

# FLO-GAGE

## Gas 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
- Gas flow ranges from 40 SCFH (1 Nm<sup>3</sup>/h) in 1/2" flow meter to 20,000 SCFM (600 Nm<sup>3</sup>/m) in 8" flow meter.

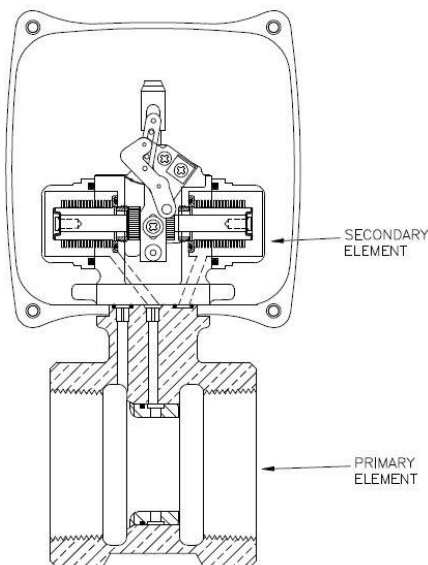


### Applications

- Compressed Air Monitoring
- Natural Gas Measurement
- Oxygen Service Welding
- Carbon Dioxide Blending Process

### 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-60-ADI** describes a 1/2" pipe size, 7000 series threaded connection, bronze material, flow from left to right, flow rate of 60 SCFM, Options - Viton seals (A), Gasket case (D), and Compressed gas service (I).

<u>1/2"</u>	-	<u>7</u>	<u>1</u>	-	<u>R</u>	-	<u>60</u>	-	<u>ADI</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

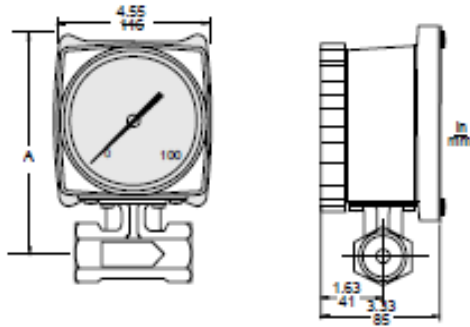
		Size	SCFM	NM <sup>3</sup> /h	Size	SCFM	NM <sup>3</sup> /h
		1/4	10	15	2 1/2	600	1000
A	Viton Seals	1/4	20	30	2 1/2	800	1200
B	EPR Seals	1/4	30	50	2 1/2	1000	1500
B2	Teflon Seals				2 1/2	1200	2000
D	Gasketed Case	1/2	10	15	3	1000	1500
E	Non-Standard Flow Rate	1/2	20	30	3	2000	3000
ES	Low Flow Rate (Below 2 GPM)	1/2	30	50	3	3000	5000
F	Aluminum Housing with Plastic Dial Crystal	1/2	40	80	3	4000	6000
F2	Aluminum Housing with Glass Dial Crystal	1/2	60	100		<b>SCFM</b>	<b>NM<sup>3</sup>/m</b>
G	Custom Scales and Dials	3/4	60	100	4	1500	50
H	High Pressure Service (400 psig max.)	3/4	10	40	4	3000	100
I	Compressed Gas Service	3/4	15	60	4	5000	150
P	Panel Mount	3/4	20	80	4	6000	200
R2	Remote Readout, Brass (Mechanical Indication)						
R3	Remote Readout, 316 SS (Mechanical Indicator)	1	15	60	5	1500	50
T	Expanded Temperature (-80°F to 350°F max.)	1	20	80	5	3000	100
		1	30	120	5	5000	150
		1	40	150	5	6000	200

### Low Flow Rates – Option ES

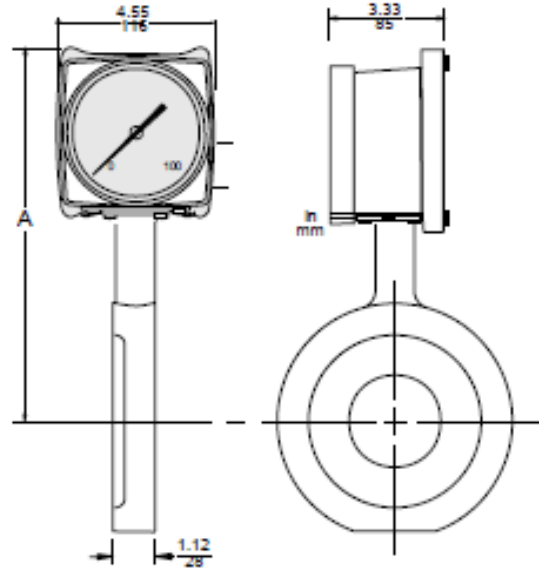
Size	SCFH	NM <sup>3</sup> /h	Size	SCFH	NM <sup>3</sup> /h
1 1/2	30	120	6	3000	100
1/2	40	150	6	5000	150
1/2	60	240	6	8000	250
1/2	100	400	6	15000	400
1/2	150		2	40	150
1/2	200		2	60	240
1/2	300		2	100	400
1/2	400		2	150	600
			2	200	800

Note: Available with 1/2" 7000 Series Only

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



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

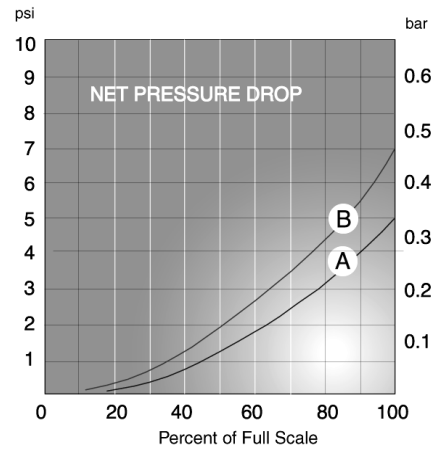


### Dimensions

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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