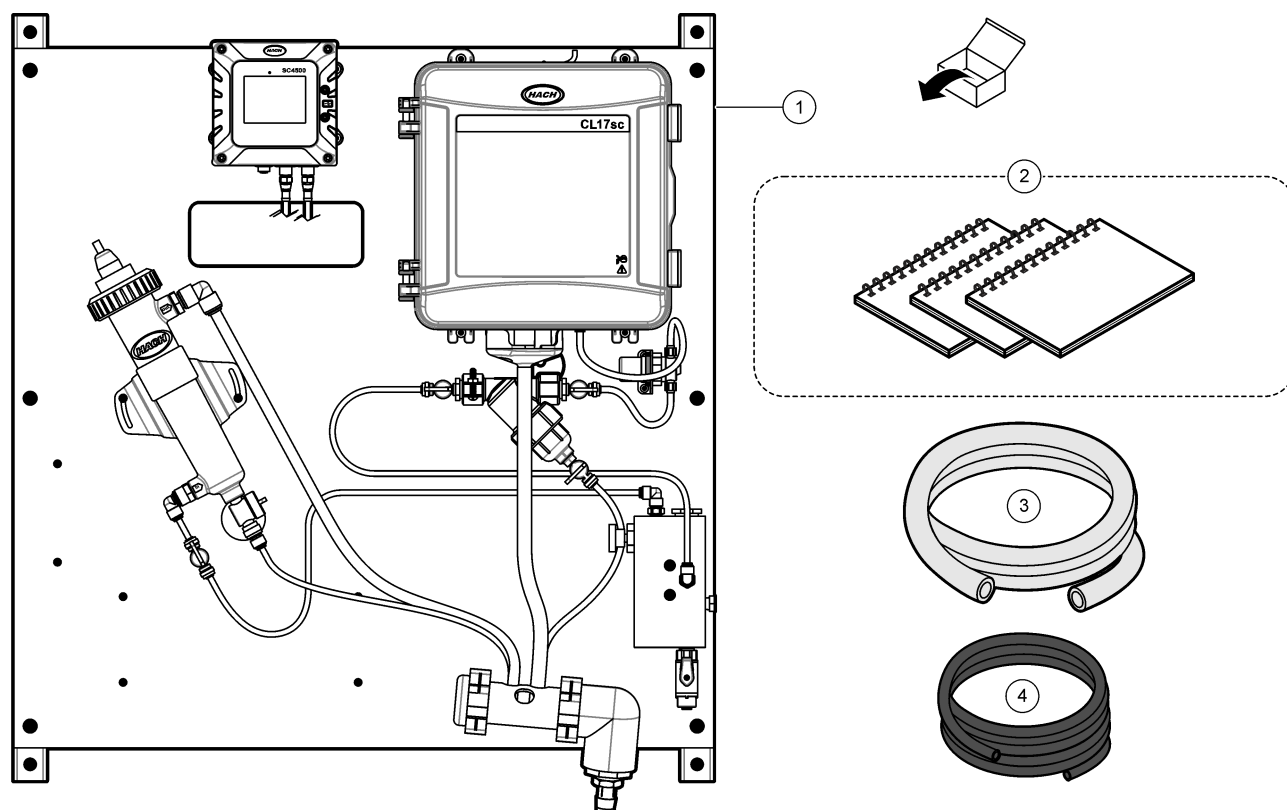
DPMP-CLPHD

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

8.3 Product components

Make sure that all components have been received. Refer to [Figure 51](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 51 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)

8.4 Installation

⚠ WARNING



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

8.4.1 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 52](#) for product dimensions. Refer to [Figure 53](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 52 Product dimensions

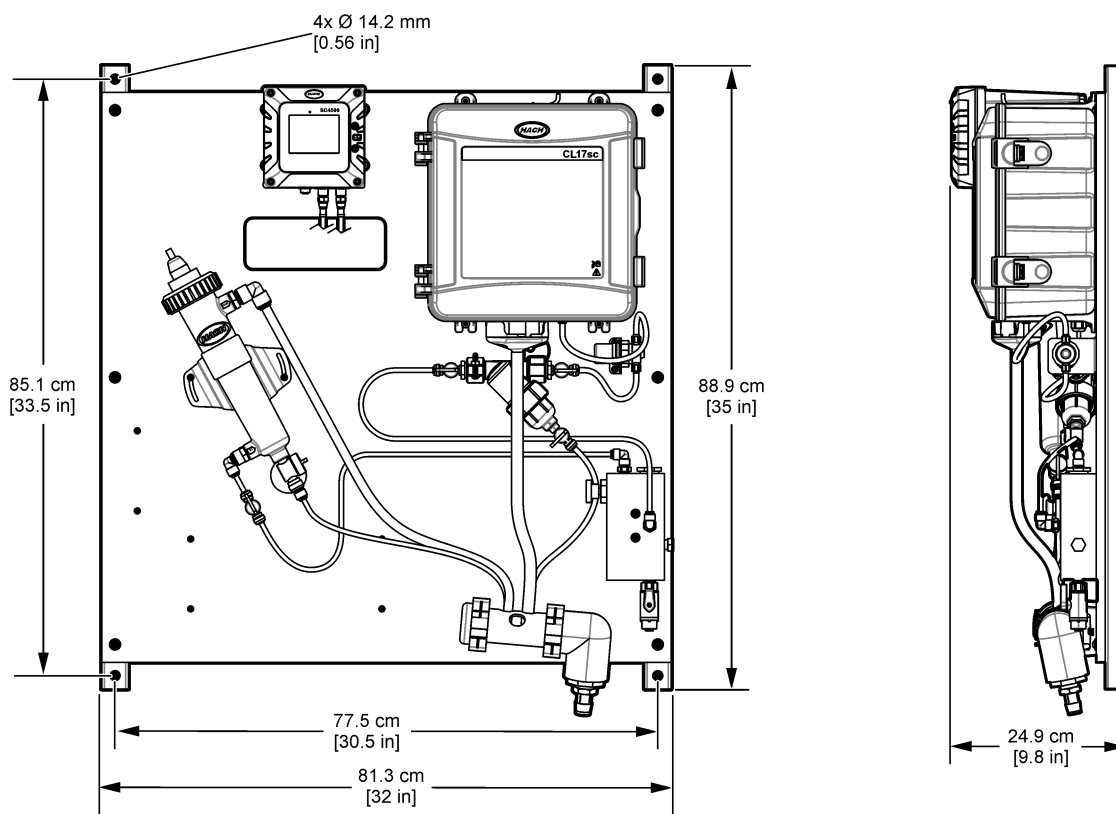
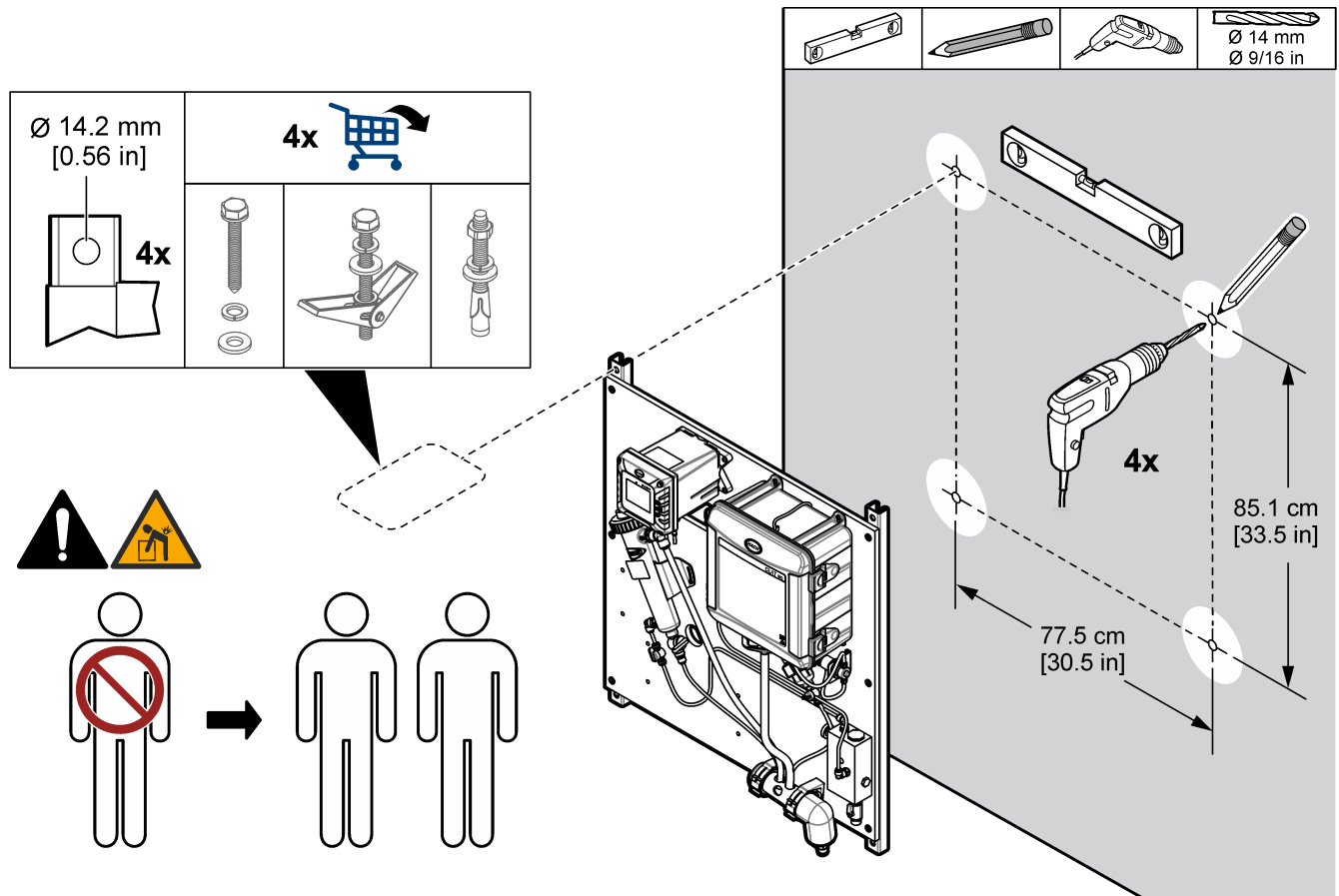


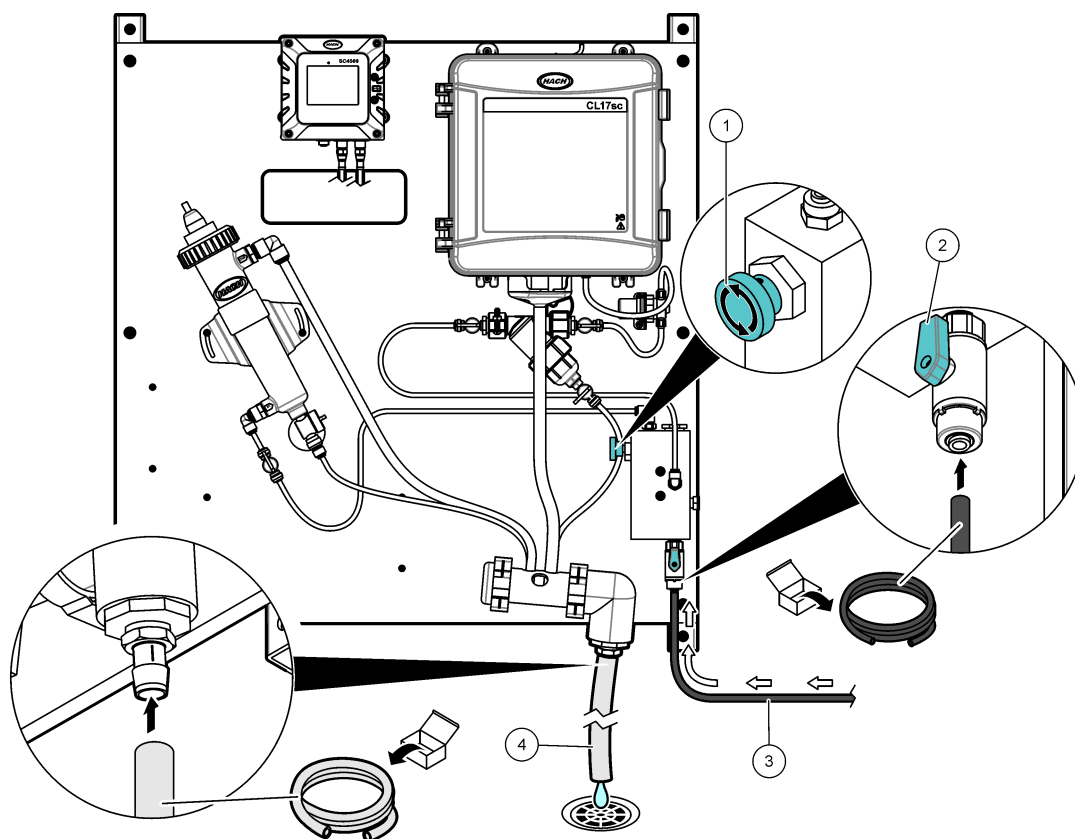
Figure 53 Hang the panel on a wall



8.4.2 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 54](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 54 Sample and drain connections



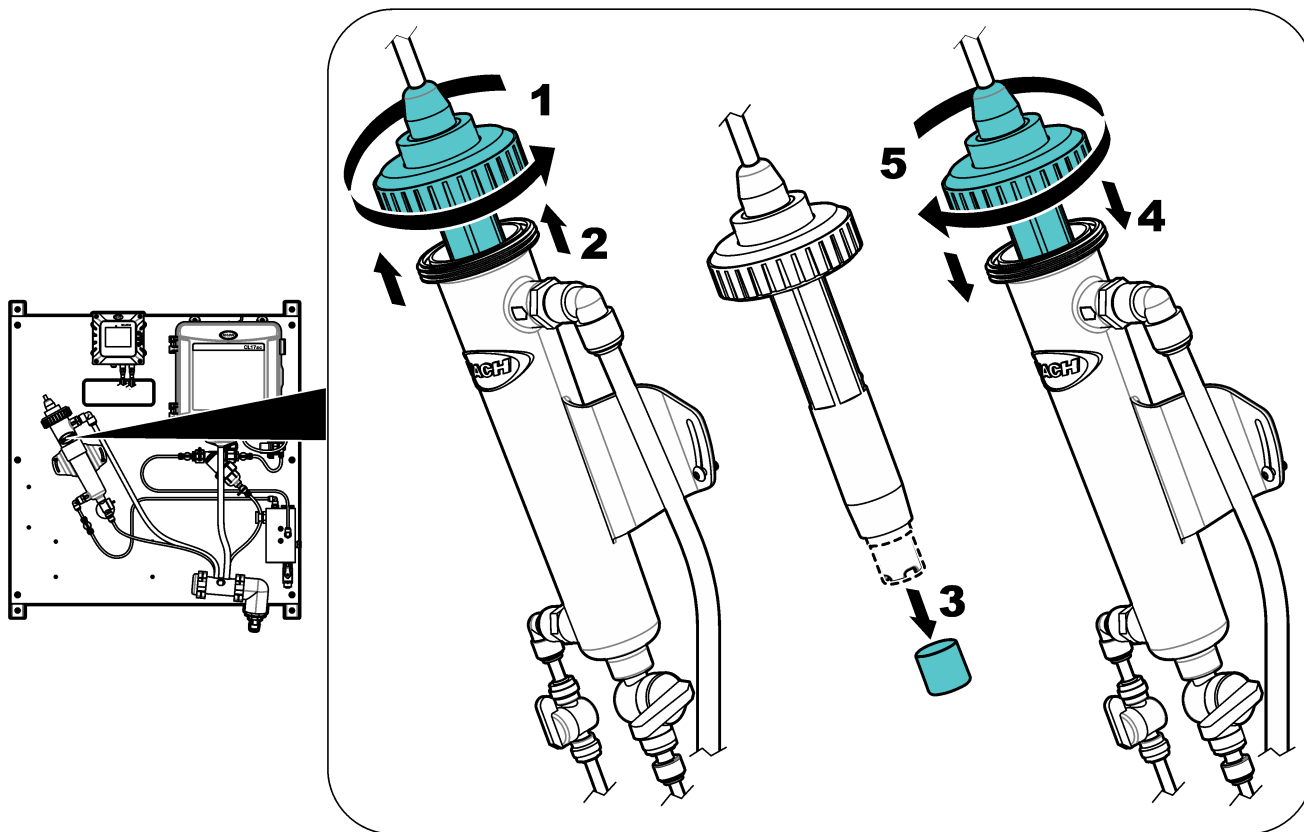
1 Inlet needle valve	3 Sample tubing
2 Inlet ball valve	4 Drain tubing

8.4.3 Remove the cap from the pH sensor

Remove the protective cap from the pH sensor before startup. Refer to [Figure 55](#).

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

Figure 55 Remove the cap from the pH sensor

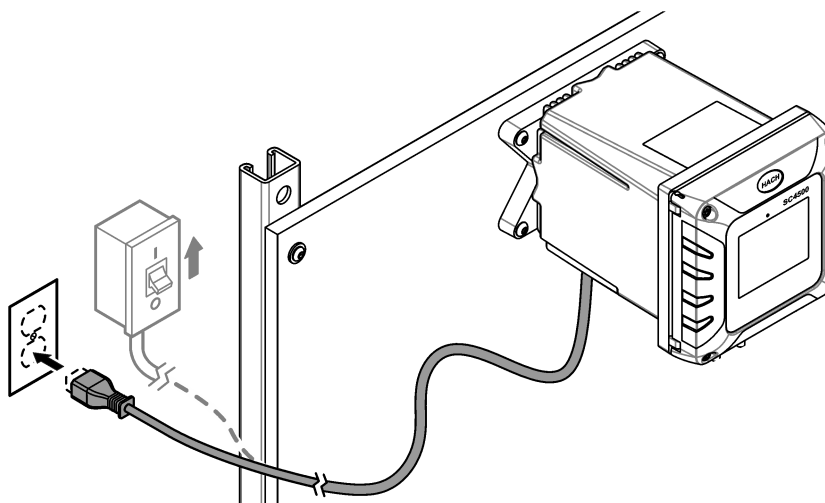


8.5 Startup

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 69.
3. Examine the plumbing for fluid leaks. Stop the leaks if found.
4. Apply power to the controller. Refer to [Figure 56](#). 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 analyzer 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 56 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.

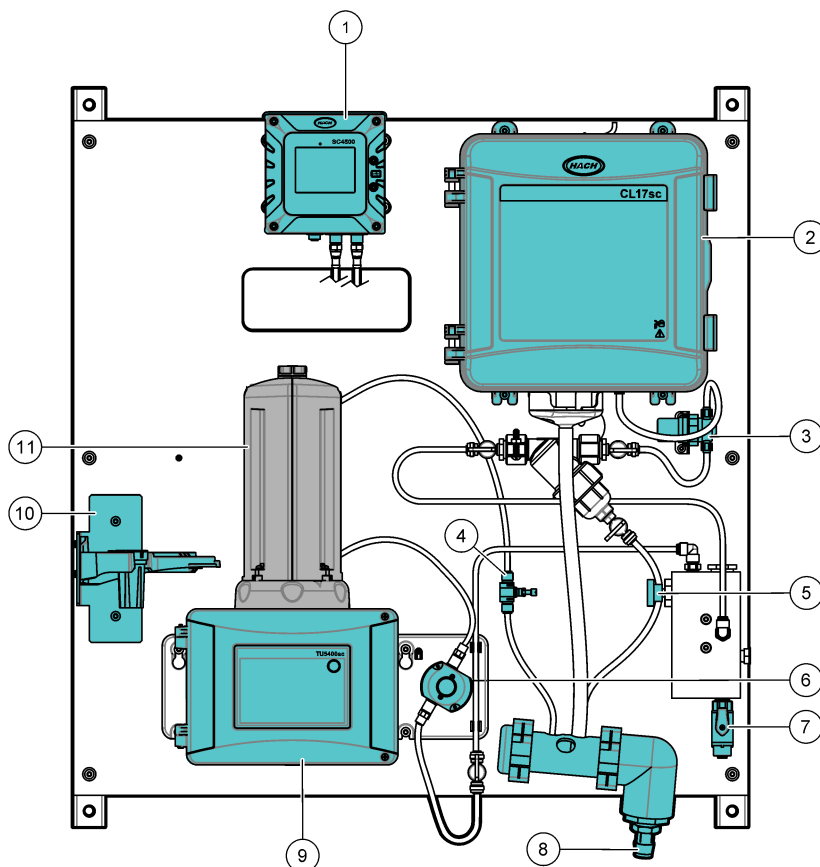
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 9 DPMP-CLTU

9.1 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 57](#). The controller on the panel sends the data to a communications network for remote monitoring.

Figure 57 DPMP-CLTU overview



1 SC4500 Controller	7 Inlet ball valve
2 CL17sc chlorine analyzer	8 Drain manifold
3 Pressure regulator	9 TU5300sc Turbidimeter
4 Flow regulator	10 Service bracket
5 Inlet needle valve	11 Automatic Cleaning Module (ACM)
6 Flow sensor	

9.2 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.

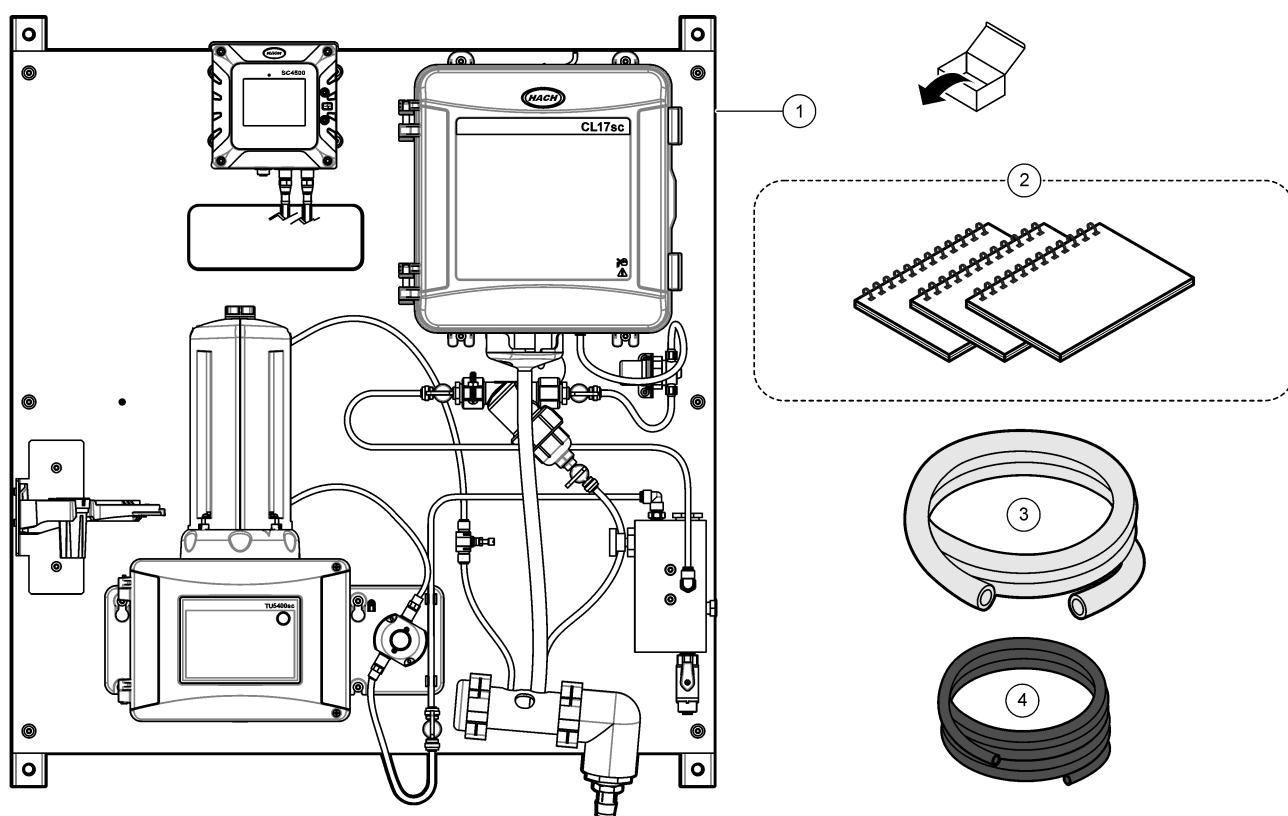
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 21.8 cm (13 x 28 x 8.6 inch)
Weight	22.5 kg (49.5 lb)
Power requirements	100–240 VAC $\pm$ 10%, 50/60 Hz; maximum 1 A

Specification	Details
Sample flow rate	200 to 1000 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

9.3 Product components

Make sure that all components have been received. Refer to [Figure 58](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 58 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)

9.4 Installation

⚠ WARNING

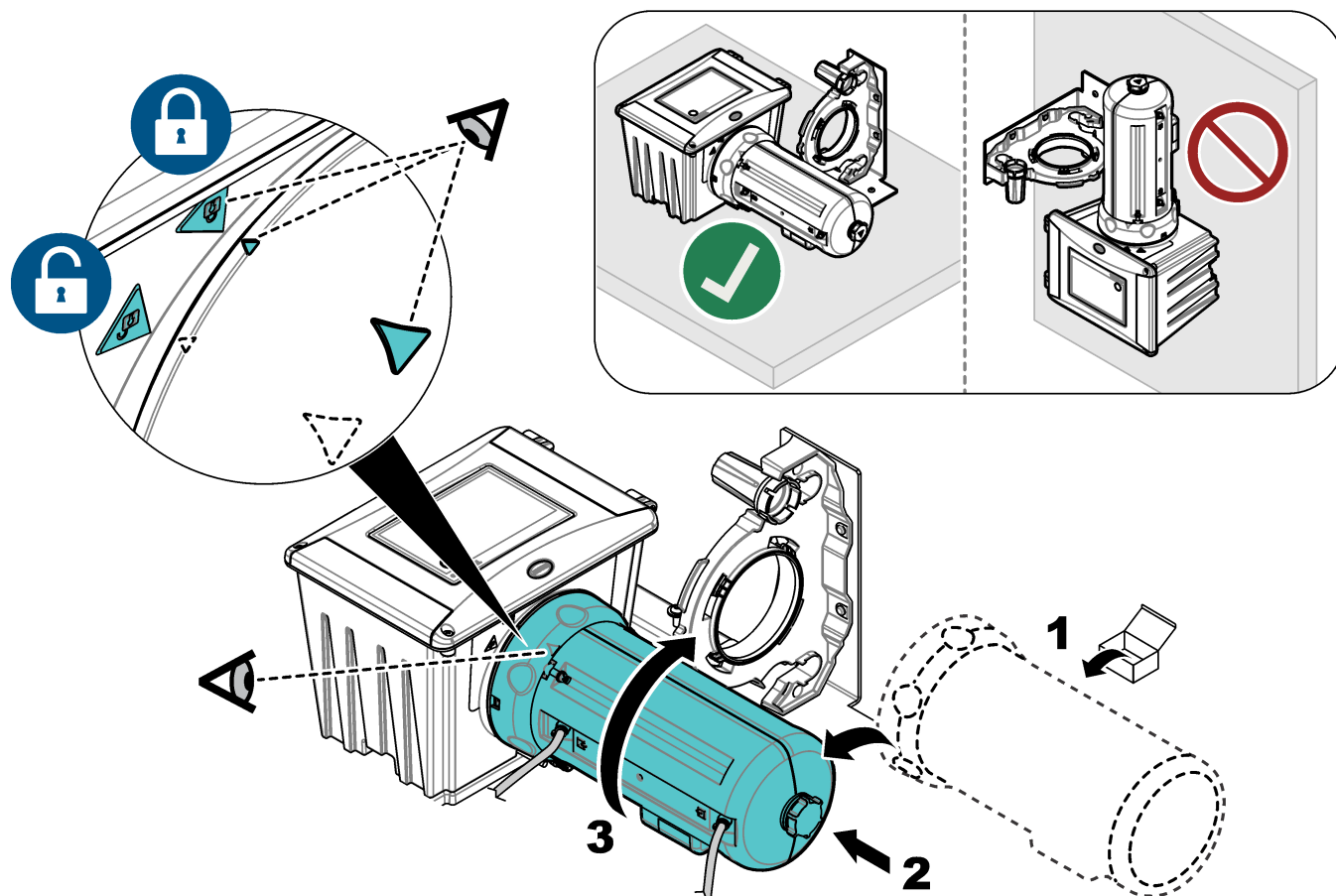


Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

9.4.1 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 59](#).

Figure 59 Install the ACM on the turbidimeter



9.4.2 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 60](#) for product dimensions. Refer to [Figure 61](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 60 Product dimensions

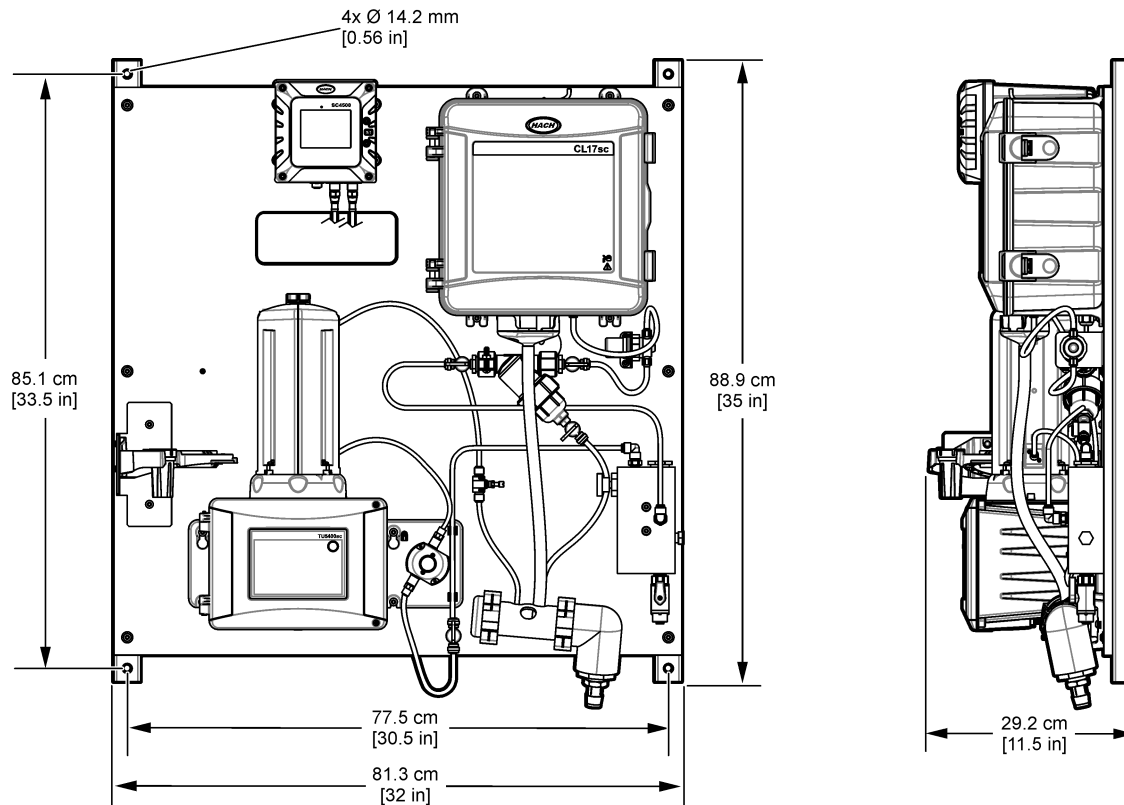
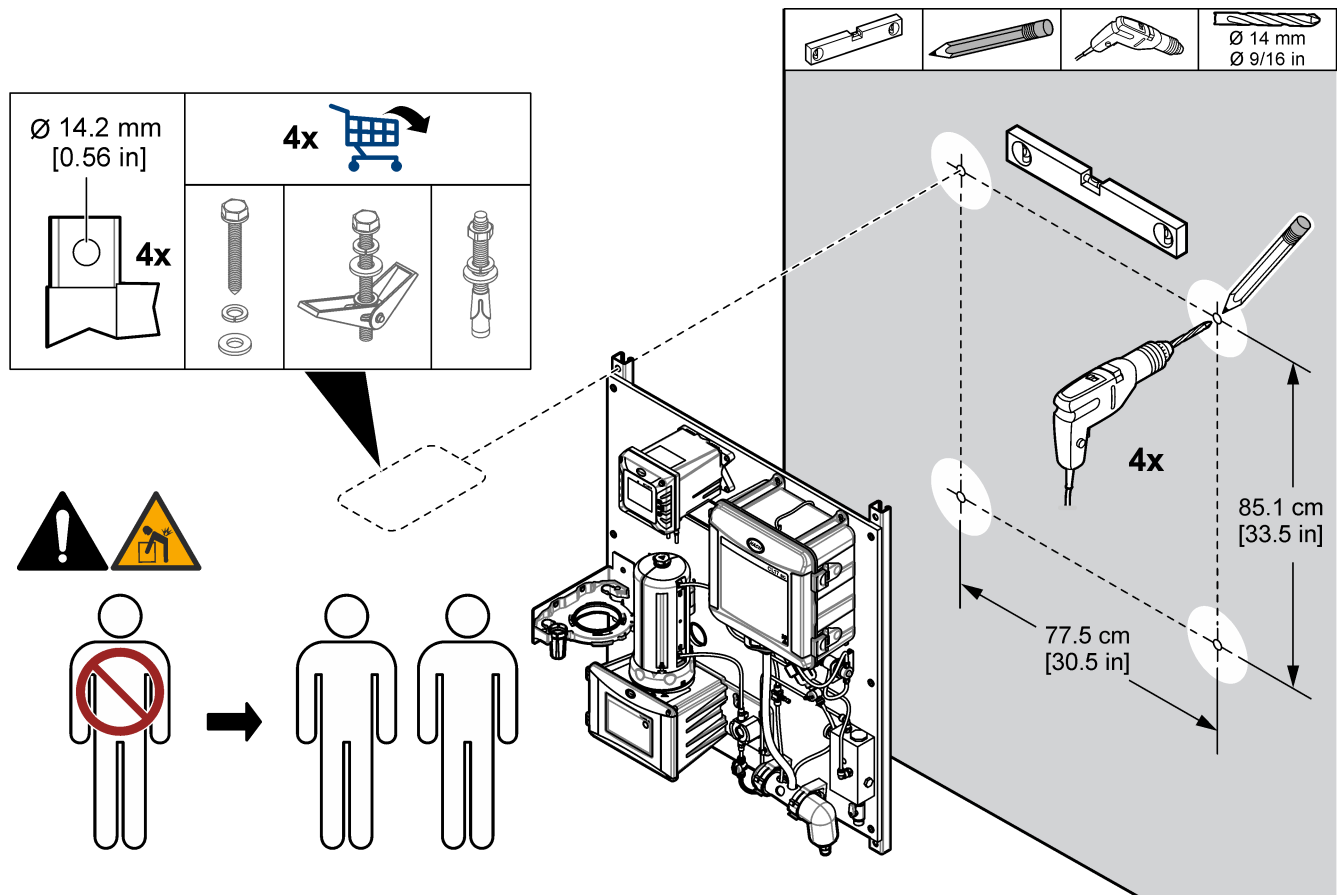


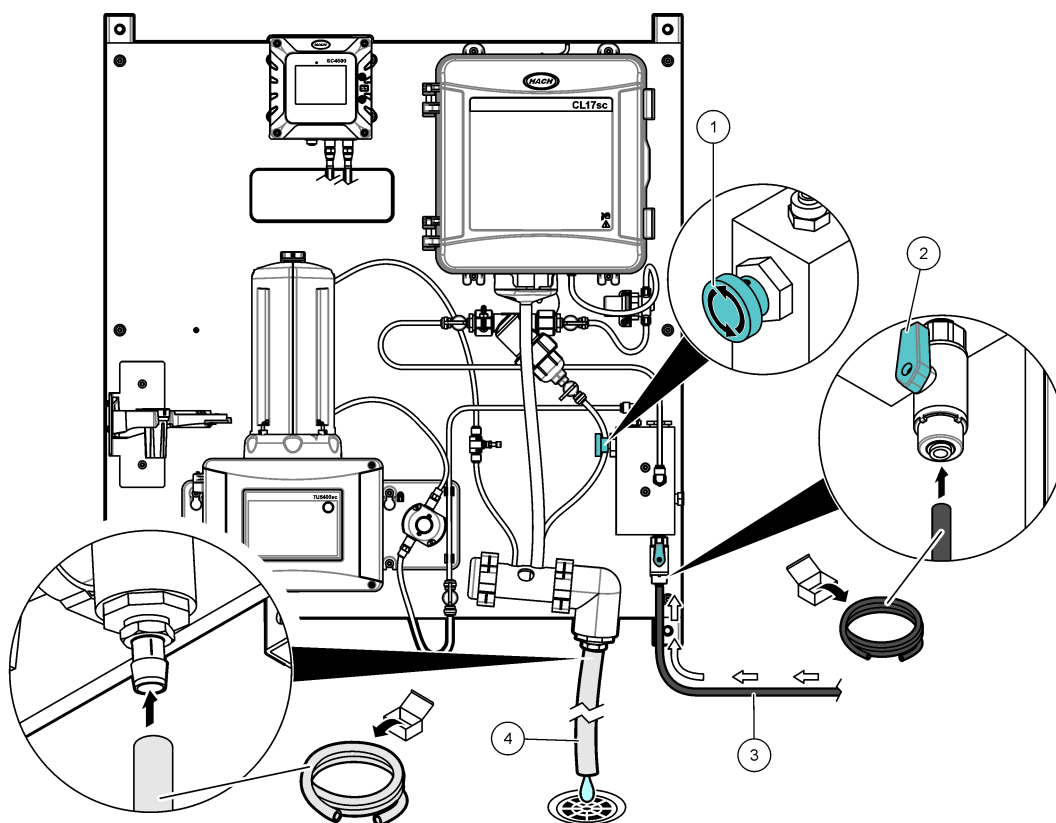
Figure 61 Hang the panel on a wall



9.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 62](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 62 Sample and drain connections



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

9.5 Startup

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

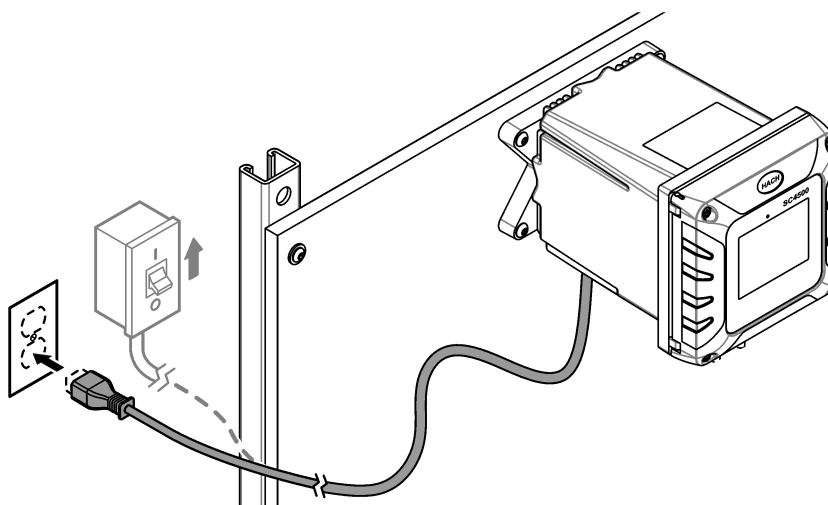
1. Install the reagents and stir bar in the CL17sc analyzer. Refer to the CL17sc chlorine analyzer user manual.
2. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to [Specifications](#) on page 77.
3. Examine the plumbing for fluid leaks. Stop the leaks if found.
4. Apply power to the controller. Refer to [Figure 63](#). 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 77.
- 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 analyzer 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 63 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.

9.7 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.

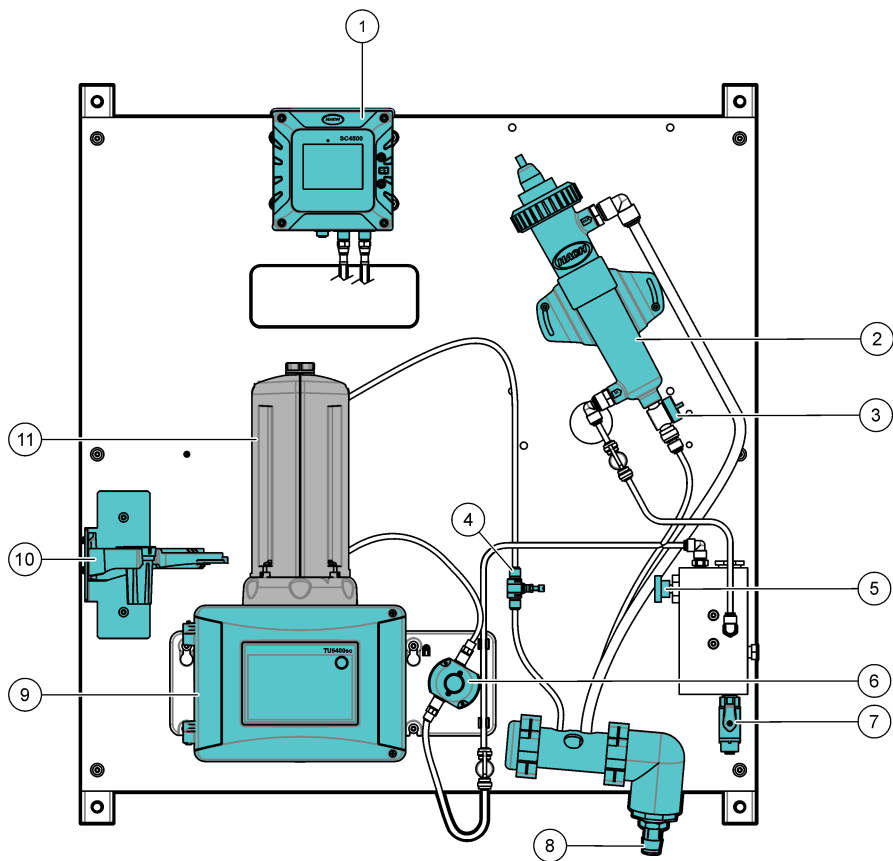
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 10 DPMP-TUPHD

10.1 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 64](#). The controller on the panel sends the data to a communications network for remote monitoring.

Figure 64 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	

10.2 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.

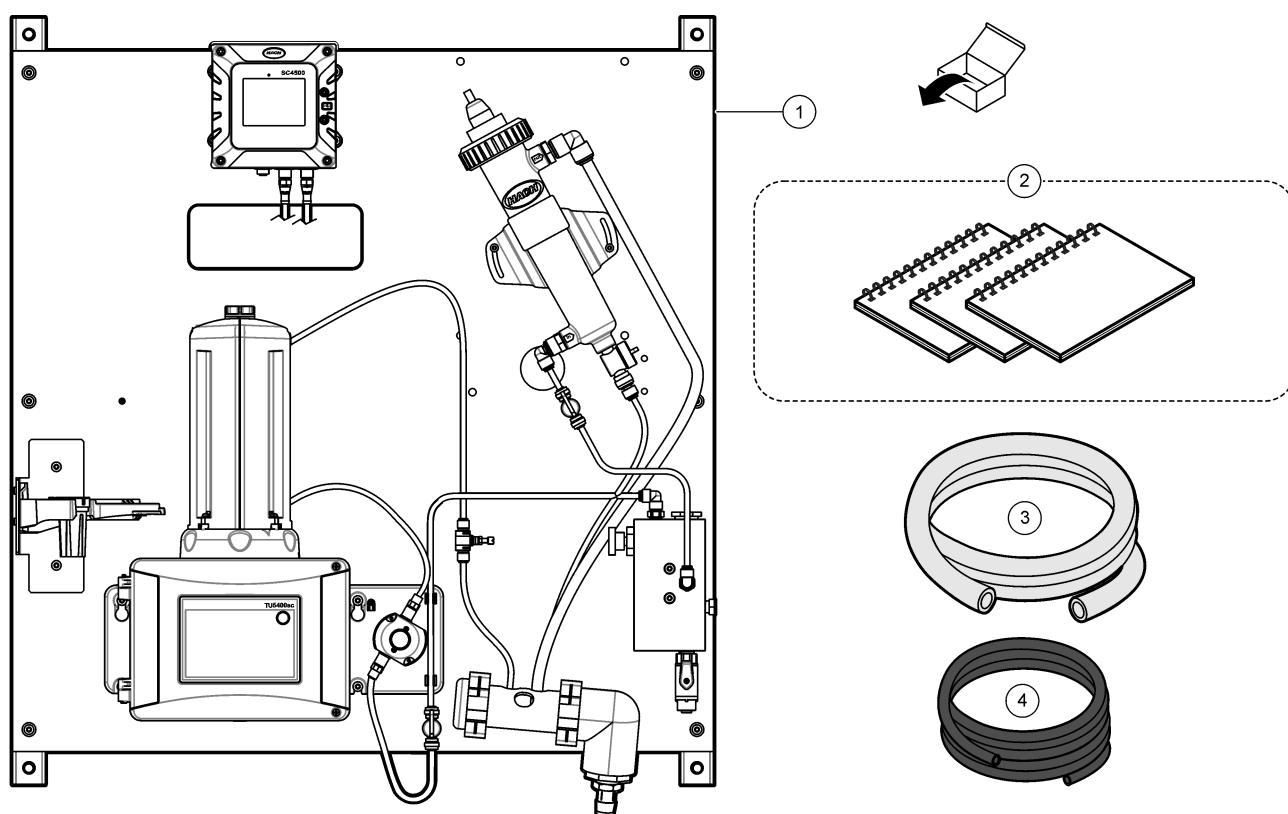
Specification	Details
Dimensions (W x H x D)	33 x 71.1 x 29.2 cm (13 x 28 x 11.5 inch)
Weight	22.5 kg (49.5 lb)
Power requirements	100–240 VAC ±10%, 50/60 Hz; maximum 1 A

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

10.3 Product components

Make sure that all components have been received. Refer to [Figure 65](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 65 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)

10.4 Installation

⚠ WARNING

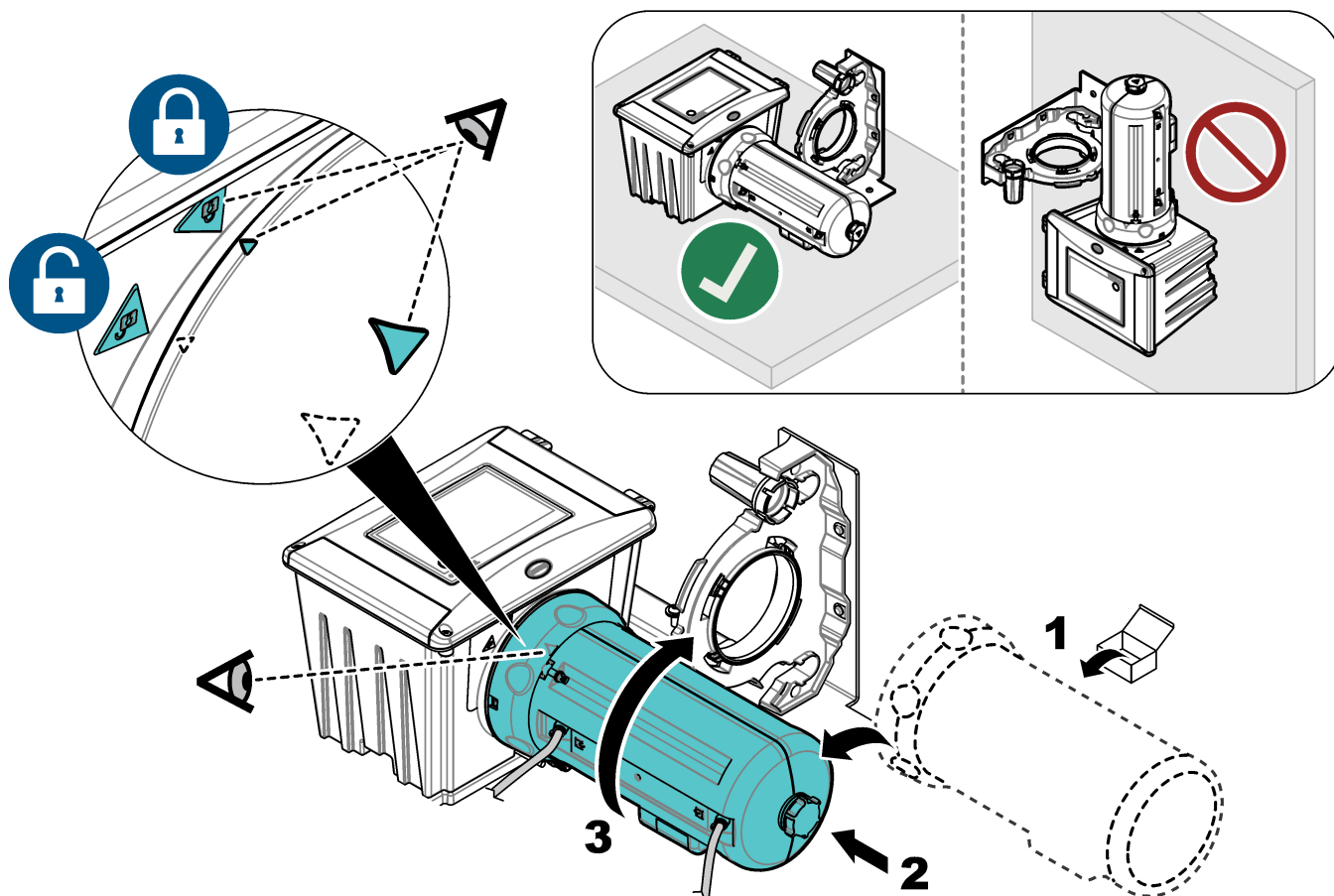


Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.

10.4.1 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 66](#).

Figure 66 Install the ACM on the turbidimeter



10.4.2 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 67](#) for product dimensions. Refer to [Figure 68](#) to attach the panel to a wall. Mounting hardware is supplied by the user.

Figure 67 Product dimensions

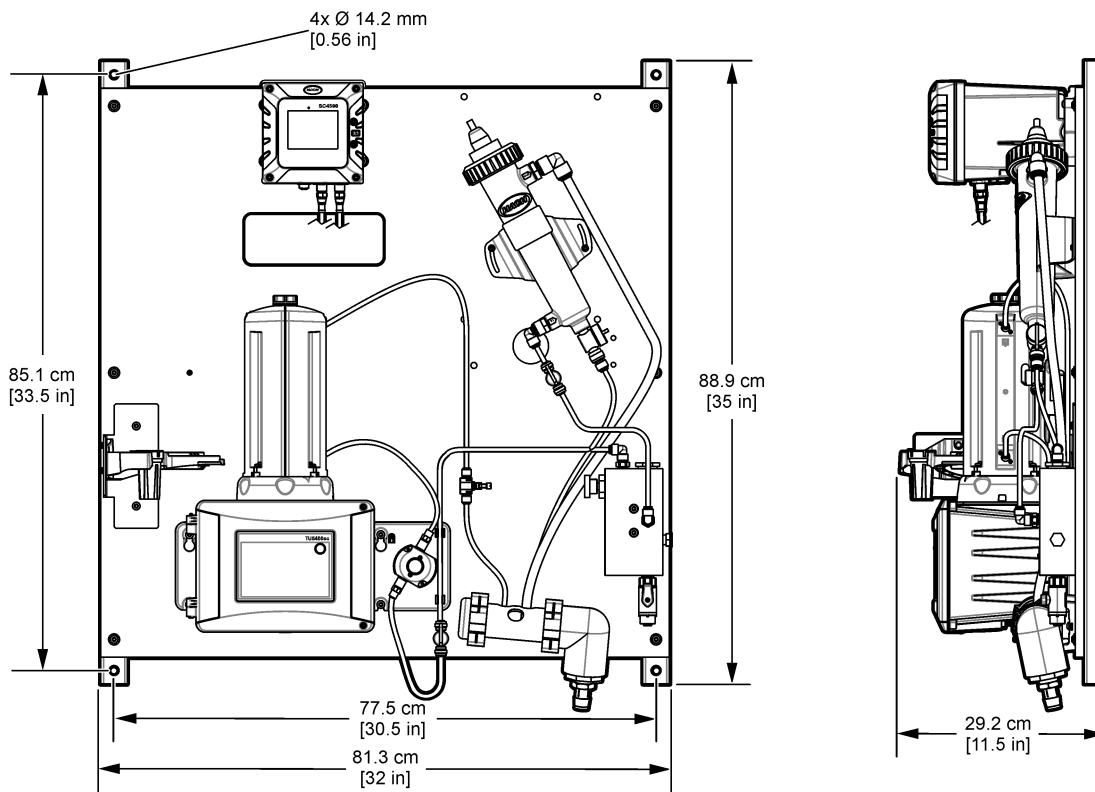
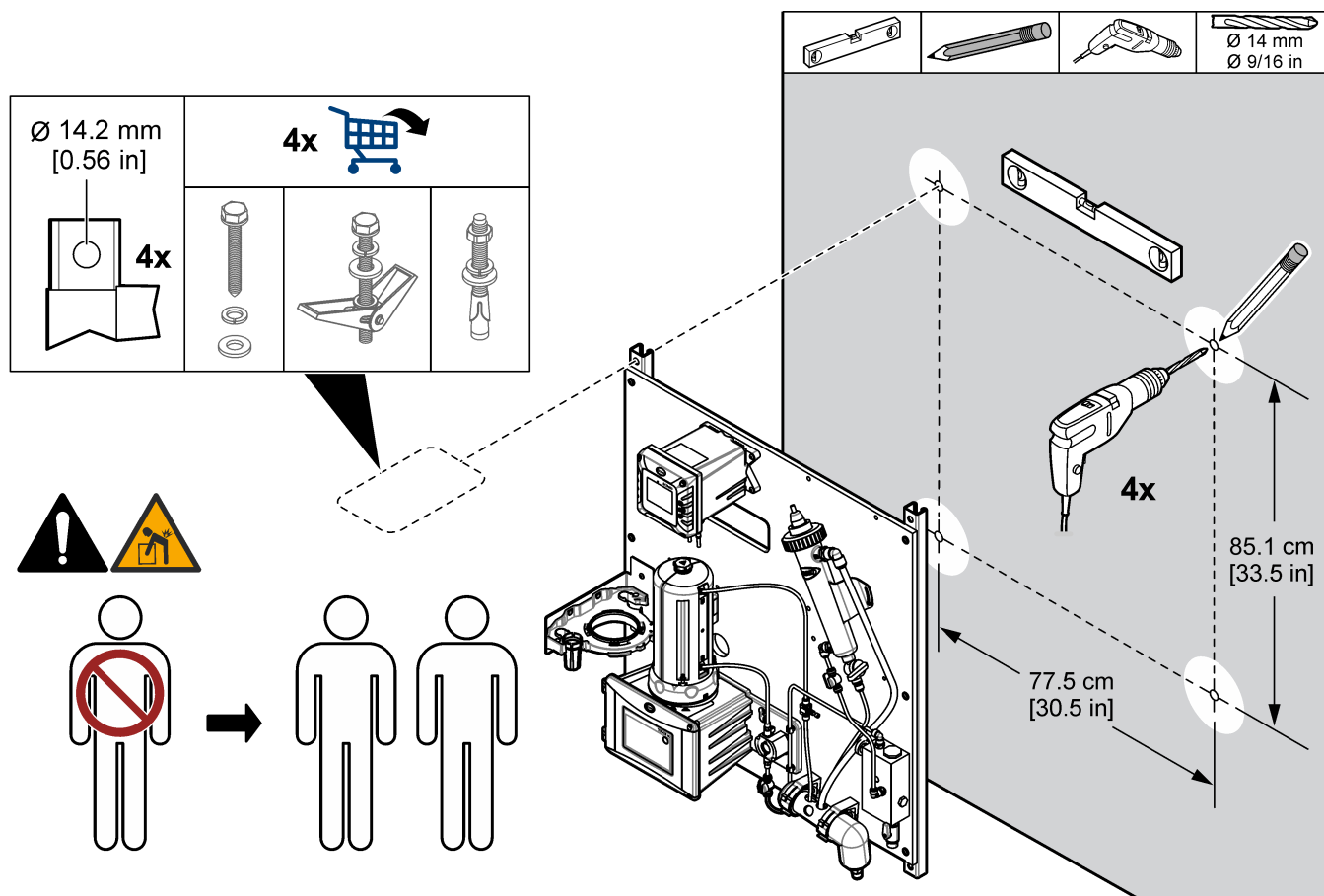


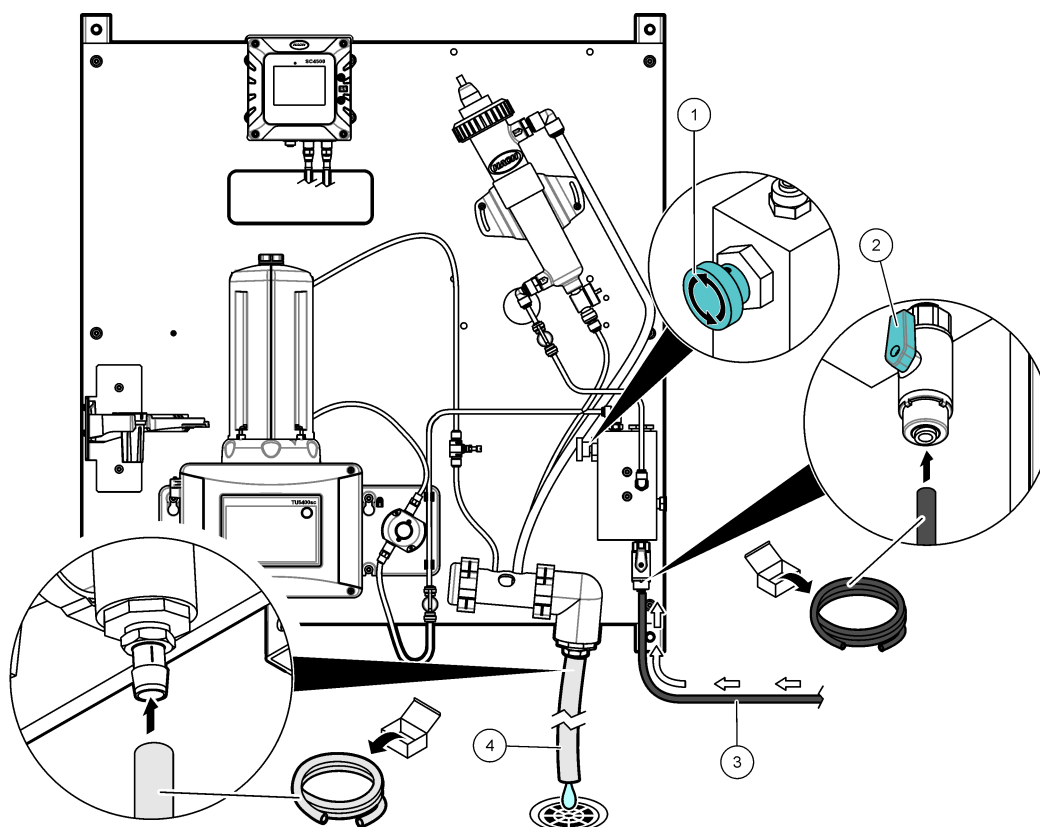
Figure 68 Hang the panel on a wall



10.4.3 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 69](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 69 Sample and drain connections



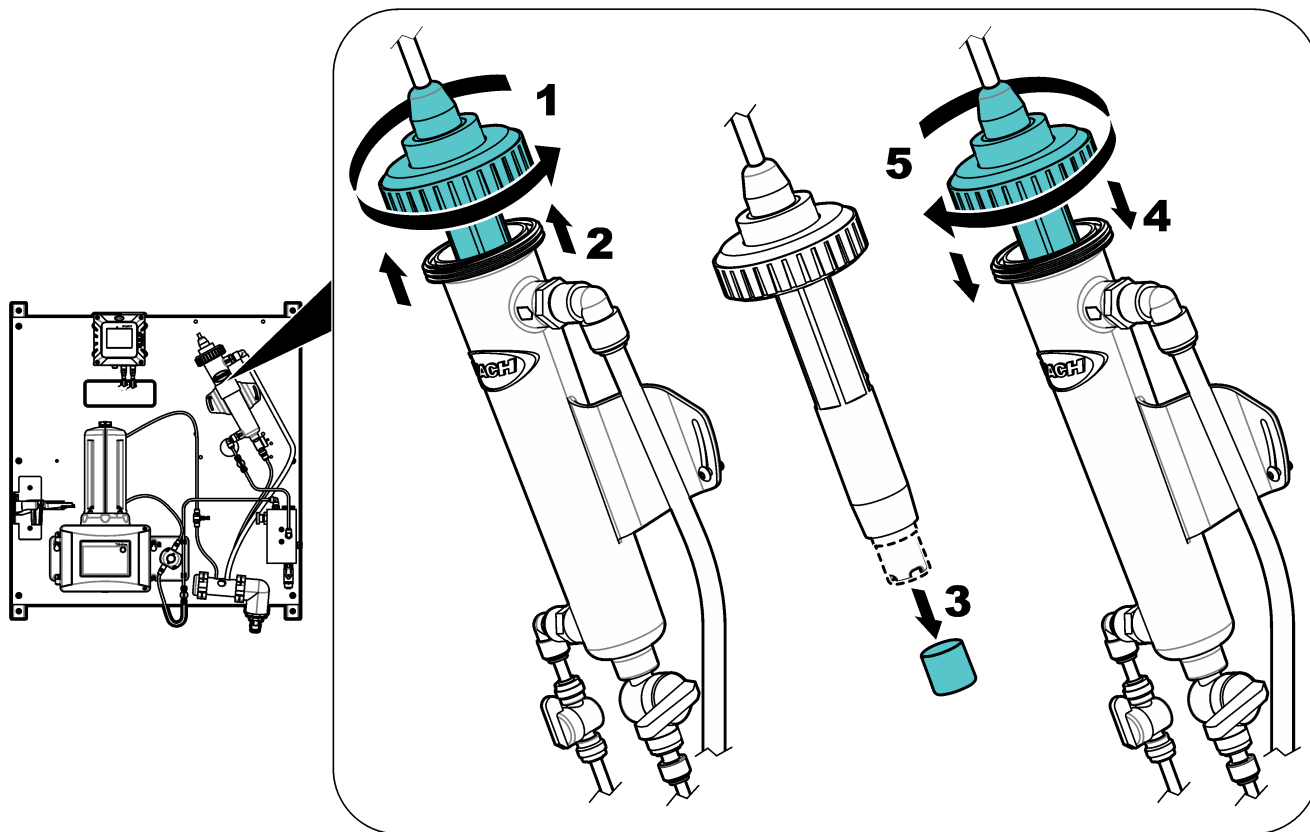
1 Inlet needle valve	3 Sample tubing
2 Inlet ball valve	4 Drain tubing

10.4.4 Remove the cap from the pH sensor

Remove the protective cap from the pH sensor before startup. Refer to [Figure 70](#).

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

Figure 70 Remove the cap from the pH sensor



10.5 Startup

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

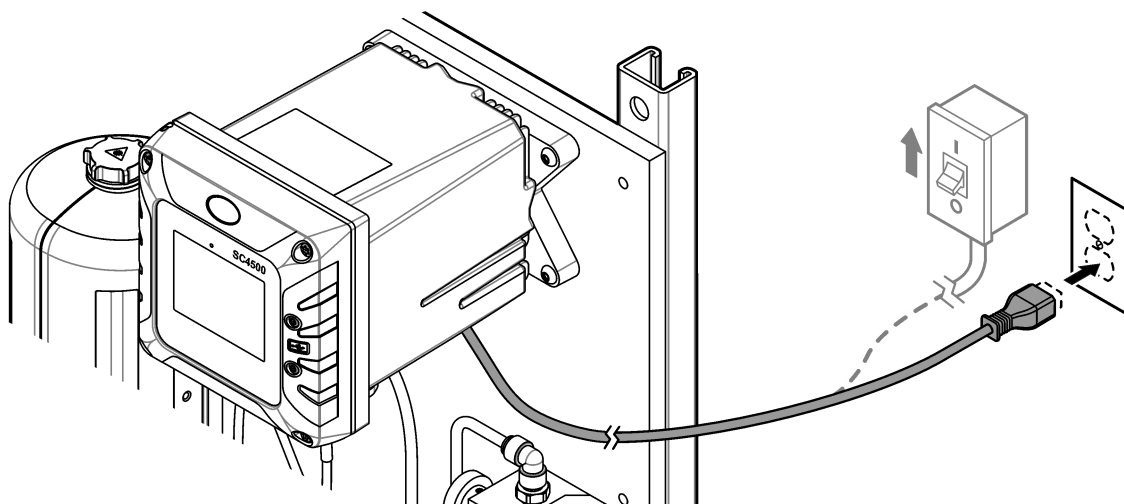
1. Open the sample inlet valve to let sample flow through the plumbing system. Make sure that the flow rate and pressure are within the limits. Refer to [Specifications](#) on page 83.
2. Examine the plumbing for fluid leaks. Stop the leaks if found.
3. Apply power to the controller. Refer to [Figure 71](#). 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 83.
 - 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 71 Apply power



10.6 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.

10.7 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.

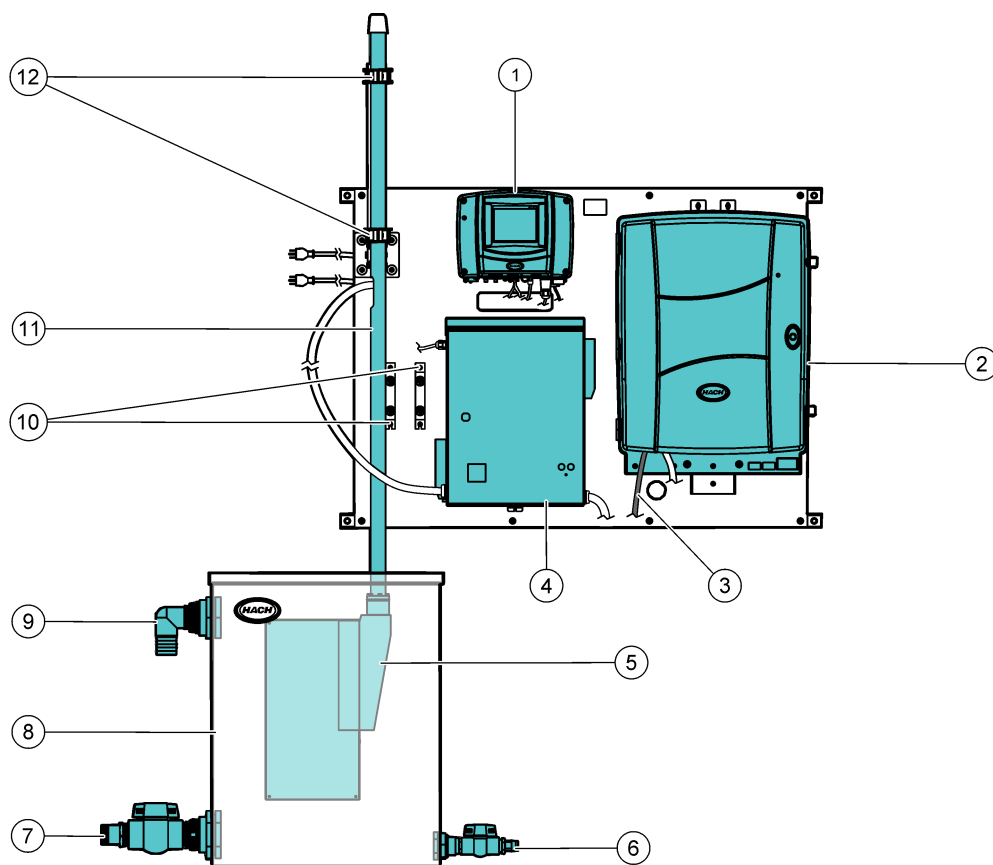
Description	Item no.
Tubing, 0.170-inch ID × 0.250-inch OD	3061600A

Section 11 DPMP-POFTX

11.1 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 72](#). 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 72 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

11.2 Specifications

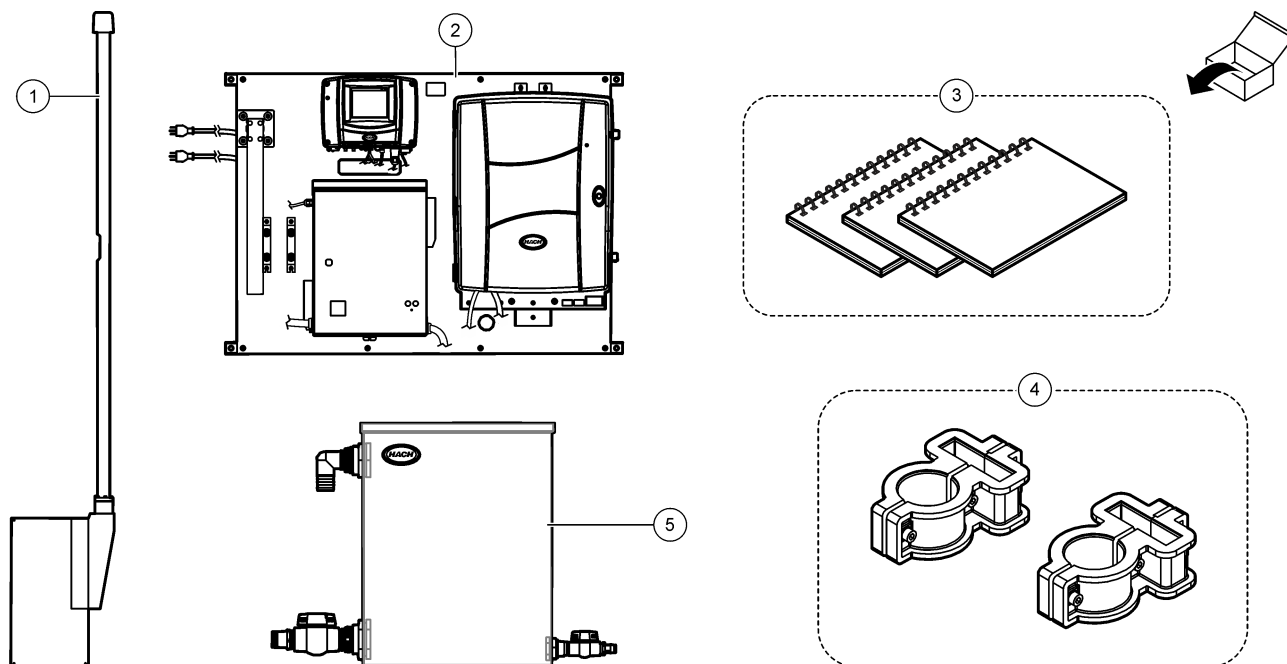
Specifications are subject to change without notice. The specifications that follow are for the DPMP-POFTX panel. Refer to the supplied user manuals for the controller, filter and analyzer specifications.

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

11.3 Product components

Make sure that all components have been received. Refer to [Figure 73](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

Figure 73 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	

11.4 Installation

⚠ WARNING



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

11.4.1 Mounting

⚠ WARNING



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

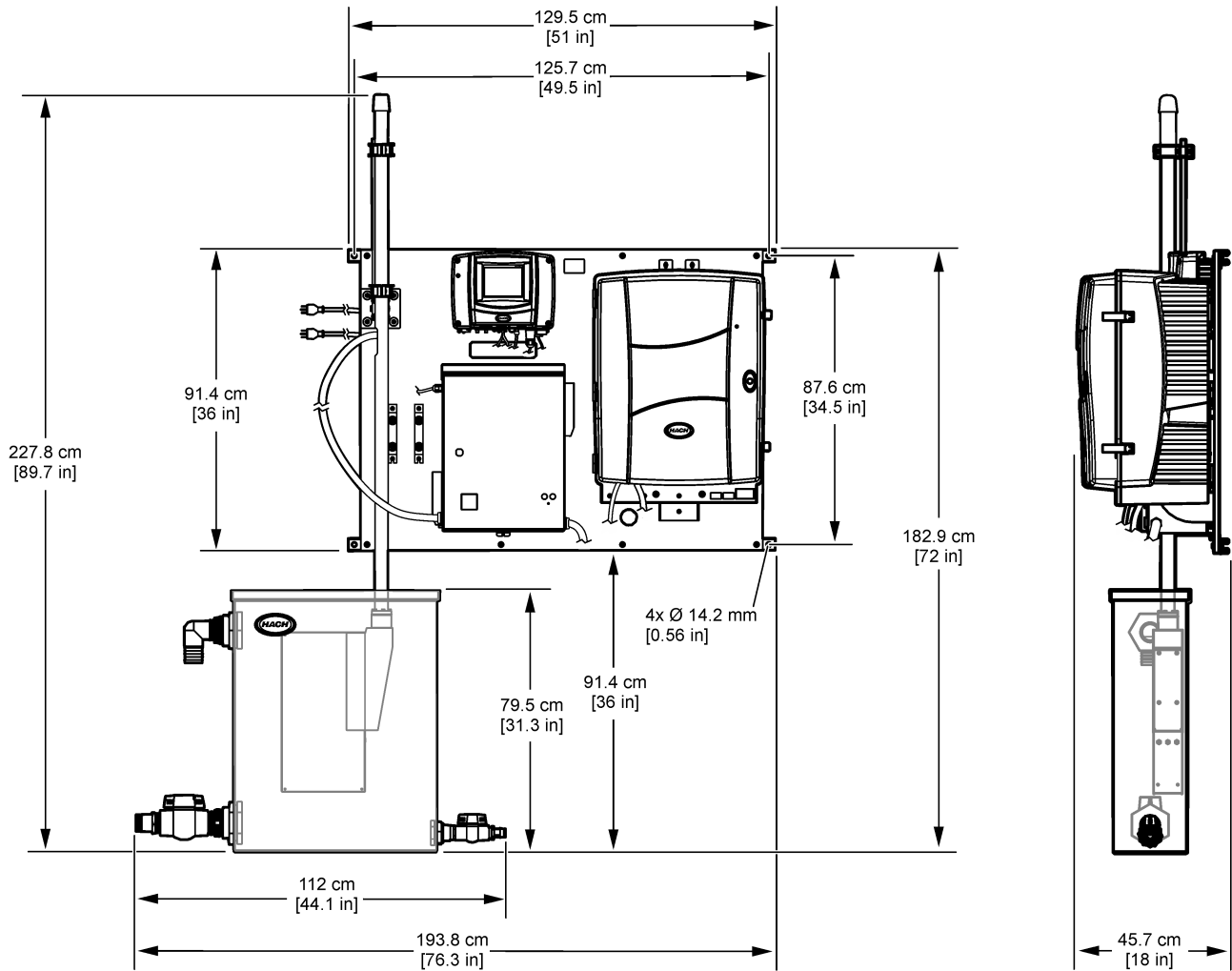
⚠ WARNING

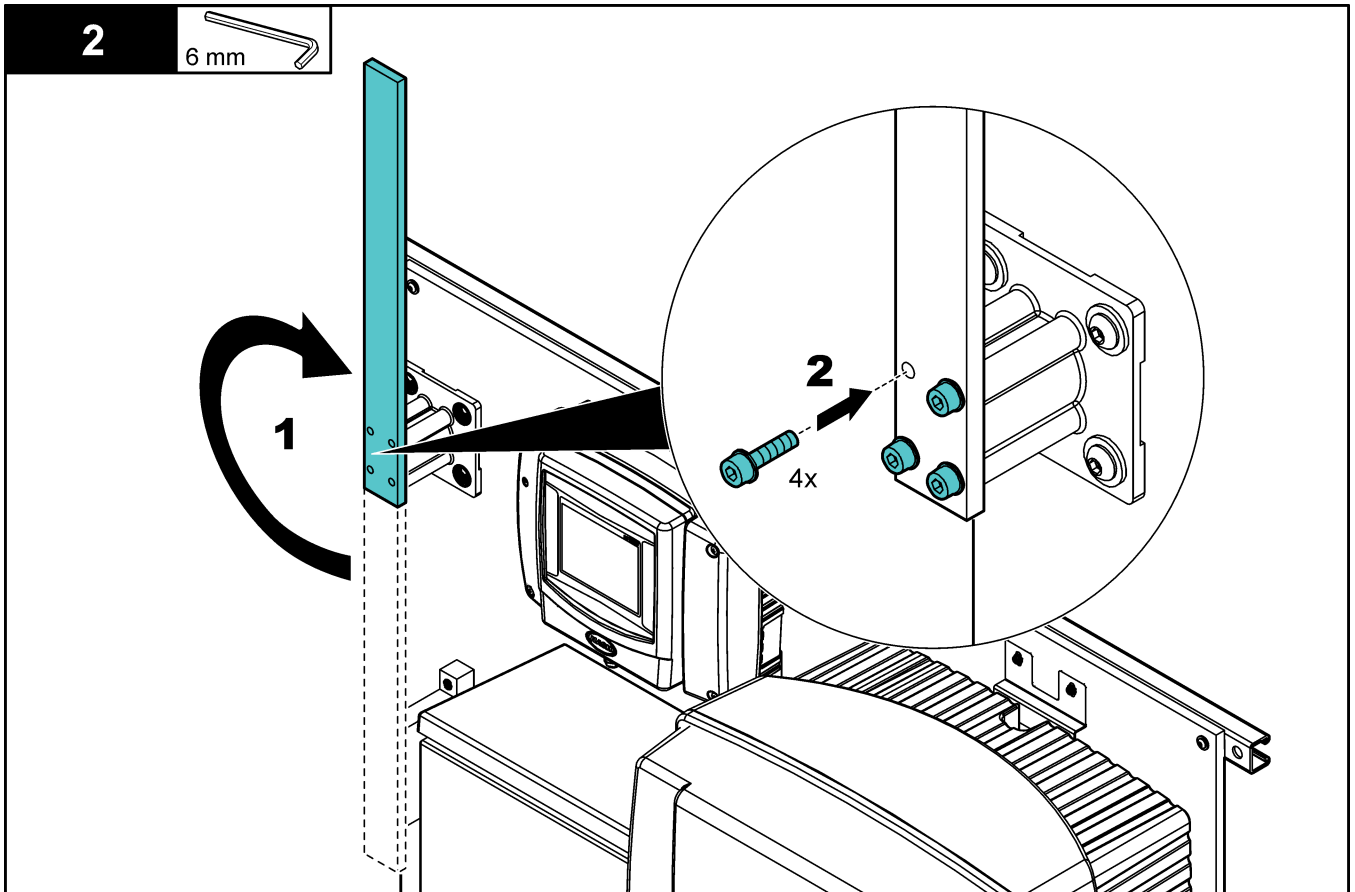
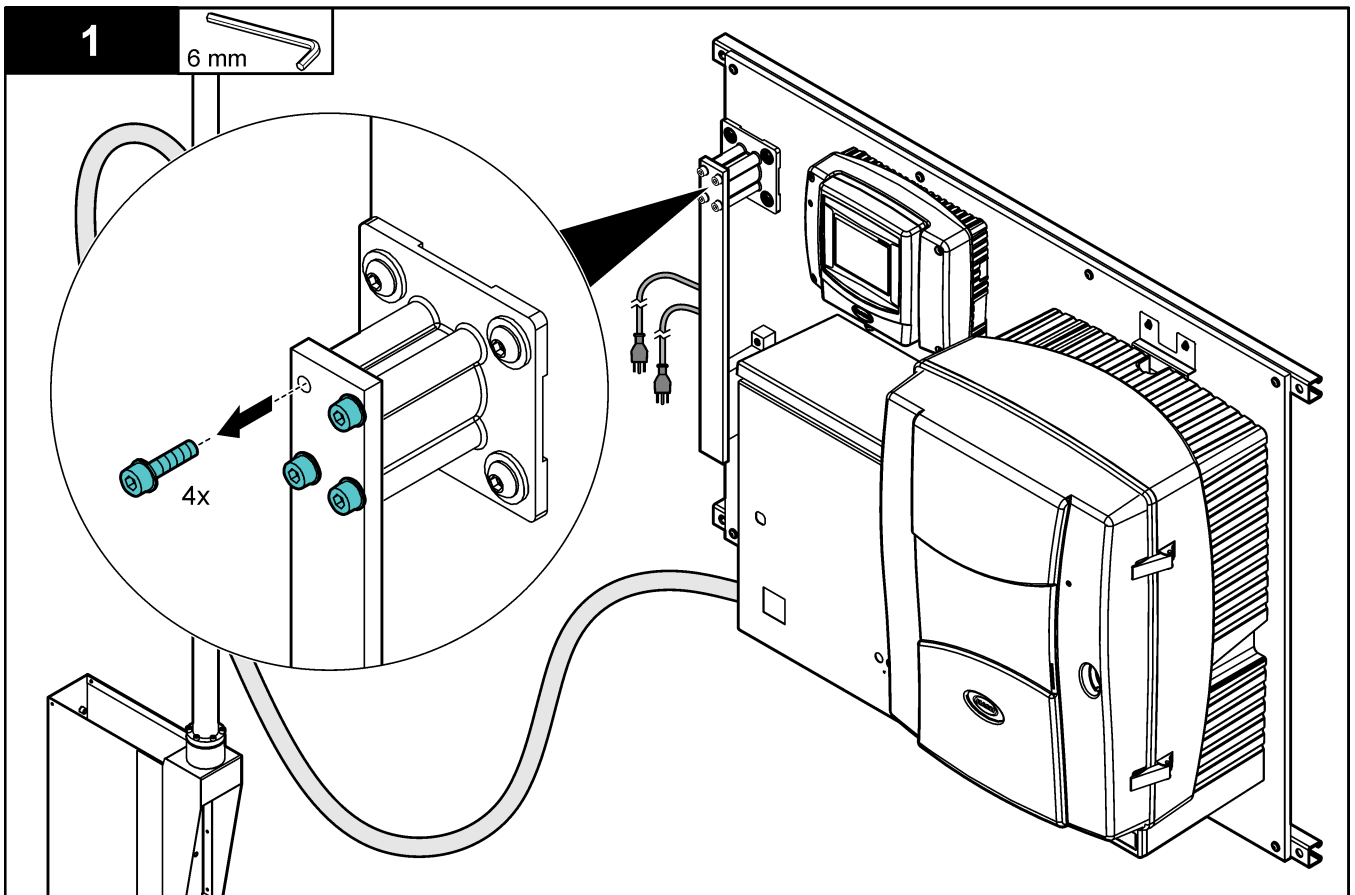


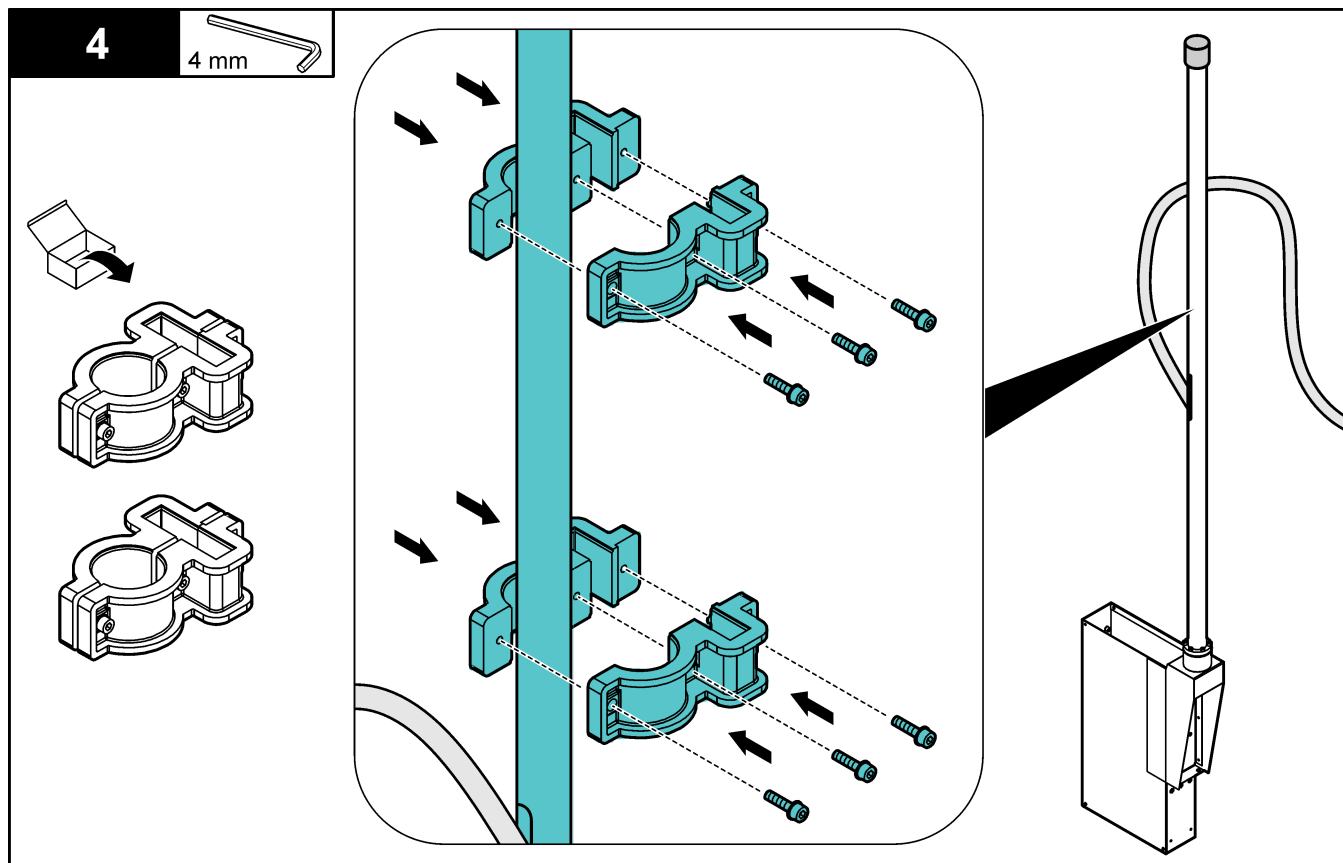
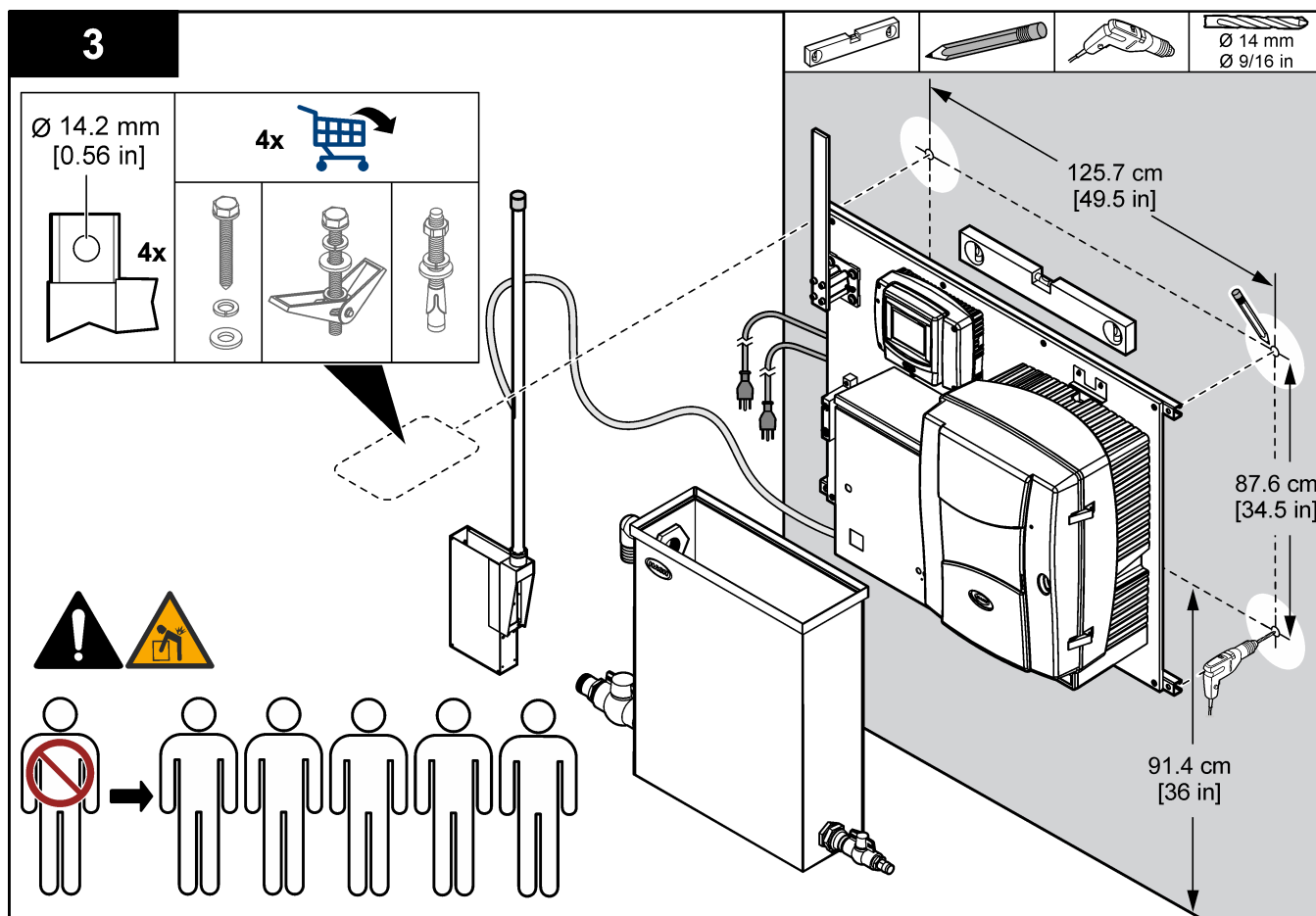
Personal injury hazard. Instruments or components are heavy. Use assistance to install or move.

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 74](#) for product dimensions. Refer to the illustrated steps that follow to attach the panel to a wall. Mounting hardware is supplied by the user.

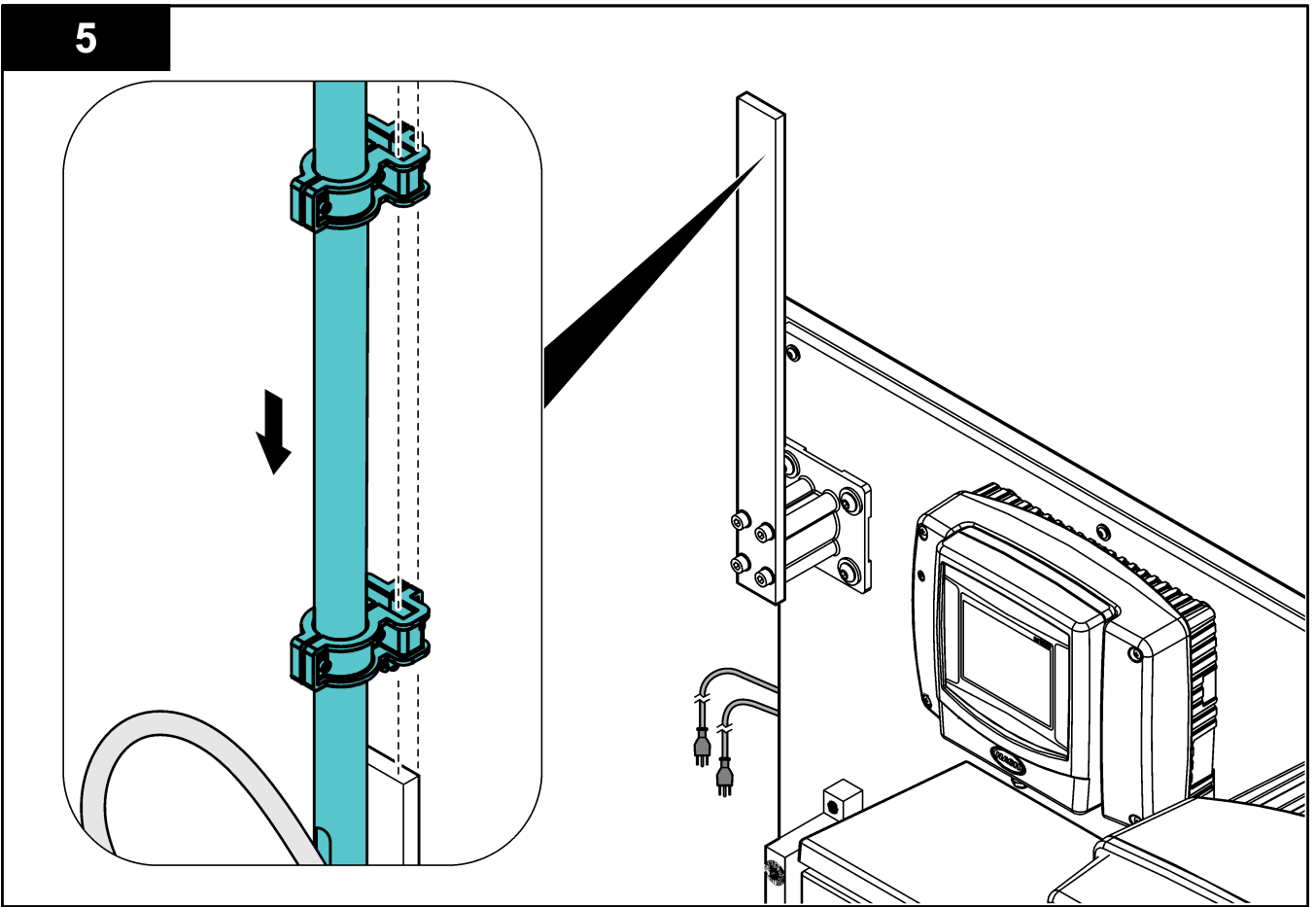
Figure 74 Product dimensions



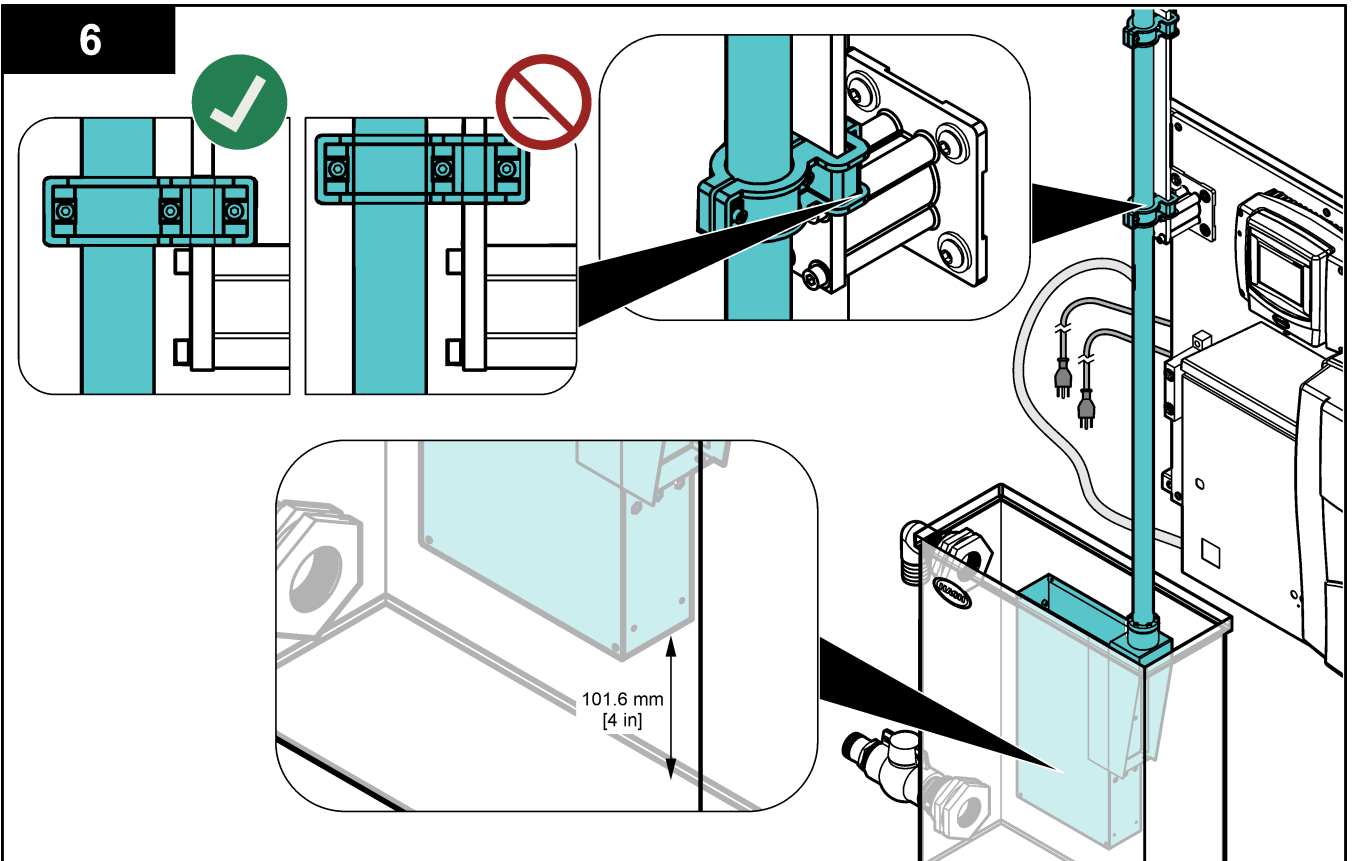




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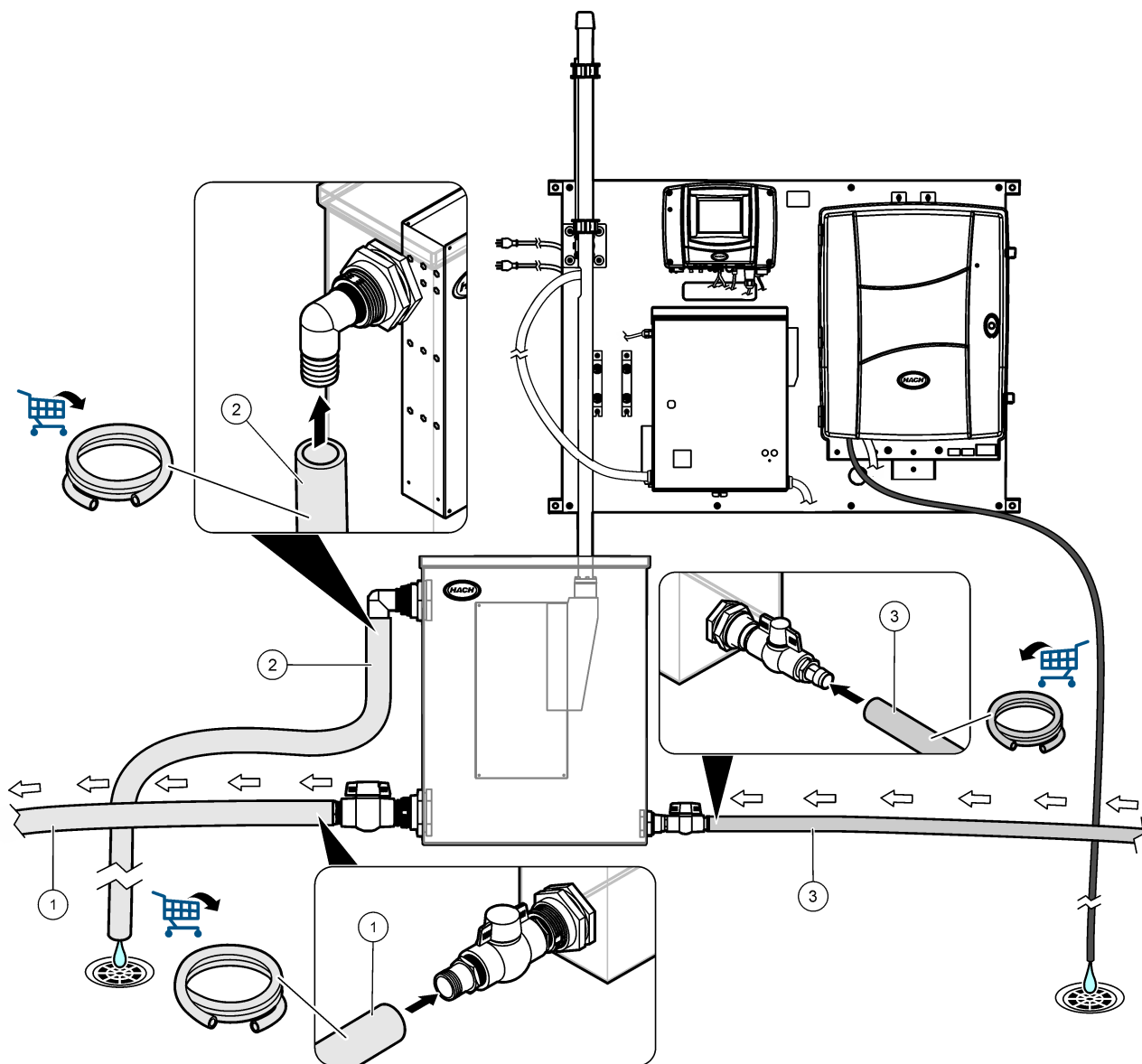
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11.4.2 Install the sample and drain lines

Install the sample and drain tubing as shown in [Figure 75](#). Make sure that the drain tubing has a constant downward slope to the external drain.

Figure 75 Sample and drain connections



1 Outlet: 2-inch ID, 2-³/₈-inch OD tubing

2 Drain: 2-inch ID, 2-³/₈-inch OD tubing

3 Inlet: 1-inch ID, 1-⁵/₁₆-inch OD tubing

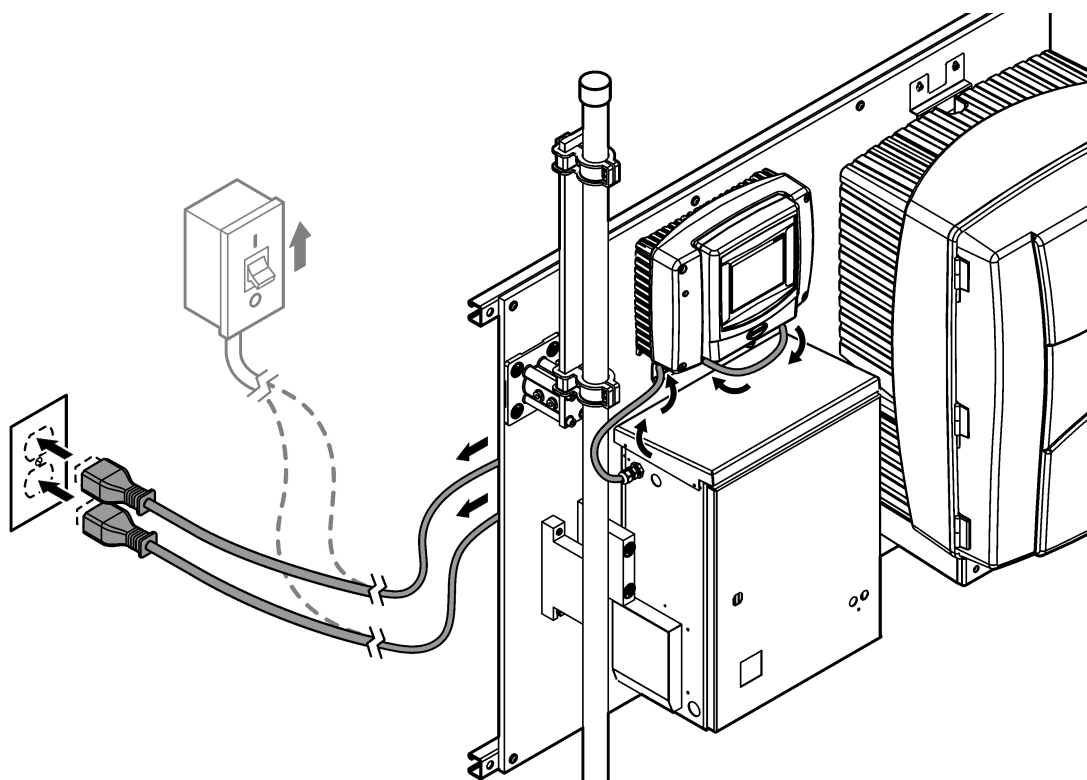
11.5 Startup

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 92.
6. Examine the plumbing for fluid leaks. Stop the leaks if found.
7. Apply power to the Filtrax control unit. Refer to [Figure 76](#).
8. Set the parameters for the Filtrax 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 76 Apply power



11.6 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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