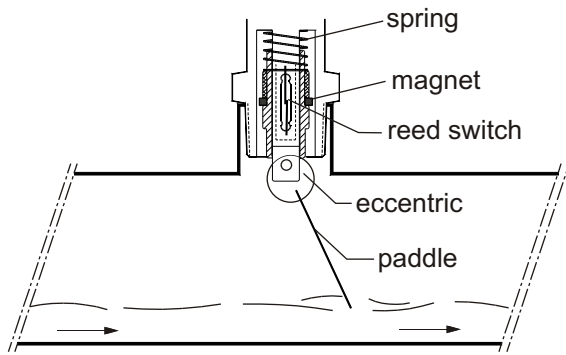
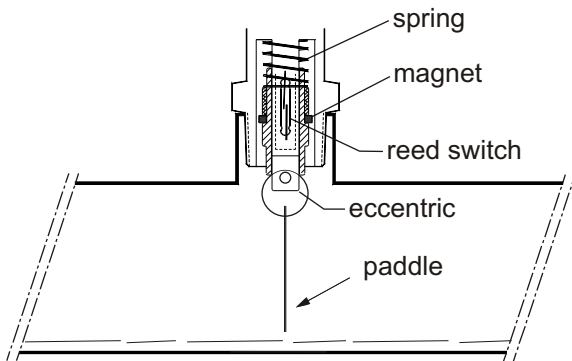


Flow Switch utilizes the force of liquid flow to propel its paddle in order to detect the incoming flow or moving of the existing liquid in pipe. In condition of static liquid or no liquid, the spring is in expanding and press the magnet downward vertically. Reed switch contact is N.O.

As flow occurs and the paddle is thrust and raised at an upward angle of 20 ~30 (or more), the eccentric of paddle will push the magnet upward to actuate the reed switch which is thus in a close circuit. The length of paddle can be adjusted with the diameter of a pipe.



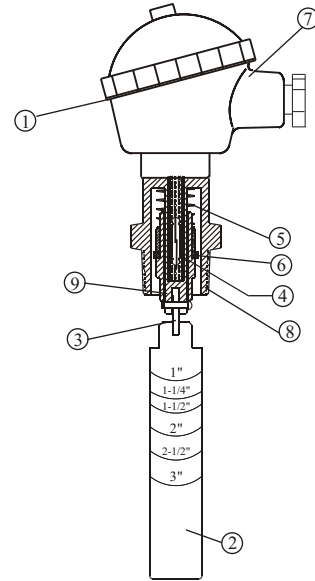
Switch on in case of liquid flowing in pipes



Switch off in case of no moving liquid in pipes

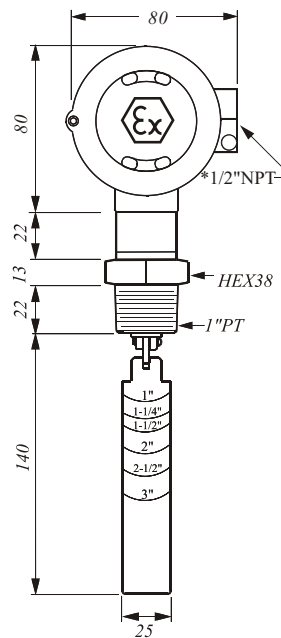
CONFIGURATION CUTTING DRAWINGS

1. O-Ring
2. Paddle
3. Eccentric
4. Reed switch
5. Spring
6. Magnet
7. Housing
8. Screw
9. Center rod

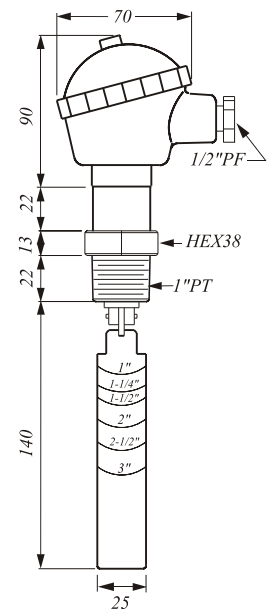


NEPSI 

MODEL: SF1710



MODEL: SF1800



used for SF1710

Spec.	Model	SF1710	SF1800
Housing Material		Aluminum Alloy, Ex d IIC T6	Aluminum Alloy, IP65
Operation Temp.		-30 C~100 C	-30 C~150 C
Paddle Material		SUS304	SUS304
Operation Pressure		Max. 355 PSIG	Max. 355 PSIG
Pressure Drop Allowance		3 PSIG	3 PSIG
Set Point Tolerance		25%	25%
Repeatability Tolerance		5%	5%
Contact Capacity		1A, 30W 220V/200Vdc SPDT	30W 220VAC/200Vdc SPDT
Lead Wire		TEFLON 24 AWG	TEFLON 24 AWG

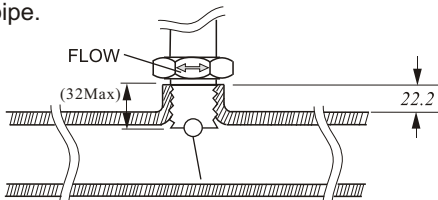
FLOW CONTROL RANGE TABLE

Paddle Length	1"		1-1/4"		1-1/2"		2"		2-1/2"		3"	
	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.	Act.	De-Act.
1"	5	4	8.5	6.5	12	9	17	15				
1-1/4"			6.5	4.5	9	7	15	12	23	20		
1-1/2"					14	10	23	16	32	25		
2"							18	12	24	17	33	27
2-1/2"									20	13	27	22
3"											22	16

INSTALLATION

1. Paddle length established approximate actuation setting of a Flow Switch unit. Paddle length is decided according to the lowest point of paddle while actuating the reed switch and the diameter of the pipe. Cut off the paddle at proper pipe size mark or wherever desired but not less than 1" left.
2. The paddle must be parallel to the cutting face of a pipe and the mounting screw is 1" NPT.
3. The FLOW mark on the screw hexagon must be parallel to the pipe and the ground.
4. Before installing the unit to a tee pipe, be sure to apply tape seal to the screw then tighten up.

It is not recommended to the 1" NPT plastic pipe.



CAUTION

1. The pressure and temperature ranges as shown in the catalog, must not be exceeded and also take the abrupt pressure and temperature into considerations.
2. Operating temperature changes do affect switch set points. In case of the liquid temperature would vary with the specific gravity changes during processing, please contact us for assistance.
3. The flow switch is designed for shock and vibration resistance. However, shock and vibration should be as minimized as possible.
4. Excessive contamination in fluid might inhibit paddle operation, occasional wipe-down would be necessary.
5. Electrical entry and mounting require sealing from moisture.

THERMAL DISPERSION FLOW SWITCH

OPERATIONAL PRINCIPLE:

The Thermal Flow Switch Monitor SP-150 is based on the principle of thermal dispersion. A typical configuration uses two Temperature Detectors set within the tip of the sensor. One Temperature Detector is heated a few degrees above the other one. As the process medium flows over the tip of the sensor it disperses some of the heat from the heated Temperature Detector. The delta temperature is a function of flow velocity and converted into electronic signal. The open collector changes state once the set point has been reached.

FEATURES:

The Thermal Flow Switch Monitor SP-150 housing is made of stainless steel, suitable for high pressure, high temperature application. Because its rugged structure and there is no moving parts, it's can be maintenance-free for most application.

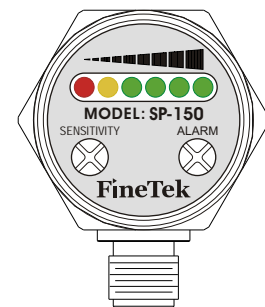
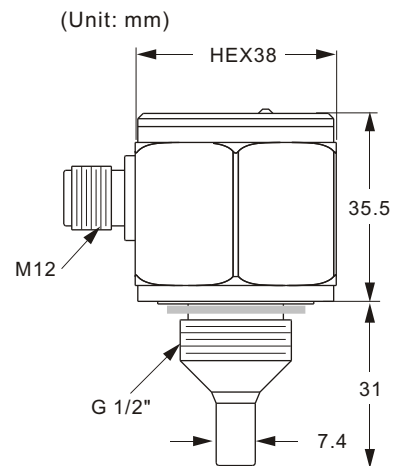
SP-150 Series



SPECIFICATIONS:

No.	Item	Specification
1	Measuring range(Velocity)	Water: 1~150 cm/s Oil: 3~300 cm/s
2	Working temperature(fluid)	-20 ~ 80 C
3	Alarm output	Open collector: NPN / PNP (<400mA)
4	Working pressure	100 bar (max.)
5	LED indication: --Velocity is below set point. --Velocity is equal or above set point, Output engaged. --Velocity above set point, Output engaged.	Red LED lit Yellow LED lit 4 green LED indicates a percentage of flow above the set point
6	Housing Material	SUS304 / SUS316 / PVDF
7	Enclosure	IP67
8	Response time	Approximate 10 seconds
9	Process connection	G1/2", G1/4", NPT1/2"
10	Power supply	19 ~ 30 Vdc
11	Power consumption	50mA max.
12	Cable connection	3 wires: Power(Brown) Ground(Blue) Output(Black)
13	Accessories	Plug Cable Length=2meters Washer

DIMENSIONS: (G 1/2)



MOUNTING INSTRUCTION

When installing SP-150, please use supplied sealing ring.

- (1) Please assure the minimum distance to the tube bends and intersections greater than four times of pipe diameter. (See Fig. 1)
- (2) Please assure that there is no air bubble in the tube to achieve reliable alarm action. (See Fig. 2)
- (3) When the fluid does not completely fill the pipe, SP-150 must be installed below the pipe. And the fluid level must be higher than the tip of the SP-150. (See Fig. 3)
- (4) Please assure that SP-150 is mounted tightly to prevent leakage. SP-150 could be mounted on the pipe at any orientation, but the best sensitivity and fastest response will be realized at orientation shown in Fig. 4
- (5) If there are any particle exists in the fluid, please install a suitable filtering element at the upstream of SP-150 to prevent contamination on the probe of SP-150.

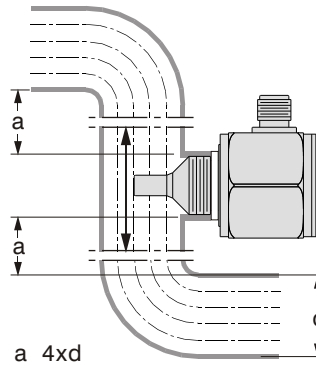


Fig. 1

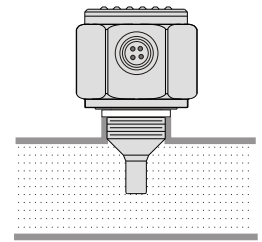


Fig. 2

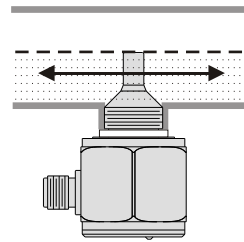


Fig. 3

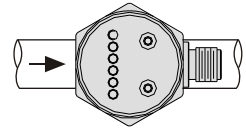
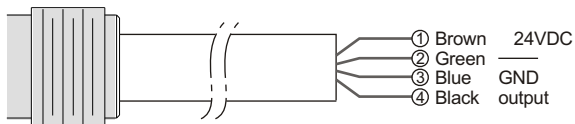
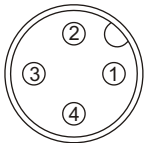


Fig. 4

PIN ASSIGNMENT



CONNECTION:

Flow sw

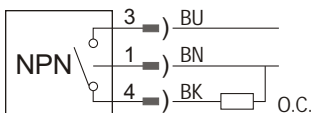


Fig. 6 Wiring of NPN Output

BN: BROWN
BU: BLUE
BK: BLACK

Flow sw

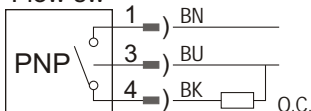


Fig. 7 Wiring of PNP Output

ORDER INFORMATION:

SP150- - -

Housing Material
1: SUS304 (standard)
2: SUS316
3: PVDF
4: Special

Screw and length
1V: G1/4", 25mm L
2V: G1/2", 30mm L
2U: NPT1/2", 40mm L
2E: G1/2", Explosion proof
SS: Special

Output
N: NPN (default), open collector
P: PNP