M-100 Series

Adjustable Set Point Flow Switches

MALEMA

Where Innovation Flows

MALEMA

The M-100 Series is an extremely sensitive flow switch. This has been engineered to monitor vital sample flow parameters for instrumentation in process control and inert blanket gases. It is used as an auxiliary alarm monitor for flow meters and is ideally suited for applications when installed on a by-pass for determination of filter plugging.

Available in 1/8"FNPT and 1/4" FNPT sizes with Stainless Steel as material options, the M-100 Flow Switches offer a water flow range of 35 to 2,000 CCM and air flow range of 700 to 65,000 SCCM.

Operation

The magnetic piston rests at the bottom of the switch with no flow present. Once flow is established, the piston moves upward responding to a by-pass flow and actuates the reed switch. The by-pass flow is controlled by a manual adjusting screw controlling the variable orifice. When flow decreases, the piston moves downward and the reed switch deactuates. Universal mounted units are installed with a spring which resets the piston.

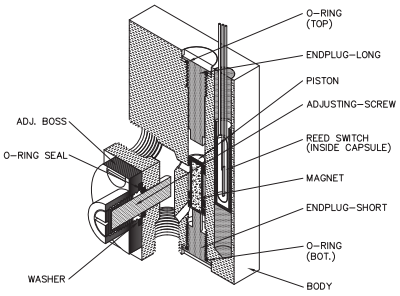
* with applications featuring gases, ranges may vary.

Applications

- Gas and liquid analyzers
- Atmosphere furnaces
- CVD tools
- Vacuum systems

Features

- Field adjustable
- For liquids and gases
- Extremely accurate and sensitive
- Low pressure drop



M-100 in 316SS

Specifications

Set Point Accuracy	± 10% maximum
Repeatability	2%
Hysteresis	± 15 - 30%
Body Material	316 Stainless Steel Other materials available on request
Piston Material	Stainless Steel
Endplugs	Stainless Steel
O-ring options	FKM FFKM
Adjustment Screw (wetted area)	PTFE
Spring	Stainless Steel
Port Sizes	1/8" FNPT 1/4" FNPT
Reed Switch Data (Electrical Ratings) Reed Switch	3 Watts SPDT (Hermetically Sealed) UL Recognized. File E47258. 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	0.5 A

Electrical

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

Pressure and Temperature Rating

Body Material	Max. Pressure (psi)	Max. Temperature °C/ °F
316SS	3,000	149/300

Certifications

UL and Canadian UL
UL and Canadian UL Recognized for ordinary locations.
File E138467

CE Compliance
As per LVD Directive

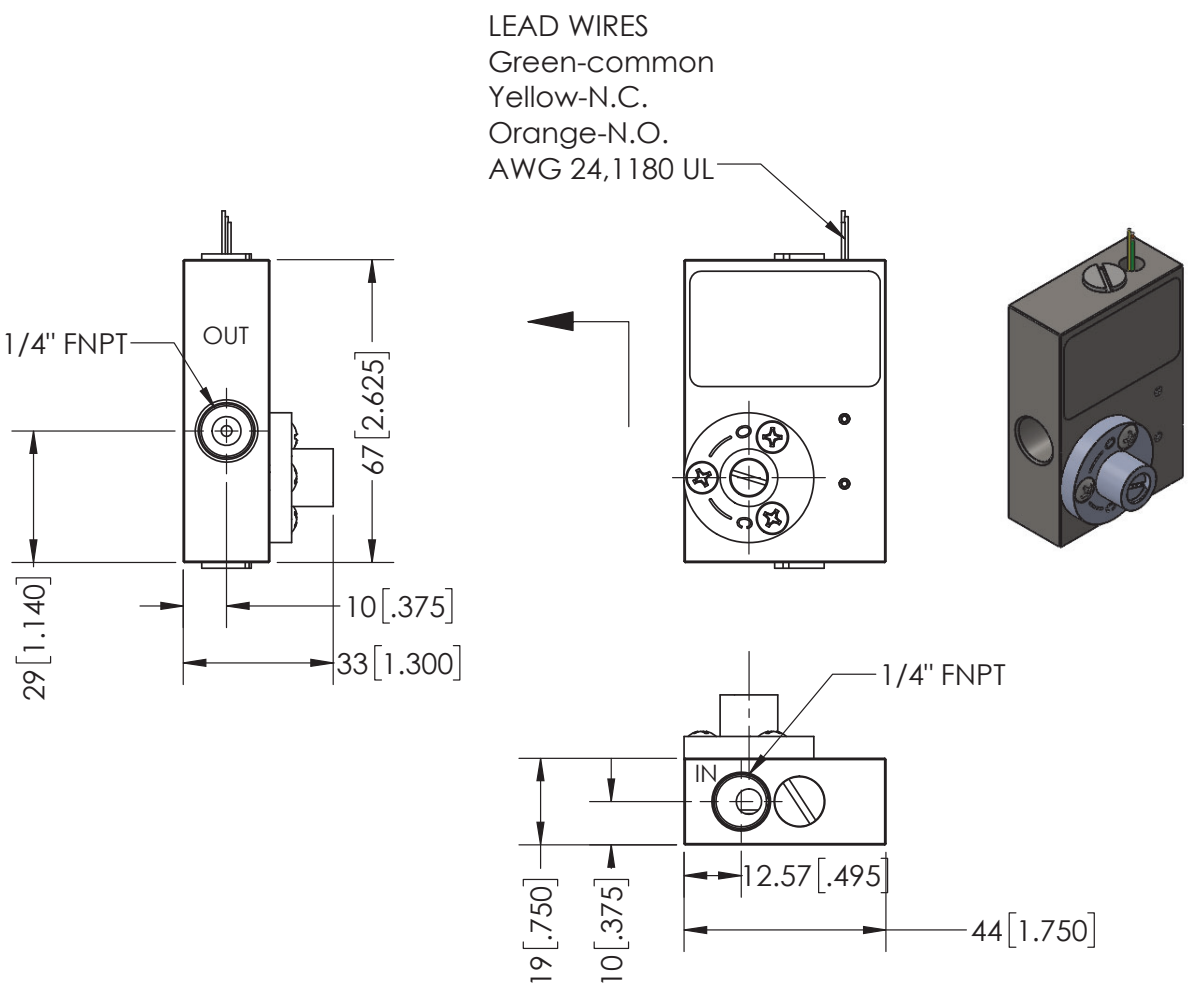
Cv at typical set points

Contact factory for pressure drop and Cv data.

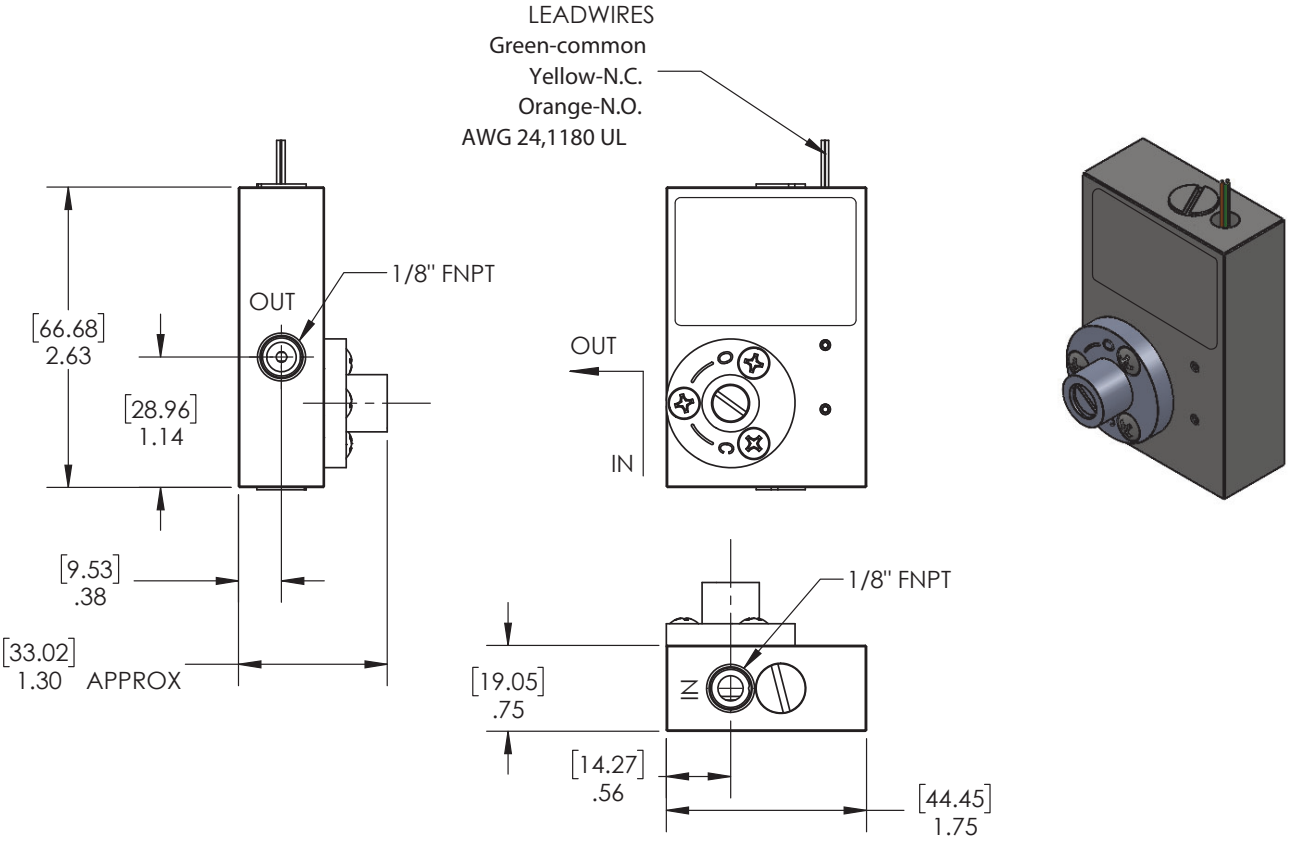
Installation

For proper operation, fluid flow must follow the inlet and outlet port as shown on the label. The switch may be universally mounted in any orientation. It is recommended to have adequate filtration in the system prior to operating the device. The device's functioning may get adversely affected in the presence of large particles interfering with the travel of the piston.

Illustrated is the M-100 with 1/4” ports



Illustrated is the M-100 with 1/8” ports



Ordering Information

Model	Port Size, Connection type	M-100 adjustable range for water at 70°F	M-100 adjustable range for Air at 14.7 PSIA and 70°F	Part number	
		Min-Max (CCM)	Min-Max (SCCM)	M-100 with FKM Seals	M-100 with FFKM Seals
M-100	1/8" FNPT Standard Range	35 - 1,300	700 - 45,000	M-100-S131-120-S001	M-100-S131-121-S001
	1/4" FNPT Standard Range	50 - 2,000	1,000 - 65,000	M-100-S232-120-S001	M-100-S232-121-S001

Note:
- Air Range mentioned above is referenced at 14.7 PSIA and 70°F
- Water Range mentioned above is referenced at 70°F.
- Material compatibility choices are solely the responsibility of the end user.
- Specifications are subject to change without notice.
- **For M-100 with custom set point for liquid as well as for gas flow applications, please contact factory with the application information as needed in the Malema Flow Switch application questionnaire.**

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