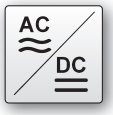
design	**G¼" wrench size 19x37mm** **G¼" wrench size 19x49mm** **G½" wrench size 27x46mm** **G½" wrench size 27x58mm** **G½" wrench size 27x63mm** **G¼" wrench size 27x75mm** **55 x 75 x 110mm (amplifier)**	
flow	water oil	**1 ... 150cm/sec** **3 ... 300cm/sec**

- ✓ **sensor: dependability thanks to fully electronic functioning**
- ✓ **amplifier: 7 LED displays for alignment and function control**
- ✓ **DIN plastic housing 55 wide**
- ✓ **cable connection to the amplifier up to 100m**
- ✓ **mounting on standard rail**

flow and temperature control
one-piece stainless steel housing

description

The effectiveness of the flow sensors is based on the calorimetric principle. The measuring probe is heated by a few degrees (Celsius) above the temperature of the medium. Heat is conducted through the medium flowing past it. The difference in temperature between the medium and the sensor is a measure for the flow condition which occurs. A corresponding switch signal can be assigned for a specific flow condition using the potentiometer of the integrated amplifier electronics.
With the settable turn-off delay, the relay remains in its initial state if there is a short-term dip in the flow. It is possible to identify when a specific temperature is exceeded or not using a second built-in relay.
Assembly can take place regardless of the direction of flow. A basic principle is to make sure that the pin of the sensor is completely surrounded by the medium which is to be monitored not only when idle but also when flowing. In the case of small cross sections, care should be taken that the tip of the measuring head does not fundamentally constrict the cross section of the pipe. Instable flow forms cause malfunctions. In order to avoid this, no installation parts influencing the cross section or the direction of flow should be fitted directly in front of and/or behind the sensor. The rough guideline value for this inlet/outlet path is approx. 8 times the diameter of the pipeline.

application examples

- protection against the dry running of pumps
- continual monitoring of the presence of a flow of fluids
- additional temperature monitoring of the different media
- monitoring of filters and sieves
- assuring the circulation of cooling water to automated welding systems
- recognizing the movement of granulates

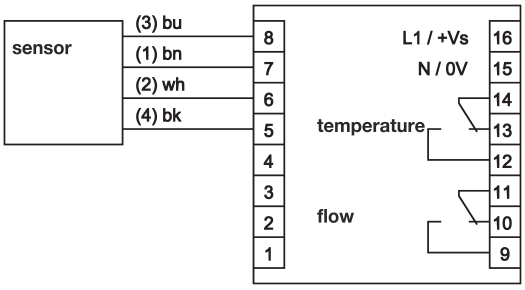
TECHNICAL DATA

operating voltage	230V AC or 24V DC	
current consumption	< 8VA	
output	2 x relay change-over contacts 250V AC, 4A / 60V DC, 4A	
contact life	for 0.5A approx. 2.5x10^7 operating cycles	
adjustment (flow)	water oil	1 ... 150cm/sec 3 ... 300cm/sec
adjustment (temperature)	-20 ... +100°C	
power-on delay time	2 ... 15sec	
response time	1 ... 13sec	
turn-off delay	0 ... 25sec	
system of protection (EN 60529)	sensor: amplifier:	IP68 (cable), IP67 (connector) IP40 (housing), IP20 (terminals)
operating temperature	sensor: amplifier:	-20 ... +80°C -20 ... +60°C
temperature gradient	250°C/min	
line length	between sensor and amplifier max. 100m	
housing material	sensor: amplifier:	stainless steel (pressure resistant up to 100bar) plastic
mounting (amplifier)	on DIN-rail according to DIN EN 50022	

pin configuration of the amplifier

terminal 1	free	
2	free	
3	free	
4	free	
5	sensor black	
6	sensor white	
7	sensor brown	
8	sensor blue	
9	relay make contact	flow
10	relay break contact	flow
11	relay central contact	flow
12	relay make contact	temperature
13	relay break contact	temperature
14	relay central contact	temperature
15	230V AC	(0V DC)
16	230V AC	(24V DC)

connection



setting instructions

2 potentiometers are available for the calibration: as a rule the "fine" potentiometer should be set in a central position for fine adjustment. The principal calibration is done with the "rough" potentiometer, as specified in the operating instructions.

calibration for stationary medium
Install sensor and set potentiometer in such a way that the red LED lights up.
In case of a flow at least one green LED must light up.

calibration for flowing medium
Install sensor and adjust potentiometer in such a way that two green LEDs light up.
When the medium is stationary, the red LED lights up.

falling beneath the set flow
Install sensor, set the flow and then adjust the potentiometer so that the first green LED just lights up.
Any reduction of the flow speed causes the green LED to go out first, subsequently the yellow LED goes out and the relay decays. Now the red LED lights up.

exceeding the set flow
Install sensor, set the flow and then adjust the potentiometer so that the red LED just lights up.
Any increase of the flow speed causes the red LED to go out, the yellow LED lights up and the relay switches.

fig. 1 amplifier

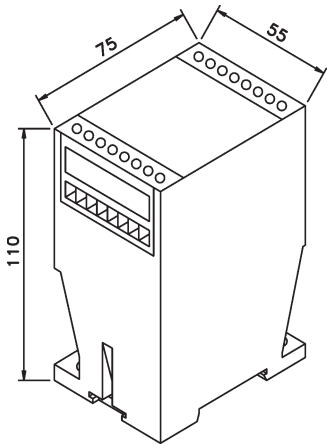


fig. 2 G¼ short

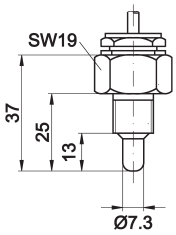


fig. 3 G¼ short, connector

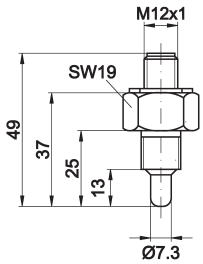


fig. 4 G½

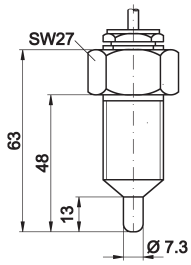


fig. 5 G½ short, connector

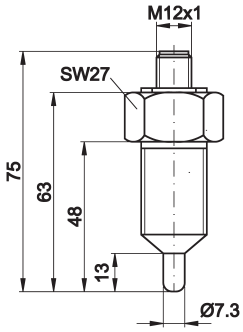


fig. 6 G½ short

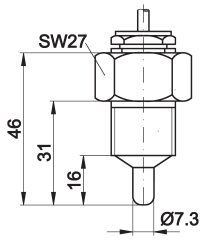


fig. 7 G½ connector

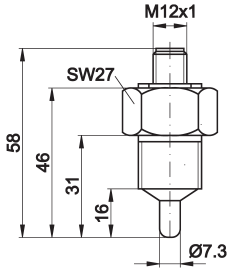
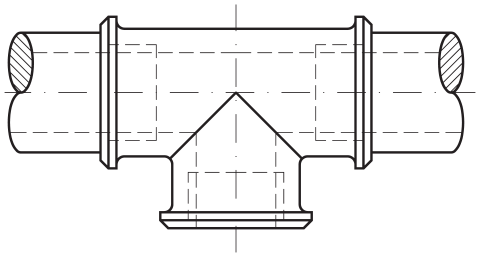


fig. 8 T-piece



T-piece: The middle number of the design (see list of articles) indicates the thread of the sensor

1200 flow sensors

article-no.	design	description	notes	screw-in depth	output	voltage	current	connection	fig.
SV550800	55x75x110	amplifier	time, temp.		relay	24V DC	2A	terminals	1
SV554800	55x75x110	amplifier	time, temp.		relay	230V AC	2A	terminals	1
SS896004	G¼	probe	short	25	connection amplifier			cable	2
SS896024	G¼	probe	short	25	connection amplifier			M12-connector 4-pin	3
SS906000	G½	probe		48	connection amplifier			cable	4
SS906020	G½	probe		48	connection amplifier			M12-connector 4-pin	5
SS906004	G½	probe	short	31	connection amplifier			cable	6
SS906024	G½	probe	short	31	connection amplifier			M12-connector 4-pin	7
SS906080	G½	probe	120°C	48	connection amplifier			teflon cable	4
SS906084	G½	probe	short, 120°C	31	connection amplifier			teflon cable	6
AS000001	¼-¼-¼	accessories	T-piece		red brass G¼ short				8
AS000002	½-½-½	accessories	T-piece		red brass G½ short				8
AS000004	¾-½-¾	accessories	T-piece		red brass G½ short				8
AS000005	1–½–1	accessories	T-piece		red brass G½				8
AV000016	125x125x126	accessories	housing, IP67		for amplifier SV55				(w/o)

notes (LED-displays at the amplifier)

LED-flow
red
Flow interrupted or falls below the set flow value.
The relay "flow" is de-energized.

yellow
The set flow value is achieved.
The relay "flow" is energized.

green
The set flow value is exceeded.
The flow reserve is sufficient.
The relay *"flow"* is energized.

turn-off delay
yellow and red
The LEDs light up when the flow value falls below the set value.
The "flow" relay remains energized until the set time value of the turn-off delay is up.

LED temperature
red
The set temperature is exceeded.
The relay "temperature" is energized.

This data sheet contains the standard versions only. Kindly request the availability of other output- and connection functions.

We will be pleased to supply the matching cable socket for your devices with connector. Please refer to the list in catalog chapter "accessories" under "cable sockets **ipf -*SENSORFLEX*®**" or search our website for "VK".

Warning: Never use these devices in applications where the safety of a person depends on their functionality.