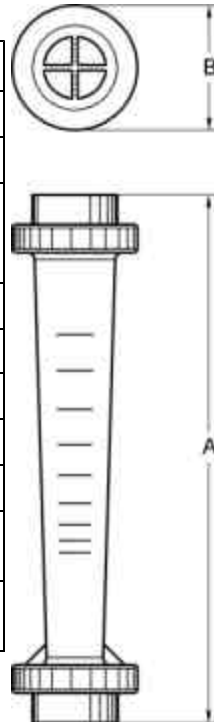


INSTALLATION INSTRUCTIONS

F-451

Specifications	
Meter Body:	Polysulfone
Shield:	Polycarbonate (optional)
Floats:	#316 Stainless Steel (optional: Teflon, Hastelloy C-276)
Adapters:	PVC (optional: Brass)
O-Rings:	Viton
Union Nuts:	PVC
Float Stops:	Viton
Scale:	Permanent Silkscreen
Max. Pressure:	See Temp vs. Pressure chart
Max. Temperature:	See Temp vs. Pressure chart



F-451 Series	
English System	
Letter	Dimension
A	14-1/2 in
B	3-3/16 in.

F-451 Series	
Metric System	
Letter	Dimension
A	(368.3 mm)
B	(81.0 mm)

Your Blue-White F-451 Series In-Line Flowmeter

Your Blue-White flowmeter was designed to be easy to install.

Please read the Instruction Guideline on the next page before installing your flowmeter.

This flowmeter is an instrument, and special care should be taken when installing.

Installation Guide

Caution: Follow these tips to avoid failure.

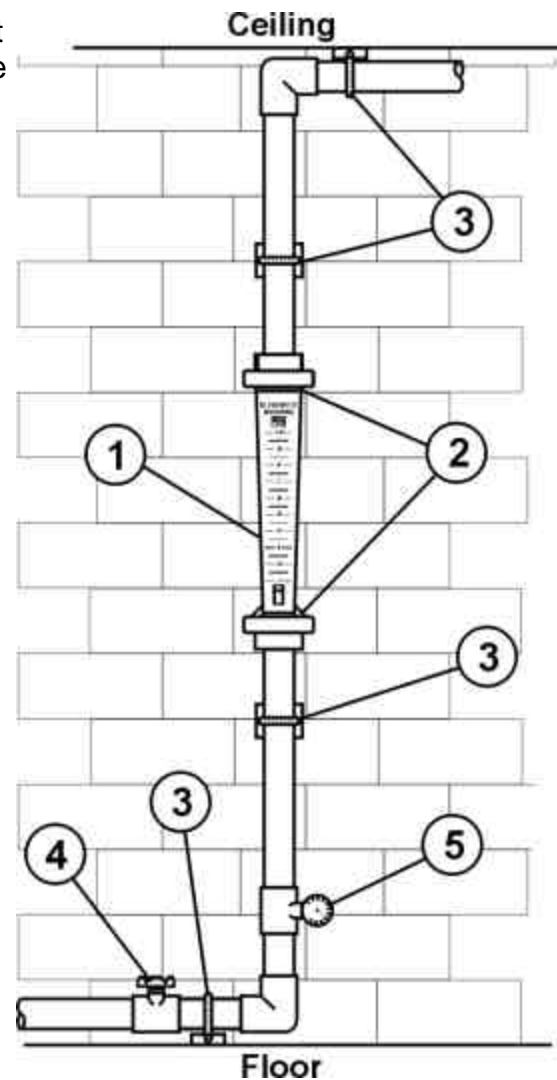
Danger: Wear eye protection when installing or removing flowmeter.

1. Flowmeter must be installed in an exact vertical plane to ensure accuracy. Use Teflon® tape (or similar) for the flowmeters threaded adapters.
2. Hand tighten union nuts. **No wrenches.**
3. Wall, floor and ceiling mounts are to be carefully aligned and sturdy. Wall, floor and ceiling supports are recommended as needed. Never allow the flowmeter to support the weight of related piping or tubing.
4. Valves - Avoid a system that will impose a sudden burst of flow to the

meter. Such a burst will cause the float to impact the float stop with destructive force. Magnet, solenoid, or other quick opening valves cannot be used unless meter is protected against sudden bursts of flow.

5. Maximum working pressure not to exceed recommended psi at fluid temperature (see Temperature Vs. Pressure chart).

Blue-White® guarantees the meter is suitable with air and water only.

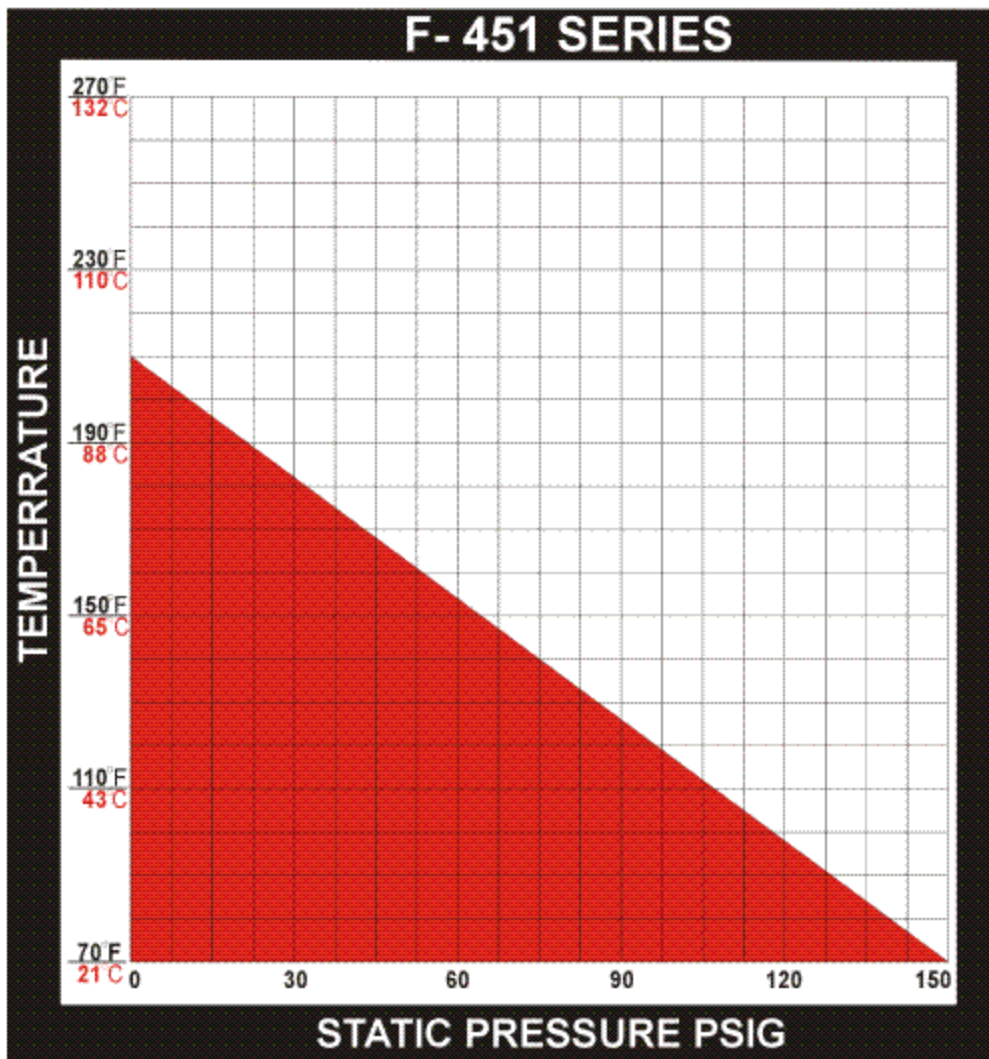


Maintenance

- * Your flowmeter has been designed to be virtually maintenance free. Should your unit need occasional cleaning, use a mild soap and bottle brush.
- * Be sure to note the floats "UP" position before disassembling the meter.

Cleaning: The flowmeter body and all other parts can be cleaned by washing in a mild soap and water solution. A soft bristle brush will simplify cleaning inside the meter body. Note the floats up position for re-assembly.

Pressure Vs. Temperature



Pressure and Temperature

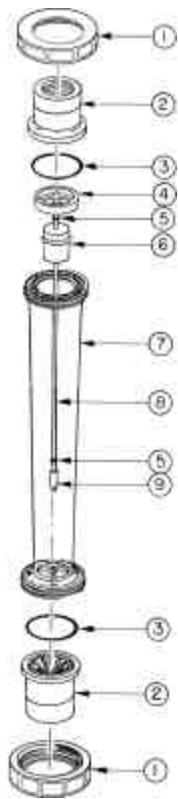
Pressure and temperature limits are inversely proportional. At the maximum suggested pressure the temperature should approach 70°F / 21°C; at the maximum suggested temperature the pressure should approach zero psi. We cannot guarantee our flowmeters will not be damaged either at or below the suggested limits simply because of many factors which influence meter integrity; stress resulting from meter misalignment, damage due to excessive vibration and/or deterioration caused by contact with certain chemicals as well as direct sunlight. These situations and others tend to reduce the strength of the materials from which the meters are manufactured.

Flowmeters are tested and calibrated for water or air only.

Although meters may be suitable for other chemicals, Blue-White cannot guarantee their suitability.

Exploded View and Parts List

Replacement Parts List		
Key	Description	Part Number
1	Union Nut	F-45038N
2	adapter, 1" FNPT, Polysulfone	F-45030N



2	adapter, 1" FNPT, Brass	F-45047N
2	adapter, 1" SWEAT, Brass	F-45039N
3	O-Ring, Viton	2-136V
4	Wireholder, Top	F-45025
5	Float Stop, .5-6, 1-10, 2-20, 8-80 Viton	2-006V
5	Float Stop, 3-30, 4-40 Viton	2-008V
6	Float, .5-6 GPM Teflon	F-45032T
6	Float, 1-10 GPM Stainless	F-45033
6	Float, 1-10 GPM Teflon	F-45054T
6	Float, 2-20 GPM / 8-80 SCFM Stainless	F-45035
6	Float, 2-20 GPM Hastelloy	F-45035H
6	Float, 3-30 GPM Stainless	F-45037
6	Float, 3-30 GPM Hastelloy	F-45036H
6	Float, 4-40 GPM Stainless	F-45049
6	Float, 4-40 GPM Hastelloy	F-45050
7	Meterbody .5-6 GPM	F-45023N-4
7	Meterbody 1-10 GPM	F-45023N
7	Meterbody 2-20 GPM	F-45023N-1
7	Meterbody 3-30 GPM	F-45023N-2
7	Meterbody 4-40 GPM	F-45023N-3
7	Meterbody 8-80 SCFM	F-45023N-5
7	Meterbody 3.8-38 LPM	F-45023N-L
7	Meterbody 7.5-75 LPM	F-45023N-1L
7	Meterbody 12-115 LPM	F-45023N-2L
7	Meterbody 15-155 LPM	F-45023N-3L
8	Guide Wire, .5-6, 1-10, 2-20, 8-80, SS	F-45028
8	Guide Wire, .5-6, 1-10, 2-20, 8-80, HAST	F-45028H
8	Guide Wire, 3-30 Stainless	F-45028-2
8	Guide Wire, 3-30 Hastelloy	F-45028H-2
8	Guide Wire, 4-40 Stainless	F-45059
8	Guide Wire, 4-40 Hastelloy	F-45059H
9	Wireholder, .5-6, 1-10, 2-20, 3-30, 8-80	F-45046
9	Wireholder, 4-40 GPM / 15-155 LPM Only	F-45045

Shaded indicates items not sold separately.

Flowmeter Conversion Table for Liquids with specific gravities other than 1.0

Specific Gravity	0	1	2	3	4	5	6	7	8	9
	CONVERSION FACTOR									
0.4	1.647	1.626	1.605	1.585	1.565	1.548	1.529	1.513	1.495	1.479
0.5	1.426	1.447	1.433	1.418	1.404	1.391	1.377	1.364	1.351	1.339
0.6	1.326	1.316	1.304	1.292	1.282	1.271	1.259	1.250	1.239	1.229
0.7	1.220	1.211	1.202	1.192	1.183	1.175	1.167	1.157	1.149	1.142
0.8	1.134	1.125	1.117	1.111	1.104	1.096	1.089	1.082	1.075	1.068
0.9	1.062	1.055	1.048	1.042	1.035	1.030	1.024	1.017	1.011	1.005
1.0	1.000	0.994	0.988	0.982	0.978	0.972	0.967	0.962	0.956	0.951
1.1	0.947	0.943	0.936	0.932	0.927	0.923	0.917	0.913	0.909	0.904
1.2	0.900	0.895	0.891	0.887	0.883	0.878	0.871	0.870	0.866	0.862
1.3	0.858	0.854	0.850	0.846	0.842	0.838	0.835	0.831	0.827	0.824
1.4	0.820	0.818	0.814	0.810	0.806	0.803	0.800	0.797	0.794	0.791
1.5	0.787	0.784	0.781	0.778	0.776	0.773	0.770	0.767	0.764	0.759

1.6	0.756	0.754	0.751	0.748	0.745	0.742	0.740	0.737	0.734	0.730
1.7	0.728	0.726	0.723	0.720	0.717	0.714	0.712	0.709	0.706	0.704
1.8	0.701	0.699	0.696	0.694	0.691	0.689	0.686	0.684	0.682	0.679
1.9	0.677	0.674	0.672	0.669	0.667	0.665	0.663	0.661	0.658	0.657
2.0	0.654	0.652	0.650	0.648	0.646	0.644	0.641	0.640	0.637	0.636
Example: Sp. Gr. of 1.54 ; use factor of 0.776										
Please Note: Although Blue White has obtained this information from reliable sources, the company can not assume any responsibility for its accuracy. Please verify this information before using.										

Blue White Limited Warranty

- * Blue White Flowmeters are warranted to be free from defects in material and workmanship for 12 months from date of factory shipment. Warranty coverage is limited to repair or replacement of the defective flowmeter only.
- * Blue White Industries liability for consequential and incidental damages is expressly disclaimed and in all circumstances is limited to and shall not exceed, the purchase price paid. This limitation of liability shall be enforced to the extent allowable under applicable law.
- * This warranty does not cover damage to the flowmeter that results from misuse or alterations, nor damage that occurs as a result of: meter misalignment, improper installation, over tightening, use of non recommended chemicals, use of non-recommended pipe dopes or adhesives, excessive heat or pressure or allowing the meter to support the weight of related piping .
- * Flowmeters are repaired at the factory only. Call or write the factory to receive a return authorization number. Carefully pack the flowmeter to be returned, including a brief description of the problem. Not the R.A. number on the outside of the carton.
- * **PREPAY ALL SHIPPING COSTS.** The factory does not accept C.O.D. shipments. Damage that occurs during shipping is the responsibility of the sender.

Blue-White® Industries