

# F-1000

## Molded In-line Fitting

### Three Model Variations:

- Rate of flow display
- Total flow display
- Rate & Total display



### Features:

- High accuracy digital paddlewheel technology.
- 3/8", 1/2", 3/4", 1", 1-1/2", and 2" male pipe threads.
- Flow rate from .4 to 200 GPM
- Tamper proof factory programming.
- Easy to read 6 digit LCD display, up to 4 decimal places.
- Battery operated (2 AAA batteries included).
- Very low pressure drop.
- Total reset function can be disabled.

### Specifications:

Max. working pressure: .....300 PSI (20 bar) @ 70° F (21° C)  
 Max. fluid temperature: .....200° F (93° C) @ 0 PSI  
 Max. ambient temperature: ..14° to 110° F/ -10° to 43° C  
 Full scale accuracy: .....+/- 2%

Power requirement: .....2 AAA batteries (included)  
 Enclosure: .....NEMA 4X (IP56)  
 Maximum pressure drop: .....8 PSI (varies per model)  
 Approximate shipping wt: ...2 lb. (.91 kg)

### Materials of Construction:

Pipe fitting: .....Polypropylene (options: PVDF)  
 Sensor, paddlewheel, axle: ..PVDF

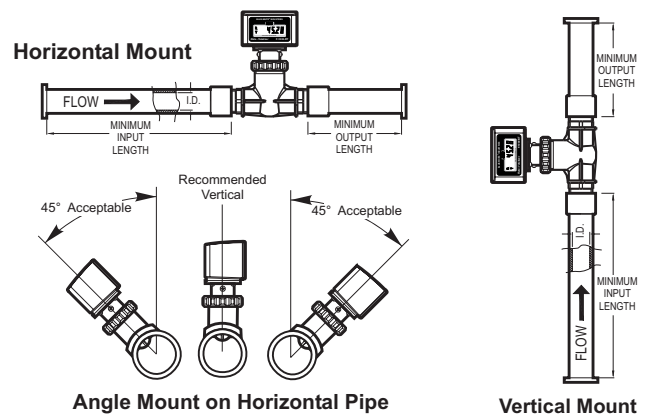
Sensor O-ring seals: .....Viton<sup>®</sup> (optional EP)  
 Enclosure: .....ABS

### Installation Requirements:

#### Minimum Straight Pipe Length Requirements

The meter's accuracy is affected by disturbances such as pumps, elbows, tees, valves, etc., in the flow stream. Install the meter in a straight run of pipe **as far as possible** from any disturbances. The distance required for accuracy will depend on the type of disturbance.

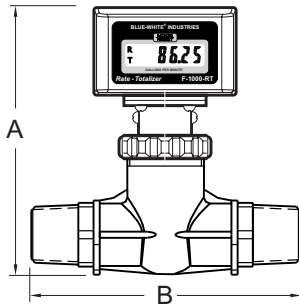
Type Of Disturbance	Minimum Inlet Pipe Length	Minimum Outlet Pipe Length
Flange	10 X Pipe I.D.	5 X Pipe I.D.
Reducer	15 X Pipe I.D.	5 X Pipe I.D.
90° Elbow	20 X Pipe I.D.	5 X Pipe I.D.
Two Elbows -1 Direction	25 X Pipe I.D.	5 X Pipe I.D.
Two Elbows -2 Directions	40 X Pipe I.D.	5 X Pipe I.D.
Pump Or Gate Valves	50 X Pipe I.D.	5 X Pipe I.D.



#### Mounting location

- The meter is designed to withstand outdoor conditions. A cool, dry location, where the unit can be easily serviced is recommended.
- The meter can be mounted on horizontal or vertical runs of pipe. Mounting at the vertical (twelve o'clock) position on horizontal pipe is recommended. Mounting anywhere around the diameter of vertical pipe is acceptable, however, the pipe must be completely full of water at all times. Back pressure is essential on downward flows. See the minimum straight length of pipe requirement chart above.
- The meter can accurately measure flow from either direction.

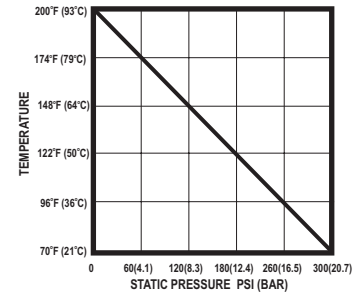
### Dimensions:



Pipe Size	A	B
3/8"	5-3/8" (137)	4-3/4" (121)
1/2"	5-3/8" (137)	5-1/8" (130)
3/4"	5-5/8" (143)	5-1/4" (133)
1"	5-5/8" (143)	5-5/8" (143)
1-1/2"	6-1/8" (156)	6-1/2" (165)
2"	6-3/8" (162)	6-3/4" (171)

Inches (mm)

Maximum Temperature vs. Pressure



### Flow Stream Requirements:

Measuring accuracy requires a fully developed **turbulent** flow profile. Pulsating, swirling and other disruptions in the flow stream will effect accuracy. Flow conditions with a **Reynolds Number** greater than 4000 will result in a fully developed **turbulent** flow. A Reynolds Number less than 2000 is **laminar** flow and may result in inaccurate readings.

REYNOLDS NUMBER EQUATION:

$$\text{REYNOLDS NUMBER} = \frac{3160 \times Q \times G}{D \times V}$$

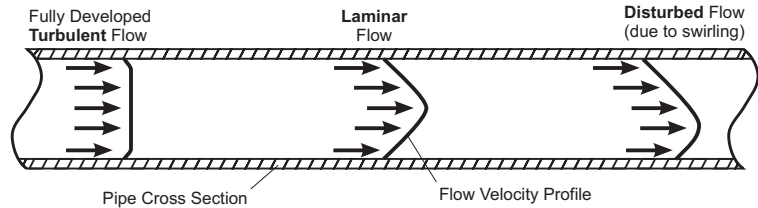
Where:

Flow rate of the fluid in GPM = Q

Specific gravity of the fluid = G

Pipe inside diameter in inches = D

Fluid viscosity in centepoise = V



### Pipe Size, Flow Range and Display Model Options:

#### Models with Polypropylene Pipe Fitting Material

Pipe Size M/NPT	GPM MODELS				LPM MODELS			
	GPM Range	RATE ONLY Model Number	TOTAL ONLY Model Number	RATE & TOTAL Model Number	LPM Range	RATE ONLY Model Number	TOTAL ONLY Model Number	RATE & TOTAL Model Number
3/8"	.8 to 8	RB-375MI-GPM1	TB-375MI-GPM1	RT-375MI-GPM1	3 to 30	RB-375MI-LPM1	TB-375MI-LPM1	RT-375MI-LPM1
3/8"	4 to 4	RB-375MI-GPM2	TB-375MI-GPM2	RT-375MI-GPM2	1 to 10	RB-375MI-LPM2	TB-375MI-LPM2	RT-375MI-LPM2
1/2"	2 to 20	RB-500MI-GPM1	TB-500MI-GPM1	RT-500MI-GPM1	7 to 70	RB-500MI-LPM1	TB-500MI-LPM1	RT-500MI-LPM1
1/2"	.5 to 5	RB-500MI-GPM2	TB-500MI-GPM2	RT-500MI-GPM2	2 to 20	RB-500MI-LPM2	TB-500MI-LPM2	RT-500MI-LPM2
3/4"	3 to 30	RB-750MI-GPM1	TB-750MI-GPM1	RT-750MI-GPM1	11 to 110	RB-750MI-LPM1	TB-750MI-LPM1	RT-750MI-LPM1
3/4"	.8 to 8	RB-750MI-GPM2	TB-750MI-GPM2	RT-750MI-GPM2	3 to 30	RB-750MI-LPM2	TB-750MI-LPM2	RT-750MI-LPM2
1"	5 to 50	RB-100MI-GPM1	TB-100MI-GPM1	RT-100MI-GPM1	20 to 200	RB-100MI-LPM1	TB-100MI-LPM1	RT-100MI-LPM1
1"	2 to 20	RB-100MI-GPM2	TB-100MI-GPM2	RT-100MI-GPM2	7 to 70	RB-100MI-LPM2	TB-100MI-LPM2	RT-100MI-LPM2
1-1/2"	4 to 40	RB-150MI-GPM1	TB-150MI-GPM1	RT-150MI-GPM1	15 to 150	RB-150MI-LPM1	TB-150MI-LPM1	RT-150MI-LPM1
1-1/2"	6 to 60	RB-150MI-GPM2	TB-150MI-GPM2	RT-150MI-GPM2	25 to 250	RB-150MI-LPM2	TB-150MI-LPM2	RT-150MI-LPM2
1-1/2"	10 to 100	RB-150MI-GPM3	TB-150MI-GPM3	RT-150MI-GPM3	40 to 400	RB-150MI-LPM3	TB-150MI-LPM3	RT-150MI-LPM3
2"	4 to 40	RB-200MI-GPM1	TB-200MI-GPM1	RT-200MI-GPM1	15 to 150	RB-200MI-LPM1	TB-200MI-LPM1	RT-200MI-LPM1
2"	6 to 60	RB-200MI-GPM2	TB-200MI-GPM2	RT-200MI-GPM2	25 to 250	RB-200MI-LPM2	TB-200MI-LPM2	RT-200MI-LPM2
2"	10 to 100	RB-200MI-GPM3	TB-200MI-GPM3	RT-200MI-GPM3	40 to 400	RB-200MI-LPM3	TB-200MI-LPM3	RT-200MI-LPM3
2"	20 to 200	RB-200MI-GPM4	TB-200MI-GPM4	RT-200MI-GPM4	70 to 700	RB-200MI-LPM4	TB-200MI-LPM4	RT-200MI-LPM4

#### Models with PVDF Pipe Fitting Material

3/8"	.8 to 8	RB-375FI-GPM1	TB-375FI-GPM1	RT-375FI-GPM1	3 to 30	RB-375FI-LPM1	TB-375FI-LPM1	RT-375FI-LPM1
3/8"	4 to 4	RB-375FI-GPM2	TB-375FI-GPM2	RT-375FI-GPM2	1 to 10	RB-375FI-LPM2	TB-375FI-LPM2	RT-375FI-LPM2
1/2"	2 to 20	RB-500FI-GPM1	TB-500FI-GPM1	RT-500FI-GPM1	7 to 70	RB-500FI-LPM1	TB-500FI-LPM1	RT-500FI-LPM1
1/2"	.5 to 5	RB-500FI-GPM2	TB-500FI-GPM2	RT-500FI-GPM2	2 to 20	RB-500FI-LPM2	TB-500FI-LPM2	RT-500FI-LPM2
3/4"	3 to 30	RB-750FI-GPM1	TB-750FI-GPM1	RT-750FI-GPM1	11 to 110	RB-750FI-LPM1	TB-750FI-LPM1	RT-750FI-LPM1
3/4"	.8 to 8	RB-750FI-GPM2	TB-750FI-GPM2	RT-750FI-GPM2	3 to 30	RB-750FI-LPM2	TB-750FI-LPM2	RT-750FI-LPM2
1"	5 to 50	RB-100FI-GPM1	TB-100FI-GPM1	RT-100FI-GPM1	20 to 200	RB-100FI-LPM1	TB-100FI-LPM1	RT-100FI-LPM1
1"	2 to 20	RB-100FI-GPM2	TB-100FI-GPM2	RT-100FI-GPM2	7 to 70	RB-100FI-LPM2	TB-100FI-LPM2	RT-100FI-LPM2
1-1/2"	4 to 40	RB-150FI-GPM1	TB-150FI-GPM1	RT-150FI-GPM1	15 to 150	RB-150FI-LPM1	TB-150FI-LPM1	RT-150FI-LPM1
1-1/2"	6 to 60	RB-150FI-GPM2	TB-150FI-GPM2	RT-150FI-GPM2	25 to 250	RB-150FI-LPM2	TB-150FI-LPM2	RT-150FI-LPM2
1-1/2"	10 to 100	RB-150FI-GPM3	TB-150FI-GPM3	RT-150FI-GPM3	40 to 400	RB-150FI-LPM3	TB-150FI-LPM3	RT-150FI-LPM3
2"	4 to 40	RB-200FI-GPM1	TB-200FI-GPM1	RT-200FI-GPM1	15 to 150	RB-200FI-LPM1	TB-200FI-LPM1	RT-200FI-LPM1
2"	6 to 60	RB-200FI-GPM2	TB-200FI-GPM2	RT-200FI-GPM2	25 to 250	RB-200FI-LPM2	TB-200FI-LPM2	RT-200FI-LPM2
2"	10 to 100	RB-200FI-GPM3	TB-200FI-GPM3	RT-200FI-GPM3	40 to 400	RB-200FI-LPM3	TB-200FI-LPM3	RT-200FI-LPM3
2"	20 to 200	RB-200FI-GPM4	TB-200FI-GPM4	RT-200FI-GPM4	70 to 700	RB-200FI-LPM4	TB-200FI-LPM4	RT-200FI-LPM4