

[Please refer to page 5 for selection details](#)

# Target Flow Switch FS-20



## Overview

The FS series liquid flow switch is used for changing the flow rate of liquids flowing through pipelines, such as water, ethylene glycol, or other non hazardous liquids. When the liquid flow rate exceeds or falls below the set flow rate value, its single pole double throw switch contact (SPDT) can make one circuit conductive while simultaneously cutting off the other circuit. This flow switch is usually used in places that require interlocking or 'cut-off' protection.

## Function Characteristics

- Liquid pressure can reach up to 1MPa, with a wide range of applications;
- Stainless steel blades have three sections and are used for pipelines with diameters ranging from 25-75mm;
- The number of blade segments can be disassembled or the length of the blades can be adjusted as needed;
- The FS series liquid flow switch is equipped with 6-inch blades and can be used for pipelines ranging from 100mm to 150mm;
- The set point can be adjusted, and users can adjust its traffic value according to their needs;
- The FS52 shell adopts a fully enclosed structure, which effectively prevents dust and water from the electrical device (there may be a small amount of condensation); The FS52 electrical switch is a complete and enclosed type, which does not pose a risk of leakage to small amounts of condensation;
- The FS52 type has a large wiring space, making it convenient for users to connect wires;
- FS51/FS52 can provide stainless steel joints suitable for ammonia water or other media.

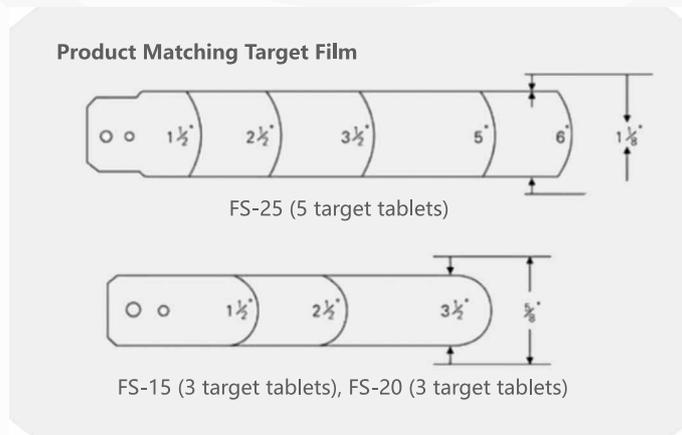
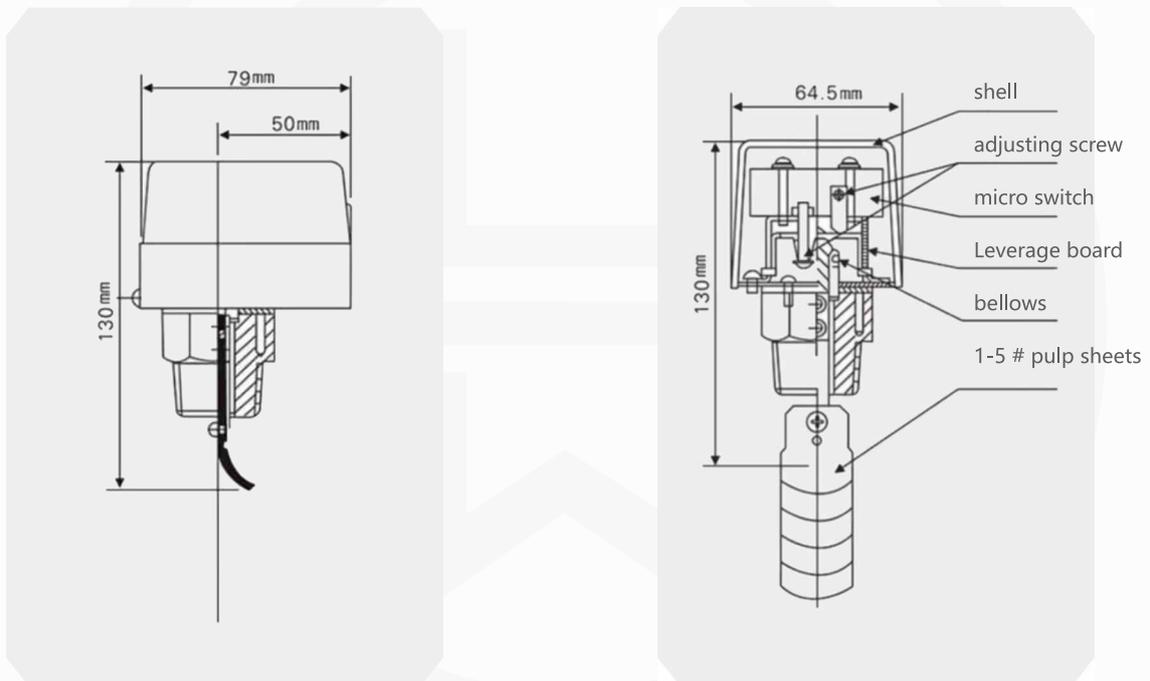
## Application

A typical application is when the cooling water in a refrigeration system is cut off, the FS flow switch can effectively cut off the compressor current to protect the refrigeration system and the entire system from damage

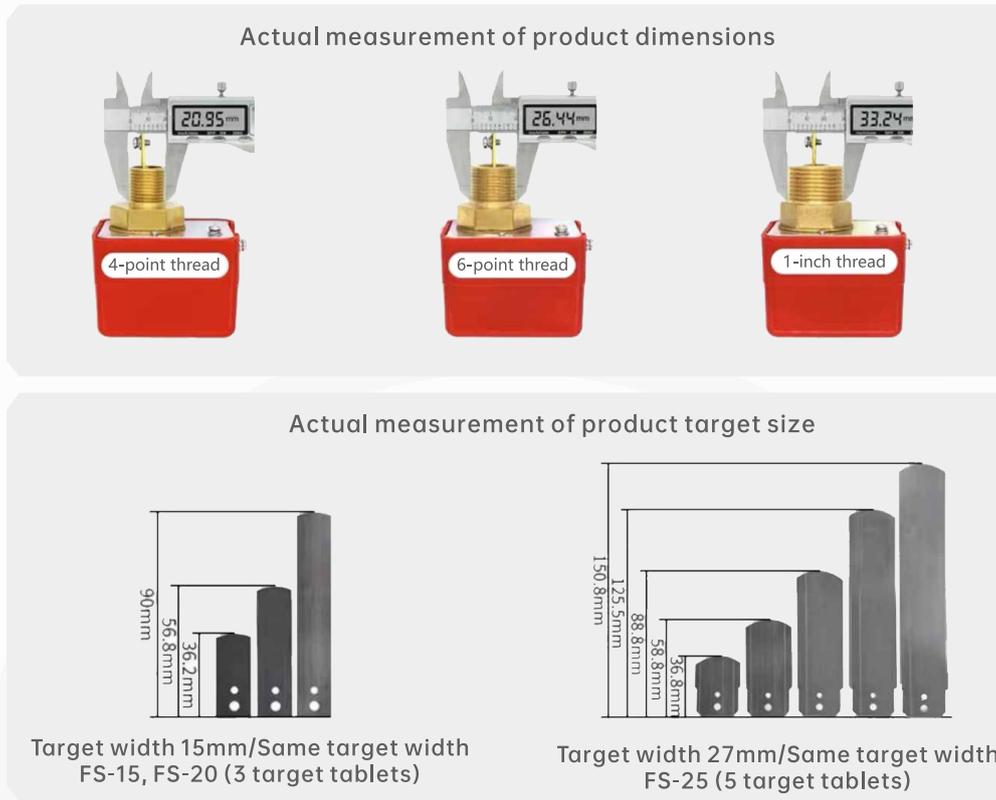
### Technical Specifications

<b>Product Name</b>	Target flow switch
<b>Product Model</b>	FS-15 (4-point nut), FS-20 (6-point nut), FS-25 (1-inch nut)
<b>Number Of Target Films</b>	FS-15 (3 target tablets), FS-20 (3 target tablets), FS-25 (5 target tablets)
<b>Resistive Load</b>	Power supply: 220V Current: 3A
<b>Maximum Pressure</b>	MAX10bar
<b>Medium Temperature</b>	1-100°C

### Product Size And Structure



### Technical Specifications



### Fs Series Liquid Flow Parameter Table

Product Name															
Pipe Diameter (mm)		25	32	40	50	65	80	100	125	150	200	100*	125*	150*	200*
Number Of Target Films Resistive Load	Traffic increase (red and blue closed)	0.95	1.32	1.70	3.11	4.09	6.24	14.8	28.4	43.2	85.2	8.4	12.9	16.8	46.6
	Decreased traffic (red and yellow closed)	0.57	0.84	1.14	2.16	2.84	4.32	11.4	22.9	35.9	72.7	6.13	9.31	12.26	38.6
Maximum Pressure Medium Temperature	Traffic increase (red and blue closed)	2.0	3.02	4.36	6.6	7.84	12.0	29.1	55.6	85.2	172.6	13.4	26.8	32.7	94.26
	Decreased traffic (red and yellow closed)	1.93	2.84	4.09	6.13	7.23	11.4	27.7	53.4	81.8	165.8	17.3	25.21	30.66	90.85

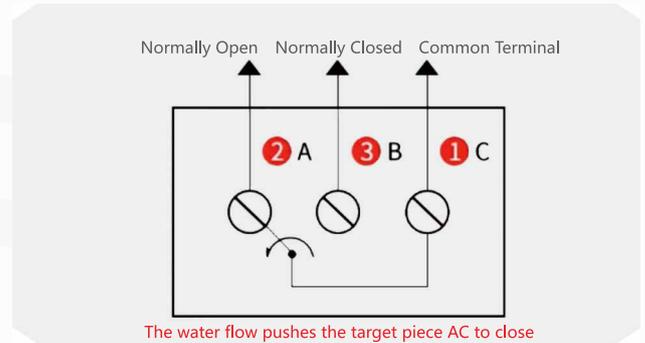
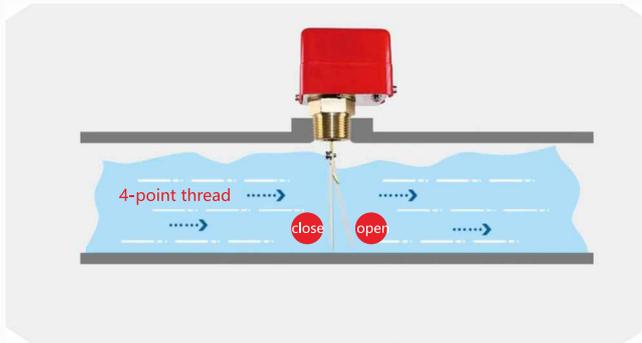
1. The above traffic values are for reference only;
2. The value with \* indicates the value when all 4 blades are installed, while the value without \* indicates the value when 3 blades (1, 2, 3) are installed;
3. The FS flow switch can use different blades according to the flow rate of the installed main pipeline.

### Performance Parameters

Electrical Load	AC250V 10A
Maximum Work Pressure	10.34Bar
Fluid Temperature	0-120°C
Ambient Temperature	0-60°C
Lifespan Of Corrugated Pipe	500000次
Protection Standard	IP53

### Product Installation

1. The FS series water flow switch adopts NPT sealed threaded pipe fittings, with three specifications of 1", 1/2", and 3/4". Users can choose the fitting that matches the pipe diameter when ordering;
2. The direction of the arrow on the shell should be consistent with the flow direction inside the pipeline;
3. The water flow switch should be installed on a horizontal pipeline. If it must be installed on a vertical pipeline, the liquid flow direction should be downward and upward, and it is not allowed to be installed on a vertical pipeline that flows from top to bottom
4. The flow switch must not be allowed to flow in reverse during use, in order to avoid blade reverse fracture.



When the microswitch is in operation and the flow rate rises to the switching value, terminal 1-2 (normally open point) closes. When the flow rate drops to the lower switching value, terminal 1-3 (normally open point) closes and terminal 1-2 (normally open point) opens

### Product Wiring Diagram

The target piece is stuck and cannot be reset/the water flow cannot push the target piece, both of which can be debugged according to this

slotted screw  
Twist upwards  
Compressing the spring  
enhances the recovery  
force of the target piece  
Target stuck and not reset  
Just fine tune this



cross-head screw  
Twist outward  
Sensitivity improvement  
It is easier to push the  
target film  
Close the switch  
The water flow cannot  
push the target piece  
Just fine tune this

## FS-20- Selection Composition

Example Of Selection **FS-20**

1	A	2	I	3	E	4	N	5	U	6	X	7	Y	8	W	9	P	10	N
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1. Threaded Connection	A	1"NPT	
	B	1/2NPT	
	C	3/4NPT	
	T( )	other	
2. Material	H	brass	
	I	stainless steel	
	T( )	Other materials	
3. Number Of Target Films	E	3 pieces	
	F	5 pieces	
	G	1 piece	
4. Output Signal	N	Normally Open	
	O	Normally Closed	
	P	Normally Open Normally Closed	
5. Material Of Junction Box	U	aluminium	
6. Electrical Load	X	220VAC/10A	
	Z	24VDC	
7. Fluid Temperature	Y	-30~100℃	
	A	-30~150℃	
8. Protection Level	W	IP53	
	B	IP66	
9. Maximum Pressure	P	2.5MPa	
10. Explosion Proof Type	N	none	
	O	flameproof	
	M	intrinsically safe	

## Explanation:

FS-20 threaded connection 1 "NPT, made of stainless steel, with 3 target pieces, normally open output signal, aluminum junction box material, electrical load 220VAC/10A, fluid temperature -30~100 °C, protection level IP53, maximum pressure 2.5MPa, no explosion-proof.

## Product Certification

Compliance and approval; The Ludwig water quality analyzer meets key standards and certifications for process measurement technology; To ensure the highest reliability in such settings;