

Read all instructions thoroughly

INSTRUCTIONS

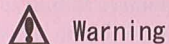
FLOW SWITCH

Type FQS



A. Failure to read and follow all instructions carefully before installing or operating this water regulating valve could cause personal injury and/or property damage. Save these instructions for future use.

NOTE FOR SAFETY



Warning

- Never remove the cover when power is applied. This can result in electric shock.
- Connect wiring after turning off power. This can result in electric shock.
- Do not sprinkle water over the microswitch. This can result in electric shock.
- Do not connect a load exceeding the electric rating. This can result in bad contacts.
- Do not turn screws other than the operating value setting screw.

Incorrect operations or water leakage can occur.

- Install the switch so that the arrow indication and the fluid flow match.

The switch does not work if fluid flows in the opposite direction.

In addition, paddles can be damaged.

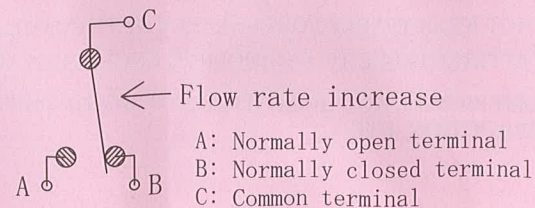
- Use fluid that does not corrode the liquid contacting material. In addition, use fluid in liquid form. Gas or liquid mixed with gas causes unstable operations.
- Connect the switch to ground. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or the grounding wire of a telephone line. If the grounding is not appropriate, this can result in electric shock.
- Use fluid with flow velocity of 2m/s or less. In addition, avoid strong pulsating fluid and vibration. Paddle can be damaged.

B. SPECIFICATIONS

● Specification table

Model	Structure	Liquid contacting materials	Ambient humidity
FQS-0	Non-water proof	Copper alloys	80%RH or less
FQS-U			
FQS-W	Drip proof	Bronze, stainless steel	95%RH or less
FQS-M			
FQS-T			

- Maximum operating pressure 0.98 MPa
- Allowable fluid temperature 5 to 80 °C (FQS-030GQ9: 5 to 100°C)
- Endurance operations 100,000 operations
- Mounting screw R1(MPT) or NPT(option)
- Ambient temperature -25 to +80 °C (FQS-030GQ9: -25 to 50°C)
- Contact structure Single-pole double-throw



C. Electrical ratings

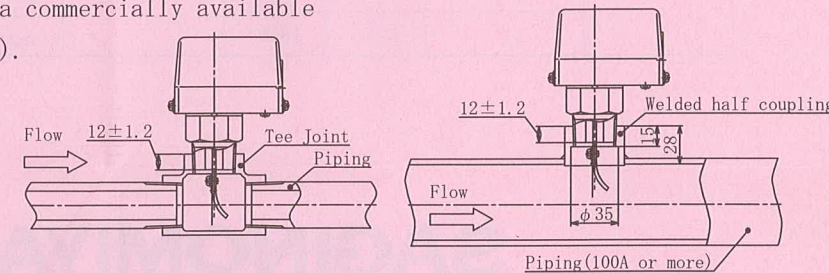
Unit: A

Type name, symbol	Voltage	Resistive load	Lamp load	Motor load	Type name, symbol	Voltage	Minimum applicable load	Maximum current load
Standard (G)	125V AC	15	1.5	5	Small load type (K)	24V DC	0.01	0.1
	250V AC	15	1.25	3		100V AC	0.01	0.1
	30V DC	6	1.5	5				
	125V DC	0.5	0.5	0.05				
DC high load type (D)	125V DC	10	1.5	5				
	250V DC	3	1.5	2				

Type name, symbol	Voltage	Full load amp.	Locked rotor amp.	Non-inductive amp.	Note
FQS-U	125V AC	3.5	21	15	UL listed
(G)	250V AC	2.5	15	15	

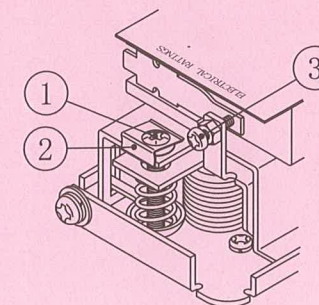
D. INSTALLATION METHOD

- Provide a straight pipe section of more than 5 times the piping diameter in front and back of the flow switch. This is used to prevent hunting due to turbulent flow.
- Basically install the switch in horizontal piping with the cover facing upward but it can be installed in vertical piping. However, in the case of a vertical pipe installation, the operating value may change about 20% compared to the horizontal pipe installation.
- For piping of the flow switch, use a commercially available Tee joint (conforming to JIS B 2301). If the available Tee joint cannot be installed, you can use a welded half coupling.
- When installing the flow switch to piping, the depth of the flow switch screwed in shall be 12 ± 1.2 mm.
- For wiring, follow the instructions written on the insulation plate of the microswitch.



E. OPERATING VALUE SETTING

- When the operating value is not specified, the flow switch is shipped with the operating value set around the minimum flow rate.
- When you turn the flow adjusting screw ① clockwise, the operating point goes up. When you turn it counterclockwise, the operating point goes down. But if you turn the screw counterclockwise too much, the operation becomes unstable and if you turn it further, the setting screw breaks off.
- If you have changed the setting value, make sure to operate the paddles and check the operation of the microswitch.
- Never remove the metal fitting ② because this is used to prevent the flow adjusting screw ① from loosening.
- The adjusting screw ③ is exclusively used by our service personnel. Do not use this screw for adjustment.
- When setting the operating value, refer to either decreasing flow setting value or increasing flow setting value.



Read all instructions thoroughly

INSTRUCTIONS

FLOW SWITCH

Type FQS

SAGINOMIYA

A. Failure to read and follow all instructions carefully before installing or operating this water regulating valve could cause personal injury and/or property damage. Save these instructions for future use.

NOTE FOR SAFETY

Warning

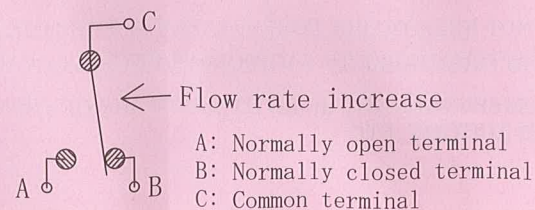
- Never remove the cover when power is applied. This can result in electric shock.
- Connect wiring after turning off power. This can result in electric shock.
- Do not sprinkle water over the microswitch. This can result in electric shock.
- Do not connect a load exceeding the electric rating. This can result in bad contacts.
- Do not turn screws other than the operating value setting screw. Incorrect operations or water leakage can occur.
- Install the switch so that the arrow indication and the fluid flow match. The switch does not work if fluid flows in the opposite direction. In addition, paddles can be damaged.
- Use fluid that does not corrode the liquid contacting material. In addition, use fluid in liquid form. Gas or liquid mixed with gas causes unstable operations.
- Connect the switch to ground. Do not connect the grounding wire to a gas pipe, water pipe, lightning rod or the grounding wire of a telephone line. If the grounding is not appropriate, this can result in electric shock.
- Use fluid with flow velocity of 2m/s or less. In addition, avoid strong pulsating fluid and vibration. Paddle can be damaged.

B. SPECIFICATIONS

● Specification table

Model	Structure	Liquid contacting materials	Ambient humidity
FQS-0	Non-water proof	Copper alloys	80%RH or less
FQS-U			
FQS-W	Drip proof	Bronze, stainless steel	95%RH or less
FQS-M			
FQS-T			

- Maximum operating pressure 0.98 MPa
- Allowable fluid temperature 5 to 80 °C (FQS-030GQ9: 5 to 100°C)
- Endurance operations 100,000 operations
- Mounting screw R1(MPT) or NPT(option)
- Ambient temperature -25 to +80 °C (FQS-030GQ9: -25 to 50°C)
- Contact structure Single-pole double-throw



C. Electrical ratings

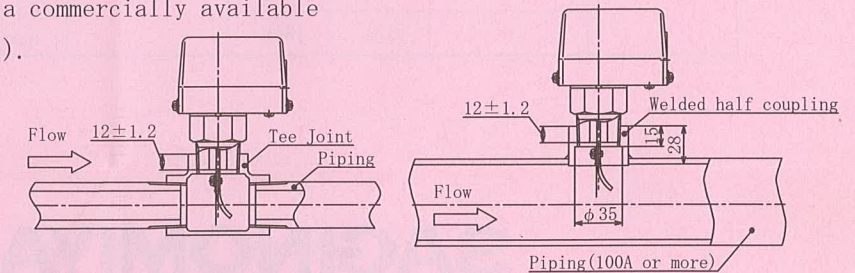
Unit: A

Type name, symbol	Voltage	Resistive load	Lamp load	Motor load	Type name, symbol	Voltage	Minimum applicable load	Maximum current load
Standard (G)	125V AC	15	1.5	5	Small load type (K)	24V DC	0.01	0.1
	250V AC	15	1.25	3		100V AC	0.01	0.1
	30V DC	6	1.5	5				
	125V DC	0.5	0.5	0.05				
DC high load type (D)	125V DC	10	1.5	5				
	250V DC	3	1.5	2				

Type name, symbol	Voltage	Full load amp.	Locked rotor amp.	Non-inductive amp.	Note
FQS-U	125V AC	3.5	21	15	UL listed
(G)	250V AC	2.5	15	15	

D. INSTALLATION METHOD

- Provide a straight pipe section of more than 5 times the piping diameter in front and back of the flow switch. This is used to prevent hunting due to turbulent flow.
- Basically install the switch in horizontal piping with the cover facing upward but it can be installed in vertical piping. However, in the case of a vertical pipe installation, the operating value may change about 20% compared to the horizontal pipe installation.
- For piping of the flow switch, use a commercially available Tee joint (conforming to JIS B 2301). If the available Tee joint cannot be installed, you can use a welded half coupling.
- When installing the flow switch to piping, the depth of the flow switch screwed in shall be 12 ± 1.2 mm.
- For wiring, follow the instructions written on the insulation plate of the microswitch.



E. OPERATING VALUE SETTING

- When the operating value is not specified, the flow switch is shipped with the operating value set around the minimum flow rate.
- When you turn the flow adjusting screw ① clockwise, the operating point goes up. When you turn it counterclockwise, the operating point goes down. But if you turn the screw counterclockwise too much, the operation becomes unstable and if you turn it further, the setting screw breaks off.
- If you have changed the setting value, make sure to operate the paddles and check the operation of the microswitch.
- Never remove the metal fitting ② because this is used to prevent the flow adjusting screw ① from loosening.
- The adjusting screw ③ is exclusively used by our service personnel. Do not use this screw for adjustment.
- When setting the operating value, refer to either decreasing flow setting value or increasing flow setting value.

