OMP Positive Displacement Flowmeters

OMP Series Medium & High Flow Meters

Benefits and Features

- Flow Ranges From 0.53 to 26 GPH Through 4 to 132 GPH
- Handles Viscosities to 1,000,000 cPs
- Handles Viscosities to 1,000,000 cPs
- Low Head Loss Oval Gear Design

OMP-1 & OMP-2 Low Flow Series

General Description

The OMP Flowmeter combines high accuracy, repeatability and low cost with a variety of material combinations allowing it to solve just about any flow metering problem. The OMP series positive displacement flowmeters use an oval gear design to accurately meter the flow of viscous liquids. The oval gear design provides highly precise measurements with a lower pressure drop relative to other types of gear type meters. The OMP low flow series are available with ryton bodies for lower pressure applications and stainless steel bodies for pressures up to 8000 PSIG. The standard gear design can measure fluids with viscosities up to 1000 centipoise with special gear designs available for high viscosities. A pulse output is provided for input to a variety of display, batch control or distributed control systems.

OMP-1 & OMP-2 Low Flow Series Specifications

Available Flow Ranges:
OMP-1: 0.53 to 26 GPH
OMP-2: 4 to 130 GPH
Maximum Pressure
Ryton Body: 75 PSIG
SS Body: 150 PSIG standard, 800 or 8000 PSIG optional
Max. Differential Pressure: 14.5 PSI
Wetted Components
Body: Ryton or 316 stainless steel Gears:
OMP-1: 316 stainless steel and teflon
OMP-2: 316 stainless steel and carbon
Optional: Ryton gears with hastelloy C shafts (Ryton body only)
Shafts Standard: 316 stainless steel
Optional: Ryton gears with hastelloy C shafts (Ryton body only)
O-ring: Viton standard, EPDM or teflon optional

Maximum Operating Temp.
Ryton Body: 175°F
SS Body: 250°F
Minimum Viscosity: 5 centipoise (lower viscosities possible with reduced measuring range)
Maximum Viscosity
Standard: 1000 centipoise
Optional (OMP-2 only): to 1,000,000 centipoise with reduced measuring range
Accuracy: 1% of reading
Repeatability: 0.03% of reading Normal K-Factor
OMP-1: 3785 pulses/gallon
OMP-2: 1514 pulses/gallon
Output Type: NPN Open Collector, 5-24 VDC Power
Optional Output: 4-20 mA transmitter
Elec. Protection: NEMA 3R/IP54 Filtration
Requirements: 200 mesh

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OMP Positive Displacement Flowmeters

Maximum Flowrate Limit vs. Viscosity for Optional High Viscosity Gears, OMP-2 Series

Viscosity	Max. Flow	Viscosity	Max. Flow
<2,500 cPs	132 GPH	<25,000 cPs	52 GPH
<3,000 cPs	118 GPH	<40,000 cPs	39 GPH
<4,000 cPs	105 GPH	<95,000 cPs	13 GPH
<5,000 cPs	92 GPH	<450,000 cPs	6.6 GPH
<8,000 cPs	79 GPH	<1,000,000 cPs	6.6 GPH
<12,000 cPs	66 GPH		

Ordering Information

OMP	= Positive Displacement Flowmeter
	Flow Range
1	= 0.53 to 26 GPH
2	= 4 to 132 GPH
	Body Material
R	= Ryton Body
L	= Stainless Steel Body 150 PSIG Max. Pressure
I	= Stainless Steel Body 800 PSIG Max. Pressure
H	= Stainless Steel Body, 8,000 PSIG Max. Pressure
	Fitting
N2	= 1/4" NPT
	O-Ring Material
V	= Viton (standard)
J	= EPDM
T	= Teflon
	Options
A5	= 2-wire 4-20 mA module in place of pulse output
	{Note: Remote module for body material R, L & I integral module for body material H}
C	= Ryton Gears with Hastelloy C Shafts (Ryton Body Only)
P	= High Viscosity Gears for Viscosity > 1000 Centipoise (for OMP-2 only)

OMP - 2 - I - N2 - V - P Example

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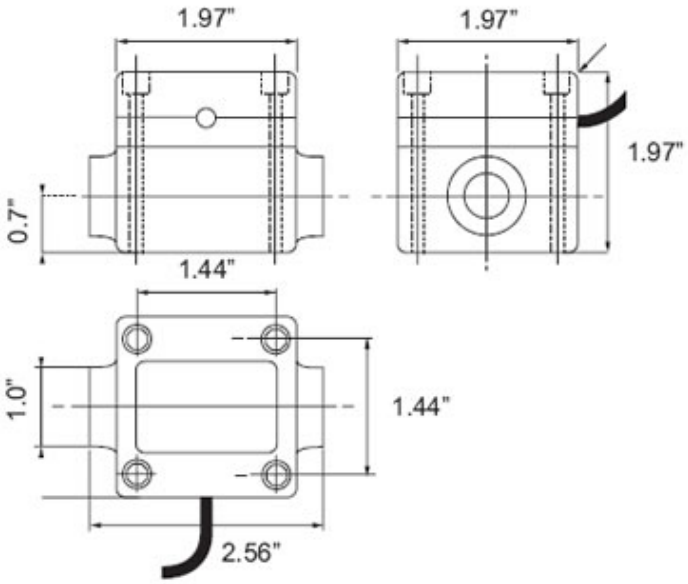
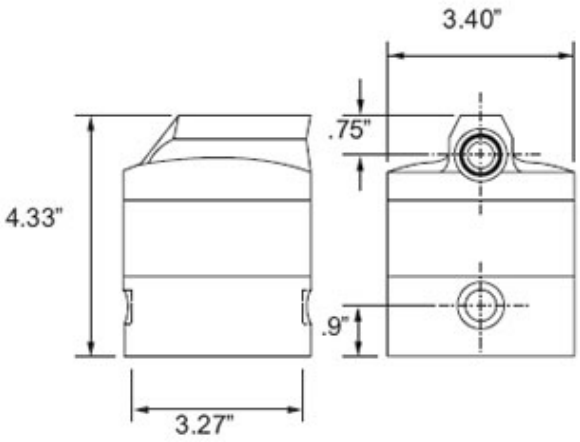
OMP Positive Displacement Flowmeters

Dimensions

Standard Version



High Pressure Version



OMP Series Medium & High Flow Meters

Special Features:

- 1/2" Through 2" sizes
- Flow Ranges 0.26 to 8 GPM Through 4.0 to 92 GPM
- Pulse Output, Mechanical or Electronic Displays
- Aluminum or Stainless Steel Bodies
- Handles Viscosities to 1,000,000 Centipoise with Special Rotor
- Low Head Loss, Oval Gear Design

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OMP Positive Displacement Flowmeters

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SS Body: 250°F
Minimum Viscosity: 5 centipoise (lower viscosities possible with reduced measuring range)
Maximum Viscosity
Standard: 1000 centipoise
Optional (OMP-2 only): to 1,000,000 centipoise with reduced measuring range
Accuracy: 1% of reading
Repeatability: 0.03% of reading Normal K-Factor
OMP-1: 3785 pulses/gallon
OMP-2: 1514 pulses/gallon
Output Type: NPN Open Collector, 5-24 VDC Power
Optional Output: 4-20 mA transmitter
Elec. Protection: NEMA 3R/IP54 Filtration
Requirements: 200 mesh

Maximum Flowrate Limit vs. Viscosity for Optional High Viscosity Gears

Viscosity	Max. Flow 1/2" Meter	Max. Flow 1" Meter	Max. Flow 1-1/2" Meter	Max. Flow 2" Meter
<2,500 cPs	7.9 GPM	31.7 GPM	66.0 GPM	92.0 GPM
<3,000 cPs	7.1 GPM	28.5 GPM	59.4 GPM	86.0 GPM
<4,000 cPs	6.3 GPM	25.3 GPM	52.8 GPM	74.0 GPM
<5,000 cPs	5.5 GPM	22.2 GPM	46.2 GPM	65.0 GPM
<8,000 cPs	4.7 GPM	19.0 GPM	39.6 GPM	56.0 GPM
<12,000 cPs	3.9 GPM	15.8 GPM	33.0 GPM	46.0 GPM
<25,000 cPs	3.1 GPM	12.7 GPM	26.4 GPM	37.0 GPM
<40,000 cPs	2.3 GPM	9.5 GPM	19.8 GPM	28.0 GPM
<95,000 cPs	1.5 GPM	6.3 GPM	13.2 GPM	18.5 GPM
<450,000 cPs	0.7 GPM	3.2 GPM	6.6 GPM	9.2 GPM
<1,000,000 cPs	0.4 GPM	1.6 GPM	3.3 GPM	4.6 GPM

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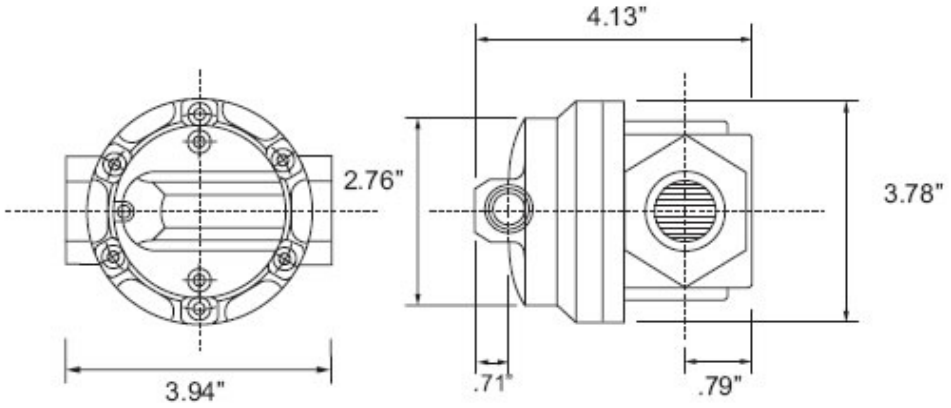
OMP Positive Displacement Flowmeters

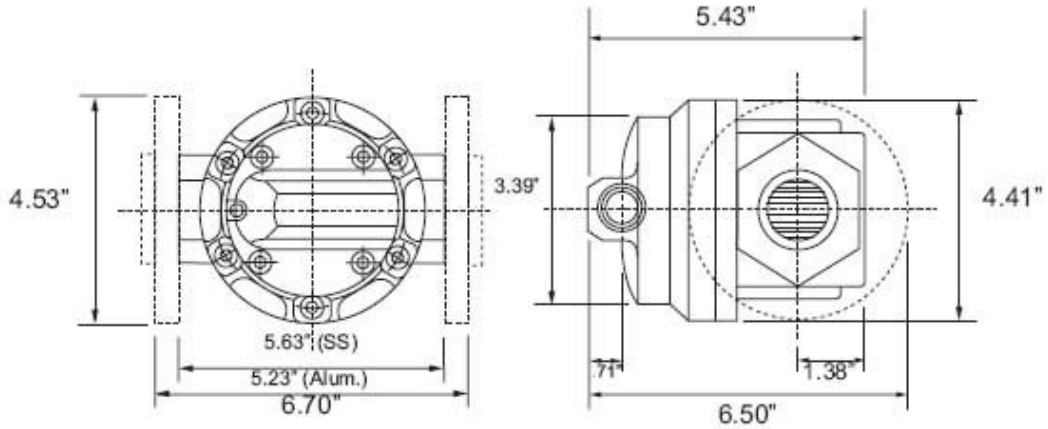
Dimensions

Flowmeters Without Display

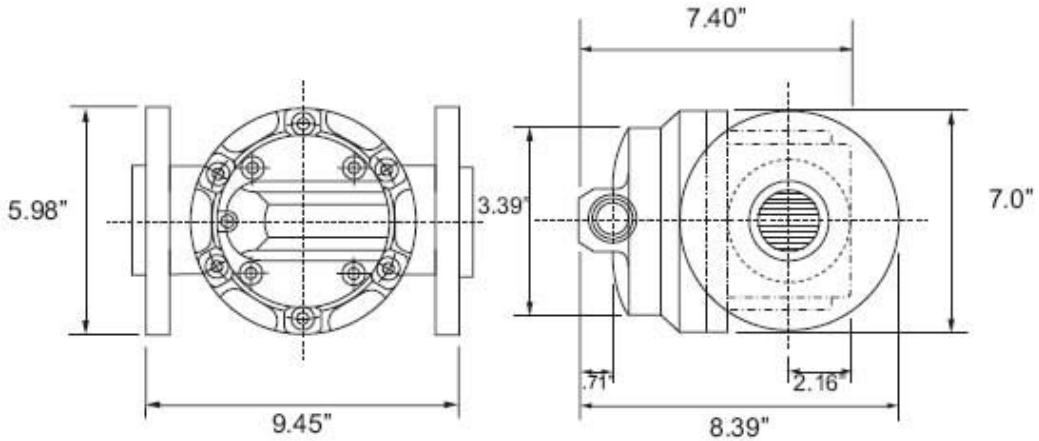
1/2" Flowmeter without Display



1-1/2" Flowmeter without Display



2" Flowmeter without Display



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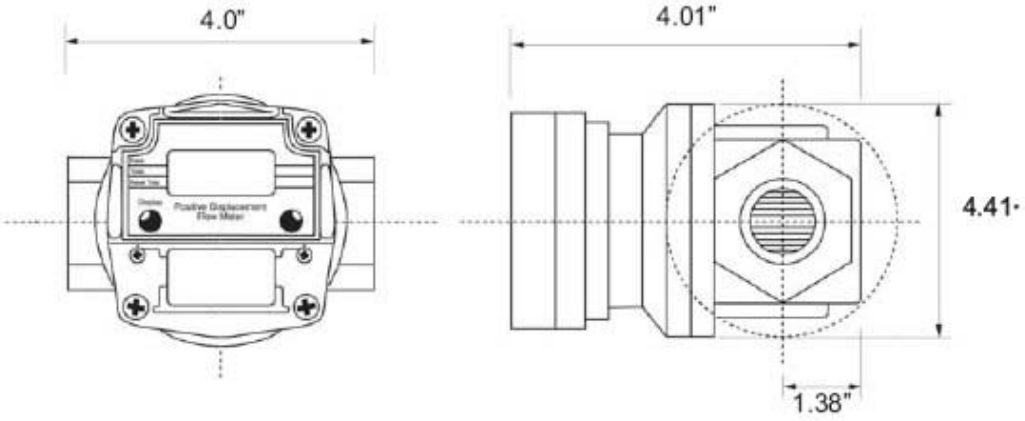
OMP Positive Displacement Flowmeters

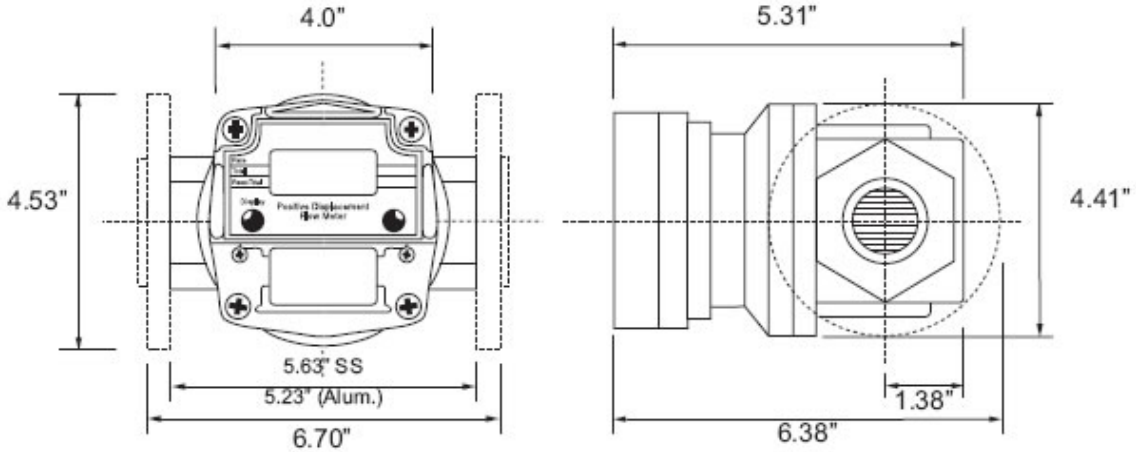
Dimensions

Flowmeters With LCD Display

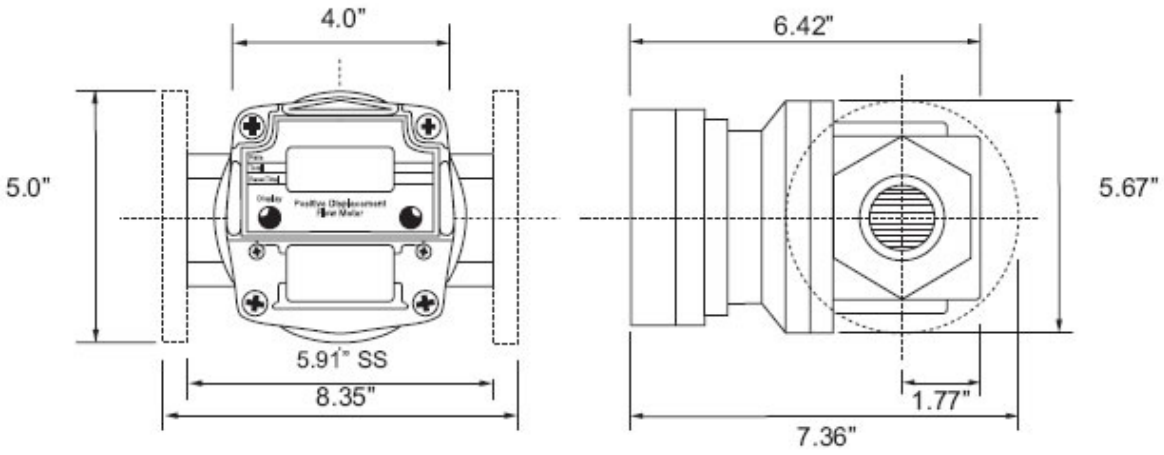
1/2" Flowmeter w/ LCD Display



1" Flowmeter w/ LCD Display



1-1/2" Flowmeter w/ LCD Display



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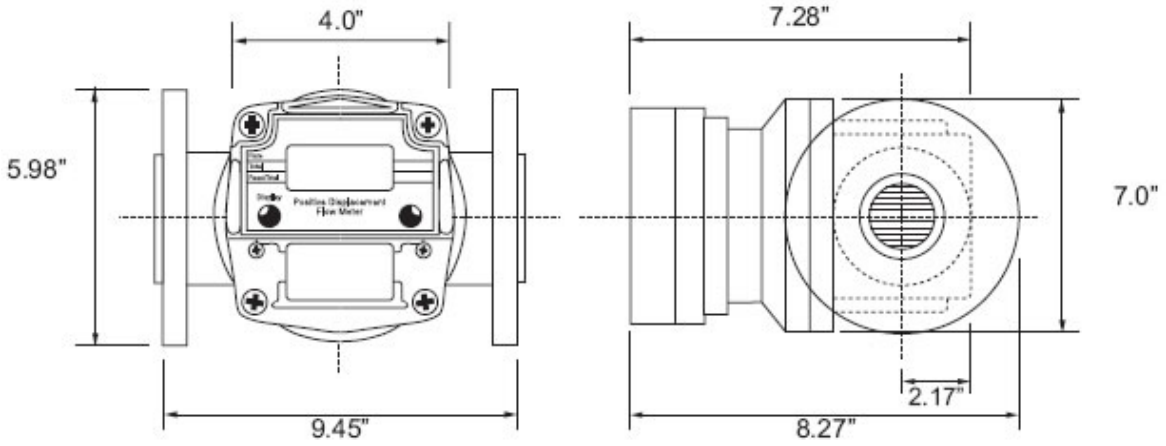
OMP Positive Displacement Flowmeters

Dimensions

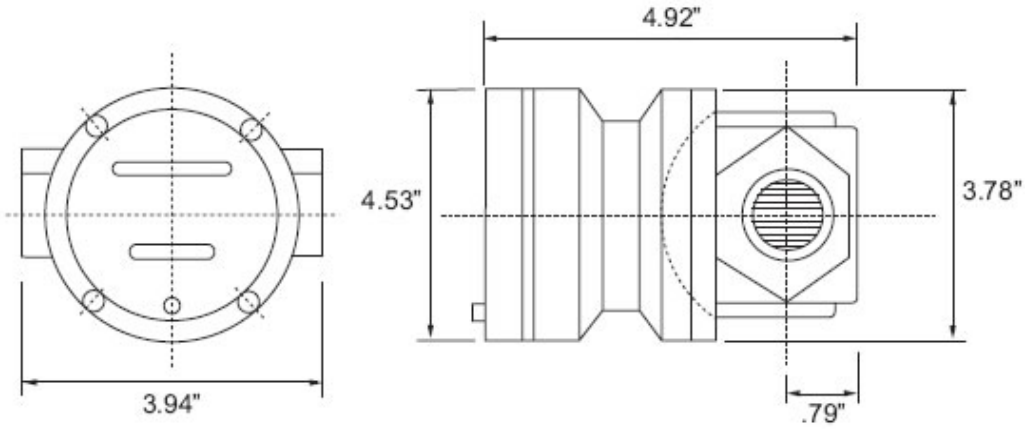
Flowmeters With LCD Display

2" Flowmeter w/ LCD Display

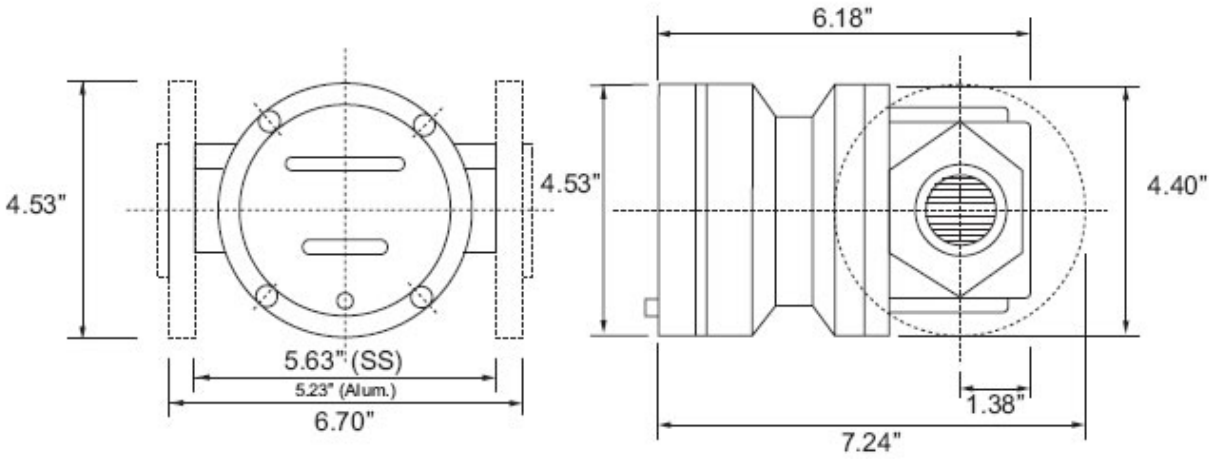


Flowmeters With Mechanical Display

1/2" Flowmeter w/ Mechanical Display



1" Flowmeter w/ Mechanical Display



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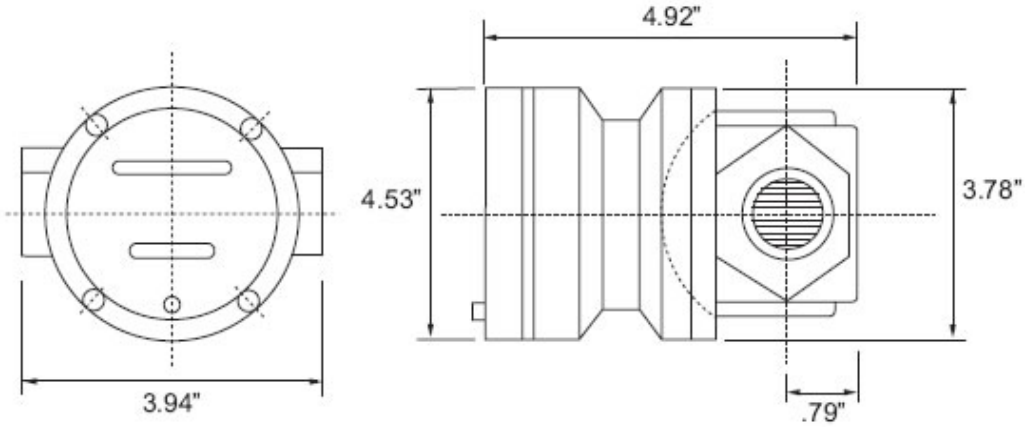
OMP Positive Displacement Flowmeters

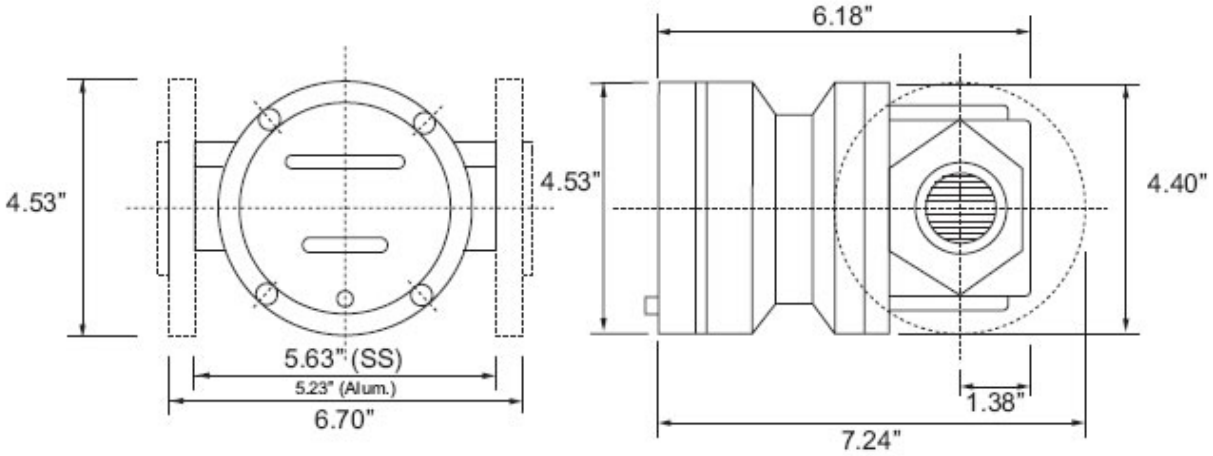
Dimensions

Flowmeters With Mechanical Display

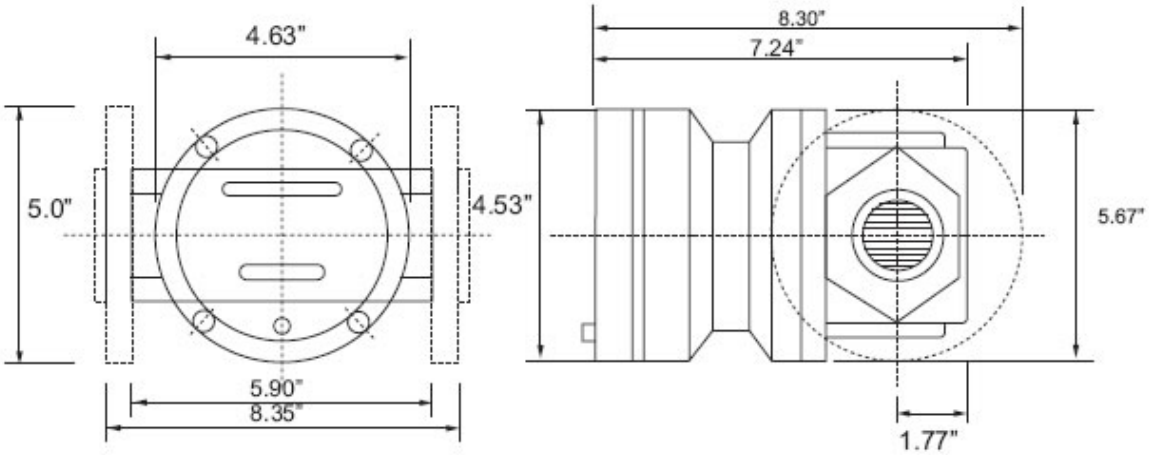
1/2" Flowmeter w/ Mechanical Display



1" Flowmeter w/ Mechanical Display



1-1/2" Flowmeter w/Mechanical Display



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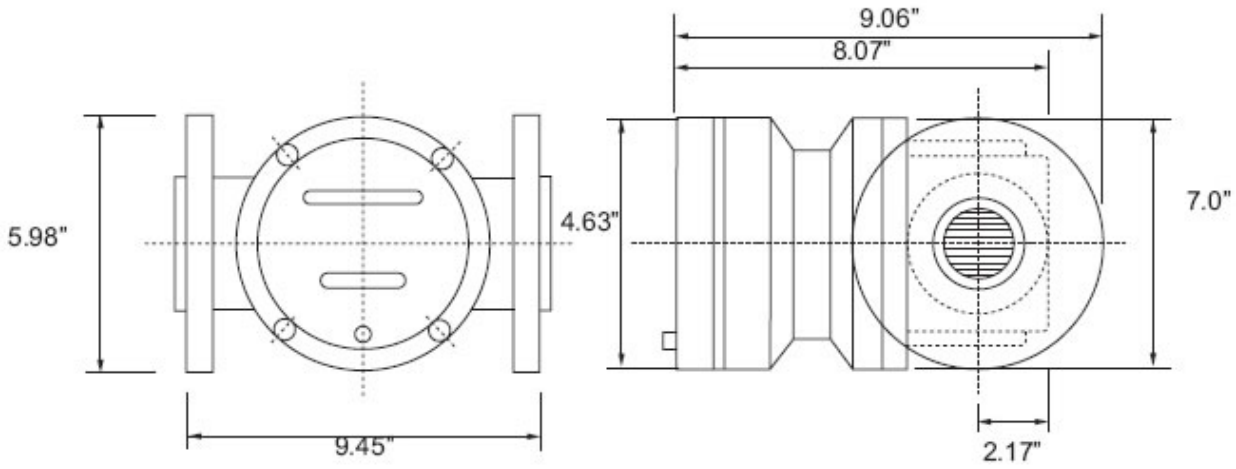
OMP Positive Displacement Flowmeters

Dimensions

Flowmeters With Mechanical Display

2" Flowmeter w/ Mechanical Display



OMP Positive Displacement Flowmeter Application Guide
Form # OMP-001
Rev. 02/06/02

FAX to:
Flow Network
(770) 917-8352 (USA)

Customer Name: _____

Company Name: _____

Phone: _____

Fax: _____

Quote #: _____ Date: _____ Price: _____ Each

Part Number: _____

* To ensure fast order processing, please retain the completed quote form and send it along with your purchase order.

Design Conditions

Accurate design pressure and temperature are essential to ensure the flowmeter will be built to operate without damage. Please fill out accurately and completely.

List Design Conditions

1. Pressure: Maximum _____ PSIG

2. Temperature: Maximum _____ ˚F

Flow Network
Industrial Sensing Solutions

2. Normal Operating Temperature: _____ **˚F**

3. Line Size: _____

4. Desired Measuring Range: _____ **GPM**

5. Maximum Liquid Viscosity : _____

Body Materials

For OMP-1 and OMP-2 Low Flow Series:

☐ Ryton ☐ 316 SS (150 PSIG) ☐ 316 S (800 PSIG) ☐ 316 SS(8000 PSIG)

For Medium and High Flow Series:

☐ Aluminum ☐ 316 SS

Flowmeter Options OMP-1 and OMP-2 Low Flow Series

☐ EPDM seals
☐ Teflon seals
☐ High viscosity gears (OMP-2 only)
☐ Ryton gears w/ hastelloy C shafts (ryton bodies only)
☐ 2-wire 4-20 mA transmitter

Flowmeter Options - OMP Medium and High Flow Series

☐ Viton seals
☐ EPDM seals
☐ Teflon seals
☐ 2-wire 4-20 mA transmitter
☐ Mechanical totalizer
☐ LCD rate total display
☐ Stainless steel gears
☐ High viscosity stainless steel gears
☐ High viscosity ryton gears

FAX to
Flow Network
(770) 917-8352 (USA)

Visit Flow Network
www.flow-network.com

Quoted By: _____ **Phone:** _____ **Fax:** _____