

**Analog Odyssey variable area flowmeters provide stable and repeatable flow indication for medium and high flow rates in aggressive and ultra pure applications. Non-intrusive sensing provides an analog signal to electronic read-outs and controls.**

*Flow ranges from 0.1-2.65 GPM (0.4 - 10 l/min.) through 2.2-10.0 GPM (8.33 - 37.80 l/min.) in H<sub>2</sub>O*



## Analog Odyssey<sup>®</sup>

### **Accurate, Reliable and Repeatable Performance**

- 100% functional testing including calibration for accuracy and pressure leak testing—superior performance
- PFA sight tube—media compatibility and improves float visibility
- Guide rod centers float—improved sensing accuracy
- Patented valve provides stable and repeatable flow of process fluids—high resolution and improved linear flow adjustment
- Provides signal for remote readouts and controls—yet allows visual indication of flow
- Serialized graph for each flowmeter—quick and accurate setup

### **Ultra Pure Construction**

- Premium grade fluoropolymers and other high performance plastics—resist corrosion and prevent process contamination
- No exposed metal—eliminates metallic corrosion
- Cleanroom manufacturing and packaging—minimizes potential contamination

flowmeters

## Operation

Analog Odyssey Series variable area flowmeters consist of a magnet encapsulated in a PFA/TFM float inside a vertical tube that tapers upward. Fluid enters at the base of the tube causing the float to rise. As the float inside the tube rises, the area between the float and the tapered tube wall increases. The upward or downward movement of the float corresponds to the rate of fluid flow in the tube. An external housing mounted sensor located at the top of the site tube senses and relays the float position as an analog signal. The incorporation of the shield allows flowmeters to be mounted in close proximity to one another.

## Specifications

### MATERIALS

- Wetted parts:  
*PFA, PTFE, TFM and CTFE*
- Non-wetted parts:  
*PVDF, polyethylene and polypropylene*
- Magnetic shield:  
*PFA coated nickel alloy*

### OPERATING

- Accuracy:  $\pm 5\%$  set point
- Maximum temperature: 120°C (248°F)
- Maximum pressure: 100 psi
- Minimum gap of 1/8" required between magnetic shields when using multiple meters

### ELECTRICAL

- Input: user supplied 12-24 VDC
- Output: 4-20 mA non-isolated sinking output and 1-5 VDC
- Current draw: 90 mA maximum (includes 4-20 mA signal)
- CE compliant version available. Consult factory.

## Configuration Options

### STYLE

- Panel Mount
- Inline
- Inline / Panel Mount

### METERING VALVE

- With or without integral high resolution metering valve

### CONNECTION SIZES

- 1/2" and 3/4" FNPT
- 1/2", 3/4" and 1" fine thread flare
- 1/2", 3/4" and 1" Pillar Super 300®

## Ordering Information

To order, select a configuration and a flow range from the following tables.  
Contact Futurestar for information on additional flow ranges and custom configurations.

Complete Part Number = Configuration + Flow Range (Example: 2B1-005-8F)

### CONFIGURATIONS

STYLE	CONNECTION SIZE		FNPT	FINE THREAD FLARE	PILLAR SUPER 300
PANEL MOUNT	1/2	w/ valve	2B0-XXX-8P	2B0-XXX-8F	2B0-XXX-8S
		w/o valve	2B1-XXX-8P	2B1-XXX-8F	2B1-XXX-8S
	3/4	w/ valve	2B0-XXX-12P	2B0-XXX-12F	2B0-XXX-12S
		w/o valve	2B1-XXX-12P	2B1-XXX-12F	2B1-XXX-12S
	1	w/ valve		2B0-XXX-16F	2B0-XXX-16S
		w/o valve		2B1-XXX-16F	2B1-XXX-16S
INLINE	1/2	w/ valve	2B2-XXX-8P	2B2-XXX-8F	2B2-XXX-8S
		w/o valve	2B3-XXX-8P	2B3-XXX-8F	2B3-XXX-8S
	3/4	w/ valve	2B2-XXX-12P	2B2-XXX-12F	2B2-XXX-12S
		w/o valve	2B3-XXX-12P	2B3-XXX-12F	2B3-XXX-12S
	1	w/ valve		2B2-XXX-16F	2B2-XXX-16S
		w/o valve		2B3-XXX-16F	2B3-XXX-16S
INLINE/ PANEL MOUNT	1/2	w/ valve	2B4-XXX-8P	2B4-XXX-8F	2B4-XXX-8S
		w/o valve	2B5-XXX-8P	2B5-XXX-8F	2B5-XXX-8S
	3/4	w/ valve	2B4-XXX-12P	2B4-XXX-12F	2B4-XXX-12S
		w/o valve	2B5-XXX-12P	2B5-XXX-12F	2B5-XXX-12S
	1	w/ valve		2B4-XXX-16F	2B4-XXX-16S
		w/o valve		2B5-XXX-16F	2B5-XXX-16S

### FLOW RANGES

Ranges below are based on DI water at 23°C (73.4°F).  
Reference water flow chart supplied with each meter.  
All floats are TFM encapsulated magnets.

FLOW GPM (l/min.)	PART NUMBER
0.10-2.65 (0.4-10.00)	00265
0.60-3.65 (2.27-13.80)	00365
0.70-5.00 (2.65-18.90)	005
1.75-7.50 (6.62-28.39)	0075
2.20-10.00 (8.33-37.80)	010

### OPTIONAL DISPLAYS AND ACCESSORIES

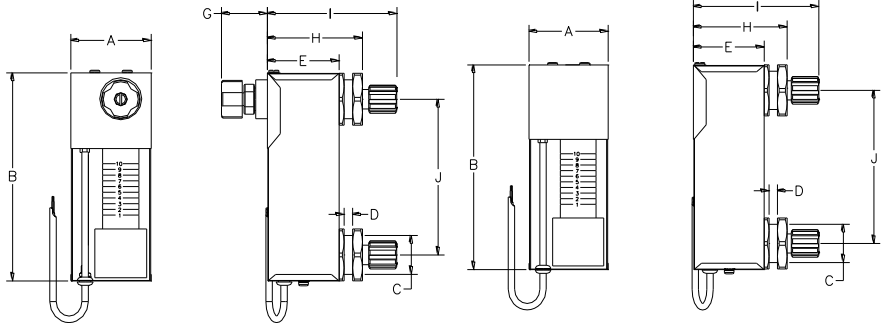
Optional displays and accessories are ordered separately.  
Contact Futurestar for more information.

	DESCRIPTION	PART NUMBER
DISPLAYS CE Compliant	<b>Display Option A</b> <ul style="list-style-type: none"> <li>6 digit LED display with 4 ½ digit resolution, linearization and totalization</li> <li>Power: 230 VAC</li> </ul>	410-001
	<b>Display Option B</b> <ul style="list-style-type: none"> <li>6 digit LED display with 4 ½ digit resolution, linearization and totalization</li> <li>Controller 1: Two 5 amp relays</li> <li>Power: 230 VAC</li> </ul>	420-001
	<b>Display Option C</b> <ul style="list-style-type: none"> <li>6 digit LED display with 4 ½ digit resolution, linearization and totalization</li> <li>Controller 1: Two 5 amp relays</li> <li>Controller 2: 4-20 mA output</li> <li>Power: 230 VAC</li> </ul>	420-002
ACCESSORIES	<b>Power Supply</b> <ul style="list-style-type: none"> <li>12 volt</li> </ul>	430-001
	<b>Serial Communications</b>	Contact Futurestar

# Installation Drawings

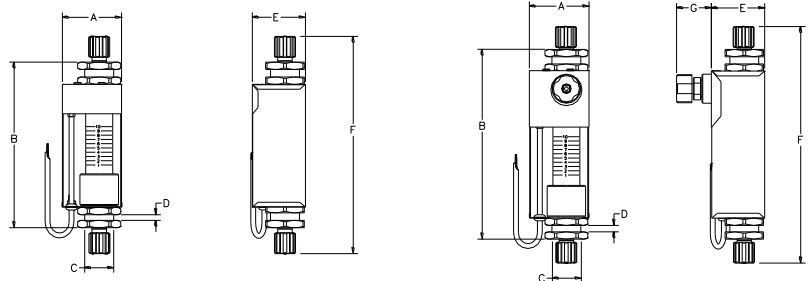
## PANEL MOUNT

		Inches	mm
A	Width	3.10	78.7
B	Height	8.02	203.7
C	Panel hole dia.	1.62	41.2
D	Panel thickness	0.33	8.4
E	Depth	2.77	70.4
F	1/2" flarenut	NA	NA
	3/4" flarenut	NA	NA
	1" flarenut	NA	NA
G	Valve open	NA	NA
	Valve closed	NA	NA
H	Dimension	3.67	93.2
I	1/2" flarenut	4.91	124.7
	3/4" flarenut	4.95	125.7
	1" flarenut	5.15	130.8
J	Flr. cent. to cent.	6.00	152.4



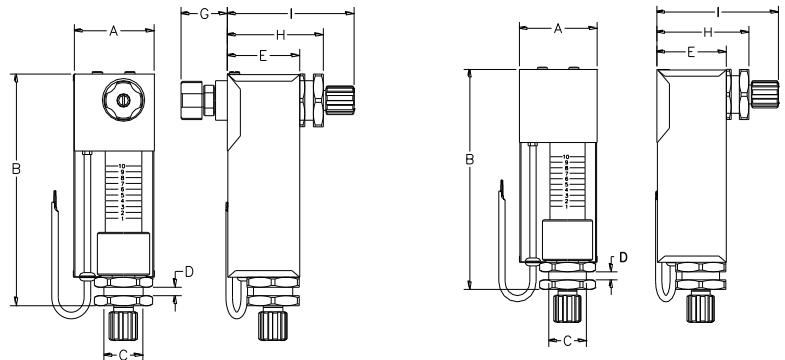
## INLINE

		w/valves		without valves	
		Inches	mm	Inches	mm
A	Width	3.10	78.7	3.10	78.7
B	Height	9.82	249.4	8.55	217.1
C	Panel hole dia.	1.62	41.2	1.62	41.2
D	Panel thickness	0.33	8.4	0.33	8.4
E	Depth	2.77	70.4	2.77	70.4
F	1/2" flarenut	11.21	264.6	11.21	284.7
	3/4" flarenut	11.11	282.2	11.23	285.2
	1" flarenut	11.51	292.4	11.51	292.4
G	Valve open	2.56	65.0	NA	NA
	Valve closed	1.77	45.0	NA	NA
H	Dimension	NA	NA	NA	NA
I	1/2" flarenut	NA	NA	NA	NA
	3/4" flarenut	NA	NA	NA	NA
	1" flarenut	NA	NA	NA	NA
J	Flr. cent. to cent.	NA	NA	NA	NA



## INLINE / PANEL MOUNT

		Inches	mm
A	Width	3.10	78.7
B	Height	8.92	226.6
C	Panel hole dia.	1.62	41.2
D	Panel thickness	0.33	8.4
E	Depth	2.77	70.4
F	1/2" flarenut	NA	NA
	3/4" flarenut	NA	NA
	1" flarenut	NA	NA
G	Valve open	NA	NA
	Valve closed	NA	NA
H	Dimension	3.67	93.2
I	1/2" flarenut	4.91	124.7
	3/4" flarenut	4.95	125.7
	1" flarenut	5.15	130.8
J	Flr. cent. to cent.	NA	NA



\*Pillar Super 300 dimensions available upon request.

U.S. Patents: 5565631, 5549277, 5381826, 5078004 • Others pending  
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 Super 300 Type Pillar Fitting® is a trademark of NIPPON PILLAR PACKING CO., LTD.

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