2005 Flow Control Innovation Award Winner

Promass Transmitter Features

Promass 80

- Push-button operation for easy programming
- Two-line backlit display so two measuring variables can be freely assigned on the display
- Setup is guided with simple prompts on the display
- Self-diagnostic function with clear text messages on the display to help with troubleshooting

Promass 83

- Quick setup for fast and easy commissioning
- Touch control operation allows programming without opening electronics
- 4-line back lit display
- Advanced diagnostics, batching and concentration measurement

Promass 84

- NTEP approved to NIST Handbook 44, Section 3.37 for liquid and gases
- Analog and MODBUS communications
- Digital information available, even when sealed for custody transfer

FMC Technologies

FMC Technologies and Our Measurement Solutions Legacy Brands

FMC Technologies, Inc. is a global leader providing mission critical technology solutions for the energy industry. Its Measurement Solutions business unit excels in process systems, measurement technologies, transportation, and custody transfer of gases and liquids in the oil and gas industry. FMC Technologies employ approximately 13,500 people and operates 27 production facilities in 16 countries.

FMC Technologies sets the standard for global Best Measurement Practices by designing, manufacturing and servicing the precision products and systems used to measure and control liquids and gases in industrial applications.

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FMC Technologies

+129.38 lb/min
Σ2+183708.6 lb
+25 +50 +75 %

Esc

Proline® Promass F Coriolis Flowmeter

Product Guide for Petroleum and Biofuels Metering

Proline Promass Coriolis Meters

Leading the field
with Coriolis innovations

- Perfected straight dual tube design to make true "Fit-and-Forget" meters, eliminating the need for expensive pipe supports and long lengths of straight pipe runs in your installation
- Solved the problem of zero point drift through highly sophisticated welding and manufacturing techniques that ensure highest accuracy in welding tolerances and lowest impact on zero point stability
- Developed DSP (Digital Signal Processing) technology for Promass 80, 83 and 84 transmitters to improve the signal-to-noise ratio and ensure optimum speed and accuracy – it's the fastest on the market

Benefits of Coriolis Flowmeters from
FMC Technologies

- Self-draining designs eliminate problems with clogging
- High-speed measuring with 20 ms response time
- Increased immunity to common pipeline noise
- Immunity to pipeline loading stress
- Routine re-zeroing of the meters is not necessary
- No supports or braces are needed for installation
- Temperature changes do not affect zero point stability

The right choice for your
custody transfer application

Applications for the downstream petroleum market, from the wellhead to refinery gate include: Pipelines, Floating Storage and Offloading Vessels (FSO & FPSOs), LACT Units, Refining, Lube Plants, Terminals and Distribution (Refined products tank truck loading, petroleum tank truck production, tank truck, railcar and marine loading/unloading and locomotive, marine and aircraft refueling) and Alternative Fuels (Ethanol and Biodiesel production, distribution, blending and denaturing)

Sensors
best price, density accuracy and stability

- Highest density accuracy
- Compact, dual-tube design
- Secondary containment is standard for increased safety
- Universal sensor, handles most applications – sizes 3/8" to 10"
- Sensor material: stainless steel 904L/316L, Alloy C22
- Maximum fluid temperatures up to 660° F
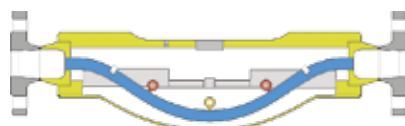- Fully traceable calibration for the highest accuracy

Size Range[1]	lb/min	BPH	GPM
3/8"	0 to 73.5	13	9
1/2"	0 to 238	41	29
1"	0 to 660	113	79
1-1/2"	0 to 1,650	283	198
2"	0 to 2,570	441	309
3"	0 to 6,600	1,132	794
4"	0 to 12,860	2,206	1,544
6"	0 to 29,400	5,043	3,530
10"	0 to 80,840	13,866	9,706

Accuracy		
Liquid		
Linearity	+/- 0.15%	5% to 100% of max flow
Repeatability	.05% in 5 runs *	
Gas		
Mass of Flow Rate	+/- .35%	
Density Accuracy	**80**	**83-84**
Field/Reference	± 0.0005 g/cc	± 0.0005 g/cc
Special Cal.	± 0.001 g/cc	± 0.001 g/cc
Standard Cal.	± 0.01 g/cc	± 0.01 g/cc

Per API Chapter 5.6 Table 1

Features	
Tube Materials	316L and Alloy C22
Secondary Containment	Yes
Process Temperature Range	-58 to 660°F
Max. Pressure Rating	1,500 psi (+)
Remote Version	Yes
Special Features	Smallest 6" & 10" meter on market

[1]Flow rates based on process water

Transmitters most economical, multi-purpose and highly sophisticated

	Promass	
	80	**83-84**
Available Combinations		
F-Sensor	•	•
Features		
Backlit Display	2–line	4–line
Programming		
HART®	•	•
FieldTool	•	•
Push-button	•	
Touch Control		•
Housing		
Compact aluminum	•	•
Compact stainless steel	•	•
Remote aluminum wall mount	•	•
Maximum Remote Distance	65 ft.	65 ft.
Outputs		
Fixed modules	6	11
Flexible modules	0	8
Max number of I/O combinations[1]	4	4
Profibus	PA	PA, PD
Foundation™ Fieldbus		•
Modbus		•
Measured Variables		
Mass flow	•	•
Volumetric flow	•	•
Density	•	•
Temperature	•	•
Totalizers	1	3
Sensor Memory Chip (S-DAT)	•	•
Transmitter Memory Chip (T-DAT)		•
Special Functions (F-CHIP)		
Advanced Diagnostics		•
Concentration Measurement		•
Batching		•
Pulsating Flow Setting		•
Quick Setup (◐ = application specific)	•	◐
Hazardous Area Approvals		
XP; FM Cl. I Div. 1	•	•
Power Supply		
85-260 VAC	•	•
20-55 VAC/16-62 VDC	•	•

[1]**Max number of:**

	Promass 80	83-84
Current outputs	2	3
Frequency outputs	1	2
Status/relay outputs	1	2
Status inputs	1	1