The Series UV Ultra-View™ Polysulfone Flowmeters are an ultra-pure, laboratory grade flowmeter with a dual scale that measures flow in GPM and LPM of water, air and other compatible media. The Series UV is designed to withstand high temperatures up to 212°F (100°C) and pressures up to 150 psi (10.34 bar).

**INSTALLATION**

1. Select an indoor (only) location that is free from excess vibration, within the specified temperature limits, and away from direct sunlight. (Polysulfone is adversely affected by ultraviolet light.)

2. Remove hollow plastic shipping tube from inside flow body.

3. Handle carefully. Hand-tighten aluminum ring. O-rings will seal if hand tightened only. Do not overtighten the adapters and fittings.

4. Install the flowmeter in an exact vertical plane, one that is in proper alignment with the existing plumbing. Use wall or other structural supports at the top and bottom of the unit. Do not allow the instrument to support the weight of pipes or tubing.

5. Use pipe thread sealant tape. Do not use pipe dope compounds, which can craze and crack the polysulfone housing. Hand tighten system pipe fitting to adaptor fitting. If additional torque is needed to seal pipe joint, use strap wrench on adaptor fitting. Maximum torque is 22 ft - lb.

6. If using solvent-based glues like PVC cement, in the piping system, do so with the meter’s body removed until glue has cured, then purge the system before re-installing. Do not solder brass fittings with the body installed, because the heat generated to solder the brass fittings will damage the flowmeter.

**SPECIFICATIONS**

- **Service:** Compatible liquids and gases.
- **Wetted Materials:** Polysulfone body and fittings, fluoroelastomer O-rings and virgin PTFE float.
- **Temperature Limits:** 35 to 212°F (2 to 100°C); 35 to 130°F (2 to 54°C) for PVC fitting option.
- **Pressure Limit:** 150 psi (10.34 bar).
- **Accuracy:** ±2% FS @ 70°F ±2°F (21.1°C) and 14.7 psia (in line connection rating only).
- **Repeatability:** ±1% FS @ 70°F ±2°F (21.1°C) and 14.7 psia (in line connection rating only).
- **Process Connections:** 1” female NPT. Optional 90° polysulfone elbow - 1” male NPT.
- **Scale Length:** 6” (152.40 mm) - 7” (177.80 mm), depending on model.
- **Fitting Torque:** Maximum 22 ft - lb.
- **Weight:** 1 lb (457 g) for 20 GPM range.

**CAUTION:** Ball valves can have a “water cannon” effect on opening, creating pressure that exceeds the warranty ratings will damage the flowmeter. Series UV Flowmeters are for indoor use only or areas without direct sunlight. Polysulfone is adversely affected by ultraviolet light.
Variable Area Flowmeters used for gases are typically labeled with the prefix “S” or “N”, which represents “Standard” for English units or “Normal” for metric units. Use of this prefix designates that the flowmeter is calibrated to operate at a specific set of conditions, and deviation from those standard conditions will require correction for the calibration to be valid. In practice, the reading taken from the flowmeter scale must be corrected back to standard conditions to be used with the scale units. The equation to correct for nonstandard operating conditions is as follows:

\[ Q_2 = Q_1 \times \frac{P_1 \times T_2}{P_2 \times T_1} \]

Where:
- \( Q_1 \) = Actual or Observed Flowmeter Reading
- \( Q_2 \) = Standard Flow Corrected for Pressure and Temperature
- \( P_1 \) = Actual Pressure (14.7 psia + Gage Pressure)
- \( P_2 \) = Standard Pressure (14.7 psia, which is 0 psig)
- \( T_1 \) = Actual Temperature (460 R + Temp °F)
- \( T_2 \) = Standard Temperature (530 R, which is 70°F)

Example: A flowmeter with a scale of 10 to 100 SCFH Air. The float is sitting at the 60 grad on the flowmeter scale. Actual Pressure is measured at the exit of the meter as 5 psig. Actual Temperature is measured at the exit of the meter as 85°F. The equation to correct for nonstandard operating conditions is as follows:

\[ Q_2 = 60.0 \times \frac{(14.7 + 5) \times 530}{14.7 \times (460 + 85)} \]

\[ Q_2 = 68.5 \text{ SCFH Air} \]

The standard technique for reading a Variable Area Flowmeter is to locate the highest point of greatest diameter on the float, and then align that with the theoretical center of the scale graduation. In the event that the float is not aligned with a grad, an extrapolation of the float location must be made by the operator as to its location between the two closest grads. The following are some sample floats shown with reference to the proper location to read the float.