

## Flow Switch FF-...GR

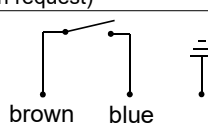
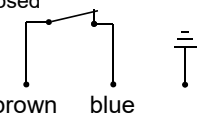


- Adjusted switching value
- Highly reproducible
- Insensitive to dirt

### Characteristics

The volume flow raises a piston (fitted with a magnet) out from a valve seat against a spring force. The piston actuates a hermetically separated reed switch.

### Technical data

<b>Switch</b>	reed switch	
<b>Nominal width</b>	DN 8..50 (DN 65..80 available on request)	
<b>Process connection</b>	female thread G 1/4 ..G 2	
<b>Adjustment range</b>	0.4..150 l/min	for details see table "Ranges"
<b>Q<sub>max.</sub></b>	to 250 l/min	
<b>Tolerance</b>	±3 % of the switching value, minimum ±0.3 l/min	
<b>Pressure resistance</b>	G 1/4..G 1/2 - PN 200 bar G 3/4..G 1 - PN 25 bar G 1 1/4..G 2 - PN 16 bar	
<b>Medium temperature</b>	DN 8..15 -20..+110 °C ≥DN 20 -20..+ 90 °C	
<b>Ambient temperature</b>	-20..+70 °C	
<b>Media</b>	water (oils available on request)	
<b>Wiring</b>	normally open (n.o.) no. 0.212 	
	optionally, normally closed no. 0.214 (not all adjustment ranges are possible, please enquire) 	
<b>Switching voltage</b>	max. 230 V AC	
<b>Switching current</b>	max. 1 A	
<b>Switching capacity</b>	max. 50 VA	
<b>Protection class</b>	1 - PE connection	
<b>Ingress protection</b>	IP 65	
<b>Electrical connection</b>	cable 1.8 m	

<b>Materials medium-contact</b>	Rg 5 nickelled, 1.4310, CW614N nickelled, NBR, hard ferrite
<b>Non-medium-contact materials</b>	PA, PVC
<b>Weight</b>	see table "Dimensions and weights"
<b>Installation location</b>	Standard: horizontal inwards flow; switching head not recommended underneath; other installation positions are possible; the installation position affects the switching point and range.

### Ranges

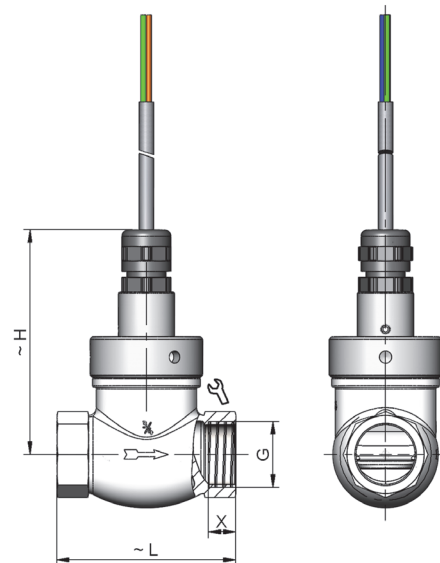
Details in the table correspond to horizontal inwards flow with decreasing flow rate.

G	DN	Switchin point l/min H <sub>2</sub> O Choose between	Types	Q <sub>max.</sub> recommended
G 1/4	DN 8	0.4 - 9	FF-008GR009	7
G 3/8	DN 10	0.4 - 10	FF-010GR010	10
G 1/2	DN 15	0.4 - 12	FF-015GR012	22
G 3/4	DN 20	0.6 - 25	FF-020GR025	38
G 1	DN 25	1.5 - 40	FF-025GR040	60
G 1 1/4	DN 32	2.0 - 60	FF-032GR060	100
G 1 1/2	DN 40	3.0 - 90	FF-040GR090	150
G 2	DN 50	5.0 -150	FF-050GR150	250

Special ranges are available

### Dimensions and weights

G	Types	L	H	SW	X	Weight kg
G 1/4	FF-008GR...	68	80	29	12	0.6
G 3/8	FF-010GR...				13	
G 1/2	FF-015GR...					
G 3/4	FF-020GR...	73	90	32	11	0.7
G 1	FF-025GR...	87			14	
G 1 1/4	FF-032GR...	98	95	52	17,5	1.5
G 1 1/2	FF-040GR...	113	95	59		2.0
G 2	FF-050GR...	137	103	72		3,1



## 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 switched 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

FF -  1.  2.  3.  4.  5.

○=Option

1. Nominal width	
008	DN 8 - G 1/4
010	DN 10 - G 3/8
015	DN 15 - G 1/2
020	DN 20 - G 3/4
025	DN 25 - G 1
032	DN 32 - G 1 1/4
040	DN 40 - G 1 1/2
050	DN 50 - G 2
2. Process connection	
G	female thread
3. Connection material	
R	red bronze
4. Switching point H <sub>2</sub> O can be set as desired between	
009	0.4 - 9 l/min
010	0.4 - 10 l/min
012	0.4 - 12 l/min
025	0.6 - 25 l/min
040	1.5 - 40 l/min
060	2.0 - 60 l/min
090	3.0 - 90 l/min
150	5.0 - 150 l/min
5. Wiring	
S	'normally open', no. 0.212
O	○ 'normally closed', no. 0.214 (please enquire about range)

## Options

- Adjustment for oil or gas
- Special values

## Ordering information

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