KA01331C/07/EN/03.21
71530021
2021-01-31

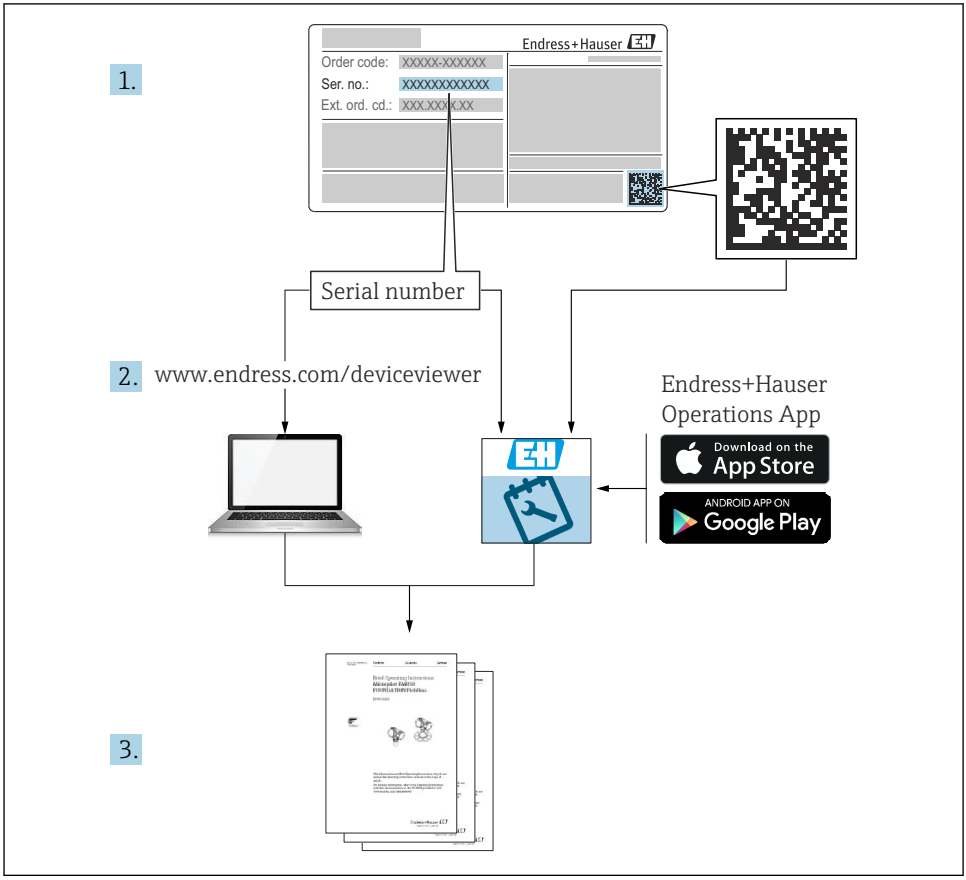
Brief Operating Instructions
Liquiline System CA80HA

Colorimetric analyzer for total hardness

These instructions are Brief Operating Instructions; they are not a substitute for the Operating Instructions pertaining to the device.

Detailed information on the device can be found in the Operating Instructions and in the other documentation available at:
- www.endress.com/device-viewer
- Smart phone/tablet: Endress+Hauser Operations App

Endress+Hauser
People for Process Automation


1.
Endress+Hauser
Order code: XXXXX-XXXXXX
Ser. no.: XXXXXXXXXXXX
Ext. ord. cd.: XXX.XXX-XXX
Serial number
2.
www.endress.com/deviceviewer
Endress+Hauser
Operations App
Download on the
App Store
ANDROID APP ON
Google Play
3.

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1 About this document

1.1 Warnings

Structure of information	Meaning
⚠ DANGER **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **will** result in a fatal or serious injury.
⚠ WARNING **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid the dangerous situation **can** result in a fatal or serious injury.
⚠ CAUTION **Causes (/consequences)** If necessary, Consequences of non-compliance (if applicable) ▶ Corrective action	This symbol alerts you to a dangerous situation. Failure to avoid this situation can result in minor or more serious injuries.
NOTICE **Cause/situation** If necessary, Consequences of non-compliance (if applicable) ▶ Action/note	This symbol alerts you to situations which may result in damage to property.

1.2 Symbols

- Additional information, tips
- Permitted or recommended
- Not permitted or not recommended
- Reference to device documentation
- Reference to page
- Reference to graphic
- Result of a step

1.3 Symbols on the device

- Reference to device documentation
- Caution: Hazardous voltage
- Warning: Risk of injury from rotating cogwheels
- Do not dispose of products bearing this marking as unsorted municipal waste. Instead, return them to the manufacturer for disposal under the applicable conditions.

1.4 Documentation

The following instructions complement these Brief Operating Instructions and are available on the product pages on the Internet:

- Operating Instructions Liquiline System CA80HA
  - Device description
  - Commissioning
  - Operation
  - Software description (excluding sensor menus; these are described in a separate manual - see below)
  - Device-specific diagnostics and troubleshooting
  - Maintenance
  - Repair and spare parts
  - Accessories
  - Technical data
- Operating Instructions Memosens, BA01245C
  - Software description for Memosens inputs
  - Calibration of Memosens sensors
  - Sensor-specific diagnostics and troubleshooting
- Guidelines for communication via fieldbus and web server
  - PROFIBUS, SD01188C
  - Modbus, SD01189C
  - Web server, SD01190C
  - EtherNet/IP, SD01293C
- Special documentation on reagents:
  CY80HA, SD02143C

2 Basic safety instructions

2.1 Requirements for personnel

- Installation, commissioning, operation and maintenance of the measuring system may be carried out only by specially trained technical personnel.
- The technical personnel must be authorized by the plant operator to carry out the specified activities.
- The electrical connection may be performed only by an electrical technician.
- The technical personnel must have read and understood these Operating Instructions and must follow the instructions contained therein.
- Faults at the measuring point may only be rectified by authorized and specially trained personnel.

Repairs not described in the Operating Instructions provided must be carried out only directly at the manufacturer's site or by the service organization.

2.2 Designated use

The Liquiline System CA80HA is a wet-chemical analyzer for the almost continuous determination of the total hardness concentration in liquid media.

The analyzer is designed for use in the following applications:
- Optimization of reverse osmosis systems and ion exchangers
- Classification of the level of hardness of drinking water
- Guaranteeing process water quality in production plants

Use of the device for any purpose other than that described poses a threat to the safety of people and of the entire measuring system, and is therefore not permitted. The manufacturer is not liable for damage caused by improper or non-designated use.

2.3 Workplace safety

As the user, you are responsible for complying with the following safety conditions:
- Installation guidelines
- Local standards and regulations
- Regulations for explosion protection

Electromagnetic compatibility
- The product has been tested for electromagnetic compatibility in accordance with the applicable international standards for industrial applications.
- The electromagnetic compatibility indicated applies only to a product that has been connected in accordance with these Operating Instructions.

2.4 Operational safety

Before commissioning the entire measuring point:

1. Verify that all connections are correct.
2. Ensure that electrical cables and hose connections are undamaged.

3. Do not operate damaged products, and protect them against unintentional operation.
4. Label damaged products as defective.

During operation:

1. If faults cannot be rectified:
   products must be taken out of service and protected against unintentional operation.
2. Keep the door closed when not carrying out service and maintenance work.

⚠ CAUTION

Activities while the analyzer is in operation

Risk of injury and infection from medium!

- ▶ Before you release any hoses, make sure that no actions, such as the pumping of sample, are currently running or are due to start shortly.
- ▶ Wear protective clothing, goggles and gloves or take other suitable measures to protect yourself.
- ▶ Wipe up any spilt reagent with a disposable tissue and rinse with clear water. Then dry the cleaned areas with a cloth.

⚠ CAUTION

Risk of injury from door stop mechanism

- ▶ Always open the door fully to ensure the door stop engages properly.

2.5 Product safety

2.5.1 State-of-the-art technology

The product is designed to meet state-of-the-art safety requirements, has been tested, and left the factory in a condition in which it is safe to operate. The relevant regulations and international standards have been observed.

Devices connected to the analyzer must comply with the applicable safety standards.

2.5.2 IT security

We only provide a warranty if the device is installed and used as described in the Operating Instructions. The device is equipped with security mechanisms to protect it against any inadvertent changes to the device settings.

IT security measures in line with operators' security standards and designed to provide additional protection for the device and device data transfer must be implemented by the operators themselves.

3 Incoming acceptance and product identification

3.1 Incoming acceptance

1. Verify that the packaging is undamaged.
   ↳ Notify the supplier of any damage to the packaging.
   Keep the damaged packaging until the issue has been resolved.
2. Verify that the contents are undamaged.
   ↳ Notify the supplier of any damage to the delivery contents.
   Keep the damaged goods until the issue has been resolved.
3. Check that the delivery is complete and nothing is missing.
   ↳ Compare the shipping documents with your order.
4. Pack the product for storage and transportation in such a way that it is protected against impact and moisture.
   ↳ The original packaging offers the best protection.
   Make sure to comply with the permitted ambient conditions.

If you have any questions, please contact your supplier or your local Sales Center.

NOTICE

Incorrect transportation can damage the analyzer

▶ Always use a lifting truck or a fork-lift to transport the analyzer.

3.2 Product identification

3.2.1 Nameplate

Nameplates can be found:
- On the inside of the door on the bottom right, or on the front in the bottom right-hand corner
- On the packaging (adhesive label, portrait format)

The nameplate provides you with the following information on your device:
- Manufacturer identification
- Order code
- Extended order code
- Serial number
- Firmware version
- Ambient and process conditions
- Input and output values
- Measuring range
- Activation codes
- Safety information and warnings
- Certificate information
- Approvals as per order version

▶ Compare the information on the nameplate with the order.

3.2.2 Product identification

Product page

www.endress.com/ca80ha

Interpreting the order code

The order code and serial number of your product can be found in the following locations:
- On the nameplate
- In the delivery papers

Obtaining information on the product

1. Go to www.endress.com.
2. Call up the site search (magnifying glass).
3. Enter a valid serial number.
4. Search.
   ↳ The product structure is displayed in a popup window.
5. Click on the product image in the popup window.
   ↳ A new window (**Device Viewer**) opens. All of the information relating to your device is displayed in this window as well as the product documentation.

3.2.3 Manufacturer address

Endress+Hauser Conducta GmbH+Co. KG
Dieselstraße 24
D-70839 Gerlingen

3.3 Scope of delivery

The scope of delivery comprises:
- 1 analyzer in the version ordered with optional hardware
- 1 x Brief Operating Instructions (hard copy)
- 1 x Maintenance Manual
- Optional accessories

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

3.4 Certificates and approvals

3.4.1 CE mark

The product meets the requirements of the harmonized European standards. As such, it complies with the legal specifications of the EU directives. The manufacturer confirms successful testing of the product by affixing to it the CE mark.

3.4.2 Other standards and guidelines

cCSAus

The product meets the requirements as per "CLASS 2252 06 - Process Control Equipment" and "CLASS 2252 86 - Process Control Equipment". It is tested to Canada and USA standards: CAN/CSA-C22.2 No. 61010-1-12 UL Std. No. 61010-1 (3rd Edition).

EAC

The product has been certified according to guidelines TP TC 004/2011 and TP TC 020/2011 which apply in the European Economic Area (EEA). The EAC conformity mark is affixed to the product.

4 Installation

⚠ CAUTION

Incorrect transportation can cause injury and damage the device

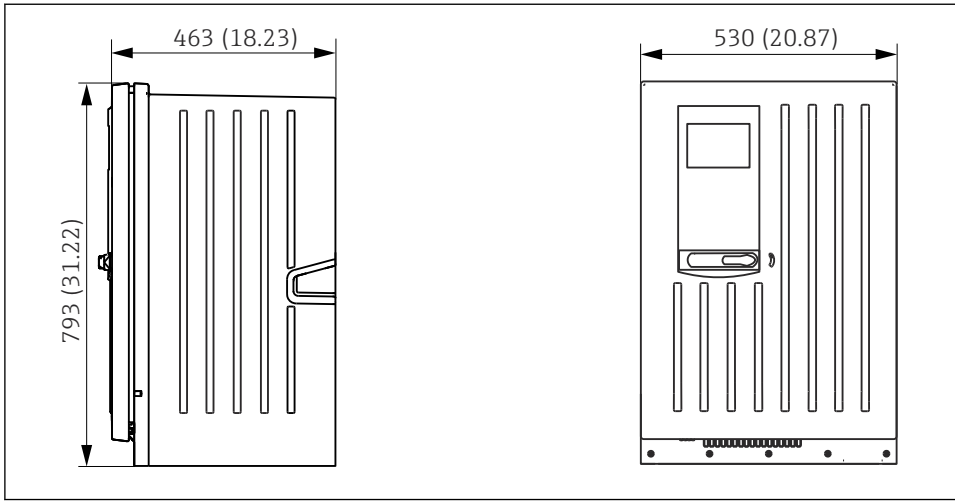
- ▶ Always use a lifting truck or a fork-lift to transport the analyzer. Two people are needed for the installation.
- ▶ Lift the device by the recessed grips.

4.1 Installation conditions

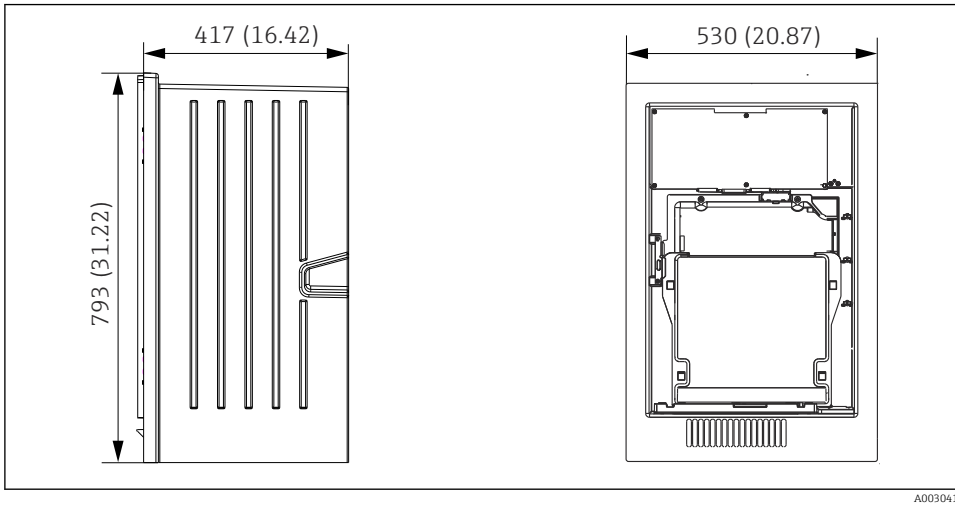
The device can be installed in the following ways:

- Mounted on a wall
- Mounted on a base

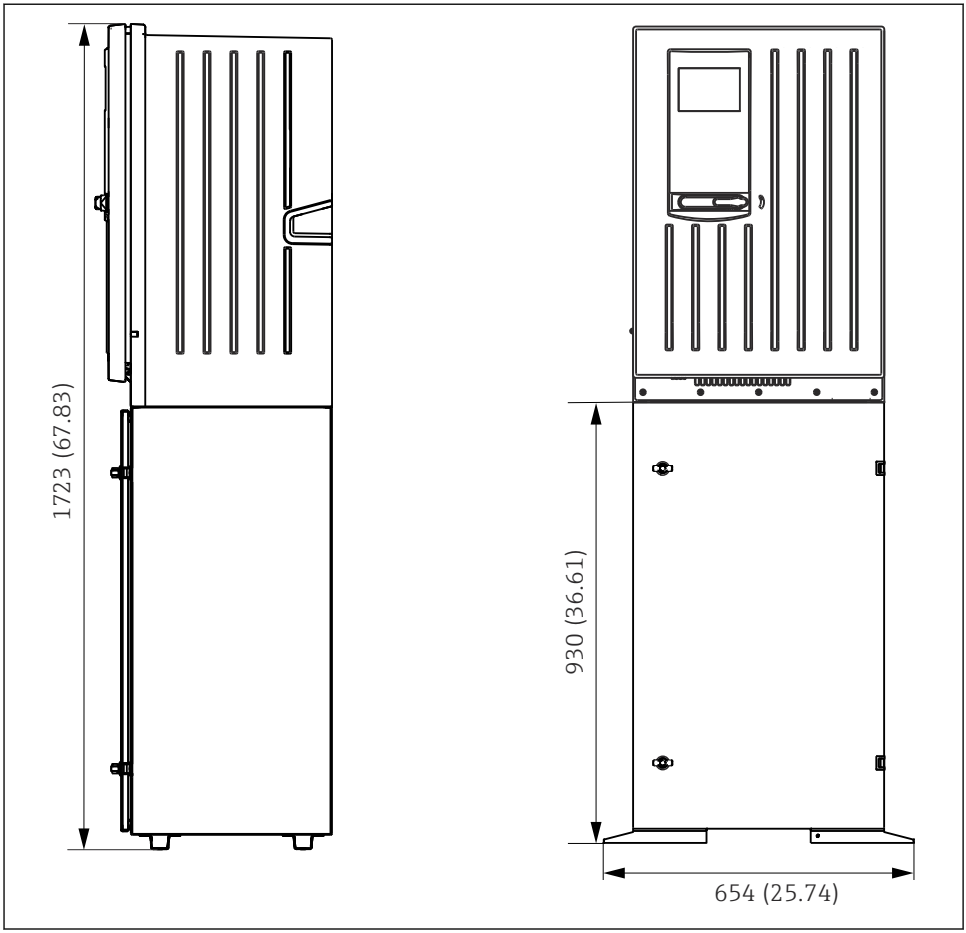
4.1.1 Dimensions



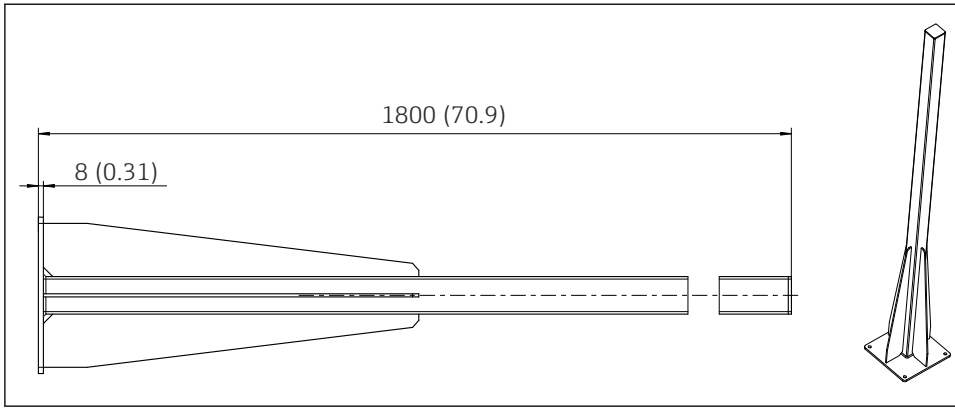
1 *Liquiline System CA80 closed version, dimensions in mm (in)*



2 *Liquiline System CA80 open version, dimensions in mm (in)*



3 Liquiline System CA80 with base, dimensions in mm (in)



4 Post (accessory) for "Outdoor" version, dimensions in mm (inch)

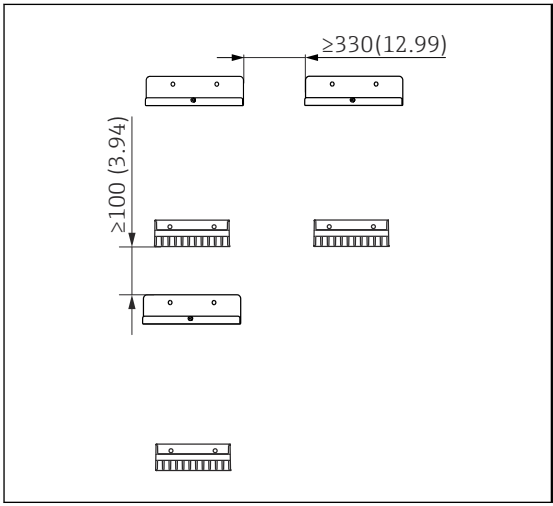
4.1.2 Mounting location

Note the following when erecting the device:

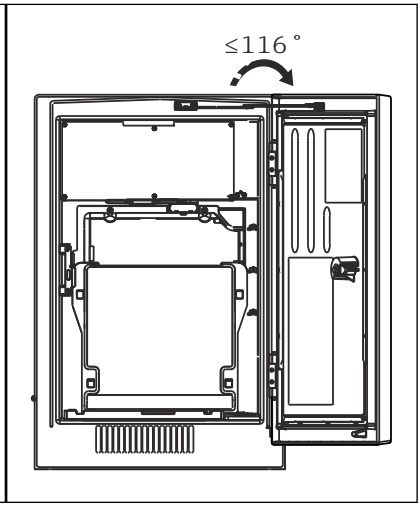
- If mounting on a wall, make sure that the wall has sufficient load-bearing capacity and is fully perpendicular.
- If mounting on a base, erect the device on a level surface.
- Protect the device against additional heating (e.g. from a heating system).
- Protect the device against mechanical vibrations.
- Protect the device against corrosive gases, e.g. hydrogen sulfide (H_2S) .
- Make sure to pay attention to the maximum height difference and the maximum distance from the sampling point.
- Ensure that the unit can drain freely, without any siphoning effects.
- Make sure air can circulate freely at the front of the housing.
- Open analyzers (i.e. analyzers that are supplied without a door) may only be erected in closed areas or in a protective cabinet or similar facility.

4.1.3 Spacing requirements when mounting

Spacing required for installing analyzer

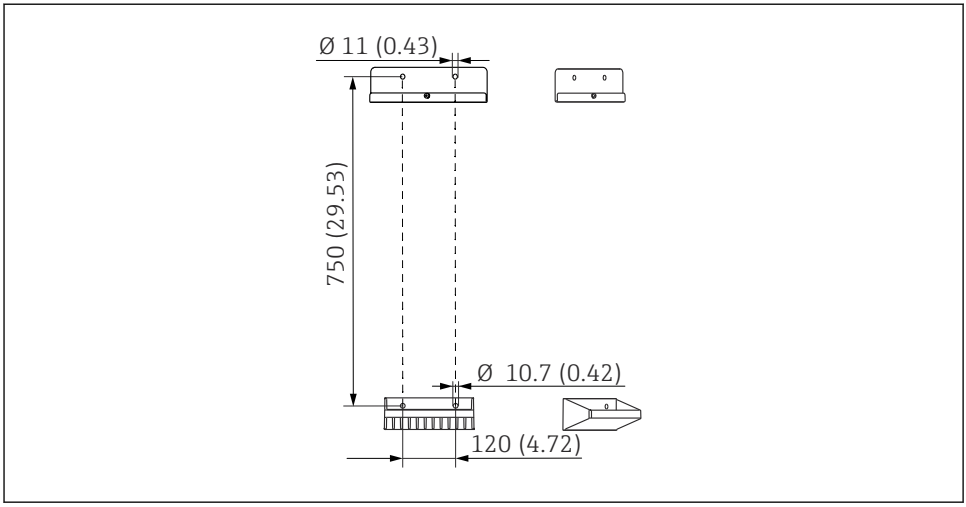


5 Minimum spacing required for mounting. Engineering unit mm (in).



6 Maximum opening angle

Spacing required for installing wall-mount version



7 Holder unit dimensions. Engineering unit mm (in)

4.2 Mounting the analyzer

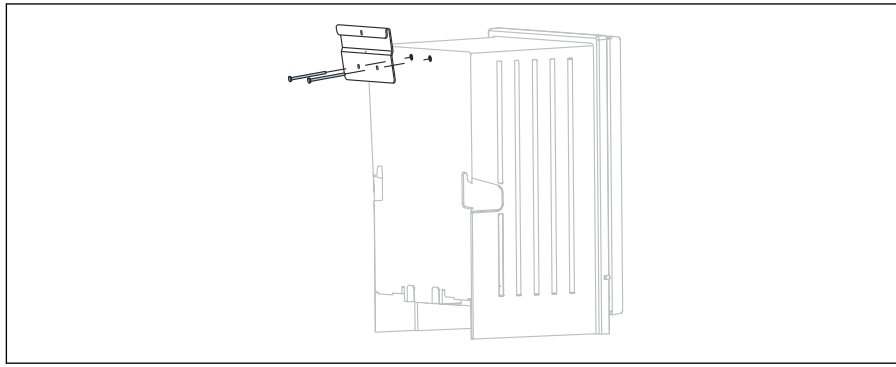
4.2.1 Mounting the analyzer on a wall

CAUTION

Incorrect installation can cause injury and damage the device

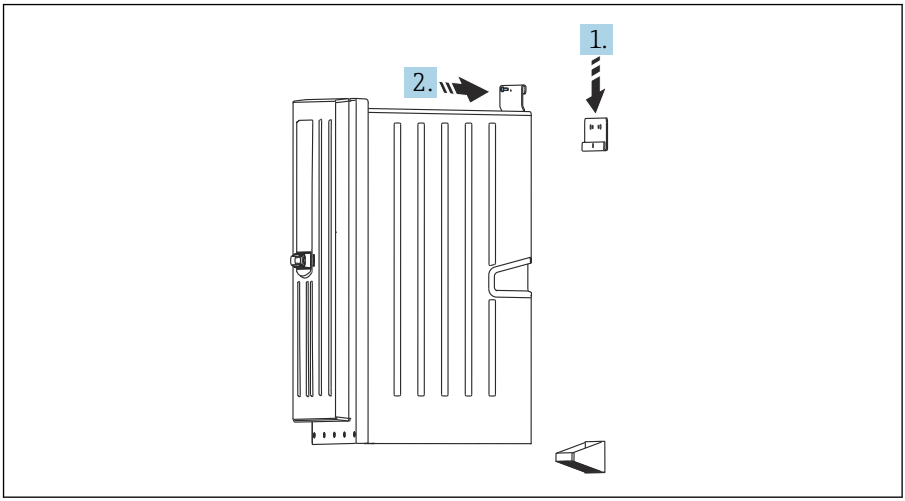
- If mounting on a wall, check that the analyzer is fully hooked into the wall holder unit at the top and bottom, and secure the analyzer to the upper wall holder unit using the securing screw.

The mounting materials required to secure the device to the wall are not supplied.

1. Provide the mounting materials to secure the device to the wall (screws, wall plugs) onsite.
2. Mount the wall holder unit (2 parts) on the wall.
3. 

   Secure the mount on the housing.

4.



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Hook the analyzer into the wall holder unit (1).

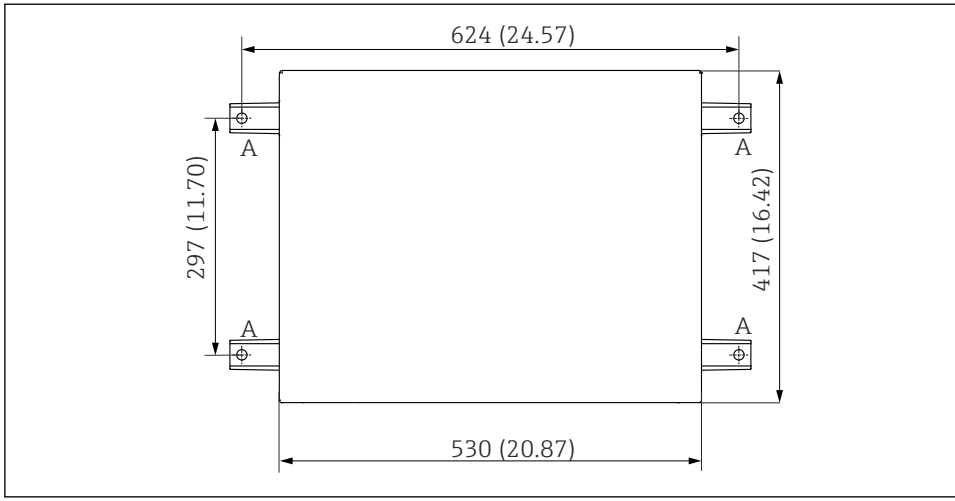
5. Fix the mount and wall holder unit in place with the screw supplied (2).

4.2.2 Installing version with analyzer stand

⚠ CAUTION

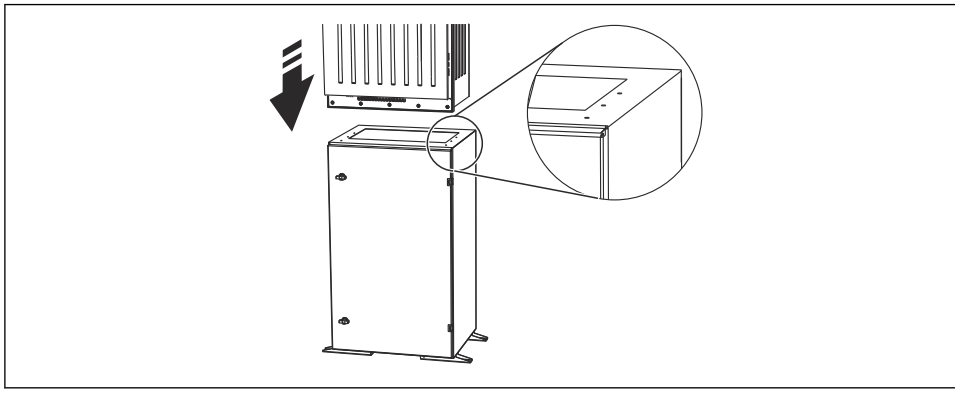
Incorrect installation can cause injury and damage the device

- If using the version with analyzer stand, make sure that the analyzer stand is secured to the floor.



8 *Foundation plan*

A Fasteners (4 x M10)
--- Dimensions of Liquiline System CA80



9 *Securing the base*

1. Screw the base to the ground.
2. With 2 people, lift the analyzer and fit it on the base. Use the recessed grips.
3. Secure the base to the analyzer using the 6 screws supplied.

4.3 Post-installation check

After mounting, check all the connections to ensure they are secure.

5 Electrical connection

⚠ WARNING

Device is live!

Incorrect connection may result in injury or death!

- The electrical connection may be performed only by an electrical technician.
- The electrical technician must have read and understood these Operating Instructions and must follow the instructions contained therein.
- **Prior** to commencing connection work, ensure that no voltage is present on any cable.

- Before establishing the electrical connection, verify that the pre-installed power cable meets the local national electrical safety specifications.

5.1 Connection conditions

Power supply cable	Power supply cable with safety plug Cable length 4.3 m (14.1 ft) Order version CA80xx-CA (CSA C/US General Purpose): Power supply cable as per North American standard
Mains voltage	The maximum mains voltage fluctuation may not be more than ±10% of the values indicated on the nameplate.
Analog, signal and transmission lines	e.g. LiYY 10 x 0.34 mm^2

5.2 Connecting the analyzer

NOTICE

The device does not have a power switch

- You must install the device near (distance < 3 m (10 ft)) an easily accessible and fused plug socket so that it can be disconnected from the power supply.

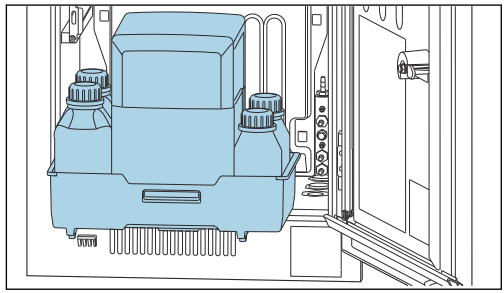
- Comply with the instructions for protective grounding when installing the analyzer.

5.2.1 Routing the cable in the connection compartment

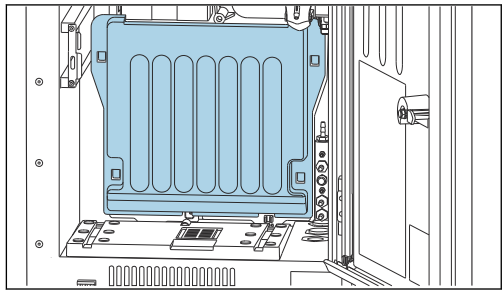
The analyzer is supplied with a pre-installed power cable.

- For cabinet versions, the cable length is approx. 4.3 m (14.1 ft) from the base of the housing.
- For analyzer stands, the cable length is approx. 3.5 m (11.5 ft) from the foundation.

Connection of analog inputs and outputs, Memosens sensors or digital fieldbuses

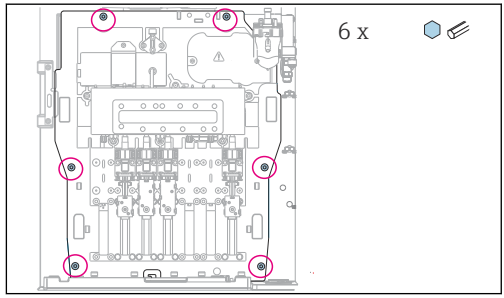
1. 

Remove the bottle tray: Lift up the recessed grip slightly and pull it towards the front.

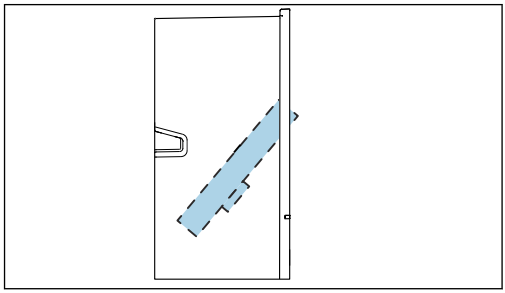
2. 

Remove the cover that is hooked into place.

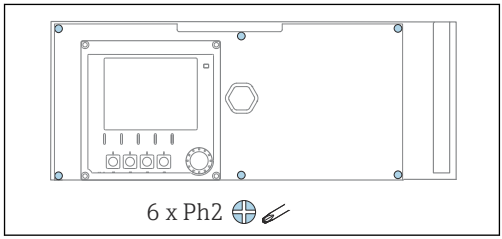
3. Remove all liquid-bearing suction lines from the Liquid Manager.

4. 

Release the 6 screws of the carrier board using an Allen key.

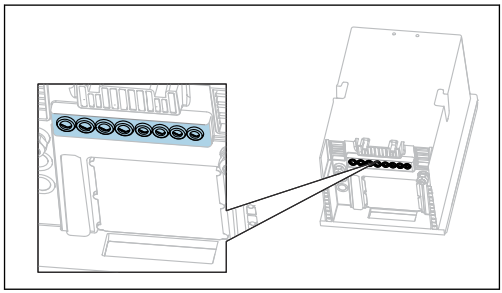
5. 

Fold out the carrier board towards the front .

6. 

Release the 6 screws on the electronics compartment cover using a Phillips-head screwdriver and fold out the cover towards the front.

7. **Only for order versions with G or NPT glands:**
Replace the pre-installed M-thread cable glands with the G or NPT cable glands that are enclosed. This does not affect the M32 hose glands.

8. 

Guide the cables through the cable glands on the bottom of the device.

For all versions

9. Route the cables on the rear panel of the device so that they are properly protected. Use cable clips.
10. Guide the cable to the electronics compartment.

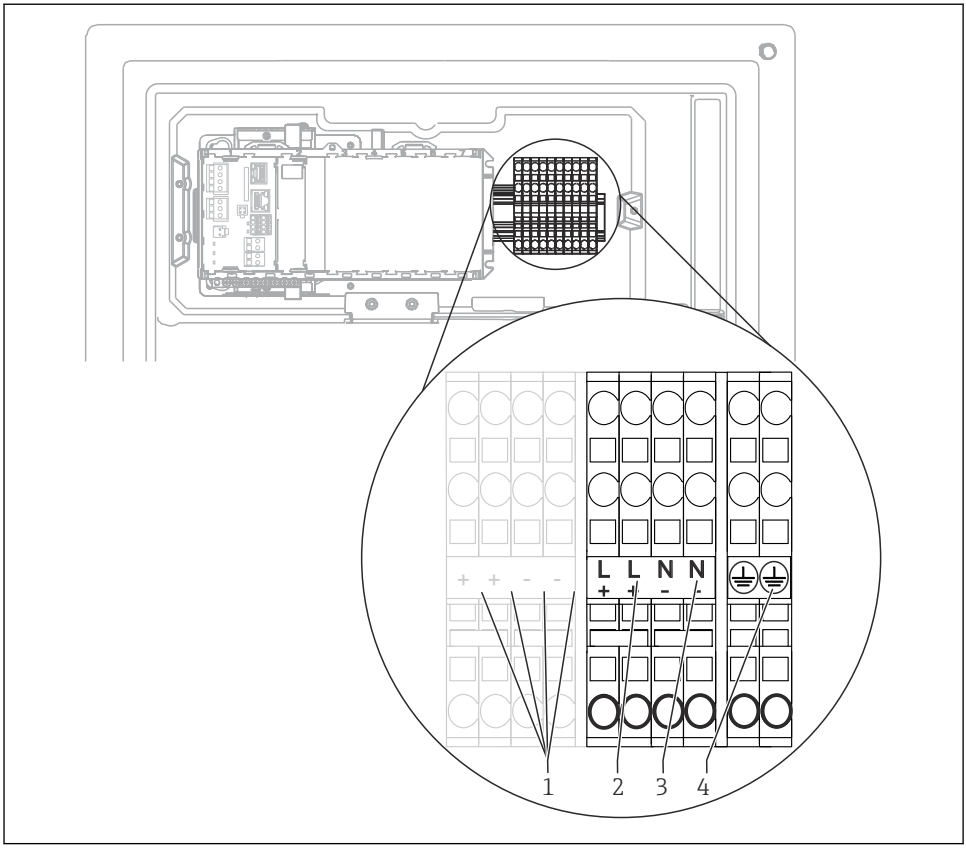
After connecting:

1. Secure the electronics compartment cover with the 6 screws.
2. Fold up the carrier board and use the 6 screws to secure it after connecting.
3. Tighten the cable glands on the bottom of the device to secure the cables.
4. Place the bottle tray back into the housing.

5.2.2 24 V version: connecting the power supply

- In the case of devices with a 24 V power supply, the connection cross-section must be at least 2.5 mm^2 and may not exceed 4 mm^2.
- With 24V power supply, a current of up to 10A can flow. For this reason pay attention to the voltage drop on the supply line.
- The voltage at the device terminals must be within the specified range .

1. To access the electronics compartment, proceed as described in the "Routing the cables" section (→ 🖹 18).
2. Guide the 24V connecting cable from below through the cable gland on the inner rear panel of the device and feed it up into the electronics compartment.
3. Connect the power supply.



10 Terminal assignment

1 *Internal 24 V voltage*
2 *Power supply +24 V*
3 *Power supply -24 V*
4 *Assignment: functional ground*

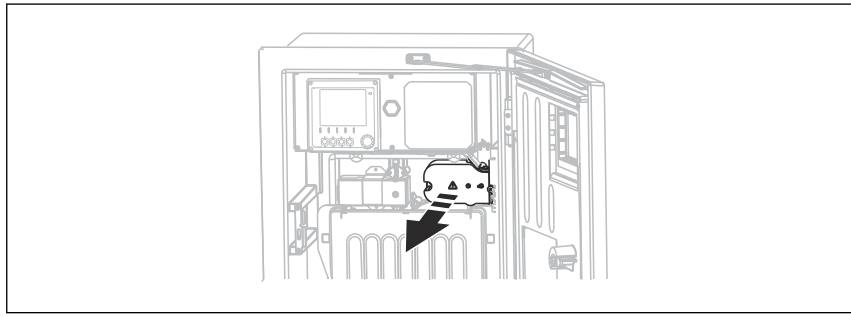
The labeling on the terminal block is selected in such a way that it applies both for 24 V versions (+ and -) and for the other device versions (L and N).

5.3 Connecting sample preparation

5.3.1 Connecting the optional cleaning valve of Liquiline System CAT810

1. Disconnect the mains plug.
2. To fold out the carrier board towards the front, proceed as described in the "Routing the cables" section .

3. Guide the cable through the cable gland.
4. **Only for order versions with G or NPT glands:**
   Replace the pre-installed M-thread cable glands with the G or NPT cable glands that are enclosed. This does not affect the M32 hose glands.
5. Comply with the instructions for protective grounding when installing the analyzer.
6. Remove the protective cover in the upper right-hand corner.



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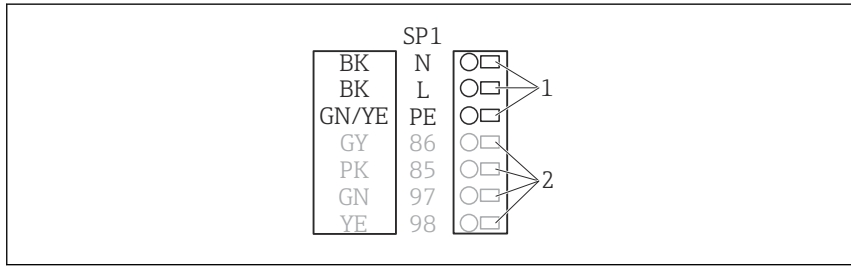
7. Connect the cleaning valve to the following plug-in terminals:



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11 Connection scheme for Liquiline System CAT810

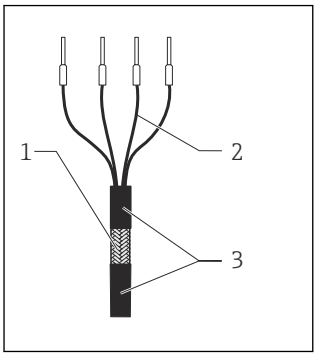
1 Liquiline System CAT810, 100 to 120 V/200 to 240 V AC
2 Are not used

8. Secure the protective cover after connecting. Make sure that no cables or hoses are jammed.
9. Use the 6 screws to secure the carrier board after connecting.

5.3.2 Connecting the optional hose heater and communication between the CAT820/ CAT860 and the analyzer

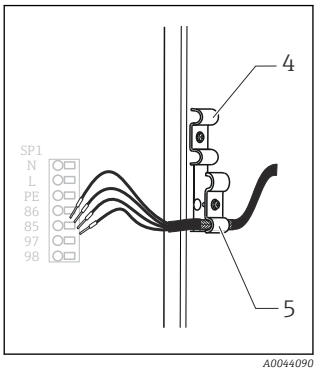
Only use terminated original cables where possible. The sensor cable, fieldbus cable and Ethernet cable must be shielded cables.

Cable sample (does not necessarily correspond to the original cable supplied)



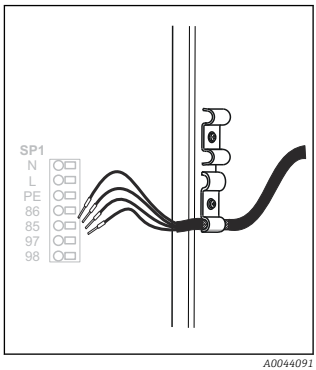
12 *Terminated cable*

1 Outer shield (exposed)
2 Cable cores with ferrules
3 Cable sheath (insulation)



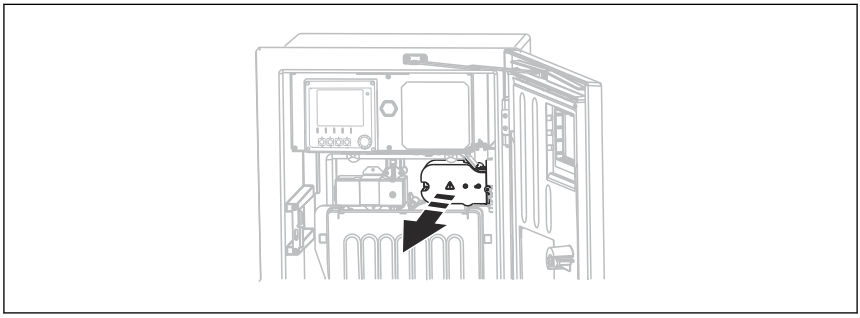
13 *Inserting the cable*

4 Cable clamp for hose heating
5 Shielding clamp for Memosens supply and power supply

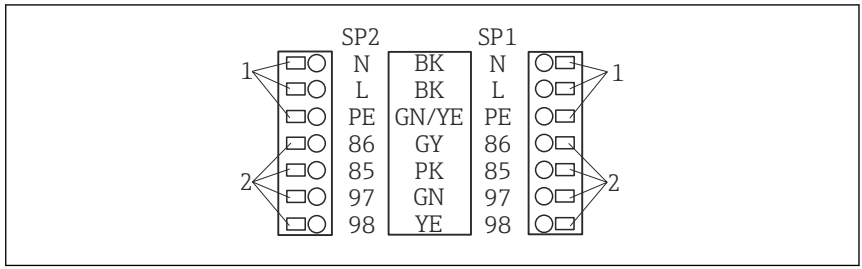


14 *Tightening the screw (2 Nm)*

1. Disconnect the mains plug.
2. To fold out the carrier board towards the front, proceed as described in the "Routing the cables" section .
3. Release a suitable hose gland on the right-hand underside of the analyzer and remove the dummy plug from the gland.
4. Guide the spiral hose through the hose gland.
5. **Order versions with G and NPT cable glands:** replace the pre-mounted M-thread cable glands with the G or NPT glands enclosed. This does not affect the M32 hose glands.
6. Comply with the instructions for protective grounding when installing the analyzer.
7. Remove the protective cover in the upper right-hand corner.



8. Route the cable in the housing in such a way that the **exposed** cable shield fits into one of the cable clamps and the cable cores can be easily routed as far as the plug-in terminals.
9. Open the cable clamp and clamp the cable in place. Then tighten the screw of the cable clamp.
10. Connect the cable or cables (depending on the version) to the following plug-in terminals:



15 Connection scheme for Liquiline System CAT820 / 860

1 Hose heater 100 to 120 V/200 to 240 V AC (optional)
2 Connections for Memosens and communication with analyzer (optional)
SP1 Sample inlet
SP2 2nd sample inlet (optional)

11. Secure the protective cover after connecting. Make sure that no cables or hoses are jammed.
12. Use the 6 screws to secure the carrier board after connecting.

5.4 Ensuring the degree of protection

Only the mechanical and electrical connections which are described in these instructions and which are necessary for the required, designated use, may be carried out on the device delivered.

► Exercise care when carrying out the work.

Individual types of protection permitted for this product (impermeability (IP), electrical safety, EMC interference immunity, Ex protection) can no longer be guaranteed if, for example :
- Covers are left off
- Different power units to the ones supplied are used
- Cable glands are not sufficiently tightened (must be tightened with 2 Nm (1.5 lbf ft) for the permitted level of IP protection)
- Unsuitable cable diameters are used for the cable glands
- Modules are not fully secured
- The display is not fully secured (risk of moisture entering due to inadequate sealing)
- Loose or insufficiently tightened cables/cable ends
- Conductive cable strands are left in the device

5.5 Post-connection check

WARNING

Connection errors

The safety of people and of the measuring point is at risk! The manufacturer does not accept any responsibility for errors that result from failure to comply with the instructions in this manual.

- Put the device into operation only if you can answer **yes** to **all** the following questions.

Device condition and specifications

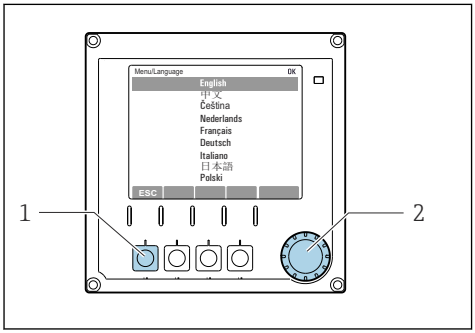
- Are the device and all the cables free from damage on the outside?

Electrical connection

- Are the mounted cables strain relieved?
- Are the cables routed without loops and cross-overs?
- Are the signal cables correctly connected as per the wiring diagram?
- Are all plug-in terminals securely engaged?
- Are all the connection wires securely positioned in the cable terminals?

6 Operation options

6.1 Structure and function of the operating menu



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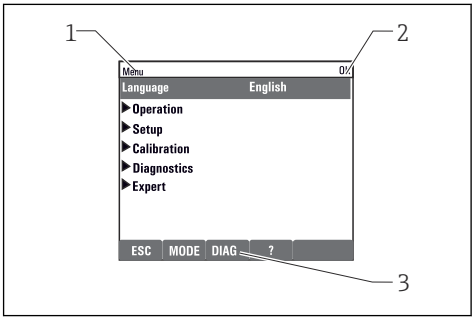
16 Display (example)

1 *Soft key (press function)*
2 *Navigator (jog/shuttle and press/hold function)*



A0040682

17 Display (example)

1 *Menu path and/or device designation*
2 *Status indicator*
3 *Assignment of soft keys, ESC: Go back, MODE: Fast access to frequently used functions, DIAG: Link to Diagnostics menu ?: Help, if available*

7 Commissioning

Before the supply voltage is applied
On account of the device design, high switch-on currents occur when the device is commissioned at low temperatures. The power value indicated on the nameplate refers to the power consumption after one minute of operation when the device is commissioned at 5 °C (41 °F).

Automatic cleaning function for the suction hose

Risk of injury from contact with very acidic cleaning solution
- ▶ Do not shorten the system intake hose.

Activities while the analyzer is in operation

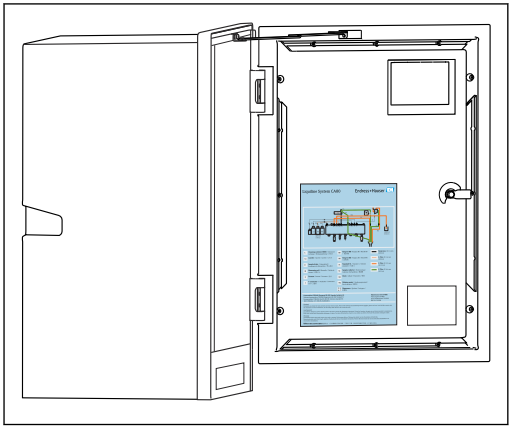
Risk of injury and infection from medium!
- ▶ Before you release any hoses, make sure that no actions, such as the pumping of sample, are currently running or are due to start shortly.
- ▶ Wear protective clothing, goggles and gloves or take other suitable measures to protect yourself.
- ▶ Wipe up any spilt reagent with a disposable tissue and rinse with clear water. Then dry the cleaned areas with a cloth.

7.1 Preparatory steps

7.1.1 Commissioning steps

1. Connect the liquid-bearing hoses of the sample supply system.→ 🖹 30
2. Check that the hoses of the sample preparation system are mounted correctly in the hose glands. It should not be possible to remove the hoses without the application of force.
3. Visually inspect all the hose connections to ensure everything is correct. Use the hose connection diagram→ 🖹 28.
4. Insert the bottles and make the most important menu settings.→ 🖹 31

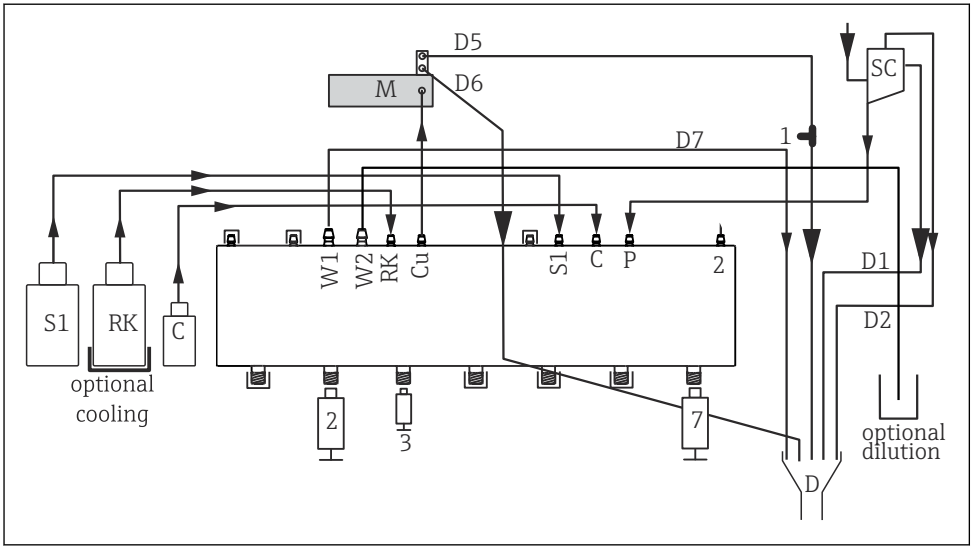
7.1.2 Hose connection diagram



18 *Hose connection diagram*

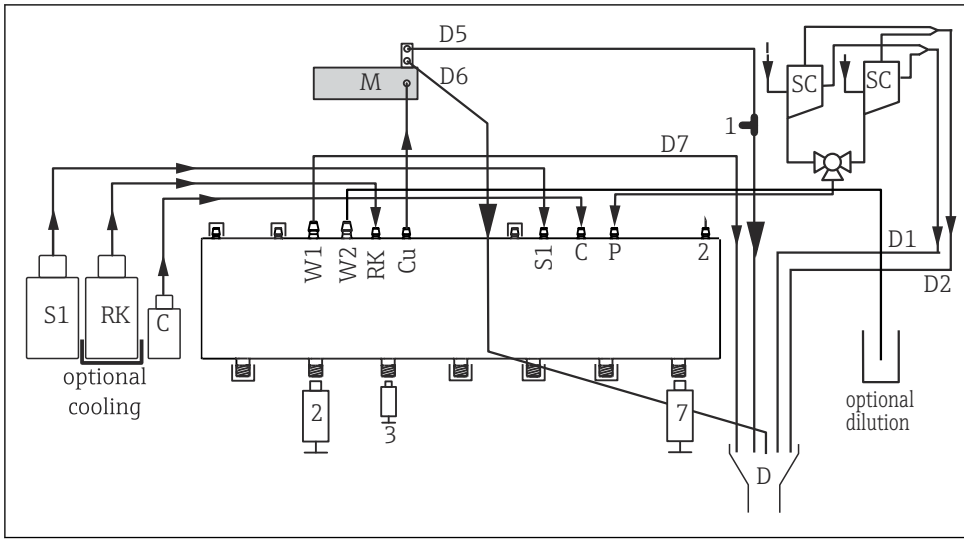
The diagrams below reflect the status at the time of issue of this documentation. The hose connection diagram that applies for your device version is provided on the inside of the door of the analyzer.

- Only connect the hoses as specified in this diagram.



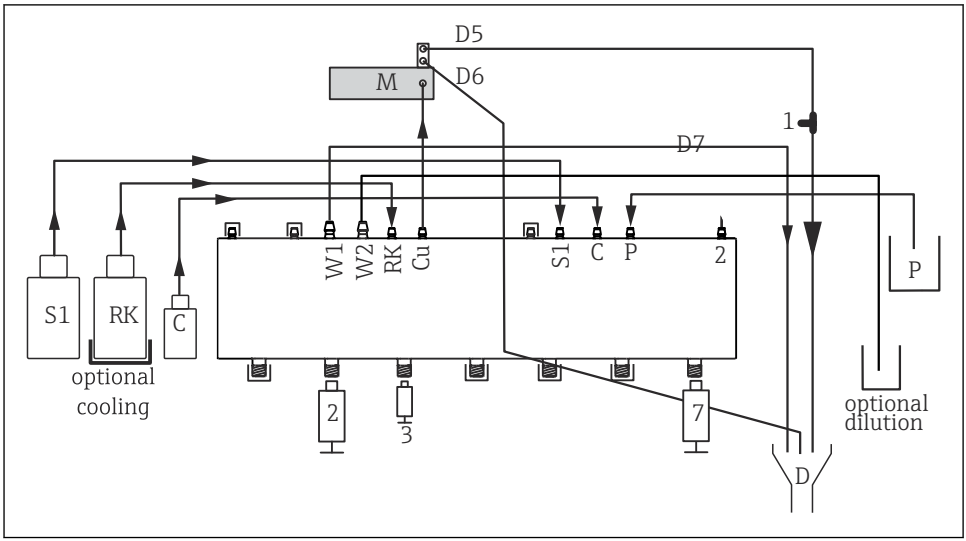
19 *Liquiline System CA80HA, single-channel device*

S1	*Standard 1*	*P*	*Sample*
RK	*Reagent RK*	*2, 3, 7*	*Dispensers*
W1	*Outlet*	*D*	*Outlet*
Cu	*Cuvette*	*SC*	*Sample collecting vessel*
M	*Photometer/measuring cell*	*C*	*Cleaner*
1	*T-piece*		



20 *Liquiline System CA80HA, two-channel device*

S1	*Standard 1*	*P*	*Sample*
RK	*Reagent RK*	*2, 3, 7*	*Dispensers*
W1	*Outlet*	*D*	*Outlet*
Cu	*Cuvette*	*SC*	*Sample collecting vessel*
M	*Photometer/measuring cell*	*C*	*Cleaner*
1	*T-piece*		



2 1 Liquiline System CA80HA, self-priming

S1	*Standard 1*	*P*	*Sample*
RK	*Reagent RK*	*2, 3, 7*	*Dispensers*
W1	*Outlet*	*D*	*Outlet*
Cu	*Cuvette*	*C*	*Cleaner*
M	*Photometer/measuring cell*	*1*	*T-piece*

7.1.3 Connecting the sample inlet hose

1. Ensure a constant and sufficient supply of sample at the installation location.
2. Connect the liquid-bearing hoses of the sample supply system.
3. Self-priming system: connect the intake hose supplied (1.5 m (4.92 ft)) to the Liquid Manager ("sample", → hose connection diagram) and guide it through the hose gland of the analyzer to the outside.
4. If present, connect the communication cable and hose heater of the sample preparation system to the analyzer.
5. Ensure that only sample that has a low solids content is supplied, as otherwise there is a risk of blockage.

7.2 Function check

⚠ WARNING

Incorrect connection, incorrect supply voltage

Safety risks for staff and device malfunctions!

- ► Check that all connections have been established correctly in accordance with the wiring diagram.
- ► Ensure that the supply voltage matches the voltage indicated on the nameplate.

⚠ WARNING

Connection errors

The safety of people and of the measuring point is under threat. The manufacturer does not accept any responsibility for errors that result from failure to comply with the instructions in this manual.

▶ Put the device into operation only if you can answer **yes** to **all** the following questions.

Device condition and specifications

▶ Are the hoses free from damage on the outside?

Visual inspection of the liquid-bearing lines

▶ Check the hose connections using the hose connection diagram.
▶ Is the suction line connected to the sample collector (if present)?
▶ Are the dispensers inserted correctly?
▶ Can the dispensers move up and down freely?
▶ Are all the hose connections leak-tight?
▶ If sample preparation is provided: has the connection been made? Are the protective hoses in the hose glands strain-relieved?
▶ If sample preparation is not connected: is the sample hose in the hose gland strain-relieved?
▶ Have the bottles with reagents, and standard been inserted and connected?

7.3 Switching on the measuring device

1. Connect the power supply.
2. Wait for the initialization to finish.

7.4 Setting the operating language

Configuring the language

1. Press the soft key: **MENU**.
2. Set your language in the top menu item.
   ↳ The device can now be operated in your chosen language.

7.5 Configuring the measuring device

7.5.1 Basic setup analyzer

Making basic settings

1. Switch to the menu **Setup/Basic setup analyzer**.
   ↳ Make the following settings.

- Device tag
  Give your device any name of your choice (max. 32 characters).
- Set date
  Correct the set date if necessary.
- Set time
  Correct the set time if necessary.

2. Insert the bottles and activate the bottles used in the menu: **Bottle insertion/Bottle selection**.
3. Check the concentration of the calibration standard used: **Calibration/Settings/ Nominal concentration**.
4. Optionally, also change the measuring interval: **Measurement/Measuring interval**.
   ↳ All the other settings can be left in the default factory settings for the time being.
5. Return to the measuring mode: press and hold the soft key for **ESC** for at least one second.
   ↳ Your analyzer now works with your general settings. Optionally connected sensors use the factory settings of the specific sensor type and the individual calibration settings that were last saved.

If you want to already configure additional input and output parameters in the **Basic setup analyzer**:

▶ Configure the current outputs, relays, limit switches and device diagnostics with the following submenus.

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