Data Sheet 6.30
Issue B

F1000 DigiFlo Digital Paddle Wheel Flow Meter

Features

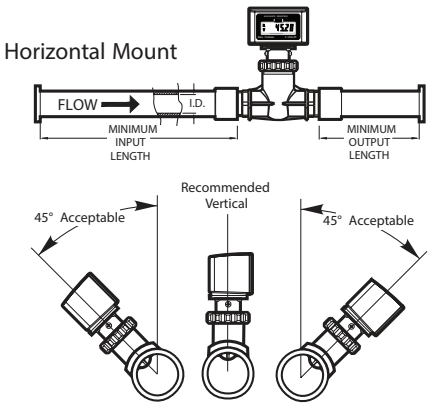
- High accuracy digital paddle wheel technology
- DN25 (1"), DN40 (1-1/2") and DN50 (2") male BSP pipe threads
- Flow rate from 20 to 400 LPM (depending on the size)
- Tamper proof factory programming
- Easy to read 6 digit LCD display, up to 4 decimal places
- Battery operated (2 AAA batteries included)
- Very low pressure drop
- Total reset function can be disabled

Specifications

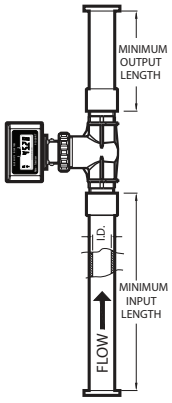
Max Working Pressure	20.7 bar (300 psi) @ 21°C (70°F)
Max Fluid Temperature	93°C (200°F) @ 0 bar
Ambient Temperature Range	-10°C to 43°C (14°F to 110°F)
Full Scale Accuracy	±2 %
Power Requirement	2 AAA batteries (included)
Enclosure	IP56 (NEMA 4X) rated
Maximum Pressure Drop	0.55 bar (8 psi) (varies per model)

Materials

Pipe Fitting	Polypropylene (optional PVDF)
Sensor, Paddle wheel, Axle	PVDF
Sensor O-ring Seals	Viton (optional EP)
Enclosure	ABS



Angle Mount on Horizontal Pipe



Vertical Mount

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	10x Pipe ID	5x Pipe ID
Reducer	15x Pipe ID	5x Pipe ID
90° elbow	20x Pipe ID	5x Pipe ID
Two elbows - 1 direction	25x Pipe ID	5x Pipe ID
Two elbows - 2 directions	40x Pipe ID	5x Pipe ID
Pump or gate valve	50x Pipe ID	5x Pipe ID

Mounting location

- The meter can be mounted in 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 in the table.
- The meter can accurately measure flow from either direction.

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F1000 DigiFlo Digital Paddle Wheel Flow Meter

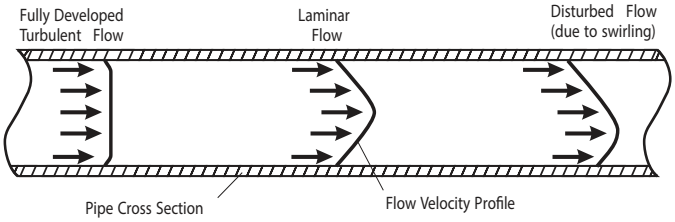
Flow stream requirements

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.

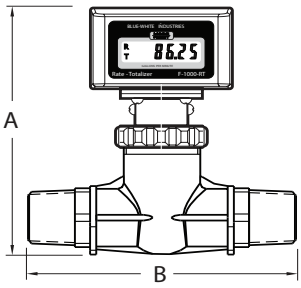
REYNOLDS NUMBER EQUATION:

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

Where:
Flow rate of the fluid in GPM = Q
Specific gravity of the fluid = G
Pipe inside diameter in inches = D
Fluid viscocity in centepoise = V



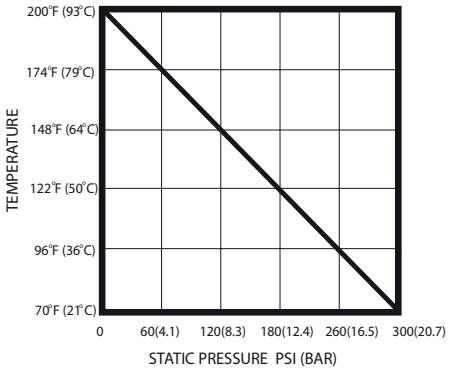
Dimensions



Pipe Size	A	B
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



Ordering Codes

Description	Ordering Code
DN25 (1"), 20-200lmp	RDRB-100MB-LPM1
DN40 (1-1/2"), 25-250lpm	RDRB-150MB-LPM2
DN50 (2"), 40-400lpm	RDRB-200MB-LPM3
DN25 (1"), 20-200lmp with totaliser	RDRT-100MB-LPM1
DN40 (1-1/2"), 25-250lpm with totaliser	RDRT-150MB-LPM2
DN50 (2"), 40-400lpm with totaliser	RDRT-200MB-LPM3
Installation Tee, DN25 (1"), 20-200lpm	RD10MB1
Installation Tee, DN40 (1-1/2"), 25-250lpm	RD15MB2
Installation Tee, DN50 (2"), 40-400lpm	RD20MB3
Blanking cap	RDF-900K

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