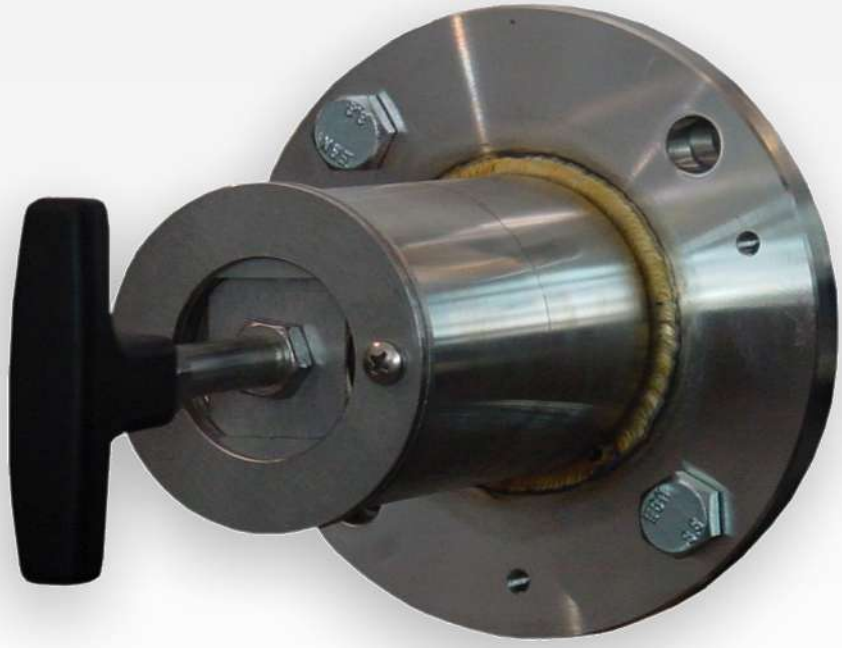
Gas Analysis



# Sample gas probes

# GAS 222.10

## Installation and Operation Instructions

Original instructions

BE460036
06/2024

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

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
E-Mail: analyse@buehler-technologies.com

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.

All rights reserved. Bühler Technologies GmbH 2024

Document information
Document No..... BE460036
Version..... 06/2024

# Table of Contents


1 Introduction ..... 2
1.1 Intended Use ..... 2
1.2 Type Plate ..... 2
1.3 Scope of Delivery ..... 2
1.4 Ordering instructions ..... 2
1.5 Product Description ..... 3

2 Safety instructions ..... 4
2.1 Important Information ..... 4
2.2 General Hazard Warnings ..... 5

3 Transport and storage ..... 7

4 Installation and connection ..... 8
4.1 Installation site requirements ..... 8
4.2 Installation ..... 8
4.3 Installing the sampling tube (optional) ..... 8
4.4 Installing the downstream filter ..... 9
4.5 Connecting the Gas Line ..... 9
4.5.1 Connecting the calibrating gas line (optional) ..... 9
4.6 Electrical Connections ..... 10

5 Operation and Control ..... 11
5.1 Before Start-Up ..... 11

6 Maintenance ..... 12
6.1 Maintaining the Filter Element ..... 13
6.1.1 Replacing the downstream filter ..... 13
6.1.2 Replacing the Outlet Filter with Micro-Fibreglass Filter Element ..... 14
6.2 Maintenance Schedule ..... 14

7 Service and repair ..... 15
7.1 Troubleshooting ..... 15
7.2 Spare Parts ..... 15

8 Disposal ..... 16

9 Appendices ..... 17
9.1 Technical Data ..... 17
9.2 Flow chart ..... 17
9.3 Dimensions ..... 18
9.4 Dimensions (ANSI flange) ..... 19
9.5 User book (Please make copies) ..... 20

10 Attached Documents ..... 21

# 1 Introduction

## 1.1 Intended Use

The sample gas probe is intended for installation into gas analysis systems in commercial applications.

Sample gas probes are among the main components in a gas conditioning system.

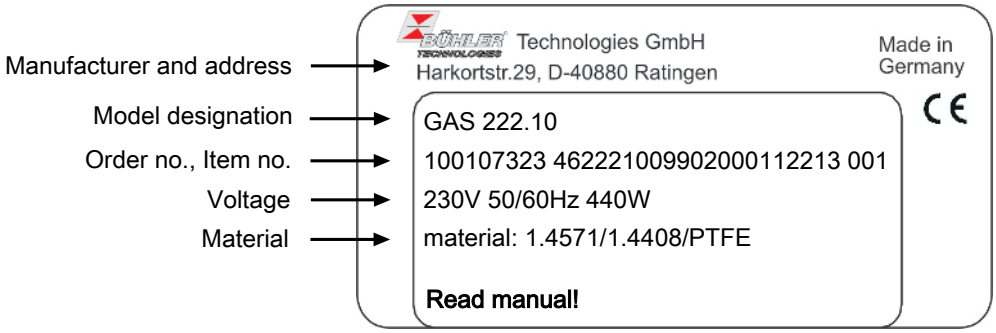
– Therefore also note the related drawing in the data sheet in the appendix.
– Before installing the device, verify the listed technical data meet the application parameters.
– Further verify all contents are complete.

Please refer to the type plate to identify your model. In addition to the job number/ID number, this also contains the article number and model designation.

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

## 1.2 Type Plate

### Example:




## 1.3 Scope of Delivery

– 1 x Sample gas probe
– 1 x Flange gasket and screws
– Product documentation
– Connection and mounting accessories (only optional)

## 1.4 Ordering instructions

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

| 4622210 | X | 9 | 9 | 0 | 0 | X | 0 | 0 | 9 | 9 | 9 | 9 | 9 | 9 | Product Characteristics |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | **Flange** |
| | 0 | | | | | | | | | | | | | | DIN DN65 PN6 |
| | 2 | | | | | | | | | | | | | | ANSI 3"-150 lbs - without CSA C & US approval |
| | | | | | | | | | | | | | | | **Power supply sample probe** |
| | | | | | 0 | | | | | | | | | | none |
| | | | | | | | | | | | | | | | **Calibrating gas connection** |
| | | | | | | 0 | | | | | | | | | No calibrating gas connection |
| | | | | | | 1 | | | | | | | | | 6 mm |
| | | | | | | 2 | | | | | | | | | 6 mm + check valve |
| | | | | | | 3 | | | | | | | | | 1/4" |
| | | | | | | 4 | | | | | | | | | 1/4" + check valve |

## 1.5 Product Description

| Probe | Description |
|---|---|
| GAS 222.10 | Probe with downstream filter |
| Accessories | Please refer to the data sheet at the end of this manual for accessories for this probe |

# 2 Safety instructions

## 2.1 Important Information

This unit may only be used if:

- The product is being used under the conditions described in the operating- and installation instructions, used according to the nameplate and for applications for which it is intended. Any unauthorized modifications of the device will void the warranty provided by Bühler Technologies GmbH,
- Complying with the threshold values specified in the data sheet and the instructions,
- Equipment is operated in intrinsically safe electric circuits.
- The controller itself is installed outside the explosive area,
- Monitoring equipment / protection devices must be connected correctly,
- Service and repair work not described in these instructions are performed by Bühler Technologies GmbH,
- Using genuine replacement parts.
- Erecting electrical systems in explosive areas requires compliance with regulation EN 60079-14.
- Additional national regulations pertaining to initial operation, operation, maintenance, repairs and disposal must be observed.
- These operating instructions are a part of the equipment. The manufacturer reserves the right to change performance-, specification- or technical data without prior notice. Please keep these instructions for future reference.

### 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

These instructions include the following warnings:

| | | | |
|---|---|---|---|
| | General warning sign | | General mandatory sign |
| | Warning not to inhale toxic gases | | Wear respiratory equipment |
| | Warning of corrosive substances | | Wear a safety mask |
| | Warning of explosion hazard | | Wear gloves |

## 2.2 General Hazard Warnings

**The maximum surface temperatures of the probes also vary based on operating conditions** (steam temperature, sample gas inlet temperature, ambient temperature, fluid flow rate). When used in **explosive areas, also particularly note** the related 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,
- compliance with national installation regulations.

### 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.
- Do not install damaged or defective spare part. If necessary, visually inspect prior to installation to determine any obvious damage to the spare parts.

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

**NOTICE**

**When used in explosive areas**

The basic version of the probe does not have any electrical connections and is not suitable for use in **Zone 1 or 21** explosive areas. Due to the lack of electrical connections, it does not fall under the provisions of the EN 60079 standard and therefore does not have a corresponding certificate or Ex marking.
By adding accessories (e.g. attachments such as solenoid valves, heated blowback vessel, etc.), the range of application of the probe is restricted to the standard range. For use in Ex zones, the Ex 1/Ex 2 version of the probe with the corresponding approved accessories should be selected. It is essential to observe the type plates of all attachments, in particular the explosion protection marking of the attachments and all hazard warnings in these instructions.

**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**

**Explosion hazard**

Life and explosion risk may result from gas leakage due to improper use.

a) Use the devices only as described in this manual.

b) Regard the process conditions.

c) Check tubes and hoses for leakage.

**DANGER**

**Use in explosive areas**
Flammable gasses and dust could ignite or explode. Avoid the following hazard sources:
**Sparking!**
Protect the equipment from external blows.
**Flame propagation!**
If the process holds a risk of flame propagation, install a flame arrestor.
**Dust:**
If possible, take the electrical components which must be opened for repair to a dust-free room. If unable to do so, prevent dust from entering the housing.
**Ignition of dust layers!**
When using the device in a dusty environment, routinely clean dust from all components. Also remove layers of dust in inaccessible areas.

**DANGER**

**Dangerous electrostatic charge (explosion hazard)**

Incendive electrostatic charges may occur when cleaning plastic housing parts and decals (e.g. with a dry cloth or compressed air). The sparks this produces could ignite flammable, explosive atmospheres.
Always clean plastic housing parts and decals **with a damp cloth**!

**DANGER**

**Explosion hazard due to high liquid temperatures**

Hot steam and hot sample gas cause in a high probe surface temperature. The highest fluid temperature is approximately the maximum probe surface temperature.

a) Always ensure a safety clearance of at least 20 K between the fluid temperature (steam, sample gas) and ignition temperature of explosive atmosphere (by measuring and monitoring the temperature).

b) Also be sure to stay well below the smouldering temperatures of dust.

c) Observe the relevant requirements in standards regarding the max. permissible surface temperature and ignition temperature of explosive atmosphere.

# 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 Installation site requirements

Sample gas probes are intended for flange mounting.

- Installation site and installation position are determined based on requirements specific to the application.
- If necessary, the connection piece should be slightly tilted toward the centre of the channel.
- The installation site should be protected from the weather. Protect the device from dust, falling objects, and external blows.
- In addition, adequate and safe access for installation and future maintenance work should be provided. In particular, note the length required to uninstall the probe tube!

If the probe is transported to the installation site in pieces, it will first need to be assembled.

## 4.2 Installation

**DANGER**

**Danger to life and explosion during installation and maintenance**

The unit must not be worked on (assembly, installation, maintenance) in explosive atmospheres.

**DANGER**

**Explosion hazard**

**When used in explosive areas**
Flammable gasses and dust could ignite or explode.
Never operate the gas probe outside the specifications. Extracting gases or gas mixtures which are also explosive in the absence of air is prohibited.

**DANGER**

**Explosion hazard due to ignition of dust**

When using the device in a dusty environment, routinely clean dust from all components.
The ignition temperature resp. smouldering temperature of flammable dusts resp. dust layers present must be considerably higher than the maximum surface temperature of the device (observe applicable standards and statutory regulations).
If possible, take the electrical components which must be opened for repair to a dust-free room. If unable to do so, prevent dust from entering the housing.

**DANGER**

**Explosion hazard due to flame propagation**

Severe injuries and damage to the system
If the process holds a risk of flame propagation, install a flame arrestor.

**DANGER**

**Dangerous electrostatic charge (explosion hazard)**

Incendive electrostatic charges may occur when cleaning plastic housing parts and decals (e.g. with a dry cloth or compressed air). The sparks this produces could ignite flammable, explosive atmospheres.
Always clean plastic housing parts and decals **with a damp cloth**!

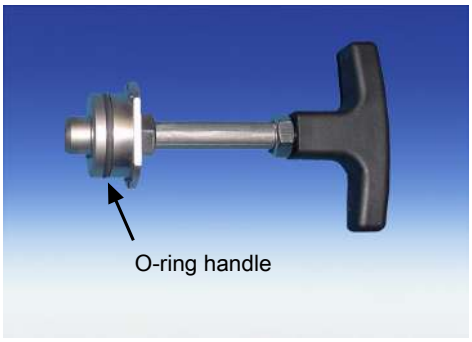
## 4.3 Installing the sampling tube (optional)

The sampling tube, if necessary with the fitting extension, must be screwed in. The probe is then attached to the mating flange using the included seal and nuts.

## 4.4 Installing the downstream filter

**NOTICE**

The downstream filter and the O-ring for the handle must be inserted prior to first start-up.
**Operating without downstream filter prohibited!**




Attach an O-ring suitable for the expected ambient temperature to the handle.

Attach the downstream filter to the handle. Then carefully insert the handle with filter in the gas probe and turn 90° to secure.

Verify the handle is seated correctly. When seated correctly it locks onto the filter housing.

## 4.5 Connecting the Gas Line

The sample gas line must be carefully and properly connected using a suitable fitting.

This table provides an overview of the sample gas probe connections:

| | Probe GAS 222 | Reservoir PAV01 | Ball valve pneumatic drive | Control valve 3/2-way solenoid valve |
|---|---|---|---|---|
| Connecting flange [1] | DN65/PN6/ DN3“-150 [2] | | | |
| Sample gas inlet | G3/4 | | | |
| Sample gas outlet | NPT 1/4 | | | |
| Blowback connection | G3/8 | | | |
| Test gas connection [1] | Tube Ø6 mm Tube Ø1/4 [2] | | | |
| Filling port | | NPT 1/4 | | |
| Condensate | | G1/2 | | |
| Bypass | | NPT 1/4 | | |
| Control air | | | G1/8 | G1/4 NPT 1/4 |

*Tab. 1:* Gas Probe Connections (Varies by Model)

[1] Varies by version.

[2] Only GAS 222.xx ANSI and GAS 222.xx AMEX

**WARNING**

**Gas emanation**

**Sample gas can be harmful to the health!**
Check the lines for leaks.

### 4.5.1 Connecting the calibrating gas line (optional)

Connecting the calibrating gas line requires a Ø6 mm or Ø1/4” pipe fitting.

If the calibrating gas connection was ordered with check valve, a Ø6 mm or Ø1/4” pipe can be connected directly to the check valve.

## 4.6 Electrical Connections

**DANGER**

**Explosion hazard due to absence of potential equalisation**

The device must be connected to potential equalisation (earthed) at the designated points.
Please observe the local regulations and guidelines.

# 5 Operation and Control

**NOTICE**

The device must not be operated beyond its specifications.

**CAUTION**

**Hot surface**

**Risk of burns**

Surface temperatures may be high during operation. Depending on the installation conditions on site, these areas may require a warning sign.

## 5.1 Before Start-Up

### Before starting the device, verify

- the hose- and electrical connections are not damaged and correct installed.
- no parts of the gas probe have been removed.
- the safety and monitoring devices are installed and functional.
- the gas inlet and outlet of the gas probe are open.
- ambient parameters are met.
- the performance specifications in the type plate are met.
- voltage and frequency in the type plate match the mains values.
- all connection cables are installed without strain.
- precautions have been taken.
- cable glands are sealed properly.
- the earth is proper and functional.

When used in Ex areas, also verify the probe and all add-on parts are suitable for use (observe type plates and ignition protection markings) and compliance with applicable Ex regulations.

# 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.
- Observe the respective safety regulations and operating specifications when performing any type of maintenance.
- Always use genuine spare parts.

**DANGER**

**Danger to life and explosion during installation and maintenance**

The unit must not be worked on (assembly, installation, maintenance) in explosive atmospheres.

**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**

**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.

**DANGER**

**Explosion hazard due to ignition of dust**

When using the device in a dusty environment, routinely clean dust from all components.
The ignition temperature resp. smouldering temperature of flammable dusts resp. dust layers present must be considerably higher than the maximum surface temperature of the device (observe applicable standards and statutory regulations).
If possible, take the electrical components which must be opened for repair to a dust-free room. If unable to do so, prevent dust from entering the housing.

## 6.1 Maintaining the Filter Element

The probes feature a particle filter which needs to be changed as it becomes dirty.

To do so, disconnect the voltage supply and if applicable close the shut-off valve to the process or switch off the process.

**CAUTION! Do not damage the rear filter seat.**

**NOTICE**

**Ceramic filter elements** are very brittle by nature. Handle them with care, don't let them fall.
**Filter elements made out of sintered stainless steel** can be cleaned in an ultrasonic bath and be used several times as long as both seals are still in proper conditions.

**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**

**Explosion hazard due to high liquid temperatures**

Hot steam and hot sample gas cause in a high probe surface temperature. The highest fluid temperature is approximately the maximum probe surface temperature.

a) Always ensure a safety clearance of at least 20 K between the fluid temperature (steam, sample gas) and ignition temperature of explosive atmosphere (by measuring and monitoring the temperature).

b) Also be sure to stay well below the smouldering temperatures of dust.

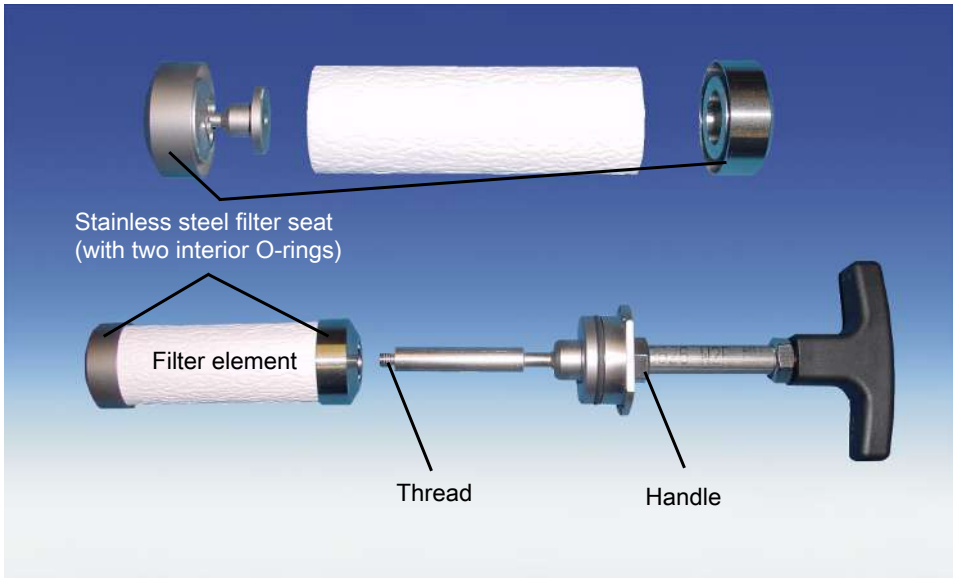
c) Observe the relevant requirements in standards regarding the max. permissible surface temperature and ignition temperature of explosive atmosphere.

### 6.1.1 Replacing the downstream filter

- Turn the handle at the back end of the probe by 90° (handle must then be horizontal), pushing in slightly, and remove.
- Remove the dirty filter element and check the sealing surfaces.
- Before installing the new filter element, replace the seal on the handle plug (seal included with the filter element).
- Then carefully insert the handle with new filter, push in slightly and turn 90° (handle must then be vertical). Pull on the handle to verify the filter element is firmly seated.
- With the filter removed, if necessary also need clean the inside of the sampling tube by blowing it out or using a cleaning wand.

## 6.1.2 Replacing the Outlet Filter with Micro-Fibreglass Filter Element

- Turn the handle at the rear end of the probe by 90° (handle must be horizontal), pushing in slightly, and remove.
- Unscrew the dirty filter element counter-clockwise from the thread of the handle.
- Pull both stainless steel filter seats off the filter element.
- Before installing the new filter element, replace the seal on the handle and inside the stainless steel filter seats (seals are included with the filter element).
- Then turn the handle with the new filter by 90° (handle must be vertical), pushing in slightly.
  **CAUTION! Do not damage the rear filter seat.**




With the filter removed, you may also clean the inside of the sampling tube if necessary by blowing it out or using a cleaning wand.

## 6.2 Maintenance Schedule

**NOTICE**

When using the probe in explosive areas the maintenance schedule must be observed!

### Maintenance schedule for normal ambient conditions:

| Component | Interval in operating hours | Work to be performed | To be performed by |
|---|---|---|---|
| Entire probe | every 8000 h | – Check gas connections<br>– Proper function, dirt.<br>If damaged, replace or have repaired by Bühler. | Operator |
| Entire probe | based on dust level (layer must be < 3 mm) | – Remove dust. | Operator |
| Filter | every 8,000 h | – Check dirt level of filter. | Operator |
| Seals | every 8,000 h | – Replace O-rings.<br>– Replace seals after every filter change. | Operator |
| Entire probe | after 20,000 h or 3 years | Inspection by Bühler | Service technician/Bühler |

# 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

For further information about our services and customised maintenance visit http://www.buehler-technologies.com/service.

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 |
|---|---|---|
| No or reduced gas flow | – Filter element clogged | – Clean or replace filter element |
| | – Gas circuit clogged | – Clean sampling tube |
| | | – Check compressed air supply |

*Tab. 2:* Troubleshooting

## 7.2 Spare Parts

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

Upgrade and expansion parts can be found in our catalog.

Available spare parts:

| Item no. | Description |
|---|---|
| 9009079 | Flange seal DN65 PN6 |
| 9009068 | Flange seal FD 40 WS |
| 46222012 | O-ring kit for filter element and probe, material: Viton |
| 46222024 | O-ring kit for filter element and probe, material: Perfluoroelastomer |
| | Please refer to the accessories data sheet in the appendix for filter elements |

# 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

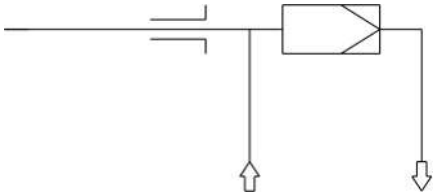
Please also observe data protection regulations and remember you are personally responsible for the returned waste equipment not bearing any personal data. Therefore please be sure to delete your personal data before returning your waste equipment.

# 9 Appendices

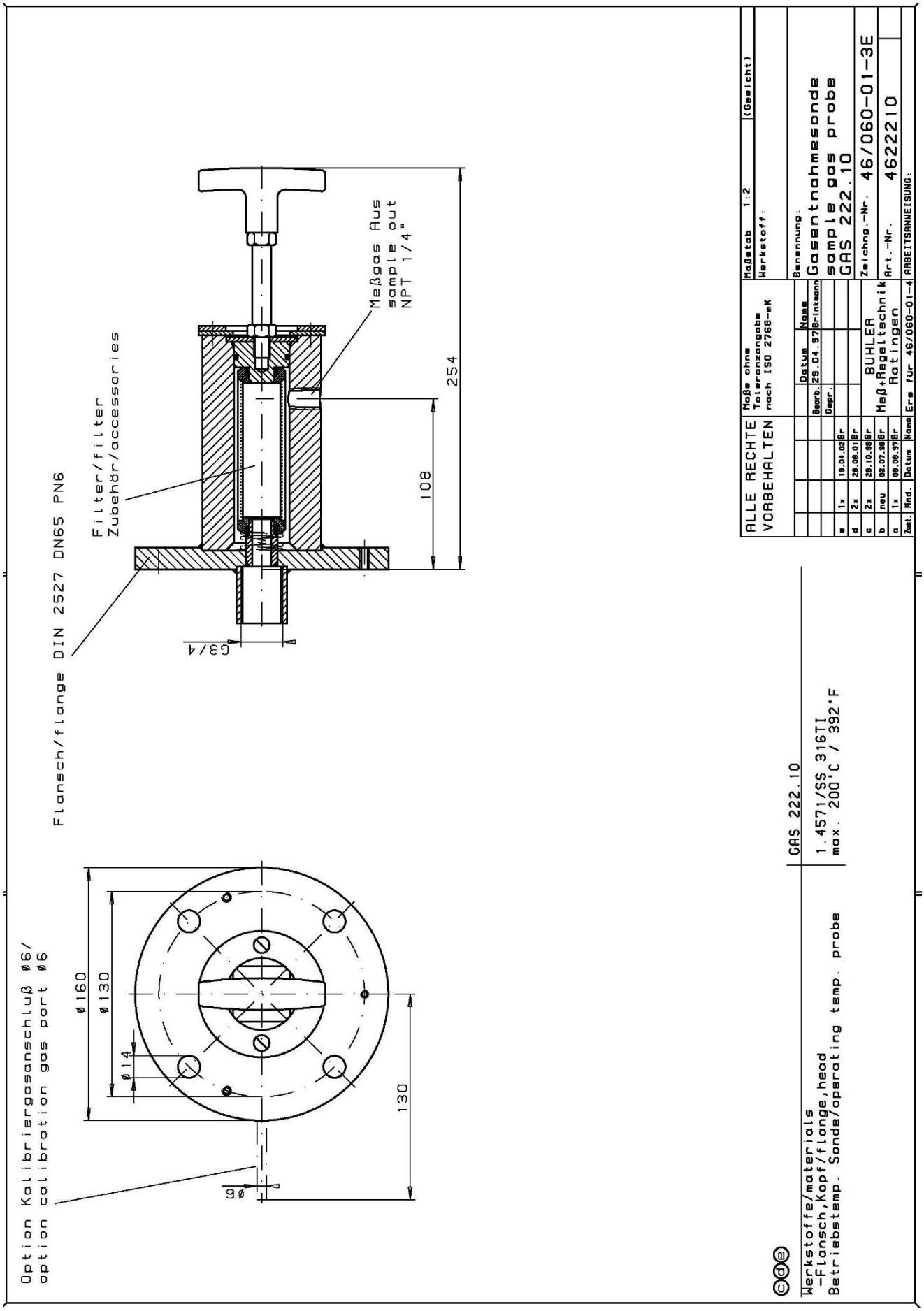
## 9.1 Technical Data

| Gas Probe Technical Data | |
|---|---|
| Operating temperature: | max. 200 °C |
| Max. operating pressure: | 6 bar |
| Parts in contact with media: | Flange: 1.4571<br>Seals: Graphite/1.4404 and see filter |

## 9.2 Flow chart

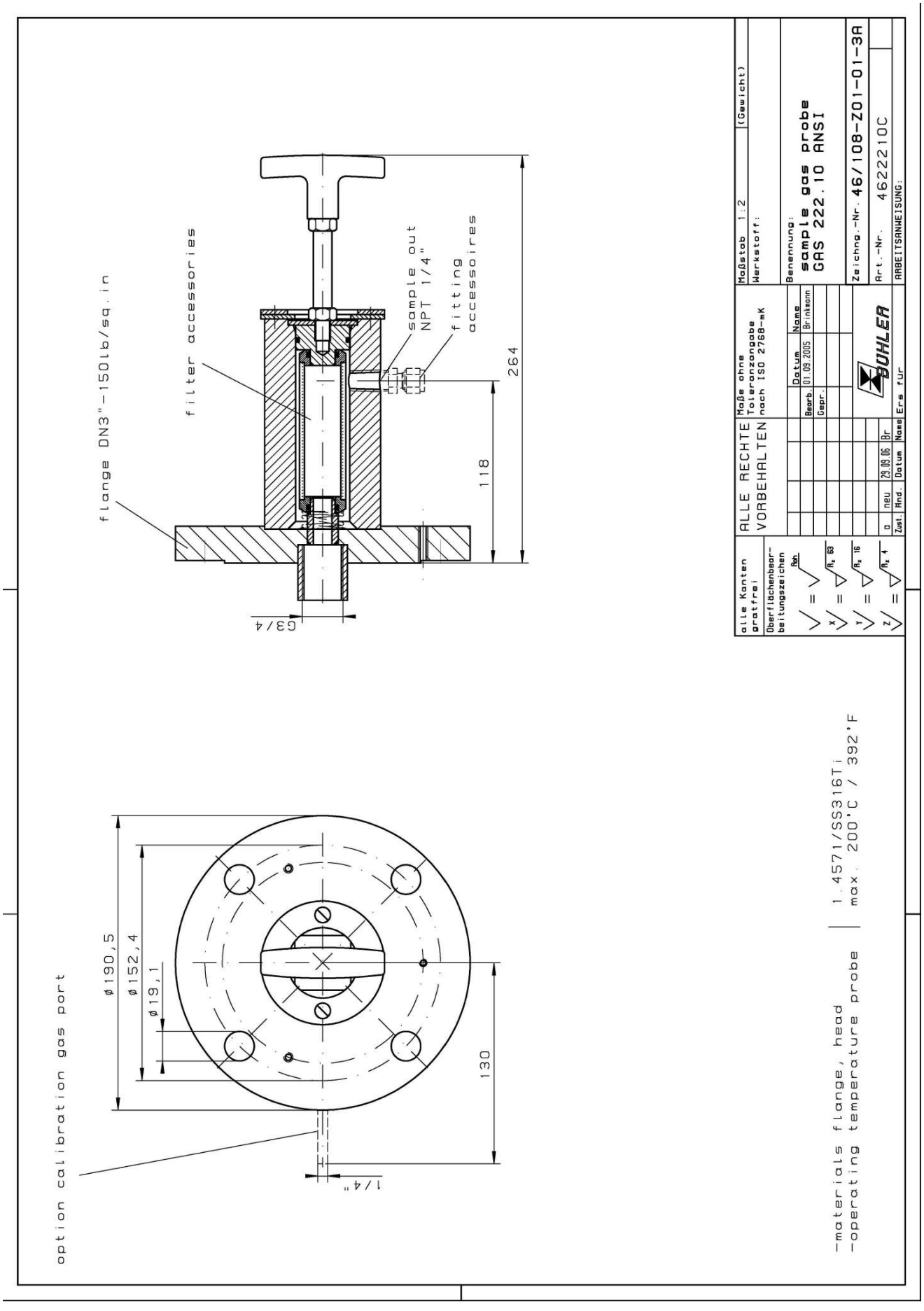


## 9.3 Dimensions



## 9.4 Dimensions (ANSI flange)

**NOTICE! ANSI flange only available without CSA approval.**



## 9.5 User book (Please make copies)

| Maintained on | Unit no. | Operating hours | Remarks | Signature |
|---|---|---|---|---|
| | | | | |

# 10 Attached Documents

- Declaration of Conformity KX460020
- Manufacturer Declaration HX460001
- Accessories Data Sheet 461099
- 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 Richtlinien wurden berücksichtigt:

The following directives were regarded:

**2014/30/EU (EMV/EMC)**

**Produkt / products:** Gasentnahmesonden mit Rückspülbehälter / *Sample gas probe with blowback vessel*

**Typ / type**: GAS 222.10, GAS 222.11, GAS 222.20 DH, GAS 222.30, GAS 222.35-U

Die Betriebsmittel dieser Baureihe sind zum Einbau in Gasanalysesystemen bestimmt. Sie gehören zu den wichtigsten Bauteilen eines Gasaufbereitungssystems.
*The equipment of this series is designed for installation in gas analysing systems. They are very important components in a sample conditioning system.*

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 80079-36**
**EN 80079-37**
**EN 61326-1:2013**
**EN 1127-1:2019**
**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*

KX 46 0020

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:** Sample gas probe with blowback vessel
**Types:** GAS 222.10
GAS 222.11
GAS 222.20 DH
GAS 222.30
GAS 222.35-U

The equipment of this series is designed for installation in gas analysing systems. They are very important components in a sample conditioning system.

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 80079-36**
**EN 80079-37**
**EN 61326-1:2013**
**EN 1127-1:2019**

Ratingen in Germany, 17.02.2023

Stefan Eschweiler
*Managing Director*

Frank Pospiech
*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

# *Herstellererklärung*
# *Manufacture Declaration*

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*

**2014/34/EU**
**(Atex)**

über Explosionsschutz in ihrer aktuellen Fassung entsprechen.

about explosive atmospheres in its actual version.

**Produkt / products:** Messgassonde / *sample gas probe*
**Typ / type:** GAS 222.xx, 10, 11, 20 DH, 30, 35-U

Gasentnahmesonden sind zum Einbau in Gasanalysesystemen bestimmt.
Durch die Gasentnahmesonden **GAS 222.xx** können nichtbrennbare Gase und brennbare Gase (die im Normalbetrieb gelegentlich explosiv sein können (Zone 1) geleitet werden. Das Rückspülen explosiver Gase ist nicht gestattet. Das Rückspülen brennbarer Gase darf nur mit Inertgas erfolgen. Die Sonden dürfen nur durch Fachpersonal installiert werden; die einschlägigen Sicherheitsvorschriften sind zwingend zu beachten. Die Grundversion der Sonden ist für den Einsatz in explosionsgefährdeten Bereichen der **Zone 1 oder Zone 21** geeignet. Je nach gewähltem Zubehör (z.B. Anbauteile wie Magnetventile, beheizter Rückspülbehälter...) kann der zugelassene Einsatzbereich stark eingeschränkt sein. Bei Verwendung von **Kategorie 3G oder 3D Zubehör** ist der Einsatzbereich der Sonden auf die **Zone 2 oder Zone 22** beschränkt. Beachten Sie daher unbedingt die Typenschilder aller Anbauteile (Insbesondere die Zündschutzkennzeichnung und die Hinweise in den Bedienungsanleitungen.
*Sample gas probes are intended for installation in gas-analysis systems.*
*Inflammable gases and flammable gases (only temporary explosive in normal operation; zone 1) can led through the sample gas probes. Blow back to explosive gas is not allowed. Blowback of flammable gas is only allowed with inert gas. Sample gas probes have to be installed by trained personnel. All safety regulations have to be fulfilled. All basic versions of the sample gas probes can be used in **zone 1** (explosive gas atmosphere) or in **zone 21** (explosive dust atmosphere). Depending on the accessories, the range of use may be restricted. Sample gas probes with **category 3G or 3D** accessories (e.g. magnetic valve, blowback vessel...) must be used only in **zone 2 or zone 22**. Therefore note the Ex-designation on the type plates of the accessories. Note also all indications in the instruction manuals.*

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 ISO 80079-36:2016** **EN ISO 80079-37:2016** **EN 1127-1:2019**

Die alleinige Verantwortung für die Ausstellung dieser Herstellererklärung trägt der Hersteller.
*This manufacture declaration issued under the sole responsibility of the manufacturer.*

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

Ratingen, den 01.11.2022

Stefan Eschweiler
Geschäftsführer – *Managing Director*

Frank Pospiech
Geschäftsführer – *Managing Director*

HX 46 0001

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

# Manufacturer Declaration

Herewith Bühler Technologies GmbH declares that the following products are not „equipment" for the purpose of legislation **Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016** respectively, and therefore are not labelled with the UKCA mark.

**Product:** Sample gas probe
**Types:** GAS 222.xx, 10, 11, 20 DH, 30, 35-U

This declaration is valid for all devices manufactured in accordance with the manufacturing documents deposited with the manufacturer – which form an integral part of this declaration.

Sample gas probes are intended for installation in gas-analysis systems.
Inflammable gases and flammable gases (only temporary explosive in normal operation; zone 1) can led through the sample gas probes. Blow back to explosive gas is not allowed. Blowback of flammable gas is only allowed with inert gas. Sample gas probes have to be installed by trained personnel. All safety regulations have to be fulfilled. All basic versions of the sample gas probes can be used in zone 1 (explosive gas atmosphere) or in zone 21 (explosive dust atmosphere). Depending on the accessories, the range of use may be restricted. Sample gas probes with category 3G or 3D accessories (e.g. magnetic valve, blowback vessel...) must be used only in zone 2 or zone 22. Therefore note the Ex-designation on the type plates of the accessories. Note also all indications in the instruction manuals.

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

**EN ISO 80079-36:2016**
**EN 1127-1:2019**

**EN ISO 80079-37:2016**

This declaration of manufacture is issued under the sole responsibility of the manufacturer.

Ratingen in Germany, 01.11.2022

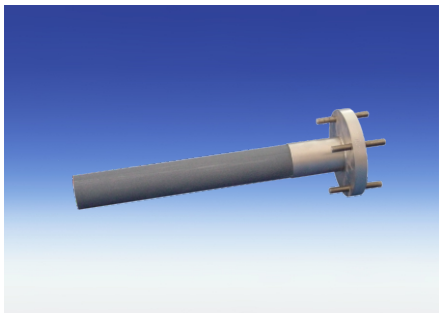
Stefan Eschweiler
Managing Director

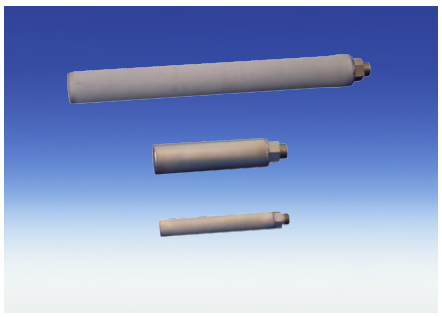
Frank Pospiech
Managing Director

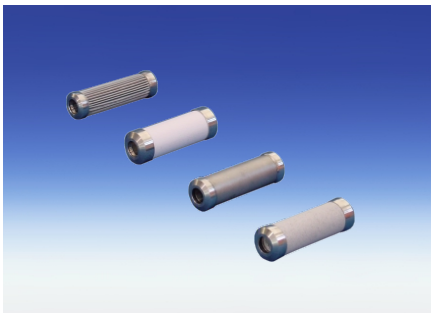


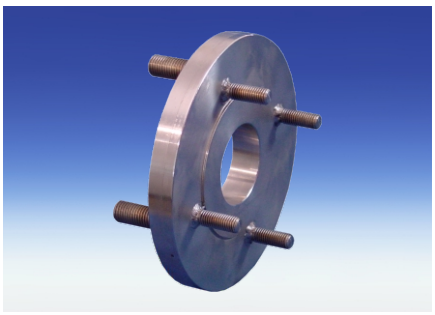
Bühler Technologies GmbH, Harkortstr. 29, D-40880 Ratingen,
Tel. +49 (0) 21 02 / 49 89-0, Fax. +49 (0) 21 02 / 49 89-20
Internet: www.buehler-technologies.com

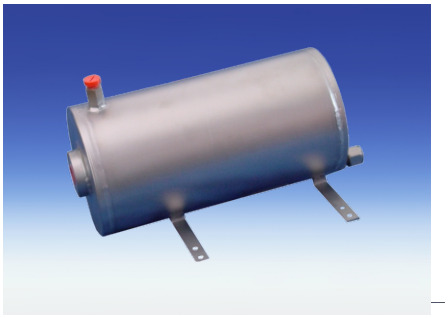
# Accessories for Sample Gas Probe GAS 222

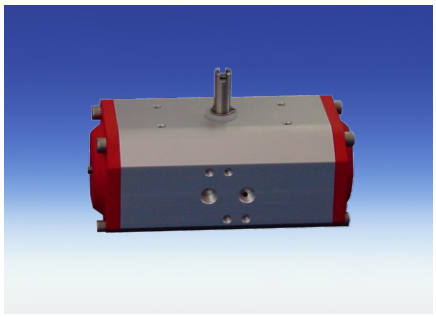












- **Sample tubes**
- **In-situ filters**
- **Extensions**

**Page 2 - 4**

- **Downstream filters**
- **Cal gas connections**
- **Adapter flanges**

**Page 8**

- **Capacitive vessel**
- **Pneumatic actuators**
- **3/2-way-solenoid valves**
- **Blowback controllers**

**Page 5 - 7**

For general information, see data sheet “Sample gas probes GAS 222” DE461000.



Bühler Technologies GmbH
D - 40880 Ratingen, Harkortstr. 29
Tel.: + 49 (0) 2102 / 4989-0 Fax: + 49 (0) 2102 / 4989-20
Internet: www.buehler-technologies.com
e-mail: analyse@buehler-technologies.com

# Sample tubes, in-situ filters and extensions

- Various materials
- Various dimensions
- Heated or nonheated extensions

| Sample tube | | | | | 222.10 | 222.11 | 222.30 | 222.35-U | 222.15 | 222.17 | 222.20 | 222.21 | 222.31 | 222.35 | 222.20 DH | 222.20 Atex | 222.21 Atex | 222.31 Atex | 222.35 Atex | 222.20 Atex2 | 222.21 Atex2 | 222.31 Atex2 | 222.35 Atex2 | 222.10 ANSI | 222.11 ANSI/ CSA | 222.30 ANSI/ CSA | 222.35-U ANSI/ CSA | 222.15 ANSI/ CSA | 222.17 ANSI/ CSA | 222.20 ANSI/ CSA | 222.21 ANSI/ CSA | 222.31 ANSI/ CSA | 222.35 ANSI/ CSA | 222.20 DH ANSI/ CSA | 222.20 AMEX | 222.21 AMEX | 222.31 AMEX | 222.35 AMEX | Type GAS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Material** | **T max.** | **Length** | **Part No.:** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 01 | 1.4571 | 600°C | 300 mm | 462220010300 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 01 | 1.4571 | 600°C | 500 mm | 462220010500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 01 | 1.4571 | 600°C | 1000 mm | 462220011000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 01 | 1.4571 | 600°C | 1500 mm | 462220011500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 01 | 1.4571 | 600°C | 2000 mm | 462220012000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 02 | Ceramics / 1.4571 | 1600°C | 0.5 m | 4622200205 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 02 | Ceramics / 1.4571 | 1600°C | 1.0 m | 4622200210 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 02 | Ceramics / 1.4571 | 1600°C | 1.5 m | 4622200215 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 06 | Hastelloy / 1.4571 | 400°C | 500 mm | 462220060500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 06 | Hastelloy / 1.4571 | 400°C | 1000 mm | 462220061000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 06 | Hastelloy / 1.4571 | 400°C | 1500 mm | 462220061500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 06 | Hastelloy / 1.4571 | 400°C | 2000 mm | 462220062000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 08 | Inconel / 1.4571 | 1050°C | 500 mm | 462220040500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 08 | Inconel / 1.4571 | 1050°C | 1000 mm | 462220041000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 08 | Inconel / 1.4571 | 1050°C | 1500 mm | 462220041500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 08 | Inconel / 1.4571 | 1050°C | 2000 mm | 462220042000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 08 | Inconel / 1.4571 | 1050°C | 2500 mm | 462220042500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 12 | 1.4571 | 600°C | 500 mm | 462220160500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 12 | 1.4571 | 600°C | 1000 mm | 462220161000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 12 | 1.4571 | 600°C | 1500 mm | 462220161500 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 12 | 1.4571 | 600°C | 2000 mm | 462220162000 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| 13 | Kanthal / 1.4571 | 1400°C | up to 1 m | 46222017 | X | X | | | X | X | X | X | | | X | | | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | | |
| | Sample tube with demister PVDF/ETFE | 120°C | 800 mm | 46222040 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | | | | |
| | Demister ETFE / as spare part | 120°C | | 462220402 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | | | | |
| | Sample tube with demister / 1.4571 | 400°C | 300 mm | 4622204203 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | | | | |
| | Sample tube with demister / 1.4571 | 400°C | 500 mm | 4622204205 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | | | | |
| | Sample tube with demister / 1.4571 | 400°C | 1000 mm | 4622204210 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | | | | |
| | Demister 1.4571 / as spare part | 400°C | | 4611004 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | | | | |

# Sample tubes, in-situ filters and extensions

- Various materials
- Various dimensions
- Heated or nonheated extensions

| In-situ filter | | | | | | 222.10 | 222.11 | 222.30 | 222.35-U | 222.15 | 222.17 | 222.20 | 222.21 | 222.31 | 222.35 | 222.20 DH | 222.20 Atex | 222.21 Atex | 222.31 Atex | 222.35 Atex | 222.20 Atex2 | 222.21 Atex2 | 222.31 Atex2 | 222.35 Atex2 | 222.10 ANSI | 222.11 ANSI/ CSA | 222.30 ANSI/ CSA | 222.35-U ANSI/ CSA | 222.15 ANSI/ CSA | 222.17 ANSI/ CSA | 222.20 ANSI/ CSA | 222.21 ANSI/ CSA | 222.31 ANSI/ CSA | 222.35 ANSI/ CSA | 222.20 DH ANSI/ CSA | 222.20 AMEX | 222.21 AMEX | 222.31 AMEX | 222.35 AMEX | Type GAS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Material** | **T max.** | **Length** | **Pore size** | **Part No.:** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 03 | stainless steel | 600°C | 237 mm | 5 µm | 46222303 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 03F | stainless steel | 600°C | 237 mm | 0.5 µm | 46222303F* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 03H | Hastelloy | 600°C | 237 mm | 5 µm | 46222303H* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 03HF | Hastelloy | 600°C | 237 mm | 0.5 µm | 46222303HF* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 031 | stainless steel, with volume displacer | 600°C | 237 mm | 5 µm | 462223031 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 031F | stainless steel, with volume displacer | 600°C | 237 mm | 0.5 µm | 462223031F* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 031H | Hastelloy, with volume displacer | 600°C | 237 mm | 5 µm | 462223031H* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 031HF | Hastelloy, with volume displacer | 600°C | 237 mm | 0.5µm | 462223031HF* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 04 | stainless steel | 600°C | 538 mm | 5 µm | 46222304 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 04F | stainless steel | 600°C | 538 mm | 0.5 µm | 46222304F* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 04H | Hastelloy | 600°C | 538 mm | 5 µm | 46222304H* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 04HF | Hastelloy | 600°C | 538 mm | 0.5 µm | 46222304HF* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 041 | stainless steel, with volume displacer | 600°C | 538 mm | 5 µm | 462223041 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 041F | stainless steel, with volume displacer | 600°C | 538 mm | 0.5 µm | 462223041F* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 041H | Hastelloy, with volume displacer | 600°C | 538 mm | 5 µm | 462223041H* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 041HF | Hastelloy, with volume displacer | 600°C | 538 mm | 0.5 µm | 462223041HF* | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | X | X | | | | X | X | |
| 07 | Ceramics / 1.4571 | 1000°C[1)] | 478 mm | 2 µm | 46222307 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | | | | | | | | | | | | | | | |
| 07F | Ceramics / 1.4571 | 1000°C[1)] | 478 mm | 0.3 µm | 46222307F* | | X | X | | | | | X | X | | | | X | X | | | | | | | | | | | | | | | | | | | | | |
| 07 ANSI | Ceramics / 1.4571 | 1000°C[1)] | 478 mm | 2 µm | 46222307C | | | | | | | | | | | | | | | | | | | | | X | X | | | | | | X | X | | | | X | X | |
| 35 | stainless steel | 600°C | 229 mm | 5 µm | 46222359 | | | | X | | | | | | X | | | | | X | | | | X | | | | X | | | | | | | X | | | | | X |
| 35F | stainless steel | 600°C | 229 mm | 0.5 µm | 46222359F* | | | | X | | | | | | X | | | | | X | | | | X | | | | X | | | | | | | X | | | | | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

1) Hot gas filtration, oxidizing atmosphere max. 750 °C
Hot gas filtration, reductive atmosphere max. 600 °C

* Prices and delivery time on request

# Sample tubes, in-situ filters and extensions

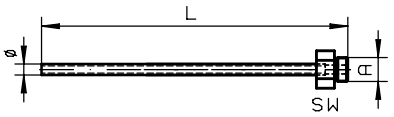
- Various materials
- Various dimensions
- Heated or nonheated extensions

| | | | | | Part No.: | 222.10 | 222.11 | 222.30 | 222.35-U | 222.15 | 222.17 | 222.20 | 222.21 | 222.31 | 222.35 | 222.20 DH | 222.20 Atex | 222.21 Atex | 222.31 Atex | 222.35 Atex | 222.20 Atex2 | 222.21 Atex2 | 222.31 Atex2 | 222.35 Atex2 | 222.10 ANSI | 222.11 ANSI/ CSA | 222.30 ANSI/ CSA | 222.35-U ANSI/ CSA | 222.15 ANSI/ CSA | 222.17 ANSI/ CSA | 222.20 ANSI/ CSA | 222.21 ANSI/ CSA | 222.31 ANSI/ CSA | 222.35 ANSI/ CSA | 222.20 DH ANSI/ CSA | 222.20 AMEX | 222.21 AMEX | 222.31 AMEX | 222.35 AMEX | Type GAS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Protection shield** | | | | | **Part No.:** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| for in-situ filter 03 | | | | | 462223034 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | | X | X | | |
| for in-situ filter 04 | | | | | 462223044 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | | | X | X | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Extensions** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Typ | | Material | Mains voltage | Length | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| G3/4 | nonheated | 1.4571 | | 0.2 m | 4622230320200 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G3/4 | nonheated | 1.4571 | | 0.4 m | 4622230320400 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G3/4 | nonheated | 1.4571 | | 0.5 m | 4622230320500 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G3/4 | nonheated | 1.4571 | | 0.7 m | 4622230320700 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G3/4 | nonheated | 1.4571 | | 1 m | 4622230321000 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G3/4 | nonheated | 1.4571 | | 1,2 m | 4622230321200 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G3/4 | nonheated | 1.4571 | | 1,5 m | 4622230321500 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G3/4 | nonheated | 1.4571 | | 2 m | 4622230322000 | X | X | X | | X | X | X | X | X | | X | X | X | X | | X | X | X | | X | X | X | | X | X | X | X | X | | X | X | X | X | |
| G1/2 | nonheated | 1.4571 | | 0,25 m | 4622235910250 | | | | X | | | | | | X | | | | | X | | | | X | | | | X | | | | | | X | | | | | X |
| G1/2 | nonheated | 1.4571 | | 0,5 m | 4622235910500 | | | | X | | | | | | X | | | | | X | | | | X | | | | X | | | | | | X | | | | | X |
| G1/2 | nonheated | 1.4571 | | 0,7 m | 4622235910700 | | | | X | | | | | | X | | | | | X | | | | X | | | | X | | | | | | X | | | | | X |
| G1/2 | nonheated | 1.4571 | | 1,5 m | 4622235911500 | | | | X | | | | | | X | | | | | X | | | | X | | | | X | | | | | | X | | | | | X |
| GF | heated* | 1.4571 | 230V | 0.5 m | 462223036 | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| GF | heated* | 1.4571 | 230V | 1 m | 462223033 | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| GF | ANSI / CSA,heated* | 1.4571 | 115V | 0.5 m | 462223036C1 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X | | | | | |
| GF | ANSI / CSA,heated* | 1.4571 | 115V | 1 m | 462223033C1 | | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Controller for heated extension integrated into probe controller | | | | | 46222292 | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | | | X | X | X | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

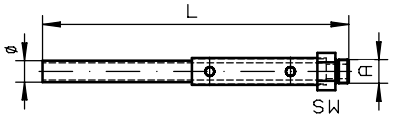
* Mounting is only possible at a plain flange without G3/4 thread. Therefore a G has to be added to the part number, e.g. 4622220G.
It is not possible to add a heated extension after delivery.

## Entnahmerohre / tubes

| Typ | L | ø | A | SW |
|---|---|---|---|---|
| 01 | var. | 12 | G3/4 | 36 |
| 06 | var. | 12 | G3/4 | 36 |
| 08 | var. | 21,3 | G3/4 | 36 |
| 12 | var. | 20 | G3/4 | 36 |
| 13 | var. | 15 | G3/4 | 36 |
| 14 | var. | 18 | G3/4 | 36 |



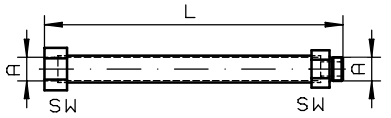

| Typ | L | ø | A | SW |
|---|---|---|---|---|
| 02-0,5 | 500 | 24 | G3/4 | 36 |
| 02-1,0 | 1000 | 24 | G3/4 | 36 |
| 02-1,5 | 1500 | 24 | G3/4 | 36 |

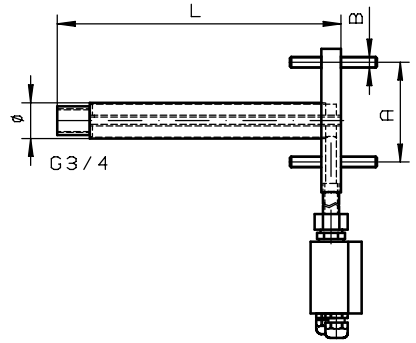



## Verlängerungen / extensions

Unbeheizt / unheated

| Typ | L | A | SW |
|---|---|---|---|
| G3/4 | 0,2-2 m | G3/4 | 36 |
| G1/2 | 0,25-1,5m | G1/2 | 27 |



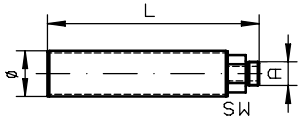



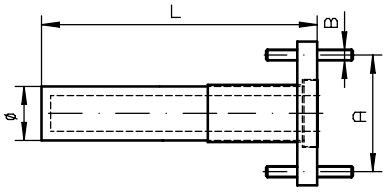

Beheizt / heated

| Typ | L | ø | A | B |
|---|---|---|---|---|
| GF | 500 | 40 | DN65 PN6 | M12 |
| GF | 1000 | 40 | DN65 PN6 | M12 |
| GF ANSI/CSA | 500 | 40 | DN3"-150 | M16 |
| GF ANSI/CSA | 1000 | 40 | DN3"-150 | M16 |

## Eintritssfilter / in-situ filter

| Typ | L | ø | A | SW |
|---|---|---|---|---|
| 03 | 237 | 51 | G3/4 | 36 |
| 031 | 237 | 51 | G3/4 | 36 |
| 04 | 538 | 60 | G3/4 | 36 |
| 041 | 538 | 60 | G3/4 | 36 |
| 35 | 229 | 29 | G1/2 | 27 |



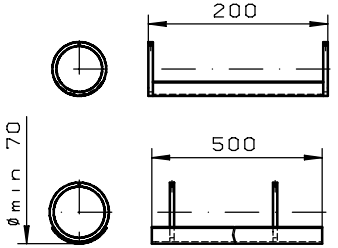




| Typ | L | ø | A | B |
|---|---|---|---|---|
| 07 | 500 | 60 | DN65 PN6 | M12 |
| 07 ANSI | 500 | 60 | DN3"-150 | M16 |

## Abweisblech / protection shield

Eintrittsfilter / in-situ filter 03

Eintrittsfilter / in-situ filter 04




| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| alle Kanten gratfrei | ALLE RECHTE VORBEHALTEN | | | | Maße ohne Toleranzangabe nach ISO 2768-mK | | | Maßstab 1 5 | (Gewicht) |
| Oberflächenbearbeitungszeichen | | | | | | | | Werkstoff | |
| | | | | | | Datum | Name | Benennung | Rohre/Filter/Verlängerungen tubes/filter/extensions GAS 222 |
| | | | | | Bearb | 21 01 2004 | Brinkmann | | |
| | | | | | Gepr | | | | |
| | | | | | | | | Zeichng -Nr | 46/107-Z01-01-3A |
| | | | | | | | | Art -Nr | |
| a | neu | 29 09 06 | Br | | BÜHLER | | | | |
| Zust | Änd | Datum | Name | | Ers für | | | ARBEITSANWEISUNG | |

## Blowback

- With ball valve or solenoid valve
- Heated or nonheated
- Manuell or automatic control

| Capacitive vessel | Ambient temperature | Part No.: | 222.10 | 222.11 | 222.30 | 222.35-U | 222.15 | 222.17 | 222.20 | 222.21 | 222.31 | 222.35 | 222.20 DH | 222.20 Atex | 222.21 Atex | 222.31 Atex | 222.35 Atex | 222.20 Atex2 | 222.21 Atex2 | 222.31 Atex2 | 222.35 Atex2 | 222.10 ANSI | 222.11 ANSI/ CSA | 222.30 ANSI/ CSA | 222.35-U ANSI/ CSA | 222.15 ANSI/ CSA | 222.17 ANSI/ CSA | 222.20 ANSI/ CSA | 222.21 ANSI/ CSA | 222.31 ANSI/ CSA | 222.35 ANSI/ CSA | 222.20 DH ANSI/ CSA | 222.20 AMEX | 222.21 AMEX | 222.31 AMEX | 222.35 AMEX | Type GAS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PAV 01 | | 46222PAV | | X | X | X | | | | X | X | X | | | X | X | X | | X | X | X | | X | X | X | | | | X | X | X | | | X | X | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Accessories for capacitive vessel** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| ball valve | | 46222PAVKH | | X | X | X | | | | X | X | X | | | X | X | X | | X | X | X | | X | X | X | | | | X | X | X | | | X | X | X |
| 2/2-way-MV 24VDC* | -10 ... +55°C | 46222PAVMV1 | | X | X | X | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| 2/2-way-MV 110V 50Hz | -10 ... +55°C | 46222PAVMV2 | | X | X | X | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| 2/2-way-MV 220-230V 50/60Hz | -10 ... +55°C | 46222PAVMV3 | | X | X | X | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| 2/2-way-MV 24VUC Atex II 2G/D EEx m II T4 IP65 | -10 ... +60°C | 46222PAVMV4 | | X | X | X | | | | | | | | | X | X | X | | X | X | X | | | | | | | | | | | | | | | |
| 2/2-way-MV 110VUC Atex II 2G/D EEx m II T4 IP65 | -10 ... +60°C | 46222PAVMV5 | | X | X | X | | | | | | | | | X | X | X | | X | X | X | | | | | | | | | | | | | | | |
| 2/2-way-MV 230VUC Atex II 2G/D EEx m II T4 IP65 | -10 ... +60°C | 46222PAVMV6 | | X | X | X | | | | | | | | | X | X | X | | X | X | X | | | | | | | | | | | | | | | |
| 2/2- way- AMEX 24 V/ 60 Hz Cl. I Div 2 | -10 ... +55°C | 46222PAVMV14 | | | | | | | | | | | | | | | | | | | | | X | X | X | | | | X | X | X | | | X | X | X |
| 2/2- way- AMEX 120 V/ 60 Hz Cl. I Div 2 | -10 ... +55°C | 46222PAVMV8 | | | | | | | | | | | | | | | | | | | | | X | X | X | | | | X | X | X | | | X | X | X |
| 2/2- way- AMEX 240 V/ 60 Hz Cl. I Div 2 | -10 ... +55°C | 46222PAVMV9 | | | | | | | | | | | | | | | | | | | | | X | X | X | | | | X | X | X | | | X | X | X |
| self regulated heating system 115/230V 50/60Hz | | 46222PAVHZ1 | | X | X | X | | | | X | X | X | | | | | | | | | | | X | X | X | | | | X | X | X | | | | | |
| self regulated heating system 115-230V 50/60Hz Atex 2 II 3G Ex nA IIC T3 Gc X | | 46222PAVHZ2 | | | | | | | | | | | | | | | | | X | X | X | | | | | | | | | | | | | | | |
| self regulated heating system 115-230V 50/60Hz Atex 2 II 3G Ex nA IIC T4 Gc X | | 46222PAVHZ3 | | | | | | | | | | | | | | | | | X | X | X | | | | | | | | | | | | | | | |
| self regulated heating system AMEX,115-230V,50/60 Hz, Cl. I Div 2 B,C,D,T3 | | 46222PAVHZ4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| self regulated heating system AMEX,115-230V,50/60 Hz, Cl. I Div 2 B,C,D,T4 | | 46222PAVHZ6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | X | X | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| support of pressurised vessel | | 462223502 | | | | X | | | | | | | | | | | | | | | | | | | X | | | | | | | | | | | |
| Bourdon tube pressure gauge 0-10 bar | | 46222PAVMA | | X | X | X | | | | X | X | X | | | X | X | X | | X | X | X | | X | X | X | | | | X | X | X | | | X | X | X |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Pneumatic actuators** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| spring return, opened unpressurised | | 46222008 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | X | X | | | | X | X | |
| spring return, closed unpressurised | | 46222030 | | X | X | | | | | X | X | | | | X | X | | | X | X | | | X | X | | | | | X | X | | | | X | X | |
| double action | | 46222009 | | X | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| limit switch | | 9008928 | | X | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| limit switch Atex II 2G/3D IIC T6 IP65 | | 9008930 | | | | | | | | | | | | | X | X | | | X | X | | | | | | | | | | | | | | | | |
| limit switch Atex II 2G/2D IIC T6 IP65 | | 9027002 | | | | | | | | | | | | | X | X | | | X | X | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **3/2-way-SV for controlling of pneumatic actuator** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 VDC | -10 ... +55°C | 46222075 | | X | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| 110 V 50 Hz | -10 ... +55°C | 46222076 | | X | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| 230 V 50 Hz | -10 ... +55°C | 46222077 | | X | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| ATEX 24 V UC II 2G/D EEx m II T4 | -10 ... +60°C | 46222078 | | X | X | | | | | | | | | | X | X | | | X | X | | | | | | | | | | | | | | | | |
| ATEX 110 V UC II 2G/D EEx m II T4 | -10 ... +60°C | 46222079 | | X | X | | | | | | | | | | X | X | | | X | X | | | | | | | | | | | | | | | | |
| ATEX 230 V UC II 2G/D EEx m II T4 | -10 ... +60°C | 46222080 | | X | X | | | | | | | | | | X | X | | | X | X | | | | | | | | | | | | | | | | |
| AMEX 24 V 60 Hz, NPT1/4", Cl. I Div 2 | -10 ... +55°C | 46222116 | | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | X | | | | X | X | |
| AMEX 120 V 60 Hz, NPT1/4", Cl. I Div 2 | -10 ... +55°C | 46222050 | | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | X | | | | X | X | |
| AMEX 240 V 60 Hz, NPT1/4", Cl. I Div 2 | -10 ... +55°C | 46222056 | | | | | | | | | | | | | | | | | | | | | X | X | | | | | X | X | | | | X | X | |
| **5/2-way-SV for controlling of pneumatic actuator** | -10 ... +70°C | 9148000117 | | X | X | | | | | X | X | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Blowback controller** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| RSS 24 VDC, IP65 | | 46222199 | | X | X | X | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| RSS 115/230 VAC, IP65 | | 46222299 | | X | X | X | | | | X | X | X | | | | | | | | | | | | | | | | | | | | | | | | |
| RSS-MC integrated into probe controller cabinet | | 46222392 | | | | | | | | X | X | X | | | | | | | | | | | | | | | | | | X | X | X | | | | | |

*max. pressure 6 bar

# Details:

## A) Blowback

**Ordering note for capacitive vessel:**

For attachment to GAS 222.11 / 30 / 35-U, a support is required.

**Ordering note for pneumatic actuator:**

If a blowback controller is required, only actuator P/N 46222030 is possible.

We advise the installation of a position indicator switch to control the pneumatic actuator.

**Integrated blowback controller in the probe controller**

In addition to the stand-alone blowback controller (RRS), an integrated blowback controller is optionally available

Blowback cycle time and actual blowback time can be adjusted via the keys and menu of the controller. The blowback and manual operation will be shown on the display. The blowback controller can be programmed via the keys – manual or automatic operation is possible. Besides the status output of the controller, a blowback status signal is provided. Blowback will be usually initiated by signals coming from the main controls.

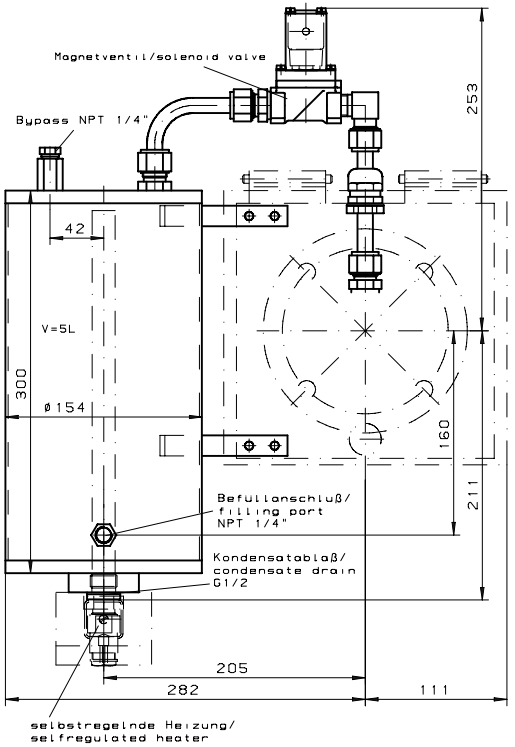
If the position indicator switch is installed, the controller will use this input for the process logic.

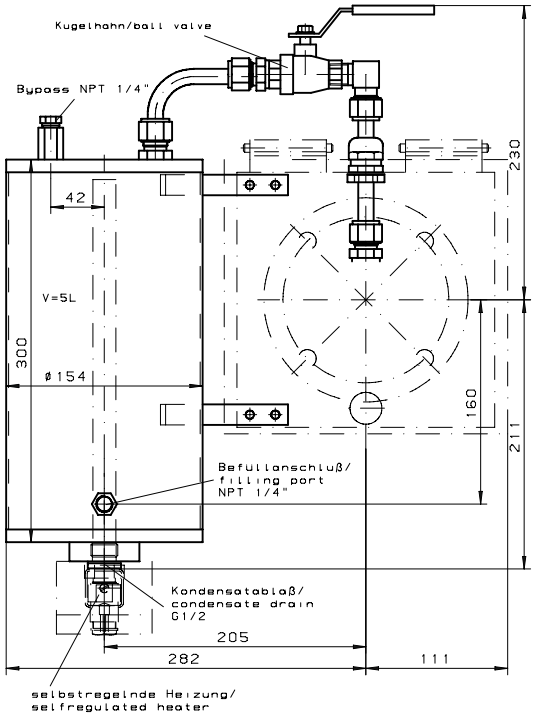
## B) Hazardous Areas

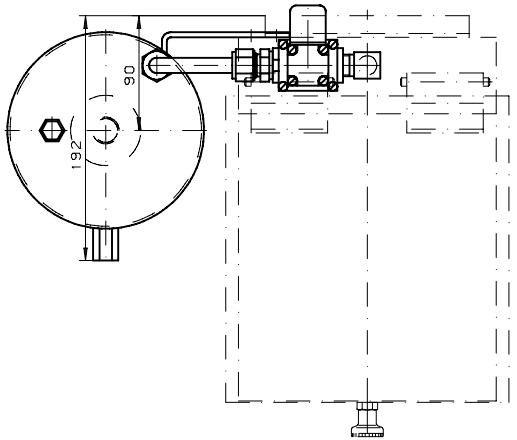
Please note that installed accessories may change the approved category of the probe.
Follow strictly the advices given in the installation- and operation manual and regard the marking on the type plate.

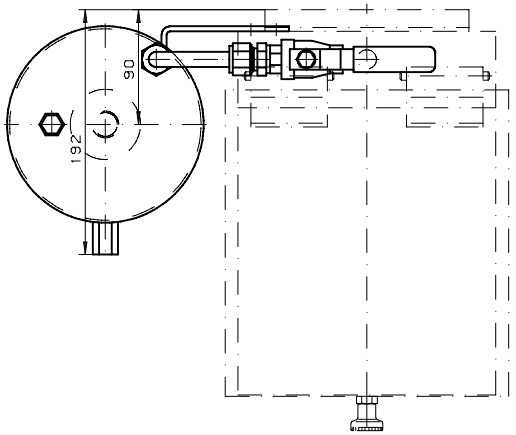
| Sample Gas Probe GAS 222.xx Atex | | |
|---|---|---|
| **Model** | **with Accessories** | **resuting restircted area; marking** |
| 21 Atex, 31 Atex, 35 Atex | Pressure vessel PAV 01 (Part-No. 46222PAV with accessories) | II 1D / 2GD |
| 21 Atex, 31 Atex, | In situ filter*, ceramics (Art.-Nr.:46222307 + 46222307F) | II 1D 3G / 2GD |
| 20 Atex , 21 Atex, | Downstream filter*, ceramic (Part-No. 46222026 + 46222026P) | II 1D 3G / 2GD |
| 20 Atex, 21 Atex, | Sample tube (Part-No. 46222001, 462220011, 46222006, 46222004, 46222016) | II 1G / 2GD |
| 20 Atex, 21 Atex, | Sample tube**, ceramics (Part-No. 4622200205, 4622200210, 4622200215) | II 3G / 2GD |
| 21 Atex, 31 Atex, | Pneumatic cylinder with end switch Atex (Part-No. 46222019) | II 1GD / 2G3D |

* Accessory not suitable for sampling dust with extremely low ignition energy < 3mJ.
** When gases are sampled from Zone 2, ceramic sample tube must be used only if application related or process related electrostatic charging is eliminated.




max Betriebsdruck/operating pressure 10bar
max Betriebstemperatur/operating temperature 50°C

"Änderungen nur nach Rücksprache
mit dem Atexbeauftragten zulässig"

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| alle Kanten gratfrei | ALLE RECHTE VORBEHALTEN | Maße ohne Toleranzangabe nach ISO 2768-mK | | | | Maßstab 1 2,5 | (Gewicht) |
| Oberflächenbearbeitungszeichen | | | | | | Werkstoff | |
| | | | | Datum | Name | Benennung | |
| | | | Bearb | 05 07 2004 | Brinksann | Druckluftbehälter/ capacitive vessel PAV 01 | |
| | | | Gepr | | | | |
| | | | | BÜHLER | | Zeichng -Nr | 46/106-Z01-01-2 |
| | | | | | | Art -Nr | |
| Zust | Änd | Datum | Name | Ers für | | ARBEITSANWEISUNG | |

# Downstream filter elements and further options

| Downstream filter | | | Part no.: | 222.10 | 222.11 | 222.30 | 222.35-U | 222.15 | 222.17 | 222.20 | 222.21 | 222.31 | 222.35 | 222.20 DH | 222.20 Atex | 222.21 Atex | 222.31 Atex | 222.35 Atex | 222.20 Atex2 | 222.21 Atex2 | 222.31 Atex2 | 222.35 Atex2 | 222.10 ANSI | 222.11 ANSI/ CSA | 222.30 ANSI/ CSA | 222.35-U ANSI/ CSA | 222.15 ANSI/ CSA | 222.17 ANSI/ CSA | 222.20 ANSI/ CSA | 222.21 ANSI/ CSA | 222.31 ANSI/ CSA | 222.35 ANSI/ CSA | 222.20 DH ANSI/ CSA | 222.20 AMEX | 222.21 AMEX | 222.31 AMEX | 222.35 AMEX | Type GAS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Material** | **O-Rings** | **Pore size** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Ceramics | Viton | 3 µm | 46222026 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Ceramics | Perfluorelastomer | 3 µm | 46222026P | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Sintered stainless steel | Viton | 5 µm | 46222010 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Sintered stainless steel | Perfluorelastomer | 5 µm | 46222010P | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Sintered stainless steel | Viton | 0,5 µm | 46222010F* | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Sintered stainless steel | Perfluorelastomer | 0,5 µm | 46222010FP* | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Pleated stainless steel | Viton | 10 µm | 46222011 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Pleated stainless steel | Perfluorelastomer | 10 µm | 46222011P | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Handle to hold the micro-fibreglass filter element | | | 46222067 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | X | X | |
| Micro glass fiber with silicate binder | Viton | | 462220671 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | X | X | |
| Micro glass fiber with silicate binder | Perfluorelastomer | | 462220671P | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | X | X | |
| Closing handle with filter tube and filter wool | Viton | | 46222163 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | X | X | |
| Closing handle with filter tube and filter wool | Perfluorelastomer | | 46222163P | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | X | X | |
| Filter wool | | | 46222167 | X | X | | | X | X | X | X | | | X | | | | | | | | | X | X | | | X | X | X | X | | | X | X | X | |
| Set of O-rings Viton incl. grease | | | 46222012 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| Set of O-rings Perfluorelastomer incl. grease | | | 46222024 | X | X | | | X | X | X | X | | | X | X | X | | | X | X | | | X | X | | | X | X | X | X | | | X | X | X | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Further options** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Adapter flange ANSI 3“-150lbs | | | 46222014 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | | | | | | | | | | | | | |
| Cal gas connection ø6mm | | | 46222309 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Cal gas connection ø6mm with check valve | | | 46222311 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Cal gas connection ø1/4" | | | 46222336 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Cal gas connection ø1/4" with check vavle | | | 46222337 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Fitting for sample gas port ø6mm | | | 9008173 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Fitting for sample gas port ø8mm | | | 9008174 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Fitting for back wash port ø12mm | | | 9008369 | | X | X | X | | | | X | X | X | | | X | X | X | | X | X | X | | X | X | X | | | | X | X | X | | | X | X | X |
| Ffitting for sample gas port ø1/4" | | | 9008584 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Fitting for sample gas port ø3/8" | | | 9008583 | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X |
| Fitting for back wash port ø1/2" | | | 9028033 | | X | X | X | | | | X | X | X | | | X | X | X | | X | X | X | | X | X | X | | | | X | X | X | | | X | X | X |
| Locking screw G3/8 for backflush connection | | | 9008084 | | | X | X | | | | X | X | X | | | X | X | X | | X | X | X | | | X | X | | | | X | X | X | | | X | X | X |
| Sealing ring for sealing the backflush connection with a locking screw | | | 9009258 | | | X | X | | | | X | X | X | | | X | X | X | | X | X | X | | | X | X | | | | X | X | X | | | X | X | X |
| Mounting bracket with clamp ring for DN65 PN6 | | | 462220102 | | | | | X | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mounting bracket with clamp ring for ANSI 3”-150 lbs | | | 462220102C | | | | | | | | | | | | | | | | | | | | | | | | X | | | | | | | | | |

* Prices and delivery time on request

# 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



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

### 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.



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