100% Customer Satisfaction

MAXIFLO

Panel-Mount Rotameter / Purge Sets (Series MPR, MPS)

Overview

MaxiFlo™ MPR/MPS series Panel-Mount Glass Tube Rotameters and Purge Sets are rugged, versatile and accurate variable area (VA) flow meter offering 2.0% full scale accuracy.

It's based on simple and easy-to-understand flow measuring principle but is versatile in the types of fluid it can measure and site conditions, under which it can be installed.

The meter is manufactured to the user's application specifications. So, there's no configuration or calculation required at the time of installation or operation. So, it's simple to install and operate.

The flow rate is indicated by a combination of the index inscribed on the tapered glass tube and the float.

Optionally, it can also output alarm contact signal for low and/or high set points for flow controlling processes.

Various materials can be used for wetted parts. So, the meter can handle almost all liquids and gases that are highly corrosive.

MPR-L1

MPR/BT

Main Features

Simple Measurement Principle
This is one of the earliest flow meters that came into use. It adopts easy-to-understand and very intuitive principle of variable-area flow meter principle. *(Please refer to Operation Principle overleaf*)

Simple Design
In its primitive basics, the measuring element is composed of just a tapered tube and a float.

Low Maintenance
Constructed to sustain corrosion, abrasion and shocks, etc., the meter requires minimum maintenance.

No Straight Pipe Requirement
The floatation of the float is not significantly affected by the flow profile. So, there' are no requirements for straight pipe either at the upstream or at the downstream

Versatile Construction
The meter can measure all transparent liquids and gases. The meter can have control valve either at the inlet or at the outlet of the meter to control the flow. Not only flange but also thread and sanitary connections are available.

Various Flow Directions
The meter can be configured for Bottom to Top, Bottom to Side, Bottom Side to Top, Bottom Side to Top Side and Bottom Rear to Top Rear, and even side to side.

Alarm Contact Option
The meter can have alarm contact output for low and/or high flow to meet the process condition of the user.

MPS

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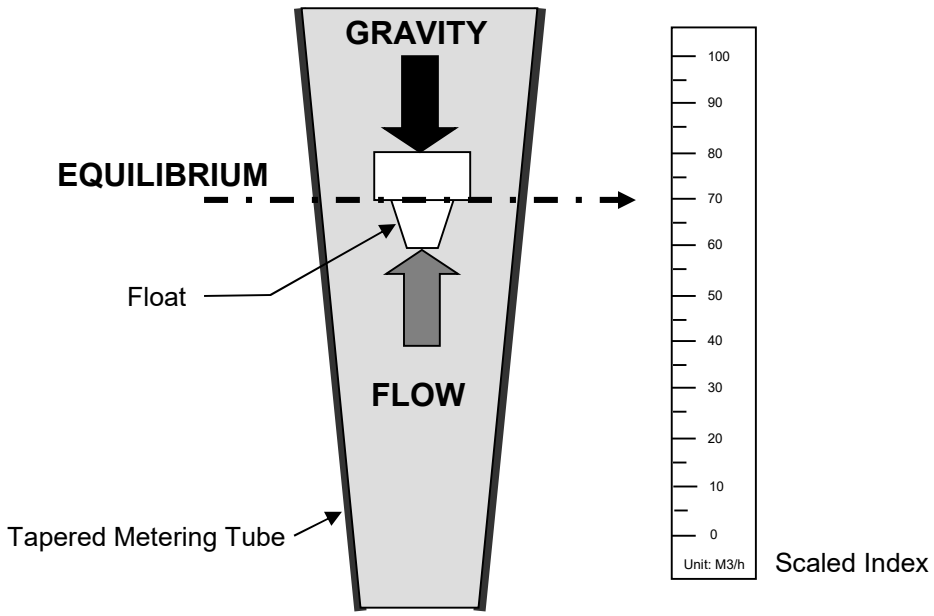
Operation Principle

Variable-area flow meters, often called rotameters, consist essentially of a tapered tube, a float and scaled indicator as you see in the figure below. Although classified as differential pressure units, they are, in reality, constant differential pressure devices. Flanged-end or screwed-end fittings provide an easy means for installing them in pipes. When there is no flow, the float rests freely at the bottom of the tube. As the fluid enters the bottom of the tube, the float begins to rise. The float material is selected so as to have a density higher than that of the fluid and the position of the float varies directly with the flow rate. Its exact position is at the point where the differential pressure between the upper and the lower surfaces balance the weight of the float.

Because the flow rate can be read directly on a scale mounted next to the tube, no secondary flow-reading devices are necessary. However, if desired, automatic sensing devices can be used to sense the float's level and transmit a flow signal. Rotameter tubes are manufactured from glass, metal, or plastic. Tube diameters vary from 1/4 to greater than 6 in.



Applications

- Hot and cold water as well as air flow measurement in air conditioning
- Medium and large line measurement in general process industry
- Cooling water lines
- Water treatment process
- Pure and ultra-pure water production facilities
- Testing of fire fighting pumps
- Testing of blowers
- Etc.

Model Overview

Model Code	Description	Remarks (Pipe Sizes)
MPR	**Baseline Glass Tube Panel-Mount Rotameter**	15mm (1/2”) ~ 100mm (4”)
MPS	**Panel-Mount Purge Set**	10mm (3/8”) ~ 50mm (2”)

Note: Pipes sizes outside the above ranges are also available. So, please consult us when you have over-size requirement.

Specifications

Item	Specifications	Remarks
Size	3mm (1/8”) ~ 25mm (1”)	
Media Measured	Liquids and Gases	
Flow Ranges	Liquids: Water Max: ~ 30 L/m Min: 5 ~ 50 mL/m	
	Gases: Air Max: ~ 600 Nm^3/h Min: 4 ~ 3 NmL/m	Normal Condition: 0 ℃, 1 atm
Operating Temperature	- 20 ~ 120 ℃	
Operating Pressure	Max. 10 KgF/cm2G for stainless steel Max. 5 KgF/cm2G for PVC/PTFE	
Process Connections	Screws: NPT, PT, etc. Flanges: JIS, ANSI, DIN, etc.	
Flow Directions	Bottom Rear to Top Rear	
Materials	Body: SUS 304, SUS 316, SUS 316L, PVC, Teflon, etc. Float: Stainless Steel, Aluminum, PVC, Teflon, Acetal, etc. Packing: NBR, Viton, EPDM, Teflon, etc.	
Accuracy	± 2% of Full Scale	
Turndown Ratio (Rangeability)	10:1	
Outputs	Alarm Switch Contact	

MPR Series Panel-Mount Rotameter

This panel-mount glass tube variable-area flow meter (also called rotameter) alias Purge Meter is produced to fit to an instrument panel and offers the capability of flow measurement and usually regulation using control valve.

It is used primarily for gases (purge gas, air, etc.) but it's not infrequent using it for liquids.

Model Code

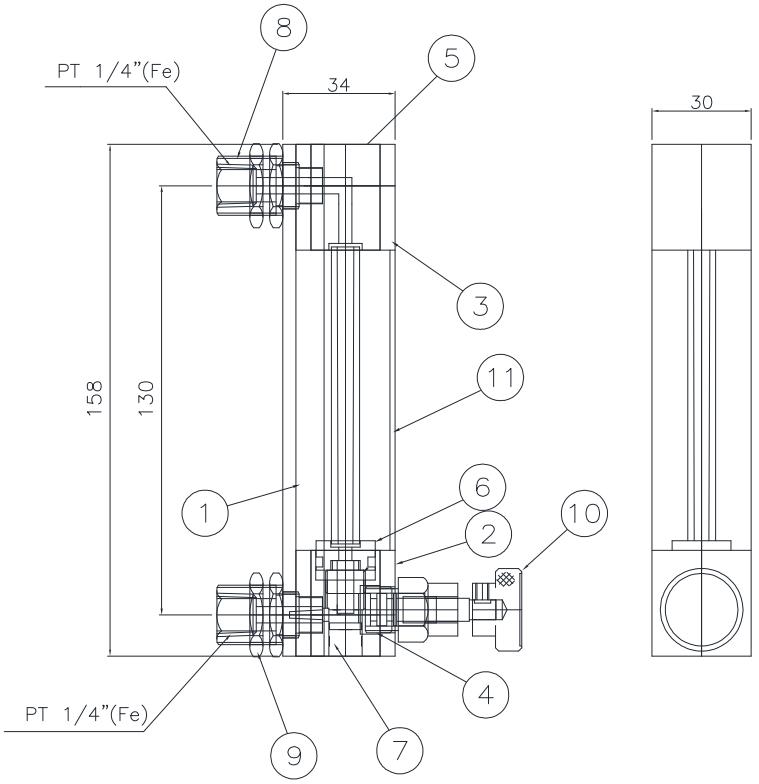
Model Selection Guide

MPR	Description		Code
Size	Nominal Diameter in mm		##
C to C Length	130 mm		L1
	150 mm/160 mm		L2
	200 mm		L3
	240 mm		L4
	280 mm		L5
	360 mm		L6
Material	SUS 304		B
	SUS 316		C
	PVC		P
	PTFE		T
Options		Bottom to Top Flow Direction	/BT
		1 SPDT Contact (Fiber Sensor	/E1
		2 SPDT Contacts (Fiber Sensor	/E2
		1 SPDT Contact (Reed Switch)	/R1
		2 SPDT Contacts (Reed Switch)	/R2
		Flange Connection	/F

Model Code Example:

MPR-15-L1-B/R1 → *DN 15 panel-mount rotameter of SUS 304 material and C to C length of 130mm with one Reed switch type SPDT contact.*

Structures and Materials



No	Nomenclature	Material
1	Frame	Cast Aluminum
2	Bottom Block	Cast Aluminuj
3	Top Block	Cast Aluminum
4	Bottom Body	SUS304/316/316L
5	Top Body	SUS304/316/316L
6	Ring	SUS 304
7	Shaft	SUS304/316/316L
8	Nipple	SUS304/316/316L
9	Double Nut	Brass
10	Needle Valve	SUS304/316/316L
11	Cover	Acrylic

Flow Rate Ranges

C to C Length	Air		Water		Nominal Sizes
	Minimum	Maximum	Minimum	Maximum	
L1	4~20 NmL/min	5~50 NL/min	5~50 mL/min	0.15~1.5 L/min	Standard: 1/4” Optional: 1/8” ~ 3/8”
L2	5~50 NL/min	80~800 NL/min	1~10 L/min	8~80 L/min	3/8” ~ 1”
L3	5~50 NmL/min	5~50 NL/min	10~100 mL/min	0.3~3 L/min	Standard: 1/4” Optional: 3/8” ~ 1/2”
L4	5~50 NL/min	25~250 NL/min	0.2~2 L/min	1.5~15 L/min	1/2”
L5	5~50 NL/min	60~600 NL/min	0.2~2 L/min	3~30 L/min	3/8” ~ 1”

Note: The normal condition for gas flow is 0 ℃ and 1 atm.

MPS Series Purge Set (Constant Differential Pressure Regulator)

While offering the capabilities of the regular panel-mount rotameters it offers the function of keeping constant differential pressure across a value designed to serve that purpose.

It can be configured as a compact set or built in an instrument panel along with accessories such as valves, pressure gauge, filter, etc.

It's used for gases only.

Model Code

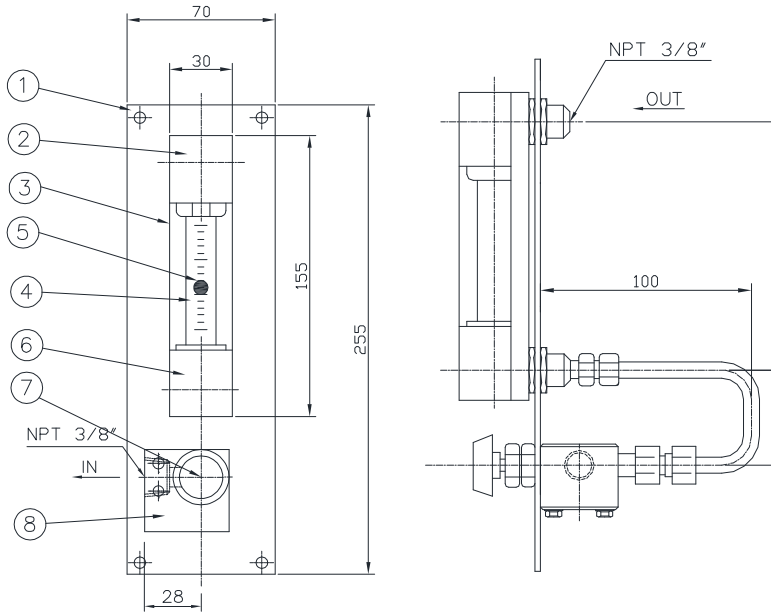
Model Selection Guide

MPS	Description		Code
Size	Nominal Diameter in mm		##
C to C Length	130 mm		L1
	180 mm		L2
	200 mm		L3
Material	SUS 304		B
	SUS 316		C
Control Valve Location		Inlet	IN
		Outlet	OT

Model Code Example:

MPR-15-L1-B-IN → *DN 15 panel-mount rotameter of SUS 304 material and C to C length of 130mm with the control valve at the inlet.*

Structures and Materials



No	Nomenclature	Material
1	Panel	SUS 304
2	Top Block	SUS 304/316/316L
3	Protect Cover	Acrylic
4	Taper Tube	Pyrex Glass
5	Float	SUS304/316/316L
6	Bottom Block	SUS304/316/316L
7	Needle Valve	SUS304/316/316L
8	Constant dP Valve	SUS304/316/316L

Flow Rate Ranges

C to C Length	Minimum	Maximum	Nominal Sizes
L1	0.1~1 NL/min	5~50 NL/min	1/4”
L2			
L3			

Note: The normal condition for gas flow is 0 ℃ and 1 atm.

We are here for you

For further information, visit us at

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