

# Non-Adjustable Flow Switches

## M-80 Series

All stainless, fixed setting flow switch with in-line flow

### Features

- Available in a wide range of fixed flow settings
- High reliability
- Extremely sensitive
- Low hysteresis
- Low pressure drop
- Large port sizes

### Applications

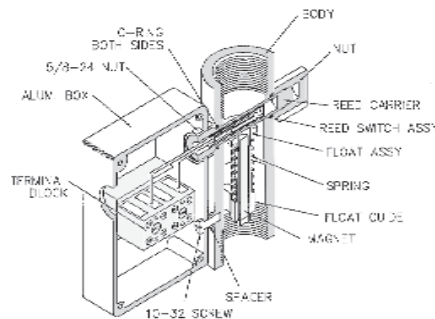
- Process flow monitoring
- Chemical delivery systems
- Cooling water flows
- High volume gas flows
- Heat exchangers
- Transformers
- Brewery process applications



The M-80 Series flow switches are engineered and field tested for sensing increasing and decreasing flow rates of gases or liquids. Pressure variation effects are minimal. This series features such versatility, economy, and accuracy that they can be used in virtually any application requiring fool-proof inexpensive flow detection. (The M-80 Series is manufactured under license from CT Platon Ltd., United Kingdom.)

### Operation

The M-80 is a flow operated switch for fitting directly in the pipe work. The variable area flow sensing element, mounted on the pipe axis, moves at a preset flow rate from its rest position to an open position where it causes minimum impedance to the flow. The moving member embodies a permanent magnet, which operates a reed switch, which is mounted transversely in the pipe body in a sealed pocket.



Illustrated is the M-80 Model with 1" ports.

### Calibration Range \*

Air: 2.3 to 70.6 scfm

Water: 2.5 to 80 l/min

\* These calibration ranges are over different valve sizes. Please see "Standard Flow Set Point Table."

### Specifications

Set Point Accuracy:  $\pm 10\%$  maximum  
Repeatability:  $\pm 2\%$   
Hysteresis: 10%

### Material Version

- 316 Stainless Steel

### Port Sizes

- 1" BSPP or 1" MNPT available
- 2" Flanged ANSI (150# Rf)

# M-80 Series

## Standard Specifications by Materials

Port Size	1" BSP Female	2" Flanged
Body	316SS	
Flow Sensor	Stainless Steel with permanent magnet in axially mounted moving member	
O-Rings	Nitrile	
<b>Pressure and Temperature Specifications</b>		
Maximum Operating (psig)	1000	Note 1
Burst (psig)	3000	Note 1
Maximum Operating Temperature	70 C/158°F	70 C/158°F
<b>Reed Switch Data (Electrical Ratings)</b>	3 Watts SPDT (Hermetically Sealed) UL Recognized. File 47258.	
Reed Switch	Operating Temperature -40°C to 125°C	
Switching Voltage	170 VDC	
Breakdown Voltage	200 VDC	
DC Resistive	3 Watts	
AC Resistive	3VA	
Switching Current	0.25 A	
Carrying Current	0.5A	
Lead Wires	No 24 to 18 AWG. 18" Length, Polymeric UL Recognized	
Lead Wires Color	Green - Common, Yellow - Normally Closed, Orange - Normally Open	
<b>Flow Calibration</b>	(Higher accuracy units available)	
Set Point Accuracy	5% maximum	
Set Point Differential (Deadband)	± 10%	
Repeatability	± 2% maximum	
Pressure Drop	1 psi	

Note 1: Maximum pressure 1000 psi (70 bar) or maximum pressure of rated flange.

## Installation & Maintenance

The screwed models for 1" pipe are best installed vertically to eliminate friction; but the 2" flanged models can be installed at any orientation, unless required for extremely low gas applications.

## Pressure Drop

$\Delta P$  1 psi (70 mbar)

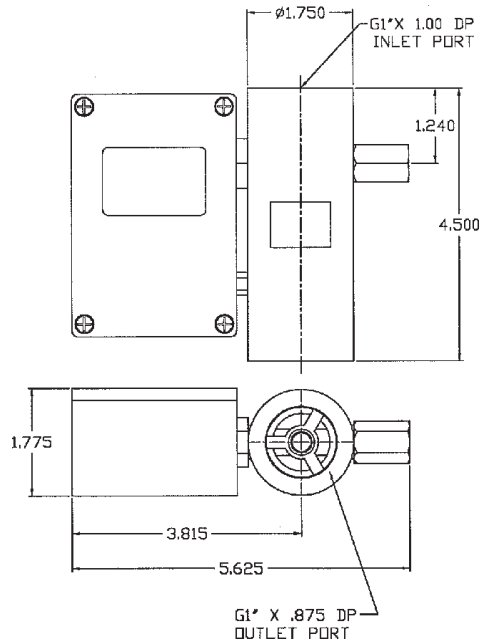
## Reed Switch Ratings as Recognized by UL

SPST	120 V ac 24 V dc 50V dc	0.1 A general purpose 0.25 A resistive 0.25 A resistive
SPDT	120 V ac 10 V dc 24 V dc	0.1 A general purpose 0.25 A resistive 0.1 A resistive

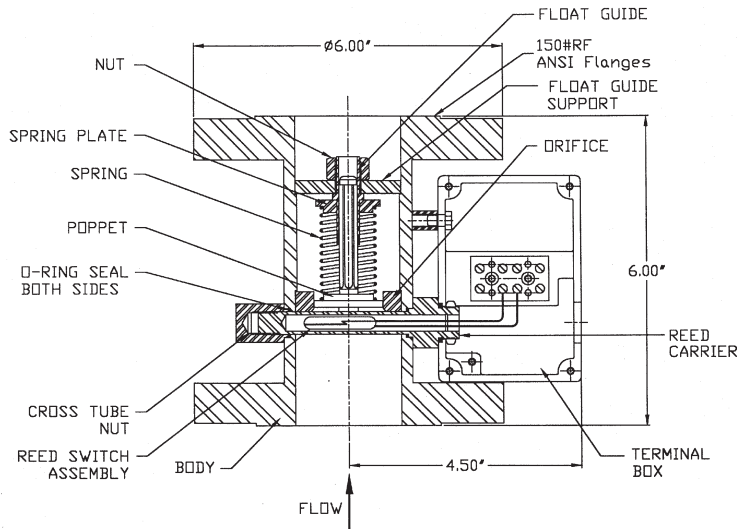
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## Dimensional Drawings

Illustrated is the M-80 Model with 1" bspp ports.



Illustrated is the M-80 Model with 2" flanged ports.



## Standard Flow Set Point Table

Port Size	Flow Setting (l/min) Water @ 20 C					Flow Setting (scfm) Air @ ATP (20 C and 14.7 psi)				
	1	2	3	4	5	1	2	3	4	5
1"	-	2.5	5	10	20	-	2.3	4.4	8.8	17.7
2"	-	10	20	40	80	-	8.8	17.7	35.3	70.6

## Ordering Information

Standard Part Numbering							
M	-	Model	-	Material	Port	Switch	Flow Set Point
M	-	80	-	S	1	3	4
		80		S - 316 Stainless	1 - 1" BSPP * 2 - 2" Flanged	3 - SPDT	(Please see "Flow Set Point Table")

\* 1" MNPT made available with adapter fittings from factory.