

RCM - Direct Reading Flowmeters



Benefits and Features

- Compact Design
- Easy to Install
- Horizontal or Vertical Installation
- Flow Rates up to 3000 GPM (Liquid) or 20000 SCFM (Gas)
- Low Pressure Drop
- Optional Alarms and Output Signals

Specifications

Accuracy: $\pm 3\%$ of full scale

Rangeability: 6:1

Flow Media: Liquids or gases

Media Temp. Range: -30...212 °F (with electrical options)
-80...350 °F (without electrical options)

Ambient Temp. Range: -30...120 °F

Maximum Pressure: 180 PSIG (standard) 400 PSIG (optional)

Housing Materials: UV stabilized ABS Standard

Option F or F2: Aluminum

Option RW3: Fiberglass Reinforced Polyamide

Body Materials: Bronze, Monel®, or 316 SS

Option ES; PTFE also wetted

Bellow Materials: Bronze, Monel®, 316 SS, or Inconel®

Seal Materials: NBR, FKM, EPDM, PTFE

Bellows Cap Material: PPS for low pressure units

Same as body material for high pressure and/or high temperature versions

Lens Material: Polycarbonate, Option F2: Safety Glass

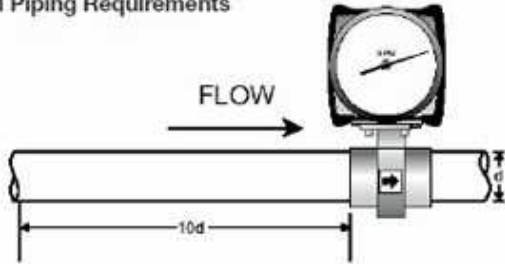
Relay Options: High/Low Alarms

Output Options: 4-20 mA, 0-1000 Hz frequency

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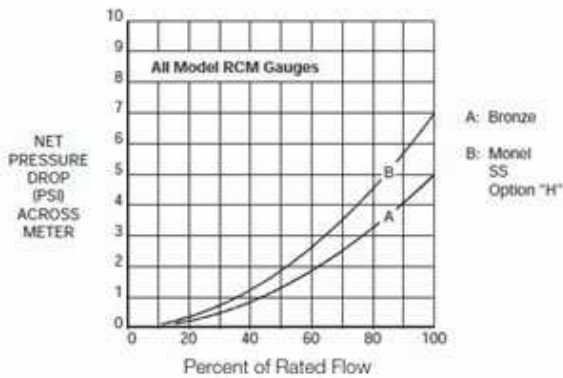
⚙ Specifications

RCM Piping Requirements



A minimum of 10 PSIG back pressure is required for all RCM models. Upstream piping should have a straight run of at least 10 pipe diameters at the meter inlet connection. If valves are required, they should be installed downstream of the flowmeter. Gas flow models 6000 and 9000 are inlet pressure sensitive and must be regulated to a constant user-selected value at the inlet.

Pressure Drop vs. Flow Rate



Option - ..W2/W3 (Analog Output):

Output: 4-20 mA, proportional to diff. pressure
Load: 250 Ohms max.
Span: 15-100% of full scale orifice ΔP

Option - ..X (Alarm Relays):

Output: 2 N/O limit relays
AC Contact Rating: 3.0 A @ 24 VAC
1.0 A @ 117 VAC
0.5 A @ 230 VAC
DC Contact Rating: 2.0 A @ 30 VDC
0.6 A @ 110 VDC
0.5 A @ 140 VDC

Output Specifications

Electrical Rating: General purpose

Power Requirements: 24 VDC \pm 10%, 50 mA max.

Accuracy with Outputs: \pm 3% of full scale for horizontal flow
 \pm 5% of full scale for vertical flow

Option - ..W (Analog Output):

Output: 4-20 mA, 4-wire, proportional to flow
Load: 800 Ohms max.
Zero: 15% of full scale
Span: 30-100% of full scale flow

Option - ..Y (Frequency Output):

Output: Frequency signal, 0-1000 Hz, 5 V Peak
Zero: 15% of full scale
Span: 30-100% of full scale flow
Option - ..RW3 (Digital Rate/Total Display)
Display: Dual line 7 and 11 digit backlit LCD
rate and total
Output: 4-20 mA, 2-wire, proportional to ΔP
Pulse, NPN, 500Hz @ max flow
Protection: IP67/NEMA 4X

RCM - Direct Reading Flowmeters

Ordering Information

Order Details: Threaded Flowmeters for Liquids

Standard Range (GPM)	Fittings (NPT)	Product Material			Low Flow (GPH) Add Suffix .ES	Options
		Bronze	Monel®	Stainless Steel		
0.3...2.0	1/4"	RCM-7101	RCM-7201	RCM-7301		Please Refer to Options Table on Page 6
0.3...2.0	1/2"	RCM-7102	RCM-7202	RCM-7302	0.5...4.0	
0.4...3.0	1/4"	RCM-7103	RCM-7203	RCM-7303	-	
0.5...3.0	1/2"	RCM-7104	RCM-7204	RCM-7304	0.5...6.0	
0.6...4.0	1/4"	RCM-7105	RCM-7205	RCM-7305	-	
0.5...4.0	1/2"	RCM-7106	RCM-7206	RCM-7306	1.5...10	
0.6...6.0	1/2"	RCM-7107	RCM-7207	RCM-7307	2.0...15	
0.6...6.0	3/4"	RCM-7108	RCM-7208	RCM-7308	-	
1.5...10	1/2"	RCM-7109	RCM-7209	RCM-7309	3.0...20	
1.5...10	3/4"	RCM-7110	RCM-7210	RCM-7310	-	
-	1/2"	RCM-7111	RCM-7211	RCM-7311	4.0...30	
-	1/2"	RCM-7112	RCM-7212	RCM-7312	5.0...40	
-	1/2"	RCM-7113	RCM-7213	RCM-7313	8.0...60	
-	1/2"	RCM-7114	RCM-7214	RCM-7314	15.0...100	
2.0...15	3/4"	RCM-7115	RCM-7215	RCM-7315	-	
2.0...15	1"	RCM-7116	RCM-7216	RCM-7316	-	
3.0...20	3/4"	RCM-7117	RCM-7217	RCM-7317	-	
3.0...20	1"	RCM-7118	RCM-7218	RCM-7318	-	
4.0...30	1"	RCM-7119	RCM-7219	RCM-7319	-	
4.0...30	1-1/2"	RCM-7120	RCM-7220	RCM-7320	-	
5.0...40	1"	RCM-7121	RCM-7221	RCM-7321	-	
5.0...40	1-1/2"	RCM-7122	RCM-7222	RCM-7322	-	
5.0...40	2"	RCM-7123	RCM-7223	RCM-7323	-	
5.0...60	1-1/2"	RCM-7124	RCM-7224	RCM-7324	-	
5.0...60	2"	RCM-7125	RCM-7225	RCM-7325	-	
15...100	1-1/2"	RCM-7126	RCM-7226	RCM-7326	-	
15...100	2"	RCM-7127	RCM-7227	RCM-7327	-	
20...150	2"	RCM-7128	RCM-7228	RCM-7328	-	
30...200	2"	RCM-7129	RCM-7229	RCM-7329	-	
30...200	3"	RCM-7130	RCM-7230	RCM-7330	-	
40...300	3"	RCM-7131	RCM-7231	RCM-7331	-	
50...400	3"	RCM-7132	RCM-7232	RCM-7332	-	
50...500	3"	RCM-7133	RCM-7233	RCM-7333	-	

Please note: A minimum of 10 PSI back pressure is required for operation of all RCM models.

For liquid applications, please specify the following with your order: operating/maximum inlet pressure, operating/maximum temperature, and type of liquid; if not water, please specify the specific gravity or density and the viscosity

RCM - Direct Reading Flowmeters

Ordering Information

Order Details: Threaded Flowmeters for Gas

Standard Range (SCFM)	Fittings (NPT)	Product Material			Low Flow (SCFH) Add Suffix ..ES	Options
		Bronze	Monel®	Stainless Steel		
1.5...10	1/4"	RCM-9101	RCM-9201	RCM-9301	-	Please Refer to Options Table on Page 6
1.5...10	1/2"	RCM-9102	RCM-9202	RCM-9302	5.0...40	
3.0...20	1/4"	RCM-9103	RCM-9203	RCM-9303	-	
3.0...20	1/2"	RCM-9104	RCM-9204	RCM-9304	8.0...60	
4.0...30	1/4"	RCM-9105	RCM-9205	RCM-9305	-	
4.0...30	1/2"	RCM-9106	RCM-9206	RCM-9306	15...100	
5.0...40	1/2"	RCM-9107	RCM-9207	RCM-9307	20...150	
8.0...60	1/2"	RCM-9109	RCM-9209	RCM-9309	30...200	
8.0...60	3/4"	RCM-9110	RCM-9210	RCM-9310	-	
-	1/2"	RCM-9111	RCM-9211	RCM-9311	40...300	
-	1/2"	RCM-9112	RCM-9212	RCM-9312	50...400	
15...100	3/4"	RCM-9113	RCM-9213	RCM-9313	-	
20...150	3/4"	RCM-9115	RCM-9215	RCM-9315	-	
20...150	1"	RCM-9116	RCM-9216	RCM-9316	-	
30...200	3/4"	RCM-9117	RCM-9217	RCM-9317	-	
30...200	1"	RCM-9118	RCM-9218	RCM-9318	-	
40...300	1"	RCM-9120	RCM-9220	RCM-9320	-	
40...300	1-1/2"	RCM-9121	RCM-9221	RCM-9321	-	
50...400	1"	RCM-9122	RCM-9222	RCM-9322	-	
50...400	1-1/2"	RCM-9123	RCM-9223	RCM-9323	-	
50...400	2"	RCM-9124	RCM-9224	RCM-9324	-	
50...600	1-1/2"	RCM-9125	RCM-9225	RCM-9325	-	
50...600	2"	RCM-9126	RCM-9226	RCM-9326	-	
100...800	1-1/2"	RCM-9127	RCM-9227	RCM-9327	-	
100...800	2"	RCM-9128	RCM-9228	RCM-9328	-	
150...1000	2"	RCM-9129	RCM-9229	RCM-9329	-	
150...1000	3"	RCM-9130	RCM-9230	RCM-9330	-	
300...2000	3"	RCM-9131	RCM-9231	RCM-9331	-	
400...3000	3"	RCM-9132	RCM-9232	RCM-9332	-	
500...4000	3"	RCM-9133	RCM-9233	RCM-9333	-	

Please note: A minimum of 10 PSI back pressure is required for operation of all RCM models.

For gas applications, please specify the following with your order: operating/maximum inlet pressure, operating/maximum temperature, and type of gas; if not air, please specify the specific gravity or density

RCM - Direct Reading Flowmeters

Ordering Information

Order Details: Wafer Style Flowmeters for Liquids

Range (GPM)	Fittings (Flange Size)	Product Material			Extended Flange	Options
		Bronze	Monel®	Stainless Steel	Add Suffix	
0.3...2.0	1/2"	RCM-5102	RCM-5202	RCM-5302	-	
0.4...3.0	1/2"	RCM-5104	RCM-5204	RCM-5304	-	
0.5...4.0	1/2"	RCM-5106	RCM-5206	RCM-5306	-	
0.6...6.0	1/2"	RCM-5107	RCM-5207	RCM-5307	-	
0.6...6.0	3/4"	RCM-5108	RCM-5208	RCM-5308	-	
1.5...10	1/2"	RCM-5109	RCM-5209	RCM-5309	-	
1.5...10	3/4"	RCM-5110	RCM-5210	RCM-5310	-	
2.0...15	3/4"	RCM-5115	RCM-5215	RCM-5315	-	
2.0...15	1"	RCM-5116	RCM-5216	RCM-5316	-	
3.0...20	3/4"	RCM-5117	RCM-5217	RCM-5317	-	
3.0...20	1"	RCM-5118	RCM-5218	RCM-5318	-	
4.0...30	1-1/2"	RCM-5120	RCM-5220	RCM-5320	-	
5.0...40	1"	RCM-5121	RCM-5221	RCM-5321	-	
5.0...40	1-1/2"	RCM-5122	RCM-5222	RCM-5322	-	
5.0...40	2"	RCM-5123	RCM-5223	RCM-5323	-	
5.0...60	1-1/2"	RCM-5124	RCM-5224	RCM-5324	-	
5.0...60	2"	RCM-5125	RCM-5225	RCM-5325	..EF1 (2 1/2")	
15...100	1-1/2"	RCM-5126	RCM-5226	RCM-5326	-	Please Refer to Options Table on Page 6
15...100	2"	RCM-5127	RCM-5227	RCM-5327	..EF1 (2 1/2")	
20...150	2"	RCM-5128	RCM-5228	RCM-5328	..EF1 (2 1/2")	
30...200	2"	RCM-5129	RCM-5229	RCM-5329	..EF1 (2 1/2")	
30...200	3"	RCM-5130	RCM-5230	RCM-5330	-	
40...300	3"	RCM-5131	RCM-5231	RCM-5331	-	
50...400	3"	RCM-5132	RCM-5232	RCM-5332	-	
50...500	3"	RCM-5133	RCM-5233	RCM-5333	-	
40...300	4"	RCM-5134	-	RCM-5334	..EF2 (5")	
50...400	4"	RCM-5135	-	RCM-5335	..EF2 (5")	
50...600	4"	RCM-5136	-	RCM-5336	..EF2 (5")	
50...600	6"	RCM-5137	-	RCM-5337	-	
50...600	8"	RCM-5138	-	RCM-5338	-	
100...800	4"	RCM-5139	-	RCM-5339	..EF2 (5")	
100...800	6"	RCM-5140	-	RCM-5340	-	
150...1000	6"	RCM-5141	-	RCM-5341	-	
150...1000	8"	RCM-5142	-	RCM-5342	-	
300...2000	6"	RCM-5143	-	RCM-5343	-	
300...2000	8"	RCM-5144	-	RCM-5344	-	
400...3000	8"	RCM-5145	-	RCM-5345	-	

Please note: A minimum of 10 PSI back pressure is required for operation of all RCM models. RCM-5000 series flowmeters are designed for wafer style mounting between two adjoining flanges. The meter will fit between all standard 150 lb or 300 lb ANSI flanges, DIN PN 10 or DIN PN 16 flanges, JIS flanges, and AS flanges. Installation requires flanges, flat gaskets, and flange bolts provided by the user.

For liquid applications, please specify the following with your order: operating/maximum inlet pressure, operating/maximum temperature, and type of liquid; if not water, please specify the specific gravity or density and the viscosity

RCM - Direct Reading Flowmeters

Ordering Information

Order Details: Wafer Style Flowmeters for Gas

Range (SCFM)	Fittings (Flange Size)	Product Material			Extended Flange Add Suffix	Options
		Bronze	Monel®	Stainless Steel		
1.5...10	1/2"	RCM-6102	RCM-6202	RCM-6302	-	Please Refer to Options Table on Page 6
4.0...30	1/2"	RCM-6106	RCM-6206	RCM-6306	-	
5.0...40	1/2"	RCM-6107	RCM-6207	RCM-6307	-	
8.0...60	1/2"	RCM-6109	RCM-6209	RCM-6309	-	
8.0...60	3/4"	RCM-6110	RCM-6210	RCM-6310	-	
15...100	3/4"	RCM-6113	RCM-6213	RCM-6313	-	
20...150	3/4"	RCM-6115	RCM-6215	RCM-6315	-	
20...150	1"	RCM-6116	RCM-6216	RCM-6316	-	
30...200	3/4"	RCM-6117	RCM-6217	RCM-6317	-	
30...200	1"	RCM-6118	RCM-6218	RCM-6318	-	
40...300	1"	RCM-6120	RCM-6220	RCM-6320	-	
40...300	1-1/2"	RCM-6121	RCM-6221	RCM-6321	-	
50...400	1"	RCM-6122	RCM-6222	RCM-6322	-	
50...400	1-1/2"	RCM-6123	RCM-6223	RCM-6323	-	
50...400	2"	RCM-6124	RCM-6224	RCM-6324	-	
50...600	1-1/2"	RCM-6125	RCM-6225	RCM-6325	-	
50...600	2"	RCM-6126	RCM-6226	RCM-6326	..EF1 (2½")	
100...800	1-1/2"	RCM-6127	RCM-6227	RCM-6327	-	
100...800	2"	RCM-6128	RCM-6228	RCM-6328	..EF1 (2½")	
150...1000	2"	RCM-6129	RCM-6229	RCM-6329	..EF1 (2½")	
150...1000	3"	RCM-6130	RCM-6230	RCM-6330	-	
150...1200	2"	RCM-6161	RCM-6261	RCM-6361	..EF1 (2½")	
200...1500	4"	RCM-6134	-	RCM-6334	..EF2 (5")	
300...2000	3"	RCM-6131	RCM-6231	RCM-6331	-	
400...3000	3"	RCM-6132	RCM-6232	RCM-6332	-	
400...3000	4"	RCM-6135	-	RCM-6335	..EF2 (5")	
400...3000	6"	RCM-6136	-	RCM-6336	-	
500...4000	3"	RCM-6133	RCM-6233	RCM-6333	-	
600...5000	4"	RCM-6137	-	RCM-6337	..EF2 (5")	
600...5000	6"	RCM-6138	-	RCM-6338	-	
600...5000	8"	RCM-6139	-	RCM-6339	-	
800...6000	4"	RCM-6140	-	RCM-6340	..EF2 (5")	
1000...8000	6"	RCM-6141	-	RCM-6341	-	
1000...8000	8"	RCM-6142	-	RCM-6342	-	
2000...15000	6"	RCM-6143	-	RCM-6343	-	
2000...15000	8"	RCM-6144	-	RCM-6344	-	
3000...20000	8"	RCM-6145	-	RCM-6345	-	

Please note: A minimum of 10 PSI back pressure is required for operation of all RCM models. RCM-6000 series flowmeters are designed for wafer style mounting between two adjoining flanges. The meter will fit between all standard 150 lb or 300 lb ANSI flanges, DIN PN 10 or DIN PN 16 flanges, JIS flanges, and AS flanges. Installation requires flanges, flat gaskets, and flange bolts provided by the user.

For gas applications, please specify the following with your order: operating/maximum inlet pressure, operating/maximum temperature, and type of gas; if not air, please specify the specific gravity or density

RCM - Direct Reading Flowmeters

Ordering Information

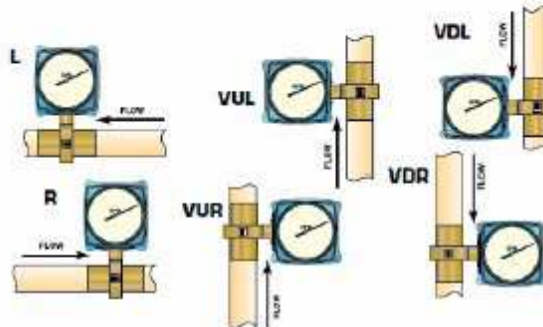
Order Details: Options

Option	Description	Exclusions
..1S2	Single SPDT Reed Switch, 3 W Max, Effective 30-90% of Full Scale (120 °F Max Ambient)	K, N, RW3, W, W2, W3, X, Y, Z
..2S2	Dual SPDT Reed Switches, 3 W Max, Effective 30-90% of Full Scale (120 °F Max Ambient)	K, N, RW3, W, W2, W3, X, Y, Z
..A	FKM Elastomer Seals	-
..B3	EPDM Elastomer Seals	-
..B5	PTFE Elastomer Seals	-
..C	Calibrations for Liquid Specific Gravity (SG < 0.95 or SG > 1.05)	-
..D	Gasketed Meter Case, Mechanical Meters Only, NEMA 4X	Any Electronic Output Option
..D2	Gasketed Case with 1/2" Condulet Box, NEMA 4X	-
..E	Special Orifice Sizing for Non-Standard Flow Rates	-
..EF1	Extended Range Size, 2 1/2"	-
..EF2	Extended Range Size, 5"	-
..EM	European Labeling with CE Mark	-
..ES	Low Flow Option (See available ranges on pages 3 and 4)	-
..F	Aluminum Case, Plastic Crystal	-
..F2	Aluminum Case, Glass Crystal	-
..G	Custom Scale	-
..H	400 PSIG Service Rating	-
..J	Peak Flow Indicator	-
..K	Steam Service, Scaled in lbs/hr (120 PSIG Max, 350 °F Service Rating)	1S2, 2S2, N, T, RW3, W, W2, W3, X, Y, Z
..N	Ammonia Service (Available for Stainless Steel Models Only)	1S2, 2S2, K, T, RW3, W, W2, W3, X, Y, Z
..O2	Oxygen Cleaning per ASTM G93-88 (Requires Option ".A" - FKM Seals)	-
..P	Panel Mounting Kit (Available for 1 1/2" and Smaller Meters Only)	-
..RW3	LCD Rate and Total Display with 4-20 mA, ΔP Transmitter, Replaces Analog Dial	1S2, 2S2, K, N, T
..R2	Remote Mechanical Indicator, includes equalizing valve, Bronze	-
..R3	Remote Mechanical Indicator, includes equalizing valve, SS	-
..T	350 °F Service Rating, Includes FKM Seals	1S2, 2S2, K, N, T, RW3, W, W2, W3, X, Y, Z
..V	Calibration for High Viscosity Liquid (5 cPs < viscosity < 500 cPs)	-
..W	4-20 mA, 4-Wire Flow Rate Transmitter, 24 VDC Input Power w/Mechanical Indicator	1S2, 2S2, D, K, N, T
..W2	4-20 mA ΔP Transmitter with Mechanical Indicator (Max ΔP of 58 PSI)	1S2, 2S2, D, K, N, T
..W3	4-20 mA ΔP Transmitter without Indicator	1S2, 2S2, D, K, N, T
..X	Two N/O Relays, 1 Mir/1 Max, Red/Green LED Indicators, 24 VDC	1S2, 2S2, D, K, N, T
..Y	0-1000 Hz Frequency Output to Drive Pulse Triggered Controllers, 24 VDC	1S2, 2S2, D, K, N, T
..Z	Options W, X, and Y Combined (100 mA Combined Current Draw)	1S2, 2S2, D, K, N, T
Accessory		
RCM-PKIT1	Remote Mounting Kit, Brass (Fittings Only, User Supplies 1/4" O.D. Tubing)	
RCM-PKIT2	Remote Mounting Kit, Stainless Steel (Fittings Only, User Supplies 1/4" O.D. Tubing)	

Order Details: Additional Information

Available Flow Configurations	
R	Horizontal, Flow to the Right
L	Horizontal, Flow to the Left
VUR	Vertical, Flow Up, Dial on the Right
VDR	Vertical, Flow Down, Dial on the Right
VUL	Vertical, Flow Up, Dial on the Left
VDL	Vertical, Flow Down, Dial on the Left

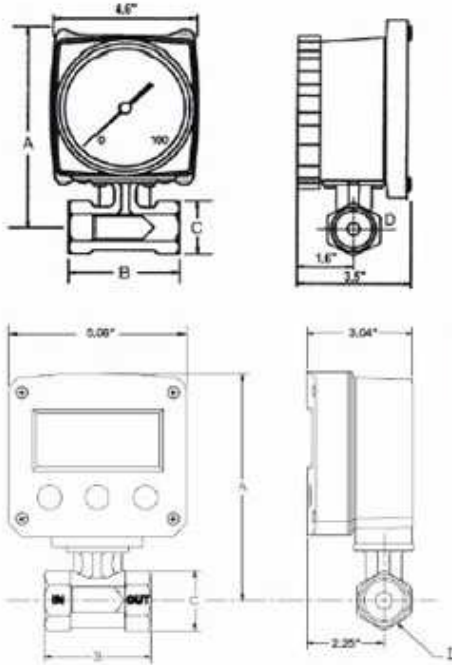
*Please remember to specify the flow direction listed above with your order along with the media and process conditions



RCM - Direct Reading Flowmeters

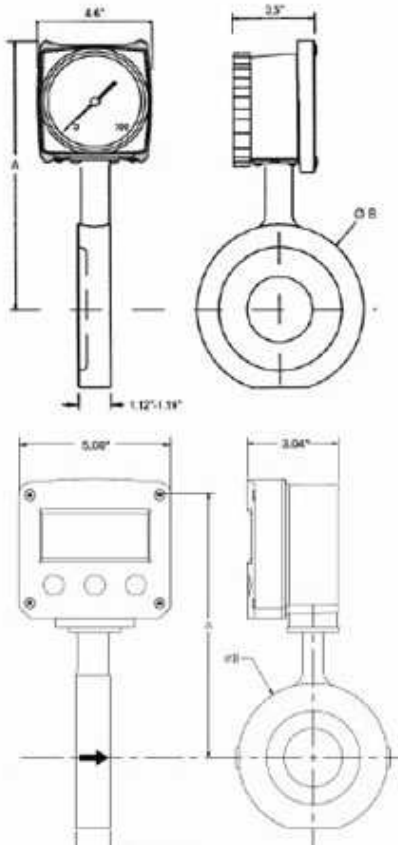
Ordering Information

Nominal Dimensions: Threaded Flowmeters



Body Size (IPS)	Dimensions: Analog Dial				Weight (lbs)
	A	B	C	D	
1/4"	5.2"	3.1"	1.5" Br/1.1" SS	1.25" Hex/1.1" Rnd SS	3.5
1/2"	5.2"	3.1"	1.5" Br/1.1" SS	1.25" Hex/1.1" Rnd SS	3.5
3/4"	5.6"	3.1" Br/2.7" SS	1.5"	1.25" Hex/1.5" Rnd SS	3.6
1"	6.1"	3.1" Br/2.8" SS	1.75"	1.5" Hex/1.75" Rnd SS	3.8
1-1/2"	6.4"	3.1" Br/3.3" SS	2.5" Br/2.4" SS	2.12" Hex/2.4" Rnd SS	4.5
2"	6.8"	3.2" Br/3.3" SS	3.2" Br/3.0" SS	2.75" Hex/3.0" Rnd SS	6.1
3"	7.5"	4.2" Br/4.4" SS	4.6"	4.0" Hex/4" Rnd SS	13.0
Body Size (IPS)	Dimensions: Digital Display Option RW3				Weight (lbs)
	A	B	C	D	
1/4"	6.6" Br/5.8" SS	3.1"	1.5" Br/1.1" SS	1.25" Hex/1.1" Rnd SS	3.5
1/2"	6.6" Br/5.8" SS	3.1"	1.5" Br/1.1" SS	1.25" Hex/1.1" Rnd SS	3.5
3/4"	6.5"	3.1" Br/2.7" SS	1.5"	1.25" Hex/1.5" Rnd SS	3.6
1"	6.6"	3.1" Br/2.8" SS	1.75"	1.5" Hex/1.75" Rnd SS	3.8
1-1/2"	7.0"	3.1" Br/3.3" SS	2.5" Br/2.4" SS	2.12" Hex/2.4" Rnd SS	4.5
2"	7.4"	3.2" Br/3.3" SS	3.2" Br/3.0" SS	2.75" Hex/3.0" Rnd SS	6.1
3"	8.1"	4.2" Br/4.4" SS	4.6"	4.0" Hex/4" Rnd SS	13.0

Nominal Dimensions: Wafer Style Flowmeters



Size	Dimensions: Analog Dial		Weight (lbs)
	A	B	
1/2"	6.62"	1.69" Br/1.62" SS	4.0
3/4"	7.06"	2.00"	5.0
1"	7.25"	2.38"	5.0
1-1/2"	7.81"	3.12" Br/3.0" SS	6.0
2"	8.00"	3.75"	7.0
3"	8.87"	5.00"	9.0
4"	9.95"	6.13" Br/6.0" SS	12.0
6"	11.05"	8.38" Br/8.0" SS	16.0
8"	12.30"	10.38" Br/10.0" SS	24.0
Size	Dimensions: Digital Display Option RW3		Weight (lbs)
	A	B	
1/2"	7.23"	1.69" Br/1.62" SS	4.0
3/4"	7.67"	2.00"	5.0
1"	7.86"	2.38"	5.0
1-1/2"	8.42"	3.12" Br/3.0" SS	6.0
2"	8.61"	3.75"	7.0
3"	9.48"	5.00"	9.0
4"	10.56"	6.13" Br/6.0" SS	12.0
6"	11.66"	8.38" Br/8.0" SS	16.0
8"	12.91"	10.38" Br/10.0" SS	24.0