

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%

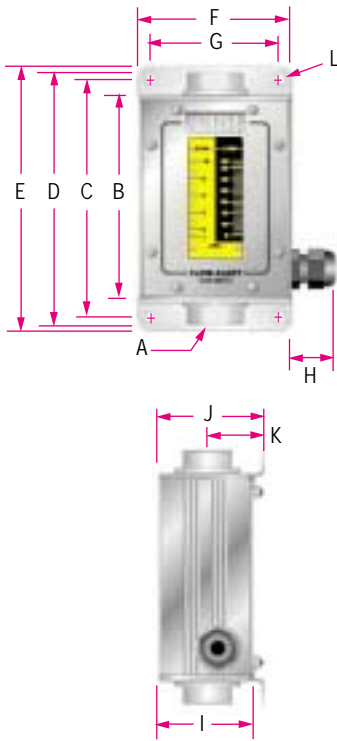
PRESSURE DROP REFERENCE TABLE:

	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

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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:

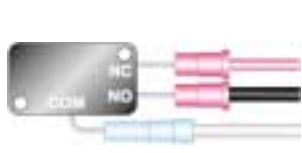
Adjustable Flow-Alert™ signal: single (1) or double (2) switch, pre-wired single-pole, double-throw (SPDT) UL recognized and CSA certified with high or low flow limit setting, adjustable over the entire flow measuring range. Other switches are available – consult factory for details.

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.

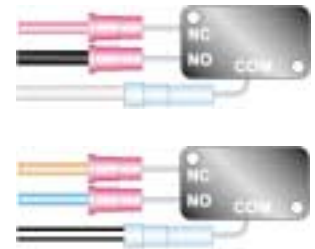
The single switch model is supplied with a 34" length of 4-wire #18 AWG type jacketed cable.

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
Switch #1
Red: Normally Closed (NC)
Black: Normally Open (NO)
White: Common (comm.)
Switch #2
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 Petroleum Fluids

ORDERING INFORMATION:

NOMINAL PORT SIZE	FLOW RANGE		MODEL NUMBER <i>(see example below*)</i>			MATERIAL			OPTIONS		
	GPM	LPM	SAE	NPTF	BSPP	ALUMINUM 3500 PSI	BRASS 3500 PSI	STAINLESS	Flow-Alert 1 SWITCH	Flow-Alert 2 SWITCH	MULTIPLE OUTPUT SENSOR
1/4 SAE 6	0.1 - 1.0	0.5 - 3.75	H200 * - 010 - †	H201 * - 010 - †	H202 * 010 - †	A	B	6000 PSI S	F1	F2	EL
	0.2 - 2.0	1 - 7.5	H200 * - 020 - †	H201 * - 020 - †	H202 * 020 - †						
1/2 SAE 10	0.1 - 1.0	0.5 - 3.75	H600 * - 001 - †	H601 * - 001 - †	H602 * 001 - †	A	B	6000 PSI S	F1	F2	EL
	0.2 - 2.0	1 - 7.5	H600 * - 002 - †	H601 * - 002 - †	H602 * 002 - †						
	0.5 - 5.0	2 - 19	H600 * - 005 - †	H601 * - 005 - †	H602 * 005 - †						
	1 - 10	5 - 38	H600 * - 010 - †	H601 * - 010 - †	H602 * 010 - †						
	1 - 15	4 - 56	H600 * - 015 - †	H601 * - 015 - †	H602 * 015 - †						
3/4 SAE 12	0.2 - 2.0	1 - 7.5	H700 * - 002 - †	H701 * - 002 - †	H702 * 002 - †	A	B	5000 PSI S	F1	F2	EL
	0.5 - 5.0	2 - 19	H700 * - 005 - †	H701 * - 005 - †	H702 * 005 - †						
	1 - 10	5 - 38	H700 * - 010 - †	H701 * - 010 - †	H702 * 010 - †						
	2 - 20	10 - 76	H700 * - 020 - †	H701 * - 020 - †	H702 * 020 - †						
	3 - 30	10 - 115	H700 * - 030 - †	H701 * - 030 - †	H702 * 030 - †						
1 SAE 16	0.2 - 2.0	1 - 7.5	H760 * - 002 - †	H761 * - 002 - †	H762 * 002 - †	A	B	5000 PSI S	F1	F2	EL
	0.5 - 5.0	2 - 19	H760 * - 005 - †	H761 * - 005 - †	H762 * 005 - †						
	1 - 10	5 - 38	H760 * - 010 - †	H761 * - 010 - †	H762 * 010 - †						
	2 - 20	10 - 76	H760 * - 020 - †	H761 * - 020 - †	H762 * 020 - †						
	3 - 30	10 - 115	H760 * - 030 - †	H761 * - 030 - †	H762 * 030 - †						
1-1/4 SAE 20	3 - 30	10 - 110	H800 * - 030 - †	H801 * - 030 - †	H802 * 030 - †	A	B	5000 PSI S	F1	F2	EL
	5 - 50	20 - 190	H800 * - 050 - †	H801 * - 050 - †	H802 * 050 - †						
	10 - 75	40 - 280	H800 * - 075 - †	H801 * - 075 - †	H802 * 075 - †						
	10 - 100	50 - 380	H800 * - 100 - †	H801 * - 100 - †	H802 * 100 - †						
	10 - 150	50 - 560	H800 * - 150 - †	H801 * - 150 - †	H802 * 150 - †						
1-1/2 SAE 24	3 - 30	10 - 110	H860 * - 030 - †	H861 * - 030 - †	H862 * 030 - †	A	B	5000 PSI S	F1	F2	EL
	5 - 50	20 - 190	H860 * - 050 - †	H861 * - 050 - †	H862 * 050 - †						
	10 - 75	40 - 280	H860 * - 075 - †	H861 * - 075 - †	H862 * 075 - †						
	10 - 100	50 - 380	H860 * - 100 - †	H861 * - 100 - †	H862 * 100 - †						
	10 - 150	50 - 560	H860 * - 150 - †	H861 * - 150 - †	H862 * 150 - †						

(example) H 701 * - 030 - † F1 or † F2



Flow-Alert Flow Switches

F1 = Single Switch
F2 = Double Switch



(example) H 701 * - 030 - † 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, and 20 mA (5/10 VDC) at full flow. Optional 5-point calibration certificate
0-10 VDC }
4-20 mA }

Note: For 50% and 100% flow/pressure drop information, see page 10.
For detailed flow/pressure drop charts, see page 51.