

Operation Manual

# Pure Chromatography C-900



## **Imprint**

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# 1 About this document

This operation manual is applicable for all variants of the instrument. Read this operation manual before operating the instrument and follow the instructions to ensure safe and trouble-free operation. Keep this operation manual for later use and pass it on to any subsequent user or owner.

BÜCHI Labortechnik AG accepts no liability for damage, faults and malfunctions resulting from not following this operation manual.

If you have any questions after reading this operation manual:

- ▶ Contact BÜCHI Labortechnik AG Customer Service.

<https://www.buchi.com/contact>

## 1.1 Mark-ups and symbols



### NOTE

This symbol draws attention to useful and important information.

- ☑ This character draws attention to a requirement that must be met before the instructions below are carried out.
- ▶ This character indicates an instruction that must be carried out by the user.
- ⇒ This character indicates the result of a correctly carried out instruction.

Mark-up	Explanation
<i>Window</i>	Software Windows are marked-up like this.
<i>Tab</i>	Tabs are marked-up like this.
<i>Dialog</i>	Dialogs are marked-up like this.
<i>[Button]</i>	Buttons are marked-up like this.
<i>[Field names]</i>	Field names are marked-up like this.
<i>[Menu / Menu item]</i>	Menus or menu items are marked-up like this.
<b>Status</b>	Status is marked-up like this.
<b>Signal</b>	Signals are marked-up like this.

## 1.2 Trademarks

Product names and registered or unregistered trademarks that are used in this document are used only for identification and remain the property of the owner in each case.

## 1.3 Connected instruments

In connection to this operational manual, follow the instructions and specifications in the documentation for the connected instruments.

This operational manual describes the instrument in connection with its options. Descriptions referring to these options are only applicable if they are installed.



### NOTE

Deviating interface due to options

The interface in this operational manual is shown with all connected options. Depending on the connected options, the interface may deviate slightly.

## 2 Safety

### 2.1 Proper use

The instrument is designed and built for laboratories.

The instrument pumps solvents through a cartridge and is controlled by software.



#### **CAUTION**

##### **Material damage from tipping over**

The instrument can be damaged when not handled with care

- ▶ Handle the instrument with care.
- ▶ Do not hit the instrument.

### 2.2 Use other than that intended

The use of the instrument other than described in proper use and specified in technical data is use other than that intended.

The operator is responsible for damages or hazards that are caused by use other than that intended.

Especially the following uses are not permitted:

- Use of the instrument with non-BUCHI instruments.
- Use of the instrument in overpressure situations.
- Use of the instrument with samples, which can explode or inflame (example: explosives, etc.) due to shock, friction, heat or spark formation.
- Use of the instrument with solvents containing peroxides.
- Use of the instrument in areas which require explosion-safe instruments.
- Use of the instrument without ventilation or fume hood.
- Use of the instrument with toxic substances without appropriate safety measures.

### 2.3 Staff qualification

Unqualified persons are unable to identify risks and are therefore exposed to greater dangers.

The instrument may only be operated by suitably qualified laboratory staff.

These operating instructions are aimed at the following target groups:

#### **Users**

Users are persons that meet the following criteria:

- They have been instructed in the use of the instrument.
- They are familiar with the contents of these operating instructions and the applicable safety regulations and apply them.
- They are able on the basis of their training or professional experience to assess the risks associated with the use of the instrument.

## Operator

The operator (generally the laboratory manager) is responsible for the following aspects:




- The instrument must be correctly installed, commissioned, operated and serviced.
- Only suitably qualified staff may be assigned the task of performing the operations described in these operating instructions.
- The staff must comply with the local applicable requirements and regulations for safe and hazard-conscious working practices.
- Safety-related incidents that occur while using the instrument should be reported to the manufacturer (quality@buchicom).

## BUCHI service technicians

Service technicians authorized by BUCHI have attended special training courses and are authorized by BÜCHI Labortechnik AG to carry out special servicing and repair measures.

## 2.4 Warning symbols

The following warning symbols are displayed in this operation manual or on the instrument.

Symbol	Meaning
	General warning
	Instrument damage
	Corrosive

## 2.5 Residual risks

The instrument has been developed and manufactured using the latest technological advances. Nevertheless, risks to persons, property or the environment can arise if the instrument is used incorrectly.

Appropriate warnings in this manual serve to alert the user to these residual dangers.

### 2.5.1 Dangerous solvents

The use of the instrument with solvents can produce dangerous vapors that are hazardous to health.

Direct contact with solvents and the inhalation of solvents can cause burns or eye injury.

- ▶ Only operate the instrument wearing safety goggles, protective gloves resistant to the solvent and protective clothing.
- ▶ Only operate the instrument in well ventilated areas.
- ▶ Do not inhale any vapors produced during processing.
- ▶ Do not process any unknown fluids.
- ▶ Observe the safety data sheets for all substances used.
- ▶ If solvents leak, check the connections and replace them if necessary.

### 2.5.2 Leaking liquids

Solvent lines and fittings can break during operation.

Fittings that are not secured tightly can cause leakage.



Incorrectly installed solvent lines can cause leakage. Leaking water or moisture can lead to a short circuit.

The packaging for transport is designed to prevent condensation.

- ▶ Make sure that the fittings are tight during installation.
- ▶ Frequently check the solvent lines and fittings.
- ▶ Immediately replace broken solvent lines and fittings before continuing operation.

### 2.5.3 Aggressive solvents

Leaving aggressive solvents such as dichloromethane in the chromatography system can cause instrument damage.

- ▶ Rinse the instrument with isopropanol after the use of aggressive solvents.
- ▶ Do not leave aggressive solvents inside the chromatography system.

### 2.5.4 Damaged front cover

A damaged front cover can cause it to no longer hold in position.

- ▶ Do not operate the instrument if it shows signs of damage.
- ▶ Only operate the instrument in good condition.

## 2.6 Personal protective equipment

Depending on the application, hazards due to heat and/or corrosive chemicals may arise.

- ▶ Always wear appropriate personal protective equipment such as safety goggles, protective clothing and gloves.
- ▶ Make sure that the personal protective equipment meets the requirements of the safety data sheets for all chemicals used.

## 2.7 Modifications

Unauthorized modifications can affect safety and lead to accidents.

- ▶ Use only genuine BUCHI accessories, spare parts and consumables.
- ▶ Carry out technical changes only with prior written approval from BUCHI.
- ▶ Only allow changes to be made by BUCHI service technicians.

BUCHI accepts no liability for damage, faults and malfunctions resulting from unauthorized modifications.

## 3 Product description

### 3.1 Description of function

Pure Chromatography C-900 is a triple piston pump module to pump solvents during a chromatography process. The interface on the instrument guides through the operating process while allowing to make adjustments and control the operation.

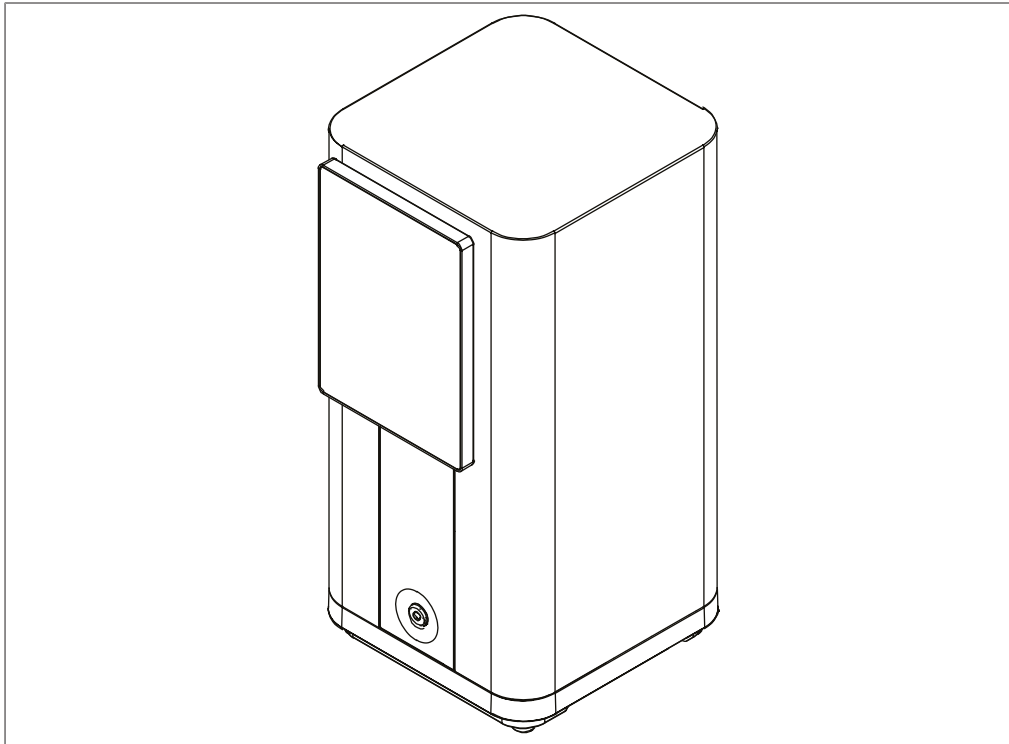


Fig. 1: Pure Chromatography C-900

The instrument works within a modular chromatography system designed to purify complex samples by flash chromatography. Flash chromatography has the ability to separate gram sized samples in a short period of time.

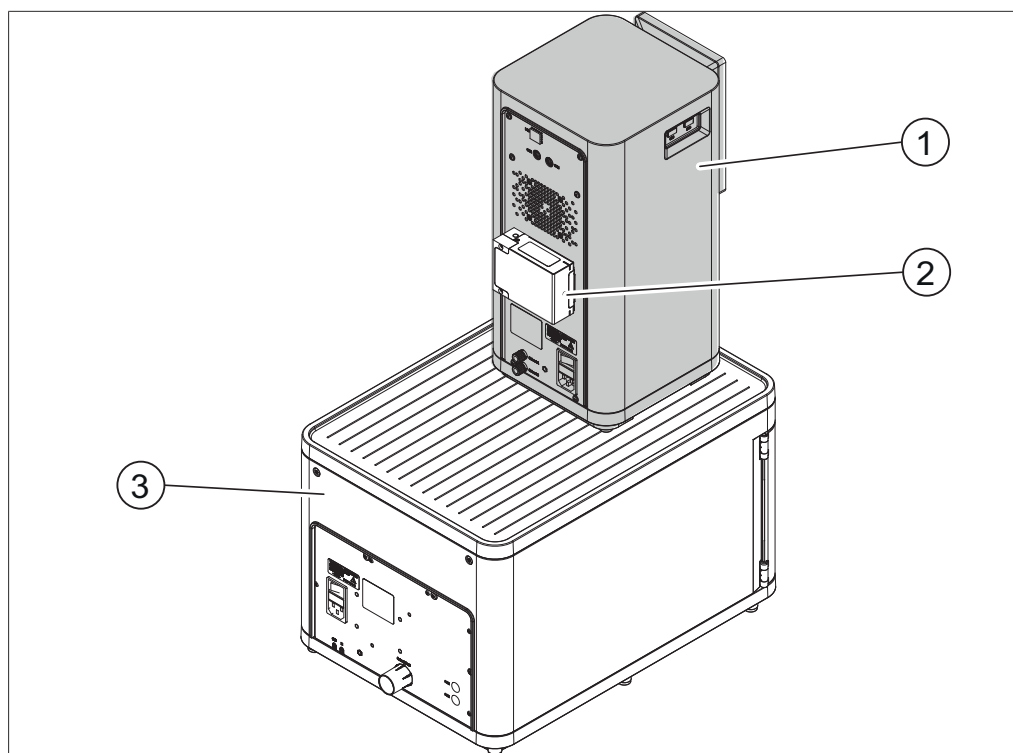


Fig. 2: Chromatography system (rear view)

- 1 Pure Chromatography C-900      2 Pure UV Detector (optional)  
3 Pure Fraction Collector (optional)



**NOTE**

Pure UV Detector can only operate in conjunction with an appropriate Pure system able to control Pure UV Detector (e.g. Pure Chromatography C-900). The complete upgrade additionally includes Pure Fraction Collector.

The chromatography system allows:

- Using two different solvents
- Injecting liquid or solid samples
- Separating samples on a cartridge
- Identifying the compounds by UV detection
- Collecting the desired fractions

Please refer to the separate operation manuals for additional information on the other instruments.

## 3.2 Front view

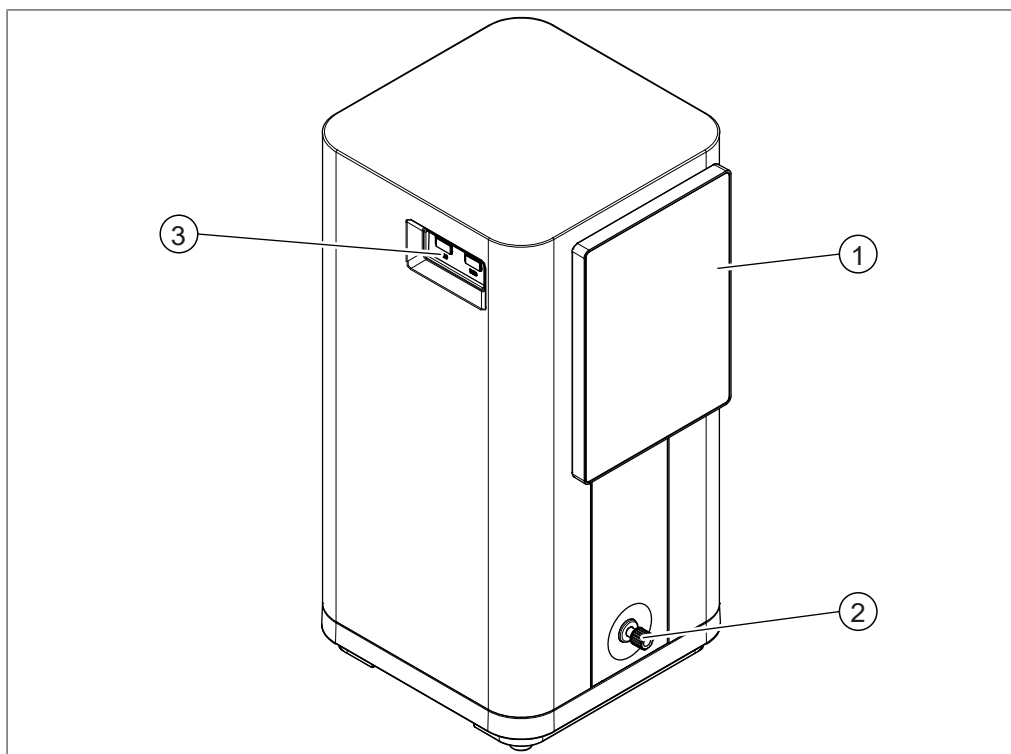


Fig. 3: Front view

- 1 Interface
- 3 USB ports

- 2 Solvent line outlet

### 3.3 Rear view

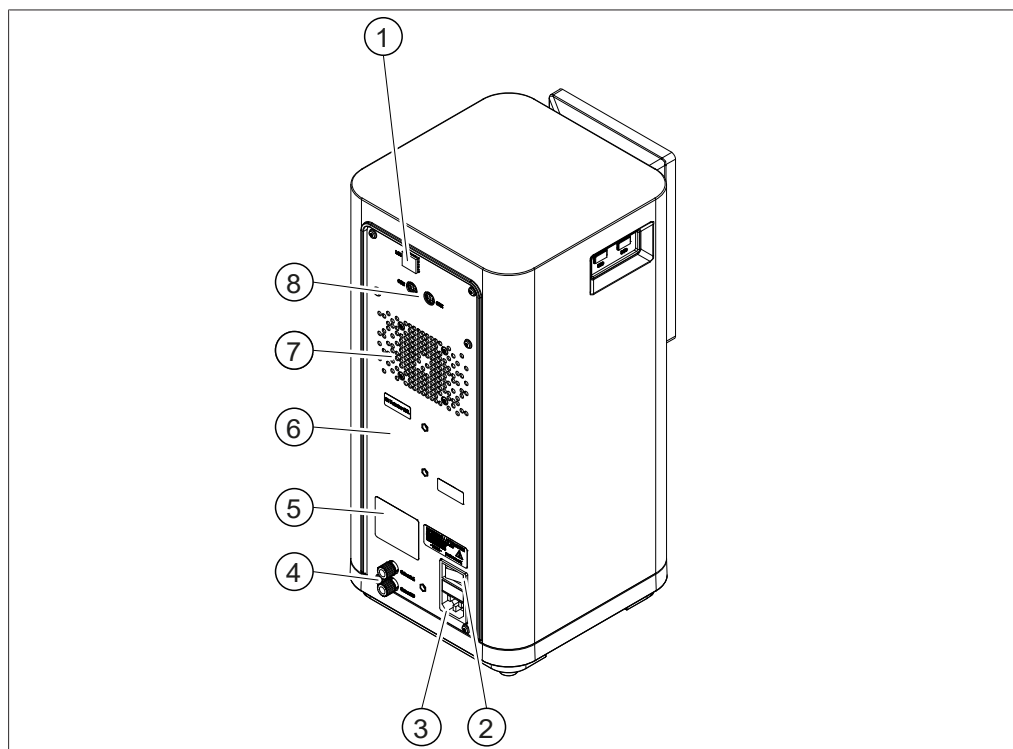


Fig. 4: Rear view

- |   |                         |   |  |
|---|-------------------------|---|--|
| 1 | LAN port                | 2 | On/Off switch                          |
| 3 | Power supply connection | 4 | Solvent line inlets (A and B)          |
| 5 | Type plate              | 6 | Pure UV Detector installation position |
| 7 | Ventilation slot        | 8 | Signal connections                     |

### 3.4 Scope of delivery



#### NOTE

The scope of delivery depends on the configuration of the purchase order.

Accessories are delivered as per the purchase order, order confirmation, and delivery note.

### 3.5 Type plate

The type plate identifies the instrument. The type plate is located at the rear of the instrument.

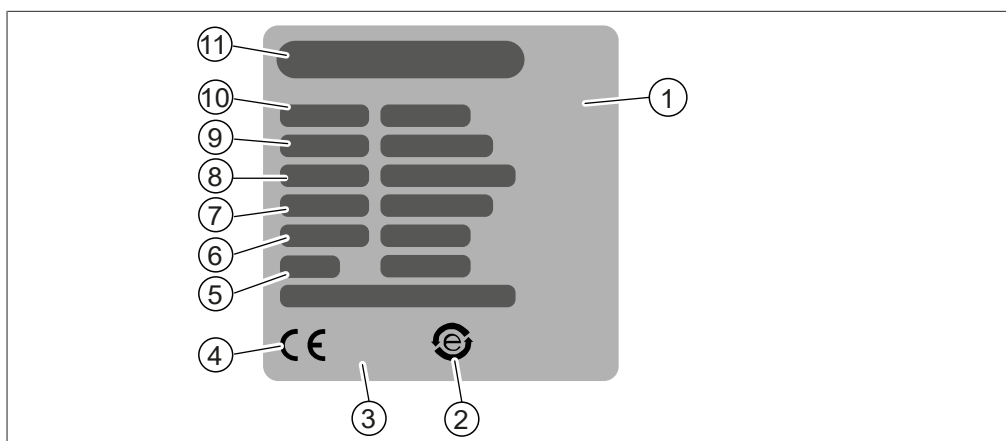


Fig. 5: Type plate

- |    |   |    |                                    |
|----|---|----|------------------------------------|
| 1  | Initial product code                              | 2  | Symbol for "electronics recycling" |
| 3  | Symbol for "Do not dispose of as household waste" | 4  | Symbol for CE conformity           |
| 5  | Year of manufacture                               | 6  | Power consumption maximum          |
| 7  | Frequency   | 8  | Input voltage range                |
| 9  | Serial number                                     | 10 | Instrument name                    |
| 11 | Company name and address                          |    |                                    |

## 3.6 Technical data

### 3.6.1 Pure Chromatography C-900

Specification	Value
Dimensions (W x D x H)	200 x 200 x 410 mm
Weight	10 kg
Power consumption	90 W
Supply voltage	100 – 240 VAC ± 10%
Frequency	50/60 Hz
Fuse	2 A
Overvoltage category	II
Pollution degree	2
IP code	20
Solvents	2
Gradient	Binary
Max. operating pressure	50 bar
Pump	Flash, 3-piston, pulsation-free, self-priming
Flow rate	0 – 300 mL/min
Flow rate reproducibility	± 1% at 5 – 250 mL/min
Gradient accuracy	± 1%
Hose connections	1 UNF 1/4"-28 2 UNF 5/16"-24
Safety sensor	Pressure
Sample injection	Liquid (manual) or solid loading

<b>Specification</b>	<b>Value</b>
Cartridge installation	4 – 330 g at instrument > 330 g external
Separation	Gravity and anti-gravity flow
Modularity	Yes
Interfaces	2 BUCHI standard communication ports (COM) 2 USB ports 1 Ethernet port
Screen	7" touch screen
Software languages	12 languages (en, de, fr, es, it, pt, ru, zh, ja, ko, id, th)
Wifi	Yes
Export/Import	Data/Run/Method by USB stick

### 3.6.2 Ambient conditions

For indoor use only.

<b>Specification</b>	<b>Value</b>
Max. altitude above sea level	2,000 m
Ambient and storage temperature	5 – 40 °C
Maximum relative humidity	80% for temperatures up to 31 °C decreasing linearly to 50% relative humidity at 40 °C

### 3.6.3 Materials

#### Pump

<b>Component</b>	<b>Material</b>
Machined parts	Stainless steel 1.4305, 1.4404, aluminum
Metal lines	Stainless steel 1.4404
Plastic lines	FEP (Fluorinated ethylene propylene)
Pump pistons	Ceramic
Piston sealings	PTFE (Polytetrafluoroethylene) / Carbon blend
Piston guide	PTFE (Polytetrafluoroethylene) blend
Sealings, rubber parts	FFKM (Perfluoroelastomer)

#### Pure Chromatography C-900

<b>Component</b>	<b>Material</b>
Housing	PBT (Polybutylene terephthalate), PUR (Polyurethane) coated
Touch screen	Aluminum coated, glass
Metal lines	Stainless steel 1.4404
Machined parts	Stainless steel 1.4305

### 3.6.4 Installation site

- The installation site has enough space that cables / tubes can be routed safely.
- The installation site allows that the power supply can be disconnected at any time in case of an emergency.
- The installation site has no obstacles (e.g. water taps, drains, etc.).
- The installation site is not exposed to external thermal loads, such as direct solar radiation.
- The installation site meets the requirements for the connected instruments. See related documentation.
- The installation site meets the requirements of the safety data sheets for all solvents and samples used.
- The installation site meets the safety requirements. See Use other than intended.
- The installation site meets the specifications according to the technical data (e.g. weight, dimension, etc.). See Chapter 3.6 "Technical data", page 14.
- The installation site and the instrument meet the requirements for the EMC environment, Basic electromagnetic environment / Emission Class B.



## 4 Transport and storage

### 4.1 Transport



#### NOTICE

##### Risk of breakage due to incorrect transportation

- ▶ Make sure that all parts of the instrument are safely packed in such a way as to prevent breakage, ideally in the original box.
- ▶ Avoid sharp movements during transit.

- 
- ▶ After transportation, check the instrument for damage.
  - ▶ Damage that has occurred in transit should be reported to the carrier.
  - ▶ Keep packing for future transportation.

### 4.2 Storage

- ▶ Make sure that the ambient conditions are complied with (see Chapter 3.6 "Technical data", page 14).
- ▶ Wherever possible, store the instrument in its original packaging.
- ▶ After storage, check the instrument, all seals and tubing for damage and replace if necessary.

## 5 Installation

### 5.1 Before installation



#### NOTICE

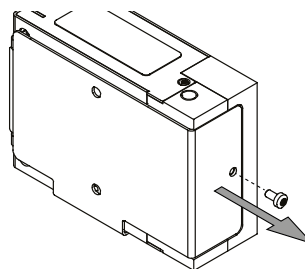
##### Risk of instrument damage from switching it on too early

Switching on the instrument too early after transportation can cause damage. Moisture can lead to a short circuit and damage the instrument.

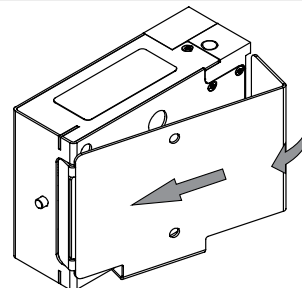
- ▶ Climatize the instrument after transportation.
- ▶ Switch on the air conditioning before installing the instrument.

### 5.2 Installing the Pure UV Detector

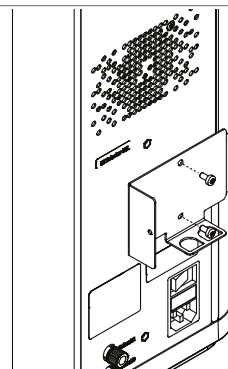
- ▶ Loosen the screw on the cover.



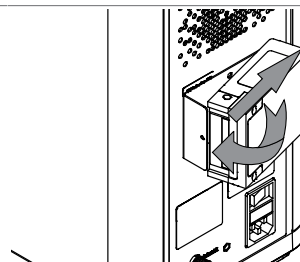
- ▶ Remove the cover.



- ▶ Mount the cover on the back of the Pure Chromatography C-900 with two screws.



- ▶ Place the Pure UV Detector back into the cover.
- ▶ Tighten the screw on the cover again.



### 5.3 Installing the Pure Fraction Collector

For space efficiency, it is recommended to place the Pure Chromatography C-900 on the top surface of the Pure Fraction Collector.

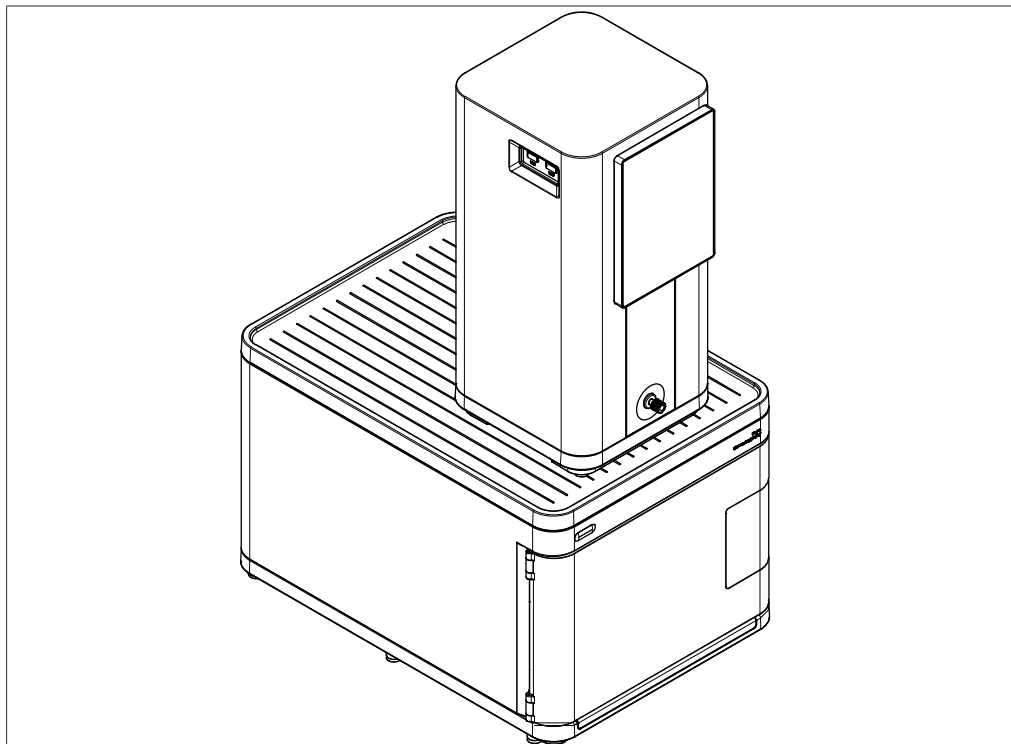


Fig. 6: Installing the Pure Fraction Collector



#### ⚠ CAUTION

##### Bottles on top of Pure Fraction Collector

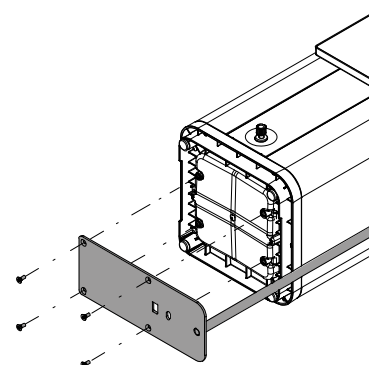
Solvent or waste bottles placed on top of Pure Fraction Collector can tip over.

- ▶ Only place bottles on top of Pure Fraction Collector at your own risk.

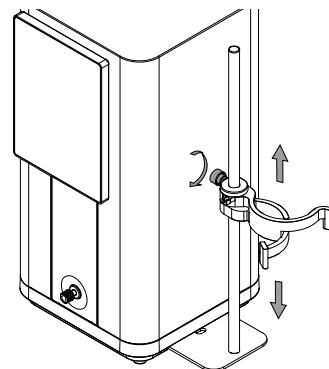
### 5.4 Installing the cartridge holder

An optional cartridge holder can be installed.

- ▶ Carefully place the instrument on a straight surface.
- ▶ Mount the cartridge holder onto the bottom with four screws.



- ▶ Place the instrument upright again.
- ▶ Loosen the rotary knob.
- ▶ Move the clamp to the desired position.
- ▶ Tighten the rotary knob again.



## 5.5 Establishing solvent connections



### NOTE

Preinstalled solvent lines

The solvent lines on the Pure Fraction Collector are already installed upon delivery.



### CAUTION

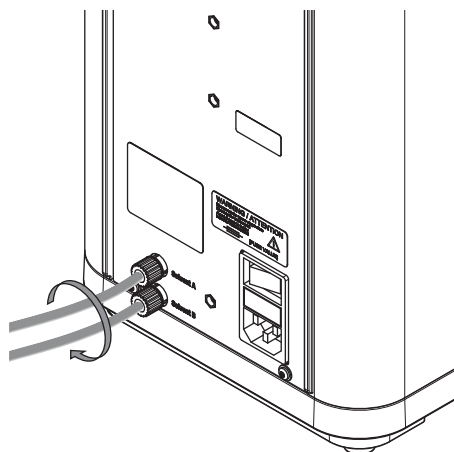
**Risk of damage to the flow cell of the UV detector.**

The back pressure regulation valve installed in the wrong direction can cause a damage the flow cell.

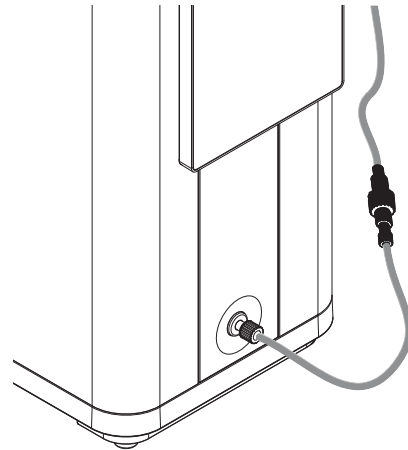
- ▶ Make sure the back pressure regulation valve is installed with the arrow pointing upwards.

Precondition:

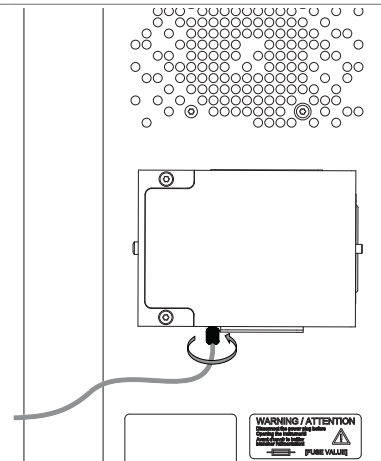
- The instruments are not connected to the power supply.
- ▶ Attach the two solvent lines A and B to the Pure Chromatography C-900.
- ▶ Place the other ends of the solvent lines into the solvent bottles.



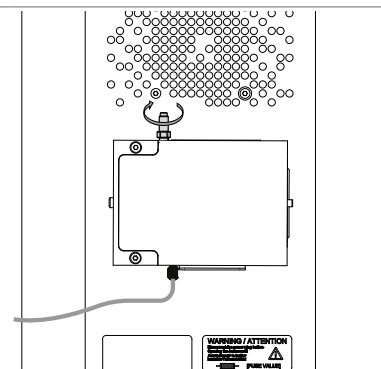
- ▶ Attach the solvent line from the front of the Pure Chromatography C-900 to the other solvent line.



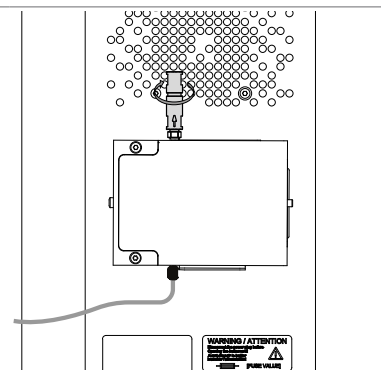
- ▶ Attach the solvent line from the bypass to the inlet on the Pure UV Detector.



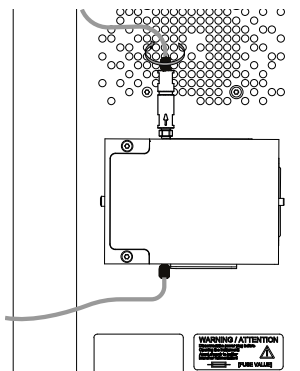
- ▶ Install the male union.



- ▶ Install the back pressure regulation valve.
- ▶ Make sure the arrow on the valve points upwards.



- ▶ Attach the solvent line (IN) from the Pure Fraction Collector to the outlet of the back pressure regulation valve.



## 5.6 Establishing electrical connections



### NOTICE

#### Risk of instrument damage because of not suitable power supply cables.

Not suitable power supply cables can cause bad performance or an instrument damage

- ▶ Use only BUCHI power supply cables.



### NOTE

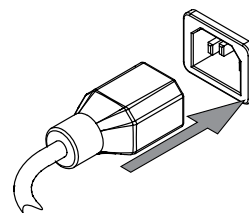
Instruments must only be connected/disconnected under certain circumstances.

- the instrument is powered off
- the instrument is in idle state (not during a Run, Priming or Cleaning procedure or during Manual control)
- ▶ Connect/disconnect Pure UV Detector or Pure Fraction Collector from Pure Chromatography C-900 using a BUCHI cable.

### 5.6.1 Establishing power supply connections

Precondition:

- The electrical installation is as specified on the type plate of each instrument.
- The electrical installation is equipped with a proper grounding system.
- The electrical installation is equipped with suitable fuses and electrical safety features.
- The installation site is as specified in the technical data of each instrument.
- ▶ Connect the power supply cable to the Pure Chromatography C-900. See Configuration.
- ▶ Connect the mains plug to an own mains outlet socket.
- ▶ Connect the power supply cable to the Pure Fraction Collector. See separate operation manual for configuration.
- ▶ Connect the mains plug to an own mains outlet socket.



## 5.6.2 Establishing signal connections

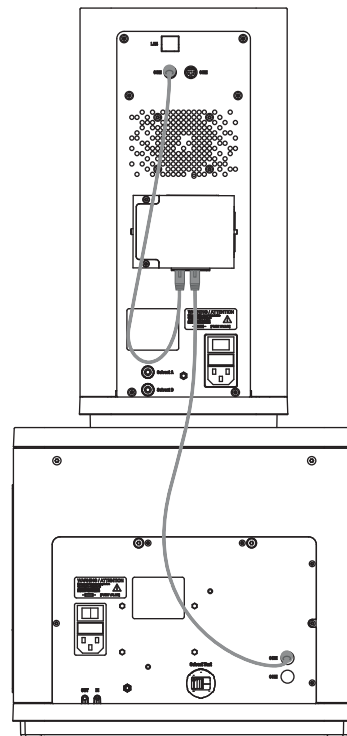


### NOTE

Connected instruments

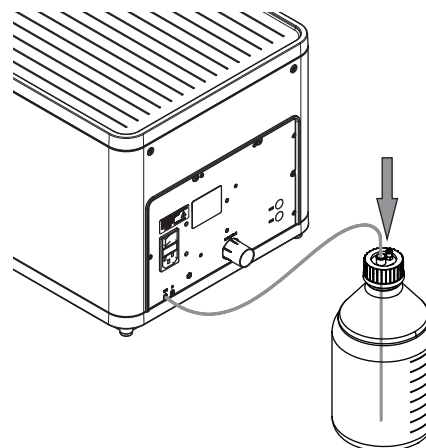
Once the instruments are installed and connected, they are ready for use. No further software configuration is required.

- ▶ Connect the signal cable between the Pure Chromatography C-900 and the Pure UV Detector.
- ▶ Connect the signal cable between the Pure UV Detector and the Pure Fraction Collector.



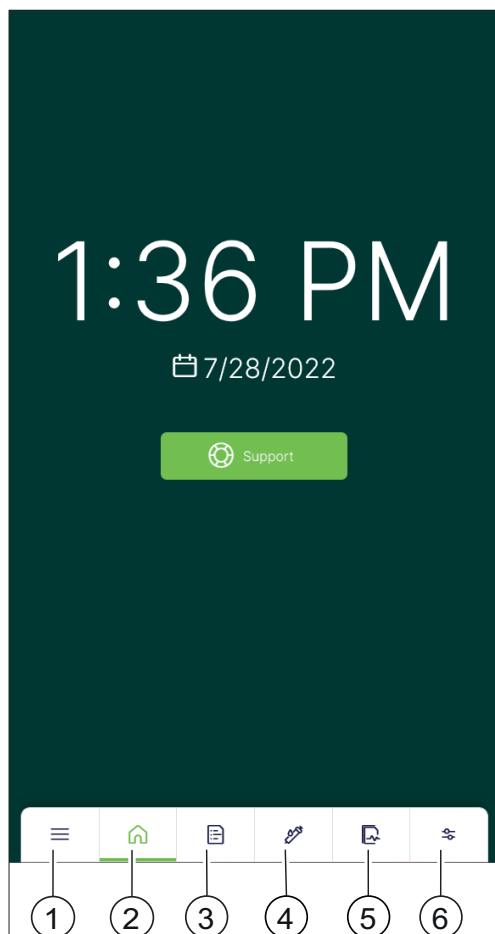
## 5.7 Installing the waste line






Place the waste line from the solvent line outlet (OUT) on the Pure Fraction Collector into the waste bottle.




## 6 Software

### 6.1 Navigation bar

















No.	Icon	Description
1		<i>System</i> menu To adjust system settings and view system information. See Chapter 6.4 "System menu", page 26.
2		<i>Home</i> menu Startup menu with support button. See Chapter 9.1 "Sending a log file to BUCHI customer service", page 47.
3		<i>Methods</i> menu To view the method library, create and edit methods. See Chapter 7.4 "Performing a separation using a method", page 33.
4		<i>Separation parameters</i> menu To adjust parameters for a separation. See Chapter 7.5 "Performing a separation manually", page 34.
5		<i>Runs</i> menu To view information on carried out runs.



No.	Icon	Description
6		<i>Configuration menu</i> To configure the instrument. See Chapter 6.6 "Configuration menu", page 28.

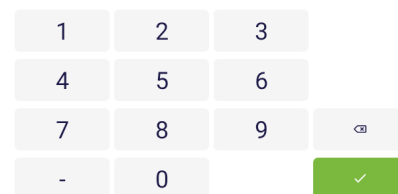
## 6.2 Function buttons

Icon	Description	Explanation
	<i>[Start]</i>	To start a separation.
	<i>[Pause]</i>	To pause a separation.
	<i>[Skip]</i>	To skip an action.
	<i>[Options]</i>	To open the options menu.
	<i>[Activate/Deactivate]</i>	To activate/deactivate a function.
	<i>[Back]</i>	To go back to the previous screen.
	<i>[Full screen]</i>	To view a panel in full screen mode.
	<i>[Add]</i>	To add a new item.
	<i>[Close]</i>	To close a dialog.
	<i>[Reset]</i>	To reset parameters to the default values.
	<i>[Sort]</i>	To sort data (ascending/descending).
	<i>[Load]</i>	To load data.
	<i>[Favorite]</i>	To add an item to the favorites list. Favorites appear at the top of a selection list.
	<i>[Confirm]</i>	To confirm an input.




## 6.3 Entering values

Numbers and text can be entered directly on the interface.

- ▶ Tap an entry field.
- ⇒ An input dialog appears.
- ▶ Enter the value.
- ▶ Confirm the value.



## 6.4 System menu

Icon	Description	Explanation
	<i>Settings</i>	To adjust the instrument settings. See Chapter 6.5 "Settings", page 26.
	<i>Logs</i>	Shows the notification history.
	<i>About</i>	Shows legal information.

## 6.5 Settings

### 6.5.1 Changing the system settings

#### Navigation path

→  →  → [System]

#### Changing the home screen background

Setting	Explanation
[Background image]	To change the background image of the home menu.

The following graphic formats are possible:

- .png
- .jpg

Precondition:

- A USB stick with a graphic is connected to the instrument.
- ▶ Navigate to the [System] submenu according to the navigation path.
- ▶ Select [Home Screen].
- ▶ Adjust the settings as desired.

#### Changing the display settings

Setting	Explanation
[Dark mode]	To switch dark mode on/off (light text on dark background).
[Brightness]	To change the display brightness.
[Dimmer]	To change the time after which the display brightness reduces.

- ▶ Navigate to the [System] submenu according to the navigation path.
- ▶ Select [Display].
- ▶ Adjust the settings as desired.

#### Changing the sound settings

Setting	Explanation
[System volume]	To change the system volume.
[Keyboard clicks]	To switch audible keyboard clicks on/off.

- ▶ Navigate to the [System] submenu according to the navigation path.
- ▶ Select [Sound].
- ▶ Adjust the settings as desired.

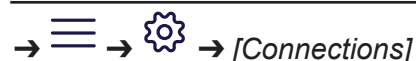
## Changing date and time

Setting	Explanation
<i>[Automatic date and time]</i>	Automatically sets the date and time on the instrument.
<i>[Set date]</i>	To set the date when <i>[Automatic date and time]</i> is switched off.
<i>[Select time zone]</i>	To select the time zone when <i>[Automatic date and time]</i> is switched off.

- ▶ Navigate to the *[System]* submenu according to the navigation path.
- ▶ Select *[Date and Time]*.
- ▶ Adjust the settings as desired.

## 6.5.2 Changing the connection settings

### Navigation path



### Wifi

Setting	Explanation
<i>[Enable]</i>	To enable/disable Wifi.
<i>[Bonded network]</i>	To set up the instrument as a hotspot.
<i>[Available networks]</i>	Available networks for Wifi connection.

- ▶ Navigate to the *[Connections]* submenu according to the navigation path.
- ▶ Select *[Wifi]*.
- ▶ Adjust the settings as desired.

### Personal hotspot

Setting	Explanation
<i>[Enable]</i>	To enable/disable the instrument's hotspot.
<i>[Name]</i>	To set a name for the instrument's hotspot.
<i>[Password]</i>	To set a password for the instrument's hotspot.

- ▶ Navigate to the *[Connections]* submenu according to the navigation path.
- ▶ Select *[Personal Hotspot]*.
- ▶ Adjust the settings as desired.

## 6.5.3 Customizing settings

### Navigation path



### Customizing the report

Setting	Explanation
<i>[Company logo]</i>	To change the company logo used in reports.
<i>[Company address]</i>	To change the company address used in reports.

Precondition:

- If necessary, a USB stick with a graphic is connected to the instrument.
- ▶ Navigate to the *[Customize]* submenu according to the navigation path.
- ▶ Select *[Report]*.
- ▶ Adjust the settings as desired.

### Localizing the unit and language settings

Setting	Explanation
<i>[Units]</i>	To change the measurement units.
<i>[Language]</i>	To change the interface language.

- ▶ Navigate to the *[Customize]* submenu according to the navigation path.
- ▶ Select *[Localization]*.
- ▶ Adjust the settings as desired.

## 6.6 Configuration menu

### Configuration

Setting	Explanation
<i>[Basic infos]</i>	To view instrument information such as the model, serial number and software version.
<i>[Configuration]</i>	To view information about the connected instruments.

### Maintenance

Setting	Explanation
<i>[System maintenance]</i>	To perform a cleaning or priming run. See Chapter 8.4 "Cleaning the solvent lines and nozzle", page 45 and Chapter 7.2.1 "Priming the solvent lines", page 29.
<i>[System backup]</i>	To perform a backup. See Chapter 8.5 "Creating a system backup", page 46.
<i>[Manual control]</i>	To switch the instrument to manual control. See Chapter 7.10 "Operating in manual control", page 40.

### Status

Setting	Explanation
<i>[Operational statuses]</i>	To view the operational status of the instrument.
<i>[Peripherals]</i>	To view the connection status to peripherals (Wifi, Ethernet).

## 7 Operation

### 7.1 Switching the instruments on/off



#### NOTE

The Pure UV Detector switches on automatically.

#### Switching the instruments on

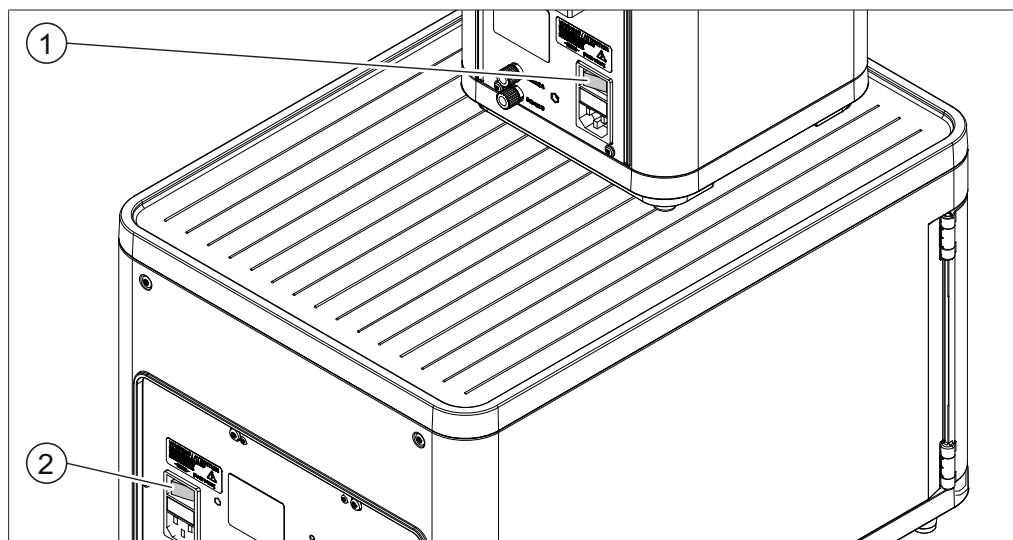


Fig. 7: Main switches

- |   |                                       |   |                                     |
|---|---------------------------------------|---|-------------------------------------|
| 1 | Main switch Pure Chromatography C-900 | 2 | Main switch Pure Fraction Collector |
|---|---------------------------------------|---|-------------------------------------|

- ▶ Switch on the On/Off switch on the Pure Chromatography C-900.
- ▶ Switch on the On/Off switch on the Pure Fraction Collector.

#### Switching the instruments off

- ▶ Switch off the On/Off switch on the Pure Chromatography C-900.
- ▶ Switch off the On/Off switch on the Pure Fraction Collector.

## 7.2 Preparing the system

### 7.2.1 Priming the solvent lines

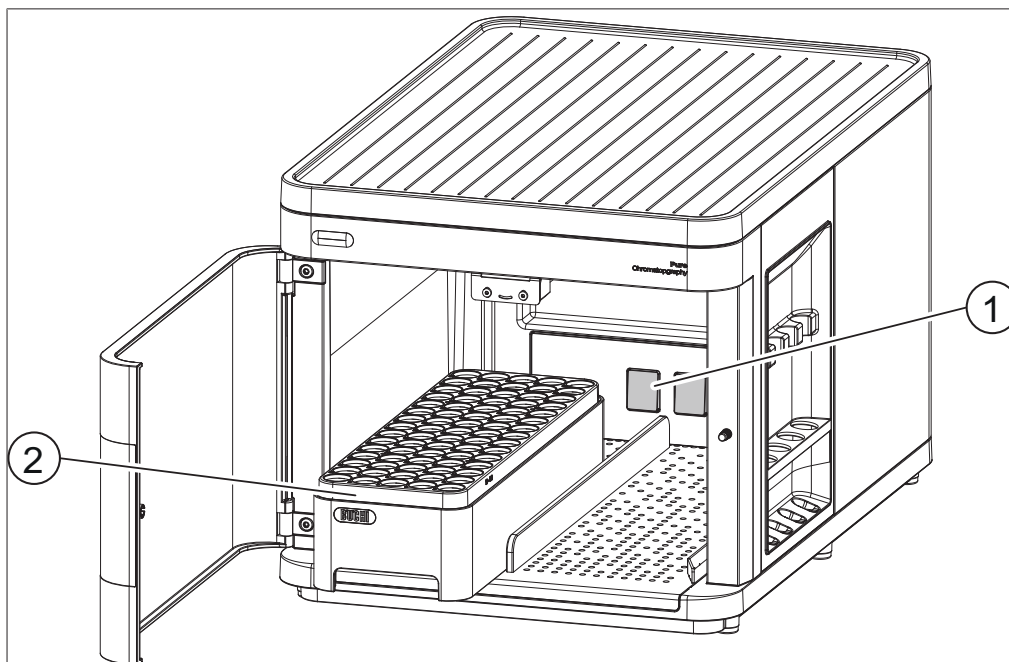
#### Navigation path

→ → → *System Maintenance* → *Priming*

The solvent lines have to be primed with the solvents that will later be used during a separation.

- ▶ Navigate to the *Priming* dialog according to the navigation path.
- ▶ Tap the *[Run]* button.
- ▶ Follow the instructions on the interface to perform the procedure.

## 7.2.2 Installing racks



1 Switch



2 Rack

- ▶ Place the tubes in the rack.
- ▶ Open the protective door.
- ▶ Place the rack inside.
- ▶ Make sure that the rack pushes against the switch at the back.
  - ⇒ A selection dialog appears with a list of racks.
- ▶ Tap the **[Load]** button next to the appropriate rack.
- ▶ Optional: To install a second rack, repeat all previous steps.
- ▶ Close the protective door.

## 7.2.3 Switching on/off the fraction collection light

When working with light-sensitive substances, the light inside the Pure Fraction Collector can be switched off.

### Navigation path



→  →  → **[Configuration]**

- ▶ Navigate to the **[Configuration]** submenu according to the navigation path.
- ▶ Switch the light on/off.

## 7.2.4 Setting a delay volume

A delay volume can be set to compensate the tube length between the Pure UV Detector and the Pure Fraction Collector. The default value is 4.9 ml.

### Navigation path

→  →  → **[Configuration]**

- ▶ Navigate to the **[Configuration]** submenu according to the navigation path.

- ▶ Enter the desired delay volume.

**NOTE**

Delay volume at high flow rates

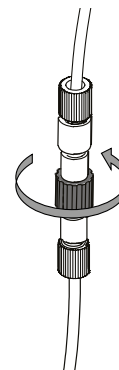
When operating at high flow rates above 150 ml/min, the delay may become more noticeable.

- ▶ Decrease the default delay volume when operating at high flow rates.

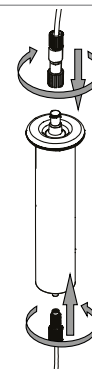
## 7.3 Tasks during a separation

### 7.3.1 Installing a cartridge

- ▶ Disconnect the solvent line at the point indicated.



- ▶ Attach the solvent lines to the cartridge.
- ▶ Optional: Place the cartridge into the cartridge holder.



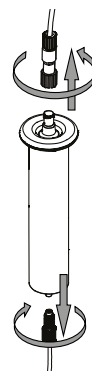
### 7.3.2 Removing a cartridge

**CAUTION****Risk of skin damage from solvent inside cartridge**

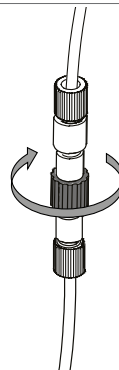
Solvent may still be inside the cartridge or solid loader after a completed run.

- ▶ Wear protective equipment.
- ▶ Carefully open the cartridge as solvent may spill out.

- ▶ Optional: Remove the cartridge from the cartridge holder.
- ▶ If used, remove the solid loader.
- ▶ Remove the solvent lines from the cartridge.



- ▶ Connect the solvent line again.



#### NOTE

It is recommended to perform a cleaning procedure if the instrument will not be used for the rest of the day. This is especially recommended when DCM was used as a solvent. See Chapter 8.4 "Cleaning the solvent lines and nozzle", page 45.

### 7.3.3 Injecting a sample



#### CAUTION

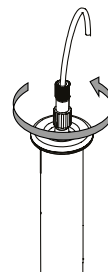
##### Risk of skin damage from solvent during sample injection

Removing solvent lines can cause leakages. Counter pressure can cause a sample to spray out during injection.

- ▶ Pay attention to leakage when removing the solvent line.
- ▶ Make sure to slowly press the plunger when injecting a sample.
- ▶ Wear protective equipment.

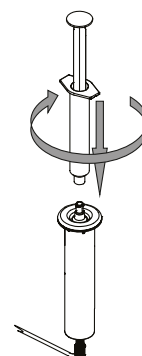
Precondition:

- The syringe with the sample is prepared.
- ▶ Remove the solvent line to the Pure Chromatography C-900 from the cartridge.

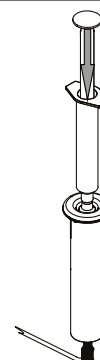




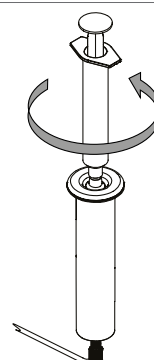
- Connect the syringe to the cartridge.



- Press the plunger slowly to inject the sample.



- Remove the syringe.



- Connect the solvent line again.



## 7.4 Performing a separation using a method

### Navigation path



A method is a set of defined separation parameters applied during a run. In the *Methods* menu, existing methods can be used, adjusted or duplicated. New methods can be created.

Menu	Explanation
[Search methods]	To search a method by name or tag.

Menu	Explanation
[Load]	To load a method for a separation.
[Add]	To add a new method.
[Duplicate]	To duplicate a method. The method can then be adjusted.
[Delete]	To delete a method.
[Import]	To import a method. See Chapter 7.11.3 "Importing a method", page 42.
[Export]	To export a method. See Chapter 7.11.4 "Exporting a method", page 44.

Precondition:

- The system is prepared. See Chapter 7.2 "Preparing the system", page 29.
  - The sample is prepared.
  - The cartridge is prepared.
  - The waste bottle is empty.
  - The solvent bottles are filled sufficiently.
- ▶ Navigate to the *Methods* menu according to the navigation path.
  - ▶ Tap the [Load] button next to the method to be used.
  - ▶ Tap the [OK] button.
  - ▶ Tap the [Start] button.
    - ⇒ A dialog appears to install the cartridge.
  - ▶ Install the cartridge. See Chapter 7.3.1 "Installing a cartridge", page 31.
  - ▶ Tap the [OK] button.
    - ⇒ The equilibration runs.
    - ⇒ A dialog appears to inject the sample.
  - ▶ Inject the sample. See Chapter 7.3.3 "Injecting a sample", page 32.
  - ▶ Tap the [OK] button.
    - ⇒ The separation runs.
    - ⇒ A dialog appears once the separation is finished.

### Skipping the equilibration



#### NOTE

It is recommended to perform the equilibration for each run.

A run starts with an equilibration. If the equilibration was already performed beforehand, it can be skipped during a run.

Precondition:

- A separation is started.
- The equilibration is running.
- ▶ Tap the [Skip] button.
  - ⇒ The separation starts.

## 7.5 Performing a separation manually

Precondition:

- The system is prepared. See Chapter 7.2 "Preparing the system", page 29.
- The sample is prepared.
- The cartridge is prepared.

- ☑ The waste bottle is empty.
- ☑ The solvent bottles are filled sufficiently.
- ▶ Navigate to the *[Separation parameters]* menu.
- ▶ Adjust the separation parameters as described in the following chapters.

**NOTE**

To reset all adjusted parameters to their default values, open the *Options* menu and select *[Reset]*.

## 7.5.1 Adjusting the solvent parameters

### Navigation path



The gradient for the separation can be set up.

Menu	Explanation
<i>[Edit]</i>	To edit an existing step.
<i>[Add above]</i>	To add a step above an existing step. This is only available after the <i>[Start]</i> .
<i>[Add below]</i>	To add a step below an existing step.
<i>[Delete]</i>	To delete a step. This is only available after the <i>[Start]</i> .
<i>[Add to end]</i>	To add a step at the end.

### Adding a step

Menu	Explanation
<i>[Solvents]</i>	To set the composition of the solvent mix.
<i>[Duration]</i>	To set the duration of a step. During this time the set solvent percentages are reached.

- ▶ Navigate to the *Solvent parameters* panel according to the navigation path.
- ▶ Add a step.
- ▶ Set the percentage of a solvent.
  - ⇒ The other solvent percentage is adjusted automatically.
- ▶ Set the duration.
  - ⇒ The set percentages of the solvents A and B is displayed in the graph.

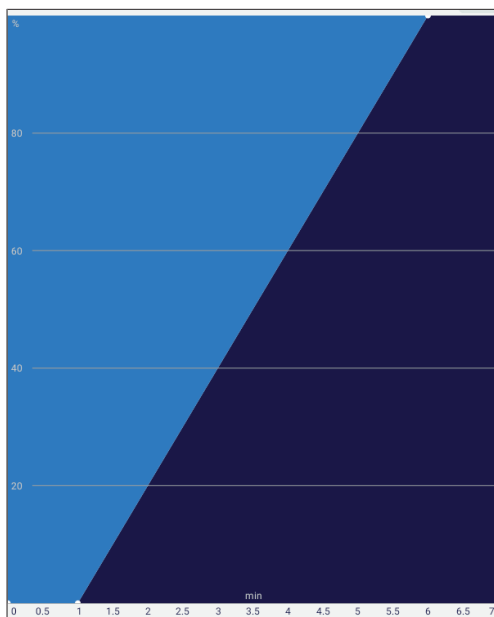


Fig. 8: Solvent graph

## 7.5.2 Adjusting the cartridge parameters

### Navigation path



Menu	Explanation
[Cartridge size]	To set the size of the cartridge. This information is printed onto the cartridge.
[Max. pressure]	To set the max. pressure applicable for the cartridge. This information is printed onto the cartridge.
[Flow rate]	To set the flow rate.
[Equilibration]	To set the equilibration time.

- ▶ Navigate to the *Cartridge parameters* panel according to the navigation path.
- ▶ Adjust the cartridge settings according to the one used for the separation.

## 7.5.3 Activating and deactivating the UV detection

### Navigation path



UV detection for four wavelengths is available:

- 254 nm
  - 275 nm
  - 325 nm
  - 365 nm
- ▶ Navigate to the *UV detection parameters* panel according to the navigation path.
  - ▶ Switch on/off the desired wavelengths.

## 7.5.4 Adjusting the fraction collection parameters

### Navigation path



Menu	Explanation
[Peak]	The instrument collects fractions during peaks.
[All]	The instrument collects all fractions during and in between peaks.
[None]	The instrument collects no fractions.
[Threshold]	The threshold above which fractions should be collected.
[Collection volume]	The collection volume per vial.

- ▶ Navigate to the *Fraction collection parameters* according to the navigation path.
- ▶ Select the appropriate fraction collection criteria.
- ▶ If applicable, adjust the threshold.
- ▶ If applicable, adjust the collection volume according to the vials used.



### NOTE

If the system is operated without the Pure UV Detector, fraction collection during peaks is not available.

## 7.5.5 Starting a run

Precondition:

- All separation parameters are set up as desired.
- ▶ Tap the **[Start]** button.
  - ⇒ A dialog appears to install the cartridge.
- ▶ Install the cartridge. See Chapter 7.3.1 "Installing a cartridge", page 31.
- ▶ Tap the **[OK]** button.
  - ⇒ The equilibration runs.
  - ⇒ A dialog appears to inject the sample.
- ▶ Inject the sample. See Chapter 7.3.3 "Injecting a sample", page 32.
- ▶ Tap the **[OK]** button.
  - ⇒ The separation runs.
  - ⇒ A dialog appears once the separation is finished.

## 7.6 Pausing separations

Precondition:

- A separation is in progress.
- ▶ Tap the **[Pause]** button.

When a separation is paused, it can be restarted later.

## 7.7 Identifying fractions



### NOTE

The first available vial is reserved for waste.



### NOTE

Identifying fractions is described here after a completed run. Alternatively, fractions can already be identified on the graph during a run.

### Navigation path



Fig. 9: Identifying fractions

### 7.7.1 Identifying fractions by peak

Precondition:

A separation is finished.

- ▶ Navigate to the *Runs* menu according to the navigation path.
- ▶ Select the desired run.
- ▶ Tap *[Process data]*.
- ▶ Tap and hold the peak on the graph for approx. 3 sec.

⇒ The corresponding vial number is displayed.

⇒ The corresponding vial is highlighted in green.

### 7.7.2 Identifying fractions by vial

Precondition:

A separation is finished.

- ▶ Navigate to the *Runs* menu according to the navigation path.
- ▶ Tap the desired run.

- ▶ Tap *Process data*.
- ▶ Tap and hold the target vial for approx. 3 sec.
- ⇒ The corresponding peak is highlighted in the graph.

## 7.8 Editing methods

### 7.8.1 Creating a new method

#### Creating a new method in the methods menu

##### Navigation path

---



- ▶ Navigate to the *Methods* menu according to the navigation path.
- ▶ Tap the *[ + ]* button.
- ▶ Set up the method as desired.
- ▶ Tap the *[Save]* button.
- ⇒ The new method is created.

#### Creating a new method in the separation parameters menu

##### Navigation path

---



- ▶ Navigate to the *Separation Parameters* menu according to the navigation path.
- ▶ Set up the separation parameters as desired Chapter 7.5 "Performing a separation manually", page 34.
- ▶ Tap the *[Options]* button.
- ▶ Select *[Save As]*.
- ▶ Set up the method as desired.
- ▶ Tap the *[Save]* button.
- ⇒ The new method is created.

### 7.8.2 Duplicating an existing method

- ▶ Navigate to the *Methods* menu according to the navigation path.
- ▶ Tap the *[Options]* button.
- ▶ Tap *[Duplicate]*.
- ▶ Select the method to be duplicated.
- ▶ Tap the *[Duplicate]* button.
- ⇒ The duplicated method is created.

### 7.8.3 Adjusting an existing method

The basic information of a method such as name or tags, as well as the parameters can be adjusted.

Precondition:

- The method is not loaded.

- ▶ Navigate to the *Methods* menu according to the navigation path.
- ▶ Select the method to be adjusted.

- ▶ Adjust the method as desired.
- ▶ Tap the *[Save]* button.

## 7.9 Analyzing and deleting runs

### 7.9.1 Analyzing runs

#### Navigation path

---



Information about a completed run can be looked up in the *Runs* menu.

- ▶ Navigate to the *Runs* menu according to the navigation path.
- ▶ Select the run to be analyzed.
- ▶ Look up the desired information.

#### Basic information

Displays basic information such as the run name, starting time and tags.

#### Process data

Displays a chart with the different wavelengths over the course of the run.

- ▶ Tap a wavelength to hide it from the chart.
- ▶ Slide across the chart to identify peaks. See also Chapter 7.7 "Identifying fractions", page 38.

#### Method

Displays the method and separation parameters used for the run.

#### Configuration

Displays information on the configured instruments used for the run.

### 7.9.2 Deleting runs

#### Navigation path

---

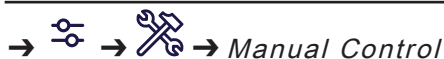


- ▶ Navigate to the *Runs* menu according to the navigation path.
  - ▶ Tap the *[Options]* button.
  - ▶ Tap *[Delete]*.
  - ▶ Select the run to be deleted.
  - ▶ Tap the *[Delete]* button.
- ⇒ The run is deleted.

## 7.10 Operating in manual control

#### Navigation path

---



#### NOTE

In manual control, no security checks are applied.

- ▶ Carefully operate the instrument, considering the applicable parameters.



In manual control, the instrument can be operated by manually setting the individual parameters. This operating mode can be used for troubleshooting or servicing purposes.

- ▶ Navigate to the *Manual Control* dialog according to the navigation path.
- ▶ Tap the *[Start Manual Control]* button.
- ▶ Read the attention note.
- ▶ Tap the *[Ok]* button.
- ▶ Manually adjust the parameters as desired.

### 7.10.1 Setting up the solvents

#### Lines

Setting	Explanation
<i>[Line A]</i>	To set the percentage of solvent line A.
<i>[Line B]</i>	To set the percentage of solvent line B.

#### Pump

Menu	Explanation
<i>[Flow rate]</i>	To set the flow rate of the pump (ml/min).
<i>[Start]</i>	To start the pump.

#### Pressure

Menu	Explanation
<i>[Actual pressure]</i>	Shows the current pressure when the pump is in operation.
<i>[Max. pressure]</i>	To set the max. pressure of the pump.

### 7.10.2 Setting up the UV detection

Menu	Explanation
<i>[Channel 1/2/3/4]</i>	To switch on/off the UV detection for each wavelength.
<i>[Set Zero]</i>	To set the absorbance units (AU) of all wavelengths to 0.

### 7.10.3 Setting up the fraction collection

Icon	Menu	Explanation
	<i>[Collection Valve]</i>	To set whether the solvent is routed into the waste bottle <i>[Waste]</i> or vials <i>[Vial]</i> .
	<i>[Fraction Collector Arm]</i>	To move the fraction collector arm to home position.
	<i>[Left/Right]</i>	To set whether the rack is inserted into the left or right slot.
▶	<i>[Go to Position: Vial No.]</i>	To enter a position <i>[Vial No.]</i> and go there.
▶	<i>[Go to Position: Next Position]</i>	To go to the next position.
	<i>[Go to waste vial]</i>	To go to the waste vial.

## 7.11 Importing and exporting data

### 7.11.1 Exporting a run report

#### Navigation path

---



The following formats are possible:

- .csv
- .pdf
- .bdsf

Precondition:

A USB stick is connected to the instrument.

- ▶ Navigate to the *Runs* menu according to the navigation path.
- ▶ Tap the *[Options]* button.
- ▶ Select the export in the desired format.
- ▶ Select the run(s) to be exported.
- ▶ Optional: When exporting multiple files, switch on *[Create single PDF]* to merge all files into one.
- ▶ Tap the *[Export]* button.

⇒ A dialog confirms the export.

### 7.11.2 Importing a run report

#### Navigation path

---



The following format is possible:

- .bdsf

Precondition:

A USB stick is connected to the instrument.

- ▶ Navigate to the *Runs* menu according to the navigation path.
- ▶ Tap the *[Options]* button.
- ▶ Tap *[Import BDSF]*.
- ▶ Select the run to be imported.

⇒ A dialog confirms the import.

### 7.11.3 Importing a method

#### Navigation path

---



The following format is possible:

- .bdmf

Precondition:

A USB stick with a method is connected to the instrument.

- ▶ Navigate to the *Methods* menu according to the navigation path.
- ▶ Tap the *[Options]* button.

- ▶ Tap *[Import]*.
- ▶ Select the method to be imported.
- ⇒ A dialog confirms the import.

## 7.11.4 Exporting a method

### Navigation path

---



---

Precondition:

- A USB stick is connected to the instrument.
- ▶ Navigate to the *Methods* menu according to the navigation path.
- ▶ Tap the *[Options]* button.
- ▶ Tap *[Export]*.
- ▶ Select the method to be exported.
- ▶ Tap the *[Export]* button.
- ▶ Select the export location.
- ⇒ A dialog confirms the export.

## 8 Cleaning and servicing



### NOTE

- ▶ Carry out only the service and cleaning operations described in this section.
- ▶ Do not carry out any servicing and cleaning operations that involve opening the housing.
- ▶ Use only genuine BUCHI spare parts in order to ensure correct operation and preserve the warranty.
- ▶ Carry out the service and cleaning operations described in this section to extend the lifetime of the instrument.

### 8.1 Regular maintenance work

Action	Weekly	Monthly	Additional information
8.2 Cleaning the housing	1		
8.3 Cleaning and servicing the warning and directive symbols	1		
8.4 Cleaning the solvent lines and nozzle	1		
8.5 Creating a system backup		1	

1 - Operator

### 8.2 Cleaning the housing

- ▶ Wipe down the housing with a damp cloth.
- ▶ If heavily soiled, use ethanol or a mild detergent.
- ▶ Wipe down the display with a damp cloth.

### 8.3 Cleaning and servicing the warning and directive symbols

- ▶ Check that the warning symbols on the instrument are legible.
- ▶ If they are dirty, clean them.

### 8.4 Cleaning the solvent lines and nozzle

#### Navigation path

→  →  → [System Maintenance] → [Cleaning]

A cleaning procedure can be performed to clean the solvent lines and the nozzle on the Pure Fraction Collector. The frequency of this procedure is dependent on the solvents and samples used. Generally, it is advised to perform this procedure once a week.

Materials needed:



- Isopropanol
- ▶ Install a bypass.
- ▶ Navigate to the *Cleaning* dialog according to the navigation path.
- ▶ Tap the *[Run]* button.

- ▶ Follow the instructions on the interface to perform the procedure.

## 8.5 Creating a system backup

### Navigation path

---

→  →  → [System Backup]

---

### Creating a new backup

Precondition:

- A USB stick is connected to a USB port.

- ▶ Navigate to the *System Backup* dialog according to the navigation path.
- ▶ Tap the [Run] button next to *Backup*.
- ▶ Follow the instructions on the interface to perform the procedure.

### Restoring a backup

Precondition:

- A USB stick is connected to a USB port.

- ▶ Navigate to the *System Backup* dialog according to the navigation path.
- ▶ Tap the [Run] button next to *Restore Backup*.
- ▶ Follow the instructions on the interface to perform the procedure.

## 9 Help with faults

### 9.1 Sending a log file to BUCHI customer service

In case of a problem, a log file can be saved to a USB stick and sent to BUCHI customer service.

#### Navigation path



Precondition:

A USB stick is connected to the instrument.

- ▶ Navigate to the *Support* panel according to the navigation path.
- ▶ Save the data onto the USB stick.
- ▶ Remove the USB stick.
- ▶ Connect the USB stick to a computer with internet access.
- ▶ Open the link.
- ▶ Follow the instructions to upload the log file.

### 9.2 Faults, possible causes and solutions

#### 9.2.1 General

Malfunction	Possible cause	Solution
The instrument does not power up	Power is not being supplied to the system	<ul style="list-style-type: none"> <li>▶ Verify that the power cord is plugged in.</li> <li>▶ Make sure that the voltage, amperage and frequency meet the instrument specifications.</li> <li>▶ Make sure that the On/Off switch is switched on.</li> <li>▶ Verify that the fuse wire is not broken and fuses are correctly installed in the instrument.</li> </ul>
System shuts down automatically	Major fluctuations in line power are present	▶ Connect system to a Uninterrupted Power Supply line.
The touch screen is not responsive	The touch screen is out of calibration	▶ Contact BUCHI service technician.

## 9.2.2 Solvent delivery

Malfunction	Possible cause	Solution
No solvent flow	Empty solvent bottle	<ul style="list-style-type: none"> <li>▶ Refill the solvent bottle.</li> <li>▶ Purge the check valves with a syringe. Connect a syringe to the outlet and push the syringe in to push the check valves back.</li> </ul>
	Pump not primed	▶ Prime the pump.
	Air bubbles in solvent line	▶ Prime the pump.
	Pump seals worn out	▶ Replace the pump seals.
	Valve dispensing the solvent is blocked	▶ Contact BUCHI service technician.
	Air inside pump	<ul style="list-style-type: none"> <li>▶ Disconnect the outlet line from the instrument.</li> <li>▶ Connect a syringe to the inlet line and push solvent through the instrument.</li> </ul>
Pulsation of pump	Open or close time of the inlet or outlet valves are not correct	▶ Rinse the Pure Chromatography C-900 at high flow rate with ethanol or hot distilled water.
	Residues in solvent	
	Sealing abrasion outlet valve	
	Air inside pump	<ul style="list-style-type: none"> <li>▶ Disconnect the outlet line from the instrument.</li> <li>▶ Connect a syringe to the inlet line and push solvent through the instrument.</li> </ul>
Inconsistent solvent flow	Loose fitting/air leak into the pump	▶ Find the loose fitting and tighten it.
	Liquid leak/pump seals worn out	▶ Fix the leak/replace the pump seals.
	Pump head temperature reaches solvent boiling temperature, causing the pump to lose prime and stop flow (this is likely to occur when running methods with highly volatile solvents such as diethyl ether and methylene chloride)	<ul style="list-style-type: none"> <li>▶ Premix the solvents to reduce solvent volatility.</li> <li>▶ Place the highly volatile solvent bottle in an ice bath to eliminate boiling.</li> </ul>
	Valve dispensing the solvent is blocked	▶ Contact BUCHI service technician.
System pump pressure is higher than expected	Blocked solvent lines	▶ Find the blocked lines and replace it.
	Over-tightened fitting	▶ Loosen the fitting or replace it.
	Blocked columns or fluidic path	▶ Locate the component that caused the blockage, repair, or replace the component.



<b>Malfunction</b>	<b>Possible cause</b>	<b>Solution</b>
Leaks	Fitting connection not tight	▶ Find the loose fitting and tighten it up.
	Damaged solvent line	▶ Find the damaged solvent line and replace it.
Pump not running	Pump power cable becomes disconnected	▶ Locate the power cable and reconnect to the main board or to the pump.
Incorrect flow path	Incorrect fluidic connections to/from the mode switching valve	▶ Check/correct the fluidic connections.

### 9.2.3 Fraction collection

<b>Malfunction</b>	<b>Possible cause</b>	<b>Solution</b>
The instrument does not power up	Power is not being supplied to the system	<ul style="list-style-type: none"> <li>▶ Verify that the power cord is plugged in.</li> <li>▶ Make sure that the voltage, amperage and frequency meet the instrument specifications.</li> <li>▶ Make sure that the On/Off switch is switched on.</li> <li>▶ Verify that the fuse wire is not broken and fuses are correctly installed in the instrument.</li> </ul>
System shuts down automatically	Major fluctuations in line power are present	▶ Connect system to a Uninterrupted Power Supply line.

## 9.3 Customer service

Only authorized service personnel are allowed to perform repair work on the instrument which is not described in this manual. Authorization requires a comprehensive technical training and knowledge of possible dangers which might arise when working at the instrument. Such training and knowledge can only be provided by BUCHI.

The customer service and support offers the following support:

- Spare part delivery
- Repairs
- Technical advice

Addresses of official BUCHI customer service offices can be found on the BUCHI website.

[www.buchi.com](http://www.buchi.com)

## 10 Taking out of service and disposal

### 10.1 Taking out of service

- ▶ Switch off the instrument and disconnect it from the mains power supply.
- ▶ Remove all tubing and communication cables from the instrument.
- ▶ Remove the instrument from the chromatography system.

### 10.2 Disposal

The operator is responsible for proper disposal of the instrument.

- ▶ When disposing the equipment observe the local regulations and statutory requirements regarding waste disposal.
- ▶ When disposing, observe the disposal regulations of the materials used. Materials used see Chapter 3.6 "Technical data", page 14.

### 10.3 Returning the instrument

Before returning the instrument, contact the BÜCHI Labortechnik AG Service Department.

<https://www.buchi.com/contact>

## 11 Appendix

### 11.1 Spare parts and accessories


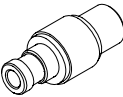
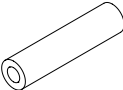
Use only genuine BUCHI consumables and spare parts in order to ensure correct, safe and reliable operation of the system.




#### NOTE

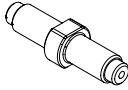


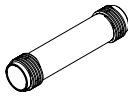
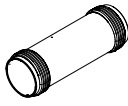
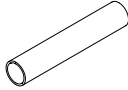
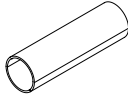
Any modifications of spare parts or assemblies are only allowed with the prior written permission of BUCHI.

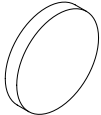
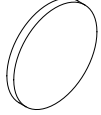
#### 11.1.1 Spare parts

	Order no.	Image
Solvent line set Set with 2 solvent level lines, ferrule, fitting and adapters	11071873	
Back Pressure Regulator (BPR), 2 bar	044337	
T piece UNF 1/4"-28	044866	
Injection valve UNF 1/4"-28	044867	
Fitting kit One-piece fitting 1/8"	11074308	
Set fitting 5/16" with flat bottom 10 pcs.	11072074	
Set Rev 3/16" ferrule 10 pcs.	11070507	
Set fitting and ferrule 1/8" 10 pcs.	11072384	
Set fittings 3.2 mm (25 pcs.) Use for attaching the hoses to the 3-way tap and the waste vessel	040956	
Set ferrules 3.2 mm (green, 25 pcs.) Use with 04956 for attaching the hoses to the 3-way tap and the waste vessel	040961	
Exhaust hose Ø 25 mm, L = 2.5 m	11068204	
Hose PTFE Ø 4.8 x 2.5, L = 1800	11069932	

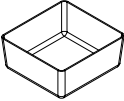


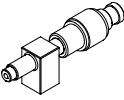
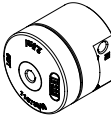
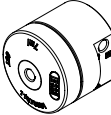
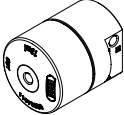

	Order no.	Image
Hose ETFE Ø 3.18 x 1.59, L = 1.5 m	044343	
Communication cable. BUCHI COM, 0.9 m, 6p	11070540	
Bottle caps set (5 pcs. each)	11068203	
Pure solvent filter Pore size 40 - 100 µm	11080149	
Frit for Pure solvent filter Pore size 40 - 100 µm	11080140	
Set Disp. Gas Hoses	11079760	
O-Ring Ø 37.00 x 1.50 NBR 70 5 pcs.	11079761	

### 11.1.2 Solid loader spare parts

	Order no.	Image
Male union UNF 1/4"-28	11068367	
Pure threaded connection S	11068977	
Pure threaded connection M	11069651	
Support tube S	11068979	
Support tube M	11069648	
Pure Solid loader tubes S (20 pcs.)	11068971	
Pure Solid loader tubes M (20 pcs.)	11069653	


	Order no.	Image
Pure Solid loader frits S, 15 g (40 pcs.)	11068969	
Pure Solid loader frits M (40 pcs.)	11069654	


### 11.1.3 Accessories

	Order no.	Image
Retaining container Retaining container for solvent bottle platform for more safety regarding leaking	11068468	
Pure Clamp for Pure Essential Cartridge Stand Universal cartridge holder	11074604	
Pure Essential Cartridge Stand For cartridges up to 330 g	11072733	
Injection valve UNF 1/4"-28 Incl. T-piece, for convenient injection of up to 5 ml sample	044850	
Injection unit 6-way valve for safe and fast sample loading	054284	
Pure Mixing Chamber, 2.5 ml volume For flow rates of 10 - 35 ml/min	11073940	
Pure Mixing Chamber, 7 ml volume For flow rates of 30 - 100 ml/min	11073951	
Pure Mixing Chamber, 13 ml volume For flow rates of 80 - 180 ml/min	11073950	
Pure Mixing Chamber, 22 ml volume For flow rates of 130 - 300 ml/min	11075390	
Cartridge holder for the V-Stand For 800 g and 1600 g cartridges	11058737	

	Order no.	Image
Cartridge holder XL for the V-Stand For 3000 g and 5000 g cartridges	11065862	
V-Stand with rod, 950 mm	11069158	
Pivoting clamp for GlasPure ID 15 mm (1 pc.)	044857	
Pivoting clamp for GlasPure ID 26 mm (1 pc.)	044858	
Pivoting clamp for GlasPure ID 36 mm (1 pc.)	044859	
Pivoting clamp for GlasPure ID 49 mm (1 pc.)	044860	
Pivoting clamp for GlasPure ID 70 mm (1 pc.)	044861	
Pivoting clamp for GlasPure ID 100 mm (1 pc.)	044862	
Luer lock connection set	11058005	
Inline filter	11059070	

#### 11.1.4 Sample introduction accessories

	Order no.	Image
Sample loop 5 ml For sample volumes of 1 - 5 ml, FEP coil	045222	
Sample loop 20 ml For sample volumes of 1 - 20 ml, FEP coil	044852	
Sample chamber 100 ml set Incl. all adapters needed for operation, for convenient injection of samples volumes between 10 - 100 ml	044853	

	<b>Order no.</b>	<b>Image</b>
Sample chamber 250 ml 250 ml glass part for Sample chamber 100 ml set, for convenient injection of samples volumes up to 250 ml	054854	
Sample chamber 500 ml 500 ml glass part for Sample chamber 100 ml set, for convenient injection of samples volumes up to 500 ml	054859	
Sample chamber 1000 ml 1000 ml glass part for Sample chamber 100 ml set, for convenient injection of samples volumes up to 1000 ml	054864	
Pure Solid loader S set, incl. adapter set, sleeve, tubes (20 pcs.) and frits (40 pcs.)	11068975	
Pure Solid loader M set, incl. adapter set, sleeve, tubes (20 pcs.) and frits (40 pcs.)	11070505	

### 11.1.5 Maintenance kits

	<b>Order no.</b>
Pure Chromatography C-900 Maintenance Kit Contains all parts required for a regular and routine maintenance, recommended after 1 year of instrument use	11075562
Pure Chromatography C-900 Extended Maintenance Kit Contains all parts required for an extended maintenance, recommended after 4 years of instrument use	11075563



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