EGE ELEKTRONIK

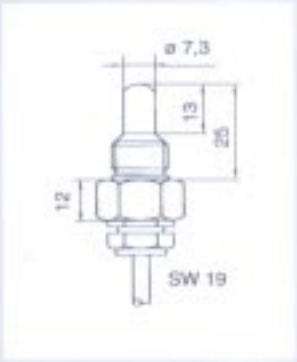
AUTOMATIC FLOW CONTROLLER

Short Sensors STK • Series 400

Monitoring Sensors for Fluids and Granules

- One-piece encapsulated in metal
- Temperature range -20...+80 °C
- Metal plug-in connection
- Pressure-tight up to 100 bar
- Waterproof IP 68/67
- High temperature sensors up to 120 °C

G 1/4

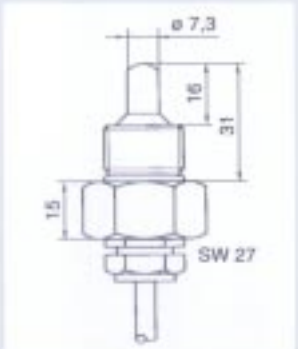


STK 412 K...

G 1/4

STK 412 S...

G 1/2



STK 421 K...

G 1/2

STK 421 S...

TYPE		ID-NO.	DESIGN	
STK	412 K-A4	P10402	G 1/4 stainless steel A4	2m fixed cable
STK	412 S-A4	P10404	G 1/4 stainless steel A4	Plug
STK	421 K-A2	P10407	G 1/2 stainless steel A2	2m fixed cable
STK	421 K-A4	P10408	G 1/2 stainless steel A4	2m fixed cable
STK	421 S-A2	P10409	G 1/2 stainless steel A2	Plug
STK	421 S-A4	P10410	G 1/2 stainless steel A4	Plug
	SLG 4-2	Z00445	Plug straight	2m PVC-cable
	SLW 4-2	Z00446	Plug angled	2m PVC-cable

High temperature sensors

High temperature sensors may be used for temperatures up to 120 °C. A short-time overload up to 135 °C is allowed; within this time the switching point is not specified. After returning back to temperatures below 120 °C the sensor will work properly again.

TYPE		ID-NO.	DESIGN	
STK	412 KH-A4	P10435	G 1/4 stainless steel A4 120 °C	2m PTFE cable
STK	421 KH-A4	P10436	G 1/2 stainless steel A4 120 °C	2m PTFE cable

Combinations sensors-amplifiers

	SKZ 400...	SKM 420...	SKV 480...
STK...	●	●	●

Note

Different designs, materials and/or electrical data are available on request.

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Technical Data

	Standard	High-temperature
Detection-range Water Nominal flow Oil Nominal flow	 1...150 cm/sec 20 cm/sec 3...300 cm/sec 60 cm/sec	 1...150 cm/sec 20 cm/sec 3...300 cm/sec 60 cm/sec
Temperature range (Medium)	-20...80 °C	10...120 °C
Temperature gradient	250 °C/min	250 °C/min
Temperature-step	typ. 12 s	typ. 12 s
Standby-time	typ. 8 sec (2...15 sec)	typ. 8 sec (2...15 sec)
Switching delay on	typ. 2 sec (1...13 sec)	typ. 2 sec (1...13 sec)
Switching delay off	typ. 2 sec (1...15 sec)	typ. 2 sec (1...15 sec)
Compressive strength	100 bar	100 bar
Protection Fixed cable Plug	 IP 68 IP 67	 IP 68
Material Sensor (DIN 17440)	A2: 1.4305 (AISI-303) A4: 1.4571 (AISI-316 Ti)	A4: 1.4571 (AISI-316 Ti)
Force thread	10 Nm	10 Nm
Connection with fixed cable	4 x 0,25 mm² 2m PVC	4 x 0,25 mm² 2m PTFE
Cross sections at extended cables up to 10m up to 50m up to 100m	 4 x 0,25 mm² 4 x 0,50 mm² 4 x 0,75 mm²	 4 x 0,25 mm² 4 x 0,50 mm² 4 x 0,75 mm²
Connection	Metal universal plug M12	

Application Notes

The electrical function of the automatic flow controller is based on the calorimetric principle. The sensor is heated internally a few degrees celsius compared to the medium into which it projects. When the medium flows, the warmth that has been generated in the sensor is conducted away by the medium, i.e. the sensor cools down. The temperature appearing in the sensor is measured and compared to the temperature of the flow. The state of flow can be derived for each medium by the temperature difference attained.

The automatic flow controller consists of a special steel probe and a relay/amplifier. The connecting cable between both parts may be up to 100 m long. The probe is made of special steel in one piece, to a new type of electronic and mechanical construction. By means of this, absolute tightness and a high compression resistance is obtained.

Not all grades of stainless steel are stable with all corrosive or acidic media. For this reason the sensor should be made of the grade of metal that is stable for the particular medium in question.

The switching point must be adjusted at the relay/amplifier by tuning the potentiometer marked "adjustment". This adjustment is possible within the detection-range of the sensor, which is connected to the amplifier. Also a reduction of flow will be signalled within this range.

When installing the flow sensors the medium should flow completely round the measuring pin. In the case of tubes with small cross-sections, care should be taken that the sensor tip does not considerably constrict the cross-section.

Connection

Code: BK = black BN = brown BU = blue GN = green YE = yellow GY = grey PK = pink WH = white