Gas Analysis

Heated sample gas line

Installation and Operation Instructions

Original instructions

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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.

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1 Introduction

1.1 Intended Use

The heated sample gas line is intended for use in gas analysis systems in industrial applications.

– Before using the device, verify the listed technical data meet the application parameters.
– Further check if all contents are complete.

Please refer to the type plate to identify your model. In addition to the job number it also contains the item number:

When connecting, please note the specific values of the device, and the correct versions when ordering spare parts.

When using the heated sample gas line for a different purpose than originally intended, please consult our technical advisers to determine if it is suitable for the application.

Unauthorised misappropriation is prohibited. Any modification to the heated sample gas line will compromise operating safety and automatically void the manufacturer warranty.

1.2 Product Description

The principle behind the heated sample gas line is the inner tube the medium flows through. It is made from high quality PTFE and has a smooth surface. Since the pressure resistance of the PTFE inner tube is not particularly high it is wrapped with stainless steel wires, i.e. the medium pressure version has one, the high pressure version has two stainless steel reinforcements. The built-in fitting are crimped together with the tube body at a predefined pressure-time ratio.

The heater consists of high quality heat conductor compositions made from different insulating materials based on the temperature. Heat insulation is adapted to the temperature range and the type of heated sample gas line, with temperature-resistant caps at both ends. The entire heated sample gas line is designed so the overall affect on the flexibility of the pressure hose or the pipe is negligible.

NOTICE

Minimum bend radii, operating temperature

Depending on the length or nominal cross-section of the heated sample gas lines, suitable minimum bend radii are required. The max. operating temperatures are specified in the type plate and must never be exceeded in any area. Suitable control equipment must be used to regulate the temperature.

The heated sample gas line can be used for a variety of applications. The application can be:

– Frost protection purposes, e.g. -20 °C (-4 °F)
– Maintaining the temperature,
– Increasing the temperature to max. 200 °C (392 °F)

Be sure to observe the limits specified in the technical data. Suitable temperature control devices (regulator/cut-out) must be used to avoid exceeding the max. medium temperature. The heat output varies by length and cross-section.

NOTICE

Temperature control

Different ambient temperatures around the tube will result in different internal temperatures. The ambient temperature where the sensor is located is critical in temperature control and should be around the max. ambient temperature to prevent overheating.

1.3 Scope of Delivery

– Heated sample gas line
– Product Documentation

Attached and included accessories are listed separately in the order.

1.4 Ordering Instructions

Item no.	Type
48 5000 XXXX	self-regulating to 65 °C
48 5001 XXXX	self-regulating to 120°C
48 5012 XXXX	controllable up to 200 °C

Item numbers of lines only for non-explosive gases and environments. Lines for use in explosive areas available upon request.

XXXX indicates consecutive numbering. Please contact us for the version you require.

Special types available upon request.

1.4.1 Temperature controller for use in controllable lines type 48 5012 XXXX

Item no.	Type
48 5300 0002	Wall-mounted temperature controller, terminal clamps, operating voltage 90...250 V, switching current 10 A
48 5300 0003	Wall-mounted temperature controller, heating connects via round connector 4+PE, operating voltage 90...250 V, switching current 20 A

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 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.

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.

3 Transport and storage

Only transport the product inside the original packaging or a suitable alternative.

The equipment must be protected from moisture and heat when not in use. They must be stored in a covered, dry and dust-free room at a temperature between -20 °C to 50 °C (-4 °F to 122 °F).

4 Installation and connection

4.1 Assembly Instructions

1. Check the type plate specifications prior to installation: Do the type, version, voltage, output, and operating temperature meet your requirements?
2. Visually inspect: Is this the version you ordered? When in doubt, check the documents. Does the heated sample gas line meet the requirements at the job site?
3. If the heated sample gas line is secured with brackets, pressing on it must not reduce the outside diameter by more than 10 %. Exceeding the 10 % limit may damage the heating conductor, control lines, and sensor leads.
4. If there are control wires inside the heated sample gas line, please note the electrical power rating of these wires. The standard cross-section is 0.75 mm^2.
5. Always use suitable temperature control devices. The controller output, sensor type, and temperature range must match.
6. Be sure to connect the heated sample gas line to a controller with the respective specifications. An inverted sensor allows the heated sample gas line to heat until it is destroyed.
7. When installed outdoors, the heated sample gas line must be protected from the wind, as this could cool it and potentially prevent it from reaching the target temperature. It further should not be exposed to rain or direct sunlight for extended periods. It must be protected by a suitable cover.
8. Do not pull the heated sample gas line by the fittings. All fittings will withstand pressure but are susceptible to pulling.
9. Do not pull the heated sample gas line by the connection cable.
10. Please note the specific requirements at the job site.
11. Verify if the materials in contact with the medium are resistant to or withstand the mediums to be heated (> see Technical Data).
12. Check if surrounding objects, system components or other items can damage or impair the function of the heated sample gas line and clear or remove these.
13. Conductive, exposed parts must be included in potential equalisation.

We recommend using an I_F< 30 mA residual-current-operated protective device RCD (ELCB).

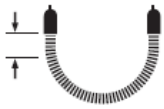
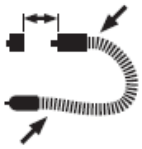
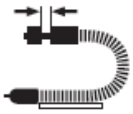
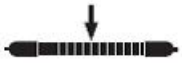
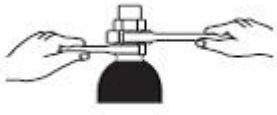
NOTICE

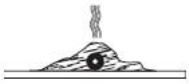
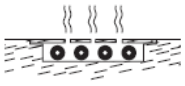
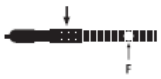
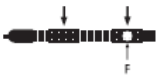
Minimum bend radii, operating temperature

Depending on the length or nominal cross-section of the heated sample gas lines, suitable minimum bend radii are required. The max. operating temperatures are specified in the type plate and must never be exceeded in any area. Suitable control equipment must be used to regulate the temperature.

Generally: Minimum bend radius > 5 x tube diameter. Other bend radii available upon request.

4.1.1 Connecting the heated sample gas line

		Assembly Drawing		Action
		Wrong	Correct	
1	If the heated sample gas line is too short, the connecting ends may kink.			Plan for a straight piece (5 x tube diameter) at the connecting ends. A higher bend radius will extend the life.
2	Unfavourable installation allows the heated sample gas line to sag.	 	 	Supports or reels with counterweight.
3	On rolled heated sample gas lines stain at the ends will cause torsional stress and the bend radii will be below the minimum.	 	 	Unroll line, do not pull off. Observe the minimum bend radii (5 x tube diameter).
4	Compression along the centre line due to incorrect installation or movement reduces the pressure resistance. Expansion compensation with built-in lines will destroy the lines.	  	  	Bend at connections.
5	Torsion movement will destroy the heated sample gas line. This is often due to incorrect installation, particularly twisting the line during assembly.	  	 	Be sure the line axes are parallel and movement is plane. Use a locking key during assembly to prevent the heated sample gas line from twisting.

		Assembly Drawing		Action
		Wrong	Correct	
6	Deflections are particularly dangerous due to the risk of kinking and bending stress.			Select the correct diameter saddle or pulley.
7	High bending stress behind the connections is harmful.			Use an elbow.
				
				
8	The risk of kinking is particularly high in manual devices.			Use an elbow or anti-kink device (e.g. wire spiral) suitable for the operating position.
9	Spilling e.g. powdery substances, adhesive or other thermally insulating materials on heating tubes will cause overheating in these areas.			Constantly clean these materials off and eliminate the cause.
10	Installing heated sample gas lines inside a closed channel or duct will cause heat to build up.			Heated sample gas lines must not touch. Further ensure adequate ventilation.
11	Bundling or installation with the lines touching will cause overheating at these contact points. Never operate heated sample gas lines whilst rolled up, as this will cause overheating.			Install spaced apart; unroll heated sample gas lines.
12	Heat build-up with overheating is also caused by wrapping the heated sample gas lines with other materials. If the detector area is wrapped, the remaining line will cool down.			
13	When using clamps or similar parts for installation, be sure the exterior structure will not be crushed.			

4.2 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 operator must install an external separator for the device which is clearly assigned to this device. A separator (main switch) with min. 3 mm contact operating and a fuse suitable for the conductor cross-section, max. 16 A or 20 A, suitable for the voltage must be installed at the site for this purpose. Perform a detailed root cause analysis.

Electric strength test

(Repeat) tests of the electric strength must be performed at 1 kV for stationary systems, or 1.5 kV for mobile applications. The insulation resistance must be > 20 MΩ.

4.2.1 Self-regulating lines

The line has a heater with fixed output and may therefore be connected to a 115 V AC or 230 V AC power supply (see type plate).

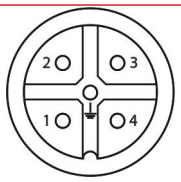
4.2.2 Controllable lines

The line has a regulated, adjustable heater. The supply voltage is 115 V AC, 50/60Hz or 230 V AC, 50/60 Hz (see type plate).

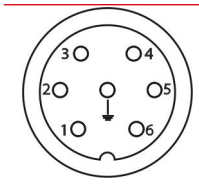
If the heat dissipation is very high near the heated sample gas line due to the application, install an appropriate shield provided by the customer to protect the heated sample gas line and regulator.

4.2.3 Connector pin assignment (optional)

5-pin Round plug

Connection	Pin	Assignment
	1	L 230/150 V
	2	N 230/150 V
	3	Sensor (+)
	4	Sensor (-)
	⏚	PE

7-pin Round plug

Connection	Pin	Assignment
	1	L 230/150 V
	2	N 230/150 V
	3	free
	4	free
	5	Sensor (+)
	6	Sensor (-)
	⏚	PE

5 Operation and Control

NOTICE

The device must not be operated beyond its specifications.

5.1 Operating the heated sample gas line

NOTICE

Geometric arrangement during operation

Never operate the heated sample gas line rolled up or stacked. The outer sheath (corrugated tube) may otherwise be destroyed!

1. Closely monitor the initial heat-up phase to detect any faults early and take safeguards if necessary. Monitor further operation of the heated sample gas line.
2. Be sure the medium at the entry or inlet point does not exceed the max. temperature of the heated sample gas line. The heated sample gas line may otherwise be damaged in these areas.
3. Avoid extreme shock or movement whilst operating the heated sample gas line (shaking, vibration, etc.).
4. Never pull the heated sample gas line by the fitting, as all fittings will withstand pressure but are fragile when pulled.
5. A fitting may clog due to the medium solidifying and only clear again after heating up for some time. Never use external heat (e.g. torch, etc.) to attempt to reduce the time. This will damage the heated sample gas line!
6. If you notice damage or abnormal function of the heated sample gas line during operation, switch off and disconnect from the mains as quickly a possible.
7. Avoid exposing the heated sample gas line to direct sunlight for extended periods, or protect if this cannot be avoided.

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

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

Hot surface

Risk of burns
Depending on the operating parameters, the housing temperature may reach over 100 °C during operation.
Allow the unit to cool down before performing maintenance.

CAUTION

Excess pressure

The unit mustn't be pressurised or energised when opened.
If necessary, close the gas supply and ensure a safe pressure on the process end before opening.

6.1 Heated Sample Gas Line Maintenance

1. If the outside of the heated sample gas line or the supply cable show defects, disconnect mains immediately, removed, and sent to the factory for inspection. Never open the heated sample gas line or components thereof unauthorised.
2. The heated sample gas line should be regularly inspected or serviced, at least every 6 months, by an electrically skilled person using suitable measuring and testing equipment to ensure operational safety. The inspection intervals must be adapted to the operating conditions on site.
3. If a limiter permanently switches off, analyse the cause prior to restarting and take suitable measures to prevent future occurrences.
4. The life of the heated sample gas line varies by application conditions. With rough operation this is shorter than with occasional use in optimal conditions.

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 attach 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

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.

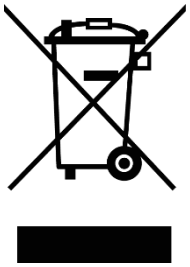
Problem / Malfunction	Possible cause	Action
Temperature alarm	– Heat-up not yet completed	– Wait for heat-up to complete
	– Heater	– Send in heated sample gas line for repair
No heat output	– No/incorrect power supply	– Check power supply
Condensation forming	– Heater defective	– Send in probe for repair
	– Thermal bridges	– Insulate to eliminate thermal bridges.

Tab. 1: Troubleshooting

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 General Technical Data

(Please see the heated sample gas line type plate for specific technical data)

General technical data	
Max. ambient temperature:	- 20 °C to + 40 °C
Max. operating temperature:	varies by heating tube type, see type plate
Nominal operating voltage:	230 V/50 Hz (other voltages available)
Nominal capacity:	varies by heated sample gas line type, see type plate
Output tolerances:	+/- 10 %
Heated sample gas line diameter:	+/- 10 %
Heated sample gas line length:	+/- 5 %*
Mains connecting cables:	1.5 m
Sensor connecting cables:	1.5 m
Chemical resistance:	To all chemicals, including acids and bases of any concentration. **Exception:** Molten alkaline metals and fluorine compounds.

*Pressure load variations may cause the length to fluctuate +/- 2 % during operation.

9.2 Technical Data

Heated lines for non-explosive applications

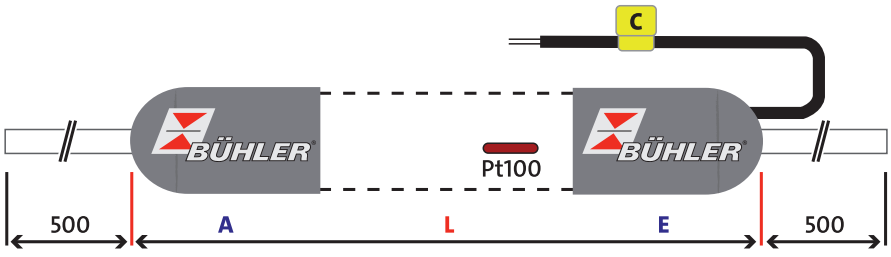
Self-regulating lines	
Voltage:	230 V/50 Hz or 115 V/60 Hz
Max. operating temperature:	65 °C: Output 25 W/m 120 °C: Output 60 W/m
Materials/lengths:	End caps silicone, cable end sleeves, connecting cable length 2 m, sheath corrugated PA tube Core: PTFE DN 4/6 and stainless steel (1.4571) 6 mm, fixed, 500 mm unheated protrusion both ends

Controllable lines	
Voltage:	230 V/50 Hz or 115 V/60 Hz
Max. operating temperature:	200 °C: Output 100 W/m
Sensor:	1 x Pt100 (2-lead) standard (others available upon request)
Materials/lengths:	End caps silicone, cable end sleeves, connecting cable length 2 m, sheath corrugated PA tube Core: PTFE DN 4/6 and stainless steel (1.4571) 6 mm, fixed, 500 mm unheated protrusion both ends

Other dimensions, materials and replaceable core available upon request.

9.3 Dimensions

Schematic heated line construction. The Pt100 only is only installed standard in the controllable line.



9.4 Helpful accessories for connecting heated lines

A suitable connection between heated lines requires thermal insulation or active heating between the unheated ends. Silicone foam insulating sleeves are available for this purpose. If passive insulation is inadequate, you may choose a self-regulating transitional heater.

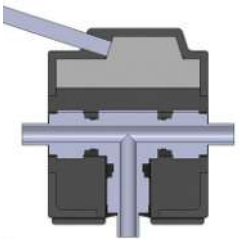
Insulating Sleeve

Technical Data - Insulating Sleeve	
Type:	ID 20 mm/OD 42 mm
Length:	80 mm
Item number:	48 5300 0016

Self-regulating transitional heater

Outside view

Inside view



The self-regulating transitional heater can be used for cutting ring fittings as well as tubes and pipes with an outside diameter of 6 mm, 8 mm and 1/4". The construction allows heating straight connectors, 90° elbows as well as T-fittings.

Technical Data - Self-Regulating Transitional Heater	
Material:	Silicone (elastic)
Ambient temperature:	-60 °C to +200 °C
Operating temperature:	+200 °C (self-regulating)
Voltage:	$230V_{AC}$ / $115V_{AC}$
Electrical connection:	1 m silicone cable with cable ends, protection rating II
International protection rating:	IP62
Dimensions:	$Ø_o$ = 63 mm, $Ø_i$ = 17 mm, L = 60 mm
Item number:	48 5300 0017

9.5 Compressive strength

9.5.1 Medium pressure

CAUTION

Medium pressure

The compressive strength of flexible heated sample gas lines vary in different working temperatures.
Please note the values in the table below.

Within the range up to 200 °C the load can be defined, but from 250 °C on it drops to 0 bar. Between these temperatures the pressure should be calculated carefully depending on the strain, using a correction factor of 0.7 for every 24 °C. Pay attention to pressure peaks. These can be very high and are not included in normal pressure readouts. Never exceed the operating pressure.

Nominal width mm	Operating pressure bar at 24 °C	Operating pressure bar at 100 °C	Operating pressure bar at 150 °C	Operating pressure bar at 200 °C	Bust pressure* bar
4	275	260	248	228	1100
6	240	228	216	199	960
8	200	190	180	166	800
10	175	166	158	145	700
13	150	143	135	125	600
16	135	128	122	112	540
20	100	95	90	83	400
25	80	76	72	66	320

*At room temperature and pressure increase p max. 5 +10 sec.

Compressive strength high pressure: Burst pressure approx. 25 % higher than medium pressure tubes.

9.5.2 PTFE tube

Nominal width mm	Operating pressure bar at 24 °C	Operating pressure bar at 100 °C	Operating pressure bar at 150 °C	Operating pressure bar at 200 °C	Burst pressure bar
4	20	11	9	6	60
6	13	7	6	4	39
8	11	6	5	3	33

10 Attached documents

– Declaration of Conformity KX400001
– 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: Beheizte Messgasleitung / *Heated sample gas line*
Seriennummer / serial number: 48 5XXX XXXX (X = 0-9)

Das Betriebsmittel dient zum Betrieb in Gasanalysensystemen.
The equipment is intended for use in gas-analysis systems.

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 60519-1:2015 **EN 61010-1:2010/A1:2019/AC:2019-04**

Zusätzlich wurden berücksichtigt:
In addition, the following standards have been used:

EN 60398:2015

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*

Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen,
Tel. +49 (0) 21 02 / 49 89-0, Fax. +49 (0) 21 02 / 49 89-20
Internet: www.buehler-technologies.com

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: Heated sample gas line
Serial number: 48 5XXX XXXX (X = 0-9)

The equipment is intended for use in gas-analysis systems.

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 60519-1:2015**

In addition, the following standards have been used:

EN 60398:2015

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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