BÜHLER TECHNOLOGIES

Gas Analysis

Portable sample gas conditioning

PCS.base

Installation and Operation Instructions

Original instructions

BE464003
11/2017

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Read this instruction carefully prior to installation and/or use. Pay attention particularly to all advises and safety instructions to prevent injuries. Bühler Technologies can not be held responsible for misusing the product or unreliable function due to unauthorised modifications.

Document information
Document No..... BE464003
Version..... 11/2017

Contents

1 Introduction

1.1 Intended Use

The respective operating conditions greatly impact an analysis instrument working correctly. Since in addition to the gas component to be analysed, sample gas often contains large amounts of moisture and dirt particles, the sample gas must be conditioned accordingly. Especially with frequently changing sampling points this often causes problems. Accurate gas analyses in changing locations require compact gas conditioning systems. PCS.base was developed for these applications.

DANGER	**Potentially explosive atmosphere**
	Explosion hazard if used in hazardous areas. The device is not suitable for operation in hazardous areas with potentially explosive atmospheres. Do not expose the device to combustible or explosive gas mixtures.

1.2 Ordering instructions

The item number is a code for the configuration of your unit. Please use the following model key:

CSPB1	X	X	X	0	0	Product Characteristics
						Moisture detector
	0					No
	1					Yes
						Flow meter
		0				No
		1				Yes
						Condensate drain
			0			Condensate trap*
			1			Condensate pump 115 V
			2			Condensate pump 230 V

*When selecting the condensate trap the system can be operated at a 110-260 V voltage range.

1.3 Contents

- PCS.base in the selected version
- Optional accessories such as sample gas probe, process connectors or flanges
- Product documentation

1.4 Product description

The low weight and small dimensions of the system are ideal for e.g. service engineers using sample- or comparison measurements.

A carrying bag provides reliable protection from the weather and mechanical damage to the product and allows for convenient system transport.

The base version of the gas condition system consists of a gas cooler with condensate trap, a gas pump and filter. For more accessories and options please refer to the table in the data sheet.

The sample gas is cooled to the preset dew point (factory preset 5 °C) regardless of the ambient temperature. This safely falls below the dew point and moisture in the sample gas is separated as condensate. A safety circuit only starts the gas pump once the operating point of the cooler has been reached. The optional moisture detector communicates with the sample gas pump, switching it off in the event of water burst or cooler overload.

2 Safety instructions

2.1 Important advice

Operation of the device is only valid if:

- the product is used under the conditions described in the installation- and operation instruction, the intended application according to the type plate and the intended use. In case of unauthorized modifications done by the user Bühler Technologies GmbH can not be held responsible for any damage,
- when complying with the specifications and markings on the nameplates.
- the performance limits given in the datasheets and in the installation- and operation instruction are obeyed,
- monitoring devices and safety devices are installed properly,
- service and repair is carried out by Bühler Technologies GmbH,
- only original spare parts are used.

This manual is part of the equipment. The manufacturer keeps the right to modify specifications without advanced notice. Keep this manual for later use.

Signal words for warnings

DANGER	Signal word for an imminent danger with high risk, resulting in severe injuries or death if not avoided.
WARNING	Signal word for a hazardous situation with medium risk, possibly resulting in severe injuries or death if not avoided.
CAUTION	Signal word for a hazardous situation with low risk, resulting in damaged to the device or the property or minor or medium injuries if not avoided.
NOTICE	Signal word for important information to the product.

Warning signs

In this manual, the following warning signs are used:

	Warning against hazardous situations		General notice
	Warning against electrical voltage		Disconnect from mains
	Warning against respiration of toxic gases		Wear respirator
	Warning against acid and corrosive substances		Wear eye/face protection
	Warning against potentially explosive atmospheres		Wear protection gloves
	Warning against hot surface		

2.2 General hazard warnings

The equipment must be installed by a professional familiar with the safety requirements and risks.

Be sure to observe the safety regulations and generally applicable rules of technology relevant for the installation site. Prevent malfunctions and avoid personal injuries and property damage.

The operator of the system must ensure:

- Safety notices and operating instructions are available and observed,
- The respective national accident prevention regulations are observed,
- The permissible data and operational conditions are maintained,
- Safety guards are used and mandatory maintenance is performed,
- Legal regulations are observed during disposal.

Maintenance, Repair

Please note during maintenance and repairs:

- Repairs to the unit must be performed by Bühler authorised personnel.
- Only perform conversion-, maintenance or installation work described in these operating and installation instructions.
- Always use genuine spare parts.

Always observe the applicable safety and operating regulations in the respective country of use when performing any type of maintenance.

DANGER **Electrical voltage**

Electrocution hazard.

a) Disconnect the device from power supply.

b) Make sure that the equipment cannot be reconnected to mains unintentionally.

c) The device must be opened by trained staff only.

d) Regard correct mains voltage.

DANGER **Toxic, corrosive gas/condensate**

Sample gas/condensate may be hazardous to health.

a) If necessary, ensure a safe gas/condensate discharge.

b) Always disconnect the gas supply when performing maintenance or repairs.

c) Protect yourself from toxic/corrosive gasses/condensate when performing maintenance. Wear appropriate protective equipment.

DANGER **Potentially explosive atmosphere**

Explosion hazard if used in hazardous areas.
The device is not suitable for operation in hazardous areas with potentially explosive atmospheres.
Do not expose the device to combustible or explosive gas mixtures.

CAUTION **Tilting risk**

Damage of the device
Secure the device against any sudden translocation during maintenance.

CAUTION **Hot surface**

Burning hazard
Let the device cool down before maintaining.

3 Transport and storage

The device must always be stored and transported in the original transport bag. Operation without transport bag is prohibited. Only transport the device in the designated position (upright, level). If this cannot be ensured due to logistics (e.g. transport via shippers or air transport), it's important to completely empty the condensate trap (versions without condensate trap), as condensate could otherwise flow back into the gas lines. Purge the gas path with preferably dry ambient air to allow acidic condensate to escape. Proceed as described in chapter Condensate [> page 10].

DANGER

Toxic, corrosive condensate

a) Protect yourself from toxic, corrosive condensate when performing any type of work.

b) Wear appropriate protective equipment.

c) Please note the national safety rules!

The equipment must be protected from moisture and heat when not in use. It must be stored in a covered, dry and dust-free room at a temperature between -20 °C and 40 °C.

Outdoor storage is **prohibited**. On principle the operator must meet all applicable standards with respect to preventing damage due to lightning, which could result in sample gas pump damage.

Storage areas must not contain any equipment generating ozone, e.g. fluorescent lighting, mercury vapour lamps, high voltage electrical equipment.

4 Setup and connection

Check the device for damage prior to installation. This/these could be a damaged housing or add-on components visible from the outside, such as filter and flow meter. Never use equipment with obvious damage.

CAUTION

Damage/health hazard due to heater leakage

Check the device for obvious leaks before every use and at regular intervals. Any leaks must be repaired prior to using the device. In addition to gas leaks, leaking fluids in particular can post an electrical and health hazard.

4.1 Installation site requirements

Be sure the equipment is located on a level, solid surface. Also be sure to comply with the approved ambient temperature.

Do not obstruct the convection of the cooler. There must be adequate room between the vent and the next obstacle (at least 10 cm).

CAUTION

Damage to the device

Protect the equipment against dust, falling objects and external impacts.

Stroke of lightning

Outdoor installation is **forbidden**. As a matter of principle, the operator must regard all applicable standards according prevention of damage due to lightning, which may otherwise damage the device.

4.2 Connecting a gas probe

The sample gas probe connects to the DN 6 hose connection on the device marked **IN**.

The following devices (e.g. analyser) must be connected to the DN 4 hose connection marked **OUT** with a suitable hose.

4.3 Electrical connections

WARNING

Hazardous electrical voltage

The device must be installed by trained staff only.

CAUTION

Wrong mains voltage

Wrong mains voltage may damage the device.
Regard the correct mains voltage as given on the type plate.

The low heat device socket features an on/off switch which cuts off all poles. This must be set to the zero position prior to connecting the electrical.

Connect the included low heat device cable to the device and a suitable voltage source. Please note the correct voltage and frequency. The type plate contains any deviating specifications.

PCS.base with condensate trap may be operated on 110-260 V AC, 50/60 Hz voltage. When using the condensate pump the voltage is 115 V, 60 Hz or 230 V, 50 Hz.

4.4 Delta-T Control

The PCS.base generally provides the operator with two options to adapt the system function to the ambient conditions or the main areas of measurement.

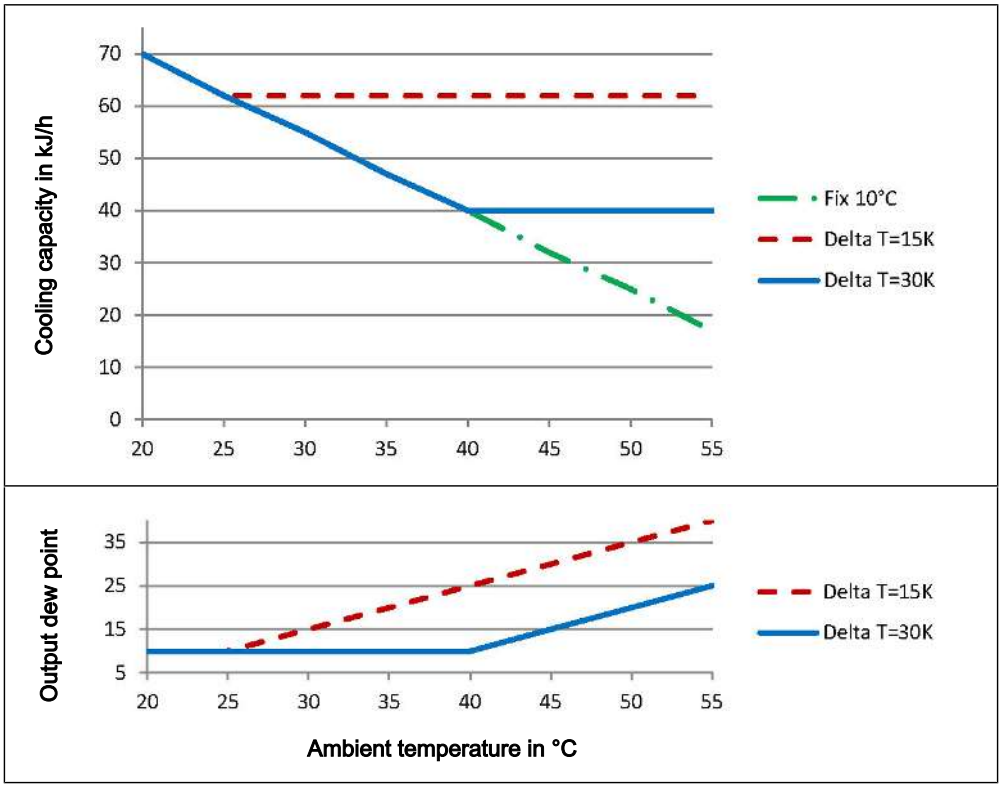
Sturdy dew point conditions inside the gas cooler are seen alongside against safe gas drying whilst utilising the maximum cooling capacity.

1. **Adjustable output dew point**

   An output dew point of 3, 5, 10 or 15 °C can be set to reach the specified values. Here it's important the ambient temperature is always ABOVE the output dew point setting, or condensation may form in the lines after the cooler. So the ambient temperature range is limited.

2. **Delta-T Control**

   Here the electronics regulate the output dew point to a value about 15 °C or 30 °C lower, but no less than the dew point set under 1). This extends the potential cooling capacity to the limits of the heat exchanger. Here it's important to note the output dew point fluctuates along with the ambient temperature and a stable dew point cannot be a prerequisite for the measurement.



4.5 DIP switch settings

DIP switch

The unit is configured using four DIP switches at the front of the cooler.

1	ON switch
0	OFF switch
SW	Switch, the following numbering of the SWs corresponds with the numbering on the DIP switch.

SW1 / SW2	SW2	SW1	Gas output dew point
	0	0	3 °C
	0	1	5 °C (factory preset)
	1	0	10 °C
	1	1	15 °C

SW3 / SW4	SW3	SW4	Delta T control
	0	0	Gas output dew point, fixed
	0	1	Difference from ambient temperature approx. 15 °C
	1	0	Difference from ambient temperature approx. 30 °C
	1	1	Gas output dew point, fixed

5 Operation and control

NOTICE

The PCS.base is a portable device which must only be operated inside the original transport bag. The bag must be open during operation.
Only operate and transport the unit upright. Operating the device with the cover closed or outside the specifications is prohibited!

CAUTION

Damage/health hazard due to heater leakage

Check the device for obvious leaks before every use and at regular intervals. Any leaks must be repaired prior to using the device. In addition to gas leaks, leaking fluids in particular can post an electrical and health hazard.

5.1 Switching on the PCS.base

After switching on the supply voltage the cooler starts to cool the cooling block.

The target temperature is factory preset to 5 °C. The alarm limit is defined at +5/-2 K.

Green LED	Red LED	Internal status	FF	Temperature	Description
OFF	OFF		Unit off		With the cooler switched off, the status output corresponds to error status.
ON	OFF	OK	OK (*)	OK	Normal operation
OFF	Flashing f = 1 Hz	OK	OK (*)	Error	Overload / temperature outside the target range
OFF	ON	OK	Error	xxx	Moisture penetration
OFF	Flashing f = 5 Hz	Error	xxx	xxx	Various possible causes, contact Service.

OK	No error
Error	Error present
xxx	Status not defined
f =...	LED flashing frequency
(*)	Also applies if no moisture detector connected

If the red LED lights up during operation, please refer to chapter “Troubleshooting”.

5.2 Operating the sample gas pump

DANGER

Toxic, corrosive gases

The measuring gas led through the equipment can be hazardous when breathing or touching it.

a) Check tightness of the measuring system before putting it into operation.

b) Take care that harmful gases are exhausted to a save place.

c) Before maintenance turn off the gas supply and make sure that it cannot be turned on unintentionally.

d) Protect yourself during maintenance against toxic / corrosive gases. Use suitable protective equipment.

The pump will only run after reaching the block temperature. It is only intended to convey gaseous mediums. It is not suitable for liquids.

Operation under primary pressure is prohibited. The flow inside the device (operational regulation via flow meter with built-in needle valve) should always be at least 50 L/h. Throttling greatly will shorten the life of the sample gas pump.

CAUTION **Hot surface**

Risk of burns
Housing temperatures may be high during operation.
Allow the unit to cool down before performing maintenance or repairs.

5.3 Operating the flow metre (optional)

The flow volume of the system can be adjusted using the built-in needle valve on the flow metre.

Avoid a flow of less than 50 L/min. Throttling greatly will shorten the life of the sample gas pump.

5.4 Condensate

DANGER **The gas inside the filter, condensate and used filter elements may be caustic or corrosive.**

Sample gas can be harmful.

a) Before maintenance turn off the gas supply and surge with air if necessary.

b) Exhaust sample gas to a safe place.

c) Protect yourself against toxic / corrosive gas during maintenance. Wear appropriate personal protection equipment.

CAUTION **Operation in designated position**

The unit should only be operated in the designated position. If this cannot be ensured due to logistics (e.g. transport via shippers), it's important to completely empty the vessel, as condensate could otherwise flow back into the gas lines.

Condensate accumulates during operation. Drainage varies by version.

5.4.1 Version with condensate trap

Condensate collects in a condensate trap. Regularly check the liquid level inside the trap and empty as necessary. This can be done using the included vessel.

Proceed as follows:

- Remove the section of house from the equipment opening and hold upward.
- Now open the hose clamp, lower the hose, and allow condensate to drain into the filling vessel.
- To completely empty the condensate trap, tip the unit at the front left edge.
- Once the condensate is completely drained, hold the hose up again and close the hose clamp.

5.4.2 Version with condensate pump

The built-in condensate pump discharges condensate via the factory installed hose. Please note, the hose clamp on the hose must be open during operation. Condensate must be collected and disposed of properly. Use the included filling vessel for this purpose. The hose clamp should be closed when not in use and during transport to prevent the condensate from accidentally leaking.

6 Maintenance

During maintenance, remember:

– The equipment must be maintained by a professional familiar with the safety requirements and risks.
– Only perform maintenance work described in these operating and installation instructions.
– When performing maintenance of any type, observe the respective safety and operation regulations.

DANGER

Electrical voltage

Electrocution hazard.

a) Disconnect the device from power supply.
b) Make sure that the equipment cannot be reconnected to mains unintentionally.
c) The device must be opened by trained staff only.
d) Regard correct mains voltage.

DANGER

Toxic, corrosive gases

The measuring gas led through the equipment can be hazardous when breathing or touching it.

a) Check tightness of the measuring system before putting it into operation.
b) Take care that harmful gases are exhausted to a save place.
c) Before maintenance turn off the gas supply and make sure that it cannot be turned on unintentionally.
d) Protect yourself during maintenance against toxic / corrosive gases. Use suitable protective equipment.

CAUTION

Tilting risk

Damage of the device
Secure the device against any sudden translocation during maintenance.

CAUTION

Gas leakage

The sample gas pump should not be dismantled under pressure.

CAUTION

Hot surface

Risk of burns
Housing temperatures may be high during operation.
Allow the unit to cool down before performing maintenance or repairs.

6.1 Replacing the filter element

DANGER

The gas inside the filter, condensate and used filter elements may be caustic or corrosive.

Sample gas can be harmful.

a) Before maintenance turn off the gas supply and surge with air if necessary.
b) Exhaust sample gas to a safe place.
c) Protect yourself against toxic / corrosive gas during maintenance. Wear appropriate personal protection equipment.

The front panel filter should be routinely checked and with frequent operation replaced at least every 6 months. To do so, unscrew the cap, remove the element, and replace with a new element if necessary.

7 Service and repair

This chapter contains information on troubleshooting and correction should an error occur during operation.

Repairs to the unit must be performed by Bühler authorised personnel.

Please contact our Service Department with any questions:

Tel.: +49-(0)2102-498955 or your agent

If the equipment is not functioning properly after correcting any malfunctions and switching on the power, it must be inspected by the manufacturer. Please send the equipment inside suitable packaging to:

Bühler Technologies GmbH

- Reparatur/Service -

Harkortstraße 29

40880 Ratingen

Germany

Please also attached the completed and signed RMA decontamination statement to the packaging. We will otherwise be unable to process your repair order.

You will find the form in the appendix of these instructions, or simply request it by e-mail:

service@buehler-technologies.com.

7.1 Troubleshooting

Problem / malfunction	Possible cause	Action
No LED lights up	– Mains voltage interrupted	– Connect to mains; check the plug is correctly inserted
	– Defective fuse	– Check fuse and replace if necessary
	– Defective LED	– Send in cooler
	– Internal error	– Send in cooler
Flashing red LED (f = 1 Hz) Excess / insufficient temperature	– Operating point not yet reached	– Wait (max. 15 min)
	– Cooling output too long despite the cooler running	– Be sure the vents are not covered (heat buildup)
	– Flow rate / dew point / gas temperature too high	– Maintain limits / install pre-separator
	– Installed fan stopped	– Check and replace if necessary
	– Faulty control	– Send in cooler
	– Short circuit	– Temperature sensor defective: Send in cooler
	– Broken wire	– Temperature sensor defective: Send in cooler
Flashing red LED (f = 5 Hz)	– Internal error	– Send in cooler
Steady red LED Moisture in the sample gas (If the moisture detector was triggered, it must then be dried)	– Cooler overloaded, flow rate / dew point / gas temperature too high	– Maintain limits / install pre-separator
	– Cooling output too long despite the cooler running	– Be sure not to cover the ventilation slots (heat buildup); maintain limits
	– Condensate trap full	– Empty condensate trap
	– Water penetrating from water bag	– Observe delivery rate of peristaltic pumps – Install condensate drain with downward slope
	– Cable break in the moisture detector connection line	– Check connection line and plug-in connection
Condensate inside the gas output	– Condensate trap full	– Empty condensate trap
	– Cooler overload	– Maintain limits
Reduced gas flow rate	– Gas circuit clogged	– Uninstall and clean heat exchanger – if necessary, replace filter element
	– Condensate output iced over	– Send in cooler

Tab. 1: Troubleshooting

7.2 Safety instructions

- The device must be operated within its specifications.
- All repairs must be carried out by Bühler authorised personnel only.
- Only perform modifications, servicing or mounting described in this manual.
- Only use original spare parts.

CAUTION

Risk due to defective device

Personal injury or damage to property

a) Switch off the device and disconnect it from the mains.

b) Repair the fault immediately. The device should not be turned on again before elimination of the failure.

DANGER

Toxic, corrosive gas/condensate

Sample gas/condensate may be hazardous to health.

a) If necessary, ensure a safe gas/condensate discharge.

b) Always disconnect the gas supply when performing maintenance or repairs.

c) Protect yourself from toxic/corrosive gasses/condensate when performing maintenance. Wear appropriate protective equipment.

CAUTION

Hot surface

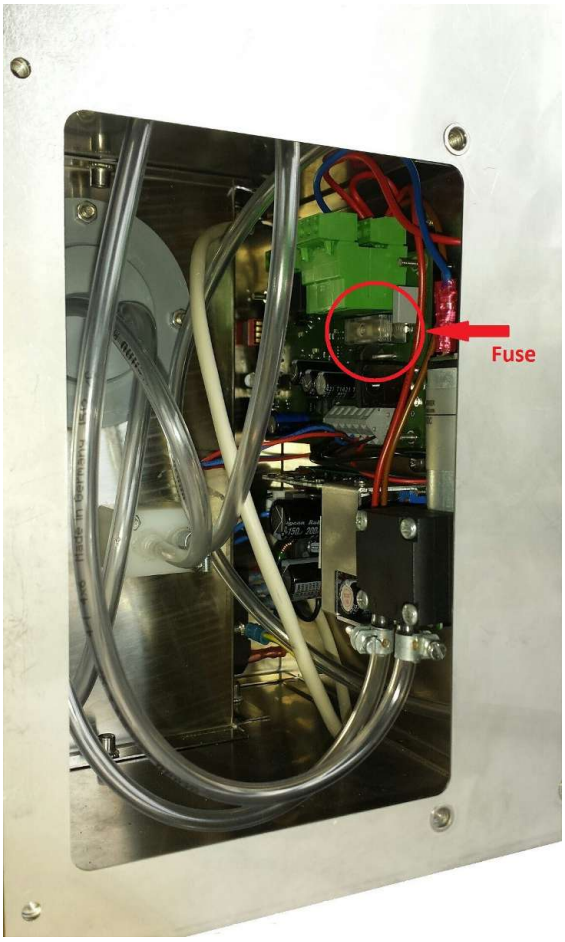
Risk of burns
Housing temperatures may be high during operation.
Allow the unit to cool down before performing maintenance or repairs.

7.3 Replacing the main fuse

- Close gas supply.
- Switch off and unplug the device.
- The main fuse is located on the front panel inside the low heat socket. The square fuse holder above the contacts can be removed by prying with a suitable tool.
- Replace the fuse and push the fuse holder back in.
- Restore the power and gas supply.

7.4 Replacing the fuse of the cooler

- Close gas supply.
- Switch off and unplug the device.
- Remove the device from the transport bag.
  - Open the rear and left bag compartment.
  - Remove the two screws per (see image).
  - Pull the unit out of the transport bag.



- The fuse is located under a plastic cap on the top board (see image). Replace microfuse and put the cap back on.
- Reinstall the unit.
- Restore the power and gas supply.

7.5 Drying of the moisture detector (option)

The moisture detector must be dried if moisture enters.

- Close the gas supply.
- Switch off and unplug the device.
- Loosen the swivel nut for the moisture detector connection line and disconnect the line.
- Unscrew the moisture detector counter-clockwise and remove.
- Dry moisture detector.
- Reinsert the moisture detector and carefully tighten the screw connection.
- Connect the connection line and tighten the swivel nut.
- Restore the power and gas supply.

7.6 Cleaning and removal of the heat exchanger

Heat exchangers only need to be replaced or maintained when plugged or damaged. If they are clogged, we recommend checking if using a filter will avoid future occurrences.

- Close gas supply.
- Switch off device and disconnect all plugs (e.g. connector plug alarm output, supply input, etc.).
- Uninstall the device from the bag (see chapter Replacing the fuse of the cooler [> page 14]).
- Disconnect gas connections and condensate drain.
- Pull the heat exchanger up and out.
- Clean the cooling nest (hole inside the cooler block).
- Flush the heat exchanger until all contaminants have been removed.
- Grease the cooled outside surface external surface with silicone grease.
- Reinsert the heat exchanger into the cooling nest with a rotating movement.
- Reconnect the gas supply and condensate drain. The gas inlet is marked red.
- Reinstall the device in the bag.
- Restore the power and gas supply.

7.7 Replacing the hoses of the peristaltic pump (option)

- Turn off gas supply.
- Switch the device off and disconnect power supply.
- Remove the supplying and draining hoses from the pump (**Take care of the safety instructions!**).
- Loosen the centre knurled screw but do not remove it. Push the screw downwards.
- Pull off the cover.
- Pull the connections sidewards and remove the hose.
- Replace the hose and remount the pump in reverse order.
- Reconnect power supply.

7.8 Spare parts and accessories

Please also specify the model and serial number when ordering parts.

Upgrade and expansion parts can be found in our catalog.

Available spare parts:

Spare part		Item no.
Low heat device plug microfuse	5 x 20 mm, 2.5 A, delayed action	91 100 00 013
Sample gas cooler microfuse	5 x 20 mm, 5 A delayed action	91 100 00 031
Condensate vessel		CSPB 0008

7.8.1 Spare parts and accessories

Item no.	Description
	Spare filter
41 15 00 90	AGF-FE-1T, 2 µm, 80 °C (176 °F), Unit: 5 count
	Connection hoses
90 14 033	PVC hose DN 4/6 (for gas outlet)
90 14 136	Viton hose DN 4/6 (for gas outlet)
90 14 036	PVC hose DN 6/8 (for gas inlet)
90 14 138	Viton hose DN 6/8 (for gas inlet)
44 92 00 35 012	Condensate pump replacement hoses

For more information on the Baseline probe and suitable accessories please refer to data sheet 464001.

8 Disposal

The applicable national laws must be observed when disposing of the products. Disposal must not result in a danger to health and environment.

The crossed out wheelie bin symbol on Bühler Technologies GmbH electrical and electronic products indicates special disposal notices within the European Union (EU).

The crossed out wheelie bin symbol indicates the electric and electronic products bearing the symbol must be disposed of separate from household waste. They must be properly disposed of as waste electrical and electronic equipment.

Bühler Technologies GmbH will gladly dispose of your device bearing this mark. Please send your device to the address below for this purpose.

We are obligated by law to protect our employees from hazards posed by contaminated devices. Therefore please understand that we can only dispose of your waste equipment if the device is free from any aggressive, corrosive or other operating fluids dangerous to health or environment. **Please complete the "RMA Form and Decontamination Statement", available on our website, for every waste electrical and electronic equipment. The form must be applied to the packaging so it is visible from the outside.**

Please return waste electrical and electronic equipment to the following address:

Bühler Technologies GmbH
WEEE
Harkortstr. 29
40880 Ratingen
Germany

Please also observe data protection regulations and remember you are personally responsible for the returned waste equipment not bearing any personal data. Therefore please be sure to delete your personal data before returning your waste equipment.

9 Appendices

9.1 Technical Data

General

Technical Data PCS.base	
Ready for operation	at TU = 25 °C after approx. 10 minutes
Ambient temperature	5 °C to 45 °C
Gas inlet temperature	80 °C
Gas output dew temperature, preset	5 °C
Dew point stability	± 0.2 K
Max. pressures	1 bar
Flow rate	110 L/h max.
Rated cooling capacity at 25 °C and dew point	5 °C: 55 kJ/h 10 °C: 60 kJ/h 15 °C: 65 kJ/h

Electrical specifications

Electric supply	
Power supply	110 - 260 V AC, 50/60 Hz (for version: with condensate trap) 115 V AC, 60 Hz oder 230 V AC, 50 Hz (for version: with condensate pump)
Electrical connection	IEC connector

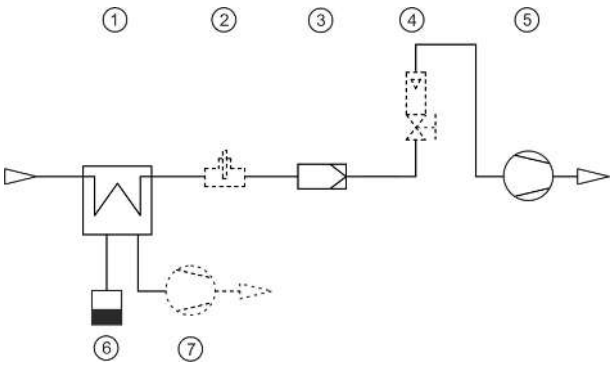
Mechanical specifications

Hose connections	Inlet: DN 6 PVDF hose nipple Output: DN 4 PVDF hose nipple
Weight excl. accessories	6.8 kg
Weight incl. probe and accessories	approx. 10.5 kg
Dimensions (w x h x d)	approx. 480 x 270 x 260 mm

Materials

Parts in contact with mediums	
Heat exchanger, filter, tubing, pump	PVDF, PC, PTFE, Viton, EPDM, PP, PVC
Optional moisture detector	PVDF, stainless steel 1.4571 / 1.4576, epoxy resin
Optional flow meter	PP, glass, Viton
Optional condensate pump	Norprene

9.2 Flow chart



1	Cooler	5	Pump
2	Moisture detector (optional)	6	Condensate trap
3	Filter	7	Condensate pump (optional)
4	Flow meter with needle valve (optional)		

10 Attached documents

– Declaration of Conformity KX460025
– RMA - Decontamination Statement

EU-Konformitätserklärung
EU-declaration of conformity

Hiermit erklärt Bühler Technologies GmbH, dass die nachfolgenden Produkte den wesentlichen Anforderungen der Richtlinie

Herewith declares Bühler Technologies GmbH that the following products correspond to the essential requirements of Directive

2014/35/EU
(Niederspannungsrichtlinie / *low voltage directive*)

in ihrer aktuellen Fassung entsprechen.

in its actual version.

Folgende Richtlinie wurde berücksichtigt:

The following directive was regarded:

2014/30/EU (EMV/EMC)

Produkt / products: Tragbare Gasaufbereitung / *Portable sample gas conditioning*
Typ / type: PCS.base

Das Betriebsmittel dient zur Aufbereitung des Messgases an ständig wechselnden Entnahmestellen, um das Analysengerät vor Restfeuchtigkeit und Fremdpartikel im Messgas zu schützen.
This equipment is used for conditioning the sample gas with frequently changing sampling points to protect the analysis instrument from residual moisture and particles in the sample gas.

Das oben beschriebene Produkt der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:

EN 61326-1:2013 **EN 61010-1:2010/A1:2019/AC:2019-04**

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.
This declaration of conformity is issued under the sole responsibility of the manufacturer.

Dokumentationsverantwortlicher für diese Konformitätserklärung ist Herr Stefan Eschweiler mit Anschrift am Firmensitz.
The person authorized to compile the technical file is Mr. Stefan Eschweiler located at the company's address.

Ratingen, den 17.02.2023

Stefan Eschweiler
Geschäftsführer – *Managing Director*

Frank Pospiech
Geschäftsführer – *Managing Director*

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UK Declaration of Conformity

The manufacturer Bühler Technologies GmbH declares, under the sole responsibility, that the product complies with the requirements of the following UK legislation:

Electrical Equipment Safety Regulations 2016

The following legislation were regarded:

Electromagnetic Compatibility Regulations 2016

Product: Portable sample gas conditioning
Type: PCS.base

This equipment is used for conditioning the sample gas with frequently changing sampling points to protect the analysis instrument from residual moisture and particles in the sample gas.

The object of the declaration described above is in conformity with the relevant designated standards:

EN 61010-1:2010/A1:2019/AC:2019-04

EN 61326-1:2013

Ratingen in Germany, 17.02.2023

Stefan Eschweiler
Managing Director

Frank Pospiech
Managing Director

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen,
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RMA-Formular und Erklärung über Dekontaminierung
RMA-Form and explanation for decontamination

RMA-Nr./ RMA-No.

Die RMA-Nr. bekommen Sie von Ihrem Ansprechpartner im Vertrieb oder Service. Bei Rücksendung eines Altgeräts zur Entsorgung tragen Sie bitte in das Feld der RMA-Nr. "WEEE" ein./ You may obtain the RMA number from your sales or service representative. When returning an old appliance for disposal, please enter "WEEE" in the RMA number box.

Zu diesem Rücksendeschein gehört eine Dekontaminierungserklärung. Die gesetzlichen Vorschriften schreiben vor, dass Sie uns diese Dekontaminierungserklärung ausgefüllt und unterschrieben zurücksenden müssen. Bitte füllen Sie auch diese im Sinne der Gesundheit unserer Mitarbeiter vollständig aus./ This return form includes a decontamination statement. The law requires you to submit this completed and signed decontamination statement to us. Please complete the entire form, also in the interest of our employee health.

Firma/ Company

Firma/ Company	
Straße/ Street	
PLZ, Ort/ Zip, City	
Land/ Country	

Ansprechpartner/ Person in charge

Name/ Name	
Abt./ Dept.	
Tel./ Phone	
E-Mail	

Gerät/ Device	
Anzahl/ Quantity	
Auftragsnr./ Order No.	

Serien-Nr./ Serial No.	
Artikel-Nr./ Item No.	

Grund der Rücksendung/ Reason for return

- ☐ Kalibrierung/ Calibration
- ☐ Modifikation/ Modification
- ☐ Reklamation/ Claim
- ☐ Reparatur/ Repair
- ☐ Elektroaltgerät/ Waste Electrical & Electronic Equipment (WEEE)
- ☐ andere/ other

bitte spezifizieren/ please specify

Ist das Gerät möglicherweise kontaminiert?/ Could the equipment be contaminated?

☐ Nein, da das Gerät nicht mit gesundheitsgefährdenden Stoffen betrieben wurde./ No, because the device was not operated with hazardous substances.

☐ Nein, da das Gerät ordnungsgemäß gereinigt und dekontaminiert wurde./ No, because the device has been properly cleaned and decontaminated.

☐ Ja, kontaminiert mit:/ Yes, contaminated with:

☐ explosiv/ explosive	☐ entzündlich/ flammable	☐ brandfördernd/ oxidizing	☐ komprimierte Gase/ compressed gases	☐ ätzend/ caustic	☐ giftig, Lebensgefahr/ poisonous, risk of death	☐ gesundheitsgefährdend/ harmful to health	☐ gesundheitsschädlich/ health hazard	☐ umweltgefährdend/ environmental hazard

Bitte Sicherheitsdatenblatt beilegen!/ Please enclose safety data sheet!

Das Gerät wurde gespült mit:/ The equipment was purged with:

Diese Erklärung wurde korrekt und vollständig ausgefüllt und von einer dazu befugten Person unterschrieben. Der Versand der (dekontaminierten) Geräte und Komponenten erfolgt gemäß den gesetzlichen Bestimmungen.

This declaration has been filled out correctly and completely, and signed by an authorized person. The dispatch of the (decontaminated) devices and components takes place according to the legal regulations.

Falls die Ware nicht gereinigt, also kontaminiert bei uns eintrifft, muss die Firma Bühler sich vorbehalten, diese durch einen externen Dienstleister reinigen zu lassen und Ihnen dies in Rechnung zu stellen.

Should the goods not arrive clean, but contaminated, Bühler reserves the right, to comission an external service provider to clean the goods and invoice it to your account.

Firmenstempel/ Company Sign

Datum/ Date

rechtsverbindliche Unterschrift/ Legally binding signature

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Vermeiden von Veränderung und Beschädigung der einzusendenden Baugruppe

Die Analyse defekter Baugruppen ist ein wesentlicher Bestandteil der Qualitätssicherung der Firma Bühler Technologies GmbH. Um eine aussagekräftige Analyse zu gewährleisten muss die Ware möglichst unverändert untersucht werden. Es dürfen keine Veränderungen oder weitere Beschädigungen auftreten, die Ursachen verdecken oder eine Analyse unmöglich machen.

Umgang mit elektrostatisch sensiblen Baugruppen

Bei elektronischen Baugruppen kann es sich um elektrostatisch sensible Baugruppen handeln. Es ist darauf zu achten, diese Baugruppen ESD-gerecht zu behandeln. Nach Möglichkeit sollten die Baugruppen an einem ESD-gerechten Arbeitsplatz getauscht werden. Ist dies nicht möglich sollten ESD-gerechte Maßnahmen beim Austausch getroffen werden. Der Transport darf nur in ESD-gerechten Behältnissen durchgeführt werden. Die Verpackung der Baugruppen muss ESD-konform sein. Verwenden Sie nach Möglichkeit die Verpackung des Ersatzteils oder wählen Sie selber eine ESD-gerechte Verpackung.

Einbau von Ersatzteilen

Beachten Sie beim Einbau des Ersatzteils die gleichen Vorgaben wie oben beschrieben. Achten Sie auf die ordnungsgemäße Montage des Bauteils und aller Komponenten. Versetzen Sie vor der Inbetriebnahme die Verkabelung wieder in den ursprünglichen Zustand. Fragen Sie im Zweifel beim Hersteller nach weiteren Informationen.

Einsenden von Elektroaltgeräten zur Entsorgung

Wollen Sie ein von Bühler Technologies GmbH stammendes Elektroprodukt zur fachgerechten Entsorgung einsenden, dann tragen Sie bitte in das Feld der RMA-Nr. „WEEE“ ein. Legen Sie dem Altgerät die vollständig ausgefüllte Dekontaminierungserklärung für den Transport von außen sichtbar bei. Weitere Informationen zur Entsorgung von Elektroaltgeräten finden Sie auf der Webseite unseres Unternehmens.

Avoiding alterations and damage to the components to be returned

Analysing defective assemblies is an essential part of quality assurance at Bühler Technologies GmbH. To ensure conclusive analysis the goods must be inspected unaltered, if possible. Modifications or other damages which may hide the cause or render it impossible to analyse are prohibited.

Handling electrostatically conductive components

Electronic assemblies may be sensitive to static electricity. Be sure to handle these assemblies in an ESD-safe manner. Where possible, the assembles should be replaced in an ESD-safe location. If unable to do so, take ESD-safe precautions when replacing these. Must be transported in ESD-safe containers. The packaging of the assemblies must be ESD-safe. If possible, use the packaging of the spare part or use ESD-safe packaging.

Fitting of spare parts

Observe the above specifications when installing the spare part. Ensure the part and all components are properly installed. Return the cables to the original state before putting into service. When in doubt, contact the manufacturer for additional information.

Returning old electrical appliances for disposal

If you wish to return an electrical product from Bühler Technologies GmbH for proper disposal, please enter "WEEE" in the RMA number box. Please attach the fully completed decontamination declaration form for transport to the old appliance so that it is visible from the outside. You can find more information on the disposal of old electrical appliances on our company’s website.

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