

Saturated Steam Flow Meters

Sturdy in-line metal construction with EPR seals, SST bellows, glass dial crystal inverted aluminum housing calibrated in lbs./hr up to 120 psig.

Features and Benefits

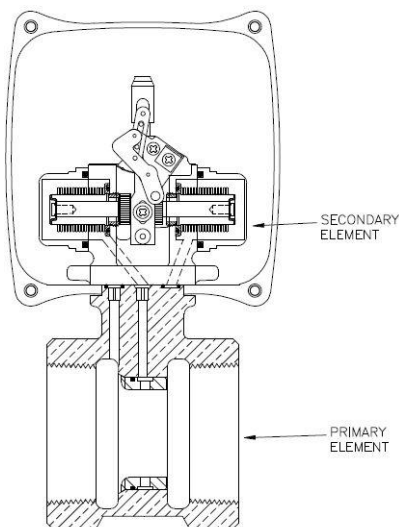
- 3.5" (90mm) 270° analog dial for reading at a glance
- Suitable for use with opaque and clear fluids.
- Measures 6:1 range with $\pm 3\%$ F.S. accuracy
- Steam flow ranges from 40 lbs/h in 1/4" flow meter to 60,000 lbs/h in 8" flow meter.

Applications

- Layering
- Drying / Sterilization
- Reaction Engineering
- Chemical Processing

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
Housing Body	Aluminum Bronze	n/a Monel 316 SS
Bellows	316 SS	Inconel Monel
Seals	EPR	n/a
Crystal	Glass	n/a
Gear Movement	Bronze	316 SS
Accuracy	$\pm 3\%$ F.S.	
Repeatability	$\pm 1\%$ F.S.	
Pressure		
Maximum	180 psig	400 psig
Minimum	10 psig	10 psig
Temperature		
Maximum	212°F	350°F
Minimum	-30 °F	-80 °F

Model Number System

The example **1/2"-71-R-60-K** describes a 1/2" pipe size, 7000 series threaded connection, bronze material, flow from left to right (inverted unless vertical mounted), flow rate of 60 lbs/hr, Options - Saturated steam service (K).

<u>1/2"</u>	-	<u>Z</u>		<u>1</u>	-	<u>R</u>	-	<u>60</u>	-	<u>K</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

B	EPR Seals
B2	Teflon Seals
D	Gasketed Case
E	Non-Standard Flow Rate
ES	Low Flow Rate (Below 2 GPM)
F2	Aluminum Housing with Glass Dial Crystal
G	Custom Scales and Dials
H	High Pressure Service (400 psig max.)
K	Saturated Steam Service
P	Panel Mount
R2	Remote Readout, Brass (Mechanical Indication)
R3	Remote Readout, 316 SS (Mechanical Indicator)

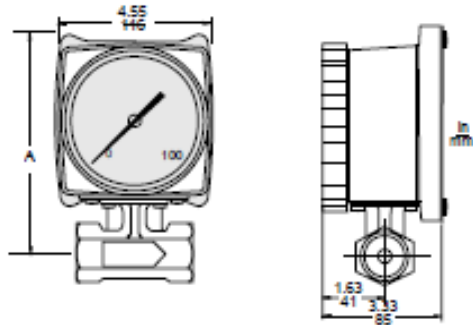
Size	lbs./h	Size	lbs./h
1/4	40	2 1/2	1000
1/4	60	2 1/2	2000
1/4	80	2 1/2	3000
		2 1/2	4000
1/2	40	3	4000
1/2	60	3	6000
1/2	80	3	8000
1/2	120	3	10000
1/2	200		
3/4	120	4	6000
3/4	200	4	8000
3/4	300	4	10000
3/4	400	4	15000
1	300	5	6000
1	400	5	8000
1	600	5	10000
1	800	5	15000
1 1/2	600	6	10000
1 1/2	800	6	15000
1 1/2	1000	6	20000
1 1/2	2000	6	40000
2	800	8	10000
2	1000	8	20000
2	2000	8	40000
2	3000	8	60000
2	4000		

Low Flow Rates – Option ES

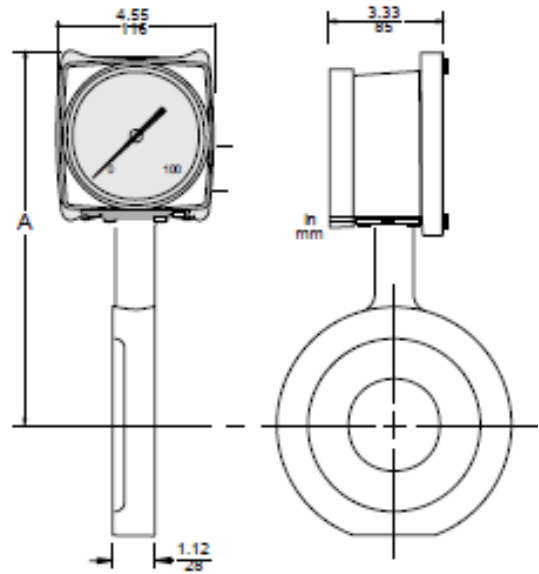
Size	lbs./hr
1/2	2
1/2	3
1/2	4
1/2	6
1/2	8
1/2	10
1/2	15

Note: Available with 1/2" 7000 Series Only

7000 Series – 1/4" to 3" Connections



8000 Series – 1/2" to 8" Connection

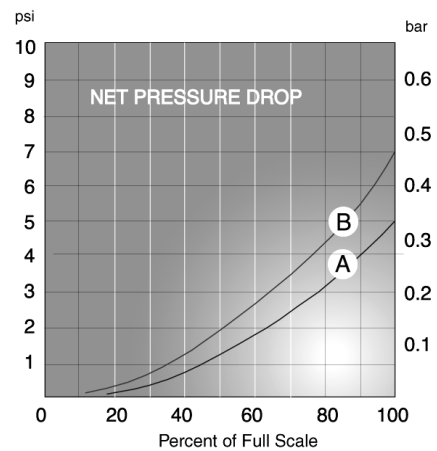


Dimensions

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.

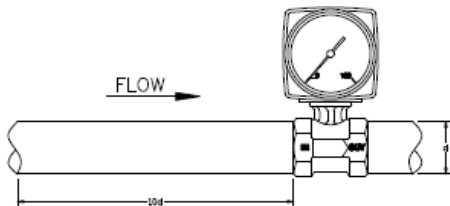
Pressure Drop Characteristics



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

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.



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