Supplementary Installation and Operating Instructions

BM 102 MICROFLEX
KEMA 00 ATEX 1101X

Variable area flowmeters
Vortex flowmeters
Flow controllers
Electromagnetic flowmeters
Ultrasonic flowmeters
Mass flowmeters

Level measuring instruments
Communications technology
Engineering systems & solutions
Switches, counters, displays and recorders
Heat metering
Pressure and temperature
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Nameplate

The BM 102 level gauge is identified by the following nameplate.

Types of protection used in the device; approved Gas Group and Temperature Classes
EEx ia IIC T6…T3 or EEx ia II B T6…T3

Approved Category:
Ex II 1/2 D T 100°C or Ex II 1 G

Full type code
Date of manufacture

Not relevant to safety

Rated voltage for the device

Maximum device safety values

Maximum pressure of device flange
but ≤ 40 bar

Device protection class

Electrical primary constant

Maximum ambient and flange temperatures

Range of application

The BM 102 MICROFLEX level gauge is designed solely for measuring the distance, level and volume of liquids, solids and particulate materials. The device can be operated on storage and process tanks and also on still pipes and reference vessels.

Product liability and warranty

Responsibility for suitability and intended use of these level gauges rests solely with the user.

Improper installation and operation of our devices may lead to loss of warranty.

In addition, the “General conditions of sale“, forming the basis of the purchasing contract, are applicable.
General safety information

These Supplementary Instructions may only be used in conjunction with the standard Installation and Operating Instructions for the BM 102 level gauge. If you do not have these standard Instructions, please contact your nearest KROHNE office.

Special regulations are applicable to the use of equipment in hazardous locations, and these are described in these Supplementary Instructions (supplied only with "Ex" devices).

The information given in these Instructions contains only the data relevant to explosion protection. The technical details given in the standard Installation and Operating Instructions apply unchanged unless excluded or superseded by these Supplementary Instructions.

Standards / Approvals

In compliance with European Directive 94/9 EC (ATEX 100a), the level gauges described in these Supplementary Instructions are, in conformity with European Standards EN 50014, EN 50020 and EN 50284, certified for use in hazardous locations by the KEMA certification body under KEMA 00 ATEX 1101 X.

It is absolutely necessary that the details contained in this approval certificate, together with its boundary conditions, are observed.

The level gauges of the BM 102 series are suitable for use in explosive atmospheres of all flammable substances of Gas Groups IIA, IIB und IIC (with the exception of the cases named in these Supplementary Instructions) and for applications requiring Category 1G, 1/2G, 1/2D, 2G or 2D equipment.

Assembly, installation, start-up and maintenance may only be carried out by "personnel trained in explosion protection"!
1 Main safety-relevant characteristics

1.1 Approved categories

Plastic-coated probes may not be used in connection with Gas Group IIC substances.

1.1.1 1 G

The BM 102 level gauges are installed in areas requiring Category 1 G equipment. The devices are suitable for use in explosive atmospheres of all flammable substances of Gas Groups IIA, IIB and IIC.

1.1.2 1/2 G and 1/2 D

The signal converter is installed in hazardous locations requiring Category 2 G or 2 D equipment. The probe is installed in hazardous locations requiring Category 1 G or 1 D equipment. The devices are suitable for use in explosive atmospheres of all flammable substances of Gas Groups IIA, IIB and IIC.

Devices with plastic-coated probes may not be used for applications requiring Category 1/2 D equipment, unless effective measures have been taken to avoid electrostatic discharge.

1.1.3 2 G and 2 D

BM 102 devices are installed in locations requiring Category 2 G or 2 D equipment. The devices are suitable for use in explosive atmospheres of all flammable substances of Gas Groups IIA, IIB and IIC.

Devices with plastic-coated probes may not be used for applications requiring Category 2 D equipment, unless effective measures have been taken to avoid electrostatic discharge.

1.2 Maximum safety-relevant values

The input terminals of the BM 102 level gauges are not safety-separated from ground. For that reason, only certified electrically isolated intrinsically safe equipment of ignition protection category EEx ia IIC may be connected. This requirement applies independent of the required Category and also if the device is not operated in the hazardous location.
The connected equipment may not exceed the following maximum safety values of the BM 102 devices:

\[
\begin{align*}
U_i & \leq 30 \text{ V} \\
I_i & \leq 150 \text{ mA} \\
P_i & \leq 1.0 \text{ W}
\end{align*}
\]

In addition, the inner self-inductance and self-capacitance of the BM 102

\[
\begin{align*}
C_o & \leq 10 \text{ nF} \\
L_o & \leq 10 \text{ µH}
\end{align*}
\]

must be included in the rating of the total inductance and total capacitance connected to the equipment. The calculated values may not exceed the values $C_o$ and $L_o$ indicated on the supply equipment.

### 1.3 Allowable operating pressure

The maximum allowable operating pressure for BM 102 level gauges that are installed in locations requiring Category 2 G or 2 D equipment is dependent on the device flange, the flange material and the maximum operating temperature. The maximum upper limit approved for the device is 4000 kPa (PN40 flange). This upper limit applies e.g. to a stainless steel flange at ambient and process temperatures of 20°C (e.g. DN50, PN40). Higher pressure ratings, such as PN50, are not allowed.

For applications requiring Category 1 G, 1/2 G or 1/2 D equipment, atmospheric conditions must prevail inside the tank (operating pressure 80 -110 kPa).
1.4 Allowable temperatures

1.4.1 Process temperature

For applications requiring Category 1 G, 1/2 G or 1/2 D equipment, the following process temperatures are allowed as a function of the Temperature Class:

<table>
<thead>
<tr>
<th>Temperature Class</th>
<th>Process temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>-20…+48°C</td>
</tr>
<tr>
<td>T5, T4, T3</td>
<td>-20…+60°C</td>
</tr>
</tbody>
</table>

For applications requiring Category 2 G or 2 D equipment, the following process temperatures are allowed as a function of the Temperature Class:

<table>
<thead>
<tr>
<th>Temperature Class</th>
<th>Process temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>-30…+85°C</td>
</tr>
<tr>
<td>T5</td>
<td>-30…+100°C</td>
</tr>
<tr>
<td>T4, T3</td>
<td>-30…+135°C without extension</td>
</tr>
<tr>
<td>T3</td>
<td>-30…+200°C with distance piece (high temperature option)</td>
</tr>
</tbody>
</table>

1.4.2 Ambient temperature for the electronic equipment

For applications requiring Category 1 G equipment, the following ambient temperatures are allowed as a function of the Temperature Class:

<table>
<thead>
<tr>
<th>Temperature Class</th>
<th>Ambient temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>-20…+48°C</td>
</tr>
<tr>
<td>T5, T4, T3</td>
<td>-20…+60°C</td>
</tr>
</tbody>
</table>

For applications requiring Category 1/2 G, 1/2 D, 2 G or 2 D equipment, the following ambient temperatures are allowed as a function of the Temperature Class:

<table>
<thead>
<tr>
<th>Temperature Class</th>
<th>Ambient temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6, T5, T4, T3</td>
<td>-30…+60°C without extension and with a process temperature &lt; 135°C</td>
</tr>
<tr>
<td>T3</td>
<td>-30…+55°C with extension ≥ 50mm and a process temperature &lt; 200°C</td>
</tr>
<tr>
<td></td>
<td>-30…+60°C with extension ≥ 100mm and a process temperature &lt; 200°C</td>
</tr>
</tbody>
</table>
1.4.3 Surface temperature

For applications requiring Category 1/2 D or 2 D equipment,

- with a dust layer of \( \leq 5 \text{ mm} \), and
- a process temperature of \( \leq 200^\circ\text{C} \)

the surface temperature of the housing is max. 100°C.
2 Installation

In accordance with current installation standards for hazardous locations (e.g. EN 60079-14 / VDE 0165), assembly and installation may only be carried out by specialist personnel who have received training in explosion protection.

The notes given in the Standard Installation and Operating Instructions and in these Supplementary Instructions and the EC Type Test Certificate shall be observed without fail.

In addition, when installing the BM 102 for applications requiring Category 1G equipment, make absolutely sure that there is no possibility of sparking due to blows or of any frictional stressing between the signal converter housing and other metal parts.

2.1 Probes

The various probe types shall be installed such that they cannot come into contact with the tank wall, and that, in consideration of internals and flow conditions in the tank, buckling or breakage of the probes can be ruled out with sufficient certainty.

2.2 Electrical connection

The electrical connection of the BM 102 level gauges is effected as described in the standard Instructions. The following additional points should be observed:

- Only certified intrinsically safe equipment may be connected to the supply terminals. Be aware of the permissible maximum values. This requirement also applies if the device is not operated in the hazardous location!

- The connecting cable for the intrinsically safe circuits is to be selected in accordance with the valid installation standard (e.g. EN 60079-14 / VDE 0165).

- The device must be incorporated in the equipotential bonding system of the hazardous location. This can be done by way of an appropriately conductive connection between the device flange system and the tank. Where connection to the equipotential bonding system is made via a separate conductor, this must be connected to the outer press-fitted U-clamp terminal on the signal converter flange.
3 (Initial) Start-up

Disconnect from power before starting work!

Check the following points before device start-up:

- Do probe, flange, gaskets and PTFE (included in all versions) have adequate corrosion resistance to the tank product?
- Do the data on the nameplate of the signal converter agree with your operating data?
- Check that the measuring device has been properly installed on the tank.
- Is the equipotential bonding system correctly connected?
- Is the separation barrier connected correctly?
- Are the screws of the terminal compartment cover / DIN plug connector tightened down?

Further start-up procedures are described in the standard Installation and Operating Instructions for the BM 102.

4 Operation

If parametrization of the device is required or necessary, this can be done using the HART interface and one of the available communication programs.

Make sure that the HART adapter required for communication is connected to the non-intrinsically safe side of the repeater power supply unit. It may not be connected into the intrinsically safe circuit between the repeater power supply unit and the BM 102.
5 Service / Maintenance

The device normally requires no maintenance when used for the intended purpose and for standard applications.

5.1 Signal converter

The signal converter electronic equipment is maintenance-free under normal operating conditions and when used for the intended purpose.

Within the scope of checks required to be carried out in hazardous locations to maintain systems in proper working order, the following visual inspections should be carried out at regular intervals:

- Check housing, cable entries and all incoming cables for signs of corrosion and damage.
- Check the tank connections for leakages

5.2 Probes

The probes have no maintenance requirement when used for the intended purpose and under normal operating conditions. However, heavy build-up of deposits on the probe can cause measurement deviations or faulty operation.

If the probe is dirty, clean according to the directions given in the standard Installation and Operating Instructions. When dismantling the probe, be aware of working conditions (e.g. check for presence of flammable liquid and/or explosive atmosphere in or around the tank, pressurized tank, etc.).

5.3 Replacement of complete device

⚠️ Make sure that all process connections and the tank are non-pressurized.

In connection with environmentally critical process products, carefully decontaminate the wetted parts of the flange system after dismantling.

5.4 Maintenance

Maintenance work of a safety-relevant nature within the meaning of explosion protection may only be carried out by the manufacturer, his authorized representative or under the supervision of authorized inspectors.
<table>
<thead>
<tr>
<th>Wir: KROHNE SA</th>
<th>We: KROHNE SA</th>
<th>Nous: KROHNE SA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usine des Ors</td>
<td>Usine des Ors</td>
<td>Usine des Ors</td>
</tr>
<tr>
<td>26103 ROMANS</td>
<td>26103 ROMANS</td>
<td>26103 ROMANS</td>
</tr>
<tr>
<td>France</td>
<td>France</td>
<td>France</td>
</tr>
</tbody>
</table>

erklären in alleiniger Verantwortung, daß das Produkt:

Füllstandmesser
BM102

auf das sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten übereinstimmt:

- Niedrigspannung: NF EN 61010-1
- EMV: EN 50081-1, EN 50082-2
- ATEX: EN 50014, EN 50020, EN 50284

gemäß den Bestimmungen der Richtlinien 89/336/EWG (Elektromagnetische Verträglichkeit), 73/23/EWG (Niederspannungsrichtlinie) und 94/9/EG (ATEX).

Romans, den 29. Oktober 2001
Christian Savary
Geschäftsführer

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Level Measuring Instrument
BM102

to which this declaration relates, is in conformity with the following standards or other normative documents:

- Low tension: NF EN 61010-1
- EMC: EN 50081-1, EN 50082-2
- ATEX: EN 50014, EN 50020, EN 50284

according to the provisions of Directives 89/336/EEC (Electromagnetic Compatibility), 73/23/EEC (Low Voltage Directive) and 94/9/EC (ATEX).

Romans, October 20th, 2001
Christian Savary
General Manager

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Transmetteur de niveau
BM102

auquel se réfère cette déclaration, est conforme aux normes ou autres documents normatifs:

- Basse tension: NF EN 61010-1
- CEM: EN 50081-1, EN 50082-2
- ATEX: EN 50014, EN 50020, EN 50284

conformément aux dispositions des directives 89/336/CEE (Compatibilité Electromagnétique), 73/23/CEE (Basse Tension) et 94/9/CE (ATEX).

Romans, le 26 octobre 2001
Christian Savary
Directeur Général
SCHEDULE

(14) To EC-Type Examination Certificate KEMA 00ATEX1101 X

(15) Description
Refuge Level Transmitter Model BM 102 Type VFD 4... and Type SFD 9... consisting of an enclosure containing the electronics circuit and a passive pole, is used to measure the level or the value is a fluid or solid process medium inside a vessel or tank. The distance to the surface of the medium is determined by the influence space of an electro-magnetic probe, transduced in the probe system. The measured pulse delay is converted in an 0...20 mA current signal.

There are variants in the probe type, material and length, in the process connection, in the mounting of the transmitter and in the electrical connection. Depending on the process temperature, an extension tube between the enclosure and the process connection is present.

Ambient temperature range of the transmitter enclosure: -30°C...+40°C. For the relation between ambient temperature, process temperature, temperature class and maximum surface temperature, refer to the Special conditions for safe use at (17).

Geometrical data
Supply and output circuit ............... in type of protection intrinsic safety EEx ia IC, only for connection to a certificated intrinsically safe circuit, with following maximum values:
UL = 30 V
I = 150 mA
P = 1 W

The effective internal capacitance C = 10 µF, the effective internal resistance R = 10 pΩ.

(19) Report
KEMA No. 206997

(17) Special conditions for safe use
1. When the probe of a Level Transmitter is coated with a non-conductive layer, the probe must only be installed in a hazardous area where equipment category 1 G is required, under restriction of the apparatus group to IA or EB. For the enclosure however, the requirement remains the same. When a sensor with a non-conductive layer is not allowed in a potentially explosive atmosphere caused by combustible dust, unless the dust atmosphere is protected by grounded dissipative discharges. This must be realized by means of a warning.

The enclosure of the Level Transmitter must not be used in a potentially explosive atmosphere caused by combustible dust, requiring apparatus of equipment category 1 G.

ANLAGE

(12) EG-Baumusterprüfbescheinigung KEMA 00ATEX1101 X

(13) Beschreibung des Gerätes
Das TSL-Führungsschaltgerät, Modell BM 102 Typ VFD 4... und Typ SFD 9... besteht aus einem Gehäuse, das die elektromagnetische Schutzkappe und eine stählerne Schale enthält. Das Gerät wird verwendet um den Flüssigkeitsstand im Inneren einer Flüssigkeit oder eines festen Stoffes zu messen. Der Abstand zum Flüssigkeitsspiegel wird durch den elektromagnetischen Impulsgeber gemessen und in einem 0...20 mA Gleichstromsignal ausgewandert. Es gibt Abweichungen bezüglich Temperatur, Material und Länge, die Beurteilung des Mediums sowie der elektrischen Verbindung. In Abhängigkeit der Prozessstemperatur wird ein Wärmeübertrager zwischen dem Gehäuse und dem Prozessmedium installiert.

Der Bereich für die Umgebungstemperatur des Messgefähres liegt bei 30°C...+40°C. Die Abweichungen zwischen Umgebungstemperatur, Prozessstemperatur, Temperaturkategorien und maximaler Oberflächentemperatur finden sich unter den Bedingungen für den sichereren Einsatz unter (17).

Elektrische Daten
Spannung und Ausgangssignal ......... Schutz durch Eigensicherheit Ex ia IC, nur für Anschluss an nachweislich eigensicheren Schaltapparat, mit folgenden maximalen Werten:
UL = 30 V
I = 150 mA
P = 1 W

effektive interne Kapazität C = 10 µF
effektive interne Widerstand R = 10 pΩ

(18) Prüfbericht
KEMA No. 206997

(17) Besondere Bedingungen
1. Wenn die Öffnung eines Führungssteckers mit einer nichtleitenden Beschichtung versehen ist, darf diese Sonde nur in einem Gebrauchszustand installiert werden, dem Gerät der Kategorie 1 G vorgeschrieben werden, bei Beschichtung der Apparategruppe A44 oder EB. Für das Gehäuse gilt die gleiche Beschränkung, jedoch nicht.

2. Der Einsatz eines Führungssteckers mit einer Sonde mit nichtleitender Beschichtung ist in einem potentiell explosionsfähigen Medium nicht zulässig, es sei denn, dass die Voraussetzungen erfüllt sind, um elektrische Störungen zu verhindern. Der Anwender ist auf den Gewährleistungsbeurlauben auf diesen Aspekt aufmerksam gemacht.

3. Das Gehäuse des Führungssteckers darf nicht in einem explosionsfähigen Bereich verwendet werden, der durch innere oder äußere Einflüsse entsteht, und für die die Gerätekategorie 1 G vorgeschrieben ist.
SCHEDULE

to EC-Type Examination Certificate KEMA 04ATEX1101 X

Special conditions for safe use (continued):

4. Remove the enclosures of the Level Transmitter in made of aluminum alloy, when used in a potentially explosive atmosphere requiring apparatus of equipment category 1.1, the transmitter must be installed so, that even in the event of fire incident, an ignition source due to impact or friction between the enclosures and metal is excluded.

5. Following tables show the relation between ambient temperature, process temperature and temperature class, depending on the presence of an extension tube:

<table>
<thead>
<tr>
<th>Temperature class</th>
<th>Ambient temperature</th>
<th>Process temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>≤ 60 °C</td>
<td>≤ 45 °C</td>
</tr>
<tr>
<td>T5</td>
<td>≤ 60 °C</td>
<td>≤ 100 °C</td>
</tr>
<tr>
<td>T4</td>
<td>≤ 90 °C</td>
<td>≤ 100 °C</td>
</tr>
</tbody>
</table>

Transmitter without extension tube:

<table>
<thead>
<tr>
<th>Temperature class</th>
<th>Ambient temperature</th>
<th>Process temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3</td>
<td>≤ 25 °C</td>
<td>≤ 200 °C</td>
</tr>
</tbody>
</table>

Transmitter with extension tube of 90 mm:

<table>
<thead>
<tr>
<th>Temperature class</th>
<th>Ambient temperature</th>
<th>Process temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3</td>
<td>≤ 25 °C</td>
<td>≤ 200 °C</td>
</tr>
</tbody>
</table>

Transmitter with extension tube of 100 mm:

<table>
<thead>
<tr>
<th>Temperature class</th>
<th>Ambient temperature</th>
<th>Process temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>T3</td>
<td>≤ 20 °C</td>
<td>≤ 200 °C</td>
</tr>
</tbody>
</table>

For use in a potentially explosive atmosphere caused by combustible dust, at a minimum process temperature of 200 °C and with a dust layer of minimum 5 mm, the minimum surface temperature of the enclosure is 130 °C.

Essential Health and Safety Requirements

<table>
<thead>
<tr>
<th>Clause</th>
<th>Subclause</th>
<th>1.0.5</th>
<th>1.0.6</th>
<th>2.1.2</th>
<th>2.2.2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Essential Health and Safety Requirements not covered by the standards listed in (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Those Essential Health and Safety Requirements are examined and positively judged.

The results are still shown in the report dated at (10).

Text documentation

1. Description (15 pages)

2. Drawing No.
   - F00000804-01
   - F00000804-02
   - F00000804-03
   - F00000804-04
   - F00000804-05
   - F00000804-06
   - F00000804-07
   - F00000804-08
   - F00000804-09
   - F00000804-10
   - F00000804-11

3. Samples

Supplementary Installation and Operating Instructions BM 102 ATEX

ANLAGE

EG-Beamuster Prüfbescheinigung KEMA 04ATEX1101 X

Sonderbedingungen für den sichereren Einsatz (Fortschreibung):


5. Die folgenden Tabellen zeigen die Beziehung zwischen Umgebungstemperatur, Prozessstemperatur und Temperaturklasse. In Abhängigkeit von der Einsatzbedeutung der Verwendung:

<table>
<thead>
<tr>
<th>Temperaturklasse</th>
<th>Umgebungstemperatur</th>
<th>Prozessstemperatur</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>≤ 60 °C</td>
<td>≤ 100 °C</td>
</tr>
<tr>
<td>T5</td>
<td>≤ 60 °C</td>
<td>≤ 100 °C</td>
</tr>
<tr>
<td>T4</td>
<td>≤ 90 °C</td>
<td>≤ 100 °C</td>
</tr>
</tbody>
</table>

Messgerät ohne Verlängerung:

<table>
<thead>
<tr>
<th>Temperaturklasse</th>
<th>Umgebungstemperatur</th>
<th>Prozessstemperatur</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>≤ 60 °C</td>
<td>≤ 100 °C</td>
</tr>
<tr>
<td>T5</td>
<td>≤ 60 °C</td>
<td>≤ 100 °C</td>
</tr>
<tr>
<td>T4</td>
<td>≤ 90 °C</td>
<td>≤ 100 °C</td>
</tr>
</tbody>
</table>

Messgerät mit Verlängerung von 90 mm:

<table>
<thead>
<tr>
<th>Temperaturklasse</th>
<th>Umgebungstemperatur</th>
<th>Prozessstemperatur</th>
</tr>
</thead>
<tbody>
<tr>
<td>T6</td>
<td>≤ 60 °C</td>
<td>≤ 100 °C</td>
</tr>
<tr>
<td>T5</td>
<td>≤ 60 °C</td>
<td>≤ 100 °C</td>
</tr>
<tr>
<td>T4</td>
<td>≤ 90 °C</td>
<td>≤ 100 °C</td>
</tr>
</tbody>
</table>

Folgende Bedingungen sind zu beachten:

1. Der Einbau der Geräte in explosionsgeschützten Bereichen ist streng verpflichtend. Bei der Anwendung der Geräte in explosionsfähigen Bereichen sind die entsprechenden Sicherheitsmaßnahmen einzuhalten.


3. Die Geräte sind mit einem Markenzeichen versehen, das die Zulassung der Geräte als explosionsgeschützte Geräte beinhaltet.

Grundlegende Sicherheits- und Gesundheitsanforderungen

Grundlegendes Sicherheits- und Gesundheitsmanagement:

1. Der Einbau der Geräte in explosionsfähigen Bereichen ist streng verpflichtend. Bei der Anwendung der Geräte in explosionsfähigen Bereichen sind die entsprechenden Sicherheitsmaßnahmen einzuhalten.


3. Die Geräte sind mit einem Markenzeichen versehen, das die Zulassung der Geräte als explosionsgeschützte Geräte beinhaltet.

Dies ist eine interne Übersetzung

14 Supplementary Installation and Operating Instructions BM 102 ATEX

Page 4/4
If you need to return a device for testing or repair to KROHNE

Your instrument has been carefully manufactured and tested. If installed and operated in accordance with these operating instructions, your instrument will rarely present any problems. Should you nevertheless need to return an instrument for checkout or repair, please pay strict attention to the following points:

Due to statutory regulations concerning protection of the environment and safeguarding the health and safety of our personnel, KROHNE may only handle, test and repair returned instruments that have been in contact with liquids if it is possible to do so without risk to personnel and environment.

This means that KROHNE can only service your instrument if it is accompanied by a certificate in line with the following model confirming that the instrument is safe to handle.

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**SPECIMEN certificate**

<table>
<thead>
<tr>
<th>Company: ..................................................</th>
<th>Address: ..................................................</th>
</tr>
</thead>
<tbody>
<tr>
<td>Department: ...........................................</td>
<td>Name: .........................................................</td>
</tr>
<tr>
<td>Tel. No.: ................................................</td>
<td>Tel. No.: ..................................................</td>
</tr>
</tbody>
</table>

The enclosed instrument

Type: ..................................................................

KROHNE Order No. or Series No ..........................................................

has been operated with the following liquid: ..........................................................

Because this liquid is
  water-endangering * / toxic * / caustic * / flammable *
we have
  – checked that all cavities in the instrument are free from such substances *
  – flushed out and neutralized all cavities in the flowmeter *

(* delete if not applicable)

We confirm that there is no risk to man or environment through any residual liquid contained in the instrument.

Date: ........................................ Signature: ..........................................................

Company stamp: