

### APPLICATION, BENEFITS AND MAIN FEATURES

The FQS flow switches are of the paddle type for general fluid line applications.

The SPDT contact mechanism makes or breaks an electric circuit when flow starts or stops. The FQS flow switch can be used for any fluid compatible with copper alloy materials, which are the parts of the switch which come into contact with the fluid.

The electrical contact block is completely sealed from the fluid.

The paddle consists of three segments that can be removed or trimmed and fixed to the switch for use in pipes from 1" to 6" in diameter. The standard paddles are made of copper alloy. Stainless steel paddles are also available.



### STANDARD MODELS

Code number	Type number	Approvals	Paddle size	Usable line size	Contact type	Max. fluid pressure MPa (bar)	Connection	IP value
061H4000	FQS-U30G	CE, UL	consists of 1", 2" & 3" paddles <sup>(1)</sup>	1" - 6"	SPDT	0.98 (10)	1" MPT (R1)	20
061H4005	FQS-W30G	CE						42

Model	Standard	
	125V AC	250V AC
Current (A)		
Full Load Amp.	3.5	2.5
Locked Rotor Amp.	21	15
Non-Inductive Amp.	15	15

Ambient temperature: -25°C to 80°C  
 Fluid temperature: 5 to 80°C  
 Ambient humidity: FQS-U30G - 80%RH  
 FQS-W30G - 95%RH  
<sup>(1)</sup>6" paddle (material: stainless steel) is available upon request

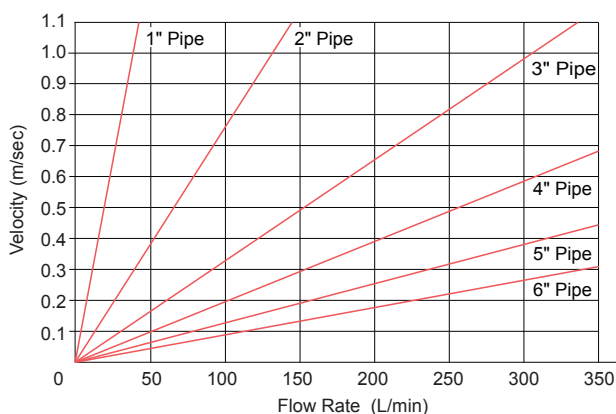
### BENEFITS

- simple mounting and wiring
- fast and easy to adjust to different pipe sizes
- water-proof version available if required
- installation in vertical or horizontal position possible
- CE and UL approval
- SPDT contact system

### APPLICATIONS

- chilled water applications for air-conditioning systems
- water flow control for heat pumps
- hot-water supply systems
- fire-sprinkler systems

### FLOW AMOUNT - FLOW VELOCITY CHARACTERISTICS

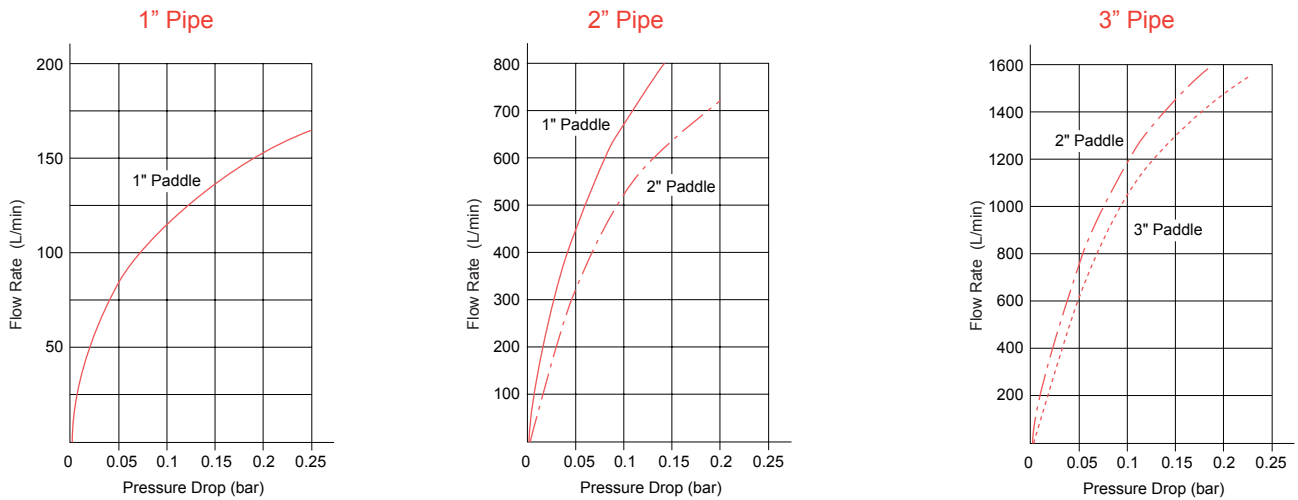


Q : Flow Amount (liter/min.)  
 V : Velocity (m/sec.)  
 d : Pipe I.D. (mm)

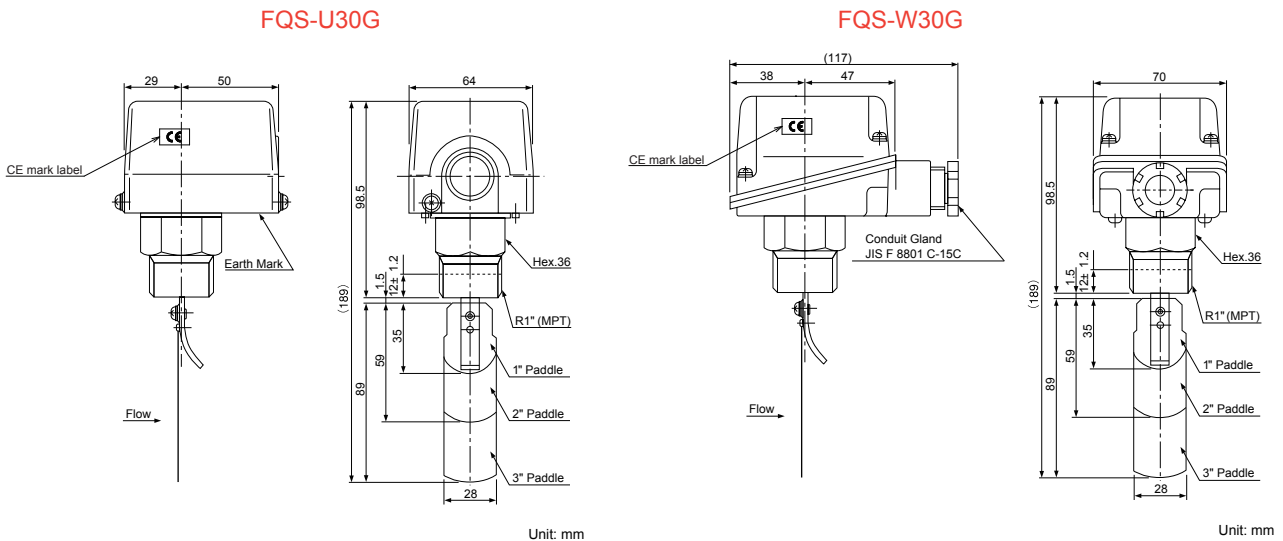
$$Q = \pi d^2 / 4 \times V \times 6 \times 10^{-2} \text{ (liter/min.)}$$

## PRESSURE DROP CHARACTERISTICS

These charts show fluid pressure drop caused by 1", 2" and 3" paddles that are used for 1", 2" and 3" pipes.



## DIMENSIONS



## INSTALLATION INSTRUCTIONS

1. The switch should be screwed into a pipe to a depth of  $12.0 \pm 1.2$  mm. Liquid flow direction should be in accordance with an arrow mark on the switch body.
2. Install the switch to a pipe where there can be a straight section of pipe with a length of at least five times the pipe diameter before the switch in the upper-stream. (This is in order to avoid the risk of incorrect switching which can arise from turbulent flow.)
3. The switch (FQS) is supplied with the paddle consisting of 3 segments for pipe sizes ranging from 1" to 3" and set at the minimum flow rate unless otherwise specified.