

For Commercial and Industrial Applications

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

Series FS20

Nema 4X Flow Switch

Sizes: For pipes 1" - 6" (25 – 150mm)

Series FS20 provides accurate monitoring of liquid flow in pipelines servicing water systems, heating systems, air conditioning, and processing installations for industrial and commercial applications. The FS20 series is recommended for use in areas of high humidity for indoor or outdoor installations requiring Nema 4X watertight, dust-tight, and corrosion-resistant enclosures. The switch is epoxy coated and corrosion resistant. The Nema 4X Flow Switch is designed to act as an automatic control or safety device for liquid flow. The single-pole, double-throw switch can be wired to start or stop a motor when a flow or no flow condition exists or activate an alarm when flow is inadequate. The switch then turns off the alarm when adequate flow is restored. Series FS20 flow switches can be installed in a tee for horizontal or vertical piping.

Features

- Beryllium copper paddle
- Brass alloy bellows seals switch assembly from the line
- Two adjusting screws, fine and coarse, to adjust sensitivity
- ½" (15mm) threaded conduit hub accepts standard vapor-proof connectors
- Removable cover for easy access to switch terminals
- Corrosion-resistant
- Zinc die-cast enclosure
- Epoxy-coated finish
- 1" (25mm) NPT connection
- Switch assembly independent and removable from mounting adapter

Standards



LISTED 11S1

Underwriter's Laboratories Listed U.S.A. No. 11S1

Pressure-Temperature

Maximum Working Pressure: 150psi (10.3 bar) at 300°F (148.9°C)



Nema 4X Flow Switch

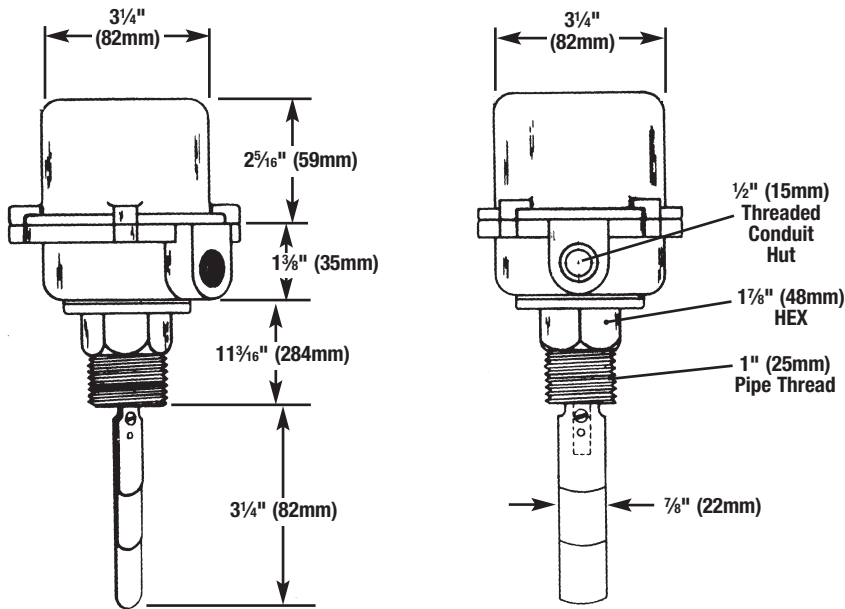
Paddles

3 in 1 Paddle – A segmented beryllium copper paddle is quickly adaptable for 1" through 3" pipe (25 through 80mm). The extended beryllium copper paddle, also included, is for larger pipe sizes up to 6" (150mm). Paddle length conforms to ASTM tee standards.

Materials

Body:	Cast brass ASTM
Bellows:	Brass ASTM B-36
Cover:	Epoxy coated die cast zinc
Enclosure:	Epoxy coated die cast zinc
Paddle:	Beryllium Copper ASTM B-194
Coupling:	Brass ASTM B-36
O-rings:	Buna N

Dimensions



Flow Rates

FLOW RATES Required to Actuate the FS20 Flow Switch in Horizontal Pipe. Flow rates in U.S. gallons per minute (GPM). Velocity in feet per second (FPS). *Equipped with extended paddle trimmed to pipe size.

PIPE SIZE IN WHICH FLOW SWITCH INSTALLED			25mm 1"	32mm 1 1/4"	40mm 1 1/2"	50mm 2"	65mm 2 1/2"	80mm 3"	100mm *4"	125mm *5"	150mm *6"
FACTORY OR MINIMUM FLOW SETTING	ACTIVATION FLOW	GPM	5.2	7.9	10.0	13.2	20.9	30.0	39.0	58.0	79.0
		FPS	2.01	1.74	1.62	1.29	.92	1.30	1.0	.94	.88
	DEACTIVATION NO FLOW	GPM	2.0	3.2	5.3	8.1	9.9	12.0	19.0	29.0	39.6
		FPS	.77	.71	.86	.79	.44	.52	.50	.47	.44
MAXIMUM FLOW SETTING	ACTIVATION FLOW	GPM	11.5	18.0	18.0	34.1	53.9	52.0	73.5	115.0	166.0
		FPS	4.44	3.98	2.91	3.33	2.38	2.26	1.86	1.85	1.84
	DEACTIVATION NO FLOW	GPM	8.5	14.6	15.1	29.2	44.4	46.1	64.0	92.0	123.0
		FPS	3.28	3.23	2.44	2.85	1.96	2.00	1.67	1.48	1.37

*Flow rates for these sizes are calculated.



A Watts Water Technologies Company



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