

Product Data Sheet
PDS-FLM
2021-01-09

Vortex Eggs Delta Flowmeter

Liquid, Gas and Air



Description

The unique sensor body and Totalizer design makes Eggs Delta one of the most compact, light weight vortex meters in the industry. The injection molded design provides a smooth surface for cleanliness and better chemical compatibility. It is an ideal measurement and monitoring device for most gases, liquids and air applications.

Principle of Operation

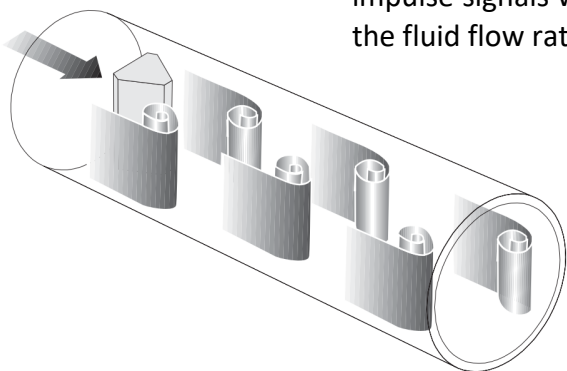
Sparling Vortex Meters measure flow rate based on Karman's vortex shedding principle. The stationary trapezoidal object (bluff body) placed into the path of the flow stream sheds vortices downstream at a frequency proportional to the velocity of flowing media. A piezoelectric sensor detects the vortices and creates electrical impulse signals which is proportional to the fluid flow rate.

Applications

The simple unique construction without any moving parts enables EggsDelta to measure liquid, air and gas flow measurements with very little head loss.

Common Applications Include:

- Deionized Water(RO/DI skids)
- Ultra pure water distribution in medicare, biotech, semiconductor and pharmaceutical market segment
- Cooling Water
- Chemical Feed
- Alcohol
- Air consumption control in compressed air distribution systems
- Gas flow (nitrogen, oxygen, argon, etc) measurements and monitoring
- Sanitary Cleaning



Features

- Sizes include: 0.125", 0.25", 0.5" and 1"
- Injection molded plastic construction
- Single molded one-piece meter and bluff body construction with no moving parts.
- NEMA 4X Enclosure
- Optional Scaled Pulse Outputs or 4-20mA Output with external power
- Each unit is battery powered, which eliminates the need of an external power source and saves wiring and installation cost. The meter will provide a low battery display in case meter needs battery replacement.
- Unique coupling design allows "Free Positioning" of the transmitter for ease of reading regardless of meter body orientation.
- Built in EEPROM stores meter parameters and totalizer reading
- Two separate totalizers with one reset switch keeps the count of individual readings. Two separate indicators display the flow rates in GPM and GPH as required.

Standard Specifications

Accuracy: 0.5" - 1": $\pm 1\%$ of flow (Liquid Only)
 $\pm 3\%$ Full Scale

Repeatability: $\pm 0.5\%$ of full scale

Outputs: 4-20mA: True two wire requiring external power supply - 12-45VDC
 Scaled Pulse Outputs: Three wire system requiring external power supply.
 Pulse Width 30 ms.
 Max. Current 20mA.
 Max. Voltage Impressed 30V.

External Power Supply: 12-45VDC required for 4-20mA or Scaled Pulse Outputs

Display:

- 8 digit totalizer with two separate 4 digit indicators showing flow rate per hour and minute
- 7 digit reset totalizer

Enclosures: NEMA 4X

Process Temp: -4°F to 176°F

Max. Working Pressure: 150 psi

Flow Ranges: See Table

Pressure Loss: Water:

- 0.05-4.56 psi (0.125")
- 0.018-5.04 psi (0.25" - 1")

Air:

- 0.02-0.103 psi (0.125")
- 0.009-0.22 psi (0.25" - 1")

Construction Material: PPS (Polyphenylene Sulphide)

Ambient Temp: -4°F to 140°F

Power: Battery (3.6V lithium) powered if no output (other than display of rate or totalizer) is required (four years of life at room temperature, also provide power reduction alarm)

Process Connections: NPT Threaded Adapters

- R 3/8 - 19..... 0.125" NPT Female
- R 1/2 - 14..... 0.25" NPT Female
- R 3/4 - 14..... 0.5" NPT Female
- R1 1/4 - 11..... 1" NPT Female

How to Order a Eggs Delta

Table 1: Base Model Number						
FLM - Eggs Delta						
Model FLM	Table 2: Applicable Fluids					
	2 - Liquid					
	3 - Gas					
	Fluids 2	Table 3: Size				
		S - 0.125"		0 - 0.25"		
	Size S	1 - 0.5"		2 - 1"		
		Indic. 1	Table 4: Indicator			
1 - with indicator/totalizer						
Output 0	Table 5: Output					
	0 - None					
Const W	1 - Pulse Output					
	2 - 4-20mA					
	Table 6: Construction					
	W - Integral NEMA 4X encl.					
Table 7: Accessories						
NPT Threaded						
Adapters (PVC)						
NPT Threaded						
Adapters (PPS)						

Flow Ranges

Liquid (GPM)

Size (in)	Model # Indicator	Flow Rate (GPM)	Totalizer (gallons)	Min. Flow (4mA)	Max. Flow (20mA)
0.125	FLM2S	x 0.010	x 0.010	0.105	1.05
0.250	FLM20	x 0.010	x 0.010	0.310	3.96
0.500	FLM21	x 0.100	x 0.100	0.750	11.4
1.00	FLM22	x 1.00	x 1.00	2.20	35.1

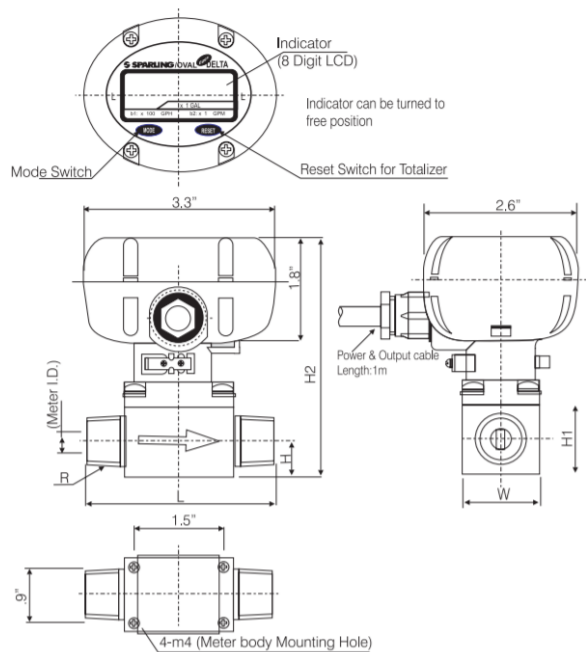
Above table is based on water measurements at 70°F

Gas (scfm)

Size (in)	Model # Indicator	Flow Rate (scfm)	Totalizer (scf)	Min. Flow (4mA)	Max. Flow (20mA)
0.125	FLM3S	x 0.010	x 0.001	0.254	0.590
0.250	FLM30	x 0.100	x 0.010	0.650	3.18
0.500	FLM31	x 1.00	x 0.100	1.94	8.99
1.00	FLM32	x 1.00	x 1.00	5.90	30.2

Above table is based on air measurements at 68°F and atmospheric pressure (14.7 psi)

Flow range may vary under different process conditions such as density and viscosity of the process fluid.



Size (in)	Meter I.D. (in)	L (in)	W (in)	H1 (in)	H2 (in)	*L (in)	H (in)
0.125	0.157	3.15	1.26	4.02	5.12	0.570	1.14
0.250	0.315	3.15	1.26	4.02	5.12	0.570	1.14
0.500	0.551	3.35	1.26	4.02	5.12	0.570	1.14
1.00	0.965	4.72	1.81	4.69	7.48	0.906	1.81

*L = with adapters