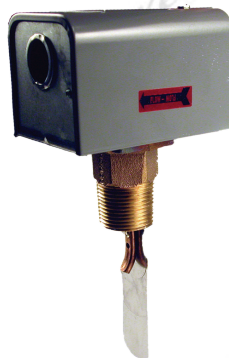




FLOW SWITCH F61 SERIES

DESCRIPTION

The Johnson Controls F61 Series paddle flow switches are used to prove flow on liquid lines using water, ethylene glycol solutions, or other liquids compatible with brass and phosphor bronze parts. The SPDT contact switch is activated by liquid flow through the pipe and the set point is adjustable. The **F61KD** (NEMA 1 enclosure) and **F61MD** (NEMA 3R enclosure) are inline models for 1/2" NPT and 3/4" NPT pipe. The **F61KB-11** (NEMA 1 enclosure) and **F61MB-1** (NEMA 3R enclosure) are for 1" (2.5 cm) and larger pipes. They are furnished with a stainless steel paddle in three segments for pipes 1" to 3" (2.5 to 7.6 cm) in diameter. Paddle segments may be removed or trimmed as needed. A 6" (15 cm) paddle is also furnished for 4" (10 cm) diameter pipes and larger.



F61KB-11



F61KD-3



SPECIFICATIONS

Media Temperature Range

KB-11, KD-3, KD-4	32°F to 250°F (0°C to 121°C)
MB-1, MD-1, MD-2	-20°F to 250°F (-30°C to 121°C)

Maximum System

Pressure	150 psig (1034 kPa)
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Materials Of Construction

KB-11, MB-1, KD-3,

KD-4

Brass fittings, phosphor bronze bellows, stainless steel paddle

MD-1, MD-2

Brass fittings, stainless steel bellows, stainless steel paddle

Approvals Warranty

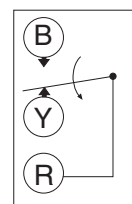
UL recognized, File E5368
1 year

WIRING

ELECTRICAL RATINGS

MOTOR RATINGS	120V	208V	240V	277V
Horsepower	1	1	1	—
AC full load amps	16	8.8	8	—
AC locked rotor amps	96	52.8	48	—
Noninductive or Resistance load amps	16	16	16	16
Pilot duty – 125 VA 24/277 VAC				

Action on increase of flow



F61 Series

DIMENSIONS

Model	Size	Connections	Dimensions	Weight	Enclosure Rating
F61KD-3	1/2"	FNPT inline	5.0"H x 4.0"W x 2.8"D (12.8 x 10.1 x 7.1 cm)	2.1 lb (.95 kg)	NEMA 1
F61MD-1	1/2"	FNPT inline	5.0"H x 4.0"W x 2.8"D (12.8 x 10.1 x 7.1 cm)	2.2 lb (1.0 kg)	NEMA 3R
F61KD-4	3/4"	FNPT inline	5.0"H x 4.0"W x 2.8"D (12.8 x 10.1 x 7.1 cm)	2.1 lb (.95 kg)	NEMA 1
F61MD-2	3/4"	FNPT inline	5.0"H x 4.0"W x 2.8"D (12.8 x 10.1 x 7.1 cm)	2.2 lb (1.0 kg)	NEMA 3R
F61KB-11	1"	1" MNPT insertion	8.4"H (3" paddle) x 4.0"W x 2.8"D (21.3 x 10.2 x 7.1 cm)	1.7 lb (.77 kg)	NEMA 1
F61MB-1	1"	1" MNPT insertion	8.7"H (3" paddle) x 4.8"W x 2.8"D (22.1 x 12.2 x 7.1 cm)	2.4 lb (1.1 kg)	NEMA 3R



ADJUSTMENTS: TYPICAL FLOW RATES — gpm (m³/hr)

	LINE PIPE SIZE (in)		1	1-1/4	1-1/2	2	2-1/2	3	4*	5*	6*	8*	
MODEL	Minimum adjustment	Flow increases R to Y closes	4.2 (1.0)	5.8 (1.3)	7.5 (1.7)	13.7 (3.1)	18.0 (4.1)	27.5 (6.2)	65.0 (14.8) 37.0† (8.4)	125.0 (28.4) 57.0† (12.9)	190.0 (43.1) 74.0† (16.8)	375.0 (85.2) 205.0† (46.6)	
F61KB-11 F61MB-1		Flow decreases R to B closes	2.50 (0.6)	3.70 (0.8)	5.00 (1.1)	9.50 (2.2)	12.50 (2.8)	19.00 (4.3)	50.0 (11.4) 27.0† (6.1)	101.0 (22.9) 41.0† (9.3)	158.0 (35.9) 54.0† (12.3)	320.0 (72.7) 170.0† (38.6)	
		Maximum adjustment	Flow increases R to Y closes	8.80 (2.0)	13.30 (3.0)	19.20 (4.4)	29.00 (6.6)	34.50 (7.8)	53.00 (12.0)	128.0 (29.1) 81.0† (13.4)	245.0 (55.6) 118.0† (26.8)	375.0 (85.2) 144.0† (32.7)	760.0 (172.6) 415.0† (94.2)
			Flow decreases R to B closes	8.50 (1.9)	12.50 (2.8)	18.00 (4.1)	27.00 (6.1)	32.00 (7.3)	50.00 (11.4)	122.0 (27.7) 76.0† (17.3)	235.0 (53.4) 111.0† (25.2)	360.0 (81.8) 135.0† (30.7)	730.0 (165.8) 400.0† (90.8)

*Flow rates for these sizes are calculated.

† These gpm figures are for switch with 6" paddle. For 4" and 5" line pipe the paddle is trimmed.

MODEL	INLET/OUTLET SIZE (Female NPT)	NEMA Enclosure	ADJUSTMENT RANGE – gpm (m ³ /hr)	
			R to Y closes flow increase	R to Y opens flow decrease
F61KD-3	1/2" x 1/2"	1	Minimum 0.6 (0.14) Maximum 1.1 (0.25)	Minimum 0.3 (0.07) Maximum 0.9 (0.2)
F61KD-4	3/4" x 3/4"	1		
F61MD-1	1/2" x 1/2"	3R		
F61MD-2	3/4" x 3/4"	3R		

ORDERING INFORMATION

MODEL	DESCRIPTION
F61KD-3	Flow switch inline 1/2" x 1/2" NPT, NEMA 1
F61MD-1	Flow switch inline 1/2" x 1/2" NPT, NEMA 3R
F61KD-4	Flow switch inline 3/4" x 3/4" NPT, NEMA 1
F61MD-2	Flow switch inline 3/4" x 3/4" NPT, NEMA 3R
F61KB-11	Flow switch for pipe 1" diameter and larger, NEMA 1
F61MB-1	Flow switch for pipe 1" diameter and larger, NEMA 3R