

# Flow-Alert™ Flow Switches

## For Liquids / Air and Other Compressed Gases

- Automatically signals alarm if flow is too high or too low
- Automatically opens or closes electrical circuits
- Triggers warning lights, buzzers and other devices
- Shuts down pumps and/or other equipment to protect your operation against permanent damage
- Available from 1/4" to 1-1/2" sizes in Aluminum, Brass and Stainless
- Installs in any position
- Easy to Read Linear Scale
- No Flow Straighteners or Special Piping Requirements
- Insensitive to Shock and Vibration
- Special Scales Available



### SPECIFICATIONS:

#### MATERIALS:

2024 - T351 Anodized aluminum body, piston and cone  
 C360 Brass body, piston and cone  
 T303 Stainless body, 2024 - T351 Anodized aluminum piston and cone (Petroleum-based meters)  
 T303 Stainless body, C360 Brass piston and cone (Water meters)  
 T316 Stainless body, piston and cone

#### PETROLEUM (Oil) COMMON PARTS:

Spider Plate: T316 SS     Retaining Ring: SAE 1070/1090 Carbon Steel  
 Spring: T302 SS     Retaining Spring: SAE 1070/1090 Carbon Steel  
 Fasteners: T303 SS     Indicator and Internal Magnet: PPS / Ceramic  
 Pressure Seals: Viton®     Guard Seal: Urethane cellular foam  
 Guard: Polycarbonate     Scale Support: 6063 - T6 Aluminum

#### PHOSPHATE ESTER (PE) COMMON PARTS:

Spider Plate: T316 SS     Retaining Ring: SAE 1070/1090 Carbon Steel  
 Spring: T302 SS     Retaining Spring: SAE 1070/1090 Carbon Steel  
 Fasteners: T303 SS     Indicator and Internal Magnet: PPS / Ceramic  
 Pressure Seals: EPR     Guard Seal: Urethane cellular foam  
 Guard: Polycarbonate     Scale Support: 6063 - T6 Aluminum

#### WATER-BASED (WBF), WATER, AIR COMMON PARTS:

Spider Plate: T316 SS     Retaining Ring: T316 SS  
 Spring: T302 SS     Retaining Spring: T316 SS  
 Fasteners: T303 SS     Indicator and Internal Magnet: PPS / Ceramic  
 Pressure Seals: Viton®     Guard Seal: Urethane cellular foam  
 Guard: Polycarbonate     Scale Support: 6063 - T6 Aluminum

#### API OIL / AIR / CAUSTIC and CORROSIVE LIQUIDS and GASES:

Spider Plate: T316 SS     Retaining Ring: T316 SS  
 Spring: T316 SS     Retaining Spring: T316 SS  
 Fasteners: T316 SS     Indicator and Internal Magnet: PPS / Ceramic  
 Pressure Seals: Viton®     Guard Seal: Urethane cellular foam  
 Guard: Polycarbonate     Scale Support: 6063 - T6 Aluminum

#### THREADS: SAE J1926/1, NPTF ANSI B2.2, BSPP ISO1179

#### TEMPERATURE RANGE: -20 to 240°F (-29 to 116°C)

#### PRESSURE RATING:

##### Aluminum / Brass Operating:

Liquids - 3,500 psi/241 bar max. with a 3:1 safety factor.  
 Gases - 1,000 psi/69 bar max. with a 10:1 safety factor.  
 Fatigue Rating: per NFPA T2.6.1R1-1991, (for details see page 7)

##### Stainless Steel Operating:

Liquids - 6,000 psi/414 bar max. with a 3:1 safety factor.  
 Gases - 1,500 psi/103 bar max. with a 10:1 safety factor.  
 Fatigue Rating: per NFPA T2.6.1R1-1991, (for details see page 7)

ACCURACY: ± 2% of full scale reading

REPEATABILITY: ± 1%

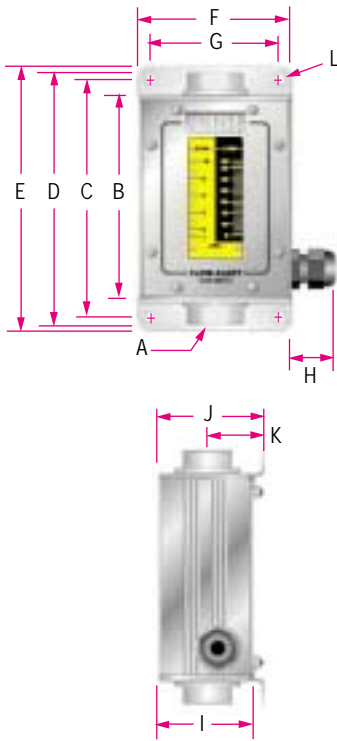
#### PRESSURE DROP REFERENCE TABLE:

	FLUID TYPE							
	Oil	PE	WBF	Water	API Oil	Caustic & Corrosive Liquids	Air/Caustic & Corrosive Gases	Air
50% / 100% Pressure Drop	p. 10	p. 16	p. 22	p. 28	p. 32	p. 32	p. 34	p. 36
Pressure Drop Chart	p. 51	p. 52	p. 53	p. 54	p. 55	p. 54	p. 55	p. 56

# Flow-Alert™ Flow Switches

## For Liquids / Air and Other Compressed Gases

### DIMENSIONS:



A	B	C	D	E	F	G	H	I	J	K	L
NOMINAL PORT SIZE	LENGTH in (mm)	LENGTH in (mm)	LENGTH in (mm)	LENGTH in (mm)	WIDTH in (mm)	WIDTH in (mm)	LENGTH in (mm)	DEPTH in (mm)	DEPTH in (mm)	OFFSET in (mm)	HOLE DIA. in (mm)
1/4 (SAE 6)	5.41 (138)	6.41 (163)	6.58 (167)	7.11 (181)	3.93 (100)	3.23 (82)	1.00 (25)	2.38 (61)	2.94 (75)	1.70 (43)	.28 (7)
1/2 (SAE10)	5.41 (138)	6.41 (163)	6.58 (167)	7.11 (181)	3.93 (100)	3.23 (82)	1.00 (25)	2.38 (61)	2.94 (75)	1.70 (43)	.28 (7)
3/4 (SAE 12)	6.04 (154)	7.04 (179)	7.19 (183)	7.74 (197)	4.30 (109)	3.60 (92)	1.00 (25)	2.77 (70)	3.33 (85)	1.90 (48)	.28 (7)
1 (SAE 16)	6.04 (154)	7.04 (179)	7.19 (183)	7.74 (197)	4.30 (109)	3.60 (92)	1.00 (25)	2.77 (70)	3.33 (85)	1.90 (48)	.28 (7)
1-1/4 (SAE 20)	10.65 (271)	11.65 (296)	12.18 (310)	12.35 (314)	5.54 (141)	4.84 (123)	1.00 (25)	4.90 (102)	4.56 (116)	2.40 (61)	.28 (7)
1-1/2 (SAE 24)	10.65 (271)	11.65 (296)	12.18 (310)	12.35 (314)	5.54 (141)	4.84 (123)	1.00 (25)	4.90 (102)	4.56 (116)	2.40 (61)	.28 (7)

### ENCLOSURE:

**Material:** Anodized aluminum with polycarbonate lens/cover.

**Seals:** Urethane cellular foam gasket between enclosure and lens/cover.

Viton O-rings between enclosure and flow meter body.

**Connection:** Pig-tail conductor (standard) with water-tight strain relief.

Other connections are available – consult factory for details.

**Fastener:** T303 SS

**Rating:** NEMA 12 & 13 (IP65)

### ELECTRICAL CIRCUITRY:

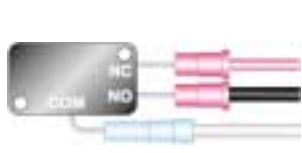
Adjustable Flow-Alert™ signal: single (1) or double (2) switch, pre-wired single-pole, double-throw (SPDT) UL recognized and CSA certified with high or low flow limit setting, adjustable over the entire flow measuring range. Other switches are available – consult factory for details.

10A @ 250 VAC maximum, 0.5A @ 125 VDC maximum.

All Flow-Alert sizes (1/4 to 1-1/2 inch series) are offered in single (1) switch or double (2) switch models.

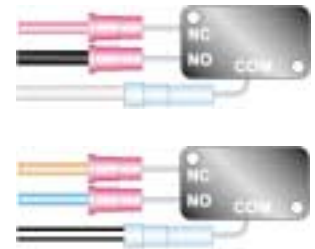
The single switch model is supplied with a 34" length of 4-wire #18 AWG type jacketed cable.

The double switch model is supplied with an 18" length of 7-wire #16 AWG type jacketed cable, color coded as follows: Optional 8 ft. and 15 ft. cables are available – consult factory for details.



One (1) Switch 4 wire cable
Red: Normally Closed (NC)
Black: Normally Open (NO)
White: Common (comm.)
Green: Ground

Two (2) Switch 7-wire cable
<b>Switch #1</b>
Red: Normally Closed (NC)
Black: Normally Open (NO)
White: Common (comm.)
<b>Switch #2</b>
Orange: Normally Closed (NC)
Blue: Normally Open (NO)
White/Black: Common (comm.)
Green: Ground



Note: Weights for all sizes can be found on page 57.



FLOW-ALERT OIL  
Ordering Info **43**



FLOW-ALERT PE  
Ordering Info **44**



FLOW-ALERT WBF  
Ordering Info **45**



FLOW-ALERT WATER  
Ordering Info **46**



FLOW-ALERT API OIL and  
Caustic and Corrosive Liquids  
Ordering Info **47**



FLOW-ALERT AIR and  
Caustic and Corrosive Gases  
Ordering Info **48**



FLOW-ALERT AIR  
Ordering Info **49**

# Flow-Alert™ Flow Switches and Flow Transmitters For Air / Compressed Gases

## ORDERING INFORMATION:

NOMINAL PORT SIZE	FLOW RANGE		MODEL NUMBER <i>(see example below*)</i>			MATERIAL			OPTIONS		
	SCFM	L/SEC	SAE	NPTF	BSPF	ALUMINUM 1000 PSI	BRASS 1000 PSI	STAINLESS 1500 PSI	Flow-Alert 1 SWITCH	Flow-Alert 2 SWITCH	MULTIPLE OUTPUT SENSOR
1/4 SAE 6	3 - 25	2 - 12	H270 * - 025 - †	H271 * - 025 - †	H272 * 025 - †	A	B	S	F1	F2	EL
	5 - 50	3 - 22	H270 * - 050 - †	H271 * - 050 - †	H272 * 050 - †						
1/2 SAE 10	3 - 25	2 - 12	H670 * - 025 - †	H671 * - 025 - †	H672 * 025 - †	A	B	S	F1	F2	EL
	5 - 50	3 - 22	H670 * - 050 - †	H671 * - 050 - †	H672 * 050 - †						
	10 - 100	5 - 47	H670 * - 100 - †	H671 * - 100 - †	H672 * 100 - †						
	15 - 150	7 - 70	H670 * - 150 - †	H671 * - 150 - †	H672 * 150 - †						
3/4 SAE 12	3 - 25	1.5 - 11.5	H770 * - 025 - †	H771 * - 025 - †	H772 * 025 - †	A	B	S	F1	F2	EL
	5 - 50	2 - 23	H770 * - 050 - †	H771 * - 050 - †	H772 * 050 - †						
	10 - 100	5 - 47.5	H770 * - 100 - †	H771 * - 100 - †	H772 * 100 - †						
	15 - 150	7 - 70	H770 * - 150 - †	H771 * - 150 - †	H772 * 150 - †						
	25 - 250	10 - 118	H770 * - 250 - †	H771 * - 250 - †	H772 * 250 - †						
1 SAE 16	3 - 25	1.5 - 11.5	H790 * - 025 - †	H791 * - 025 - †	H792 * 025 - †	A	B	S	F1	F2	EL
	5 - 50	2 - 23	H790 * - 050 - †	H791 * - 050 - †	H792 * 050 - †						
	10 - 100	5 - 47.5	H790 * - 100 - †	H791 * - 100 - †	H792 * 100 - †						
	15 - 150	7 - 70	H790 * - 150 - †	H791 * - 150 - †	H792 * 150 - †						
	25 - 250	10 - 118	H790 * - 250 - †	H791 * - 250 - †	H792 * 250 - †						
1-1/4 SAE 20	20 - 200	10 - 95	H870 * - 200 - †	H871 * - 200 - †	H872 * 200 - †	A	B	S	F1	F2	EL
	40 - 400	20 - 180	H870 * - 400 - †	H871 * - 400 - †	H872 * 400 - †						
	60 - 600	30 - 280	H870 * - 600 - †	H871 * - 600 - †	H872 * 600 - †						
	80 - 800	50 - 350	H870 * - 800 - †	H871 * - 800 - †	H872 * 800 - †						
	100 - 1000	50 - 475	H870 * - 999 - †	H871 * - 999 - †	H872 * 999 - †						
1-1/2 SAE 24	20 - 200	10 - 95	H890 * - 200 - †	H891 * - 200 - †	H892 * 200 - †	A	B	S	F1	F2	EL
	40 - 400	20 - 180	H890 * - 400 - †	H891 * - 400 - †	H892 * 400 - †						
	60 - 600	30 - 280	H890 * - 600 - †	H891 * - 600 - †	H892 * 600 - †						
	80 - 800	50 - 350	H890 * - 800 - †	H891 * - 800 - †	H892 * 800 - †						
	100 - 1000	50 - 475	H890 * - 999 - †	H891 * - 999 - †	H892 * 999 - †						

(example) H 771 <sup>\*</sup>A - 250 - <sup>†</sup>F1 or <sup>†</sup>F2



### Flow-Alert Flow Switches

F1 = Single Switch  
F2 = Double Switch

(example) H 771 <sup>\*</sup>A - 250 - <sup>†</sup>EL



### Multiple Output Flow Sensor

3 Standard field selectable outputs

0-5 VDC } Flow Transmitter is factory-calibrated to provide 4 mA (0 VDC) at zero flow,  
0-10 VDC } and 20 mA (5/10 VDC) at full flow. Optional 5-point calibration certificate  
4-20 mA } (see Price and Availability Digest for details.)

Note: For 50% and 100% flow/pressure drop information, see page 36.  
For detailed flow/pressure drop charts, see page 56.