Variable area flowmeter
6 Technical data

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7 Notes

26
1.1 Intended use

**CAUTION!**
Responsibility for the use of the measuring devices with regard to suitability, intended use and corrosion resistance of the used materials against the measured fluid lies solely with the operator.

**INFORMATION!**
This device is a Group 1, Class A device as specified within CISPR11:2009. It is intended for use in industrial environment. There may be potential difficulties in ensuring electromagnetic compatibility in other environments, due to conducted as well as radiated disturbances.

**INFORMATION!**
The manufacturer is not liable for any damage resulting from improper use or use for other than the intended purpose.

The variable area flowmeters are suitable for measuring gases and liquids.

The devices are particularly suitable for the measurement of:
- Liquids
- Hydrocarbons
- Water
- Chemicals with low corrosiveness
- Industrial gases

**DANGER!**
For devices used in hazardous areas, additional safety notes apply; please refer to the Ex documentation.

**CAUTION!**
Do not use any abrasive or highly viscous media.

1.2 Certifications

The device fulfils the statutory requirements of the following EC directives:

- Pressure Equipment Directive 97/23/EC
- Devices for use in hazardous areas: ATEX Directive 94/9/EC

The manufacturer certifies successful testing of the product by applying the CE marking.
1.3 Safety instructions from the manufacturer

1.3.1 Copyright and data protection

The contents of this document have been created with great care. Nevertheless, we provide no guarantee that the contents are correct, complete or up-to-date.

The contents and works in this document are subject to copyright. Contributions from third parties are identified as such. Reproduction, processing, dissemination and any type of use beyond what is permitted under copyright requires written authorisation from the respective author and/or the manufacturer.

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We hereby expressly prohibit the use of the contact data published as part of our duty to publish an imprint for the purpose of sending us any advertising or informational materials that we have not expressly requested.

1.3.2 Disclaimer

The manufacturer will not be liable for any damage of any kind by using its product, including, but not limited to direct, indirect or incidental and consequential damages.

This disclaimer does not apply in case the manufacturer has acted on purpose or with gross negligence. In the event any applicable law does not allow such limitations on implied warranties or the exclusion of limitation of certain damages, you may, if such law applies to you, not be subject to some or all of the above disclaimer, exclusions or limitations.

Any product purchased from the manufacturer is warranted in accordance with the relevant product documentation and our Terms and Conditions of Sale.

The manufacturer reserves the right to alter the content of its documents, including this disclaimer in any way, at any time, for any reason, without prior notification, and will not be liable in any way for possible consequences of such changes.
1.3.3 Product liability and warranty

The operator shall bear responsibility for the suitability of the device for the specific purpose. The manufacturer accepts no liability for the consequences of misuse by the operator. Improper installation or operation of the devices (systems) will cause the warranty to be void. The respective “Standard Terms and Conditions” which form the basis for the sales contract shall also apply.

1.3.4 Information concerning the documentation

To prevent any injury to the user or damage to the device it is essential that you read the information in this document and observe applicable national standards, safety requirements and accident prevention regulations.

If this document is not in your native language and if you have any problems understanding the text, we advise you to contact your local office for assistance. The manufacturer cannot accept responsibility for any damage or injury caused by misunderstanding of the information in this document.

This document is provided to help you establish operating conditions, which will permit safe and efficient use of this device. Special considerations and precautions are also described in the document, which appear in the form of icons as shown below.
1.3.5 Warnings and symbols used

Safety warnings are indicated by the following symbols.

**DANGER!**
This warning refers to the immediate danger when working with electricity.

**DANGER!**
This warning refers to the immediate danger of burns caused by heat or hot surfaces.

**DANGER!**
This warning refers to the immediate danger when using this device in a hazardous atmosphere.

**DANGER!**
These warnings must be observed without fail. Even partial disregard of this warning can lead to serious health problems and even death. There is also the risk of seriously damaging the device or parts of the operator’s plant.

**WARNING!**
Disregarding this safety warning, even if only in part, poses the risk of serious health problems. There is also the risk of damaging the device or parts of the operator’s plant.

**CAUTION!**
Disregarding these instructions can result in damage to the device or to parts of the operator’s plant.

**INFORMATION!**
These instructions contain important information for the handling of the device.

**LEGAL NOTICE!**
This note contains information on statutory directives and standards.

• **HANDLING**
This symbol designates all instructions for actions to be carried out by the operator in the specified sequence.

• **RESULT**
This symbol refers to all important consequences of the previous actions.

1.4 Safety instructions for the operator

**WARNING!**
In general, devices from the manufacturer may only be installed, commissioned, operated and maintained by properly trained and authorized personnel. This document is provided to help you establish operating conditions, which will permit safe and efficient use of this device.
2.1 Scope of delivery

**INFORMATION!**
Inspect the packaging carefully for damages or signs of rough handling. Report damage to the carrier and to the local office of the manufacturer.

**INFORMATION!**
Do a check of the packing list to make sure that you have all the elements given in the order.

**INFORMATION!**
Look at the device nameplate to ensure that the device is delivered according to your order. Check for the correct supply voltage printed on the nameplate.

![Figure 2-1: Scope of delivery](image)

- ① Measuring device in ordered version
- ② Manual
- ③ Certificates, calibration report (supplied to order only)
2.2 Nameplate

INFORMATION!
Look at the device nameplate to ensure that the device is delivered according to your order.
Check for the correct supply voltage printed on the nameplate.

![Device Nameplate](image)

- **1** Device type
- **2** Manufacturer
- **3** Internet site
- **4** Notified ATEX body
- **5** Note manual
- **6** Ex data
- **7** Serial Number
- **8** Year of manufacture
- **9** PED data
- **10** Sizing data: temperature & pressure

**Additional markings on the measuring device**
- **SO** - sales order / item
- **Tag-No** - Measuring point identifier
- **PA** - KROHNE order
- **AC** - article code

2.3 Description code

The description code* GA24 consists of the following elements:

![Description Code](image)

- **1** Material of connection
  - **R** - stainless steel
  - **PTFE** - stainless steel with PTFE lining
- **2** Limit switch
  - **K1** - One limit switch
  - **K2** - Two limit switches

* positions which are not needed are omitted (no blank positions)
3.1 General notes on installation

**INFORMATION!**
Inspect the packaging carefully for damages or signs of rough handling. Report damage to the carrier and to the local office of the manufacturer.

**INFORMATION!**
Do a check of the packing list to make sure that you have all the elements given in the order.

**INFORMATION!**
Look at the device nameplate to ensure that the device is delivered according to your order. Check for the correct supply voltage printed on the nameplate.

3.2 Storage

- Store the device in a dry and dust-free location.
- Avoid lasting direct exposure to the sun.
- Store the device in its original packing.
- The permissible storage temperature for standard devices is -40...+80°C / -40...+176°F.

3.3 Installation conditions

**CAUTION!**
When installing the device in the piping, the following points must be observed:
- The variable area flowmeter must be installed vertically (measuring principle). Flow direction from bottom to top. For installation recommendations please refer also to VDI/VDE 3513 Sheet 3.
- Before connecting, blow or flush out the pipes leading to the device.
- Pipes for gas flow need to be dried before the device is installed.
- Use connectors suitable for the particular device version.
- Align the pipes centrically with the connection bores on the measuring device so they are free of stresses.
- If necessary, support the pipeline to reduce vibrations being transmitted to the measuring device.
- Do not lay signal cables directly next to cables for the power supply.

3.4 Transport locks

A plastic rod is fitted to secure the float during transportation. This must be removed prior to starting up.

Remove the protective cover on the top flange and the rod lock from the glass.
4.1 Safety instructions

**DANGER!**
All work on the electrical connections may only be carried out with the power disconnected. Take note of the voltage data on the nameplate!

**DANGER!**
Observe the national regulations for electrical installations!

**DANGER!**
For devices used in hazardous areas, additional safety notes apply; please refer to the Ex documentation.

**WARNING!**
Observe without fail the local occupational health and safety regulations. Any work done on the electrical components of the measuring device may only be carried out by properly trained specialists.

**INFORMATION!**
Look at the device nameplate to ensure that the device is delivered according to your order. Check for the correct supply voltage printed on the nameplate.

4.2 Limit switches GA24

The flowmeters GA24 can be equipped with a maximum of two bistable limit switches.

Bistable function: Stable switching when passing through the switching point

Use, selection and function - see Technical Data

---

![Figure 4-1: Types of limit switch](Image)

① MS 14/I - floating, bistable reed contact
② TG21 - bistable, with integrated switching lug and slotted proximity switch
4.2.1 MS14 limit switch connection

![Figure 4-2: Connection limit switch type MS14](image)

- 1. Connection Reed-switch
- 2. Connection Receiver device
- 3. Terminal connection (potential-free)

The switching function requires a float with integrated magnet.

4.2.2 TG21 limit switch connection

![Figure 4-3: Connection limit switch type TG21](image)

- 1. Terminal -
- 2. Terminal +

The TG 21 is adapted for switch amplifiers with an intrinsically safe circuit as per DIN EN 50227 NAMUR.

The TG 21 includes an inductive slotted proximity switch with bistable switching characteristics. The slotted proximity switch is activated by the immersion of an aluminum lug. The magnet of the immersion lug is moved by the magnet in the float. The switching function requires a float with integrated magnet.
4.3 Limit switch settings

4.3.1 Limit switch settings MS14

- Untighten bracket screw ① and set switching position
- Secure bracket screw ①

The distance between the limit switch and the casing is factory set with clamp screw ② so that the limit switch touches the glass taper at the maximum switching point.

The limit switch must be rotated 180° to reach the lower range of the scale.

4.3.2 Limit switch settings TG21

- Untighten bracket screw ① and set switching position
- Secure bracket screw ①

The distance between the limit switch and the casing is factory set at approx. 1 mm (0.039") with the clamping screw ②.
4.4 Limit switch function reversal

4.4.1 Limit switch function reversal MS14

The contact function can be changed by reconnecting the reed cartridge screwed into the cartridge housing:

- Closing as flow increases: Arrow on reed cartridge points towards measuring glass.
- Closing as flow decreases: Arrow on reed cartridge points away from measuring glass.

4.4.2 Limit switch function reversal TG21

The contact function can be changed from normally open to normally closed by moving the position of the slotted proximity switch ③.

Once the screw ⑥ has been undone, the slotted proximity switch ③ can be moved to the other end position.

If there is the possibility of vibrations triggering an improper switching operation, the strength of the force closure between the adjustment magnet and counter magnet ④ can be adjusted on the immersion lug ② using the grub screw ⑤.

The switching reproducibility is < 3% of the final measuring range value and is affected by the strength of the force closure.
5.1 Maintenance

The flowmeter should be checked for signs of dirt, corrosion, mechanical wear and damage to the measuring glass during routine maintenance of the system and pipelines. We advise that inspections be carried out at least once per year.

**CAUTION!**
Pressurized pipes have to be depressurized before removing the device.
Empty pipes as completely as possible.
In the case of devices used for measuring aggressive or hazardous media, appropriate safety precautions must be taken with regard to residual liquids in the measuring unit.
Only the connecting couplings of the pipeline may be undone.
Always use new seals when fitting the measuring device in the pipe.
Avoid electrostatic charges when cleaning the surfaces (e.g. sight window!)
Test the leak tightness using suitable means prior to starting up the measuring device again.

5.2 Spare parts availability

The manufacturer adheres to the basic principle that functionally adequate spare parts for each device or each important accessory part will be kept available for a period of 3 years after delivery of the last production run for the device.

This regulation only applies to spare parts which are subject to wear and tear under normal operating conditions.

5.3 Availability of services

The manufacturer offers a range of services to support the customer after expiration of the warranty. These include repair, maintenance, technical support and training.

**INFORMATION!**
For more precise information, please contact your local sales office.
5.4 Returning the device to the manufacturer

5.4.1 General information

This device has been carefully manufactured and tested. If installed and operated in accordance with these operating instructions, it will rarely present any problems.

CAUTION!

Should you nevertheless need to return a device for inspection or repair, please pay strict attention to the following points:

- Due to statutory regulations on environmental protection and safeguarding the health and safety of the personnel, the manufacturer may only handle, test and repair returned devices that have been in contact with products without risk to personnel and environment.
- This means that the manufacturer can only service this device if it is accompanied by the following certificate [see next section] confirming that the device is safe to handle.

CAUTION!

If the device has been operated with toxic, caustic, flammable or water-endangering products, you are kindly requested:

- to check and ensure, if necessary by rinsing or neutralising, that all cavities are free from such dangerous substances,
- to enclose a certificate with the device confirming that is safe to handle and stating the product used.
5.4.2 Form (for copying) to accompany a returned device

**CAUTION!**
To avoid any risk for our service personnel, this form has to be accessible from outside of the packaging with the returned device.

<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>Fax no. and/or Email address:</td>
</tr>
<tr>
<td>Manufacturer’s order no. or serial no.:</td>
<td></td>
</tr>
</tbody>
</table>

The device has been operated with the following medium:

<table>
<thead>
<tr>
<th>This medium is:</th>
<th>radioactive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>water-hazardous</td>
</tr>
<tr>
<td></td>
<td>toxic</td>
</tr>
<tr>
<td></td>
<td>caustic</td>
</tr>
<tr>
<td></td>
<td>flammable</td>
</tr>
</tbody>
</table>

We checked that all cavities in the device are free from such substances.

We have flushed out and neutralized all cavities in the device.

We hereby confirm that there is no risk to persons or the environment through any residual media contained in the device when it is returned.

<table>
<thead>
<tr>
<th>Date:</th>
<th>Signature:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stamp:</td>
<td></td>
</tr>
</tbody>
</table>

5.5 Disposal

**CAUTION!**
Disposal must be carried out in accordance with legislation applicable in your country.

**Separate collection of WEEE (Waste Electrical and Electronic Equipment) in the European Union:**

According to the directive 2012/19/EU, the monitoring and control instruments marked with the WEEE symbol and reaching their end-of-life **must not be disposed of with other waste**. The user must dispose of the WEEE to a designated collection point for the recycling of WEEE or send them back to our local organisation or authorised representative.
6.1 Operating principle

The flowmeter operates on the float measuring principle

The measuring unit consists of a glass cone in which a float can move freely up and down.

The flow goes from bottom to top.

The float changes position so that the lifting force acting on it $F_1$ is in equilibrium with the form drag $F_2$ and its weight $F_3$: $F_3 = F_1 + F_2$

The height of the float is read on the scale of the measuring glass and indicates the flow rate.

The top edge of the float marks the reading line for flow values.
### Measuring system

<table>
<thead>
<tr>
<th>Application range</th>
<th>Flow measurement of liquids, gases and vapours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating method / measuring principle</td>
<td>Variable area measuring principle</td>
</tr>
<tr>
<td><strong>Measured value</strong></td>
<td></td>
</tr>
<tr>
<td>Primary measured value</td>
<td>Float position</td>
</tr>
<tr>
<td>Secondary measured value</td>
<td>Operating and standard volumetric flow</td>
</tr>
<tr>
<td><strong>Measuring accuracy</strong></td>
<td></td>
</tr>
<tr>
<td>Directive</td>
<td>VDI / VDE 3513, sheet 2 (q_D = 50%)</td>
</tr>
<tr>
<td>Measuring accuracy</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

### Operating conditions

| **Temperature**            |                                                 |
| Max. operating temperature TS | -40...+120°C / -40...+248°F                |
| **Pressure**               |                                                 |
| Max. permitted operating gauge pressure PS at TS = 100°C | Pressure equipment directive 97/23/EC |
| Test pressure PT           | Pressure equipment directive 97/23/EC or AD 2000-HP30 |

| DN15, DN25  | 10 bar ① |
| DN40        | 9 bar ①  |
| DN50        | 7 bar ①  |

### Installation conditions

| **Inlet condition, run** | ≥ 5 x DN          |
| **Outlet condition, run** | ≥ 3 x DN          |

① other pressures upon request
Materials

<table>
<thead>
<tr>
<th>Material/Part</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange connection GA24/R</td>
<td>Stainless steel 1.4404 (316 L)</td>
</tr>
<tr>
<td>Flange connection GA24/PTFE</td>
<td>Stainless steel 1.14404 (316 L) with a liner made of PTFE</td>
</tr>
<tr>
<td>Housing</td>
<td>Steel plate housing (zinc-plated with epoxy/polyester coating)</td>
</tr>
<tr>
<td>Measuring cone</td>
<td>Borosilicate glass</td>
</tr>
<tr>
<td>Suspended solid particle</td>
<td>Stainless steel 1.4571 (316 Ti) or Hastelloy C2000</td>
</tr>
<tr>
<td></td>
<td>PTFE/insert or TFM (PTFE)</td>
</tr>
<tr>
<td></td>
<td>Aluminum</td>
</tr>
<tr>
<td></td>
<td>Polypropylene (PP)</td>
</tr>
<tr>
<td>Suspended solid particle and</td>
<td>PVDF (conforms to FDA)</td>
</tr>
<tr>
<td>insert</td>
<td></td>
</tr>
<tr>
<td>Seals</td>
<td>Neoprene</td>
</tr>
<tr>
<td></td>
<td>PTFE Scherring</td>
</tr>
<tr>
<td></td>
<td>PTFE sleeve</td>
</tr>
</tbody>
</table>

Temperatures

**DANGER!**

For devices to be used in hazardous areas, special temperature ranges apply. These can be found in the separate instructions.

Max. measuring temperature $T_m$  
-40...+120°C (1)  
-40...+248°F

Max. ambient temperature $T_{amb}$  
-20...+100°C  
-4...+212°F

(1) higher temperatures on request

Types of limit switches

<table>
<thead>
<tr>
<th>Type</th>
<th>Switching function</th>
<th>Connection</th>
<th>Shape</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS 14/A</td>
<td>bistable</td>
<td>2-wire, floating</td>
<td>Reed contact</td>
<td>Float with magnet required</td>
</tr>
<tr>
<td>TG 21</td>
<td>bistable</td>
<td>2-wire NAMUR</td>
<td>Slotted proximity switch</td>
<td>Float with magnet required</td>
</tr>
</tbody>
</table>
### Limit switch use

<table>
<thead>
<tr>
<th>Size</th>
<th>Cone no.</th>
<th>Limit switch</th>
<th>Size</th>
<th>Cone no.</th>
<th>Limit switch</th>
</tr>
</thead>
<tbody>
<tr>
<td>DN15</td>
<td>N 18.07</td>
<td>MS14/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N 18.09</td>
<td>MS14/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N 18.13</td>
<td>MS14/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N 19.09</td>
<td>MS14/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N 19.13</td>
<td>MS14/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N 19.19</td>
<td>MS14/A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N 19.26</td>
<td>MS14/A</td>
<td>DN25</td>
<td>N 21.09</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N 21.13</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N 21.18</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N 21.25</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DN40</td>
<td>N 41.09</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N 41.13</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N 41.19</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DN50</td>
<td>N 51.10</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N 51.15</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>N 51.21</td>
<td>MS14/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Technical data for limit switches

#### Technical data MS14

- **Contact type**: Normally open or normally closed, can be reconnected
- **Switching reproducibility**: < 2% of full-scale range
- **Contact rating**: 12 VA
- **Max. turn-on voltage**: 30 VDC
- **Max. switching current**: 0.5 A
- **Ambient temperature**: -20°...+85°C / -4°...+185°F
- **Protection category acc. to IEC 60529 / EN 529**: IP44

#### Technical data TG21

- **Rated voltage**: 8 VDC
- **Current consumption, active surface open**: 3 mA
- **Current consumption, active surface covered**: 1 mA
- **Ambient temperature**: -25°...+100°C / -13°...+212 °F
- **Protection category acc. to IEC 60529 / EN 529**: IP67 / NEMA 6
6.3 Dimensions and weights

Dimensions

<table>
<thead>
<tr>
<th>Nominal size</th>
<th>a (mm)</th>
<th>b (Inch)</th>
<th>c (Inch)</th>
<th>d (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15 1/2&quot;</td>
<td>500</td>
<td>19.7</td>
<td>300</td>
<td>11.8</td>
</tr>
<tr>
<td>25 1&quot;</td>
<td>500</td>
<td>19.7</td>
<td>300</td>
<td>11.8</td>
</tr>
<tr>
<td>40 1 1/2&quot;</td>
<td>500</td>
<td>19.7</td>
<td>300</td>
<td>11.8</td>
</tr>
<tr>
<td>50 2&quot;</td>
<td>500</td>
<td>19.7</td>
<td>300</td>
<td>11.8</td>
</tr>
</tbody>
</table>

Weights

<table>
<thead>
<tr>
<th>DN</th>
<th>approx. kg</th>
<th>approx. lb</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>25</td>
<td>10</td>
<td>22</td>
</tr>
<tr>
<td>40</td>
<td>13</td>
<td>29</td>
</tr>
<tr>
<td>50</td>
<td>18</td>
<td>40</td>
</tr>
</tbody>
</table>

Process connection

<table>
<thead>
<tr>
<th>Connection dimensions according to</th>
<th>Connection</th>
<th>Pressure class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flanged connections</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EN 1092</td>
<td>DN15, DN25</td>
<td>PN25</td>
</tr>
<tr>
<td>EN 1092</td>
<td>DN40, DN50</td>
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### 6.4 Measuring ranges

**Measuring ranges GA24**

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1 only possible with guided float

**INFORMATION!**

The oper. press. should be at least twice the pressure loss for liquids, and at least 5 times the pressure loss for gases! The specified pressure drops are valid for water and air at maximum flow rate. Other flow ranges on request. Conversion of other media or operating data (pressure, temperature, density, viscosity) is performed using the calculation method in accordance with VDI/VDE Directive 3513

**Reference condition for gas measurements:**
The flow measurement of gases are referred to

- Nl/h or Nm³/h: Volume flow in Normal state 0°C, 1.013 bar abs. (DIN 1343)
- SCFM or SCFH: Volume flow in Standard state 15°C, 1.013 bar abs. (ISO 13443)
### Measuring span:
10 : 1

### Declaration of flow:
Values = 100%
- Water: 20°C [68°F]
- Air: 20°C [68°F], 1.013 bar abs. [14.7 psia]

### Float materials:
1 Stainless Steel or Hastelloy®, 2 PTFE, 3 TFM, 4 Aluminium, 5 Polypropylene (PP)

## Materials

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KROHNE – Process instrumentation and measurement solutions

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- Level
- Temperature
- Pressure
- Process Analysis
- Services

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www.krohne.com