Portable sample probe
Baseline

Installation and Operation Instructions
Original instructions
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 portable sample gas probe (probe) is intended for use in gas analysis systems in industrial applications. It is particularly suitable for use with mobile sample gas conditioning.

Portable sample gas probes are among the main components in a gas conditioning system.
– Therefore also note the related drawing in the appendix or in the data sheet on the CD.
– Before using the device, verify the listed technical data meet the application parameters.
– Further check if all contents are complete.

Please refer to the nameplate to identify your model. In addition to the job number it also contains the item number and model designation.

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

1.2 Contents
– 1 x Sample gas probe
– Connection- and mounting accessories per delivery note
– Product documentation
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

These instructions use the following warning signs:

- Warns of a general hazard
- General information
- Warns not to inhale toxic gasses
- Wear respiratory equipment
- Warns of corrosive liquids
- Wear a safety mask
- Warns of hot surfaces
- Wear gloves

2.2 General hazard warnings

Installation of the device shall be performed by trained staff only, familiar with the safety requirements and risks. Check all relevant safety regulations and technical indications for the specific installation place. Prevent failures and protect persons against injuries and the device against damage.
The operator of the system must secure that:
– safety and operation instructions are accessible and followed,
– local safety regulations and standards are obeyed,
– performance data and installation specifications are regarded,
– safety devices are installed and recommended maintenance is performed,
– national regulations for disposal of electrical equipment are obeyed.

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 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.
3 Transport and storage

The product should only be transported inside the original packaging or a suitable alternative. When not in use, the equipment must be protected from moisture and heat. They must be stored in a covered, dry and dust-free room at a temperature between -20 °C and 50 °C.
4 Installation and connection

4.1 Installation site requirements
Portable sample gas probes are intended as temporary gas sampling. Optional assembly plug and flanges allow for safe and gas-tight installation.

- 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.
- Also ensure adequate and safe access for installation. Particularly consider the available installation length for the built-in sampling tube and, if applicable, the intake filter.

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

4.2 Installation

**WARNING**

**Gas leakage, condensate, hot surfaces**

**Burns and/or health hazards due to gas/condensate!**

- a) The sample gas and/or condensate may be hazardous to the health.
- b) Parts near the sampling point may be hot.
- c) The probe may become very hot due to the process gasses.

- Close the gas supply, if necessary flush the probe with air, and allow the probe to cool down before beginning installation or maintenance.
- Wear safety gloves and goggles.

The portable probe can be installed in the site using the available mounting accessories such as cones, plugs, and flanges.

Attach the suitable mounting element and, if applicable, the intake filter (optional) to the sampling tube for the probe.

Then install the probe to the mating flange or the sampling point using the appropriate seal.

![Fig. 1: Baseline installation](image)

*Fig. 1: Baseline installation*
Baseline

Condensate trap (optional)

When using a condensate trap, connect it to the probe hose. Please note the correct condensate trap position: The arrow must point in the direction of gas flow, away from the probe. This ensures the moist gas can first condense before reaching the filter element. The most upright condensate trap position possible allows maximum condensate absorption without it flowing into the chamber with the filter element.

4.3 Removal

**WARNING** Gas leakage, condensate, hot surfaces

<table>
<thead>
<tr>
<th>Burns and / or health hazards due to gas / condensate!</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) The sample gas and/or condensate may be hazardous to the health.</td>
</tr>
<tr>
<td>b) Parts near the sampling point may be hot.</td>
</tr>
<tr>
<td>c) The probe may become very hot due to the process gasses.</td>
</tr>
</tbody>
</table>

- Close the gas supply, if necessary flush the probe with air, and allow the probe to cool down before beginning installation or maintenance.
- Wear safety gloves and goggles.

- Empty the condensate trap as described in chapter Maintenance [page 9].
- Remove the probe from the sampling point. Rinse the probe with dry, clean air.
- Remove the mounting elements from the sampling tube.
- Inspect the filter and seals, and replace damaged or worn parts.
- Pack the probe in the transport packaging.
5 Operation and controls

NOTICE

The device must not be operated beyond its specifications.

Before starting the device, verify

– the hose connections are not damaged and correctly installed.
– no parts of the sample gas probe have been removed.
– ambient parameters are met.
– the technical specifications were followed!

Regularly check and empty the condensate trap throughout operation as described in chapter Assembly and disassembly. Ensure the condensate does not enter the filter chamber. The filter will otherwise be unusable.
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.

**WARNING**
Gas leakage, condensate, hot surfaces

*Burns and / or health hazards due to gas / condensate!*

a) The sample gas and/or condensate may be hazardous to the health.
b) Parts near the sampling point may be hot.
c) The probe may become very hot due to the process gasses.

⚠️ Close the gas supply, if necessary flush the probe with air, and allow the probe to cool down before beginning installation or maintenance.

⚠️ Wear safety gloves and goggles.

**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.

For probe removal and installation, please refer to chapter Assembly and disassembly.

6.1 Empty condensate trap

– Disconnect the gas flow through the probe.
– Remove the upper condensate trap connector with a slight back and forth motion.
– Properly dispose of the condensate according to local regulations.
– Dry the condensate trap and, if necessary, replace the filter element (see Replace filter element [page 9]).
– Tightly attach the connector to the cylinder of the condensate trap.
– Connect the probe hose to the condensate trap.

6.2 Replace filter element

– Pull off the lower condensate trap connector with a slight back and forth motion.
– Replace the filter element.
– If necessary, replace the seal.
– Tightly reinsert the plug.

**NOTICE!** Please observe legal regulations when disposing of filter elements.

6.3 Replacing and cleaning the intake filter

– Loosen the swivel nut.
– The intake filter may be cleaned in an ultrasonic bath and reused.
– Check clamping collars and replace, if necessary.
– Screw in the clean filter.
– Tighten the swivel nut.
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.

<table>
<thead>
<tr>
<th>Problem / malfunction</th>
<th>Possible cause</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>No or reduced gas flow</td>
<td>– Intake filter plugged</td>
<td>– Clean or replace intake filter</td>
</tr>
<tr>
<td></td>
<td>– Wet condensate trap / filter element</td>
<td>– Replace filter element, if possible install condensate trap upright, check condensate trap during operation, and empty, if necessary</td>
</tr>
<tr>
<td></td>
<td>– Gas circuit clogged</td>
<td>– Clean sampling tube</td>
</tr>
</tbody>
</table>

Tab. 1: Troubleshooting

7.2 Spare parts and accessories

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

Upgrade and expansion parts can be found in our catalog.
## 7.2.1 Spare parts and accessories

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Probe and accessories</strong></td>
<td></td>
</tr>
<tr>
<td>467601000000</td>
<td>Probe Baseline</td>
</tr>
<tr>
<td>46760008</td>
<td>Mount 2 m chain and carabiner; Material: Galvanised steel</td>
</tr>
<tr>
<td>46760007</td>
<td>Condensate trap ø30x155; Tube: Plexiglass PMMA; Cover: PVC; Seal: NBR; Filter element: Fibreglass</td>
</tr>
<tr>
<td><strong>Filter / filter elements</strong></td>
<td></td>
</tr>
<tr>
<td>46760020</td>
<td>Filter element for condensate trap; Material: Fibreglass</td>
</tr>
<tr>
<td>46760030</td>
<td>Filter element for condensate trap; Material: PTFE</td>
</tr>
<tr>
<td>46760006</td>
<td>Sintered metal intake filter 3 µm; Material: Stainless steel</td>
</tr>
<tr>
<td><strong>Mounting accessories</strong></td>
<td></td>
</tr>
<tr>
<td>46760001</td>
<td>Tapered assembly plug ø10-20; Material: 11SMnPb30</td>
</tr>
<tr>
<td>46760002</td>
<td>Tapered assembly plug ø20-60; Material: 1.4571</td>
</tr>
<tr>
<td>46760003</td>
<td>Assembly plug R2; Material: 1.4571</td>
</tr>
<tr>
<td>46760004</td>
<td>Mounting flange DN65 PN6; Material: 1.4571/1.4401/PTFE</td>
</tr>
<tr>
<td>46760005</td>
<td>Mounting flange ANSI DN3”-150; Material: 1.4571/1.4401/PTFE</td>
</tr>
</tbody>
</table>

**Special mounts on request!**
8 Disposal

Dispose of parts so as not to endanger the health or environment. Follow the laws in the country of use for disposing of electronic components and devices during disposal.
9 Appendices

9.1 Flow chart

![Flow chart image]

9.2 Technical Data

<table>
<thead>
<tr>
<th>Technical Data Baseline</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight:</td>
<td>350 g</td>
</tr>
<tr>
<td>Material</td>
<td></td>
</tr>
<tr>
<td>tube:</td>
<td>stainless steel</td>
</tr>
<tr>
<td>handle:</td>
<td>polyamide</td>
</tr>
<tr>
<td>hose:</td>
<td>NBR</td>
</tr>
<tr>
<td>Temperature inside stack:</td>
<td>max. 600 °C</td>
</tr>
<tr>
<td>Pressure:</td>
<td>atmospheric</td>
</tr>
<tr>
<td>Dust load:</td>
<td>max. 2 g/m³ when using intake filter</td>
</tr>
<tr>
<td>Fixed probe tube length:</td>
<td>300</td>
</tr>
</tbody>
</table>
10 Attached documents

- RMA - Decontamination Statement
Um eine schnelle und reibungslose Bearbeitung Ihres Anliegens zu erreichen, füllen Sie bitte diesen Rücksendeschein aus. Eine genaue Fehlerbeschreibung ist für die Ursachenanalyse nötig und hilft bei der schnellen Bearbeitung des Vorgangs. Die Aussage „Defekt“ hilft bei der Fehlersuche leider nicht.

Die RMA-Nummer bekommen Sie von Ihrem Ansprechpartner im Vertrieb oder Service.


Bringen Sie den Rücksendeschein mit der Dekontaminierungsersklärung bitte zusammen mit den Versandpapieren in einer Klarsichthülle außen an der Verpackung an. Ansonsten ist eine Bearbeitung Ihres Reparaturauftrages nicht möglich!

Angaben zum Absender:

<table>
<thead>
<tr>
<th>Firma / Company</th>
<th>Ansprechpartner / Contact person</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anschrift / Address</td>
<td>Abteilung / Department</td>
</tr>
<tr>
<td></td>
<td>E-Mail / E-Mail:</td>
</tr>
<tr>
<td></td>
<td>Tel. / Phone</td>
</tr>
<tr>
<td></td>
<td>Fax / Fax:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Artikelnummer / Item number</th>
<th>RMA-Nr. / RMA no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auftragsnummer / Order number</td>
<td></td>
</tr>
<tr>
<td>Anzahl / Quantity</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rücksendegrund / Return reason</th>
<th>Vorgangsnummer des Kunden / Customer transaction number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reparatur / Repair</td>
<td></td>
</tr>
<tr>
<td>Garantie / Warranty</td>
<td></td>
</tr>
<tr>
<td>Zur Prüfung / For inspection</td>
<td></td>
</tr>
<tr>
<td>Rückgabe / Return</td>
<td></td>
</tr>
</tbody>
</table>

Fehlerbeschreibung / Description of the problem:


Ort, Datum / Place, Date

Unterschrift / Stempel / Signature / Stamp:

Please complete this return form to ensure your claim is processed quickly and efficiently. An accurate description of the problem is necessary for cause analysis and will help processing the claim quickly. Unfortunately, stating “defective” will not help us troubleshoot the issue.

You may obtain the RMA number from your sales or service representative.

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 employees’ health.

Attach the return form including decontamination statement along with the shipping documentation to the outside of the package, inside a clear pouch. Otherwise we are unable to process your repair order!
### RMA - Dekontaminierungserklärung

#### RMA - Decontamination Statement

Bitte füllen Sie diese Dekontaminierungserklärung für jedes einzelne Gerät aus.

---

**Gerät / Device**

<table>
<thead>
<tr>
<th>Serien-Nr. / Serial no.</th>
</tr>
</thead>
</table>

RMA-Nr. / RMA no:

---

Ich bestätige hiermit, dass das oben spezifizierte Gerät ordnungsgemäß gereinigt und dekontaminiert wurde und keinerlei Gefahren im Umgang mit dem Produkt bestehen.

Ansonsten ist die mögliche Gefährdung genauer zu beschreiben:

**Aggregatzustand (bitte ankreuzen):**

- [ ] Flüssig / Liquid
- [ ] Fest / Solid
- [ ] Pulvrig / Powdery
- [ ] Gasförmig / Gaseous

Folgende Warnhinweise sind zu beachten (bitte ankreuzen):

- Explosiv / Explosive
- Giftig / Tödlich / Toxic / lethal
- Entzündliche Stoffe / Flammable substances
- Brandfördernd / Oxidizing
- Komprimierte Gase / Compressed gasses
- Gesundheitsgefährdend / Hazardous to health
- Gesundheitsschädlich / Harmful to health
- Umweltgefährdend / Harmful to the environment

Bitte legen Sie ein aktuelles Datenblatt des Gefahrenstoffes bei!

---

**Ort, Datum / Place, Date:**

**Unterschrift / Stempel / Signature / Stamp:**

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Fax: +49 (0) 2102 / 4989-20  
e-mail: service@buehler-technologies.com  
Internet: www.buehler-technologies.com