

VORTEX SHEDDING FLOWMETER AND TEMPERATURE TRANSMITTER

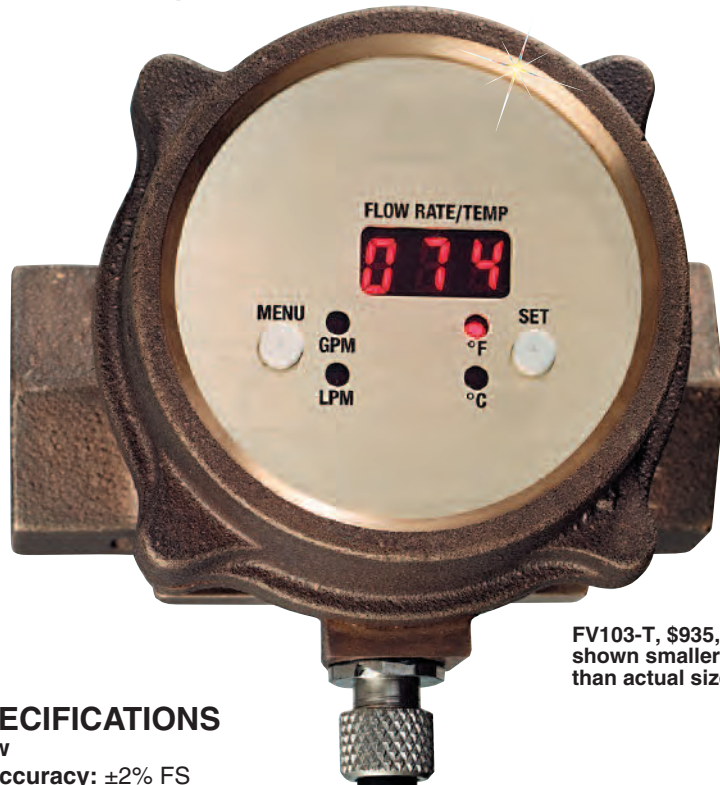
For Water and Coolant

FV101 Series
Starts at
\$500



- ✓ No Moving Parts to Jam
- ✓ ¼ FNPT to 4" Line Sizes
- ✓ LED Display
- ✓ 4 to 20 mA Output
- ✓ SSR Alarm
- ✓ Temperature Measurement Units Feature Separate 4 to 20 mA Output and SSR Alarm

The FV101 Series comprises in-line flowmeters that use the vortex shedding measuring principle. The fluid strikes a bluff body, imparting alternating vortices downstream of the bluff. This creates a pressure on a sensor body containing a piezoelectric crystal. The frequency of the sensor is proportional to the velocity of the fluid and is amplified and converted to a 4 to 20 mA output signal. Vortex technology yields a meter with no moving parts to hang up or wear. The meter has a bright 7.62 mm (0.3") high LED display of flow in either liters or gallons. It can measure flow in any direction, and the display can be rotated 180° for viewing convenience. The FV101 Series can be used with non-viscous, clean, or dirty waterlike liquids that are compatible with brass, PVDF, and FKM. Measured fluids should not contain long fibers or a high level of abrasive solids. These meters are ideal for cooling loops using water or 50% glycols, and for water-soluble machine coolant (up to 10%). These applications are found in most process industries, including rubber, steel, fabrication, manufacturing, refining, paper, chemical, food, petrochemical, and power. Do not use on flammable liquids or on gases such as air.



FV103-T, \$935, shown smaller than actual size.

SPECIFICATIONS

Flow

Accuracy: ±2% FS
Repeatability: ±0.25% FS
Alarm Deadband: 5% FS
Response Time: User selectable from 0.9 to 7.5 seconds
Max Flow: Over range occasionally up to 125% of capacity

Temperature
Accuracy: ±1% FS
Response Time: 1.8 s to 63% of flow
Alarm Deadband: 2%

Display: 3-digit, 7.62 mm (0.3") high numeric LED that flashes below setpoint

Maximum Operating Pressure:
2" and Smaller: 20 bar (300 psig)
3 and 4": 13 bar (200 psig)

Operating Temperature:
 2 to 99°C (35 to 210°F)

Enclosure Rating:
IP65: Type 1, 3, 4, 12, and 13

Analog Output: 4 to 20 mA (600 Ω @ 24 Vdc)

Electrical Connection:

FV100 Units (Flow Only): 5-pin micro male connector,
FV100-T Units (Flow/Temperature): 8-pin male micro connector

Alarm Output: SPST SSR, NO or NC operation, selectable; dual alarms for flow/temperature units

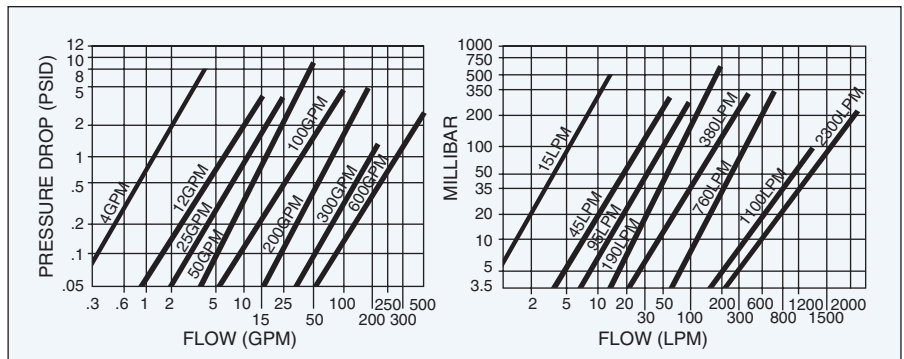
FV101 and 102: 250 mA @ 30 Vdc up to 85°C (185°F)
FV103 thru 108: 125 mA @ 30 Vdc up to 85°C (185°F) reduced current rating at higher temperatures

Power: 10 to 30 Vdc @ 80 mA

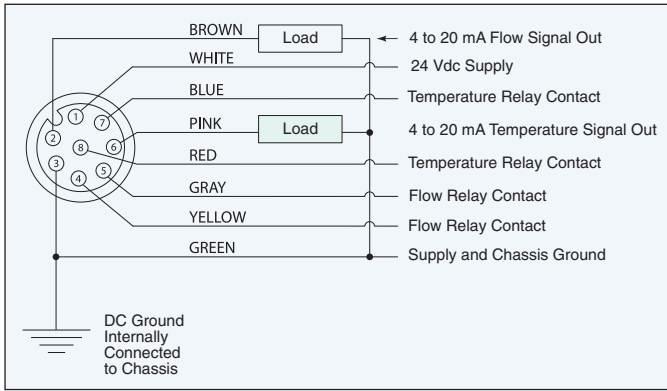
Wetted Parts: Brass, PVDF and FKM seals; 316 SS bodies available for special order on ¼ and ½" sizes, contact Flow Engineering for details.

Installation: 10 pipe diameters upstream and 5 downstream recommended

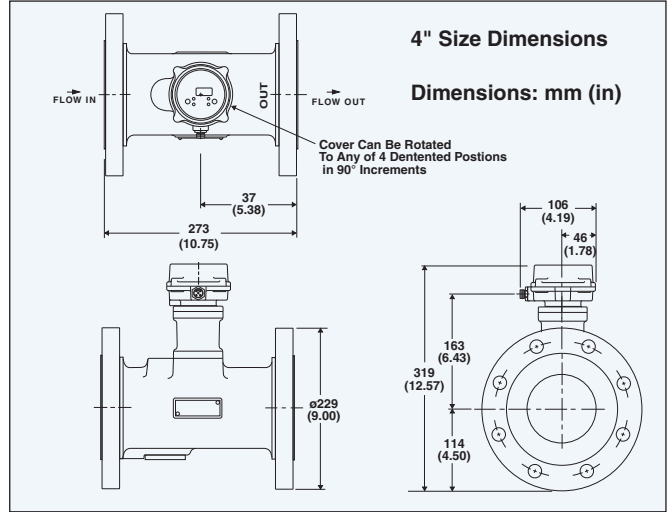
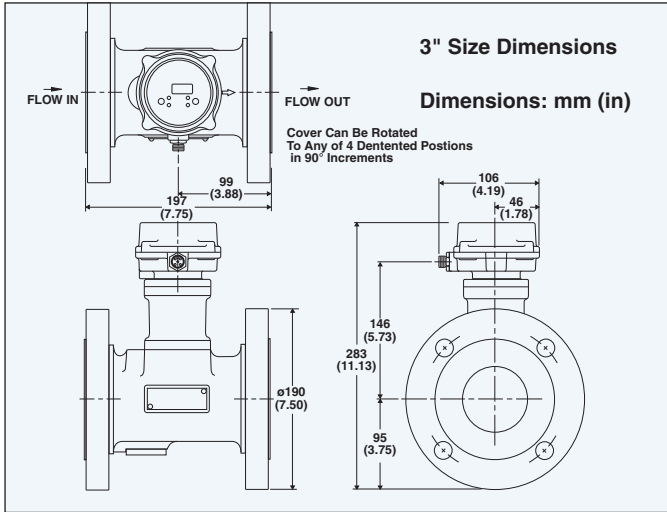
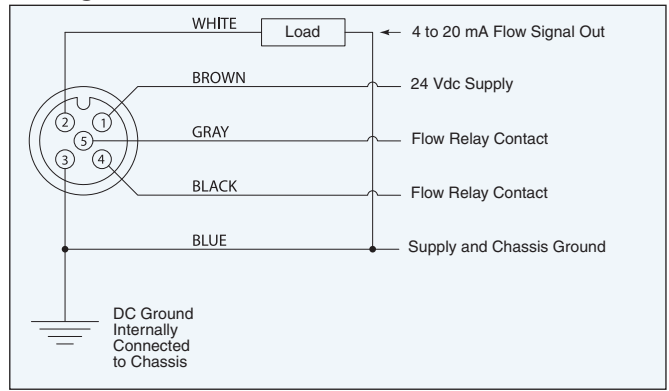
FV100 Pressure Drop Chart



Wiring for FV100-T Series

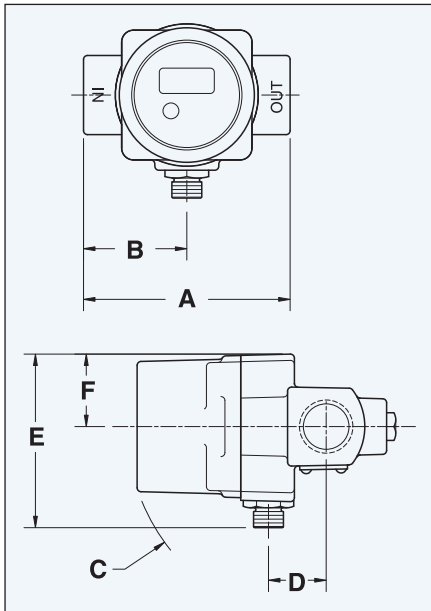


Wiring for FV100 Series



Ø = diameter

Dimensions (¼ thru 2" sizes)



Size (in)	mm (in)					
	A	B	C	D	E	F
¼, ½	82 (3.25)	41 (1.62)	80 (3.13)	23 (0.91)	69 (2.74)	29 (1.15)
¾, 1	115 (4.54)	58 (2.27)	103 (4.04)	53 (2.08)	106 (4.19)	45 (1.78)
1½, 2	173 (6.82)	87 (3.41)	120 (4.71)	71 (2.80)	106 (4.19)	45 (1.78)

MOST POPULAR MODELS HIGHLIGHTED!

To Order (Specify Model Number)

Flowmeter		Flowmeter/ Temperature Transmitter		Connection	Flow Range (GPM)		Pressure Drop psid Max	Weight kg (lb)
Model No.	Price	Model No.	Price		Min	Max		
FV101	\$500	—	—	¼ FNPT	0.4	4	9.2	1.3 (2.8)
FV102	515	—	—	½ FNPT	1.2	12	3.6	1.2 (2.6)
FV103	800	FV103-T	\$935	¾ FNPT	2.5	25	3.6	2.9 (6.3)
FV104	800	FV104-T	935	1 FNPT	5	50	9.5	2.7 (5.9)
FV105	965	FV105-T	1100	1½ FNPT	10	100	4.8	5.9 (13)
FV106	990	FV106-T	1135	2 FNPT	20	200	4.9	4.8 (10.5)
FV107	1995	FV107-T	2130	3" ANSI RF	30	300	1.3	19 (42)
FV108	2480	FV108-T	2625	4" ANSI RF	60	600	1.3	25 (55)

Accessories

Model No.	Price	Description
FV100-C1	\$62	Replacement 1 m (3') cable for FV100 Series
FV100-C3	69	3 m (9.8') cable for FV100 Series
FV100-C10	99	10 m (32.8') cable for FV100 Series
FV100-CT2	99	Replacement 2 m (6.5') cable FV100-T Series
FV100-CT5	115	5 m (16.4') cable for FV100-T Series
FV100-CT10	138	10 m (32.8') cable for FV100-T Series
PSR-24L	60	24 Vdc regulated power supply

Comes complete with operator's manual and 1 m (3') cable.

Ordering Examples: FV101, ¼ FNPT vortex meter, 0.4 to 4 GPM, \$500.

FV104, 1 FNPT 5 to 50 GPM meter, \$800.

Recommended Reference Book: Vortex Shedding and Fluidic Flowmeters Reference Guide, FW-204, \$250. Visit omega.com/bobi for Additional Books



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• Flow and Level

Air Velocity Indicators, Doppler Flowmeters, Level Measurement, Magnetic Flowmeters, Mass Flowmeters, Pitot Tubes, Pumps, Rotameters, Turbine and Paddle Wheel Flowmeters, Ultrasonic Flowmeters, Valves, Variable Area Flowmeters, Vortex Shedding Flowmeters

• pH and Conductivity

Conductivity Instrumentation, Dissolved Oxygen Instrumentation, Environmental Instrumentation, pH Electrodes and Instruments, Water and Soil Analysis Instrumentation

• Data Acquisition

Auto-Dialers and Alarm Monitoring Systems, Communication Products and Converters, Data Acquisition and Analysis Software, Data Loggers Plug-in Cards, Signal Conditioners, USB, RS232, RS485 and Parallel Port Data Acquisition Systems, Wireless Transmitters and Receivers

• Pressure, Strain and Force

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• Heaters

Band Heaters, Cartridge Heaters, Circulation Heaters, Comfort Heaters, Controllers, Meters and Switching Devices, Flexible Heaters, General Test and Measurement Instruments, Heater Hook-up Wire, Heating Cable Systems, Immersion Heaters, Process Air and Duct, Heaters, Radiant Heaters, Strip Heaters, Tubular Heaters