

Flo-Rite™ Series FR Flowmeters



KEY INSTRUMENTS

Flo-Rite™ Series FR Flowmeters

DESCRIPTION

Series FR2000/FR4000/FR4500/FR5000 is a standard precision-machined acrylic flow meter for liquids or gases, has direct reading air or water scales and is available in either English or Metric scales.

The FR2000/FR4000/FR4500 flowmeters can be configured with a control valve on the inlet or no valve at all; fittings and valve can be specified in either brass or stainless steel; O-rings can be provided with Buna-N, Viton® or other optional elastomers.

FR5000 flowmeters have 1" FNPT PVC fittings with either an inline (FR5000-I) or panel mount (FR5000-S) configuration. The panel mount version is available with an integral valve on the inlet (FR5000-V) or no valve at all.

FEATURES

- Easy-to-read English or Metric Scales
- Water ranges from 4 CCM to 20 GPM
- Air ranges from 40 CCM to 4000 LPM
- Threaded brass inserts for quick installation
- Easy disassembly and assembly for maintenance
- Durable one-piece clear acrylic construction
- Stable, easy-to-read float
- Superior quality

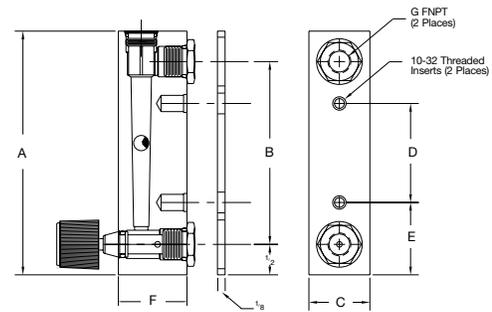
APPLICATIONS

- Air sampling equipment aquaculture
- Desalinization equipment
- Gas analyzers
- Medical systems
- Photoprocessing equipment
- Water treatment and distribution systems

SPECIFICATIONS

Accuracy	Model FR2000 ±5% Full Scale Model FR4000 & FR4500 ±3% Full Scale Model FR5000 ±2% Full Scale
Floats	Black Glass, Stainless Steel, Delrin®
Body	Clear Acrylic
Seals	Buna-N O-Rings with Brass or PVC Fittings Viton® O-Rings with Stainless Steel Fittings
Pressure	100 PSIG Max
Temperature	150°F/65°C Max
Fittings	Brass, Stainless Steel or FNPT Pipe Connections
Valves (optional)	Model FR2000/4000/4500 Brass or Stainless Steel Model FR5000 Integral Valve on "V" Models Inline Gate Valve is available for the "S" & "I"

SERIES FR2000/FR4000/FR4500 FLOWMETER

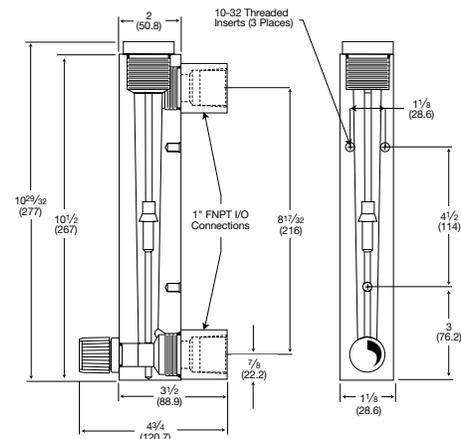


DIMENSIONS inches/millimeters (mm)

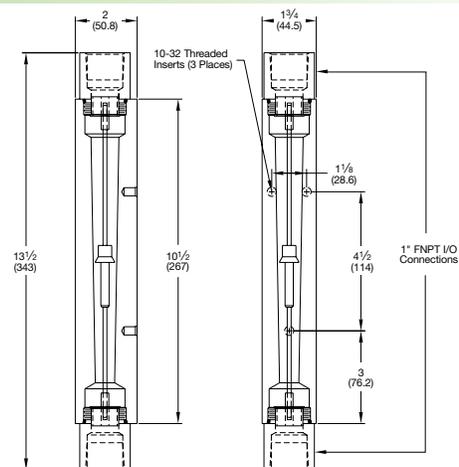
MODEL	A	B	C	D	E	F	G
FR2000	4" (102)	3" (76.2)	1" (25.4)	1 ⁵ / ₈ " (41.3)	1 ³ / ₁₆ " (30.2)	1 ¹ / ₈ " (28.6)	1/8"
FR4000	6 ¹ / ₂ " (165)	5 ¹ / ₂ " (140)	1 ³ / ₈ " (34.9)	3 ¹ / ₂ " (88.9)	1 ¹ / ₂ " (38.1)	1 ¹ / ₈ " (28.6)	1/8"
FR4500*	6 ⁵ / ₈ " (168)	5 ¹ / ₂ " (140)	1 ¹ / ₈ " (28.6)	3 ¹ / ₂ " (88.9)	1 ¹ / ₂ " (38.1)	1 ³ / ₈ " (34.9)	1/4"

* Does not include 1/8" back plate

SERIES FR5000-S OR V



SERIES FR5000-I



Flo-Rite™ Series FR Flowmeters

SERIES FR2000 FLOW RATES TABLE A **

Range SCFH of Air	Model Code	Range LPM of Air	Model Code
.1-1	2A00	.04-.5	2A12
.2-2	2A01	.1-1	2A13
.4-5	2A02	.2-2.5	2A29
1-10	2A03	.4-5	2A14
2-20	2A04	1-10	2A15
3-30	2A05	2-25	2A16
4-50	2A06	4-50	2A17
10-100	2A07	10-100	2A18
20-200	2A08		
CCM of Water		GPH of Water	
5-50	2L09	.2-2	2L28
10-100	2L10	.4-5	2L19
20-240	2L11	1-10	2L20
		2-20	2L21
		4-40	2L22

SERIES FR4000 FLOW RATES TABLE B **

Range SCFH of Air	Model Code	Range CCM of Water	Model Code
.4-5	4A30	4-50	4L38
1-10	4A31	10-120	4L56
2-20	4A32	25-225	4L51
4-40	4A33	40-400	4L50
10-100	4A34	40-660	4L52
14-150	4A35	100-1500	4L53
20-200	4A36	200-3000	4L54
		300-3700	4L55
CCM of Air		GPH of Water	
100-1000	4A39*	1-10	4L45
		2-25	4L48
		4-50	4L49
		6-60	4L46
LPM of Air		SCFM of Air	
.4-5	4A40	.3-3	4A37
1-10	4A41		
2-20	4A42		
3-30	4A43		
4-50	4A44		
10-100	4A47		

* Uses Delrin® Float

** Available with millimeter scales. Flow curves for a variety of gases and liquids for specific applications may also be ordered.

SERIES FR4500 FLOW RATES TABLE C

Range SCFM of Air	Model Code	Range GPM of Water	Model Code
.5-5	4A67	.2-2.5	4L64
1-10	4A65	.4-5	4L66
*2-20	4A68		
LPM of Air		LPM of Water	
14-140	4A72	.8-9	4L69
30-280	4A70	1.5-20	4L71
*60-560	4A73		

* Not Available with Valves

SERIES FR5000-S OR V FLOW RATES TABLE D

Range SCFM of Air	Model Code	Range GPM of Water	Model Code
3-25	5A50	.4-5	5L56
4-50	5A51	1-10	5L57
10-100	5A52	2-20	5L58
LPM of Air		LPM of Water	
100-700	5A53	1-19	5L59
100-1400	5A54	4-36	5L60
400-3400	5A55	5-75	5L61

SERIES FR5000-I FLOW RATES TABLE E

Range SCFM of Air	Model Code	Range GPM of Water	Model Code
3-25	5A50	.4-5	5L56
4-50	5A51	1-10	5L57
10-100	5A52	2-20	5L58
LPM of Air		LPM of Water	
100-700	5A53	1-19	5L59
100-1400	5A54	4-36	5L60
400-4000	5A55	5-75	5L61

Periodically, product revisions occur. Please consult the factory for the latest specifications.

ORDERING INFORMATION 2 INCH / 4 INCH SCALE

Catalog Number Ordering Example: **FR2A04BVBN**

EXAMPLE:	FR	2A04	B	V	BN
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Acrylic Flowmeter
Product Code

Model Number
From Tables A, B & C

Fittings
B = Brass (std), S = Stainless Steel

Valve
N = No Valve, V = Standard Inlet Valve

Seals
BN = Buna-N (std with brass fittings),
VT = Viton® (std with stainless steel),
S = Special (specify compound)

Catalog Number Ordering Example: **FR4A30SNVT**

EXAMPLE:	FR	4A30	S	N	VT
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Acrylic Flowmeter
Product Code

Model Number
From Tables A, B & C

Fittings
B = Brass (std), S = Stainless Steel

Valve
N = No Valve, V = Standard Inlet Valve

Seals
BN = Buna-N (std with brass fittings),
VT = Viton® (std with stainless steel),
S = Special (specify compound)

Flo-Rite™ Series FR Flowmeters

ORDERING INFORMATION 5 INCH SCALE

Catalog Number Ordering Example: **FR5A53PV**

EXAMPLE:	FR	5A53	P	V
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Acrylic Flowmeter _____
Product Code

Model Number _____
From Tables D & E

Fitting Material _____
P = PVC (std), S = Stainless Steel (for water only)

Fitting / Valve _____
S = Back connections (std),
I = End connection,
V = Valve (Back Connection Only)

Catalog Number Ordering Example: **FR5L57SI**

EXAMPLE:	FR	5L57	S	I
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Acrylic Flowmeter _____
Product Code

Model Number _____
From Tables D & E

Fitting Material _____
P = PVC (std), S = Stainless Steel (for water only)

Fitting / Valve _____
S = Back connections (std),
I = End connection,
V = Valve (Back Connection Only)

Other Acrylic Flowmeter Products



FLOWMETERS

KEY INSTRUMENTS offers a wide variety of precision rotameters for use in medical, industrial, chemical, and laboratory applications. Over twenty years of experience in the manufacture of acrylic flowmeters enables us to provide a large assortment of standard styles from stock at economical prices. Our production and engineering processes are flexible enough to allow us to meet most OEM and end user requirements.

We use a primary flow standard directly traceable to the NIST (National Institute of Standards and Technology), and have implemented stringent quality control procedures to assure you of receiving a quality product that is accurate and repeatable, yet economical.

Key Instruments' flowmeters have been engineered with built-in quality, designed for economy, and stocked in sufficient quantity to meet your immediate needs as well as your long term requirements.

For additional information regarding current prices, discounts or delivery status, call Customer Service at 1-800-356-7483.

CUSTOM FLOWMETERS

KEY INSTRUMENTS manufactures custom variable area rotameters, various electronic products, calibration kits, sight-flow indicators, flow control valves, and accessories as part of a complete flow instrumentation system solution. Our custom flowmeters are designed and manufactured to be durable, accurate, and suitable for measuring water, low viscosity fluids, compressed air, steam and more in medical, industrial, chemical, and laboratory applications.

For convenience and quick shipping, we maintain a large inventory of standard meters to choose from. However, for customers that require products that must be customized to meet specialized application requirements, we offer precision-machined acrylic, glass, or polycarbonate flowmeters for argon, carbon dioxide, helium, nitrogen, nitrous oxide and/or oxygen.



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