



## Paddle Bellows Flow Monitor for liquids



measuring  
•  
monitoring  
•  
analysing

FPS



- Switching ranges:  
0,17 ... 0,85 m<sup>3</sup>/h ... 72,6 ... 165,7 m<sup>3</sup>/h water
- p<sub>max</sub>: 30 bar, t<sub>max</sub>: 120 °C
- Connection:  
G 1/2, G 3/4 (with fitting)  
R 1, 1" NPT (>DN 25)
- Material: brass or stainless steel
- Microswitch 250 V, 15 (8) A
- Any mounting positions



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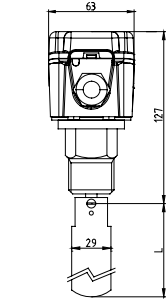
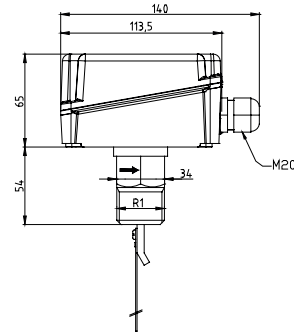
**Description**

The KOBOLD flow monitor FPS operates according to the proven paddle bellows principle. The flowing medium acts on the paddle thus actuating a microswitch. 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 device section is separated hermetically from the process fluid by means of a bellows.

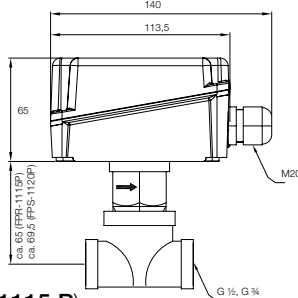
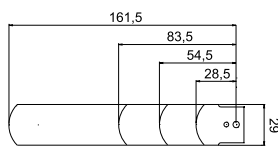
The special version of the flow monitor has been specially designed for minimum switching values. See table for switching values. The devices can be installed in any position.

**Dimensions [mm]**

FPS-2.../3...



Paddle (Model without T-piece)



**Technical Details**

Brass design: MS 58, bellows of bronze, paddle of st. steel 1.4401  
 Stainless steel design: T-piece: steel zinc-plated stainless steel 1.4541, paddle of st. steel 1.4401  
 Max. medium temperature: -40 ... +120 °C  
 Max. ambient temperature: -35 ... +65 °C  
 Max. allowed pressure: brass 11 bar, stainless steel 30 bar  
 Max. pressure loss: approx. 0.01 ... 0.03 bar  
 Inlet and outlet pipe section: 5 times nominal pipe size

**Electrical Details**

Dust-proof microswitch as single-pole changeover contact  
 Switching voltage: max. 24 - 250 V<sub>AC</sub>  
 Switching current: max. 8 A (inductive load) max. 15 A (resistive load)  
 Electr. connection: cable gland  
 Case: base part ABS, cover PC (transparent)  
 Protection type: IP65

**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 Details (Example: FPS-1115 P)**

Nominal pipe size	Standard switching range		Order number		Special switching range		Order number	
	m <sup>3</sup> /h Water falling	m <sup>3</sup> /h Water rising	Brass	St. steel	m <sup>3</sup> /h Water falling	m <sup>3</sup> /h Water rising	Brass	St. steel
25*	0.6-2	1-2.1	FPS-2100 P (Con.: R 1) FPS-5100 P (Con.: 1" NPT)	FPS-2200 P (Con.: R 1) FPS-5200 P (Con.: 1" NPT)	0.2-1	0.6-1.1	FPS-3100 P (Con.: R 1) FPS-6100 P (Con.: 1" NPT)	FPS-3200 P (Con.: R 1) FPS-6200 P (Con.: 1" NPT)
32	0.8-2.8	1.3-3			0.25-1.4	0.9-1.6		
40	1.1-3.7	1.7-4			0.5-1.6	1.2-2.2		
50	2.2-5.7	3.1-6.1			0.9-3.6	2.3-4.1		
65	2.7-6.5	4.0-7.0			1.2-4.9	3.1-5.5		
80	4.3-10.7	6.2-11.4			2.1-7.4	4.9-8.2		
100	11.4-27.7 (6.1-17.3)	14.7-29.0 (8.0-18.4)			4.9-17.1 (3.3-11.6)	11.3-19.1 (7.7-13.0)		
125	22.9-53.3 (9.3-25.2)	28.4-55.6 (12.9-26.8)			9.7-34.0 (5.0-17.5)	22.4-37.9 (11.5-19.6)		
150	35.9-81.7 (12.3-30.6)	43.1-85.1 (16.8-32.7)			13.6-47.6 (6.1-21.4)	31.5-53.2 (14.1-23.9)		
200	72.6-165.7 (38.6-90.8)	85.1-172.5 (46.5-94.2)			25.7-90.1 (21.7-55.3)	59.6-100.7 (36.5-61.8)		
	<b>l/h Water</b>	<b>l/h Water</b>	<b>Models with T-piece</b>					
15	174-846	480-948	FPS-1115 P					
20	138-768	408-858	FPS-1120 P					

\* For DN 25 a fitting is required in which the paddle can move freely.  
 The values in brackets apply when using the supplied long paddle, which is shortened for service in DN 100 to DN 150 and which must be mounted with the three short paddles.



**Order Details Spare parts**

Model	Description	Image
ERS-FPSPAD01	Set of spare paddles for FPS	A photograph showing four metal paddles of varying lengths and two small screws. The paddles are arranged vertically, with the shortest on the left and the longest on the right. Each paddle has two small holes near the top. The screws are positioned to the left of the shortest paddle.