

## Gas Flow Meters

Sturdy in-line, metal construction, large easy to read dial calibrated in engineering units (SCFM, Nm<sup>3</sup>/hr, & SLPM) available in Bronze, SST and Monel.

### Features and Benefits

- 3.5" (90mm) 270° analog dial for reading at a glance
- 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.

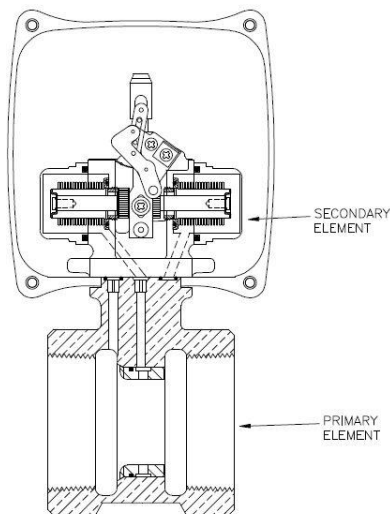
### Applications

- 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.



### 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)									

### Table of Options

A	Viton Seals
B	EPR Seals
B2	Teflon Seals
D	Gasketed Case
E	Non-Standard Flow Rate
ES	Low Flow Rate (Below 2 GPM)
F	Aluminum Housing with Plastic Dial Crystal
F2	Aluminum Housing with Glass Dial Crystal
G	Custom Scales and Dials
H	High Pressure Service (400 psig max.)
I	Compressed Gas Service
P	Panel Mount
R2	Remote Readout, Brass (Mechanical Indication)
R3	Remote Readout, 316 SS (Mechanical Indicator)
T	Expanded Temperature (-80°F to 350°F max.)

### Flow Ranges – Series 7000 & 8000

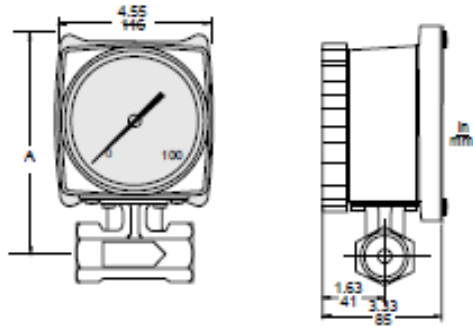
Size	SCFM	NM <sup>3</sup> /h	Size	SCFM	NM <sup>3</sup> /h
1/4	10	15	2 1/2	600	1000
1/4	20	30	2 1/2	800	1200
1/4	30	50	2 1/2	1000	1500
			2 1/2	1200	2000
1/2	10	15	3	1000	1500
1/2	20	30	3	2000	3000
1/2	30	50	3	3000	5000
1/2	40	80	3	4000	6000
1/2	60	100		<b>SCFM</b>	<b>NM<sup>3</sup>/m</b>
3/4	60	100	4	1500	50
3/4	100	150	4	3000	100
3/4	150	200	4	5000	150
3/4	200	300	4	6000	200
1	150	250	5	1500	50
1	200	400	5	3000	100
1	300	500	5	5000	150
1	400	600	5	6000	200
1 1/2	300	500	6	3000	100
1 1/2	400	600	6	5000	150
1 1/2	600	1000	6	8000	250
1 1/2	1000	1200	6	15000	400
2	400	600	8	5000	150
2	600	1000	8	8000	250
2	1000	1200	8	15000	400
2	1500	1500	8	20000	600
2	2000	2000			

### Low Flow Rates – Option ES

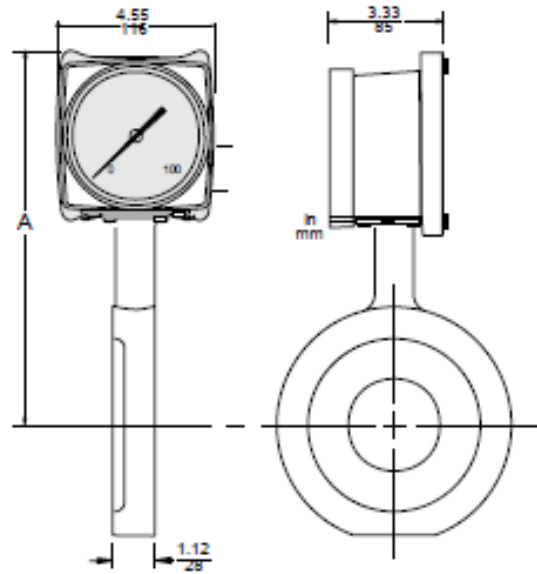
Size	SCFH	NM <sup>3</sup> /h
1/2	40	1
1/2	60	2
1/2	100	3
1/2	150	4
1/2	200	6
1/2	300	8
1/2	400	10

Note: Available with 1/2" 7000 Series Only

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



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



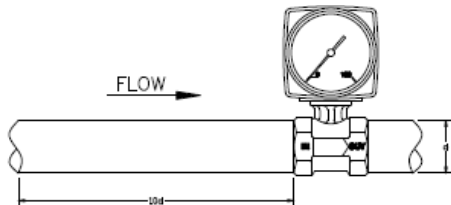
### Dimensions

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

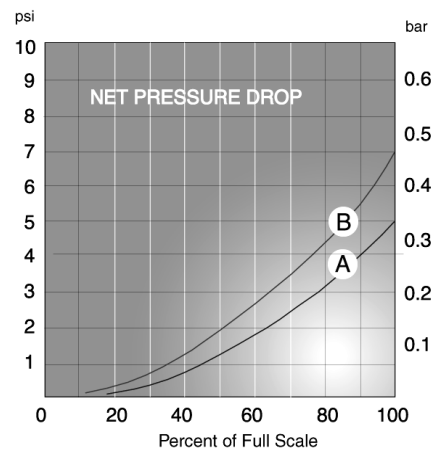
Note: Dimensions are based on bronze meters.

### Piping Requirements

The site selected should provide at least 10 pipe diameters of straight meter sized pipe between the meter inlet and any upstream fitting such as elbow, tee or valve.



### Pressure Drop Characteristics



Curve A – Bronze Bellows  
Curve B – Monel, SS, Inconel Bellows

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