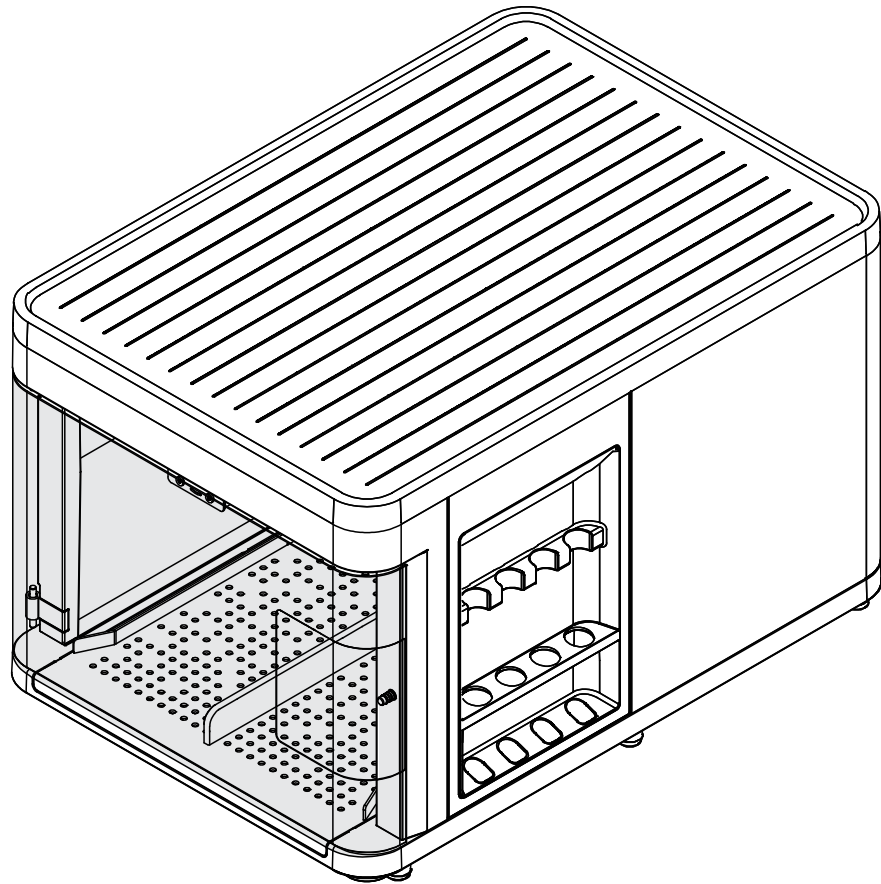




Pure Fraction Collector C-106

Operation Manual



Imprint

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BUCHI reserves the right to make changes to the manual as deemed necessary in the light of experience, especially with respect to structure, illustrations and technical details.

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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.
Status	Status is marked-up like this.
Signal	Signals are marked-up like this.

1.2 Warning notices in this document

Warning notices warn you of dangers that can occur when handling the instrument. There are four danger levels, each identifiable by the signal word used.

Signal word	Meaning
DANGER	Indicates a danger with a high level of risk which could result in death or serious injury if not prevented.
WARNING	Indicates a danger with a medium level of risk which could result in death or serious injury if not prevented.
CAUTION	Indicates a danger with a low level of risk which could result in minor or medium-severity injury if not prevented.
NOTICE	Indicates a danger that could result in damage to property.

1.3 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.

1.4 Connected instruments

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

2 Safety

2.1 Proper use

The instrument is designed and built for laboratories.

The instrument collects fractions within a chromatography system.

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 areas which require explosion-safe instruments.
- Use of the instrument in overpressure situations.
- Use of the instrument with flammable substances.
- Use of the instrument with other than original BUCHI glassware.
- Use of the instrument with samples that react with solvent.
- 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 without ventilation or fume hood.

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 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.

2.5 Warning symbols

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

Symbol	Meaning
	General warning
	Instrument damage
	Corrosive

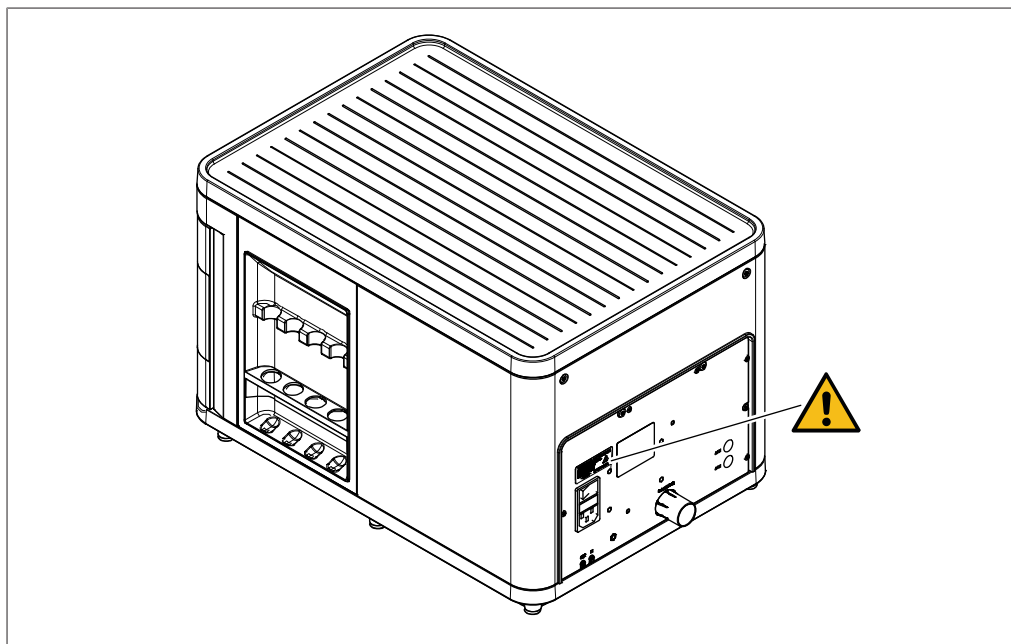


Fig. 1: Location of the warning symbols

2.6 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.

2.6.1 Glass breakage

The vials inside the racks are made of glass. Broken glass can cause severe cuts.

- ▶ Only operate the instrument wearing protective equipment.
- ▶ Handle glass components carefully.
- ▶ Always visually inspect glass components for damage every time they are to be used.
- ▶ Do not continue to use glass components that are damaged.

2.6.2 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.

2.6.3 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.

2.6.4 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.

2.7 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 Fraction Collector C-106 (Pure Fraction Collector) collects fractions during a chromatography process. The fractions are filled into vials in an automated manner.

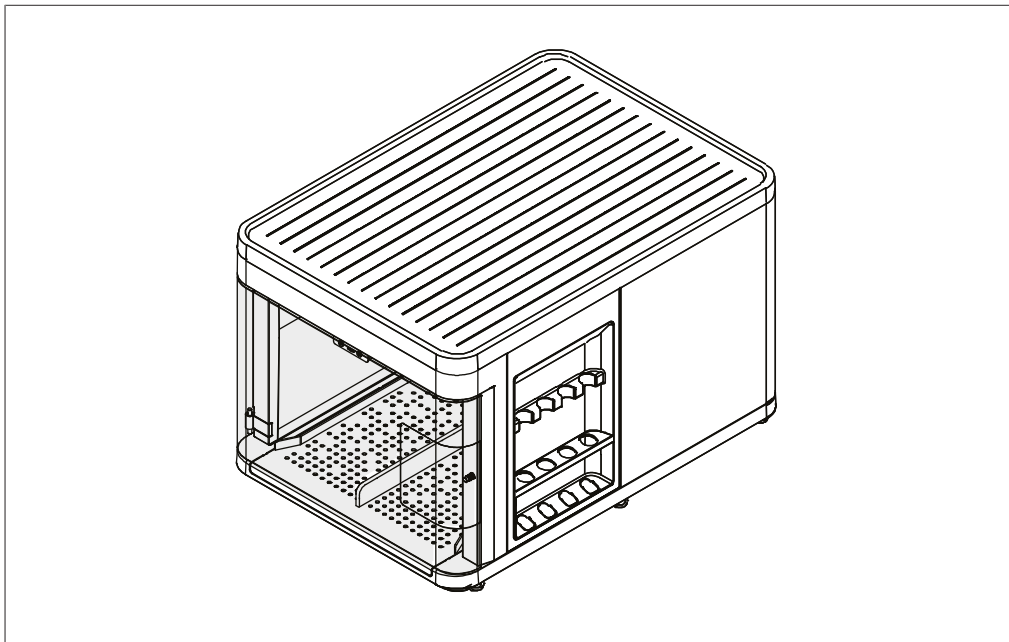


Fig. 2: Pure Fraction Collector

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.

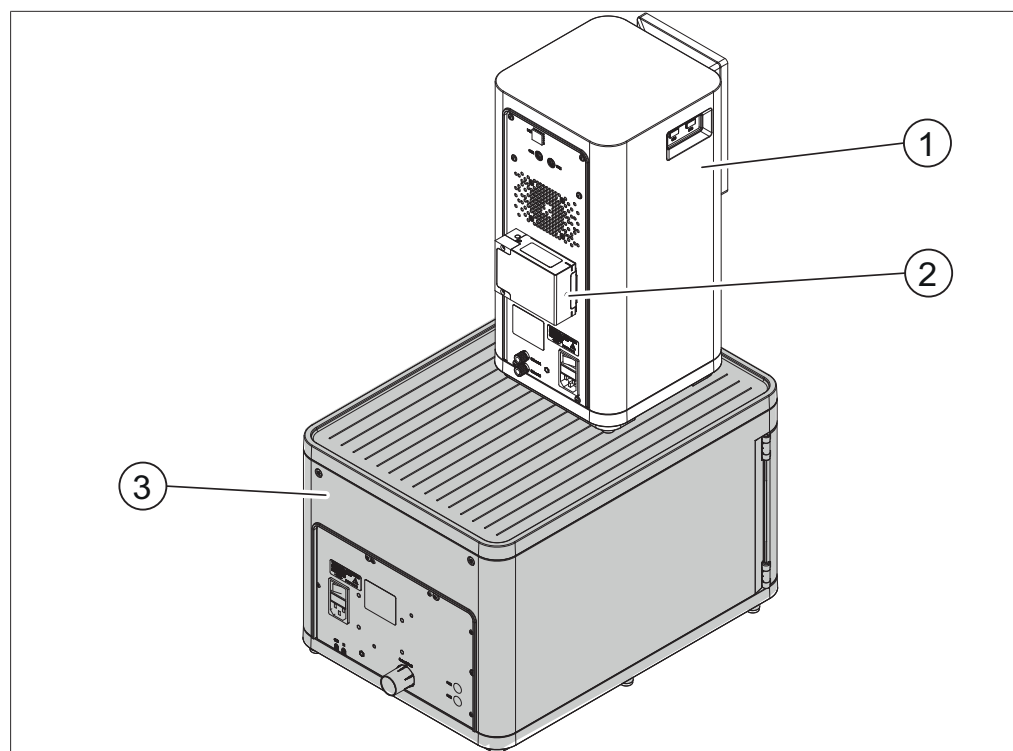


Fig. 3: Chromatography system (rear view)

1 Pure Chromatography C-900

2 Pure UV Detector

3 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

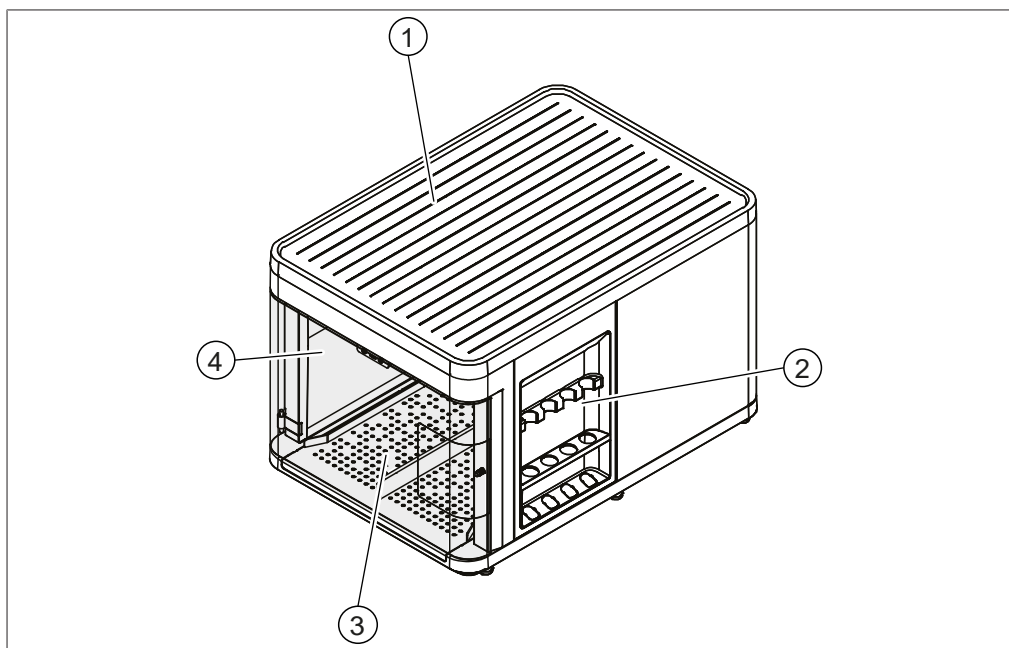


Fig. 4: Front view

- | | |
|---------------|-------------------|
| 1 Top surface | 2 Vial holder |
| 3 Drip tray | 4 Protective door |

3.3 Rear view

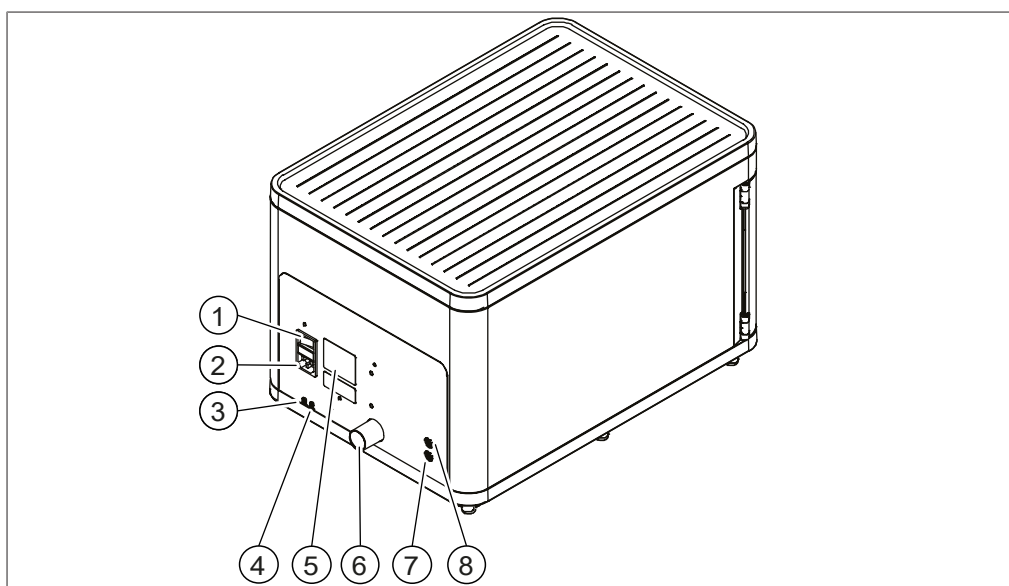


Fig. 5: Rear view

- | | |
|-----------------------------|---------------------------|
| 1 On/Off switch | 2 Power supply connection |
| 3 Solvent line outlet (OUT) | 4 Solvent line inlet (IN) |
| 5 Type plate | 6 Solvent vent connection |
| 7 Signal connection | 8 Signal connection |

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.

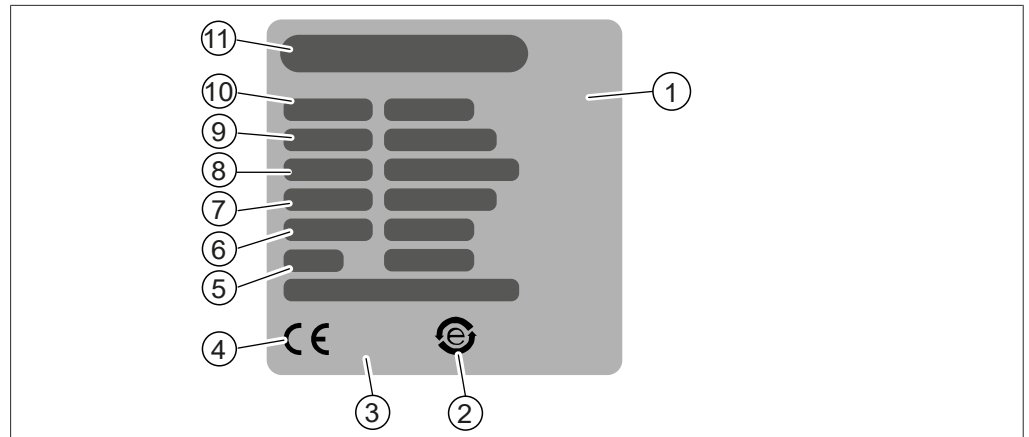


Fig. 6: Type plate

- | | | | |
|----|---|----|------------------------------------|
| 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 Fraction Collector C-106

Specification	Value
Dimensions (W x D x H)	330 x 470 x 305 mm
Weight	11.5 kg
Power consumption	25 W
Supply voltage	100 – 240 VAC ± 10%
Frequency	50/60 Hz
Fuse	1 A
Overvoltage category	II
Pollution degree	2
Hose connections	2 UNF 1/4"-28
Interfaces	2 BUCHI standard communication ports (COM)

3.6.2 Ambient conditions

For indoor use only.

Specification	Value
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

Component	Material
Housing	PP (Polypropylene), PUR (Polyurethane) coated
Protective door	PMMA (Polymethyl methacrylate)
Machined parts	Aluminum, Stainless steel 1.4305
Plastic parts machined	PEEK (Polyether ether ketone)
Plastic lines	FEP (Fluorinated ethylene propylene)

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 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 13.
- 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 13).
- ▶ 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 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

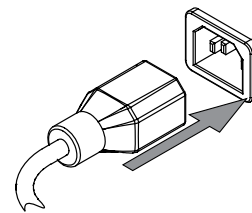
Instruments must only be connected/disconnected under certain circumstances.

- Pure Chromatography C-900 is powered off.
- Pure Chromatography C-900 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.

Precondition:

- The electrical installation is as specified on the type plate.
- 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. See Chapter 3.6 "Technical data", page 13.

- ▶ Connect the power supply cable to the connection on the instrument. See Configuration.
- ▶ Connect the mains plug to an own mains outlet socket.



5.3 Connecting the instrument within a chromatography system



NOTE

Connection within a chromatography system

Please refer to the Pure Chromatography C-900 operation manual for additional information on the installation.

6 Operation

All functions of the instrument are controlled by the chromatography system software. Please refer to the Pure Chromatography C-900 operation manual for additional information.

7 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.

7.1 Regular maintenance work

Action	Weekly	Additional information
7.2 Cleaning the housing	1	
7.3 Cleaning and servicing the warning and directive symbols	1	
7.4 Cleaning underneath the drip tray	1	
7.5 Cleaning the nozzle	1	
7.6 Cleaning the guide rods	1	

1 - Operator

7.2 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.

7.3 Cleaning and servicing the warning and directive symbols

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

7.4 Cleaning underneath the drip tray



⚠ CAUTION

Risk of skin burns from solvents

Contact with solvents may cause skin burns.

- ▶ Wear protective gloves.

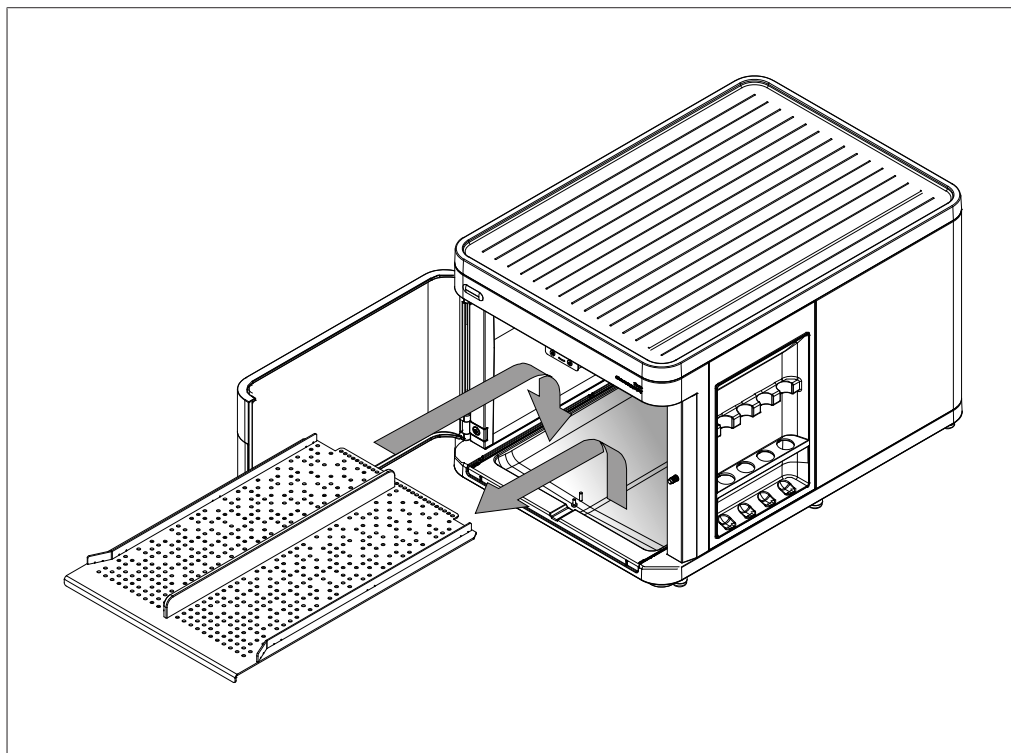


Fig. 7: Cleaning underneath the drip tray

If liquids spill during operation, they are collected underneath the drip tray.

- ▶ Open the protective door.
- ▶ If present, remove racks.
- ▶ Slide out the drip tray.
- ▶ Use dry paper towels to soak up any liquid collected underneath the drip tray.
- ▶ Install the drip tray again.
- ▶ Close the protective door.
- ▶ Place the paper towels under a fume hood to get rid of the spilled solvent.
- ▶ Dispose the paper towels.

7.5 Cleaning the nozzle

To clean the nozzle, a cleaning procedure can be performed which is controlled by the chromatography system software. Please refer to the Pure Chromatography C-900 operation manual for additional information.

The frequency of performing this procedure is dependent on the solvents and samples used. Generally, it is advised to clean the nozzle once a week.

7.6 Cleaning the guide rods

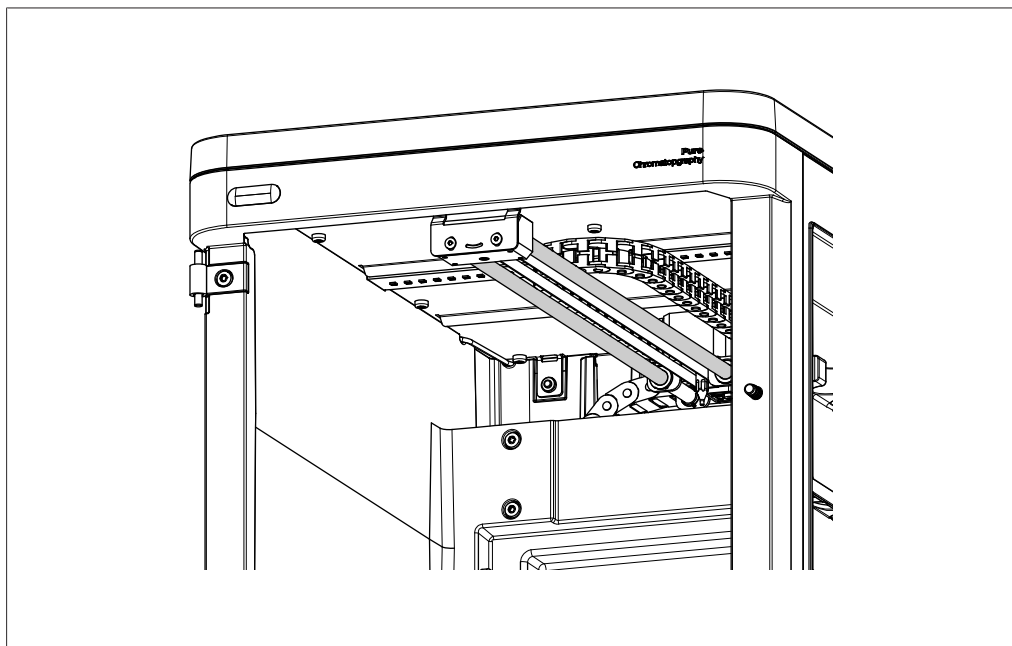


Fig. 8: Guide rods

- ▶ Wipe the guide rods with a lint-free dry cloth and acetone.

8 Help with faults

8.1 Faults, possible causes and solutions

All functions of the instrument are controlled by the chromatography system software. Please refer to the Pure Chromatography C-900 operation manual for additional information.

8.2 Customer service

Only authorized service personnel are allowed to perform repair work on the device 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 device. 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

9 Taking out of service and disposal

9.1 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.

9.2 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 13.

9.3 Returning the instrument

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

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

10 Appendix

10.1 Spare parts and accessories

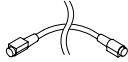
Use only genuine BUCHI consumables and spare parts in order to ensure correct, safe and reliable operation of the system.



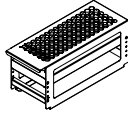
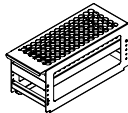
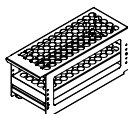
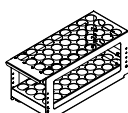

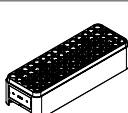
NOTE

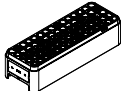

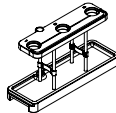
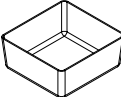
Any modifications of spare parts or assemblies are only allowed with the prior written permission of BUCHI.

10.1.1 Spare parts


	Order no.	Image
Exhaust hose Ø 25 mm, L = 2.5 m	11068204	
Communication cable. BUCHI COM, 0.9 m, 6p Enables connection between Rotavapor® R-300 / R-220 Pro, Interface I-300 / I-300 Pro, Vacuum Pump V-300 / V-600, Recirculating Chiller F-3xx, VacuBox and LegacyBox. Enables connection between Pure® Chromatography C-900, Fraction Collector, UV Detector.	11070540	
Fitting kit One-piece fitting 1/8"	11074308	

10.1.2 Accessories

	Order no.	Image
Pure rack type 1 Rack for 12 x 75 mm glass tubes, 1 pc.	11066672	
Pure rack type 2 Rack for 13 x 100 mm glass tubes, 1 pc.	11066673	
Pure rack type 3 Rack for 16 x 125 mm glass tubes, 1 pc.	11066674	
Pure rack type 6 Rack for 25 x 150 mm glass tubes, 1 pc.	11066677	
Pure rack type 9 Rack for 16 x 100 mm glass tubes, 1 pc.	11069242	
Pure rack type 10 Rack for 16 x 150 mm glass tubes, 1 pc.	11074056	

	Order no.	Image
Pure rack type 11 Rack for 18 x 150 mm glass tubes, 1 pc.	11074055	
Rack type 12 Rack for 8 funnels and 1 waste vial	11074402	
Rack type 13 4 x 480 ml	11074894	
Rack type 14 3 x 0.5 l	11074484	
Syncore rack Rack for 16 x 130 mm glass tubes, 1 pc.	11076063	
Fraction collector door for funnel rack	11075388	
Retaining container Retaining container for solvent bottle platform for more safety regarding leaking	11068468	
Pure Essential solvent bottle platform	11075721	

10.1.3 Tubes and bottles

	Order no.	Image
Set of funnels for the funnel rack 8 pcs.	11074939	
Pure Glass Tubes 13 x 100 mm 1000 pcs.	148623414	
Pure Glass Tubes 16 x 150 mm 1000 pcs.	148623416	
Pure Glass Tubes 18 x 150 mm 500 pcs.	148623410	
Pure Glass Tubes 25 x 150 mm 500 pcs.	148623411	
Set of 100 standard test tubes for EasyFill Rack R-96 Total volume 17 mL, 16 x 130 mm (d x h)	038543	
Pure Squared bottles 480 mL 24 pcs.	148623412	

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