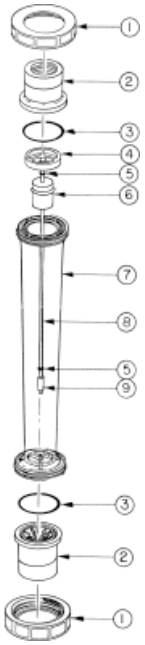
F-451 Exploded View and Parts List



Item	Catalog	Description	Amount
1	F-45038N	Union Nut	2
2	F-45030N F-45047N F-45039N F-45036	Adapter, vertical, 1" F/NPT PSF Adapter, vertical, 1" F/NPT Brass Adapter, vertical, 1" sweat Brass Adapter, vertical, 1-1/2" M/NPT	2
3	2-136V	O-Ring 2-136 Viton	2
4	F-45025	Wireholder, Top	1
5	2-006A	Float Stop, .5-6, 1-10, 2-20, 8-80	1
6	F-45032T F-45033 F-45054T F-45034 F-45035H F-45037	Float, .5 - 6 GPM PTFE Float, 1 - 10 GPM, Stainless Steel Float, 1 - 10 GPM, PTFE Float, 2 - 20 GPM, 8 - 80 SCFM, SS Float, 2 - 20 GPM, Hastelloy Float, 3 - 30 GPM, Stainless Steel	1
7	F-45023N-4 F-45023N F-45023N-1 F-45023N-2	.5 - 6 GPM / 2 - 20 LPM, PSF 1 - 10 GPM / 4 - 40 LPM, PSF 2 - 20 GPM / 7.5 - 75 LPM, PSF 3 - 30 GPM / 12 - 115 LPM, PSF	1
8	F-45028 F-45028H F-450028-2	Guide Wire, .5-6, 1-10, 2-20,8-80 SS Guide Wire, .5-6, 1-10, 2-20, 8-80 HAST Guide Wire, 3-30, 4-40 Stainless Steel	1
9	F-45046	Wireholder, .5-6, 1-10, 2-20, 8-80	1
Not	F-45034S	Shield, clear polycarbonate	1
Not	F-45034	Adapter, for shield, PVC	2

BLUE-WHITE INDUSTRIES LIMITED WARRANTY

FLOWMETERS are warranted to be free of defects in material and workmanship for up to 12 months from the date of factory shipment. Warranty coverage is limited to repair or replacement of the defective flowmeter only. Blue-White Industries does not assume responsibility for any other damage that may occur.

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-reccomended adhesives or pipe dopes, excessive heat or pressure, or allowing the meter to support the weight of related piping. Flowmeters are tested and calibrated with water only. Although meters may be suitable for other chemicals, Blue-White cannot guarantee their suitability.

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. Note the RA number on the outside of the carton.

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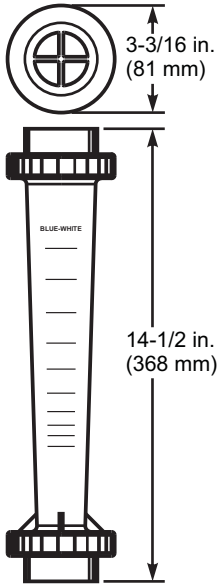
Installation Instructions
F-451



Materials of Construction

Meter Body:	Polysulfone
Shield (optional):	Polycarbonate
Float:	316SS, Hastelloy C-276, or PTFE (based on model)
Guide rod:	# 316 Stainless (opt. Hastelloy C-276)
Adapters:	Polysulfone or PVC (optional Brass)
Wireholder:	Polysulfone
Float Stop:	TFE/P (Aflas)
Union Nuts:	Nylon
O-Rings:	Viton
Scale:	Permanent, dual scale silkscreen (black ink)
Accuracy:	± 3% of full scale reading

Your Blue-White® F-451 Series

- 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, special care should be taken when handling and installing.

Inspection of the Flowmeter and Compatibility

- Check for damage while unpacking the flowmeter.
- Remove any instruction sheets and shipping materials that may have been inserted into the meter body for shipping reasons. (A length of tubing is sometimes inserted into the meter body to prevent float movement during shipping).
- Be sure the meter and the materials of construction are suitable for your application.
- The maximum temperature and pressure is shown on the following pages.
- Although the meter may be suitable for use with other fluids, Blue-White® meters are tested with water only. If you are not sure that the meter is compatible with your fluid, consult the factory.
- The meter can be damaged by UV light. **Do not install the meter in direct sunlight.**
- **Blue-White® guarantees the meter is suitable with water only.**

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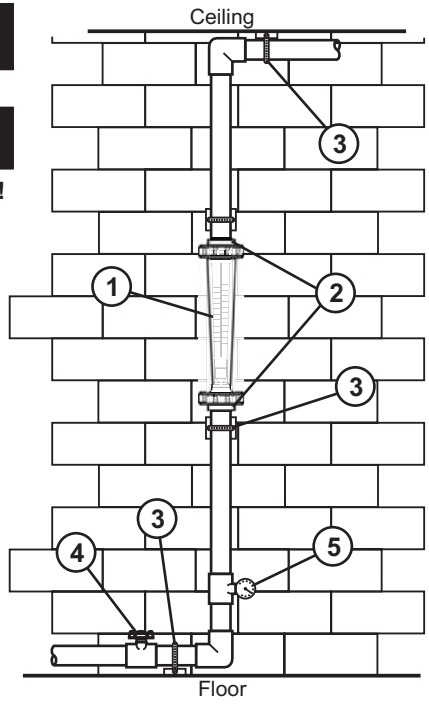
Installation Guideline

Caution: Follow these instructions to avoid failure.

Danger: Wear eye protection when installing or removing flowmeter.



1. Misalignment will damage the meter!

Flowmeter must be installed in an exact vertical plane to ensure accuracy. Be certain of proper plumbing alignments. Misalignment may cause the o-ring seals to leak. The meterbody material can be damaged by UV rays. **Do not install in direct sunlight.**

2. Pipe dope and glue will damage the meter!

Use only PTFE tape on the threaded adapters. Polysulfone meter body and fittings cannot tolerate PVC Glue and/or pipe dope. Even fumes can cause severe damage. If you are installing your flowmeter to a glued pipe configuration, install the flowmeter *after* all glued fittings are dried and lines are purged of all fumes. **Never** hold the meter body with pliers or like tools. Union nuts should be hand tightened only. **DO NOT OVER-TIGHTEN!**

3. Vibration and heavy loads will damage the meter!

Wall, floor and ceiling mounts and supports must be carefully aligned with the meter body and sturdy enough to support the plumbing and prevent vibration. Never allow the flowmeter to support the weight of related piping.

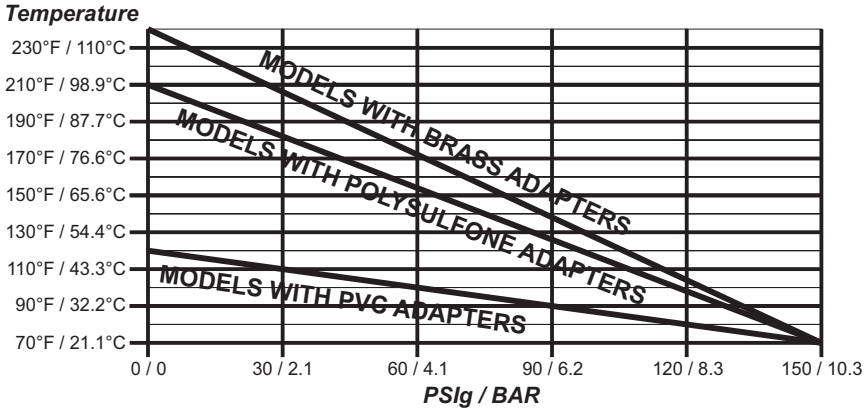
4. Solenoid valves will damage the meter!

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. Solenoid valves, or other quick opening valves cannot be used unless meter is protected against sudden bursts of flow.

5. High pressures and temperatures will damage the meter!

The maximum acceptable temperature and pressure is interdependent. The maximum acceptable working pressure is dependant on the actual fluid temperature. The maximum acceptable fluid temperature is dependant on the actual working pressure. (see Temperature Vs. Pressure chart).

Maximum Temperature vs. Pressure



Pressure and Temperature

Pressure and temperature limits are inversely proportional. At the maximum suggested pressure the temperature should approach 70°F / 21.1°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.

Application Note

Flowmeters are tested and calibrated for water only.

Although meters may be suitable for other chemicals, Blue-White cannot guarantee their suitability. It is the responsibility of the user to determine the suitability of the flowmeter in their application.

Maintenance

The “Exploded View” drawing illustrates assembly of the F-451 series meter. If your flowmeter needs to be cleaned refer to this drawing when reassembling the unit. The tapered tube may be cleaned with a soft bottle brush. Use a MILD soap and water solution for cleaning purposes. Hard water deposits can be removed with a 5% acetic acid solution (vinegar). Note the floats “up” position.

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