



LIQUID FLOW SWITCHES

SF

FUN CTION

Flow control of aggressive media, water and normal media (depending on model).
Alarm signal of flow shortage (safety switch).
Available in brass, suitable for normal media, and in stainless steel AISI316L, suitable for sea water and aggressive media.

APPLI CATION S

- Well-suited in pipes of general industrial plants:
- heating and air conditioning systems;
 - refrigeration systems;
 - sprinkler or anti-fire systems;
 - heat pumps;
 - devices for oil monitoring;
 - lubrication circuits.

TYPE	PIPE ø	MAX PRESSU RE bar	NORMAL MEDI A (body in brass)	AGRESSIVE MEDI A (body in stainless steel AISI 316L)	BODY WITH PIPE FITTING "T"	PROTEC - TION	FLOW RATE
SF1K	1...8"	11	•			IP65	1
SF1E*	1...8"	11	•			IP65	1
SF1RE	1...8"	11	•			IP65	2
SF2E**	1...8"	30		•		IP65	1
SF2RE	1...8"	30		•		IP65	2
SF3E	1/2"	11	•		•	IP65	3
SF4E	3/4"	11	•		•	IP65	3
SF6E	1"	11	•		•	IP65	3
Accessories	DBZ-09 - Stainless steel Aisi 316L paddles for liquid flow switch						

NPT 1" NPT connector

* models with TÜV approval
** models with TÜV approval

TECHNICAL FEATURES

Contacts: dust-tight microswitch with switching contacts (n.c./n.o.)
Switch capacity: 15 (8) A, 24...250 Vac
Working: -40...+85 °C
10...90% r.h. (without condensing)
Max liquid temperature: -40...+120 °C
Max pressure: 11 bar (SF2: 30 bar)
Fitting: see flow rate schedule
Body: see schedule above
Paddles: stainless steel AISI 316L
Housing: Base in ABS, transparent PC cover
Storage: -40...+85 °C
< 95% r.h.
Protection: IP65, class I
Size: 140 x 62 x 65 mm
Weight: 950 g



LIQUID FLOW SWITCHES

SF

①

H ₂ O FLOW RATE SF1K/SF1E/SF2E			
Pipe connector ø	Qmax m ³ /h recommended	Min. adjustment m ³ /h cut-off (cut-in)	Max. adjustment m ³ /h cut-off (cut-in)
1"	3,6	0,6 (1,0)	2,0 (2,1)
1 1/4"	6,0	0,8 (1,3)	2,8 (3,0)
1 1/2"	9,0	1,1 (1,7)	3,7 (4,0)
2"	15,0	2,2 (3,1)	5,7 (6,1)
2 1/2"	24,0	2,7 (4,0)	6,5 (7,0)
3"	36,0	4,3 (6,2)	10,7 (11,4)
4"	60,0	11,4 (14,7)	27,7 (29,0)
4" Z	60,0	6,1 (8,0)	17,3 (18,4)
5"	94,0	22,9 (28,4)	53,3 (55,6)
5" Z	94,0	9,3 (12,9)	25,2 (26,8)
6"	120,0	35,9 (43,1)	81,7 (85,1)
6" Z	120,0	12,3 (16,8)	30,6 (32,7)
8"	240,0	72,6 (85,1)	165,7 (172,5)
8" Z	240,0	38,6 (46,5)	90,8 (94,2)

②

H ₂ O FLOW RATE SF1RE/SF2RE		
Pipe connector ø	Min. adjustment m ³ /h cut-off (cut-in)	Max. adjustment m ³ /h cut-off (cut-in)
1"	0,2 (0,6)	1,0 (1,1)
1 1/4"	0,25 (0,9)	1,4 (1,6)
1 1/2"	0,5 (1,2)	1,6 (2,2)
2"	0,9 (2,3)	3,6 (4,1)
2 1/2"	1,2 (3,1)	4,9 (5,5)
3"	2,1 (4,9)	7,4 (8,2)
4"	4,9 (11,3)	17,1 (19,1)
4" Z	3,3 (7,7)	11,6 (13,0)
5"	9,7 (22,4)	34,0 (37,9)
5" Z	5,0 (11,5)	17,5 (19,6)
6"	13,6 (31,5)	47,6 (53,2)
6" Z	6,1 (14,1)	21,4 (23,9)
8"	25,7 (59,6)	90,1 (100,7)
8" Z	21,7 (36,5)	55,3 (61,8)

For models with suffix "Z" the longest paddle must be used to obtain the values indicated on the table.
Pressure drop at the maximum flow (Qmax): 0,08 bar

③

FLOW RATE WITH „T“ PIPE FITTING SF3E /4E /6E			
DBSF-	Pipe connector	Min. adjustment	Max. adjustment
	„T“with		
	pipe fitting		
	ø	m ³ /h	m ³ /h
		cut-off (cut-in)	cut-off (cut-in)
3E	1/2"	0,174 (0,48)	0,846 (0,948)
4E	3/4"	0,138 (0,408)	0,768 (0,858)
6E	1"	0,2 (0,6)	1,0 (1,1)

The "T" connectors have cylindrical GAS thread.

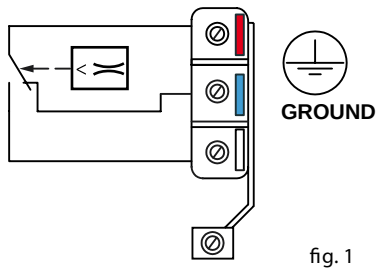
Paddles (models without "T" pipe fitting)

PIPE	PADDLES
1"	1
1 1/4"	1
1 1/2"	1
2"	1,2
2 1/2"	1,2
3"	1,2,3
4"	1,2,3
4" Z	1,2,3,4
5"	1,2,3
5" Z	1,2,3,4
6"	1,2,3
6" Z	1,2,3,4
8"	1,2,3
8" Z	1,2,3,4



LIQUID FLOW SWITCHES

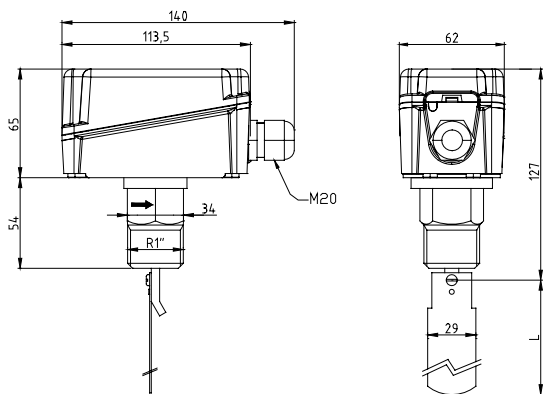
SF



NOTE
The flowswitch is factory calibrated at its min. sensitivity. To increase the set value turn clockwise the adjustment screw. The cut-out value must be >- the minimum flow necessary to guarantee the protection of the plant. The units without "T" fittings are supplied with 4 paddles, which must be cut off according to the pipe. All devices can be supplied with "T" connection on request as schedule indications.

ATTENTION
If flowswitch is used as a minimum flow controller, it is necessary to add another device downstream for alarm condition activation.

DIMENSIONS (mm)



MOUNTING INSTRUCTIONS

