FLOW CONTROLLER (FLOW SWITCHES)



■ Introduction

FSF50P series flow switch is is used to measure and control the flow of the liquid in the pipe, such as water, alcohol, etc., Any liquid that does not affect the corrosion of brass or compromise sealing performance can be used. It is not suitable for use with hazardous fluids. A typical application is in locations where interlocking or "flow shutoff" protection is required. The single-pole double-throw (SPDT) switch has instantaneous action characteristics, which ensues that the flow switch has high sensitivity.

- It obtains CE,Rohs and other certificates.

■ Technical Parameters

- Ambient temperature: -30~+65°C
- Medium temperature: -30~+110°C
- Maximum fluid pressure: 1.5MPa
- Protection leve: IP54、 IP65、 IP66

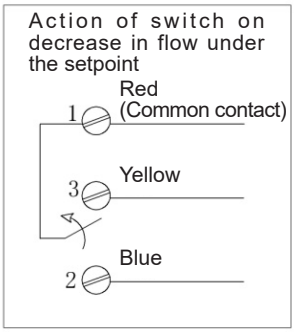
■ Type & data

Model	Connection	Connection Size	Medium
FSF50P-1SW	external thread	1"-11 1/2NPT	Water or fluid that does not attack the copper alloy
FSF50P-2SW		1/2"-14NPT	
FSF50P-3SW		3/4"-14NPT	
FSF50P-1A		1"-11 1/2NPT	Seawater or fluid that does not attack the SS304
FSF50P-2A		1/2"-14NPT	
FSF50P-3A		3/4"-14NPT	

■ Electrical rating

Rated current \ Rated voltage		A.C.110	A.C.220
Non-induced current		22	16
Induced current	Full load current	24	16
	Instantaneous current	144	96

■ Contact function



■ Dimensions of the paddle (Unit: mm)

Typical flow rates required to actuate switch GPM (m³/hr)											
Pipe Size（in.）		1	1-1/4[a]	1-1/2[a]	2	2-1/2[b]	3	4	5	6	8
Min. Flow	Flow increase (Red to Blue closes)	4.2 (1.0)	5.8 (1.3)	7.5 (1.7)	13.7 (3.1)	18 (4.1)	27.5 (6.2)	37 ★ (8.4)	57 ★ (12.9)	74 ★ (16.8)	205 ★ (46.6)
	Flow decrease (Red to Yellow closes)	2.5 (0.6)	3.7 (0.8)	5.0 (1.1)	9.5 (2.2)	12.5 (2.8)	19 (4.3)	27 ★ (6.1)	41 ★ (9.3)	54 ★ (12.3)	170 ★ (38.6)
Max. Flow	Flow increase (Red to Blue closes)	8.8 (2.0)	13.3 (3.0)	19.2 (4.4)	29 (6.6)	34.5 (7.8)	53 (12)	81 ★ (13.4)	118 ★ (26.8)	144 ★ (32.7)	415 ★ (94.2)
	Flow decrease (Red to Yellow closes)	8.5 (1.9)	12.6 (2.8)	18 (4.1)	27 (6.1)	32 (7.3)	50 (11.4)	76 ★ (17.3)	111 ★ (25.2)	135 ★ (30.7)	400 ★ (90.8)

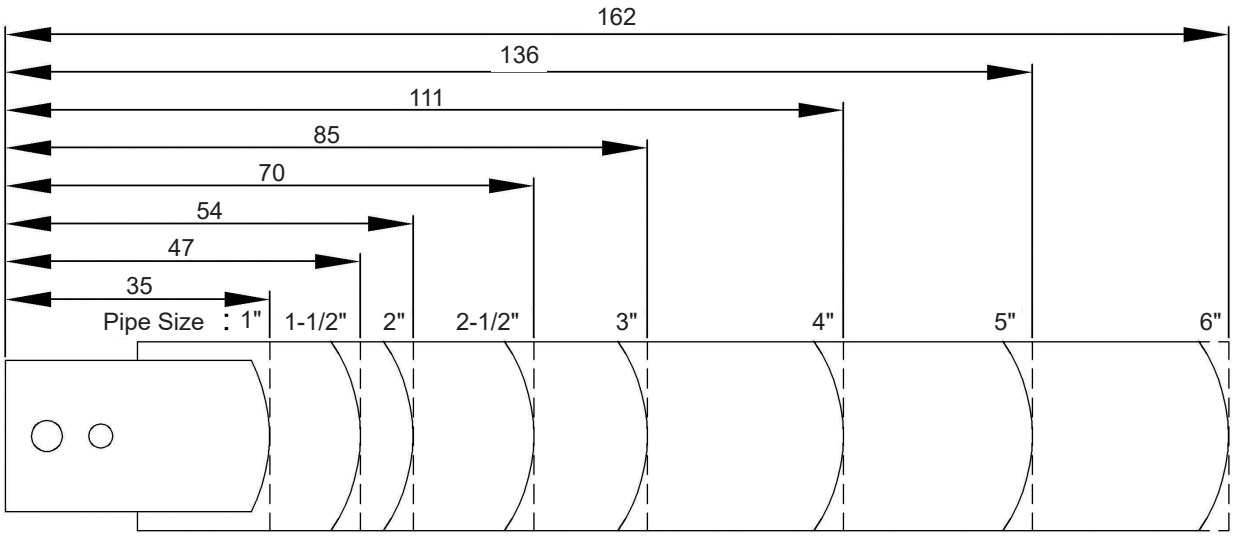
※ a stands for flow rates for 2 inch flow paddle trimmed to fit pipe.

※※ b stands for flow rates for 3 inch flow paddle trimmed to fit pipe.

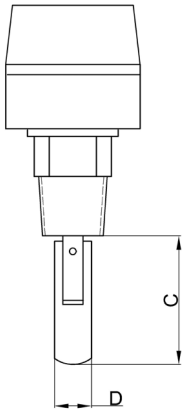
※※※ ★ stands for the flow rates for a switch with a 6 inch flow paddle. For 4 inch and 5 inch pipe, the 6 inch flow paddle is trimmed to fit a 4 inch and 5 inch pipe length.

※※※※ Above flow rates only apply to standard water pipelines.

■ Dimensions of the paddle



■ Flow direction sheet configuration



Pipe inner Dia. (inch)	C	D
1	38	20
2	57	25
3	88	
4	114	
5	139	
6	165	

■ Installation

- When the flow switch is connected, the power should be cut off first.
- The flow switch should be installed on a horizontal pipe or a vertical pipe in the direction of flow.
- When the flow switch is installed on a horizontal pipe, there must be a straight pipe of "A" length at both ends of the inlet and outlet, as shown in Figure 1. "A" must be 5 times the length of the pipe diameter
- When installing the flow sheet, you must refer to the correct position shown in Figure 2.
- When the flow switch is installed on the pipe, the flow direction of the fluid must be kept consistent with the direction indicated by the arrow on the flow switch housing and kept perpendicular to the flow projection surface.

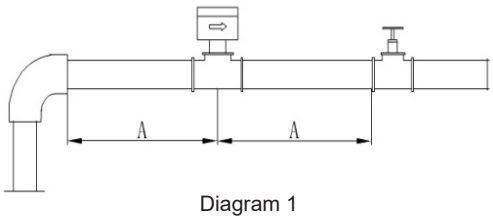


Diagram 1

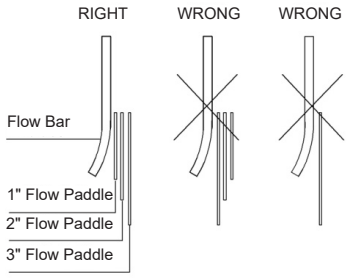
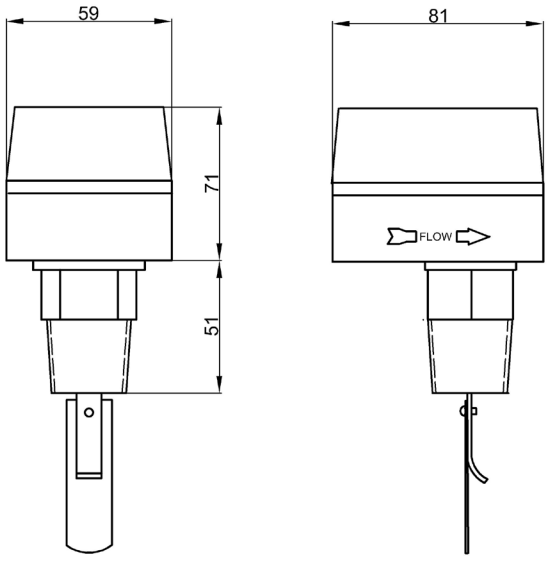


Diagram 2

■ Dimensions





■ Introduction

The FSF-S2 series flow switch is a small flow switch suitable for measuring small changes in flow in a pipe. t converts the changes in the flow sensed into the pipeline into electrical signals, and the flow in the pipeline is automatically controlled by the actuator. It uses a highly sensitive micro switch to ensure that the flow switch has high reliability, high sensitivity and fast transient action.

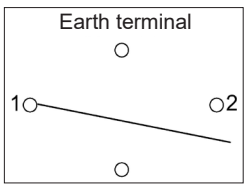
■ Technical Parameters

- Ambient temperature: -20~+65°C
- Medium temperature: -20~+110°C
- Maximum fluid pressure: 1.5MPa
- Electrical rating: DC 100V 0.5A 10W
- Maximum allowable flow rate: 3 m/s
- Applicable medium: Does not attack the copper alloy fluid
- Protection level: IP65

■ Type & data

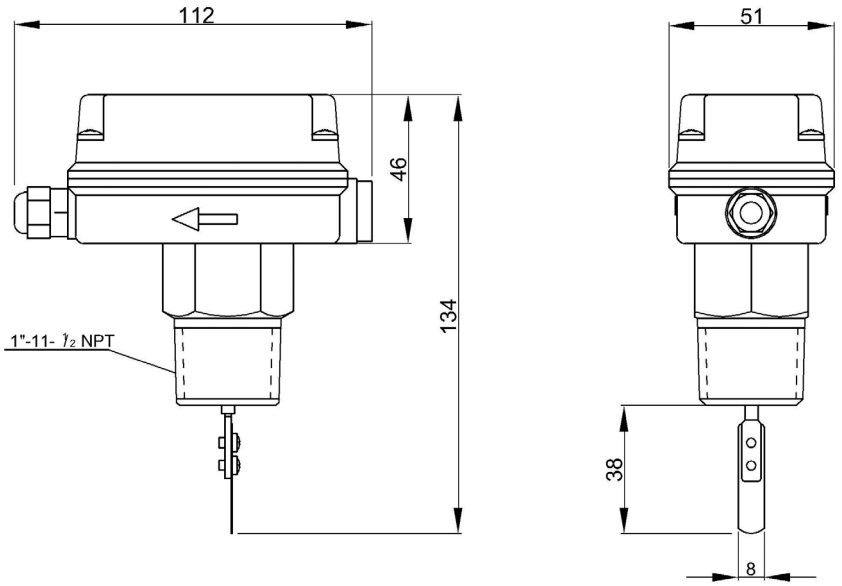
Model	DN mm	Min. Flow m3/h		Max. Flow m3/h		Medium
		On	Off	On	Off	
FSF-S2-25	25	0.55	0.40	1.40	1.20	Water
FSF-S2-32	32	1.10	0.90	2.35	2.10	

■ Contact function



Explanation:
1)Under flow switch outage: 1---2 is disconnected. When the flow is higher than setpoint, 1---2 is connected.
2)Under flow switch 1---2 connected, when the flow is lower than the setpoint, 1---2 is disconnected.

■ Dimensions





■ Introduction

The FSF-YK series flow switch is a small flow switch specially designed for coal-to-electric heating system, which can measure small changes in flow in the pipeline. It converts the changes in the flow sensed into the pipeline into electrical signals, and the flow in the pipeline is automatically controlled by the actuator. It uses highly sensitive signal components to ensure that the flow switch has the characteristics of high reliability, high sensitivity and fast transient action.

■ Technical Parameters

- Ambient temperature: -20~+65°C
- Medium temperature: -20~+110°C
- Maximum fluid pressure: 1.5MPa
- Electrical rating : DC 100V 0.5A 10W
- Flow error: ±10
- Applicable medium: Does not attack the copper alloy fluid
- Protection level: IP55、IP65

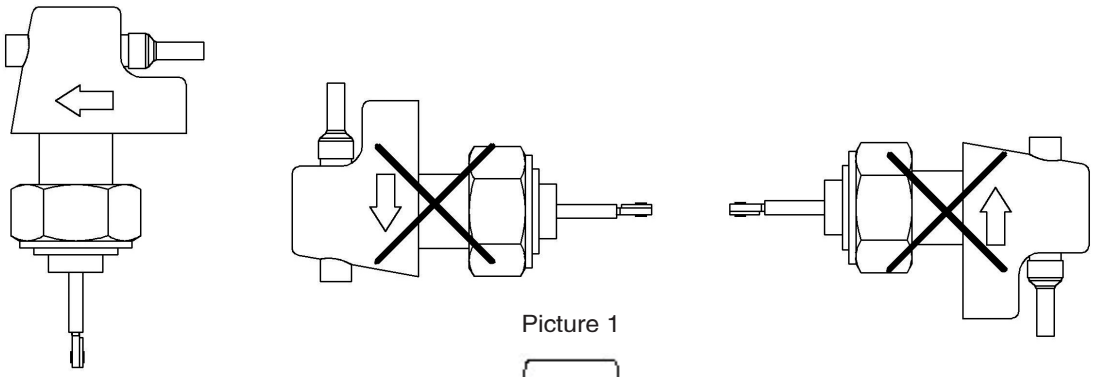
■ Flow rate

Model	connection pipe diameter	Flow rate adjust range （m^3/h）			
		Min. Flow		Max. Flow	
		On	OFF	On	OFF
FSF-YK-19	φ19.6	0.7	0.5	1.47	1.2
FSF-YK-25	φ25.5	1.27	1.0	2.37	2.25

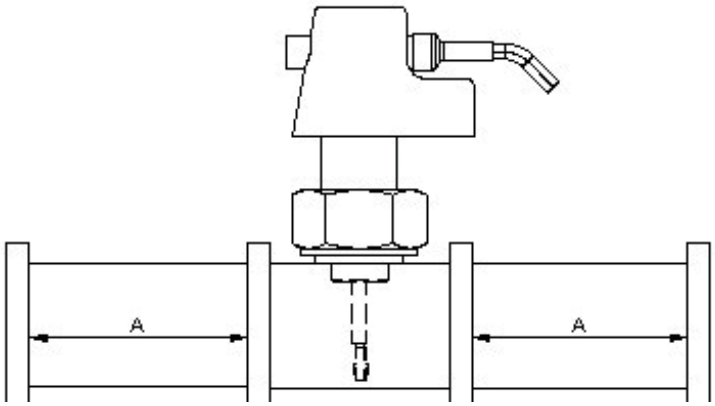
Model	Pipe diameter (mm)	Flow deflector size (L×W)	Off flow range (m^3/h)	Setpoint Value (m^3/h)	Medium
FSF-YKA-1	DN25	10×10mm	0.59-1.71	1.4	Water
FSF-YKA-2	DN32	10×10mm	1.27-3.24	2.0	Water
FSF-YKA-3	DN40	10×10mm	1.02-2.97	2.0	Water
FSF-YK-D50	DN50	19×10mm	5.0±10%	5	Water
FSF-YK-D80	DN80	10×10mm	12.0±10%	12	Water

■ Installation

- There are no tiny impurities in the pipe installed in the flow switch that will affect the magnet, otherwise it will affect the normal operation of the switch.
- Before installing the flow switch, it must be recognized that the direction of the arrow of the switch must be consistent with the direction of water flow in the pipe.
- The correct installation position of the flow switch is installed vertically on the horizontal pipe, as shown in Figure 1.
- When the flow switch is installed on the pipeline, it must meet the straight pipe with the A section distance at both ends of the inlet and outlet of the switch. As shown in Figure 2, the length of the A section is 5 times.

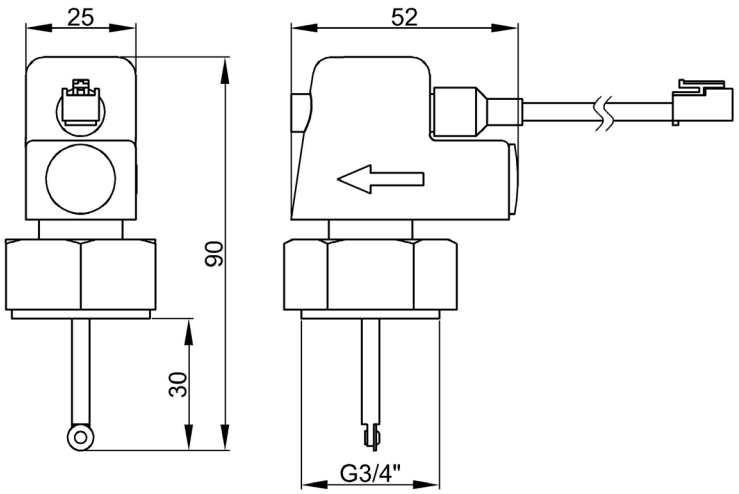


Picture 1



Picture 2

■ Dimensions







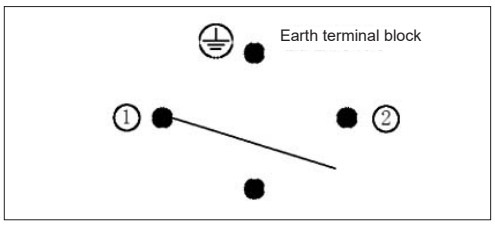
■ Introduction

In industrial and mechanical equipment, cooling oil is widely used to ensure the proper operating temperature of internal components. The stability of the cooling oil system is critical, as any malfunction could lead to serious consequences, such as a rapid increase in unit temperature, which could ultimately damage the entire system. To ensure timely detection and resolution of such issues, an oil flow switch is typically installed in the cooling oil pipeline. The main function of the oil flow switch is to continuously monitor the flow of the cooling oil. If the flow rate is insufficient or stops entirely, the oil flow switch responds by issuing an alarm signal. This signal is transmitted to the control room, where the personnel can receive it promptly and take swift action to prevent accidents, thereby protecting the equipment from damage. Therefore, the oil flow switch plays a crucial role in equipment operation and maintenance. By monitoring in real-time, it ensures the proper functioning of the cooling system.

■ Technical Parameters

- Ambient temperature: -40~+65°C
- Medium temperature: -40~+110°C
- Maximum working pressure: 2.5MPa
- Protection level: IP54
- Test pressure: 2.5MPa
- Electrical rating: AC 220V 8W
- Applicable medium: oils with a viscosity less than 2 degrees Engler.

■ Wiring diagram

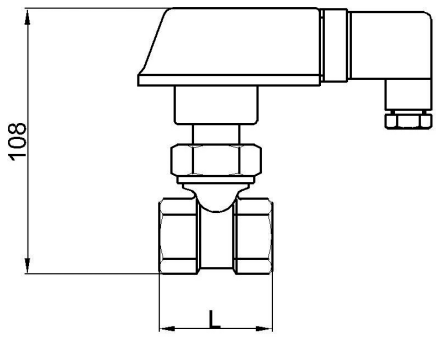


1. Under oil flow switch outage, 1-2 is disconnected. When flow is higher than setting range, 1-2 is connected.
2. Under oil flow switch 1-2 connected, when the flow is lower than the setting range, 1-2 is disconnected

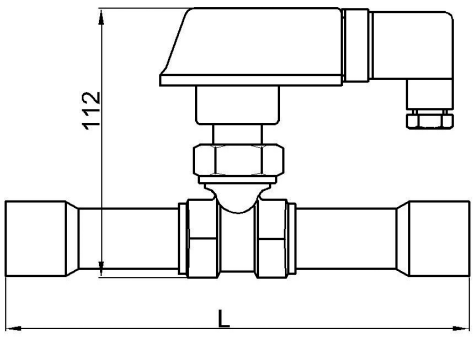
■ Model parameter

Model	Pass through mm	Connection size			Flow range L/min	
		Welded pipe		Thread	Flow Increase	Flow reduction
		in.	mm			
FSF10-ZG3/8	10			ZG3/8	2.4~2.9	2.1~2.6
FSF15-ZG1/2	15			ZG1/2	3.3~4.0	2.9~3.7
FSF20-G3/4	20			G3/4	6.6~8.8	6.2~7.7
FSF10W-3/8	10	3/8	9.5		2.4~2.9	2.1~2.6
FSF10W-1/2	10	1/2	12.7		2.4~2.9	2.1~2.6
FSF15W-5/8	15	5/8	15.8		3.3~4.0	2.9~3.7
FSF20W-7/8	20	7/8	22.2		6.6~8.8	6.2~7.7
FSF20W-3/4	20	3/4	19		6.6~8.8	6.2~7.7
FSF20W-9/8	20	1 1/8	28.5		13.0~16.1	11.4~14.7

■ Dimensions



Threaded connection



Welded connection





■ Introduction

FS2-W air flow switch is a device used to detect the flow rate of gas and the on/off status of airflow. By monitoring parameters such as airflow speed and flow rate, it can control and adjust the airflow in real-time. This switch helps ensure the stability and proper regulation of airflow, guaranteeing the normal operation of the system. In air handling systems, the FS2-W air flow switch can be used to set up an alarm for flow interruption or to trigger interlocking actions, such as cutting off the circuit of electric heaters or electric valves when the airflow is interrupted. This helps prevent issues like duct overheating, coil freezing, or other harmful effects on the equipment caused by the loss of airflow.The FS2-W air flow switch is mainly used in industries such as industrial production, medical equipment, and environmental protection equipment.

-It meets the product certification requirements and factory quality assurance capabilities according to the China Quality Certification Center (CQC/CPOIS-2002) standards.

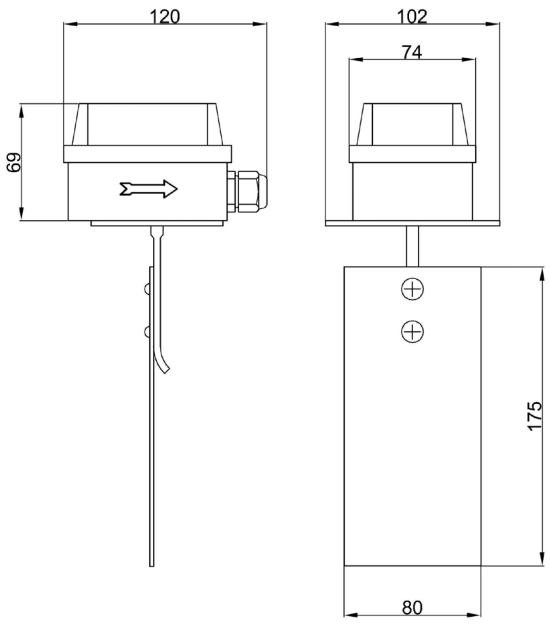
■ Technical Parameters

- Ambient temperature: -20~+65°C
- Medium temperature : -10~+85°C
- Maximum working pressure: 0.6MPa
- Minimum break value: 1.0 m/s minimum turn-on value: 2.5 m/s
- Maximum off value: 8.0 m/s maximum on value: 9.2 m/s
- Relative humidity: 10~95%
- Protection level: IP65

■ Electrical rating

Rated current \ Rated voltage		A.C.110	A.C.220
Non-induced current		16	6
Induced current	Full load current	16	6
	Instantaneous current	96	48

■ Dimensions





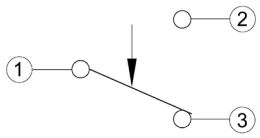
■ Introduction

The FSF50P-1X series flow switch is a Cost-optimized, compact water flow switch.It is used to measure the flow change or cut-off protection in the pipeline. It converts the changes in the flow sensed into the pipeline into electrical signals, and the actuators automatically control the flow in the pipeline. It uses a highly sensitive micro switch and a motion mechanism with corrosion-resistant materials to ensure that the flow switch has the characteristics of high reliability, high sensitivity and fast transient action, which can be applied to different pipe flow requirements in the system.

■ Technical Parameters

- Ambient temperature: -20~+65°C
- Medium temperature : -10~+110°C
- Maximum fluid pressure: 1.5MPa
- Maximum allowable flow rate: 3m/s
- Applicable medium: Does not attack the copper alloy fluid
- Protection level: IP54

■ Contact function

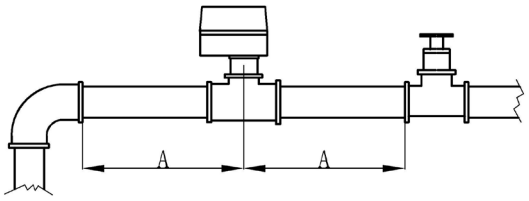


Contact number	function
1	Common connector
1--2	Closed when the differential pressure rises
1--3	Closed when the pressure difference drops

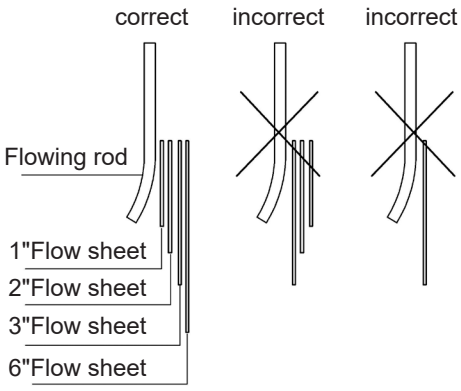
Arrow↓Direction of action when differential pressure increases

■ Installation

- The flow switch is set to the minimum flow value at the factory and must not be adjusted below the factory setting to avoid the switch being unable to reset.
- Before installing the flow switch, it must be observed that the direction of the arrow on the switch housing is consistent with the direction of the fluid.
- The flow switch should be installed on a horizontal pipe or a vertical pipe in the direction of the liquid flow, and the flow direction of the sheet should be perpendicular to the direction of the fluid.
- When the flow switch is to be installed on a horizontal pipe, there must be a straight pipe of A length at both ends of the inlet and outlet. See Figure 1. The length of A must meet the pipe diameter of 5 times.
- When installing the flow sheet, you must refer to the correct position shown in Figure 2.
- When the flow switch is connected, the power should be cut off first.



Picture 1



Picture 2

■ Dimensions

