



# 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.
- Custom flow settings.
- Ideally suited for high purity applications
- Low Maintenance

### Applications

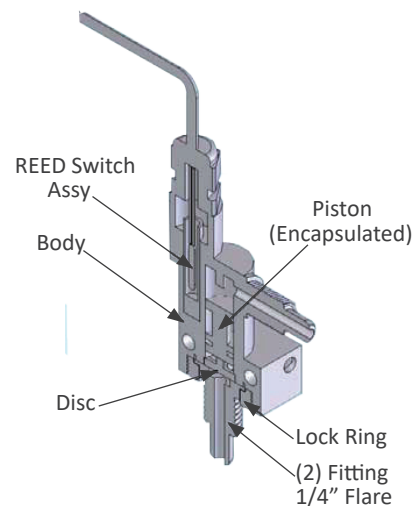
- Semiconductor process equipments
- Welding systems
- Vacuum systems
- Laser cooling systems
- Water treatment
- Chillers

### Description

The M-61 flow switch monitors increasing or decreasing fluid flow in right angle flow path. The M-61 flow switch's construction comprises of an all-PFA molded body with a PTFE encapsulated magnetic piston. The all PFA and PTFE design makes the M-61 flow switch compatible with caustic fluids. The magnetized piston actuates a hermetically sealed reed switch in response to fluid flows. The M-61 switch is suitable for a wide range of applications in industrial, biomedical and semiconductor industries, especially where highly corrosive fluids are used.

### Operating Principle

The magnetic piston moves in response to fluids within the flow path and actuates an external hermetically sealed magnetic reed switch. This switch contact can be used to actuate external devices such as audible/visual alarms, relays, and other controls.



Illustrated is the M-61-F model with 1/4" flare fittings.

## Measurement Specifications

Calibration Range *	Air : 300 to 55,000 scc/min Water : 20 to 7,600 cc/min
Set Point Accuracy	± 10%* maximum
Repeatability	± 5%*
Hysteresis	30% *
Maximum Operating Pressure	60 Psig
Maximum Operating Tempertaure	40°C / 104°F
Port Sizes	<ul style="list-style-type: none"> <li>• 1/4" FLARE</li> <li>• 3/8" FLARE</li> </ul>

\* May not apply to the lower set point ranges.

NOTE: proof pressure = 90 psi, Burst pressure = 117 psi.(Values may change depending on the configuration) Please consult the factory for additional details.

## Material Specifications

Body	PFA
Wetted Parts	PTFE

## Cv at typical set points

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

## Electrical Specifications

Reed Switch Data	Electical Ratings	10 Watts SPST or 3 Watts SPDT (Hermetically Sealed) UL Recognized. File E47258 Operating temperature -40°C to 125°C
	Switch Voltage	200 VDC ( 170 VDC for SPDT )
	Breakdown Voltage	250 VDC ( 200 VDC for SPDT )
	DC Resistive	10 VA (3 VA for SPDT )
	AC Resistive	10 Watts (3 Watts for SPDT )
	Switching Current	0.5 A ( 0.25 A for SPDT )
	Carrying Current	1.2 A ( 0.5 A for SPDT )
Lead Wires	No 24 to 18 AWG. 18" length, Polymeric UL Recognized ( Belden cable or special shielded cable is available )	
Lead Wires Color	SPST: 2 blue wires  SPDT: 3 wires Green - Common Yellow - Normally Closed Orange - Normally Open	

NOTE: Please consult us for any special requirements such as fluid connections, calibration range, temperature, accuracy, hysteresis and pressure limits.

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## Reed Switch Ratings as Recognized by UL

SPST	120 V AC 24 V DC 50 V 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

## Certifications

### UL and Canadian UL

UL and Canadian UL recognized for ordinary locations. File E 138467.

### CE Compliance

As per LVD directive

## Installation

The standard switch has to be mounted vertically, in the position as shown on page 1, and the fluid flow is from the bottom to the side. A ten micron or better filter is recommended.

## Fixed Flow Setting Information

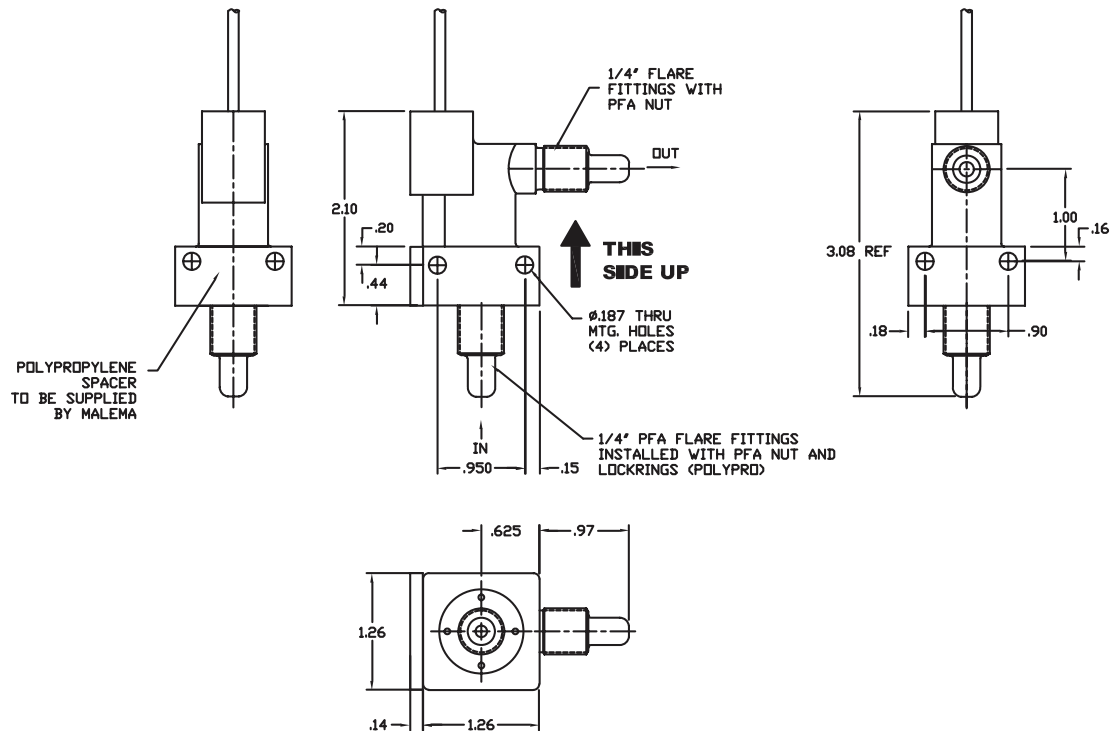
This model is an adjustable flow switch. The flow set point can be set at the factory, upon request.

When purchasing a flow switch, use the "Flow Switch Application Sheet" or provide additional information on the purchase order: for calibration of the set point.

- 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 )
- Mounting orientation ( i.e. horizontal or vertical )

## Dimensional Drawing

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



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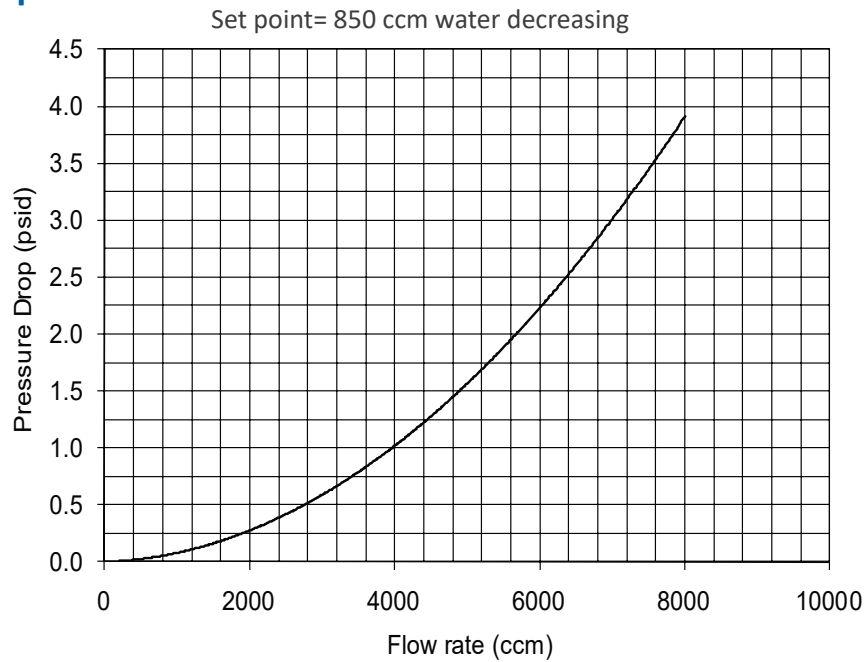
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## M-61 Pressure Drop



## Ordering Information

Model Code				Option
M-61				
	-			
Material	F			PFA
Fluid Connection	2			1/4" Flare
	3			3/8" Flare
Switch	1			SPST N.O
	2			SPST N.C
	3			SPDT
	-			
Mounting	0			Standard (Vertical)
	1			Universal mounting
Piston		1		PTFE Encapsulated
		-		
			xxx	Unique PN Identifier

NOTE: Specifications are subject to change without notice.

## Custom Version 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, and others.

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