

Pathfinder Series variable area flowmeters provide stable and repeatable flow indication for ultra low, low and medium flow rates in aggressive and ultra pure applications.

Flow ranges from 0 - 10 ml/min. through 2800 - 6000 ml/min. in H₂O



Pathfinder[®]

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
- Serialization—quality control tracking and custom configurations
- Patented valve provides stable and repeatable flow of process fluids—high resolution and improved linear flow adjustment

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

Pathfinder Series variable area flowmeters consist of a solid float inside a vertical tube. Fluid enters at the base of the tube causing the float to rise. As the rate of flow increases, the float inside the tube rises, the area between the float and the tube wall increases. The upward or downward movement of the float corresponds to the rate of fluid flow in the tube. Gradations from 1 through 10, marked on the outside of the tube, allow the observer to reference the flow rate by the position of the float in the tube. Direct read scale labels are available. (*Consult factory*) Three flowmeter designs provide optimized performance for ultra low, low and medium flow.

Specifications

MATERIALS

- Wetted parts:
PTFE, PFA, TFM and CTFE
- Non-wetted parts:
PVDF and polypropylene

OPERATING

- Accuracy: $\pm 5\%$ full scale
- Maximum temp: 120°C (248°F)
- Maximum pressure: 100 psi

COMPATIBLE ACCESSORIES

- Sentinel[®], Electronic Sentinel[®] and Mini Electronic Sentinel[®] series float position sensors
- Snap ring float position indicators

Configuration Options

STYLE

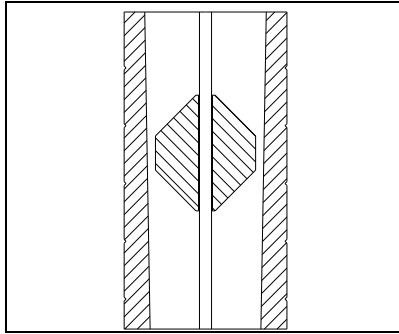
- Panel Mount
- Inline
- Inline / Panel Mount

METERING VALVE

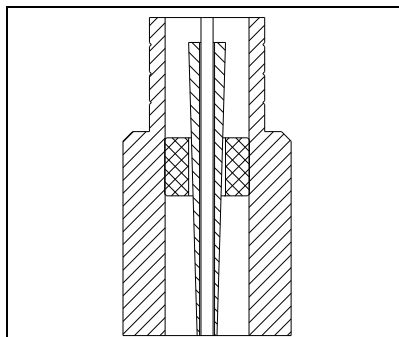
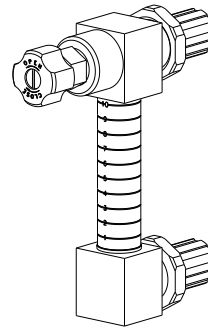
- With or without integral high resolution metering valve

CONNECTION SIZES

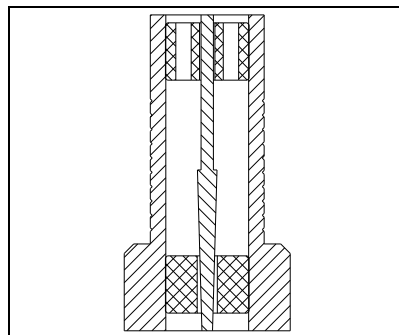
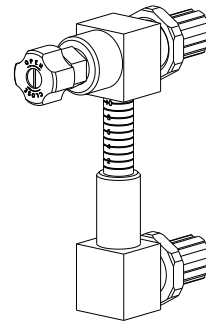
- 1/4" and 3/8" FNPT
- 1/4", 3/8" and 1/2" fine thread flare
- 1/4", 3/8" and 1/2" coarse thread flare
- 1/8", 1/4", 3/8" and 1/2" Pillar Super 300[®]



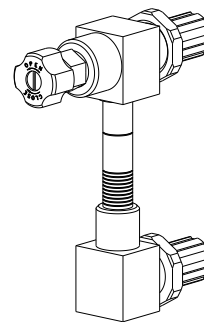
Medium Flow (Actual float design may vary based on flow range)



Low and Medium Flow — Tapered Float



Ultra Low Flow — Tapered Float



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: 148-010)

CONFIGURATIONS

STYLE	CONNECTION SIZE		FNPT	FINE THREAD FLARE	COARSE THREAD FLARE	PILLAR SUPER 300
PANEL MOUNT	1/8*	w/ valve				172
		w/o valve				173
	1/4*	w/ valve	100	148	154	174
		w/o valve	101	149	155	175
	3/8	w/ valve	102	118	156	176
		w/o valve	103	119	157	177
1/2	w/ valve		120	158	178	
	w/o valve		121	159	179	
INLINE	1/8*	w/ valve				180
		w/o valve				181
	1/4*	w/ valve	104	150	160	182
		w/o valve	105	151	161	183
	3/8	w/ valve	106	122	162	184
		w/o valve	107	123	163	185
1/2	w/ valve		124	164	186	
	w/o valve		125	165	187	
INLINE/ PANEL MOUNT	1/8*	w/ valve				188
		w/o valve				189
	1/4*	w/ valve	108	152	166	190
		w/o valve	109	153	167	191
	3/8	w/ valve	110	126	168	192
		w/o valve	111	127	169	193
1/2	w/ valve		128	170	194	
	w/o valve		129	171	195	

*Contact Futurestar for applications greater than 3000 ml/min. when using these connection sizes.

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 solid PTFE unless noted.

FLOW (ml/min.)	PART NUMBER	FLOW (ml/min.)	PART NUMBER	FLOW (ml/min.)	PART NUMBER
ULTRA LOW FLOW		MEDIUM FLOW		MEDIUM FLOW CONT.	
0 - 10	00010	35 - 400	004	185 - 3000	030 [■]
0 - 20	00020	65 - 450	0045	1000 - 3000	0300 [▲]
LOW & MEDIUM FLOW		90 - 500	005	540 - 3500	035 [■]
5 - 75	00075	150 - 600	006	1200 - 3500	0350 [▲]
5 - 125	00125	330 - 800	008	1000 - 4000	040 [■]
5 - 250	00250	90 - 1000	010	1550 - 4000	0400 [▲]
10 - 350	00350	220 - 1200	012	1300 - 4500	045 [■]
10 - 400	00400	350 - 1500	015	1350 - 4600	046 [■]
25 - 500	00500	135 - 1800	018	1760 - 5000	050 [■]
25 - 800	00800	260 - 1900	019	2100 - 5500	055 [■]
25 - 1000	01000	325 - 2000	020	2800 - 6000	060 [■]
40 - 1500	01500	450 - 2200	022		
110 - 2000	02000	700 - 2500	025		

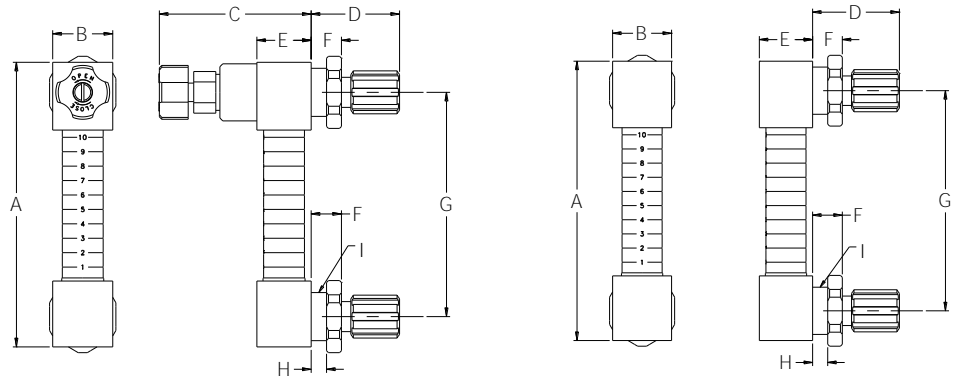
[■]Fluoropolymer encapsulated stainless steel weighted float

[▲]1/8 & 1/4 port connections not recommended for flow ranges > 3000 ml/min.

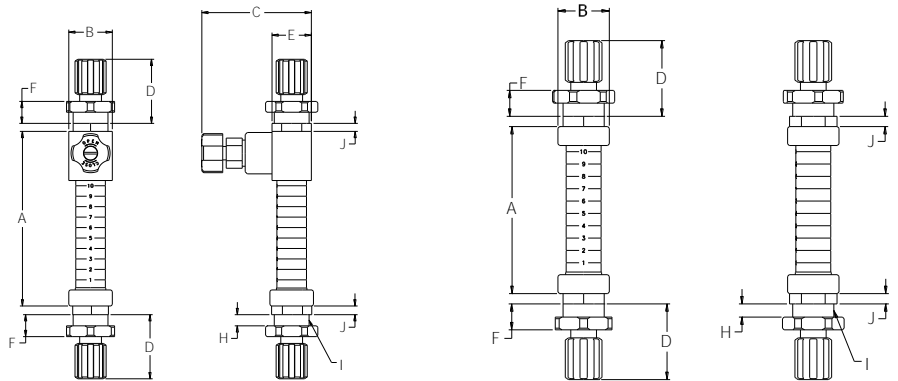
Installation Drawings

	Description	inches	mm
A	Height (Panel Mount)	5.91	150.1
	Height (Inline w/ valve)	4.94	125.5
	Height (Inline w/o valve)	3.9	99.1
	Height (Inline/Panel Mount)	4.94	125.5
B	Width	1.25	31.8
C	Valve Open	3.64	92.5
	Valve Closed	3.16	80.3
D	1/4" Flare	1.79	45.5
	3/8" Flare	1.86	47.2
	1/2" Flare	1.94	49.3
	1/8" Super 300	1.22	31.0
	1/4" Super 300	1.38	35.0
	3/8" Super 300	1.61	41.0
	1/2" Super 300	1.77	45.0
NPT	0.63	16.0	
E	Depth	1.13	28.7
F	Panel Mount Thread Height	0.63	16.0
G	Flare Center to Center	4.63	117.6
H	Panel Thickness	0.31	7.9
I	Panel Hole Diameter	1.06	26.9
J	Hex Height	0.25	6.4

PANEL MOUNT



INLINE



Actual flowmeter may vary from drawing based on float style. See Page 2 for styles. Mounting dimensions remain the same as shown above.

INLINE / PANEL MOUNT

