

# FLO-GAGE

## Liquid Flowmeters

### Features and Benefits

- Expanded 3.5" (90mm) 270° analog dial for reading at a glance
- Suitable for use with opaque and clear fluids.
- Measures 6:1 range with  $\pm 3\%$  F.S. accuracy
- Dial and case factory configured for quick installation – but easily field re-configured if needed
- Liquid flow ranges from 4 GPH (15 l/h) in 1/2" flow meter to 3000 GPM (12000 l/m) in 8" flow meter.

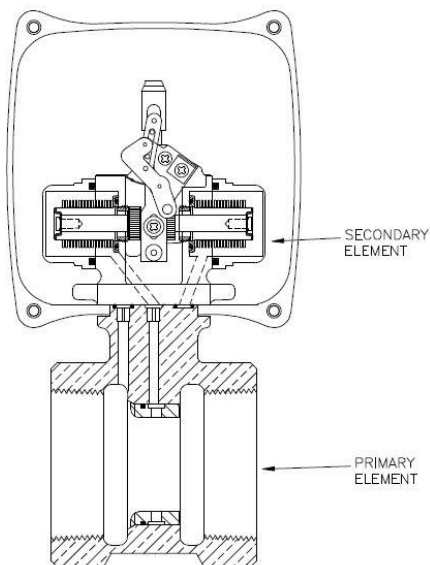


### Applications

- Water
- Liquids with Viscosity up to 500 cps
- Saturated Steam Service
- 50% Water / 50% Glycol Mixture

### Principle of Operation

Our differential pressure flow meters are based on the premise that the pressure drop across the meter is proportional to the square of the flow rate. The flow rate is obtained by measuring the pressure differential and extracting the square root. A pair of metal bellows is used to sense the differential pressure across a calculated flow nozzle taking into account the following variables fluid or gas type, operating pressure, operating temperature, pipe size, viscosity, specific gravity, flow rate and differential pressure used to calculate the restriction.



### Specifications

	Standard	Options
<b>Housing Body</b>	Polycarbonate Bronze	Aluminum Monel 316 SS
<b>Bellows</b>	Bronze	Monel 316 SS Inconel
<b>Seals</b>	Buna-N	Viton EPR Teflon
<b>Crystal</b>	Polycarbonate	Glass Plastic
<b>Gear Movement</b>	Bronze	316 SS
<b>Accuracy</b>	$\pm 3\%$ F.S.	
<b>Repeatability</b>	$\pm 1\%$ F.S.	
<b>Pressure</b>		
Maximum	180 psig	400 psig
Minimum	10 psig	10 psig
<b>Temperature</b>		
Maximum	212°F	350°F
Minimum	-30 °F	-80 °F

## Model Number System

The example **1/2"-71-R-10-AD** describes a 1/2" pipe size, 7000 series threaded connection, bronze material, flow from left to right, flow rate of 10 GPM, Options - Viton seals (A), and Gasket case (D).

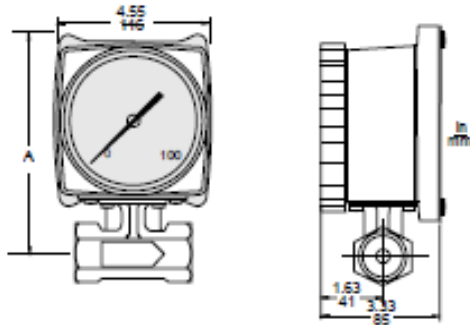
<u>1/2"</u>	-	<u>7</u>		<u>1</u>	-	<u>R</u>		-	<u>10</u>		-	<u>AD</u>
Pipe Size		Series		Material		Flow Direction			Flow Rate			Options
1/4"	(8mm)	7000 Series		1 - Bronze		L – Right to Left			See Flow Chart			See Table
1/2"	(15mm)	8000 Series		2 - Monel		R – Left to Right						
3/4"	(20mm)			3 - SST		VUR – Vertical Up Flow Dial Right						
1"	(25mm)					VUL - Vertical Up Flow Dial Left						
1 1/2"	(40mm)					VDR - Vertical Down Flow Dial Right						
2"	(50mm)					VDL - Vertical Up Flow Dial Left						
2 1/2"	(65mm)											
3"	(80mm)											
4"	(100mm)											
5"	(125mm)											
6"	(150mm)											
8"	(200mm)											

## Flow Ranges – Series 7000 & 8000

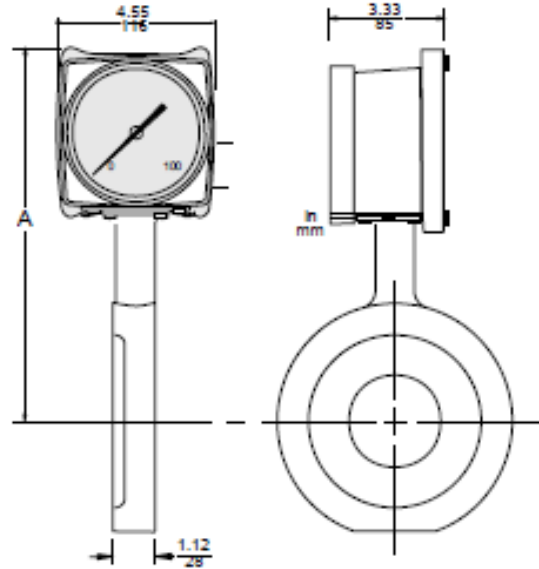
### Table of Options

		Size	GPM	LPM	Size	GPM	LPM
		1/4	2	8	2 1/2	60	240
A	Viton Seals	1/4	3	10	2 1/2	100	400
B	EPR Seals	1/4	4	15	2 1/2	150	600
B2	Teflon Seals				2 1/2	200	800
C	Calibrated for Specific Gravity	1/2	2	8	3	200	800
D	Gasketed Case	1/2	3	10	3	300	1000
E	Non-Standard Flow Rate	1/2	4	15	3	400	1500
ES	Low Flow Rate (Below 2 GPM)	1/2	6	25	3	500	2000
F	Aluminum Housing with Plastic Dial Crystal	1/2	10	40			
F2	Aluminum Housing with Glass Dial Crystal						
G	Custom Scales and Dials	3/4	6	25	4	300	1000
H	High Pressure Service (400 psig max.)	3/4	10	40	4	400	1500
K	Saturated Steam Service (120 psig max.)	3/4	15	60	4	600	2400
P	Panel Mount	3/4	20	80	4	800	3000
R2	Remote Readout, Brass (Mechanical Indication)	1	15	60	5	300	1000
R3	Remote Readout, 316 SS (Mechanical Indicator)	1	20	80	5	400	1500
T	Expanded Temperature (-80°F to 350°F max.)	1	30	120	5	600	2400
V	High Viscosity Service (5-500 cps)	1	40	150	5	800	3000
		1 1/2	30	120	6	600	2400
		1 1/2	40	150	6	800	3000
		1 1/2	60	240	6	1000	4000
		1 1/2	100	400	6	2000	8000
		2	40	150	8	600	2400
		2	60	240	8	1000	4000
		2	100	400	8	2000	8000
		2	150	600	8	3000	12000
		2	200	800			

## 7000 Series – 1/4" to 3" Connections



## 8000 Series – 1/2" to 8" Connection

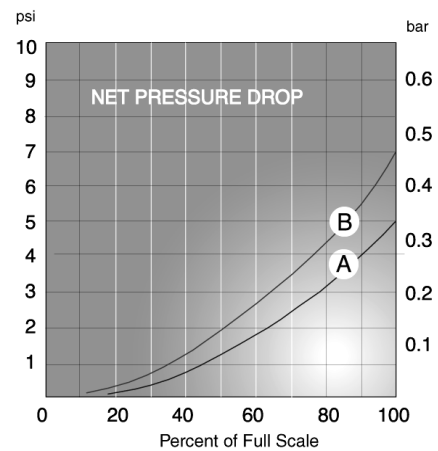


### Dimensions

Nominal Sizes		Series 7000 – A		Series 8000 - A	
In	mm	In	mm	in	mm
1/4	08	5.95	151	n/a	n/a
1/2	15	5.95	151	6.62	168
3/4	20	5.95	151	7.06	179
1	25	6.07	154	7.25	184
1 1/2	40	6.39	162	7.81	198
2	50	6.80	172	8.00	203
2 1/2	65	n/a	n/a	8.54	217
3	80	7.48	190	8.87	225
4	100	n/a	n/a	9.95	252
5	125	n/a	n/a	10.36	263
6	150	n/a	n/a	11.05	280
8	200	n/a	n/a	12.30	311

Note: Dimensions are based on bronze meters.

### Pressure Drop Characteristics



Curve A – Bronze Bellows

Curve B – Monel, SS, Inconel Bellows

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