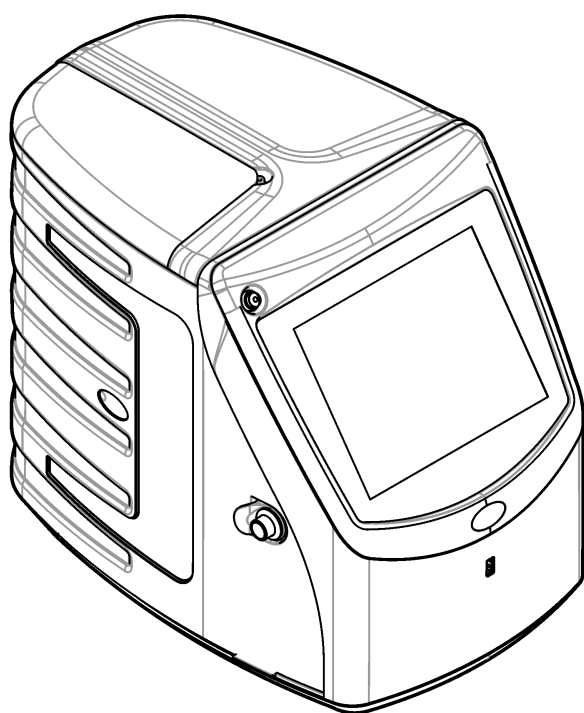




Instruction For Use

QbD1200+

Total Organic Carbon Analyzer



CE

C89298AA
March 2024

Manufactured by

Hach Water Quality Analytical Instruments
(Shanghai) Co., Ltd Room 502, floor5,
No38, Yinglun Road, PILOT FREE
TRADE ZONE, Shanghai 200131, CHINA



**BECKMAN
COULTER**

QbD1200+ TOC IFU

PN C89298AA (March 2024)

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- Worldwide, find us via our website at www.beckman.com/support/technical
- In the USA and Canada, call us at 1-800-369-0333.
- In Austria, call us at 0810 300484
- In Germany, call us at 02151 333999
- In Sweden, call us at +46 (0)8 564 859 14
- In the Netherlands, call us at +31 348 799 815
- In France, call us at 08258383066
- In the UK, call us at +44 845 600 1345
- In Ireland, call us at +353 (01) 4073082
- In Italy, call us at +39 0295392 456
- In other locales, contact your local Beckman Coulter Representative.

Autosampler Manufactured by:
Teledyne Instruments, Inc.
DBA Teledyne CETAC Technologies
14306 Industrial Road
Omaha, NE 68144

Teledyne CETAC Technologies
17 Clearwater Drive
Manchester
M20 2ED
UK

EC	REP
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Teledyne CETAC Technologies
Köpfchenestraße 1
57223 Kreuztal
Germany

Distributed by:
Beckman Coulter, Inc.
250 S. Kraemer Blvd.
Brea, CA 92821 U.S.A.

Beckman Coulter (UK) Ltd.
Oakley Court
Kingsmead Business Park, London Road
High Wycombe
United Kingdom HP11 1JU

Original Instructions

Revision History

Initial Issue, 3/2024

Software version 2.1

Complete revision. Added appendices, rebranded and reformatted manual.

This document applies to the latest software listed and higher versions. When a subsequent software version affects the information in this document, a new issue will be released to the Beckman Coulter Web site. For labeling updates, go to www.beckman.com and download the latest version of the manual or system help for your instrument.

Safety Notice

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.

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.

Consult with Beckman Coulter-trained personnel before attempting to operate instrument. Do not attempt to perform any procedure before carefully reading all instructions. Always follow product labeling and manufacturer's recommendations. If in doubt as to how to proceed in any situation, [contact us](#).

Alerts for Danger, Warning, Caution, Important, and Note

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

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

CAUTION

CAUTION indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

IMPORTANT IMPORTANT is used for comments that add value to the step or procedure being performed. Following the advice in the Important adds benefit to the performance of a piece of equipment or to a process.

NOTE NOTE is used to call attention to notable information that should be followed during installation, use, or servicing of this equipment.

 WARNING

Risk of operator injury if:

- All doors, covers, and panels are not closed and secured in place prior to and during instrument operation.
- The integrity of safety sensors is compromised.
- Instrument alarms and error messages are not acknowledged and acted upon.
- You contact moving parts.
- You mishandle broken parts.
- Doors, covers, and panels are not opened, closed, removed, and/or replaced with care.
- Improper tools are used for troubleshooting.

To avoid injury:

- Keep doors, covers, and panels closed and secured in place while the instrument is in use.
- Take full advantage of the safety features of the instrument.
- Acknowledge and act upon instrument alarms and error messages.
- Keep away from moving parts.
- Report any broken parts to your Beckman Coulter Representative.
- Open/remove and close/replace doors, covers, and panels with care.
- Use the proper tools when troubleshooting.

 CAUTION

System integrity could be compromised and operational failures could occur if:

- This equipment is used in a manner other than specified. Operate the instrument as instructed in the Product Manuals.
- You introduce software that is not authorized by Beckman Coulter into your computer. Only operate your system's computer with software authorized by Beckman Coulter.
- You install software that is not an original copyrighted version. Only use software that is an original copyrighted version to prevent virus contamination.

 CAUTION

If you purchased this product from anyone other than Beckman Coulter or an authorized Beckman Coulter distributor, and, it is not presently under a Beckman Coulter service maintenance agreement, Beckman Coulter cannot guarantee that the product is fitted with the most current mandatory engineering revisions or that you will receive the most current information bulletins concerning the product. If you purchased this product from a third party and would like further information concerning this topic, contact your Beckman Coulter Representative.

EMC

This device complies with the emissions and immunity requirements as specified in the EN/IEC 61326 series of Product Family Standards for a “basic electromagnetic environment.” Such equipment is supplied directly at low voltage from public mains network. This equipment is not intended for residential use.

 CAUTION

This device generates, uses, and can radiate unintentional radio-frequency (RF) energy. If this device is not installed and operated correctly, this RF energy can cause interference with other equipment. It is the responsibility of the end user to be sure that a compatible electromagnetic environment for the device can be maintained so that the device operates as intended.

In addition, other equipment can radiate RF energy to which this device is sensitive. If one suspects interference between this device and other equipment, Beckman Coulter recommends the following actions to correct the interference:

1. Evaluate the electromagnetic environment before installation and operation of this device.
2. Do not operate this device close to sources of strong electromagnetic radiation (for example: unshielded intentional RF sources), as these can interfere with proper operation. Examples of unshielded intentional radiators are handheld radio transmitters, cordless phones and cellular phones.
3. Do not place this device near medical electrical equipment that can be susceptible to malfunctions caused by close proximity to electromagnetic fields.
4. This device has been designed and tested to CISPR 11, Class A emission limits. In a domestic environment, this device may cause radio interference, in which case, you may need to take measures to mitigate the interference.

Safety Precautions

Special

This group of warnings concerns conditions that can affect both your immediate personal safety and the future safety of the instrument's operators.

WARNING

Risk of personal or operator injury. Covers are installed on Beckman Coulter instruments to prevent injury from operating components. If you must remove covers to service an instrument:

1. Be alert and use extreme care when working around exposed components to avoid personal injury.
2. At the end of the service call, always reinstall ALL instrument covers to prevent operator injury.

WARNING

Risk of personal or operator injury. Broken or cut components with sharp edges could puncture your gloves and skin, causing possible injury or biohazardous contamination. Handle fragile components carefully to avoid breakage. Replace any broken or cut components with sharp edges, even if they are still functioning. Use mechanical means, such as hemostats, to handle a broken component, whenever feasible. Dispose of broken components in accordance with the local regulations and acceptable laboratory practice.

Electronic

WARNING

Risk of personal injury from fire if instrument is used near fumes or flammable gases. Avoid this risk by never operating instrument near fumes or flammable gases.

CAUTION

Risk of damage to electronic components. Electrostatic discharge (ESD) can damage disk drives, add-in circuit cards, circuit boards, and other electronic components. Perform any procedure where there is a possibility of ESD damage at an ESD workstation or wear an antistatic wrist strap attached to a metallic part of the chassis connected to an earth ground.

 CAUTION

To remove mains power from the product, remove the appliance coupler from the external power supply adapter or unplug the power cord from the power outlet.

 CAUTION

Risk of damage to instrument. If you do not use the power supply and power cords provided by Beckman Coulter, damage to the instrument can occur. To prevent damage to instrument, only use the power supply and power cords provided by Beckman Coulter.

Biological

 WARNING

Risk of personal injury or contamination. If you do not properly shield yourself before servicing the instrument with the door open, you can be injured or contaminated. To prevent possible injury or contamination, always wear gloves, a lab coat, and eye protection when servicing the instrument with the doors open and/or when working with pathogenic materials.

Instrument-Specific Safety Precautions

General Risks

 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.

 CAUTION

Chemical exposure hazard. The UV lamp assembly of this instrument contains mercury. Remove the UV lamp assembly before instrument disposal. Obey local, state, and federal law regulations for disposal of the UV lamp assembly.

Safety Precautions

CAUTION

Risk of instrument damage. This instrument is intended for indoor use only. To avoid instrument damage, do not install the instrument outdoors.

WARNING

Risk of personal injury. Safety protection can be impaired if used in a manner not specified by the manufacturer. To avoid personal injury, use the instrument according to the manufacturer's instructions only.

Safety Icons and Messages

NOTE These icons are also used in illustrations throughout this manual.

	 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.
	 CAUTION Chemical exposure hazard. The UV lamp assembly of this instrument contains mercury. Remove the UV lamp assembly before instrument disposal. Obey local, state and federal law regulations for disposal of the UV lamp assembly.
 	 CAUTION Chemical exposure hazard. Obey laboratory safety procedures and wear all of the personal protective equipment appropriate to the chemicals that are handled. Refer to the current safety data sheets (MSDS/SDS) for safety protocols.
	 WARNING Fire hazard. This product is not designed for use with flammable liquids.

Safety Symbols

Safety symbols alert you to potentially dangerous conditions. The symbol applies to specific procedures and appears as needed throughout this manual.

Read all labels and tags attached to the instrument. Personal injury or damage to the instrument could occur if not observed. A symbol on the instrument is referenced in the manual with a precautionary statement.

Symbol	Warning Condition	Action
	Caution	To indicate that caution is necessary when operating the device or control close to where the symbol is placed, or to indicate that the current situation needs operator awareness or operator action in order to avoid undesirable consequences.
	Heavy instruments or components	Risk of personal injury. Instruments or components are heavy. To prevent injury, use assistance to install or move.
	Corrosive Chemicals	To identify a risk of chemical harm and indicates that only individuals qualified and trained to work with chemicals should handle chemicals or perform maintenance on chemical delivery systems associated with the equipment.
	Fire Hazard	To indicate a potential fire hazard.
	Pinch	To warn of a closing motion of mechanical parts of equipment.
	Puncture	Risk of personal injury. Exposed needles can cause puncture wounds. To prevent injury, use caution when bottles are installed or removed.
	Moving parts.	Risk of personal injury. Parts that move can pinch and cause injury. To prevent injury, do not touch moving parts.
	cNRTLus Certification Mark	This symbol indicates recognition by a Nationally Recognized Testing Laboratory (NRTL) that the system has met the relevant product safety standards for the United States and Canada

Symbol	Warning Condition	Action
	RoHS Caution Symbol People's Republic of China Electronic Industry Standard SJ/T11364-2006	This label indicates that the electronic information product contains certain toxic or hazardous substances. The center number is the Environmentally Friendly Use Period (EFUP) date, and indicates the number of calendar years the product can be in operation. Upon the expiration of the EFUP, the product must be immediately recycled. The circling arrows indicate the product is recyclable. The date code on the label or product indicates the date of manufacture.
	Mercury Information Label	To indicate the presence of mercury. Components that contain mercury must be disposed in accordance with all applicable national, local, and regional law.
	European Conformity (CE Mark) Regulatory Mark	A "CE" mark indicates that a product has been assessed before being placed on the market, and has been found to meet European Union safety, health, and/or environmental protection requirements.
	UKCA Mark	A "UKCA" mark indicates that a product has been assessed before being placed in the UK market, and has been found to meet UK safety, health, and/or environmental protection requirements.
	Recycling Symbol WEEE Wheeled Bin Symbol	The symbol of a crossed-out wheeled bin on the product is required in accordance with the Waste Electrical and Electronic Equipment (WEEE) Directive of the European Union. The presence of this marking on the product indicates: 1. that the device was put on the European Market after August 13, 2005 and 2. that the device is not to be disposed via the municipal waste collection system of any member state of the European Union. For products under the requirement of WEEE directive, please contact your dealer or local Beckman Coulter office for the proper decontamination information and take-back program which will facilitate the proper collection, treatment, recovery, recycling, and safe disposal of device. For the Japan market: This system is considered an industrial waste, subject to special controls for infectious waste. Before disposal of the system, refer to the Waste Disposal and Public Cleaning Law for compliance procedures.
	Do Not Dispose Symbol	This symbol indicates the presence of mercury. Components that contain mercury must be disposed in accordance with all applicable local and regional law.

Symbol	Warning Condition	Action
	California Proposition 65	This product can expose you to chemicals known to the State of California to cause Cancer and Reproductive Harm. For more information go to https://www.P65Warnings.ca.gov .
	EC Representative	Indicates the Authorized representative in the European Community.
	Direct Current	To indicate on the rating plate that the equipment is suitable for direct current only; to identify relevant terminals
	Indicates the legal manufacturer	Indicates the legal manufacturer.
	Date of Manufacture	Indicates the date when the device was manufactured.
Country of Origin: China	Country of origin label	This label indicates the country that the product was manufactured in.
	Serial Number	Indicates the manufacturer's serial number so that specific medical device can be identified.
	Catalog no. (product code)	Indicates the manufacturer's product code.
	Model number (type number)	To identify the model number or type number of a product
	On/OFF (push-push)	To indicate connection to or disconnection from the mains, at least for mains switches or their positions, and all those cases where safety is involved.
	Polarity of d.c. Power Connector	To identify the positive and negative connections (the polarity) of a d.c. power supply, or the positive and negative connections on a piece of equipment to which a d.c. power supply may be connected

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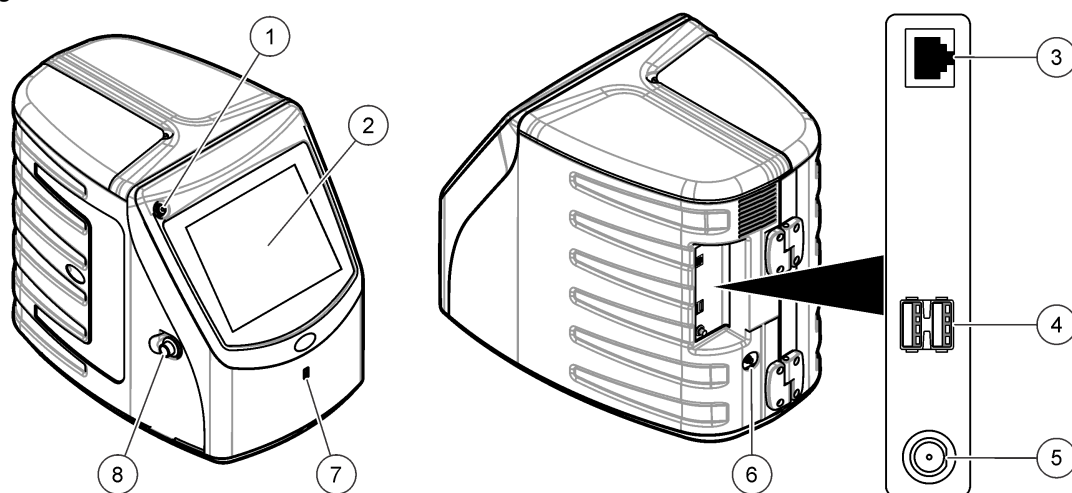
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Product overview

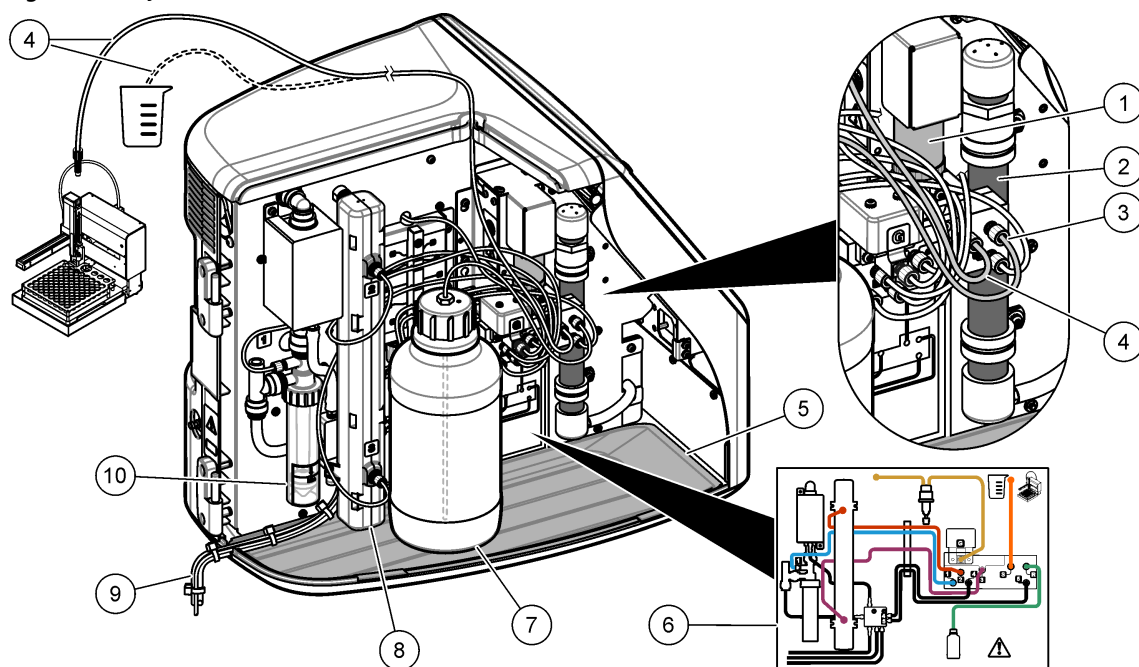
The QbD1200+ Total Organic Carbon (TOC) analyzer uses UV/Persulfate oxidation and NDIR detection for TOC analysis in aqueous samples. This instrument is used in laboratories to measure pharmaceutical and drinking water from 0.4 ppb to 100 ppm. The instrument has a built-in operating system that is controlled by a touch screen or by an optional USB keyboard and mouse. The instrument is made for use with an AutoSampler. Refer to the AutoSampler documentation for more information. Refer to [Figure 1.1, Product overview](#) and [Figure 1.2, Hydraulic connections overview](#) for product features.

Figure 1.1 Product overview



- | | |
|-------------------------|----------------------|
| 1. Power button | 5. Power connection |
| 2. Touch screen display | 6. Gas inlet port |
| 3. Ethernet port | 7. USB port |
| 4. USB ports (2x) | 8. Access door latch |

Figure 1.2 Hydraulic connections overview



- | | |
|---------------------------------|---|
| 1. Syringe pump | 6. Plumbing connections map |
| 2. Ozone destructor | 7. Reagent bottle |
| 3. Reagent tube (green fitting) | 8. UV reactor |
| 4. Sample tube (orange fitting) | 9. Drain tube |
| 5. Removable drip tray | 10. GLS (Gas Liquid Separator) water vessel |

Specifications

Specifications are subject to change without notice.

Table 1.1 Specifications

Specification	Detail
Dimensions (W x D x H)	32 x 51 x 41 cm (12.6 x 20.0 x 16.2 in.)
Weight	14 kg (31 lb)
Protection class	External Power Supply:I, Instrument:III
Installation category	External Power Supply:II, Instrument:I
Power requirements	100-240Vac, 50/60 (+/- 10%), 2A (External Power Adapter) / 12Vdc, 6.0A max (instrument)
Overvoltage category	II
Altitude	3048 m (10,000 ft) maximum
Operating temperature	5 to 35 °C (41 to 95 °F)
Relative humidity	0 to 90%, non-condensing
Storage temperature	5 to 40 °C (41 to 104 °F)

Table 1.1 Specifications

Specification	Detail
Pollution Degree	2
Range	0.4 ppb to 100 ppm TOC
Accuracy	±3% (≥ 500 ppb)
Precision	2% RSD or 3 ppb (the larger value)
Oxidation	UV/persulfate
Detection	NDIR
Display	264.2 mm (10.4 in.) color touch screen
Air supply	High purity air, oxygen or nitrogen; 684.4 kPa (100 psi) maximum air pressure
Certifications	CE Mark cNRTLus
Host I/O	Ethernet port
Warranty	1 year

CHAPTER 2

General Information

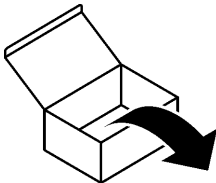
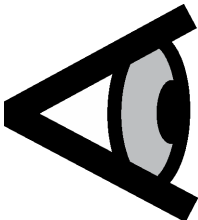
In no event will the manufacturer be liable for direct, indirect, special, incidental or consequential damages resulting from any defect or omission in this manual. The manufacturer reserves the right to make changes in this manual and the products it describes at any time, without notice or obligation. Revised editions are found on the manufacturer's website.

Intended use

The QbD1200+ TOC analyzer is intended for use by individuals who measure water quality parameters in the laboratory. The instrument does not treat or alter water.

Icons used in illustrations

Table 2.1 Icons

		
Manufacturer supplied parts	Look	Read the user manual

Product hazards



DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

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.



CAUTION

Chemical exposure hazard. The UV lamp assembly of this instrument contains mercury. Remove the UV lamp assembly before instrument disposal. Obey local, state and federal law regulations for disposal of the UV lamp assembly.



CAUTION

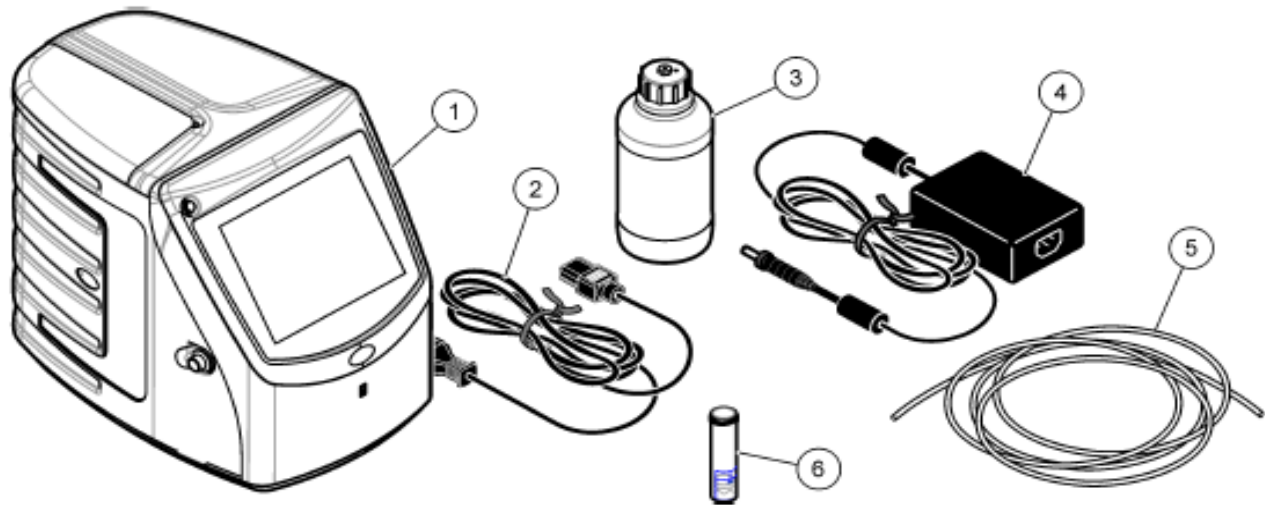
Chemical exposure hazard. Obey laboratory safety procedures and wear all of the personal protective equipment appropriate to the chemicals that are handled. Refer to the current safety data sheets (MSDS/SDS) for safety protocols..

Product components

Make sure that all components have been received. Refer to [Figure 2.1, Product components](#). If any items are missing or damaged, contact the manufacturer or a sales representative immediately.

NOTE The use of cables longer than 3 m (9.8 ft) can cause decreased electromagnetic immunity performance of the equipment.

Figure 2.1 Product components



- | | |
|---------------------------|---------------------|
| 1. Analyzer | 4. Power supply |
| 2. Power cord | 5. Gas inlet tube |
| 3. Reagent bottle (empty) | 6. GLS water vessel |

Installation guidelines

	Multiple hazards. Only qualified personnel must conduct the tasks described in this section of the document.
	Chemical exposure hazard. Obey laboratory safety procedures and wear all of the personal protective equipment appropriate to the chemicals that are handled. Refer to the current safety data sheets (MSDS/SDS) for safety protocols.
	Chemical exposure hazard. Dispose of chemicals and wastes in accordance with local, regional and national regulations
	Fire hazard. This product is not designed for use with flammable liquids.

NOTE This instrument is sensitive to electromagnetic and electromechanical interference. These interferences may have an effect on the analysis performance of this instrument. Do not put this instrument near equipment that may cause interference.

Install the instrument:

- Indoors in a clean, dry, well-ventilated and temperature-controlled location
- In a location with a flat surface to prevent the unit from moving
- In a location with minimum mechanical vibrations and electronic noise
- In a location with no electromagnetic interferences from equipment such as transmitters, power switching, etc.
- In an environmental enclosure that supplies protection from precipitation and direct sunlight
- In a location where there is sufficient clearance to make plumbing and electrical connections
- In a location where the display is easily seen by the user
- In a location with a compatible waste container for the drain tube

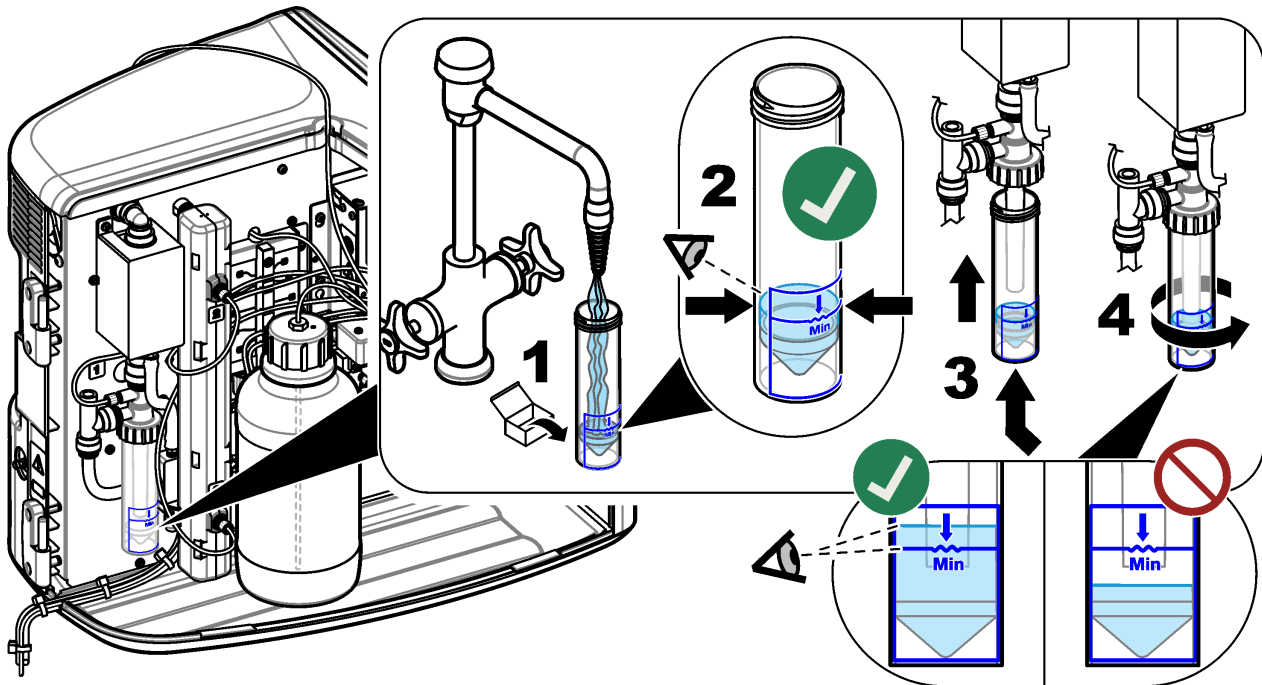
Plumbing

Install the GLS water vessel

Add water to the GLS water vessel as shown in the illustrated steps that follow. Open the instrument door to do the procedure.

NOTE After running each sample tray or with each daily use, examine the water level in the GLS water vessel to make sure that the vessel is not more than half full. If the vessel is more than half full, remove some of the water to prevent a possible overflow.

Figure 3.1 Install the GLS water vessel

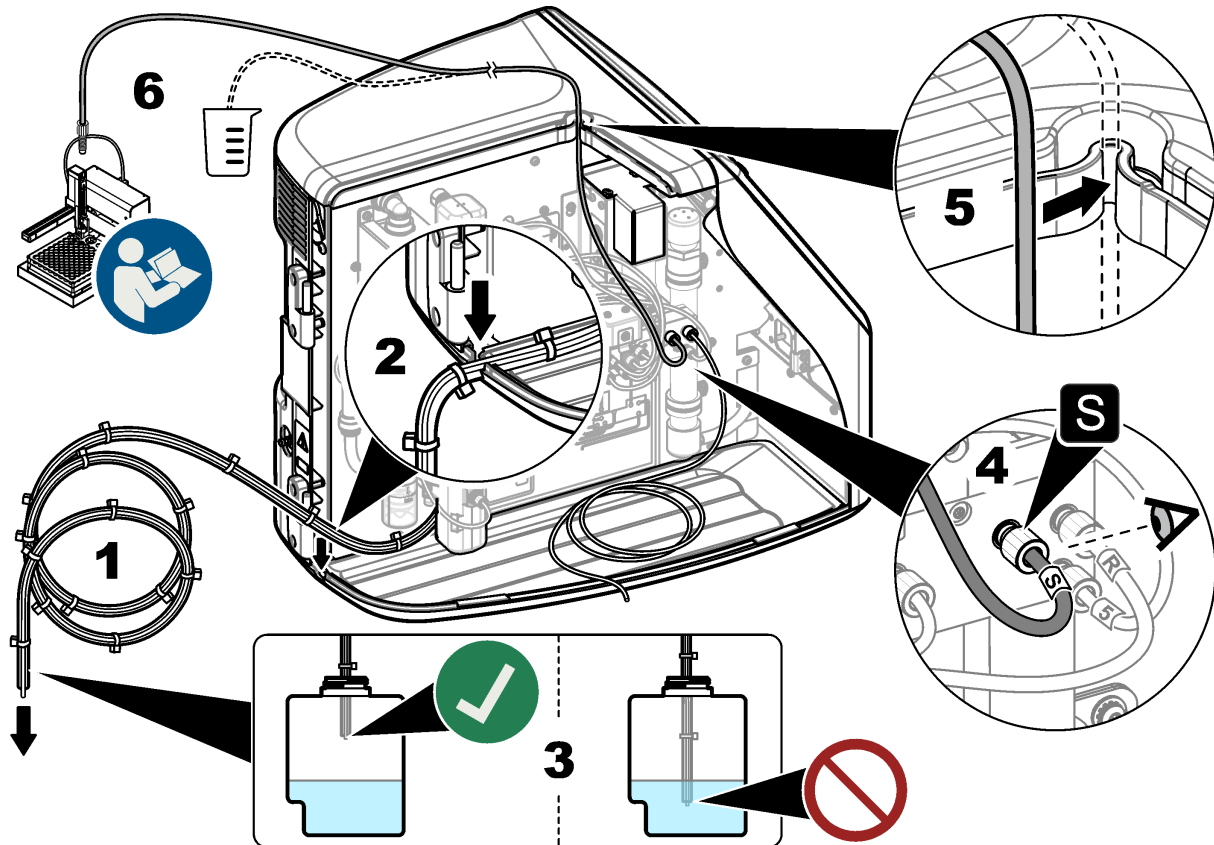


Plumb the sample and drain tubes

Plumb the sample tube to an AutoSampler (or a manual sample container) and plumb the drain tube to the waste container as shown in the illustrated steps that follow.

NOTE Drain tube should never be submerged; always open to atmosphere

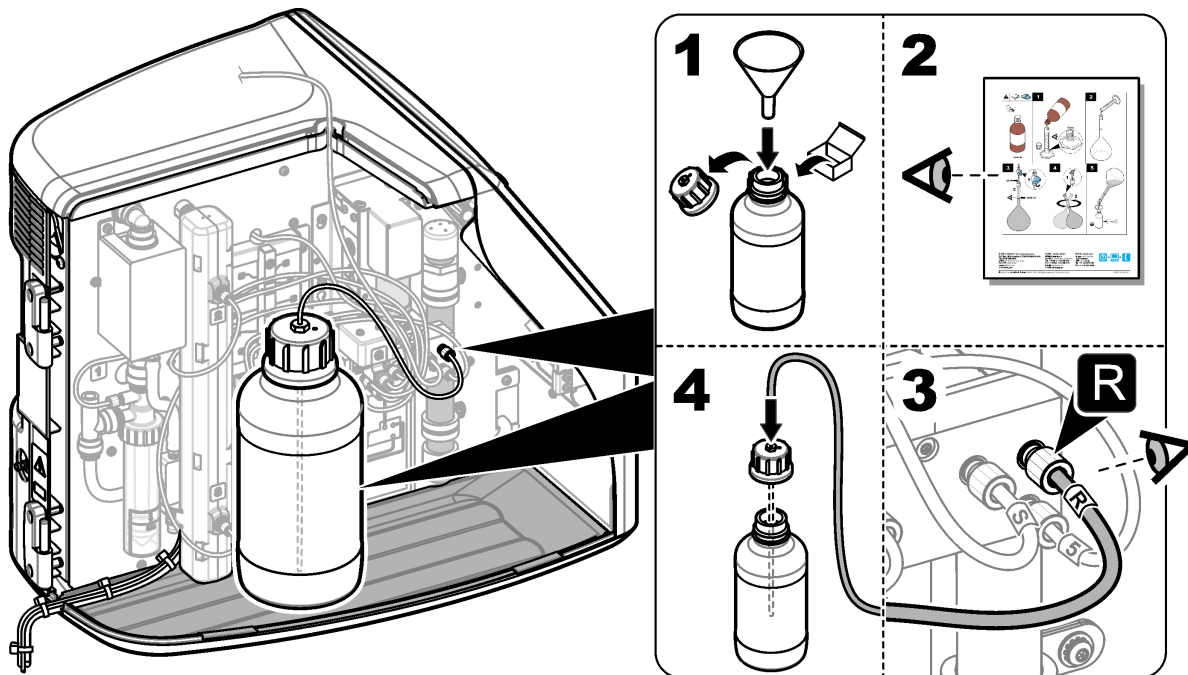
Figure 3.2 Plumb the sample and drain tube



Install the reagent bottle

Refer to [CHAPTER 5, QbD1200+ Daily Startup](#) to prepare the reagent solution. After the reagent solution is prepared, connect the reagent tubing to the reagent bottle as shown in the illustrated steps that follow.

Figure 3.3 Install the reagent bottle



Connect to air or carrier gas

The instrument cannot operate without a carrier gas connection. **The carrier gas must not contain carbon dioxide.** Use the supplied gas inlet tubing to connect to carbon dioxide-free air, oxygen or nitrogen.

1. Make sure that the pressure on the carrier gas cylinder regulator is 241 to 689 kPa (35 to 100 psi).
2. Make sure that both ends of the supplied tubing ($\frac{1}{8}$ in. outer diameter) are evenly cut and clean.
3. Put one end of the tubing into the gas inlet port on the rear of the instrument. Refer to [CHAPTER 1, Product overview](#) page 1-1.
4. Connect the other end of the tubing to the carrier gas supply.
5. Examine the tubing and connections for leaks. If necessary, make adjustments.

Electrical installation

Connect to external devices (optional)

The instrument has three USB ports and one ethernet port. If auxiliary cables are used, make sure that the cables are less than 3 meters (9.84 ft) in length. Connect optional external devices to help with the instrument setup and use. Refer to [CHAPTER 1, Product overview](#) page 1-1. Refer to the optional external device documentation for more information.

- USB ports—Connect to a keyboard, mouse, printer, USB flash drive or an AutoSampler.
- Ethernet port—Connect to an external communications network.

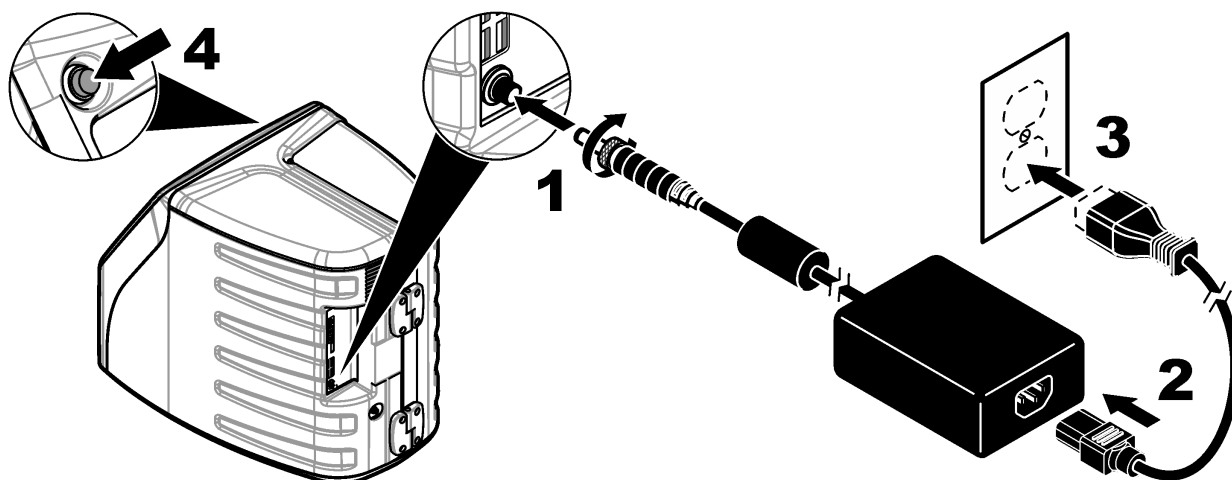
Connect to an AutoSampler

The power to the AutoSampler is set to **ON** before the analyzer power is set to **ON**. Refer to [APPENDIX A, QbD1200+ AutoSampler](#).

Connect to power

Refer to the illustrated steps that follow to connect power to the instrument and start the instrument.

Figure 3.4 Connect to power



CHAPTER 4

User interface and navigation

Display description

Refer to [Figure 4.1](#) for the home screen description. Refer to [CHAPTER 4, Icon description](#) for the icon description. The functions are accessed through the touch screen. Do not use writing tips of pens or pencils or other sharp objects to make selections on the screen. Only use a clean, dry finger tip to navigate the functions of the touch screen.

Figure 4.1 Home Screen



- | | |
|--|----------------------|
| 1. Log in icon | 5. Menu icons |
| 2. Log out icon | 6. System status bar |
| 3. Menu identification icon ^a | 7. User status |
| 4. Home icon | 8. Date and time |

a. The menu identification icon shows the current menu selection.

Table 4.1 Icon description

Icon	Description
	Navigate to the log in screen.
	Log user out of the system.
	Navigate to the home screen when the button is in the upper-right corner. The home icon shows near the left side of the display when the home screen is on the display.
	Make a new tray, import a tray from a USB flash drive, start a pre-configured tray or do a manual measurement.
	Show, select and send reports and instrument data.
	Configure the instrument settings.
	Start the qualification procedures: calibration, SST500, background, SDBS, SST8000 and accuracy tests.
	Display the maintenance procedures for the instrument.
	Display help and more information.
	A user is logged into the instrument.

Table 4.1 Icon description

Icon	Description
	No user is logged into the instrument.
	Navigate to the previous screen.
	Save the information on the selected screen and move to the next screen. If this arrow is selected at the end of a configuration, a procedure starts.
	Shows the currently-selected screen.

Log In As Administrator

1. Select **Log In** on the home screen.
2. Select **admin** from the list of users.
3. Enter the **password:** password
4. Enter a new password. Make sure to record the new password.
5. Select **Save**.
6. After successful administrator log in, make specified user profiles. Refer to [CHAPTER 6, Add, change or remove a user](#) page 6-1.

QbD1200+ Daily Startup

Purpose

The data from the QbD1200+ usually forms part of the daily manufacturing Batch Release File, so it is essential that the QbD1200+ is correctly set up and working correctly before starting the daily samples analysis run. This application note guides you through the simple daily routine workflow that ensures the QbD1200+ is correctly set up and working correctly.

Procedure

Complete the following steps to complete a Daily Workflow:

1. [Check Water Level in GLS water vessel](#)
2. [Prepare Batch of One Reagent](#)
3. [Check Background](#)
4. [Perform a System Health check](#)

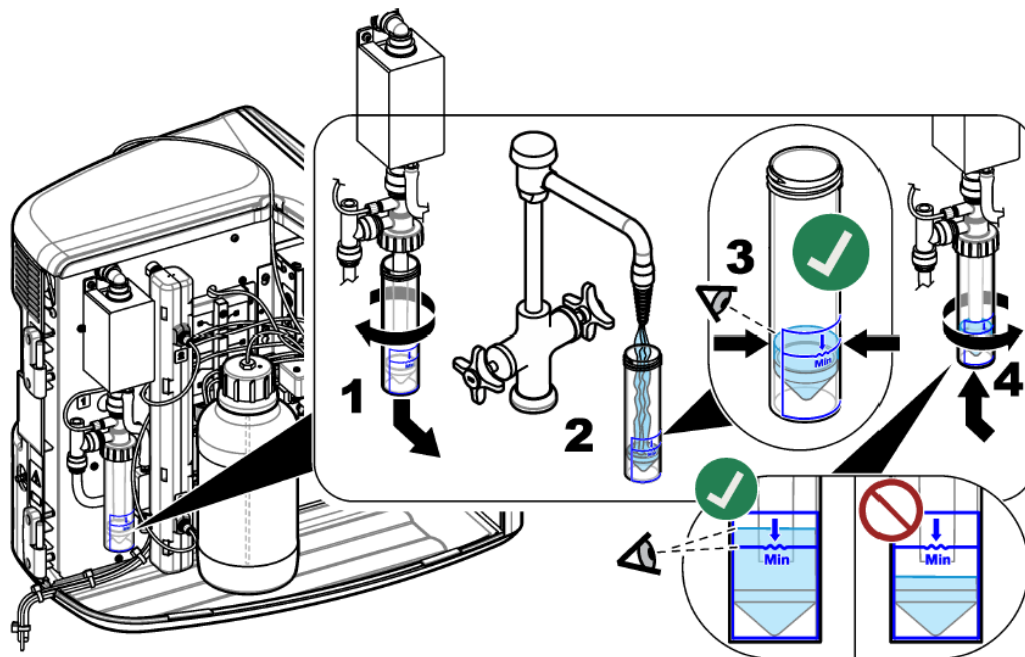
Check Water Level in GLS water vessel

The Gas Liquid Separator (GLS) vessel collects moisture condensed out from the CO₂ from TIC and TOC purged off from the water sample under test. The end of the dip tube inside the GLS should be covered, but care must be taken to ensure the level of water in the GLS does not get too high as there is a risk of damage to the CO₂ Non-Dispersive Infra-Red sensor if it overflows.

Refer to [Figure 5.1](#) below. Every day before using the QbD1200+ check that the water level in the GLS vessel:

- covers the end of the plastic dip tube inside (3 in [Figure 5.1](#) below)
- but that the water level is not too high. Drain off any excess water, ensuring the end of the plastic dip-tube remains covered.

Figure 5.1 Check Water Level in GLS Water Vessel



Prepare Batch of One Reagent



Chemical exposure hazard. Obey laboratory safety procedures and wear all of the personal protective equipment appropriate to the chemicals that are handled. Refer to the current safety data sheets (MSDS/SDS) for safety protocols.

The One Reagent is used to change the pH sample under test so that any dissolved CO_2 from the TIC and subsequently CO_2 from the oxidized TOC readily comes out of solutions and can be sparged by the carrier gas into the CO_2 detector for measurement. The concentrated One Reagent can be stored without damage/loss of performance for up to 90 days, but it is recommended that the diluted solution used for TOC analysis in the QbD1200+ is prepared fresh daily. Refer to [Prepare a Reagent Dilution](#) procedure.

Prepare a Reagent Dilution



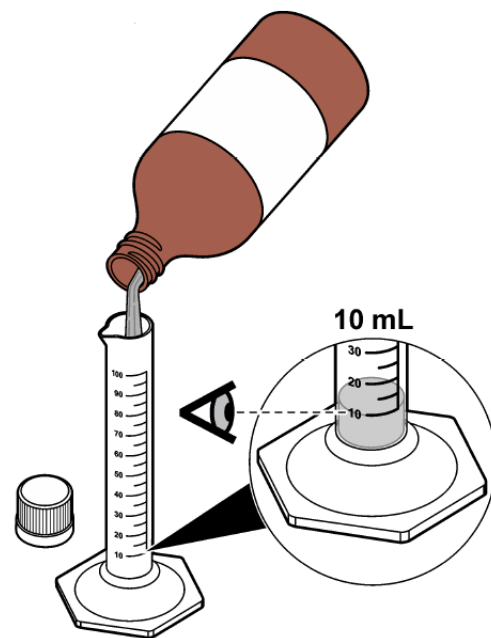
IMPORTANT Storage: keep the reagent at 5 °C (41 °F). Keep out of direct sunlight.

Figure 5.2 Reagent Stock Solution



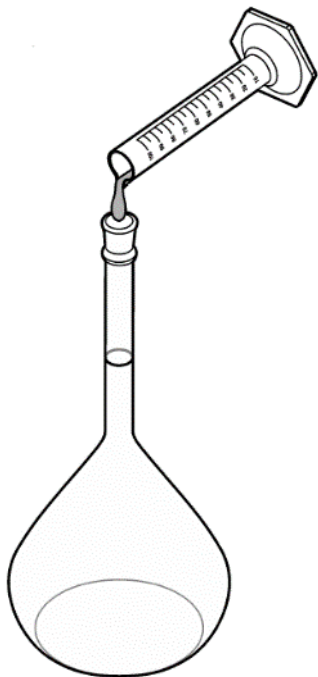
1. Measure 10 mL of reagent stock solution in the graduated cylinder.

Figure 5.3 Measure Reagent Stock Solution



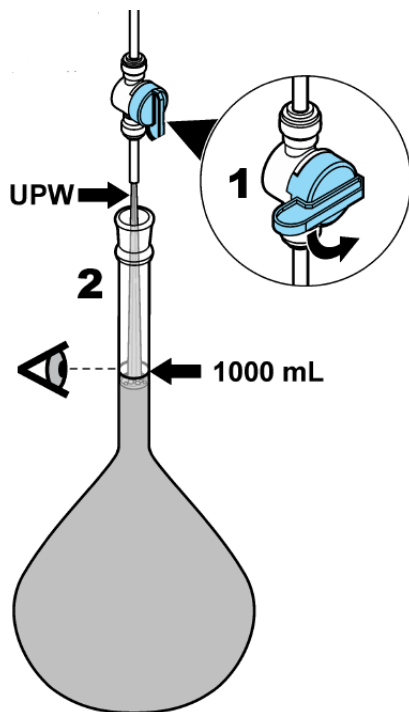
2. Pour the 10 mL of reagent into the volumetric flask.

Figure 5.4 Add Reagent Stock Solution to Flask



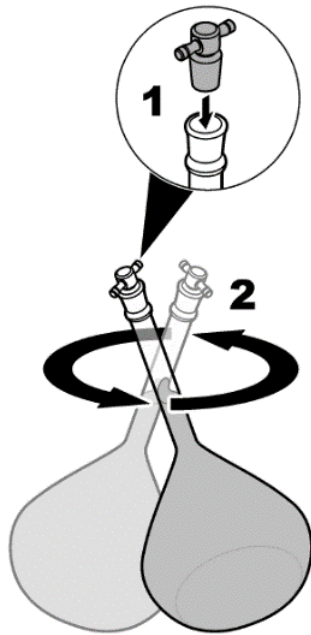
3. Add UPW (< 100 ppb TOC) to the 1000 mL mark of the volumetric flask.

Figure 5.5 Add UPW to Flask



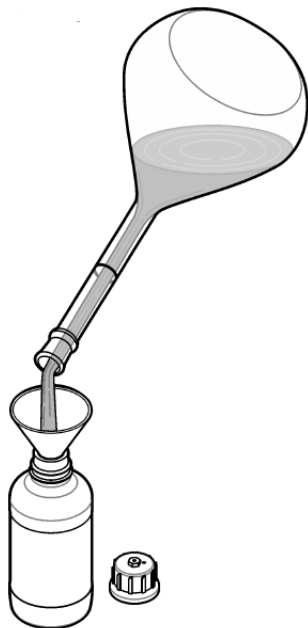
4. Swirl to mix.

Figure 5.6 Swirl to Mix



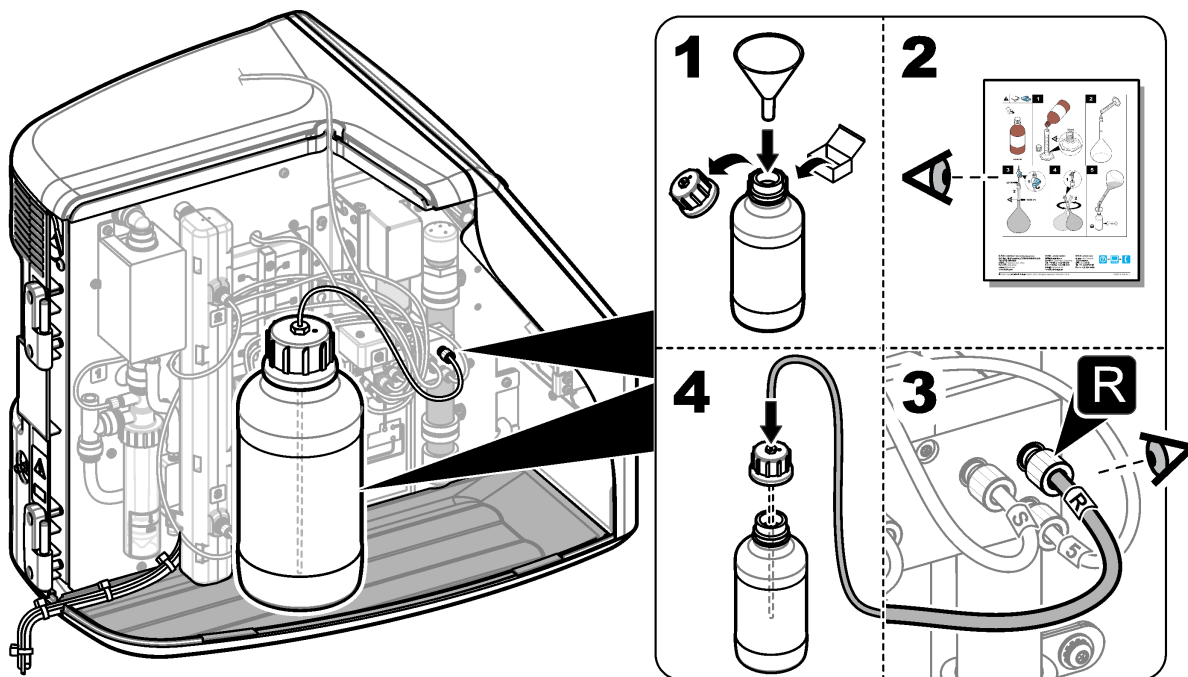
5. Pour the prepared reagent dilution into the empty reagent bottle.

Figure 5.7 Pour Dilution into Reagent Bottle



After the reagent solution is prepared, connect the reagent tubing to the reagent bottle as shown in [Figure 5.8, Install the reagent bottle](#).

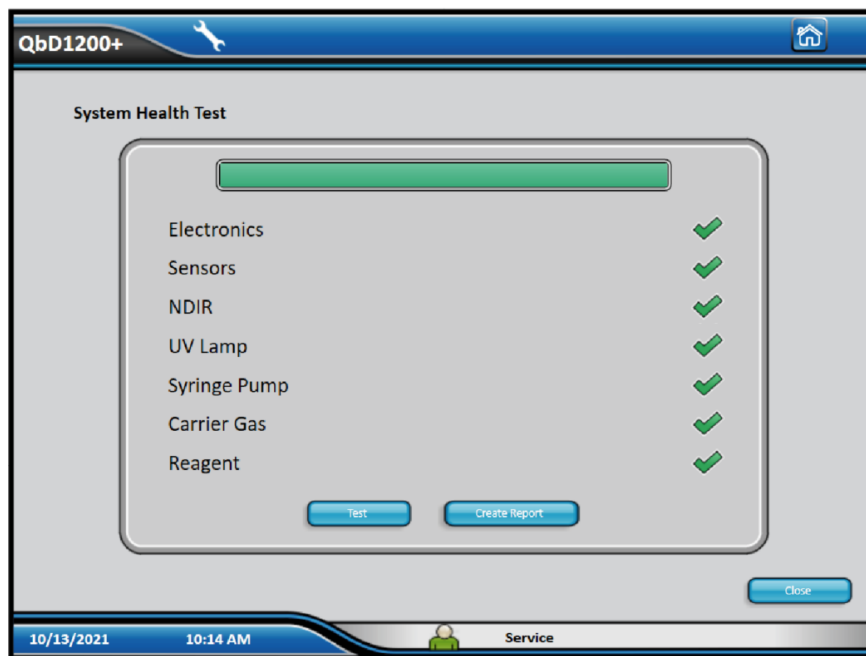
Figure 5.8 Install the reagent bottle



Perform a System Health check

The System Health Check ensures that all the major components of the QbD1200+ are working correctly. Due to the importance of the QbD1200+ results to the batch release file, it is useful to check that all major components of the QbD1200+ are working correctly before starting analysis of a tray of samples.

A system health check will be performed automatically when the unit is powered on. To manually perform a system health check, select **Maintenance > System Health Check > Test**. Once the System Health Check has completed, ensure that all the items listed on the screen have a green tick next to them to confirm they are all functioning correctly. Refer to [Figure 5.9](#)

Figure 5.9 System Health Test Screen

Check Background

The reagent background will change slightly over time, so it is useful to check the reagent background before starting analysis of a tray of sample.

Select **Qualifications > Background** to check the reagent background.

Backgrounds should also be checked after any maintenance to the instrument. Backgrounds should be below 100 ppb; if not, [Clean the analyzer](#) as described in [CHAPTER 7, Maintenance](#).

Startup

QbD1200+ Daily Startup

Configuration

Use the following sections to configure the instrument.

- [Set the system settings](#)
- [Add, change or remove a user](#)
- [Set the report settings](#)
- [Configure the measurement settings](#)
- [Configure the peripheral settings](#)

Set the system settings

Use the touch screen or connect a USB keyboard and a USB mouse to perform the following steps.

1 Select **Instrument Setup > System Settings**.

2 Select an option.

Option	Description
Date & Time	Sets the date format, the time format, and the date and time.
Language	Sets the display language.
Network	Sets the network addresses necessary to do a paperless export of data to a network server. Contact a network administrator to get the network addresses.
Display	Sets the display time out to enabled. Options: 2, 5, 10, 30, 60 minutes or Never.
Data Archive	Selects manual backup to a USB flash drive.

3 Select **Save** or **Cancel**.

Add, change or remove a user

1 Select **Instrument Setup > System Settings**.

2 Select an option.

Option	Description
Add	Adds a unique user name, first name, last name and password. Push enable or disable to make the user an administrator. Push enable or disable to change the password on the next log in. Push Add to save.
Deactivate	Removes a user name. Push Deactivate>Yes to remove the user.
Edit	Changes a user name. Push Edit to change to the user information. Push Update when complete.
Edit Access	Changes the access of a user. Push Edit Access changes the access of a selected user. Enable or disable the fields as necessary. Push Update when complete.
Security Enabled	Sets the security to enabled or disabled. When security is enabled, security restricts accessibility to all functions of the user interface.
Auto logoff after	Sets automatic log off to occur after: 1, 3, 5, 10, 30, 60 minutes or Never (default: 1).
Passwords expire after	Sets the interval at which the user passwords expire. When a password expires, the instrument prompts the user to enter a new password. Options: Never or 15, 20, 30, 45, 60, 90 or 120 days.
Lock out user after	Select to make a user wait a selected period of time to log in if they enter the password incorrectly a selected number of times.
Failed login attempts	Sets the maximum number of times a user can try to enter the correct password to log in. Options: 1, 2, 3, 4 or 5. NOTE This option is only available when the "Lock user after" box is selected.
Unlock user after	Sets the period of time a user must wait to log in if they enter the wrong password the selected number of times. Options: Never or 5, 10, 30 or 60 minutes. NOTE This option is only available when the "Lock user after" box is selected.
Edit Password Requirements	Sets the number of characters, capital and lower case letters, numerals and special characters that passwords must include. Select "Limit Repeating Characters" to set the maximum number of times a character is permitted in a password.
Require Audit Comments	Select to make a user enter a comment when they change a configuration setting.

3 Select **Save** or **Cancel**.

Set the report settings

View, add or change the report templates. Refer to [CHAPTER 6, Select a report](#) page 6-6 to view and export reports and data.

1 Push **Instrument Setup > System Settings**.

2 Select an option.

Option	Description
Add	Makes a new report template. Configure the header and footer format and content.
Delete	Erases a report template.
Set default	Sets an existing report template as the default template.
Edit	Changes an existing template.

3 Select **Save** or **Cancel**.

Configure the measurement settings

1 Select **Instrument Setup > Measurement Settings**.

2 Select an option.

Option	Description
Default settings	Sets the default create tray wizard settings: the number of sample locations (1 to 64), sample replicates (1 to 5), standard positions, default labels (date/time, ID individually, ID builder) and sample views (tray or table).

Option	Description
Process Settings	Sets the default sample process settings. • Auto Ranging—Sets the instrument to adjust the measurement range automatically. Do not select this option if the sample is less than 4 ppm. • Conditioning—Sets the instrument to wait for the lamp temperature to increase before a measurement is done to get accurate results. Conditioning only occurs on the first replicate of the first sample on the tray. The manufacturer recommends that this option is selected. • Homogenizing—Sets the AutoSampler to homogenize the sample before a measurement is done. Only select this option when an AutoSampler is used. NOTE Homogenizing moves the sample components equally through the sample. The instrument pulls and pushes 2 mL of the sample back and forth 5 times during each measurement • Dilution factor—Select this option if the sample is diluted before analysis. Select to prompt the user to enter a dilution factor before a measurement is done. The instrument adjusts the results to include the dilution factor. • Adjust Temperature—Sets the target temperature of the UV reactor. • Background measure times—Sets the number of background replicates.
Results Display Settings	Sets the default display settings for the results. • Measurement Units—Sets the results to show in units of ppm or ppb. Select the "Use SI Units" box to show the results in mg/L or µg/L. • Pressure Units—Sets the internal air pressure of the instrument to show in units of psi or mbar. • TIC Analysis—Sets the approximate TIC (total inorganic carbon) value of the sample to show. • Measurement Rejection—First Rep: Sets the sample results to not include the first replicate measurement. Outliers: Sets the sample results to not include the replicate results that are not within a selected target deviation percentage or ppb. When selected, the user enters a target deviation percent (or ppb) before a measurement is started. Replicate results are rejected until the standard deviation or relative standard deviation (the smaller value) is less than or equal to the target deviation. A minimum of three results are kept if the target deviation is not achieved.

3 Select **Save** or **Cancel**

Configure the peripheral settings

- 1 Select **Instrument Setup > Peripheral Settings**.
- 2 Select an option.
 - **Printer Settings** - If a printer is connected to the instrument, select **Add > Install**. If more than one printer is installed, set the default printer or remove a printer.
 - **AutoSampler Settings** - If an AutoSampler is connected to the instrument select **AutoSampler Settings**. Select **Enable AutoSampler**, then select **ASX-7200 AutoSampler** and select **Save>Ok**.

Measurement

Perform a measurement

- 1 Select **Perform Measurement**.
- 2 Select an option.

Option	Description
Create New Tray	Makes a new sample tray. Refer to CHAPTER 6, Create a sample tray template .
Load Tray From File	Imports trays from a USB flash drive that has sample tray parameters set.
Manual Measurement	Sets up a manual measurement of one specified sample. Enter the sample ID and the quantity of samples to replicate.
Select a Pre-Configured Tray from List	Selects a sample tray that is saved in the system to measure.
- 3 Read the parameters of the selected tray, then make the necessary changes.
- 4 Select  to start the measurement.

Create a sample tray template

1 Push **Perform Measurement > Create New Tray**.

2 Select the tray option. Select  to go to the next screen.

Option	Description
How many samples	Sets the quantity of sample locations. When a sample location is selected for measurement, each sample location is identified with a blue circle.
How many reps	Sets the quantity of sample replicates to measure (1 to 5).
Sample ID label	Select how to identify each sample: individually, by an automatic sample ID with the tray position with time stamps or with the sample ID builder.
Review & Confirm	Read the parameters of the tray. If necessary, make changes to the tray.

3 Select **Save** to continue.

4 Enter a name for the tray template.

5 Select **Save Tray** to save the tray template.

6 Select "Make Default" to make this the default tray template.

7 Select  to start the measurement. If the samples are not prepared for the procedure, select **Home**

Data management

Select a report

The instrument saves measurement, calibration, system health analyses, system suitability tests, error logs, background statistics and audit record data reports. Use the steps that follow to read or export a report.

1 Select **Reports and Data**.

- 2 Select a report from the list, then Select  for output options.

Option	Description
Filter Results	Selects the data range to sort by date and/or by operator.
Select a format	Selects the report template output format (PDF, CSV or XML).
Output	Selects the output device: printer, export to USB, paperless export or show on the display. To get the report via printer, make sure a printer is connected to the instrument. Refer to CHAPTER 6, Configure the peripheral settings page 6-5. When prompted, push Print . To output a report via a USB port, connect a USB flash drive. When prompted, push Start .

Perform a Qualifications Procedure

 	Chemical exposure hazard. Obey laboratory safety procedures and wear all of the personal protective equipment appropriate to the chemicals that are handled. Refer to the current safety data sheets (MSDS/SDS) for safety protocols.
---	---

Collect the necessary items before a qualification procedure starts. Do these procedures that follow periodically or as required by regulatory agencies.

- 1 Select **Qualifications**.

- 2 Select an option.

Option	Description
Calibration	Shows the instructions on the display about how to prepare the reagent and the standards.
SST500	Shows the instructions on the display about how to prepare the reagent and the standards.
Background	Shows the instructions on the display about how to prepare the reagent.
SDBS	Shows the instructions on the display about how to prepare the reagent and the standards.
SST8000	Shows the instructions on the display about how to prepare the reagent and the standards.
Accuracy	Shows the instructions on the display about how to prepare the reagent and the standards.

-
- 3** Enter the lot identification number (Lot ID) and the expiration date for the standards.

NOTE This step does not apply to the background test.

-
- 4** Select  to start the procedure. If necessary, select **Pause** or **Cancel** during the procedure.
-

Maintenance



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



Chemical exposure hazard. Obey laboratory safety procedures and wear all of the personal protective equipment appropriate to the chemicals that are handled. Refer to the current safety data sheets (MSDS/SDS) for safety protocols.

Clean spills



Chemical exposure hazard. Dispose of chemicals and wastes in accordance with local, regional and national regulations.



This symbol identifies a risk of chemical harm and indicates that only individuals qualified and trained to work with chemicals should handle chemicals or perform maintenance on chemical delivery systems associated with the equipment.

- 1 Obey all facility safety protocols for spill control.
- 2 Discard the waste according to applicable regulations.

Clean the Instrument

Clean the exterior of the instrument with a moist cloth, and then wipe the instrument dry.

Clean the analyzer

Clean the analyzer after maintenance tasks or after storage for the best low-level measurement accuracy. The cleaning process removes small quantities of carbon in the air that can collect in the internal components.

1. Prepare a cleaning solution for one cleaning cycle as follows:
 - a. Add 30 mL of One Reagent Stock Solution to a clean reagent bottle.
 - b. Add 30 mL of ultra-pure water to the bottle.
 - c. Swirl to mix.
2. Put the reagent tube and the sample tube from the analyzer in the cleaning solution.
3. Push **Maintenance > Clean Analyzer**. The analyzer flushes the internal components with the cleaning solution.

NOTE One cleaning cycle is complete after approximately 30 minutes. The status shows on the display.

Replace an instrument component



On the main screen, use  and  to perform replacement procedures. Refer to [Replace Ozone Filter](#), [Replace UV Lamp](#), [Replace Syringe](#) replacement procedures displayed on the screen. Collect all of the necessary items before these maintenance procedures start. Refer to the information on the display for more replacement information.

Replace Ozone Filter



Pinch hazard. Parts that move can pinch and cause injury. Do not touch moving parts.

-
- 1 On the main screen, select  and .

-
- 2 Select  to replace the ozone filter.
The screen displays the hourly usage of the ozone filter.
Follow the instructions on the screen to replace the ozone filter.
-

Replace UV Lamp

CAUTION

Chemical exposure hazard. The UV lamp assembly of this instrument contains mercury. Remove the UV lamp assembly before instrument disposal. Obey local, state and federal law regulations for disposal of the UV lamp assembly.

- 1 On the main screen, select  and .

- 2 Select  to replace the UV lamp.
The screen displays the hourly usage of the UV lamp.
Follow the instructions on the screen to replace the UV lamp.

Replace Syringe

CAUTION

Risk of personal injury. Exposed needles can cause puncture wounds. To prevent injury, use caution when the syringe is installed or removed.

- 1 On the main screen, select  and .

- 2 Select  to replace the syringe.
Follow the instructions on the screen to replace the syringe.

Option	Description
Replace Ozone Filter	Shows the hourly usage of the ozone filter. Shows how to replace the ozone filter on the display.
Replace UV Lamp	Shows the hourly usage of the UV lamp. Shows how to replace the UV lamp on the display.
Replace Syringe	Shows how to replace the syringe on the display. Select Start to replace the syringe.

Install a firmware update

Locate the firmware update file on the product website. Save the file from the website to a USB flash drive, then do the steps that follow to install the firmware upgrade.

- 1 Select **Maintenance > Update Firmware**.
- 2 Put the USB flash drive into a USB port. A list of files shows.
- 3 Select the setup.exe file for the firmware update.
- 4 Select **Update**.
- 5 Select **Yes** to confirm the update. The analyzer will reboot when the update is complete.

Prepare for shipment

NOTE The instrument must be decontaminated before it is shipped. All fluids must be drained from the instrument.

- 1 Select **Maintenance > Prepare for Shipment**.
- 2 Open the instrument door.
- 3 Remove the GLS water vessel. Refer to [CHAPTER 1, Hydraulic connections overview](#) page 1-2.
- 4 Discard the water into a drain.
- 5 Install the GLS water vessel back into the instrument.
- 6 Push **Drain Analyzer** to remove all liquid from the instrument.

-
- 7** When the instrument completes the draining procedure, the instrument is ready for shipment.
-

CHAPTER 8

Troubleshooting

Troubleshooting

Table 8.1 lists the problems that the operator could encounter while running the QbD1200+ instrument, the probable causes of each problem, and the corrective actions.

Table 8.1 Troubleshooting

Problem	Possible cause	Solution
The measurement does not start.	An error occurred during measurement setup.	- Set the instrument power to off then to on. - Contact technical support if necessary.
The system test fails.	An error occurred during the system test.	- Make sure that the carrier gas supply is correctly connected. - Contact technical support if necessary.
	A hardware component failure occurred.	
The measurements take too much time to complete and/or the results are consistently too low.	The UV reactor is almost expired.	Replace the UV reactor. Make sure that there is a sufficient quantity of carrier gas.
	The fittings around the reactor are loose.	Make sure that the fittings around the reactor are tight.
The UV reactor does not work.	The UV reactor is expired or damaged.	Replace the UV reactor. Contact technical support.
The sample is not found.	There is not enough solution in the reagent bottle.	Fill the reagent bottle with solution.
	The sample tube is not connected to the AutoSampler or it is not in the sample flask.	Make sure that the sample tube is connected to the AutoSampler or that it is in the sample flask.
	A hardware failure.	Make sure that there is a sample to use for the procedure. Contact technical support.
Significant carryover occurs from sample to sample.	The reactor is not fully flushed after each measurement.	Examine the carrier gas supply. If the problem continues, contact technical support.
A pressure error frequently shows during the system health test.	The carrier gas is empty or low.	
Measurements frequently show the result as "0".	The background TOC reading is larger than the sample TOC reading.	Fill the reagent bottle with water, then do a new background qualification procedure.

Table 8.1 Troubleshooting (*Continued*)

Problem	Possible cause	Solution
The report output contains no information.	An error occurred when a report was made.	Contact technical support.
Changes are not saved when the instrument power is set to off then on.	An error occurred when a setting was changed.	
The qualification procedure does not start.	An error occurred during a qualification procedure.	
The USB import and/or export function does not operate with a USB flash drive.	The USB flash drive is not connected.	Connect the USB flash drive to the instrument.
	The USB flash drive is not found or is corrupt.	Fix or format the USB flash drive (if necessary), then connect it to the instrument.
The network connection does not show.	The ethernet cable is not connected.	Make sure that the ethernet cables is connected to the instrument.
The AutoSampler does not operate.	The AutoSampler is disconnected or the power is set to off.	Connect the USB cable from the AutoSampler to the instrument again. Set the power to on.
	The electrical transients on the power line are too large, which may disrupt the USB communication between the analyzer and the sampler.	Install any commercially available USB opto-isolator between the analyzer and the AutoSampler. To repair USB communications, set the power for both instruments to off, then to on.
An "Invalid Password" message shows.	The password entered is not the correct password.	Enter the correct password or select a different user name.
An "Access Denied" message shows.	The user was not given specified permissions.	- Give the necessary accessibility permissions to the user. - Log in as a different user who has more permissions.
A new user name cannot be made.	The specified user name was already made.	Make a user account with a unique username.
	The database is corrupt or the file is not found.	
The new password is not accepted.	The password and the confirm password are not the same.	Enter the same password in both fields.
The user interface error messages are shown during menu changes.	An error occurred in the user interface firmware.	Set the instrument power to off, then to on. Contact technical support if necessary.
Measurement results report random errors.	The temperature or voltage of a hardware component is too high.	Contact technical support.

Replacement parts and accessories



WARNING

Personal injury hazard. Use of non-approved parts may cause personal injury, damage to the instrument or equipment malfunction. The replacement parts in this section are approved by the manufacturer.

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

Replacement parts

Table 9.1 Replacement parts

Description	Item no.
UV reactor replacement kit	9880200
Syringe replacement kit	9891700
Tubing replacement kit	9898900
Ozone destructor replacement kit	9890500
Reagent bottle with custom cap kit	9890600
Power supply, 100–240 VAC	9898300
Power cord	varies by region contact Technical Support

Accessories

Table 9.2 Accessories

Description	Item no.
Reagent stock solution	9459400
Calibration solution, KHP, 5 ppm C	9459500
SDBS validation kit	9459600
USP system suitability kit, 500 ppb	9459700
USP system suitability kit, 8 ppm	9459800
Specificity test kit	9459900

Table 9.2 Accessories (*Continued*)

Description	Item no.
Robustness test kit	9460000
Validation protocol kit	9460100

APPENDIX A

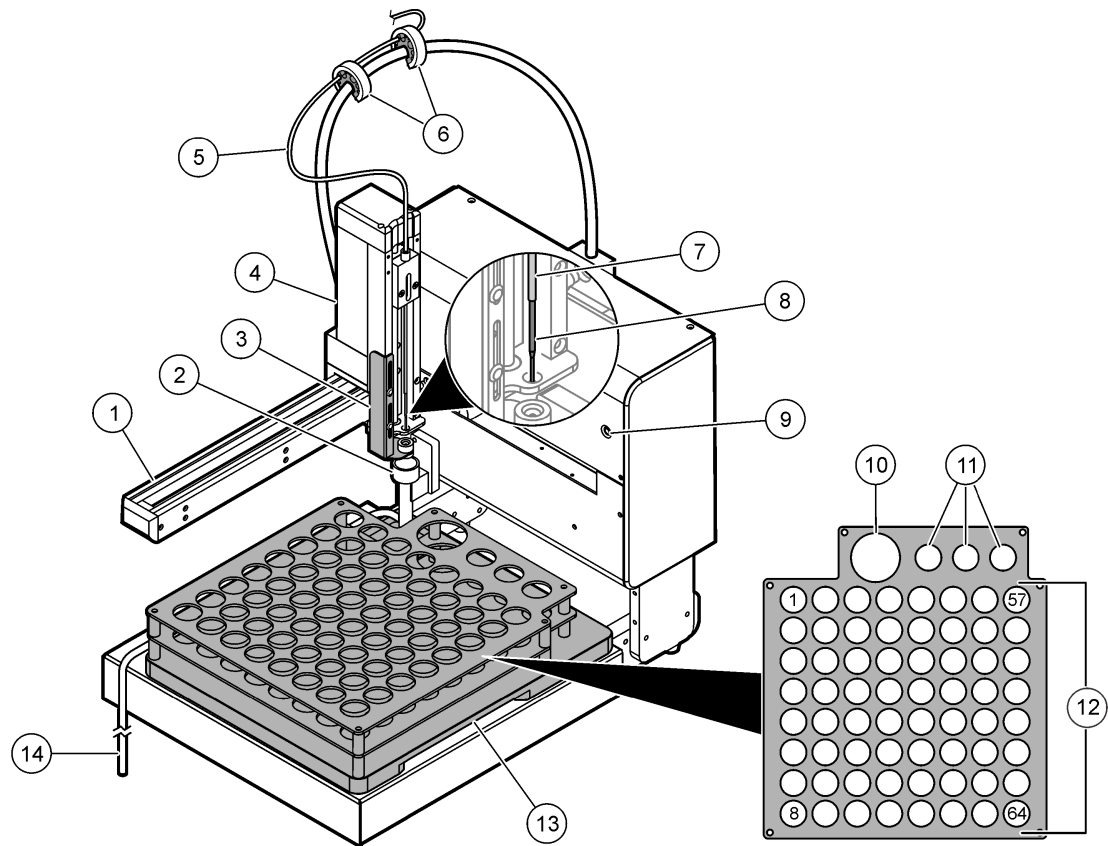
QbD1200+ AutoSampler

Overview

The QbD1200+AutoSampler is an automatic sample changer used in analytical laboratories for TOC analysis of aqueous samples. This instrument has a sample tray that holds a maximum of 64 sample vials, one calibration bottle and three system suitability bottles. The instrument operates with minimal user-intervention and is used with the QbD1200+TOC Analyzer. Refer to [Figure A.1](#) and [Figure A.2](#) for an overview of the instrument.

NOTE The manufacturer of the instrument is Teledyne CETAC Technologies. Support services and repairs are supplied by Beckman Coulter.

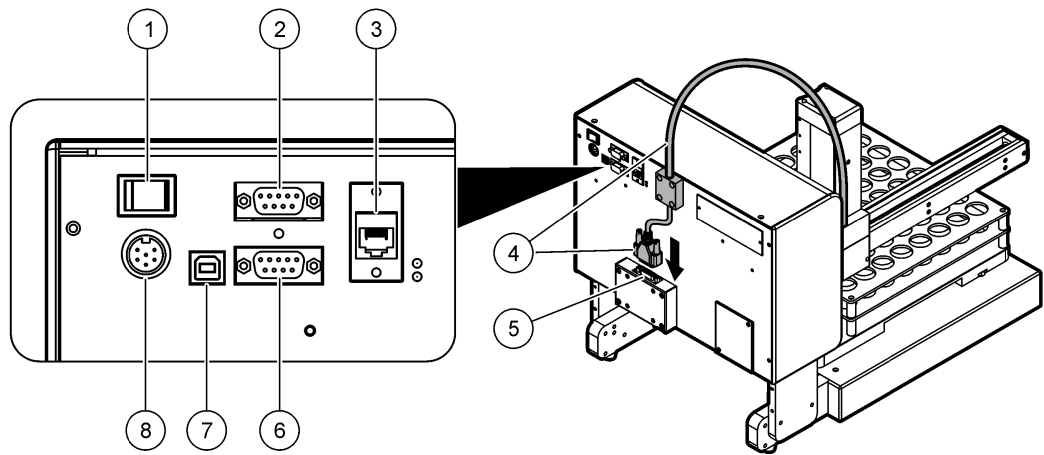
Figure A.1 AutoSampler Overview



1 Arm	8 Sample probe
2 Rinse station	9 Power indicator light
3 Stripper plate	10 Calibration standard holder
4 Mechanical Z-drive	11 System suitability holders

5 Sample tube (from the analyzer)	12 Sample positions (1 to 64)
6 Tube holders	13 Sample tray
7 Needle sleeve	14 Rinse station drain tub

Figure A.2 AutoSampler Rear Panel

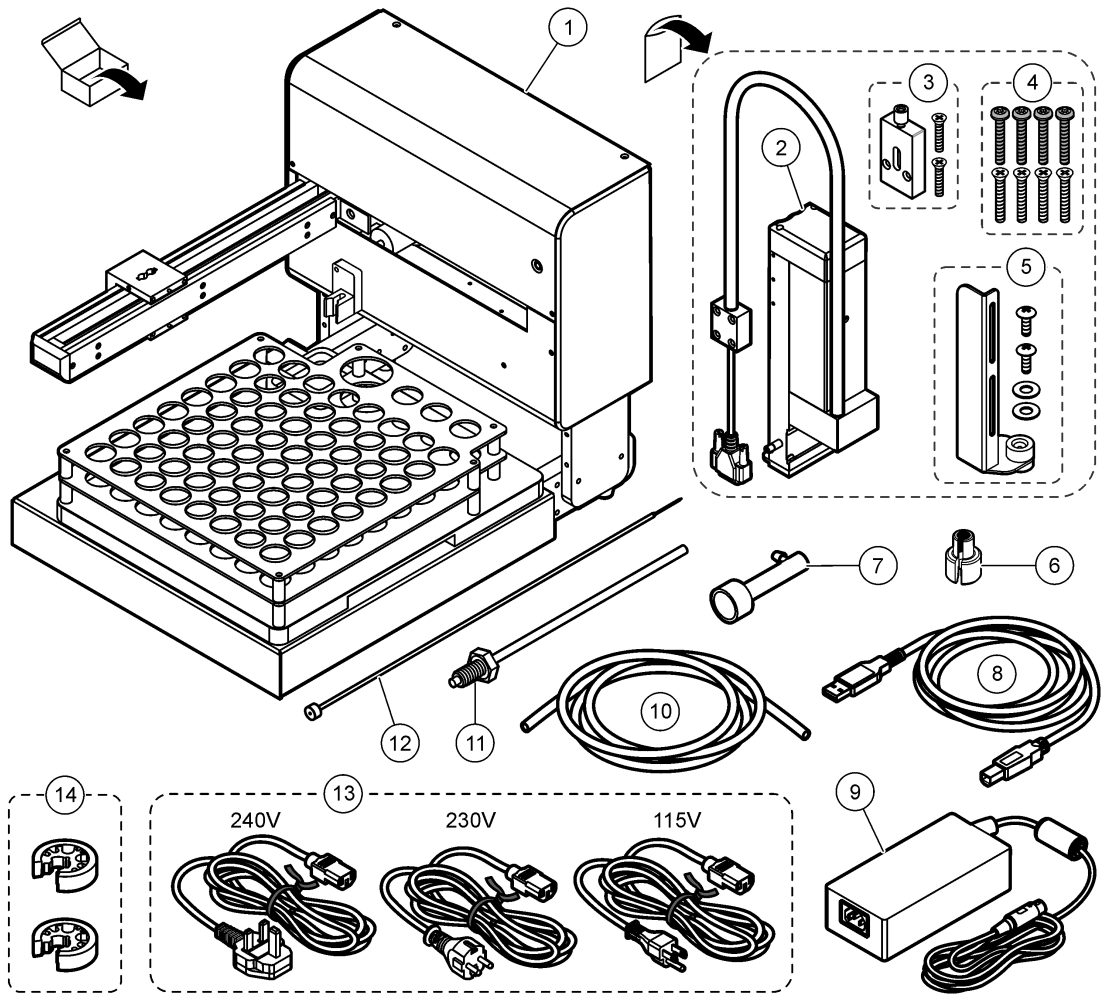


1 Power switch	5 Mechanical Z-drive cable connection
2 COM port 21	6 COM port 11
3 Ethernet port1	7 USB port
4 Mechanical Z-drive cable	8 Power connector

AutoSampler components

Make sure that all components have been received. Refer to [Figure A.3](#). If any items are missing or damaged, [contact us](#).

Figure A.3 AutoSampler Components



1 AutoSampler with sample tray	8 USB cable, 3 m
2 Mechanical Z-drive	9 Power supply
3 Vent holder	10 Drain tubing for the rinse station
4 Mechanical Z-drive installation screws (8x)	11 Needle sleeve
5 Stripper plate assembly	12 Sample probe
6 Nut extender tool	13 Power cords (240 V, 230 V, 115 V)
7 Rinse station	14 Tube holders (2x)

Specifications

Specifications are subject to change without notice.

Specification	Details
Dimensions (W x D x H)	36.6 x 53.7 x 45.7 cm (14.4 x 21.2 x 18.0 in.)
Enclosure	Aluminum alloy, chromated with an epoxy powder layer
Sample (wetted) components	Polyetherimide (PEI) and Polytetrafluoroethylene (PTFE)
Weight	21 kg (45 lb)
Installation category	Power supply: II
	AutoSampler: I
Pollution degree	II
External power supply	Input: 100–240 VAC (+/- 10%), 47–63 Hz, 1.9 A
	Output: 24 VDC, 3.33 A
AutoSampler power supply	Input: 24 VDC, 3.33 A. Use only with the supplied power supply.
Operating temperature	10 to 30 °C (50 to 85 °F)
Storage temperature	0 to 55 °C (32 to 131 °F)
Altitude	2,000 m (6,562 ft) maximum
Relative humidity	0 to 95% non-condensing
Certifications	CE mark cNRTLus
Warranty	2 years from shipment, manufacturing defects only.

Installation



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

Installation guidelines

Install the instrument:

- On a level surface
- In a clean, dry, well ventilated, temperature controlled location
- In a location with minimum vibrations that has no direct exposure to sunlight
- In a location where there is sufficient clearance around it to make connections and to do maintenance tasks

- In a location where the power switch and power cord are visible and easily accessible

Mechanical installation

Install the mechanical Z-drive



Risk of personal injury. Instruments or components are heavy. To prevent injury, use assistance to install or move.



Risk of personal injury. Parts that move can pinch and cause injury. To prevent injury, do not touch moving parts.

Using a Phillips-head screwdriver, install the mechanical Z-drive. Refer to the illustrated steps in [Figure A.4](#) and [Figure A.5](#).

Figure A.4 Install Z-Drive Part 1

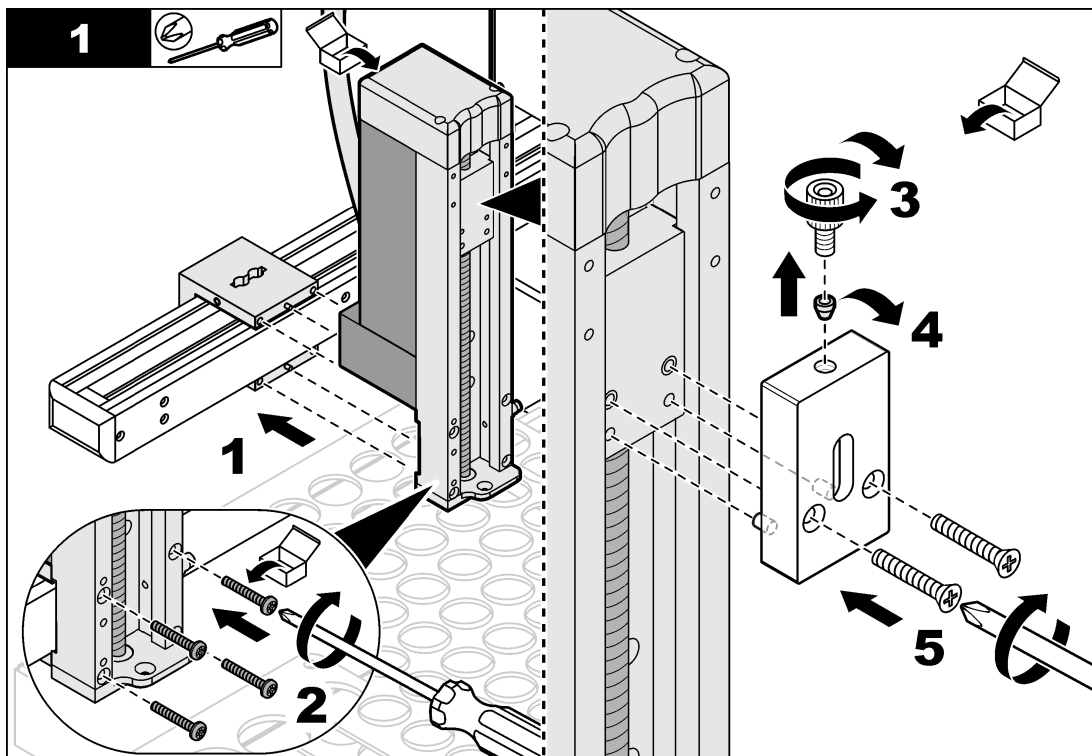
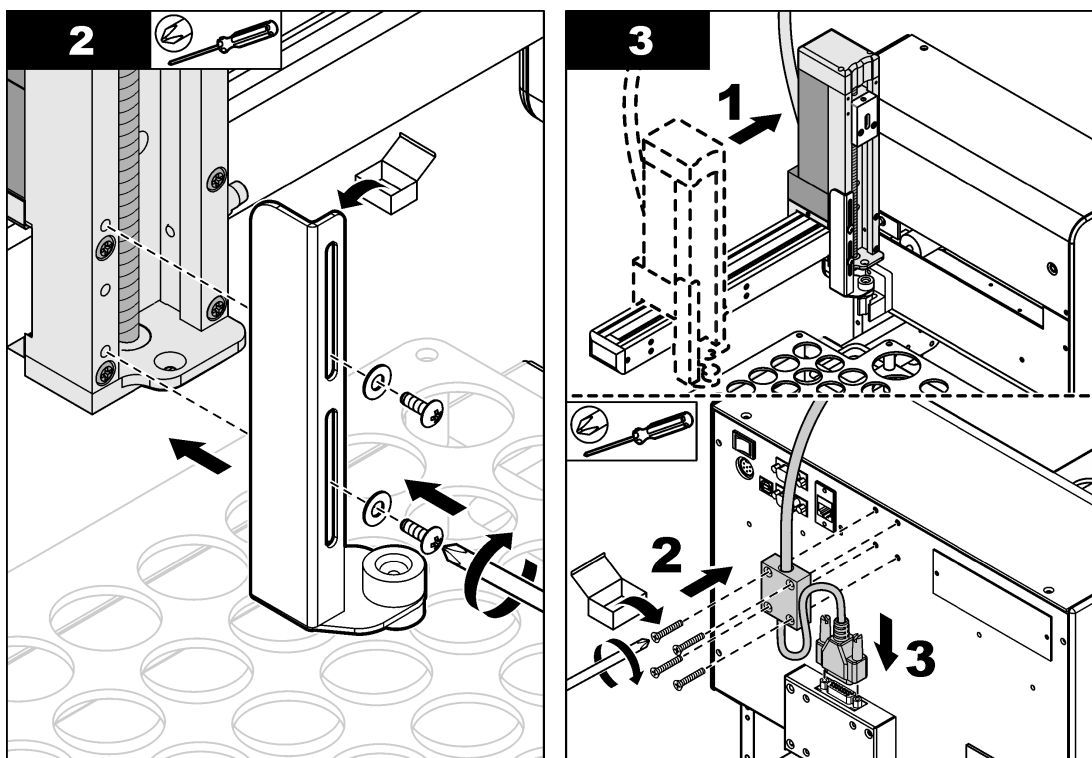


Figure A.5 Install Z-Drive Part 2



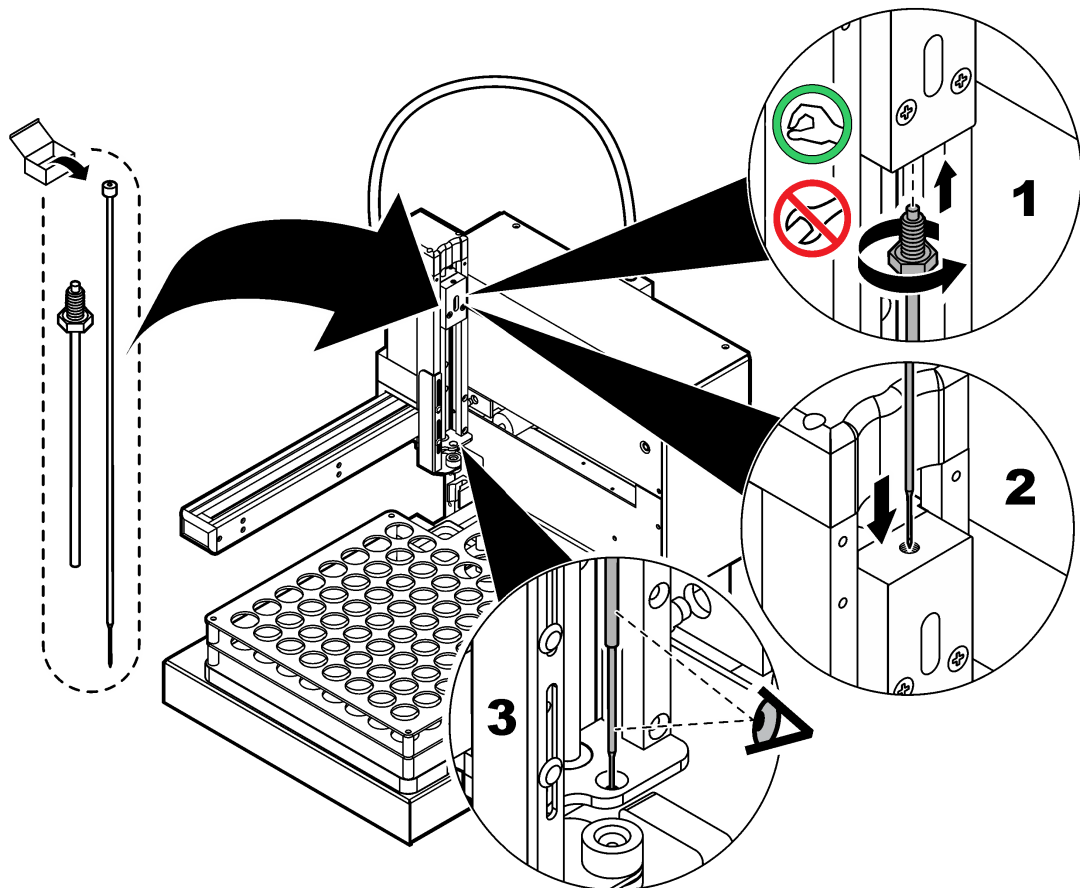
Install the sleeve and the sample probe

! WARNING

Risk of personal injury. Exposed needles can cause puncture wounds. To prevent injury, use caution when bottles are installed or removed.

Refer to [Figure A.6](#) to install the needle sleeve and the sample probe.

Figure A.6 Install Needle Sleeve and Sample Probe

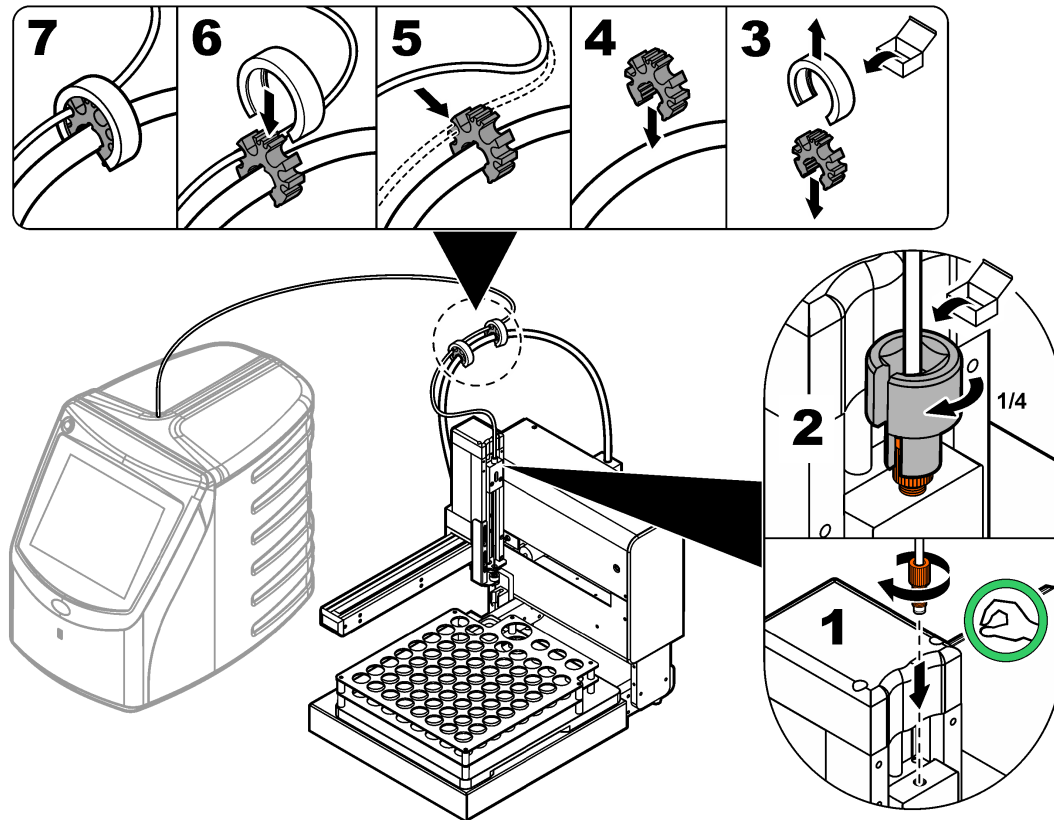


Plumbing

Plumb to the analyzer

Refer to [Figure A.7](#) to connect the sample tube from the analyzer to the mechanical Z-drive on the AutoSampler.

Figure A.7 Plumb to Analyzer

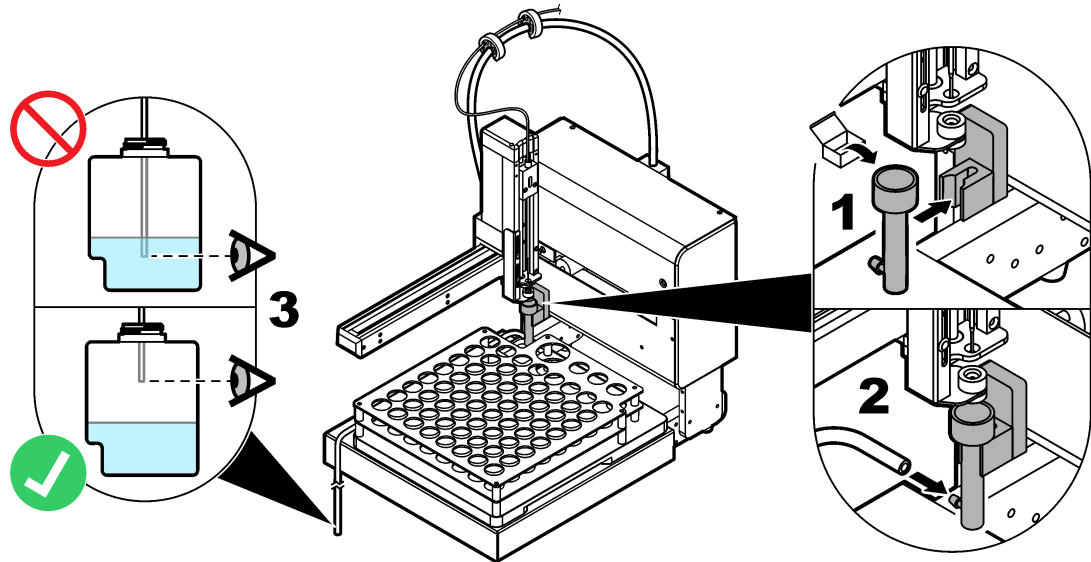


Install the rinse station

Refer to [Figure A.8](#) to connect the Drain Tube from the the Rinse Station to a waste container or drain.

NOTE The drain tube should never be submerged.
The drain tube must always be open to atmosphere.

Figure A.8 Install Rinse Station



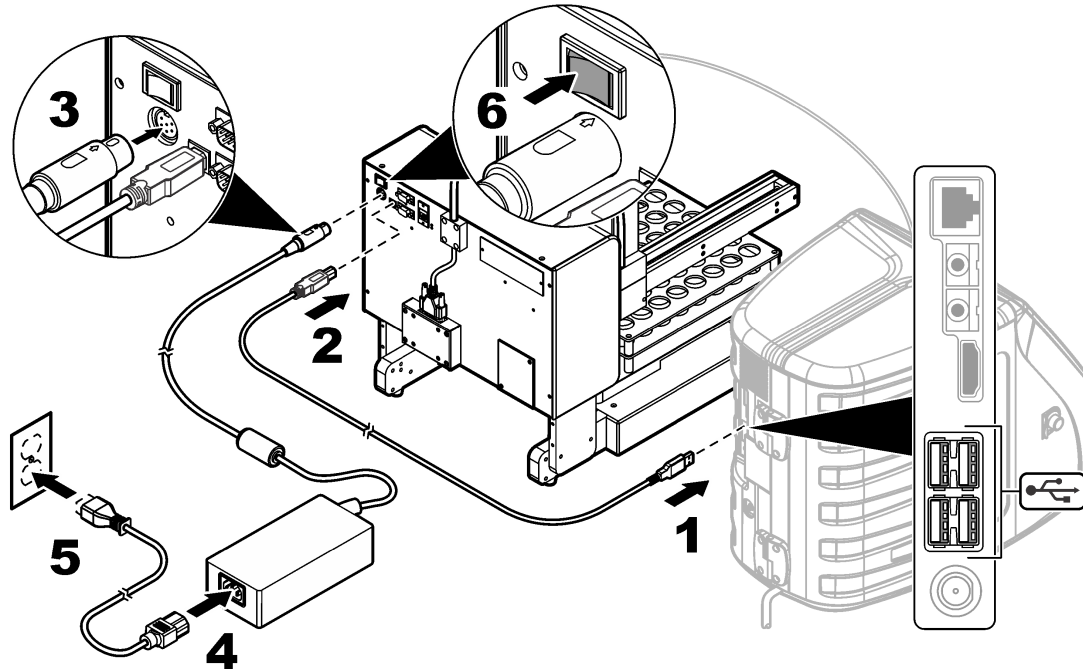
Electrical installation

Connect the analyzer and the power

Before the procedure starts, make sure that the AutoSampler and the analyzer power switches are set to off. Use the supplied USB cable to connect the AutoSampler to the analyzer. Use the supplied power cord and power supply to connect power to the AutoSampler. The power for the AutoSampler must be set to on before the analyzer power is set to on. Refer to the analyzer

documentation to connect to power. Refer to the illustrated steps that follow to make the necessary connections.

Figure A.9 Connect Analyzer and Power



Startup

- 1 Select **Instrument Setup > Peripheral Settings**.
- 2 Select **AutoSampler Settings**, and select the **Test** button and follow the screen prompts.

APPENDIX B

Export the Database

Use this procedure to export the database

Export the Database

Insert a USB drive into the analyzer. Use the steps that follow to read or export the database.

1. Select **Instrument Setup**. Refer to [Figure B.1](#).

Figure B.1 Instrument Setup



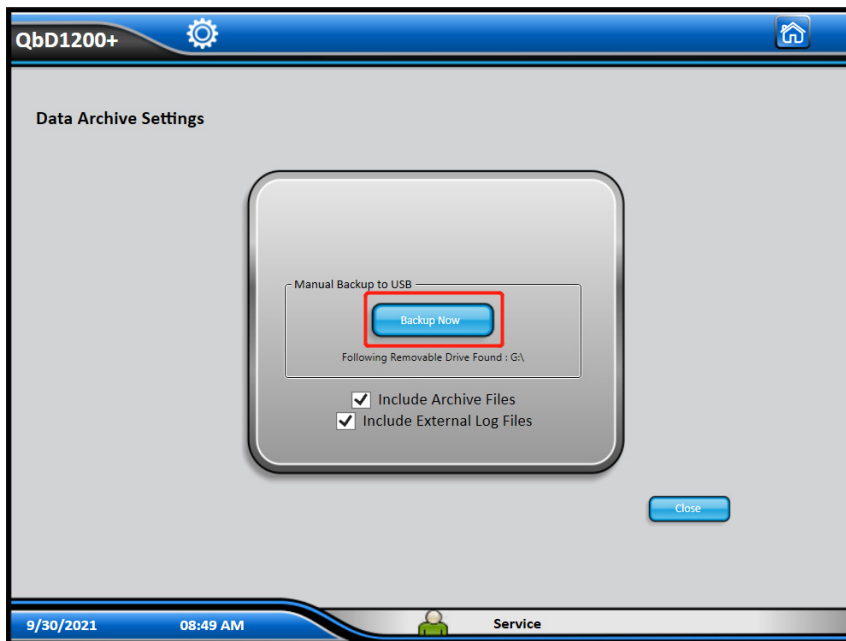
2. Select **System Settings**. Refer to [Figure B.2](#).

Figure B.2 System Settings



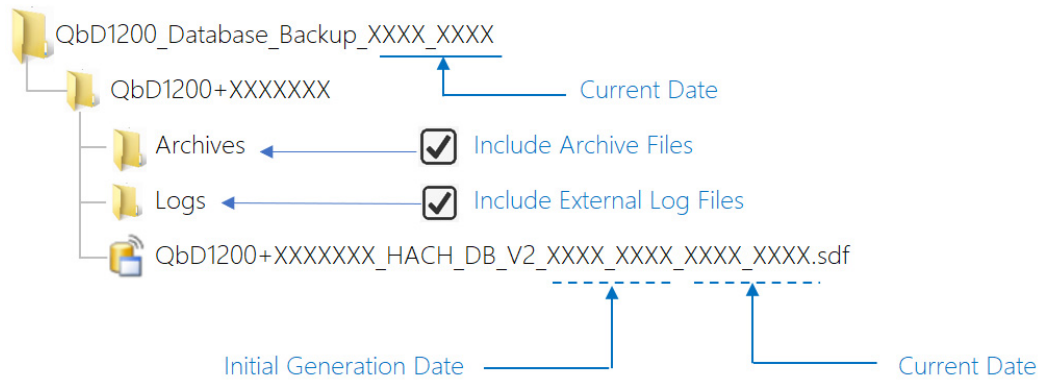
3. Select **Data Archive** and configure the settings. Refer to [Figure B.3](#)

Figure B.3 Data Archive Settings



4. Select **Backup Now**. The USB drive will now have the database file folder, which will the name format of "QbD1200_Database_Backup_XXXX_XXXX" where "XXXX_XXXX" matches current date. Refer to [Figure B.4](#).

Figure B.4 Database File Name Format



Network Setting and Network Transporting

Overview

Using an Intel processor and on-board Gigabit Ethernet interface, the QbD1200+ hardware runs on top of the Windows IoT Enterprise system, enabling users to connect to the user's LAN system, LIMS system, and other networked applications such as shared files through a simple network configuration. The instrument has an RJ45 interface that uses a network cable to connect to the router and then to the local area network. And the instrument has multiple USB connectors, allowing users to extend wireless networks by attaching USB-WIFI cards.

This section describes how to set up and use the instrument's networking capabilities. Refer to the sections below to complete the desired actions:

- [Connect the Instrument to the Local Area Network \(LAN\)](#)
 - [Test Connectivity](#)
 - [Configure the Connection](#)
- [Setup a Shared Folder](#)
- [Network Export](#)

Connect the Instrument to the Local Area Network (LAN)

Test Connectivity

Use a network cable to connect the QbD1200+ to a router on a local area network, and first test the connectivity of the instrument to the LAN PC using the ping command.

1. Select **Instrument Setup** to start. Refer to [Figure C.1](#).

Figure C.1 Instrument Setup



2. Select **System Settings** to proceed. Refer to [Figure C.2](#).

Figure C.2 System Settings



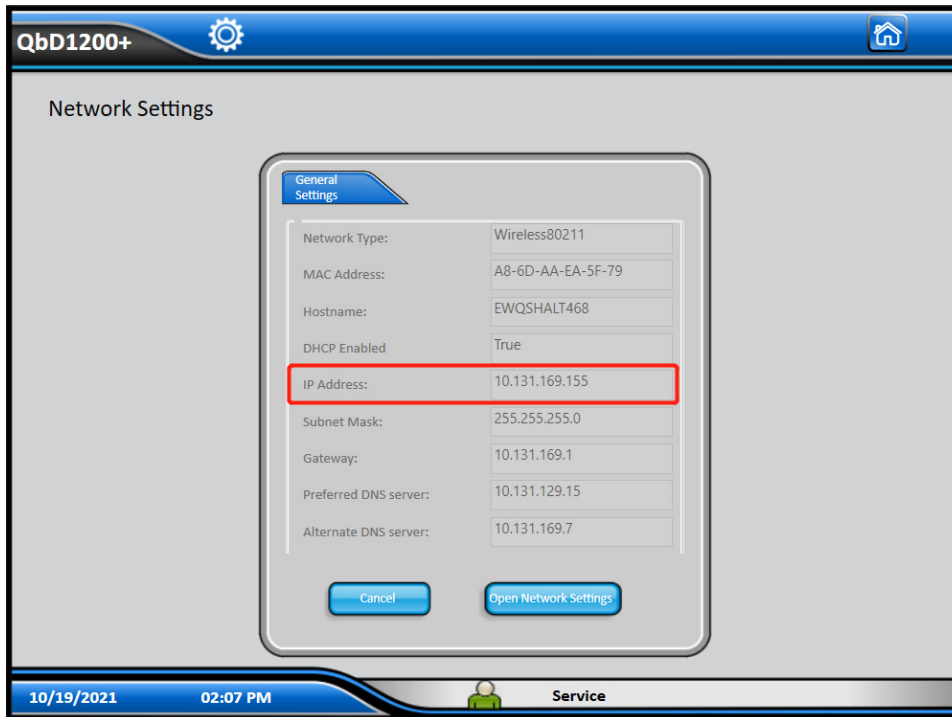
3. Select **Network** to proceed. Refer to [Figure C.3](#).

Figure C.3 Select Network



4. The network **General Settings** displays the current network status, refer to [Figure C.4](#). If you use a wired network, **Network Type** displays *Ethernet*. The default instrument enables DHCP functionality to obtain an IP address from the DHCP server on the local area network.

Figure C.4 Network Settings



5. Record the IP address of the instrument and test it with the Ping command. Refer to [Figure C.5](#). (In the Windows Command Prompt, type **ping** followed by a space then the IP address and push **(Enter)**.)

Figure C.5 Ping the IP Address

```
C:\Users\hqiu>ping 10.131.133.28

Pinging 10.131.133.28 with 32 bytes of data:
Reply from 10.131.133.28: bytes=32 time=1ms TTL=127
Reply from 10.131.133.28: bytes=32 time=2ms TTL=127
Reply from 10.131.133.28: bytes=32 time=6ms TTL=127
Reply from 10.131.133.28: bytes=32 time=2ms TTL=127

Ping statistics for 10.131.133.28:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 1ms, Maximum = 6ms, Average = 2ms
```

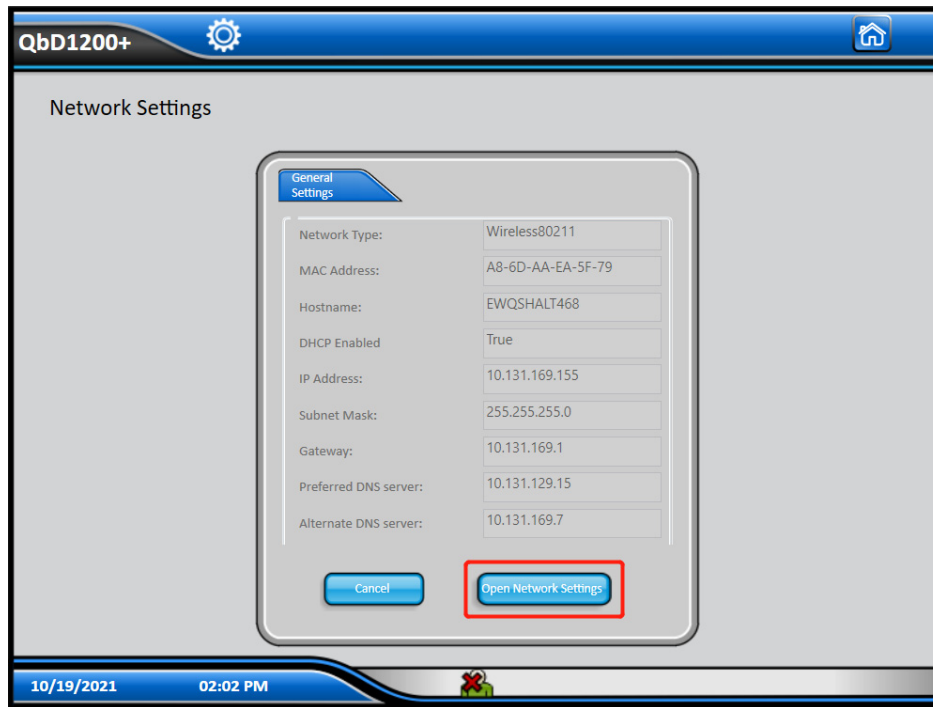
Configure the Connection

If the instrument cannot obtain an IP address from the DHCP server on the local area network, the address can be assigned statically. IP addresses are typically assigned statically using a PC and

instrument directly, or through a small network of simple router groups (DHCP servers are not deployed).

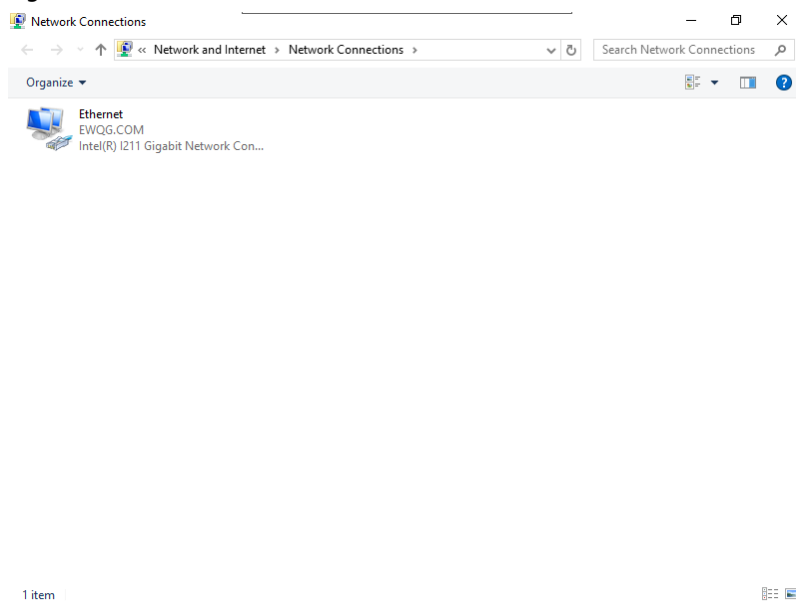
1. Select **Network Settings**. Refer to [Figure C.6](#) below.

Figure C.6 Open Network Settings



2. Select **Open Network Settings**, the **Network Connections** window appears. Refer to [Figure C.7](#).

Figure C.7 Network Connections

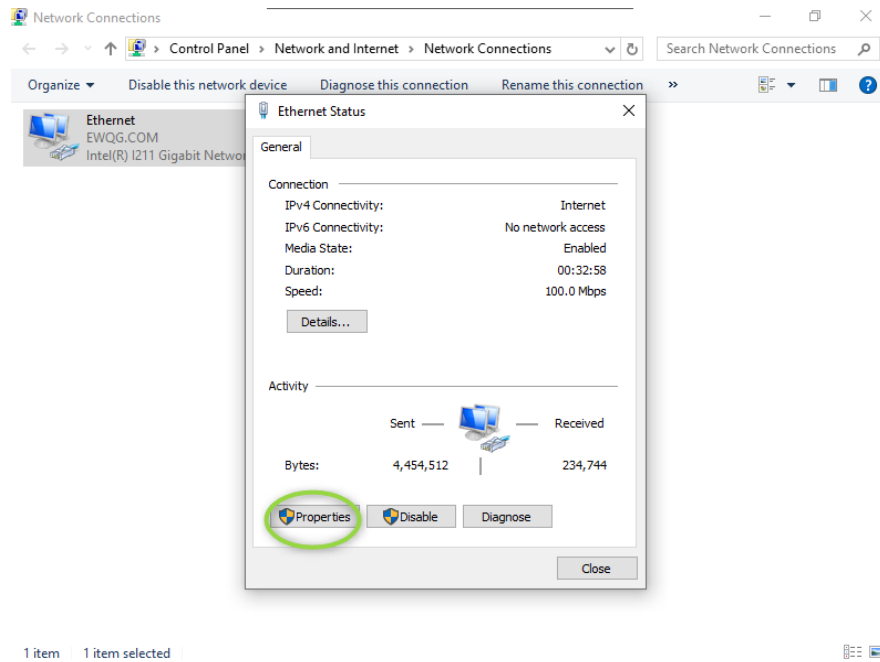


Network Setting and Network Transporting

Connect the Instrument to the Local Area Network (LAN)

3. Double-click **Ethernet** to enter the relevant network settings. Then select **Properties** to proceed. Refer to [Figure C.8](#).

Figure C.8 Ethernet Settings



4. Double-click **Internet Protocol Version 4 (TCP/IPv4)** to enter. Refer to [Figure C.9](#). Select using the following IP address. Refer to [Figure C.10](#).

Figure C.9 Internet Protocol Version 4 (TCP/IPv4)

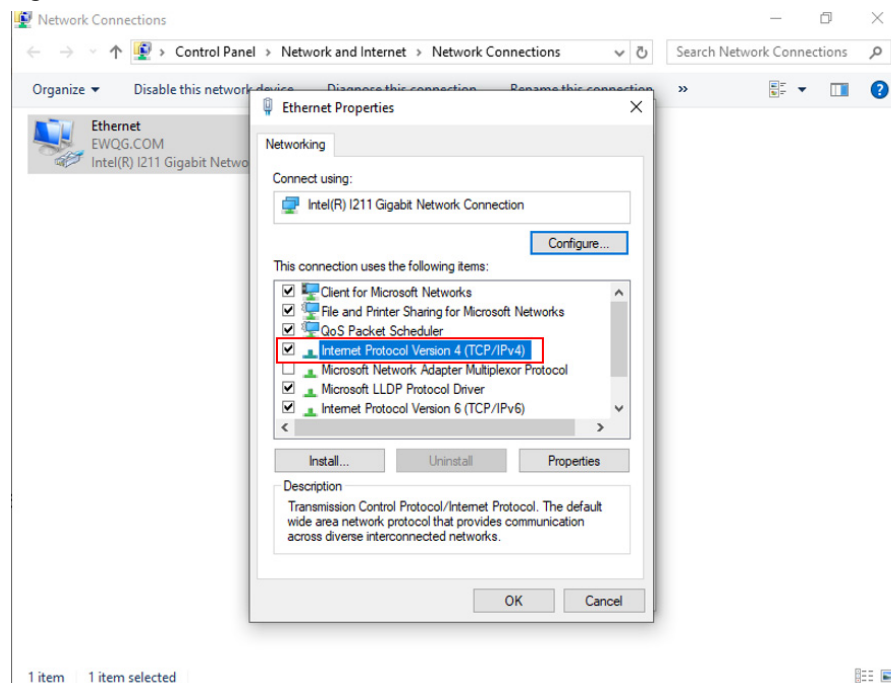
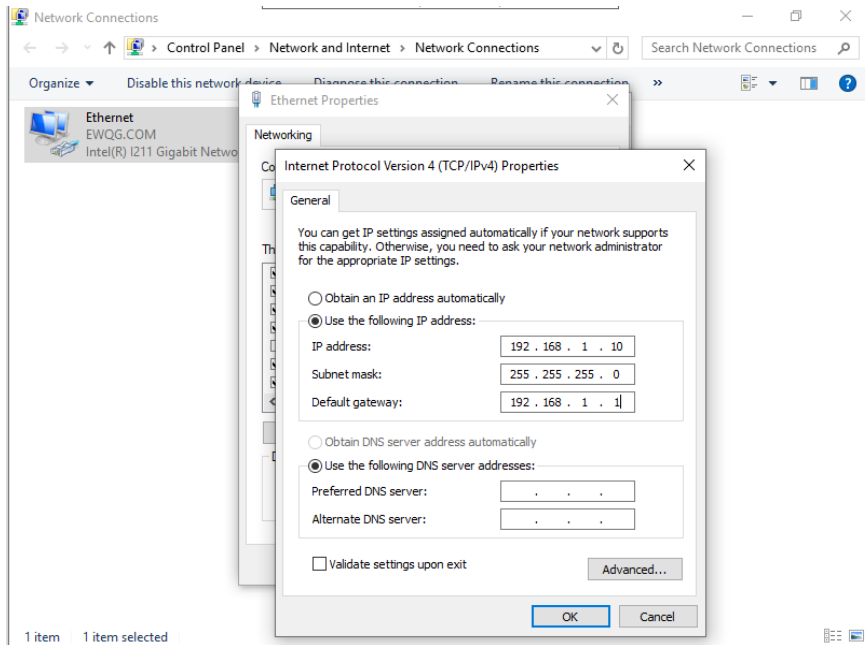


Figure C.10 IP Address

5. In **IP Address**, **Subnet mask**, **Default gateway**, enter the address. The address entered in the figure above is an example only, and the address you are actually entering should be determined based on the networking situation. Generally, make sure that the instrument is in the same network segment as other networked PCs.
6. Select **OK** several times after the setup is complete.
7. Exit the network interface, and return to the instrument's operating interface.
8. Test the Ping command again to test whether the device is connected (refer to Step 5 and [Figure C.5](#) above for additional details).

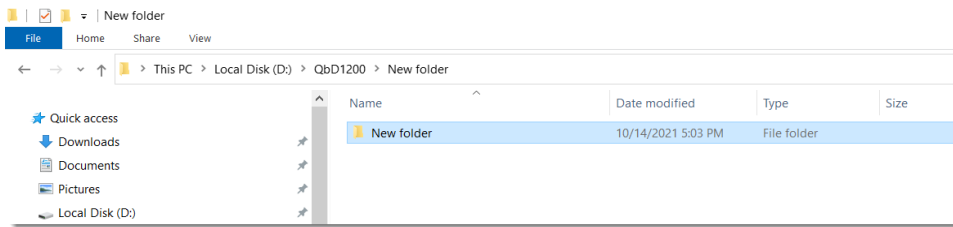
If ping test fails, check that the IP address is set up correctly and check the firewall settings for your networked PC (you need to turn off the firewall).

Setup a Shared Folder

QbD1200+ supports the transfer of files such as measurement reports to a network server or a shared folder on a networked PC.

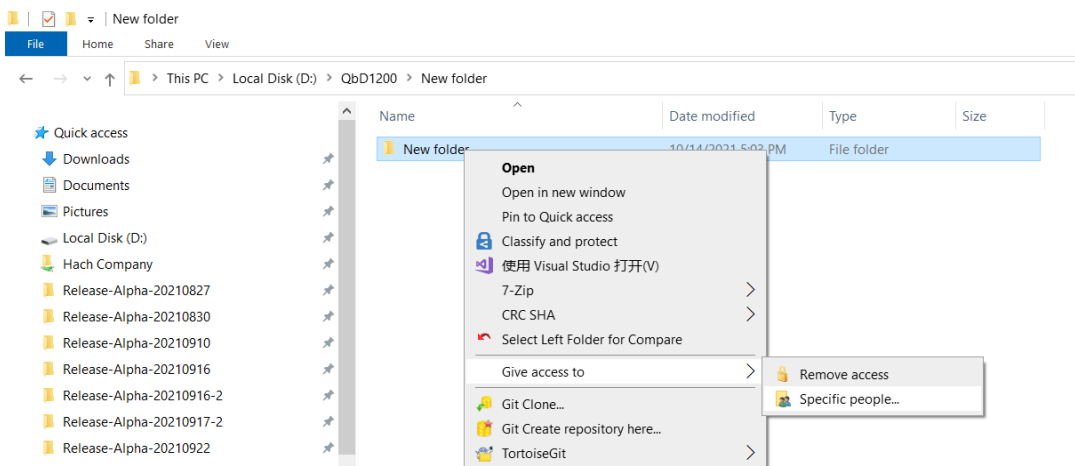
1. Create a new folder on the computer. Refer to [Figure C.11](#).

Figure C.11 Create a New Folder



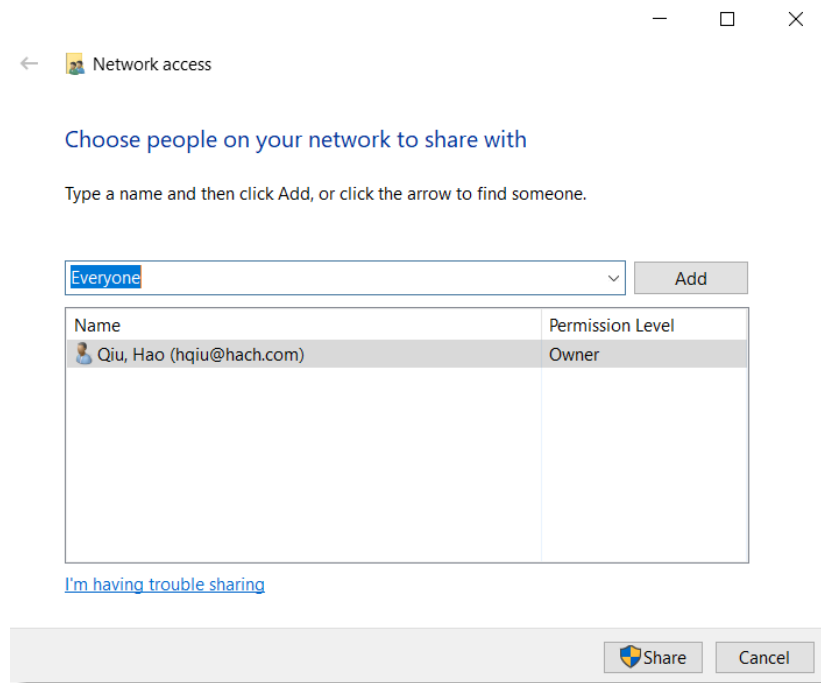
2. Right-click on the folder, select **Give access to > Specific people**, refer to Figure C.12.

Figure C.12 Give access to



- On the drop-down, select **Everyone**. Refer to [Figure C.13](#)

Figure C.13 Everyone



- Select **Add** to add **Anyone** and set permission level to **Read/Write**. When the settings are complete, select **Share**. Refer to [Figure C.14](#) and [Figure C.15](#).

Figure C.14 Share with Everyone

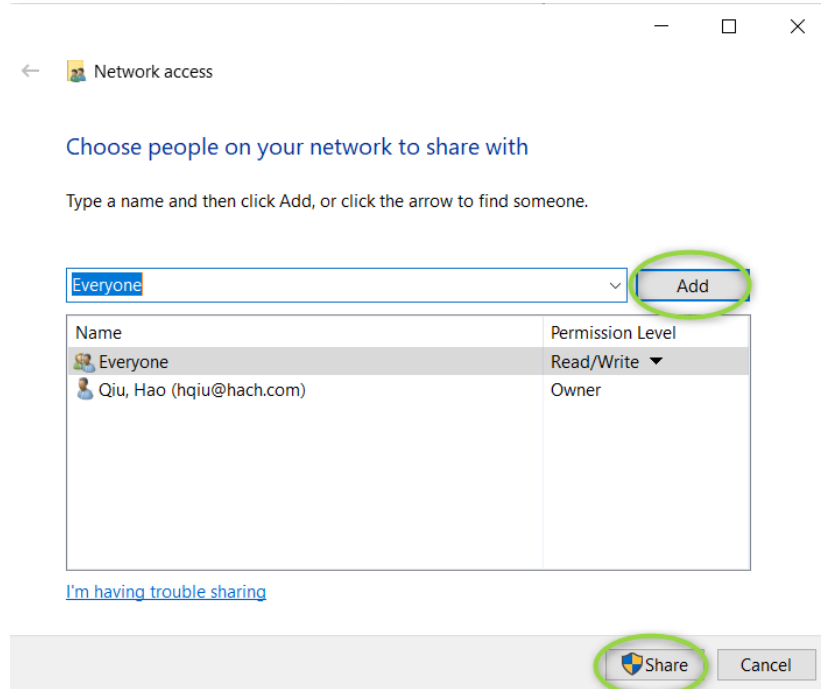
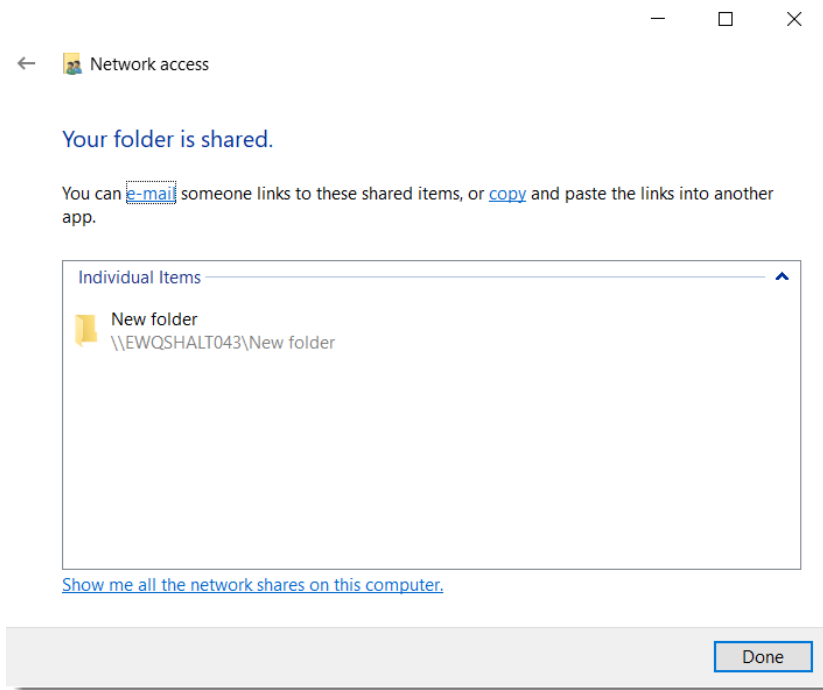


Figure C.15 Folder is Shared



5. Select **Done**.

Network Export

After a shared folder is set up, the instrument can transfer files such as test reports over the network to the shared folder.

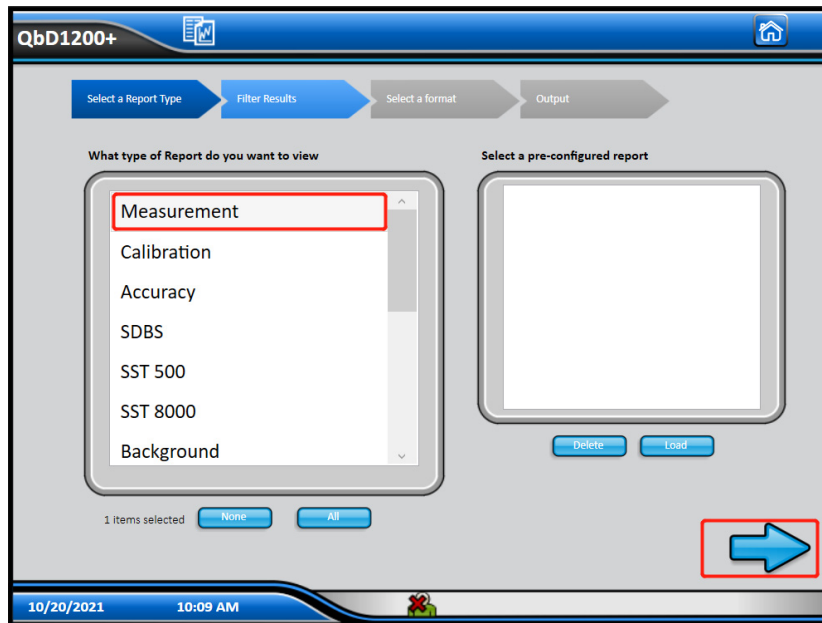
1. Login as a user with export data permissions and select **Reports and Data** on the main interface to enter. Refer to [Figure C.16](#).

Figure C.16 Reports and Data



2. Select **Measurement** > ➡ > to proceed. Refer to Figure C.17.

Figure C.17 Report Type: Measurement



3. Select **By Data Range** > ➡ > ➡ to proceed. Refer to [Figure C.18](#) and [Figure C.19](#).

Figure C.18 Filter By: Date Range

QbD1200+

Select a Report Type Filter Results Select a format Output

Filter results (if desired)

By Date Range

☐ Most Recent ☒ From last month ☐ From last 24 hours

☐ From last 3 months ☐ From last week ☐ All dates

☐ Select to/from dates From To

By Operator

Any

10/20/2021 10:12 AM

Figure C.19 Format: Default

QbD1200+

Select a Report Type Filter Results Select a format Output

Select a format

☒ Default

☐ Templated Format

☐ .CSV Format

☐ .XML Format

Results

Pos	Name	Reps	TOC (ppb)
1	Measurement_1	4	100
2	Measurement_2	4	200

10/20/2021 10:18 AM

4. Select **Paperless Export** to proceed. Refer to [Figure C.20](#).

Figure C.20 Paperless Export



5. After selecting the **Paperless Export** button, the Save Report As window appears. If you first transfer data to a shared folder, you need to enter a network address to find it. Enter the network address in the address bar above the dialog box and select the arrow on the right. Refer to [Figure C.21](#) and [Figure C.22](#).

Figure C.21 Find the Shared Folder

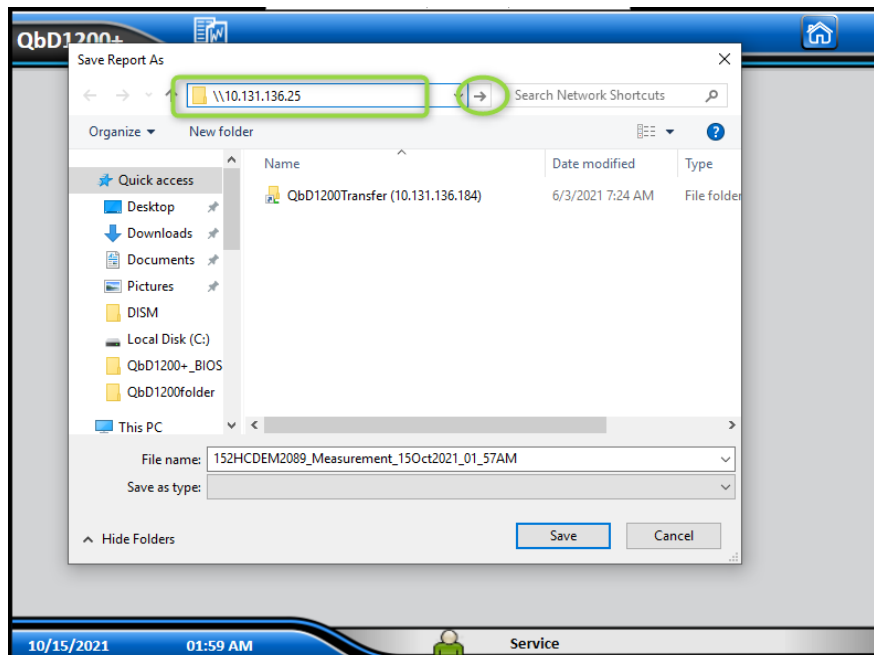
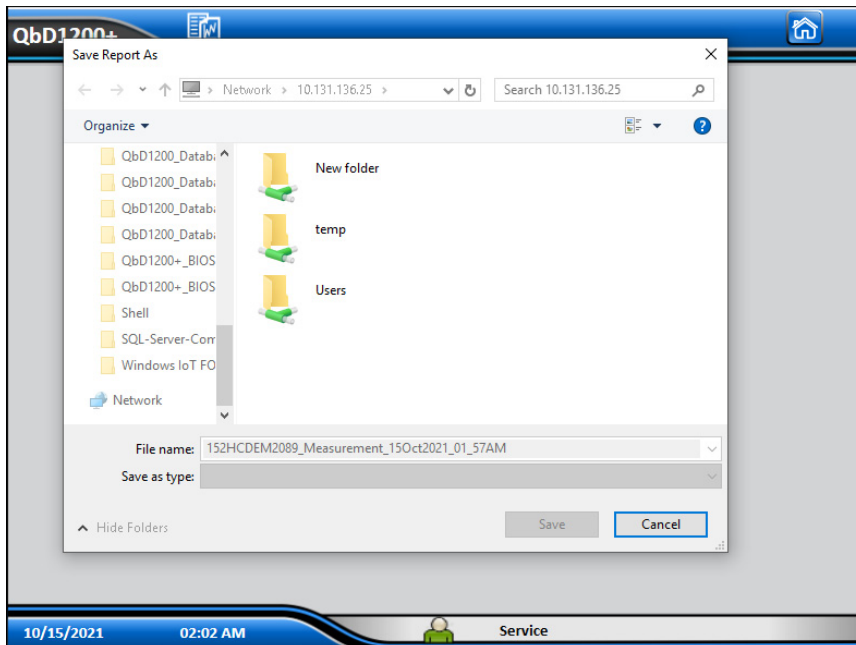


Figure C.22 Shared Folder



- Wait for the system to find the folder that the network address shares on the network. **New folder** is the first shared folder to set up. Right-click **New folder** and select **Map network drive...** to match the folder to a network drive so that the next transfer file can be saved directly by selecting the network drive location for the shared folder. Refer to [Figure C.23](#) and [Figure C.24](#).

Figure C.23 Map Network Drive

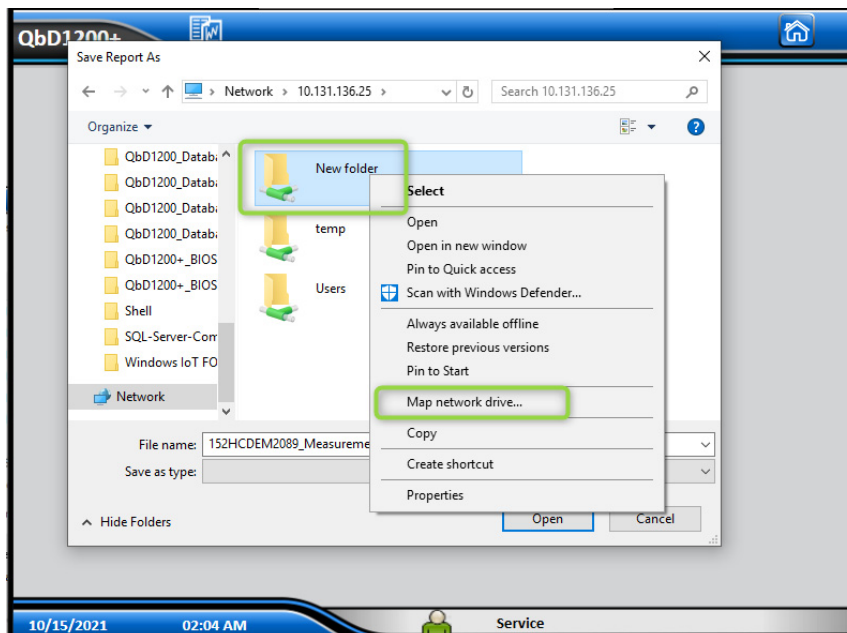
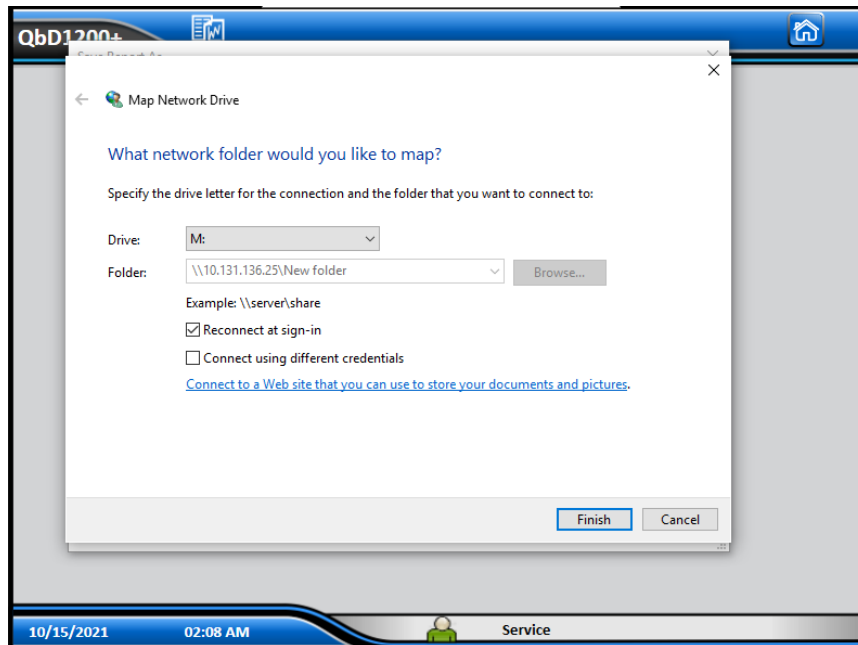
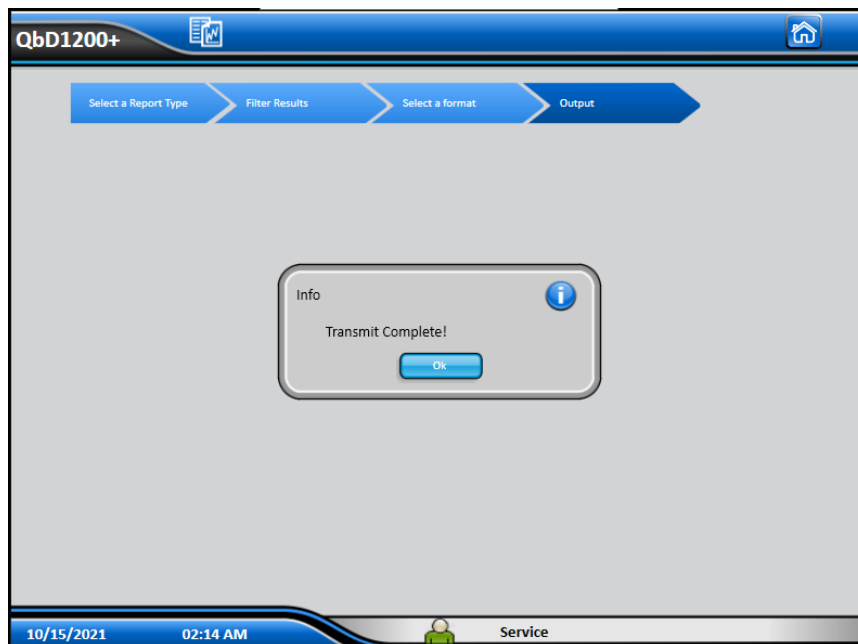


Figure C.24 Map Network Drive Window



7. Select **Finish** to move on to the next step and wait for the transfer to complete. Refer to Figure C.25.

Figure C.25 Transfer Complete



8. Once the network driver location is configured, you can select network locations directly from **This PC** if you save the measurement report later. Double-click on the network location for the shared folder and select **Save** to complete the operation. Refer to [Figure C.26](#) and [Figure C.27](#).

Figure C.26 Select Network from This PC

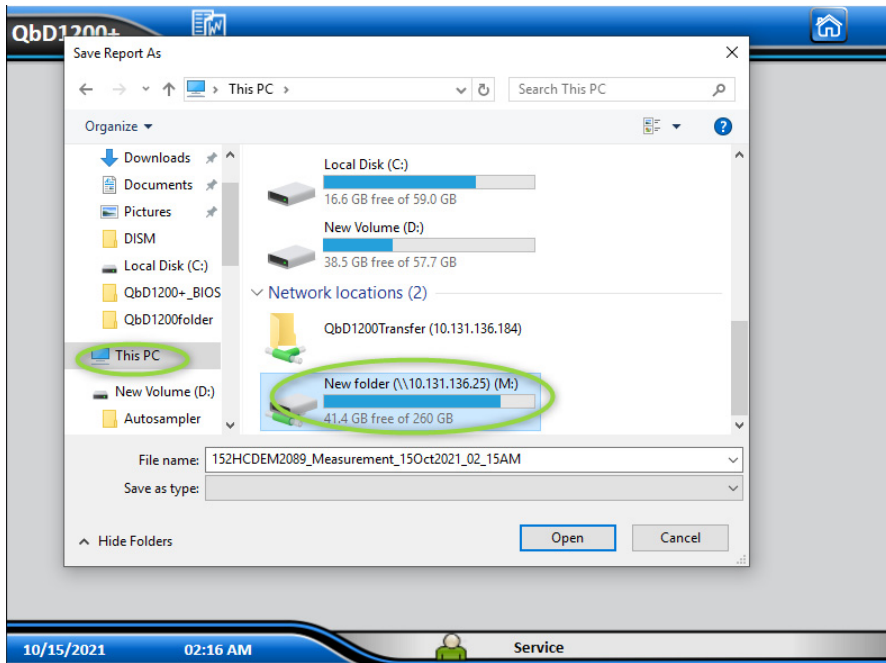
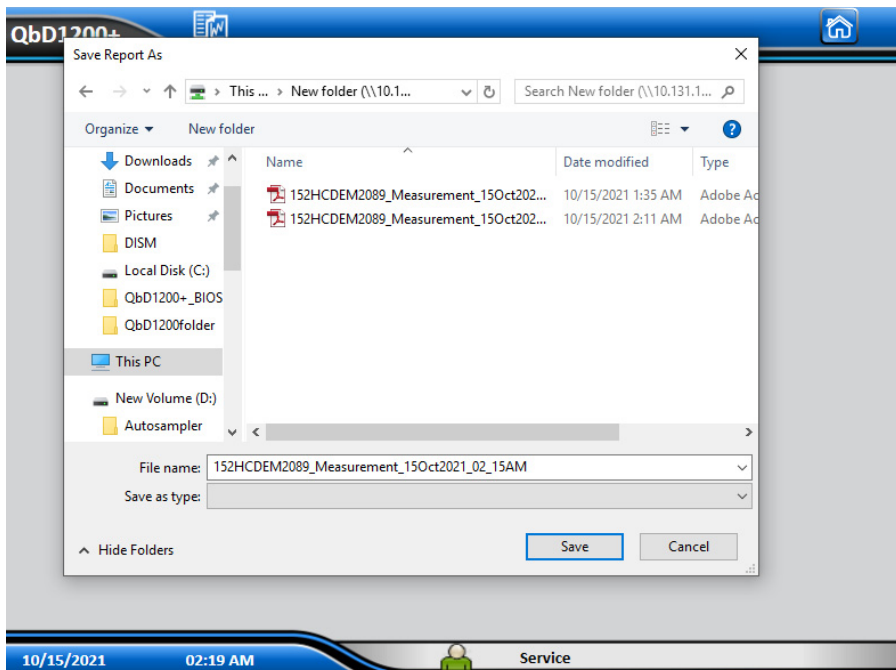


Figure C.27 Save



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Related Documents

Instructions for Use

PN C89298

Safety Notices

PN C69992

Available at www.beckman.com

www.beckman.com

