

FS-550 Series – High Pressure, Metal Paddle Switch

Pipe Line Size: 1-1/4" and Up Primary Construction Material: Stainless Steel or Brass Setting Type: Fixed

Standard FS-550 switches sense liquid flow in either direction to monitor flow/no-flow conditions. They are supplied in two paddle lengths. The paddle is trimmed during installation to permit switch actuation at the desired flow rate. As flow increases in a pipe, the paddle of the switch pivots to move out of the liquid path, producing less than 3 PSIG of pressure drop regardless of pipe size.

Specifications

Wetted Materials Housing	Brass or 316 Stainless Steel				
Paddle	302 Stainless Steel				
Spring	316 Stainless Steel				
Other Wetted Parts	Ceramic and Teflon®				
Operating Pressure, Maximum	2000 PSIG (138 bar)				
Pressure Drop	3 PSIG (0.2 bar) Maximum				
Operating Temperature	-30°F to + 300°F (-34.4°C to + 148.9°C)				
Set Point Accuracy	± 25%				
Switch*	SPDT, 20 VA				
Repeatability	± 5%				
Electrical Termination	No. 18 AWG, 24" L., Polymeric Lead Wires				



Standard Actuation and De-actuation Set Points

The Table below indicates paddle lengths which achieve switch actuation for specific flow rates. Approximate pipe line sizes are marked on paddle.

	Pipe Size	Pipe Line Sizes						
Marked at Paddle	1-1/4″	1-1/2″	2‴	2-1/2″	3″	4‴		
	Cut-Off Point	Approximate Actuation and (De-Actuation) Flow Rates GPM Water						
Short Paddle Unit	1-1/4″	5 (3)	13 (8)	22 (15)	29 (22)	_	—	
Long Paddle Unit	1-1/2″	—	15 (11)	28 (21)	38 (30)		—	
	2″	—	—	22 (15)	27 (20)	48 (38)	_	
	2-1/2″	—	—	—	21 (14)	40 (26)	52 (39)	
	3″	—	—		_	31 (20)	45 (32)	
	4″	_	_	_	_	_	39 (25)	

All flow rate tests for the above table were conducted with the switch installed in a standard "T" fitting. For calculation of flow rates in pipe sizes larger than 5", a flow velocity of approximately 0.5 ft. per sec. actuates the switch with a full length (5") paddle. The paddle can be trimmed to achieve different actuation points.

How To Order – Standard Models

Select switch type, paddle length and housing material, then specify adjacent part number.

Switch	Paddle	Housing	Switch	Part N	Part Numbers	
Туре	Type Length Material Operation		Standard	3-Pin J-Box		
SPDT Standard Unit	Long	Brass	N.O. or N.C.	29609 🗲	56730	
		316 S.S.		29608 🗲	56729	
	Short	Brass		30641 🗲	66914	
		316 S.S.		30640 🗲	61189	

Note: The FS-550 Switch is not recommended for use with 1" plastic tees.



Dimensions





FS-550 switches are U.L. Approved for Class I, Division 2, Groups A, B, C, D hazardous areas.



They are also available as FM-approved when used with GEMS Junction Boxes which are explosion-proof for Class I, Division 1, Groups B, C, D, E, F, G hazardous locations.

Using GEMS SAFE-PAK Relays and barriers, these switches provide automatic flow/no flow interlock and are intrinsically-safe without explosion-proof housing and piping. U.L. Approved — File No. E183854

