



SP-03

Low-Cost Vane Operated Flowswitch with Cable Connection



Features

- / With T-piece or screw-in thread
- / For pipe sizes of 3/8" up to 6"
- / T-pieces from brass, st. steel or PVC
- / Cost effective
- / Independent of pressure
- / Low pressure drop
- / Stainless steel pendulum system
- / Simple exchangeability of the entire pendulum system

Description:

The SP-03 series of vane operated flowswitches operates according to the proven dynamic pressure principle. If the flowing medium strikes the pressure plate at the lower end of the pendulum, the pendulum system is moved. This action is supported by a pretensioned leaf spring. Therefore it can be operated without friction. A permanent magnet attached to the upper end of the pendulum system operates a reed contact which is sealed against the flow medium. Different setpoints can be achieved by shifting the reed contact situated outside the medium.

Application:

The SP-03 device type has proven itself to be a simple, reliable and cost-effective solution for monitoring setpoints in low-viscosity liquids. Normally, the setpoint is adjusted during the process. However, on request fixed setpoints can be pre-set at factory for rising or falling flows.



Technical Specifications:

max. Pressure /	SP-03.[1-3, 6-8]: 25 bar SP-03.[4-5]: 2.5 bar
max. Media temp. /	SP-03.[1-3, 6-8]: +100°C +110°C on request SP-03.[4-5]: +60°C
max. Ambient temp. /	SP-03.[1-3, 6-8]: +70°C SP-03.[4-5]: +60°C
Materials (wetted) /	
Housing:	brass, brass nickel-plated, or st. steel 1.4571
T-piece:	brass, brass nickel-plated, st. steel 1.4571 or PVC
Vane:	st. steel 1.4410
Magnet:	ferrite OX 300
Sealing:	Viton®
Swivel nut:	brass / brass nickel-plated (non-wetted part)

Electrical Specifications:

Electrical connection /	1.5 m cable PVC
Reed contact /	NC- / NO-contact selectable
Switching load /	230 V; 1,5 A; 80 W; 90 VA max.
Switching hysteresis /	approx. 5 %
Protection class /	IP 65

Versions & Operating ranges:

SP-03.[1-5]: With T-piece made of brass, stainless steel or PVC

Nominal diameter	Connection	Switch-on at (l/min) ⁽¹⁾	Switch-off at (l/min) ⁽¹⁾	max. Flow (l/min) ⁽¹⁾
DN10	3/8	2.7 .. 4.5	1.7 .. 3.5	40
DN15	1/2	4.5 .. 6.5	3.0 .. 5.5	45
DN20	3/4	8.5 .. 12.0	6.6 .. 11.0	80
DN25	1	13.0 .. 20.0	11.0 .. 19.0	130
DN32	1 1/4	17.0 .. 26.0	15.0 .. 25.0	160
DN40	1 1/2	28.0 .. 45.0	27.0 .. 43.0	300
DN50	2	45.0 .. 58.0	43.0 .. 56.0	500

SP-03.[6-8]: With G 1/2" screw-in thread, brass or stainless steel

Nominal diameter		Switch-on at (l/min) ⁽¹⁾	Switch-off at (l/min) ⁽¹⁾	Q _{max.} (l/min) ⁽¹⁾
DN50	2"	44.0 .. 65.0	40.0 .. 60.0	500
DN65	2 1/2"	78.0 .. 115.0	70.0 .. 105.0	750
DN80	3"	120.0 .. 175.0	110.0 .. 165.0	1400
DN100	4"	190.0 .. 285.0	175.0 .. 265.0	2500
DN125	5"	310.0 .. 450.0	280.0 .. 420.0	2900
DN150	6"	440.0 .. 655.0	410.0 .. 600.0	3300

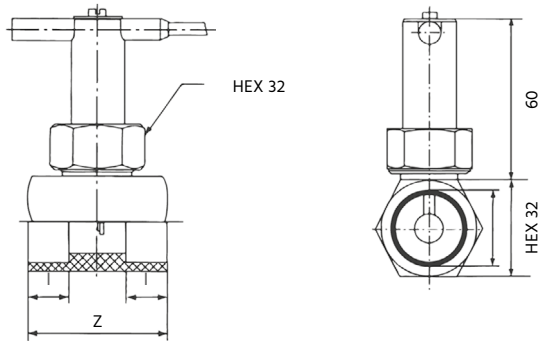
⁽¹⁾ Switching ranges are applicable for water 20°C, horizontal pipe.

Ordering Codes:

Order number	SP-03.	1.	25.	0
SP-03 Vane Operated Flowswitch				
Version /				
1 = with T-piece made of brass				
2 = with T-piece made of brass nickel-plated				
3 = with T-piece made of stainless steel				
4 = with T-piece made of PVC (thread)				
5 = with T-piece made of PVC (adhesive sleeve)				
6 = with G 1/2" screw-in thread (without T-piece), brass				
7 = with G 1/2" screw-in thread (w/o T-piece), brass nickel-plated				
8 = with G 1/2" screw-in thread (w/o T-piece), stainless steel				
Nominal diameter /				
SP-03. [1-5].x				
10 = 3/8"				
15 = 1/2"				
20 = 3/4"				
25 = 1"				
32 = 1 1/4"				
40 = 1 1/2"				
50 = 2"				
SP-03. [6-8].x				
00 = all nominal diameters of 2" up to 6" as per table (screw-in thread)				
Options /				
0 = none				
1 = please specify in detailed text				

Dimensions in mm:

SP-03.[1-2]: With T-piece made of brass or brass nickel-plated



ND	Connection	HEX	Z (mm)	l (mm)
DN10	R 3/8"	30	50	11
DN15	R 1/2"	30	50	11
DN20	R 3/4"	30	50	11
DN25	R 1"	37	50	15
DN32	R 1 1/4"	46	50	15
DN40	R 1 1/2"	52	50	15
DN50	R 2"	-	120	15

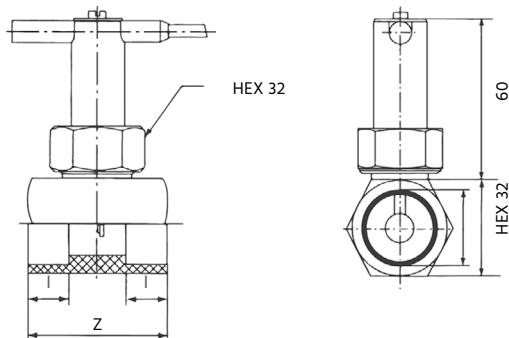
SP-03.1: Material combination

- Body housing - brass
- Contact housing - brass
- T-piece - brass
- Pendulum system - stainless steel
- Swivel nut - brass

SP-03.2: Material combination

- Body housing - brass nickel-plated
- Contact housing - brass
- T-piece - brass nickel-plated
- Pendulum system - stainless steel
- Swivel nut - brass nickel-plated

SP-03.3: With T-piece made of stainless steel



ND	Connection	HEX	Z (mm)	l (mm)
DN10	R 3/8"	30	50	11
DN15	R 1/2"	30	50	11
DN20	R 3/4"	30	50	11
DN25	R 1"	-	80	15
DN32	R 1 1/4"	-	95	15
DN40	R 1 1/2"	-	115	15
DN50	R 2"	-	120	15

SP-03.3: Material combination

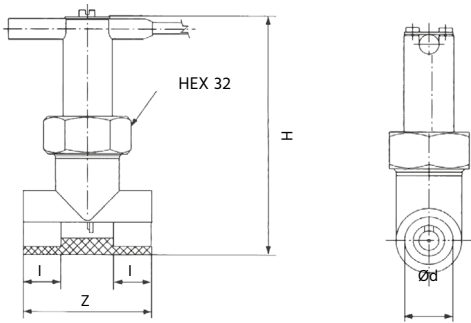
- Body housing - stainless steel
- Contact housing - brass
- T-piece - stainless steel
- Pendulum system - stainless steel
- Swivel nut - brass nickel-plated

SP-03.[4-5]: Material combination

- Body housing - stainless steel
- Contact housing - brass
- T-piece - PVC
- Pendulum system - stainless steel
- Swivel nut - brass nickel-plated

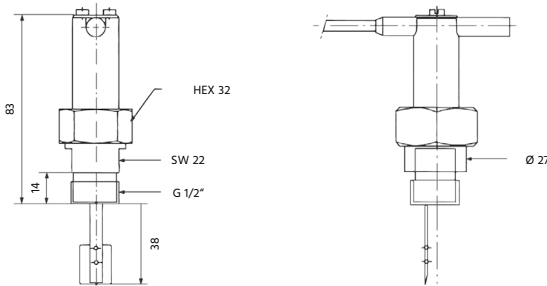


SP-03.[4-5]: With T-piece made of PVC



ND	Connection	H (mm)	Z (mm)	l (mm)
DN10	R 3/8"	99	54	16
DN15	R 1/2"	99	54	16
DN20	R 3/4"	109	66	19
DN25	R 1"	113	79	22
DN32	R 1 1/4"	126	96	26
DN40	R 1 1/2"	132	116	31
DN50	R 2"	149	143	38

SP-03.[6-8]: With G 1/2" screw-in thread (without T-piece)



SP-03.6: Material combination

- Body housing - brass
- Contact housing - brass
- Pendulum system - stainless steel
- Swivel nut - brass

SP-03.7: Material combination

- Body housing - brass nickel-plated
- Contact housing - brass
- Pendulum system - stainless steel
- Swivel nut - brass nickel-plated

SP-03.8: Material combination

- Body housing - stainless steel
- Contact housing - brass
- Pendulum system - stainless steel
- Swivel nut - brass nickel-plated