LIQUID FLOW SWITCHES

ELF..

ELF.. detects liquid flow through chillers, boilers, pipes and other units to monitor pump operation or switch alarms in the event of flow failure ie. hot water, chilled water, diesel oil and up to 30% glycol systems. ELF-4../5.. can be used with some aggressive liquids.

Concealed adjustment
Volt free contacts
Max. ambient 70°C
Max Media Pressure 12 bar
1" 2" 3" paddles included.
Paddles can be cut to suit pipe diameter.
Enclosure Flammability = UL94-V0

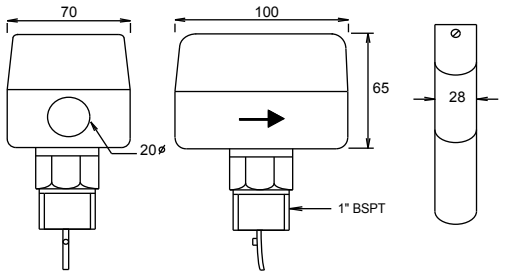
ELF-15C / ELF-22C with 15/22mm compression fittings see seperate data sheet.

1m³/h = 0.27 l/sec

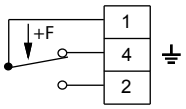
Type	Media Temp°C	230VAC SPDT	Operation	Media Contact Materials	Connection	Suitable for pipe dia.	Enclosure
ELF-1	+4/110	15(8)A	Normal	Phosphor Bronze/Stainless steel/Brass	1" BSPT	1" - 8"	IP54
ELF-3	+4/110	15(8)A	Sensitive	Phosphor Bronze/Stainless steel/Brass	1" BSPT	1" - 8"	IP54
ELF-4	+4/110	15(8)A	Aggressive	Stainless steel	1" BSPT	1" - 8"	IP54
ELF-5	+4/110	15(8)A	Sensitive	Stainless steel	1" BSPT	1" - 8"	IP54
ELF-2	-30/+110	15(8)A	Normal	Phosphor Bronze/Stainless steel/Brass	1" BSPT	1" - 8"	IP65
ELF-3W	-30/+110	15(8)A	Sensitive	Phosphor Bronze/Stainless steel/Brass	1" BSPT	1" - 8"	IP65
ELF-4W	-30/+110	15(8)A	Aggressive	Stainless steel	1" BSPT	1" - 8"	IP65
ELF-5W	-30/+110	15(8)A	Sensitive	Stainless steel	1" BSPT	1" - 8"	IP65
ELF-7	+4/110	15(8)A	Normal	Phosphor Bronze/Stainless steel/Brass/Iron	Tee ¾ " x ¾"x 1"	¾ " Only	IP54

DIMENSIONS:

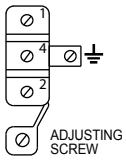
ELF..



WIRING:



Flow: 1-2 close 1-4 open.
No Flow: 1-4 close 1-2 open.



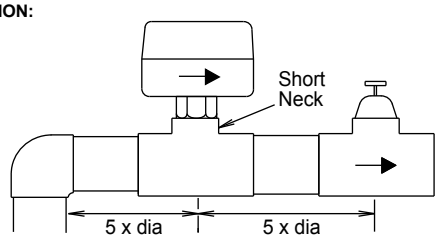
Adjustment : Units are pre-set to the approx. minimum setting. Adjusting below this value may result in the switch failing to return To increase switch point, slowly turn adjusting screw CLOCKWISE

ACCESSORIES:

EE-PS Set of 1, 2 & 3" paddles for ELF..

EE-6P 6" Paddle for ELF-1,2,3,4,5

INSTALLATION:



1 Before installing, push paddle & allow it to return slowly, the switch should operate.
2 Ensure the arrow on the housing points in the direction of flow.
3 Mount at any angle from vertical to horizontal. Other positions are not recommended as particles may fall into the unit and obstruct the rod from moving freely.
4 Mount away from elbows, bends and other restrictions likely to cause turbulence.
5 Upstream-downstream of the switch should be straight for at least 5 x pipe diameter.
6 Use a short neck weld socket or short branch tee, DO NOT mount in a long branch.
7 The paddle must not touch the pipe or be obstructed in any way.
8 Remove/trim paddles to suit pipe diameter.
9 EE-6P can be fitted over existing paddles for extra strength in larger pipes.

FLOW RATES:

All Flow rates indicated below are approximate and the readings have been taken with the unit mounted in a horizontal pipe.
A slightly higher flow rate may be required if the unit is mounted in another position to compensate for the weight of the paddle.
Example : ELF-1 pipe dia 2" On min adj. switch makes when flow increases to 3.1 m³/h and breaks when flow decreases to 2.2 m³/h.

			Using standard 1", 2" or 3" paddle						Using 3" paddle				Using 6" paddle			
Switch	Pipe Dia		1"	1¼ "	1½ "	2"	2½ "	3"	4"	5"	6"	8"	4"	5"	6"	8"
ELF-1, 2, 4	Min	Break	0.6	0.8	1.1	2.2	2.7	4.3	11.4	22.9	35.9	72.6	6.1	9.3	12.3	38.6
Adjustable		Make	1.0	1.3	1.7	3.1	4.0	6.2	14.7	28.4	43.1	85.1	8.0	12.9	16.8	46.5
m³/h	Max	Break	2.0	2.8	3.7	5.7	6.5	10.7	27.7	53.3	81.7	165	17.3	25.2	30.6	90.8
		Make	2.1	3.0	4.0	6.4	7.0	11.4	29.0	55.6	85.1	172	18.4	26.8	32.7	94.2
ELF-3, 5	Min	Break	0.2	0.25	0.5	0.9	1.2	2.1	4.9	9.7	13.6	25.7	3.3	5.0	6.1	21.5
Adjustable		Make	0.6	0.9	1.2	2.3	3.1	4.9	11.3	22.4	31.5	59.6	7.7	11.5	14.1	36.5
m³/h	Max	Break	1.0	1.4	1.9	3.6	4.9	7.4	17.1	34.0	47.6	90.1	11.6	17.5	21.4	55.3
		Make	1.1	1.6	2.2	4.1	5.5	8.2	19.1	37.9	53.2	101	13.0	19.6	23.9	61.8
ELF-7	Adj:	(l/h)	Min adj. : make = 408 break = 138						Max. adj. make = 858 break = 768							

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