

Blue-White[®]

Industries, Ltd.

DigiFlo Digital Paddlewheel Meters

Engineering and Technical Data

F-1000

Machined In-line Fitting
Union connections

Three Model Variations:

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



Features:

- High accuracy digital paddlewheel technology.
- 3/8" through 2" and 16mm through 63mm pipe sizes.
- Flow rate from 1 to 1000 LPM (.4 to 300 GPM).
- Adapter connection options: socket weld/glue, socket fusion, butt fusion, or female BSPT.
- Adapter material options: PVC-U, PP or PVDF.
- Easy to read 6 digit LCD display, up to 4 decimal places.
- Tamper proof factory programming.
- 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 (PP, PVDF adapters)
140° F (60° C) @ 0 PSI (PVC-U adapters)
 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 (0.5 bar) (varies per model)
 Approximate shipping wt: ...5 lb. (2.3 kg)

Materials of Construction:

Pipe fitting bodyOptional: Polypropylene or PVDF
 Adapter Connections:Optional: Polypropylene, PVDF, PVC-U
 Unions:Anodized Aluminum

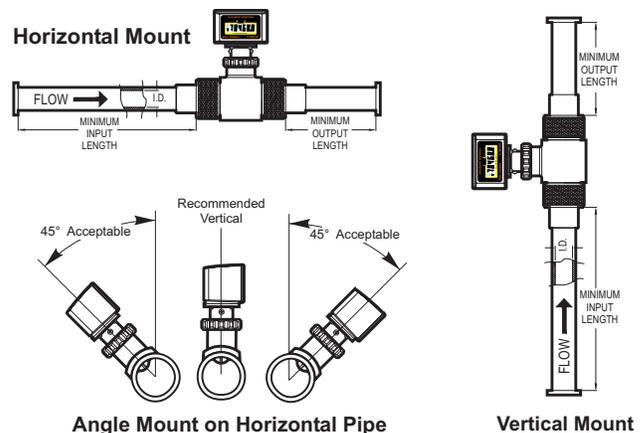
Sensor, paddlewheel, axle: ..PVDF
 Sensor O-ring seals:Viton[®] (optional EP)
 Enclosure:ABS

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

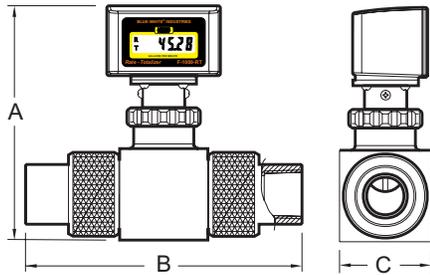
- The meter is designed to withstand outdoor conditions. A cool, dry location, where the unit can be easily serviced is recommended.
- The meter can be mounted on horizontal or vertical runs of pipe. Mounting at the vertical (twelve o'clock) position on horizontal pipe is recommended. Mounting anywhere 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.

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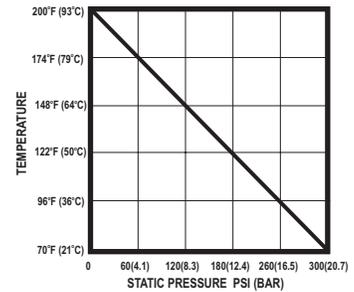
Dimensions:



Pipe Size	A	B	C
3/8" (16)	6-3/8" (162)	7-1/2" (191)	2-1/2" (64)
1/2" (20)	6-3/8" (162)	7-1/2" (191)	2-1/2" (64)
3/4" (25)	6-3/8" (162)	7-1/2" (191)	2-1/2" (64)
1" (32)	6-3/8" (162)	7-1/2" (191)	2-1/2" (64)
1-1/2" (50)	6-5/8" (168)	9-1/2" (241)	2-1/2" (64)
2" (63)	7" (178)	11-1/2" (292)	3" (76)

Inches (mm)

Maximum Temperature vs. Pressure



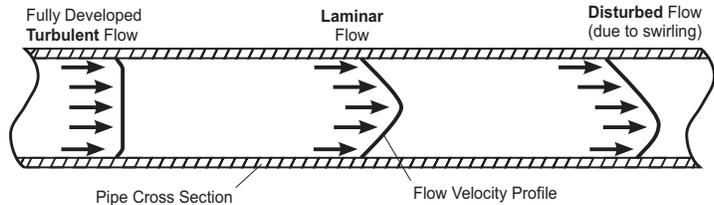
Flow Stream Requirements:

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.

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

Where:

- Flow rate of the fluid in GPM = Q
- Specific gravity of the fluid = G
- Pipe inside diameter in inches = D
- Fluid viscosity in centipoise = V



Model Number Matrix:

RT - 050 PW - LPM 2

Display Function
 RB = Rate of flow only
 TB = Total flow amount only
 RT = Rate and Total flow

Pipe Connection Nominal Size	
016 = 16 mm	375 = 3/8 inch
020 = 20 mm	500 = 1/2 inch
025 = 25 mm	750 = 3/4 inch
032 = 32 mm	100 = 1 inch
050 = 50 mm	150 = 1-1/2 inch
063 = 63 mm	200 = 2 inch

Pipe Fitting type and Material
 PG = PP body with inch PVC-U socket weld/glue connection
 PW = PP body with mm PVC-U socket weld/glue connection
 PS = PP body with inch PP socket fusion connection
 PM = PP body with mm PP socket fusion connection
 PB = PP body with inch PP butt fusion connection
 PC = PP body with mm PP butt fusion connection
 PU = PP body with inch PP female British thread F/BSPT
 KS = PVDF body with inch PVDF socket fusion connection
 KM = PVDF body with mm PVDF socket fusion connection
 KB = PVDF body with inch PVDF butt fusion connection
 KM = PVDF body with mm PVDF butt fusion connection
 KU = PVDF body with inch PVDF female British thread F/BSPT

Calibration Flow Range
 1 = Range 1 (see pipe fitting range data)
 2 = Range 2 (see pipe fitting range data)
 3 = Range 3 (see pipe fitting range data)
 4 = Range 4 (see pipe fitting range data)
 5 = Range 5 (see pipe fitting range data)
 6 = Range 6 (see pipe fitting range data)

Calibration Units
 LPM = Liters per minute
 LPH = Liters per hour
 M3H = Cubic meters per hour
 IGM = Imperial Gallons per minute
 IGH = Imperial Gallons per hour
 CFM = Cubic feet per minute

Pipe Size, Flow Range and Display Model Options:

Polypropylene Models with Polypropylene BSPT Threads Display in Imperial Gallons per Minute

DN F/BSPT	IGM Range	RATE ONLY Model Number	TOTAL ONLY Model Number	RATE & TOTAL Model Number
3/8"	.8 to 8	RB-375PU-GPM1	TB-375PU-GPM1	RT-375PU-GPM1
3/8"	.4 to 4	RB-375PU-GPM2	TB-375PU-GPM2	RT-375PU-GPM2
1/2"	2 to 20	RB-500PU-GPM1	TB-500PU-GPM1	RT-500PU-GPM1
1/2"	.5 to 5	RB-500PU-GPM2	TB-500PU-GPM2	RT-500PU-GPM2
3/4"	4 to 40	RB-750PU-GPM1	TB-750PU-GPM1	RT-750PU-GPM1
3/4"	.8 to 8	RB-750PU-GPM2	TB-750PU-GPM2	RT-750PU-GPM2
1"	6 to 60	RB-100PU-GPM1	TB-100PU-GPM1	RT-100PU-GPM1
1"	2 to 20	RB-100PU-GPM2	TB-100PU-GPM2	RT-100PU-GPM2
1-1/2"	15 to 150	RB-150PU-GPM1	TB-150PU-GPM1	RT-150PU-GPM1
1-1/2"	10 to 100	RB-150PU-GPM2	TB-150PU-GPM2	RT-150PU-GPM2
1-1/2"	6 to 60	RB-150PU-GPM3	TB-150PU-GPM3	RT-150PU-GPM3
1-1/2"	2 to 20	RB-150PU-GPM4	TB-150PU-GPM4	RT-150PU-GPM4
1-1/2"	1 to 10	RB-150PU-GPM5	TB-150PU-GPM5	RT-150PU-GPM5
2"	30 to 300	RB-200PU-GPM1	TB-200PU-GPM1	RT-200PU-GPM1
2"	15 to 150	RB-200PU-GPM2	TB-200PU-GPM2	RT-200PU-GPM2
2"	10 to 100	RB-200PU-GPM3	TB-200PU-GPM3	RT-200PU-GPM3
2"	6 to 60	RB-200PU-GPM4	TB-200PU-GPM4	RT-200PU-GPM4
2"	4 to 40	RB-200PU-GPM5	TB-200PU-GPM5	RT-200PU-GPM5
2"	2 to 20	RB-200PU-GPM6	TB-200PU-GPM6	RT-200PU-GPM6

Polypropylene Models with PVC MM Socket Connections Display in Liters per Minute.

DN mm	LPM Range	RATE ONLY Model Number	TOTAL ONLY Model Number	RATE & TOTAL Model Number
16	3 to 30	RB-375PW-LPM1	TB-375PW-LPM1	RT-375PW-LPM1
16	1 to 10	RB-375PW-LPM2	TB-375PW-LPM2	RT-375PW-LPM2
20	7 to 70	RB-500PW-LPM1	TB-500PW-LPM1	RT-500PW-LPM1
20	2 to 20	RB-500PW-LPM2	TB-500PW-LPM2	RT-500PW-LPM2
25	15 to 150	RB-750PW-LPM1	TB-750PW-LPM1	RT-750PW-LPM1
25	3 to 30	RB-750PW-LPM2	TB-750PW-LPM2	RT-750PW-LPM2
32	25 to 250	RB-100PW-LPM1	TB-100PW-LPM1	RT-100PW-LPM1
32	7 to 70	RB-100PW-LPM2	TB-100PW-LPM2	RT-100PW-LPM2
50	60 to 600	RB-150PW-LPM1	TB-150PW-LPM1	RT-150PW-LPM1
50	25 to 250	RB-150PW-LPM2	TB-150PW-LPM2	RT-150PW-LPM2
50	40 to 400	RB-150PW-LPM3	TB-150PW-LPM3	RT-150PW-LPM3
50	25 to 250	RB-150PW-LPM4	TB-150PW-LPM4	RT-150PW-LPM4
50	7 to 70	RB-150PW-LPM5	TB-150PW-LPM5	RT-150PW-LPM5
63	4 to 40	RB-200PW-LPM1	TB-200PW-LPM1	RT-200PW-LPM1
63	100 to 1000	RB-200PW-LPM2	TB-200PW-LPM2	RT-200PW-LPM2
63	60 to 600	RB-200PW-LPM3	TB-200PW-LPM3	RT-200PW-LPM3
63	25 to 250	RB-200PW-LPM4	TB-200PW-LPM4	RT-200PW-LPM4
63	15 to 150	RB-200PW-LPM5	TB-200PW-LPM5	RT-200PW-LPM5
63	7 to 70	RB-200PW-LPM6	TB-200PW-LPM6	RT-200PW-LPM6