

VF, VO

Датчики протока поршневого типа

GHM MESSTECHNIK



Технические характеристики

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Flow Indicator / Switch VF



- Optionally switching contact

Characteristics

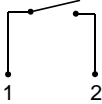
Mechanical flow indicator, which provides a quantitative flow display for fluid or gaseous media.

Technical data

Flow indicator VF

Nominal width	DN 8	
Process connection	female thread G 1/4	
Display range	0.005..5 l/min	for details see table "Ranges"
Q _{max.}	5 l/min	
Tolerance	±10 % of full scale value	
Pressure resistance	PN 16 bar	
Media temperature	-20..+100 °C	
Ambient temperature	-20..+70 °C	
Media	water (oils to 46 mm ² /s, gases and aggressive media available on request)	
Materials medium-contact	Brass construction: CW614N nickelled, Duran 50, 1.4571, hard ferrite, NBR	Stainless steel construction: 1.4571, Duran 50, hard ferrite, FKM
Non-medium-contact materials	anodised aluminium	
Weight	0.14 kg	
Installation location	Standard: Vertical inwards flow from below; other installation positions are possible; the installation position affects the switching point and range.	

Switching contact VFR

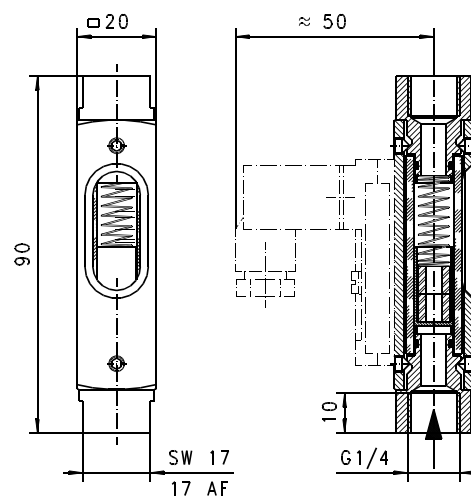
Switch	reed switch
Process connection	female thread G 1/4
Switching range	0.005..5 l/min, for details see "Ranges"
Tolerance	±10 % of full scale value
Ambient temperature	-20..+70 °C
Wiring	normally open (n.o.) no. 0.372
	
Switching voltage	max. 200 V AC
Switching current	max. 1 A
Switching capacity	max. 20 VA
Protection class	2 - safety insulation
Ingress protection	IP 65
Electrical connection	DIN 43650-C plug
Non-medium-contact materials	PBT, 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.

Display/switching range H ₂ O	Q _{max.} recommended	Types
5.0 - 60.0 ml/min	60.0 ml/min	VF.-008G.006
25.0 - 130.0 ml/min	130.0 ml/min	VF.-008G.013
0.1 - 0.6 l/min	0.6 l/min	VF.-008G.060
0.5 - 3.0 l/min	3.0 l/min	VF.-008G.300
1.0 - 5.0 l/min	5.0 l/min	VF.-008G.500

Dimensions



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.
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1. Types	
VF	flow indicator
VFR	flow indicator with switching contact
2. Nominal width	
008	DN 8 - G 1/4
3. Process connection	
G	female thread
4. Connection material	
M	brass
K	stainless steel
5. Display / switching range H₂O for vertical inwards flow	
006	5.0 - 60.0 ml/min
013	25.0 - 130.0 ml/min
060	0.1 - 0.6 l/min
300	0.5 - 3.0 l/min
500	1.0 - 5.0 l/min

Options

- Display and switching ranges for oil or gas
- Special values
- Scale 0..100 %
- Types VFR - 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, state pressure (relative or absolute), temperature and medium (e.g. air) (request display range)

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 15

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 AC	
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	

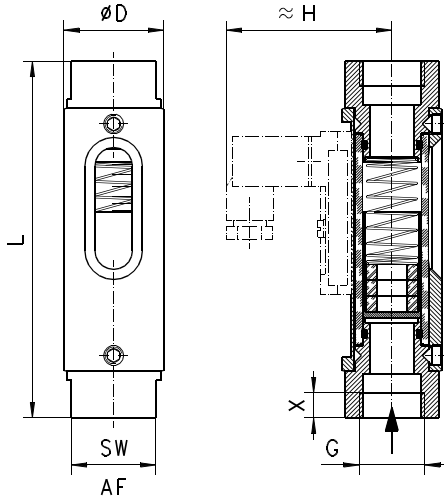
Ranges

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
	12.0 - 28.0	28.0	VO.-015G.0280
G 1	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

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).

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