

POSITIVE DISPLACEMENT FLOWMETERS

FPD2000 Series



- ✓ ±0.5% Rdg Accuracy
- ✓ Aluminum, 303 or 316 SS Bodies
- ✓ Pressure Rating Up to 345 bar (5000 psi)
- ✓ Pulse or mA Outputs Available
- ✓ Bi-Directional Flow Capabilities
- ✓ Economical Cost

The FPD2000 Series represents a positive displacement meter that is affordable and accurate. One primary feature is the ability to maintain consistent accuracy despite changing viscosity conditions. This reliability, coupled with a large turndown range, offers an affordable replacement for older turbine technology. The meter's solid construction and excellent dynamic response are well suited to the measurement of oil, grease, fuel, solvents, polyurethanes, brake fluid, skydrol as well as other nonabrasive lubricating fluids. Since there is no need for straight run piping upstream or downstream of the flowmeter, the FPD2000 flowmeters are simple to use and to install. The meters produce good resolution and high accuracy at low flow rates. Flow may be bi-directional, such as for cylinder position measurements, without damage to internal parts.



FPD2004-A shown smaller than actual size.

SPECIFICATIONS

Accuracy: ±0.5% over 10:1 turndown with 30cP fluid

Repeatability: ±0.1%

Max Fluid Temperature:

Aluminum Body: Meter 85°C (185°F)

Stainless Body: Meter 204°C (400°F)

Pressure Maximum: 345 bar (5000 psi)

Wetted Materials

Body:

FPD2000 Series: Aluminum

FPD2010 Series: 303 SS

FPD2020 Series: 316 SS

Gear: Stainless steel

O-Ring: PTFE, FKM (optional)

Bearings: Stainless steel

Outputs

Temperature Range (Electronics): Standard Aluminum and SS versions -40 to 85°C (-40 to 185°F)

Stainless Steel Versions with -HT Option:

-40 to 204°C (-40 to 400°F)

Square Wave: (Basic unit)

Supply Voltage: +10 to 28 Vdc

Supply Current: 8 mA @ 12 Vdc, 12 mA @ 24 Vdc

Duty Signal: 50% ±15%

Minimum Signal: 0.5 Hz

Frequency: Flow dependent, up to 2000 Hz

Driving Capacity: 50 mA max resistive load

Output Impedance: 40 Ω - analog switch and self-resetting fuse

Analog Output (-A Models)

Supply Voltage: 10 to 30 Vdc

Output: 4 to 20 mA

Input: 0.25 Hz to 5 kHz

Amplitude: 1 to 40 Vp-p

Update Time: 1/F + 25 msec

Linearity: ±0.01% rdg

Model No.	Pulses/Liter (Pulses/Gallon)	Body Dia cm (inch)	*Body Height cm (inch)	Filtration (microns)
FPD20X1	14,000 (53,000)	7.6 (3)	8.6 (3.4)	30
FPD20X2	4200 (15,900)	8.4 (3.3)	8.6 (3.4)	30
FPD20X3	1700 (6600)	8.4 (3.3)	8.6 (3.4)	30
FPD20X4	470 (1800)	12.4 (4.9)	13.8 (5.45)	30
FPD20X5	420 (1600)	21.3 (8.4)	17 (6.7)	200

* On analog output models (FPD2XXX-A) add 12 cm (4.8") to the body height to obtain overall height.



FPD2005
shown smaller
than actual size.



DPF701 shown smaller
than actual size,
visit omega.com/dpf701

To Order

Model No.	NPT	Range LPM (GPM)	Description
FPD2001	1/4	0.01 to 3 (0.003 to 0.8)	Aluminum gear meter with pulse output
FPD2002	1/4	0.04 to 7.5 (0.01 to 2)	Aluminum gear meter with pulse output
FPD2003	1/2	0.11 to 26.4 (0.03 to 7)	Aluminum gear meter with pulse output
FPD2004	3/4	0.19 to 75 (0.05 to 20)	Aluminum gear meter with pulse output
FPD2005	1 1/4	1.9 to 227 (0.5 to 60)	Aluminum gear meter with pulse output
FPD2001-A	1/4	0.01 to 3 (0.003 to 0.8)	Aluminum gear meter with 4 to 20 mA output
FPD2002-A	1/4	0.04 to 7.5 (0.01 to 2)	Aluminum gear meter with 4 to 20 mA output
FPD2003-A	1/2	0.11 to 26.4 (0.03 to 7)	Aluminum gear meter with 4 to 20 mA output
FPD2004-A	3/4	0.19 to 75 (0.05 to 20)	Aluminum gear meter with 4 to 20 mA output
FPD2005-A	1 1/4	1.9 to 227 (0.5 to 60)	Aluminum gear meter with 4 to 20 mA output
FPD2011	1/4	0.01 to 3 (0.003 to 0.8)	303 SS gear meter with pulse output
FPD2012	1/4	0.04 to 7.5 (0.01 to 2)	303 SS gear meter with pulse output
FPD2013	1/2	0.11 to 26.4 (0.03 to 7)	303 SS gear meter with pulse output
FPD2014	3/4	0.19 to 75 (0.05 to 20)	303 SS gear meter with pulse output
FPD2015	1 1/4	1.9 to 227 (0.5 to 60)	303 SS gear meter with pulse output
FPD2011-A	1/4	0.01 to 3 (0.003 to 0.8)	303 SS gear meter with 4 to 20 mA output
FPD2012-A	1/4	0.04 to 7.5 (0.01 to 2)	303 SS gear meter with 4 to 20 mA output
FPD2013-A	1/2	0.11 to 26.4 (0.03 to 7)	303 SS gear meter with 4 to 20 mA output
FPD2014-A	3/4	0.19 to 75 (0.05 to 20)	303 SS gear meter with 4 to 20 mA output
FPD2015-A	1 1/4	1.9 to 227 (0.5 to 60)	303 SS gear meter with 4 to 20 mA output
FPD2021	1/4	0.01 to 3 (0.003 to 0.8)	316 SS gear meter with pulse output
FPD2022	1/4	0.04 to 7.5 (0.01 to 2)	316 SS gear meter with pulse output
FPD2023	1/2	0.11 to 26.4 (0.03 to 7)	316 SS gear meter with pulse output
FPD2024	3/4	0.19 to 75 (0.05 to 20)	316 SS gear meter with pulse output
FPD2021-A	1/4	0.01 to 3 (0.003 to 0.8)	316 SS gear meter with 4 to 20 mA output
FPD2022-A	1/4	0.04 to 7.5 (0.01 to 2)	316 SS gear meter with 4 to 20 mA output
FPD2023-A	1/2	0.11 to 26.4 (0.03 to 7)	316 SS gear meter with 4 to 20 mA output
FPD2024-A	3/4	0.19 to 75 (0.05 to 20)	316 SS gear meter with 4 to 20 mA output

Accessories

Model No.	Description
DPF701	Pulse input 6-digit panel meter for rate or total, visit omega.com/dpf701
FPD2000-CONNECTOR	Replacement 6-pin connector for the FPD2000 pulse output models
FPD2000A-CONNECTOR	Replacement 3-pin connector for the FPD2000-A 4 to 20 mA output models

Comes complete with operator's manual, K-factor certificate, and connector. Certificate does not include points and is not a NIST certificate. FPD2000, pulse output models, come with the 6-pin FPD2000-CONNECTOR.

FPD2000-A, 4 to 20 mA output models, come with the FPD2000A-CONNECTOR.

For High Temperature option on stainless steel models, add suffix "-HT" to model number, for additional cost.

Ordering Examples: FPD2003, aluminum gear meter with pulse output, 1/2 NPT connections, 0.03 to 7 GPM range and DPF701 digital 1/8 DIN panel meter with red LED display.

FPD2012-A, 303 SS gear meter with 4 to 20 mA output, 1/4 NPT, 0.01 to 2 GPM range.

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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

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• Data Acquisition

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• 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