

Product Information

VO / VOR-015..025GM / K

**Flow Indicator / Switch
VO**



- Optionally switching contact

Characteristics

Mechanical flow indicator, which provides a quantitative flow display for fluid media.

Technical data

Flow indicator VO

| | | |
|-------------------------------------|---|--|
| Nominal width | DN 15.0.25 | |
| Process connection | female thread G 1/2..G 1 | |
| Display range | 0.1..150 l/min | for details see table "Ranges" |
| Q_{max.} | 150 l/min | |
| Tolerance | ±10 % of full scale value | |
| Pressure resistance | PN 10 bar | |
| Media temperature | -20..+100 °C | |
| Ambient temperature | -20..+70 °C | |
| Media | water (oils, gases and aggressive media available on request) | |
| Materials medium-contact | <i>Brass construction:</i> CW614N nickelled, Duran 50, 1.4571, hard ferrite, NBR | <i>Stainless steel construction:</i> 1.4571, Duran 50, hard ferrite, FKM |
| Non-medium-contact materials | anodised aluminium | |
| Weight | see table "Dimensions and weights" | |
| Installation location | Standard: Vertical inwards flow from below; other installation positions are possible; the installation position affects the switching point and range. | |

Switching contact VOR for DN 25

| | |
|----------------------------|---|
| Switch | reed switch |
| Switching range | 0.1..28 l/min, for details see "Ranges" |
| Tolerance | ±10 % of full scale value |
| Ambient temperature | -20..+70 °C |

| | | |
|-------------------------------------|---|--|
| Wiring | normally open (n.o.) no. 0.372 | |
| Switching voltage | max. 230 V AC | |
| Switching current | max. 3 A | |
| Switching capacity | max. 60 VA | |
| Protection class | 2 -safety insulation | |
| Ingress protection | IP 65 | |
| Connection | DIN 43650-C plug | |
| Non-medium-contact materials | PC, PA, NBR, nickelled brass, stainless steel | |
| Weight | 0.02 kg | |

Switching contact VOR for DN 25

| | | |
|-------------------------------------|--|--|
| Switch/sensor | reed switch | |
| Switching range | 15..150 l/min, for details see "Ranges" | |
| Tolerance | ±10 % of full scale value | |
| Ambient temperature | -20..+70 °C | |
| Wiring | normally open (n.o.) no. 0.372 | |
| Switching voltage | max. 230 V C | |
| Switching current | max. 1.5 A | |
| Switching capacity | max. 100 VA | |
| Protection class | 2 - safety insulation | |
| Ingress protection | IP 65 | |
| Electrical connection | plug DIN 43650-A / ISO 4400 | |
| Non-medium-contact materials | PBC, PA, NBR, nickelled brass, stainless steel | |
| Weight | 0.02 kg | |

Ranges

For switching ranges, the details in the table correspond to horizontal inwards flow and decreasing flow rate; for display ranges they correspond to horizontal inwards flow and increasing flow rate.

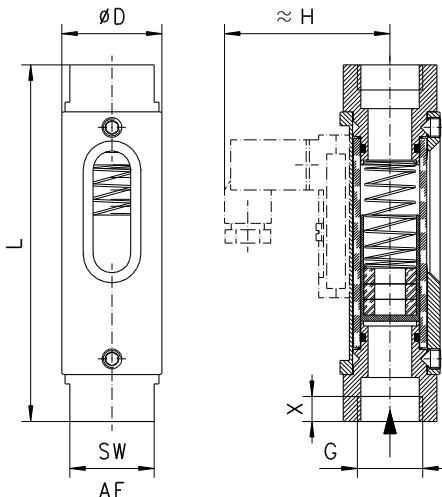
| G | Display/ Switching range l/min H ₂ O | Q _{max.} recommended | Types |
|-------|---|----------------------------------|---------------|
| G 1/2 | 0.2 - 0.5 | 0.5 | VO.-015G.0005 |
| | 0.3 - 1.0 | 1.0 | VO.-015G.0010 |
| | 0.7 - 2.0 | 2.0 | VO.-015G.0020 |
| | 1.6 - 4.0 | 4.0 | VO.-015G.0040 |
| | 3.0 - 8.0 | 8.0 | VO.-015G.0080 |
| | 8.0 - 20.0 | 20.0 | VO.-015G.0200 |
| G 1 | 12.0 - 28.0 | 28.0 | VO.-015G.0280 |
| | 15.0 - 45.0 | 45.0 | VO.-025G.0450 |
| | 30.0 - 90.0 | 90.0 | VO.-025G.0900 |
| | 60.0 - 150.0 | 150.0 | VO.-025G.1500 |

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Dimensions and weights

| G | Types | D | H | L | X | SW | Weight kg |
|-------|-----------|----|----|-----|----|----|-----------|
| G 1/2 | VO-015G. | 32 | - | 114 | 8 | 27 | 0.30 |
| | VOR-015G. | | 53 | | | | 0.32 |
| G 1 | VO-025G. | 50 | - | 158 | 10 | 41 | 1.00 |
| | VOR-025G. | | 77 | | | | 1.02 |



Handling and operation

- Include straight calming section of 5 x DN in inlet and outlet
- If the media are dirty, install a filter (use magnetic filter for ferritic components).
- It must be ensured that the values given for voltage, current, and power are not exceeded.
- When switch on, a load must be connected in series.
- The electrical details apply to ohmic loads. Capacitive, inductive and lamp loads must be operated using a protective circuit.

Ordering code

1. 2. 3. 4. 5.
 - **G**

| 1. Types | | |
|---|---------------------------------------|---|
| VO | flow indicator | |
| VOR | flow indicator with switching contact | |
| 2. Nominal width | | |
| 015 | DN 15 - G 1/2 | |
| 025 | DN 25 - G 1 | |
| 3. Process connection | | |
| G | female thread | |
| 4. Connection material | | |
| M | brass | |
| K | stainless steel | |
| 5. Display / switching range H ₂ O for vertical inwards flow | | |
| 0005 | 0.2 - 0.5 l/min | ● |
| 0010 | 0.3 - 1.0 l/min | ● |
| 0020 | 0.7 - 2.0 l/min | ● |
| 0040 | 1.6 - 4.0 l/min | ● |
| 0080 | 3.0 - 8.0 l/min | ● |
| 0200 | 8.0 - 20.0 l/min | ● |
| 0280 | 12.0 - 28.0 l/min | ● |
| 0450 | 15.0 - 45.0 l/min | ● |
| 0900 | 30.0 - 90.0 l/min | ● |
| 1500 | 60.0 - 150.0 l/min | ● |

Options

- Display and switching ranges for oil or gas
- Special values
- Scale 0..100 %
- Optionally transformer 250 V AC, 1,5 A, 50 VA, Wiring no. 0.282
- Types VOR - switching head with changeover
- Model for air

Ordering information

- Specify direction of flow, medium, and display range.
- For oils. State viscosity, temperature and designation (e.g. ISO VG 68) (enquire about display range).
- For gases, specify pressure (relative or absolute), temperature and medium (e.g. air) (enquire about display range).