

## 2005 Flow Control Innovation Award Winner

### Promass Transmitter Features

#### Promass 80

- » Push-button operation for easy programming
- » Two-line backlit display to allow two measuring variables to 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 backlit 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



We put you first.  
And keep you ahead.



We put you first.  
And keep you ahead.

## Proline® Promass F Coriolis Flowmeter

Product Guide for  
Petroleum and  
Biofuels Metering



## Measurement Solutions

FMC Technologies  
Measurement Solutions, Inc.  
500 North Sam Houston Parkway West,  
Suite 100  
Houston, Texas 77067 USA  
P: +1 281.260.2190

USA Operation  
1602 Wagner Avenue  
Erie, Pennsylvania 16510 USA  
P: +1 814.898.5000

[www.fmctechnologies.com/measurementsolutions](http://www.fmctechnologies.com/measurementsolutions)

## 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 is 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

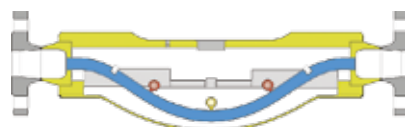
SIZE RANGE <sup>1</sup>	lb/min	BPH	GPM
3/8"	0 to 73.5	13	9
1/2"	0 to 238	41	29
1"	0 to 660	113	79
1-1/2"	0 to 1,650	283	198
2"	0 to 2,570	441	309
3"	0 to 6,600	1,132	794
4"	0 to 12,860	2,206	1,544
6"	0 to 29,400	5,043	3,530
10"	0 to 80,840	13,866	9,706

ACCURACY			
<b>Liquid</b>			
Flow Accuracy	+/- 0.1% of rate		
Linearity	+/- 0.15%	5% to 100% of max flow	
Repeatability	± 0.05% in 5 runs *		
<b>Gas</b>			
Mass of Flow Rate	+/- .35%		
<b>Density Accuracy</b>	<b>80</b>	<b>83-84</b>	
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	1,480 psi
Remote Version	Yes
Special Features	Smallest 6" & 10" meter on market

<sup>1</sup>Flow rates based on process water



## Transmitters most economical, multi-purpose, and highly sophisticated

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

<b><sup>1</sup>Max number of:</b>	Promass 80	83-84
Current outputs.....	2	3
Frequency outputs.....	1	2
Status/relay outputs.....	1	2
Status inputs.....	1	1