

# Paddle Bellows Flow Switch for Liquids



measuring  
•  
monitoring  
•  
analyzing

FPS



- Switching Ranges:  
0.9... 4.4 GPM up to  
375... 760 GPM water
- $p_{\max}$ : 435 psi,  $t_{\max}$ : 250°F
- Connection: 1" NPT
- Material: Brass or Stainless Steel
- Microswitch: 250 V, 15 (8) A
- Universal Mounting Position



Contact:  
Industrial Process Measurement, Inc.  
3910 Park Avenue, Unit 7  
Edison, NJ 08820  
732-632-6400  
support@instrumentation2000.com  
<http://www.instrumentation2000.com>



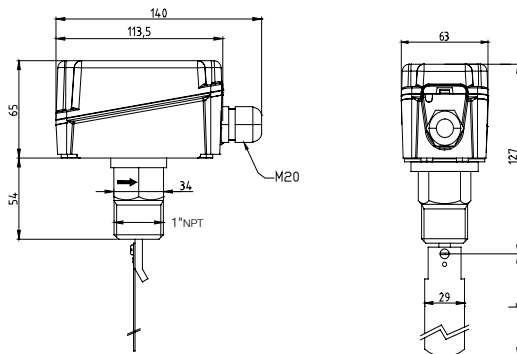
## Paddle Bellows Flow Switch Model FPS

### Description

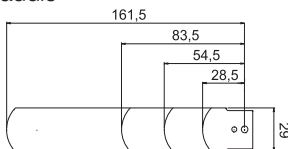
The KOBOLD model FPS flow switch operates according to the proven paddle bellows principle. The flowing media acts on the paddle thus actuating a microswitch. The switching point can be freely adjusted and the device mated to different nominal pipe sizes by means of the replaceable paddle in conjunction with the additional adjustment features. The electrical switching cavity is separated hermetically from the process fluid by means of a bellows.

The FPS-6000P version of the flow switch has been specially designed for minimum switching values. See table for switching values. The devices can be installed in any orientation.

### Dimensions



Paddle



### Technical Details

Brass design:	Bellows: MS 58 Bronze Paddle: stainless steel 316L
Stainless steel design:	Bellows: stainless steel 321 Paddle: stainless steel 316L
Max. medium temperature:	-40 ... +250°F
Max. ambient temperature:	-31 ... +150°F
Max. allowed pressure:	brass 160 PSIG stainless steel 435 PSIG
Max. pressure loss:	approx. 0.15 ... 0.44 PSIG
Process Connection:	1" NPT male
Inlet and outlet pipe section:	5 times nominal pipe size

### Electrical Details

Dust-proof microswitch:	SPDT contact
Switching voltage:	max. 24 - 250 V <sub>AC</sub>
Switching current:	max. 8 A (inductive load) max. 15 A (resistive load)
Electrical connection:	cable gland
Case:	base part ABS, cover PC (transparent)
Protection type:	IP 65

### Electrical Connection

RED-WHITE opens with reduction in flow  
RED-BLUE closes with reduction in flow

### Applications

- Monitoring cooling circuits, lubricant circuits
- Dry running protection for pumps
- Prevention of low water levels

### Order Numbers for Standard Types

Pipe Size	Standard Switching Ranges				Special Switching Ranges			
	Model FPS-5000				Model FPS-6000			
	GPM Water De-actuating	GPM Water Actuating	Order Number		GPM Water De-actuating	GPM Water Actuating	Order Number	
		Brass	St. steel			Brass	St. steel	
1"	2.6 - 8.8	4.4 - 9.3	FPS-5100 P	FPS-5200 P	0.9 - 4.4	2.6 - 4.8	FPS-6100 P	FPS-6200 P
1-1/4"	3.5 - 12.3	5.7 - 13.2			1.1 - 6.2	4.0 - 7.0		
1-1/2"	4.8 - 16.3	7.5 - 17.6			2.2 - 7.0	5.3 - 9.7		
2"	9.7 - 25.1	13.7 - 26.9			4.0 - 15.9	10.1 - 18.1		
2-1/2"	11.9 - 28.6	17.6 - 30.8			5.3 - 21.6	13.7 - 24.2		
3"	18.9 - 47.1	27.3 - 50.2			9.3 - 32.6	21.6 - 36.1		
4"	50.2 - 122.0 (26.9 - 76.2)	64.7 - 127.7 (35.2 - 81.0)			21.6 - 75.3 (14.5 - 51.0)	49.8 - 84.1 (33.9 - 57.2)		
5"	100.8 - 234.7 (41.0 - 111.0)	125.1 - 244.8 (56.8 - 118.0)			42.7 - 149.7 (22.0 - 77.0)	98.6 - 166.9 (50.6 - 86.3)		
6"	158.1 - 360.0 (54.2 - 134.7)	189.8 - 375.0 (74.0 - 144.0)			59.9 - 209.6 (26.9 - 94.2)	138.7 - 234.2 (62.1 - 105.2)		
8"	319.7 - 729.6 (170.0 - 400.0)	374.7 - 759.5 (204.7 - 414.8)	113.2 - 396.7 (95.6 - 243.5)	262.4 - 443.4 (160.7 - 272.1)				

The values in brackets apply when using the supplied long paddle, which is shortened accordingly for service in 4" to 6" pipes, via the three supplied paddles.