

# Non-Adjustable Flow Switches



**See through body allows you to view piston in operation and facilitates troubleshooting.**

## Operation

The operating principle is based on a free floating magnetic piston which responds only to the motion of fluids within the line, not to static or system pressures. In the presence of fluid flow, controlled movement of the piston actuates an external hermetically sealed reed switch. This switch can be used to actuate audible or visual alarms, as well as relays, or other controls.

## Custom Versions Available

Malema welcomes the opportunity to apply its flow sensor experience to work for its customers. Please contact the factory for any special requirements; such as ports, extreme temperature and pressure capabilities, etc.

## More Product Information

To receive additional information about the M-61-F non-adjustable flow switch, please call Malema at 1-800-637-6418. Detailed information can also be downloaded from the company's web site at <http://www.malema.com>.

## M-61-F Series

**PFA molded fixed setting flow switch with right angle flow and flare fittings.**

### Features

- For corrosive and non-corrosive liquids or gases
- Senses increasing or decreasing flow
- Very accurate custom flow settings
- Hermetically sealed
- All-PFA molded body with PTFE piston

### Applications

- Sample flow monitoring
- Alarm actuation
- Purge flows
- Loss of flow protection
- Semiconductor etch tools
- Laser cooling equipment

### Calibration Range \*

Air: 300 - 55,000 scc/min  
Water: 20 - 1,600 cc/min

\* For lower and higher trip points contact factory. Maximum flows through switch are higher.

### Specifications

Set Point Accuracy:	±10% maximum
Repeatability:	±2%
Hysteresis:	15% (lower hysteresis on request)

### Material Versions

- PFA

### Port Sizes

- 1/4" Flare
- 3/8" Flare

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## Fixed Flow Setting Information

This model is a FIXED flow switch. The flow set point is fixed at the factory and is NOT field adjustable. Proper calibration of the set point requires the following information. When purchasing a flow switch, use the "Set Point Calibration" form on page i-vi or provide this information on the purchase order.

- Calibration set point,
- Increasing or decreasing flow,
- Fluid type (i.e. liquid or gas),
- Density or specific gravity,
- Viscosity,
- System pressure and temperature,
- Flow direction (i.e. upward or downward), and
- Mounting orientation (i.e. horizontal or vertical).

## Standard Specifications

Body Material	Max. Pressure (psi)	Max. Temperature (C/°F)	Wetted Parts
PFA	200	104/220	PFA/PTFE

## Electrical

SPST: DC Resistive: 10 Watts, AC Resistive: 10 VA.  
Switching Current: 0.5A.  
Carrying Current: 1.2A.

SPDT: DC Resistive: 3 Watts, AC Resistive: 3 VA.  
Switching Current: 0.25A.  
Carrying Current: 0.5A.

## Cv at typical set points

M-61-F	Water cc/m	Air scc/m	Cv
	850	30,000	0.43
	1595	55,000	0.54

## Installation

The standard switch MUST be mounted vertically in the position shown. Fluid flow is in the bottom out the top.

## Certifications

**UL and Canadian UL** (File E138467)  
UL and Canadian UL Recognized for use in ordinary locations.

### CE Compliance

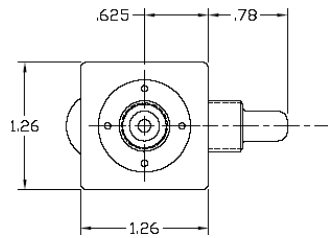
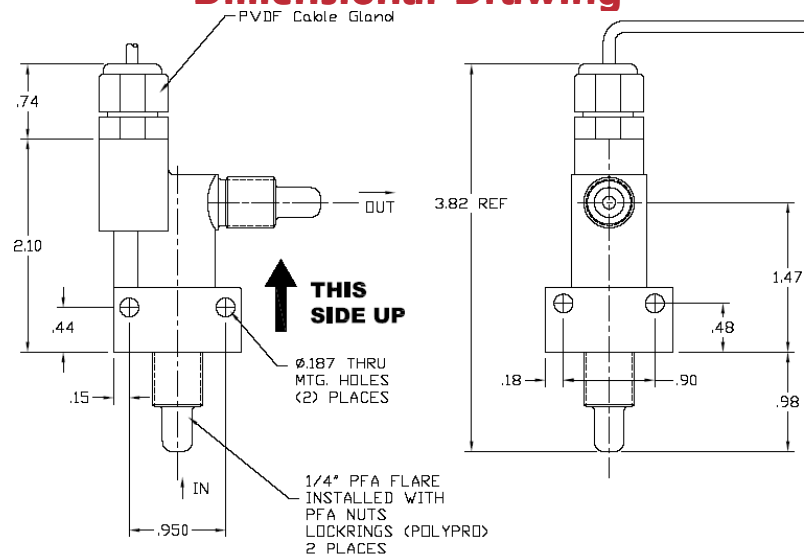
Meets the intent of Directive 89/336/EEC for Immunity and Low Voltage Directive 73/23/EEC for Product Safety.

## Ordering Information

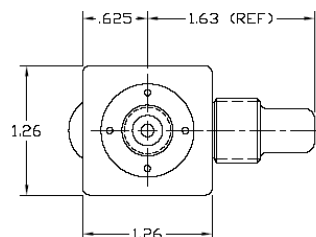
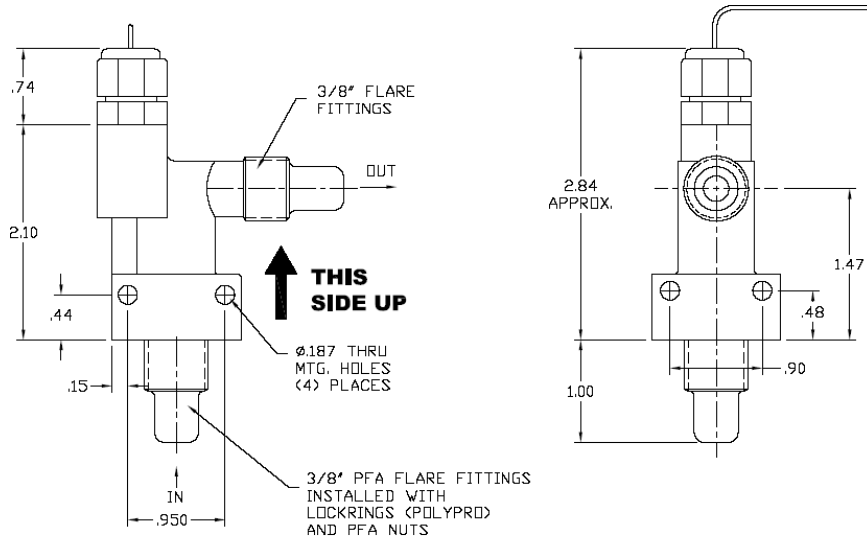
Standard Part Numbering							Options				
M	-	Model	-	Material	Port	Switch	-	Mounting	Piston		
M	-	61	-	F	2	1	-	0	1	-	XXX
		61		PFA	2 - 1/4" flare 3 - 3/8" flare	1 - SPST N.O. 2 - SPST N.C. 3 - SPDT		0 - Standard (vertical)	1 - PTFE encapsulated		Unique Numbering from 001 to 999 to identify setting and other customer requirement.

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## Dimensional Drawing



Illustrated is the M-61 Model with 1/4" flare fitting.



Illustrated is the M-61 Model with 3/8" flare fitting.