

# Manual



SP-G 15



SP-G 20

## Function

The SP-G liquid flow switch is designed for controlling and monitoring fluid flows. The function is based solely on the flow of the liquid and is not affected by the system's static pressure; however, the system does require a basic pressure in excess of 1 bar.

The switch is customised for applications where alarms for low flows are required while large flows can pass through without any increased fall in pressure. The switch has a variable through-flow area that increases as the flow increases.

The through-flowing fluid lifts a spring-loaded pressure plate. The shaft on which the plate is mounted is mechanically connected to a lever that actuates a built-in micro-switch. The dimension of the pressure plate controls the signal point. The contact changes positions at the ordered alarm point, which can be selected from 1.5 l/m to 30 l/m.

If, for example, the switch is used to start a high-pressure pump or to open a valve, the flow may be allowed to increase significantly across the alarm point since the tray is lifted higher and the through-flow area increases continuously. Conversely, the switch can be installed in a flow system for e.g. protection against the dry running of a pump. Normally, at high flows, the fall in pressure across the switch is negligible. Nevertheless, the low flow alarm can be set to as low as 1.5 l/min since the through-flow area continues to decrease as the flow decreases and the plate moves downwards.

Those parts that come into contact with the liquid are manufactured in dezincification-resistant brass, Teflon and stainless steel. Synthetic rubber gaskets.

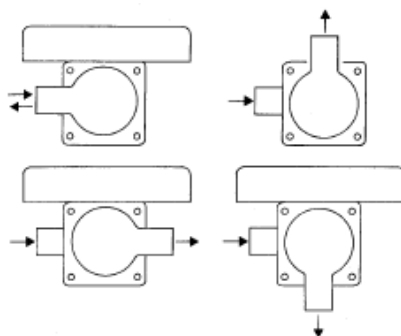
## SP-G designs

Two different connection dimensions of the SP-G model are available: SP-G15 ½" female and SP-G20 ¾" male.

The SP-G has a built-in micro-switch with alternating contact function.

The outlet side can be rotated 90° or 180°, providing a number of alternative mountings for horizontal or vertical piping.

### SP-G mounting examples with inlet and outlet in different directions



## SP-G installation instructions

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- Refer to the type plate and check that the desired alarm point in l/min and the liquid (e.g. water or oil) are correct.
- Check that the amperage does not exceed the maximum load according to the switch contact specifications.
- Make sure that the arrow on the switch housing is pointing in the direction of the flow.
- Make sure not to exceed the maximum operating pressure of 25 bar.
- Make sure the liquid temperature does not fall below the minimum temperature or exceed the maximum temperature:  $-20\text{ °C}$  to  $+90\text{ °C}$  (optional  $+120\text{ °C}$ ).
- Mount the switch in the desired position. The outlet side may be rotated  $90^\circ$  or  $180^\circ$ .
- If there is a risk of freezing, the outlet side connection should point downwards in order to allow for drainage.
- No straight sections are required upstream or downstream of the switch.
- Install a dirt filter at the front if there is a risk of clogging.

## SP-G specifications

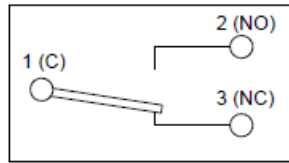
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Flow range:	0 – 3.5 m/s. Max. flow limited by pump capacity and acceptable pressure drop.
Alarm point:	Min. 1.5 l/min, max. 30 l/min.
Connections:	SP-G15: $\frac{1}{2}$ " BSP female SP-G20: $\frac{3}{4}$ " BSP male
Pressure:	Max. 25 bar Min. 1 bar
Max. fluid temperature:	$90\text{ °C}$ (optional $120\text{ °C}$ )
Min. liquid temperature:	$-20\text{ °C}$
Protection class:	IP 43 (NEMA 3R) with M16 GR cable gland included.
Wetted materials:	Dezincification-resistant brass, stainless steel 316 and PTFE Nitrile (HNBR)/EPDM seals. Optional FPM (Viton)
Enclosure material:	Polycarbonate (Lexan®)
Micro-switch:	SPDT, 1-pole 2-way connector. In the standard design, the contact surfaces are silver-plated. Max. load 250 V/8 A Nominal, 250 V/10 A Thermal.
Max. hysteresis:	+/- 10%
Pressure drop:	Approx. 0.03 bar/1.5 l/min

## Electrical data

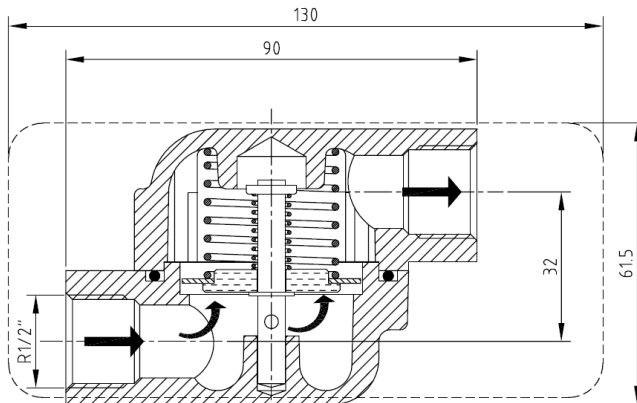
### SP-G switch

Contact function 1-pole, 2-way



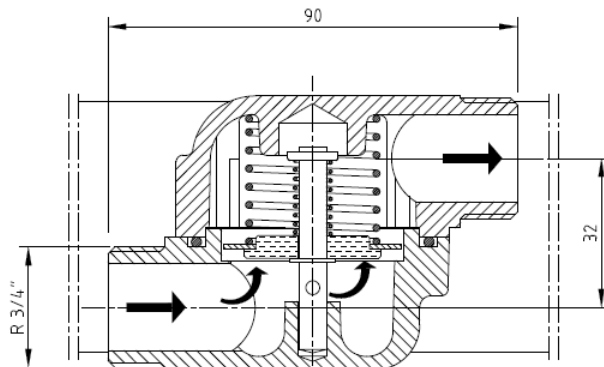
1: Black  
2: Blue  
3: Brown

## Dimensions and weight



SP-G 15

Weight: 1.3 kg



SP-G 20

Weight: 1.3 kg

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