

The Most Trusted name in Pumps &amp; Meters

**FILL-RITE.****PRODUCT DATA SHEET****Series 820 Digital Flow Meter**

- [Description of Included Models](#)
- [Available Options](#)
- [Accessories](#)
- [Performance](#)
- [Flow Control](#)
- [Fluid Compatibility](#)
- [Dimensions](#)
- [Repair](#)
- [Maintenance](#)
- [Frequently Asked Questions](#)



Model 820 Pump Shown

**Description of Included Models**

Model Number	Description	Shipping Weight
820	Basic meter with glass filled polypropylene construction, digital LCD display, powered by two standard AA batteries and 1"NPT female inlet/outlet ports at 180° bottom to top.	3 lbs. 1.4 kgs.

[\[back to data sheet index\]](#)**Available Options****No options available with model meter at this time.**[\[back to data sheet index\]](#)**Accessories****No accessories available for this meter at this time.**[\[back to data sheet index\]](#)**Performance**

<b>Recommended Flow Range</b>	2 to 20 GPM (7.6 to 75.7 LPM)
<b>Maximum Pressure</b>	120 PSIG (8.2 Bars) at 70°F (21°C) 50 PSIG (3.4 Bars) at 130°F (54°C)
<b>Temperature</b>	Minimum Operating - 0°F (-17.8°C) Maximum Operating - 130°F (54.4°C) ±0.5% Using Calibration Factor

**Accuracy**

±0.2% Using Liquid Calibration

**Units of Measure**

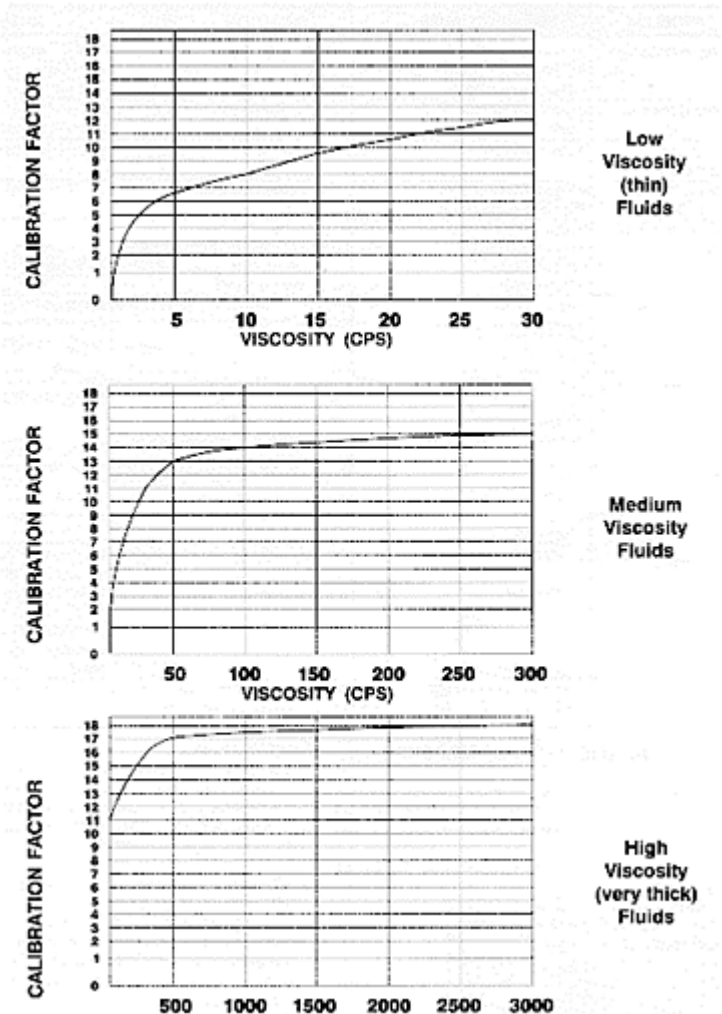
Ounces, Pints, Quarts, Liters and Gallons. (Special calibration options also available.)

**Range**

9999 Current Total  
10,000,000 Accumulated Total

[\[back to data sheet index\]](#)

## Flow Control



A.  
Note that the indicated calibration factors are accurate with the original factory calibration or a watercalibration.

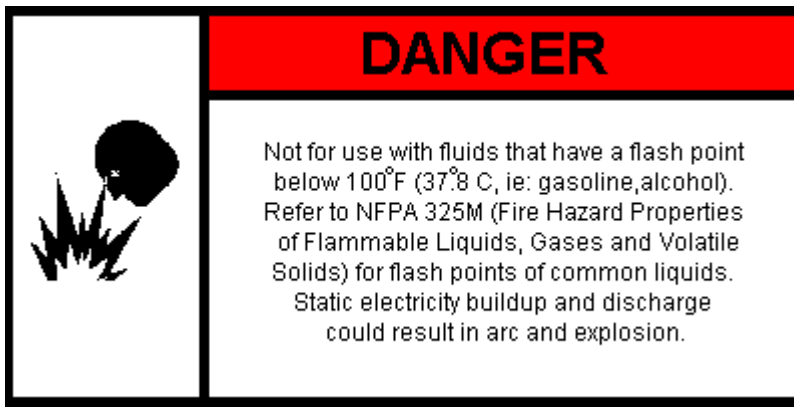
See the Parts and Service Guide that came packed with your meter, or available in the Reference Documents section of this page for a more extended discussion of calibration and factors for common fluids.

## Fluid Compatibility

**The 820 Series Meters are compatible with the following fluids:**

Most Automotive Fluids (except gasoline), Mild Acids and Many Industrial Chemicals. It is known to be compatible with water, motor oil, diesel fuel, ethylene glycol, mineral spirits and glycerin.

**The 820 Series meters are NOT compatible with very strong acids.**



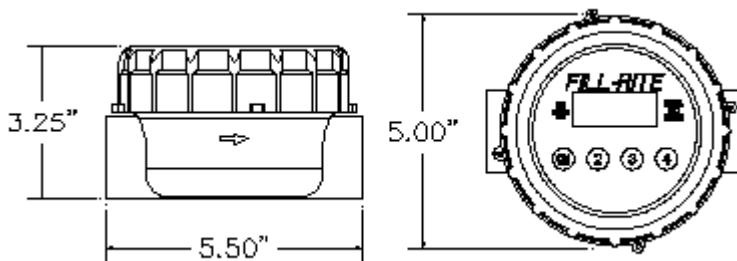
If in doubt about the compatibility of a specific fluid, contact the supplier of the fluid to check for any adverse reactions to the following wetted materials.

**Polypropylene Body**  
**Fluorocarbon Seals**

**Stainless Steel Screws/Shaft**  
**Ryton Chamber**

[\[back to data sheet index\]](#)

## Dimensions



[\[back to data sheet index\]](#)

## Repair

To insure the ultimate performance, pumps must be set up according to the "INSTALLATION" section of the Owner's Manual packed with the pump

[\[back to data sheet index\]](#)

## Maintenance

Meters are designed to operate maintenance free. Certain liquids can dry out while in the meter housing, preventing the meter from operating properly when next used. If this happens, the meter should be thoroughly cleaned by running a flushing fluid through the meter in the normal direction of fluid flow, without disassembly. If fluid cannot be "forced" through the meter with 50 PSIG fluid pressure and thus freed, the meter must be disassembled and thoroughly cleaned. Refer to the instructions in the ASSEMBLY/DISASSEMBLY section of the Parts and Technical Service Guide that was packed with your meter

[\[back to data sheet index\]](#)

## Frequently Asked Questions

The questions below are linked to the answers for that particular question. Point and click on the question of interest and you will be move to the answer to that question. Buttons are provided to allow you to move back to this question list or to the original INDEX.

1. [When I went to use my meter for the first time this year it was stuck. What can I do?](#)
2. [Is this meter approved for commercial use?](#)
3. [What do you mean by a "positive displacement meter?"](#)
4. [How can I be sure my meter is operating properly?](#)
5. [What limits the flow capacity of this meter?](#)

### 1. When I went to use my meter for the first time this year it was stuck. What can I do?

Although your meter is designed to require little or no maintenance, the residual material left when a fluid dries in the meter can jam the close tolerance disc within the chamber. See the procedure recommended for cleaning the meter above and in the Guide referenced below and packed with the meter. Generally a thorough cleaning will restore the meter to full operation.

[\[back to data sheet index\]](#)

[\[back to FAQ's\]](#)

### 2. Is this meter approved for commercial use?

This meter mechanism is capable of high accuracy, typically 0.5%, if operated under steady flow rate and calibrated at that rate. This capability however does not meet the requirements of the Weights and Measures Departments in most states and they therefore will not approve this meter for use for the resale of liquids like kerosene.

[\[back to data sheet index\]](#)

[\[back to FAQ's\]](#)

### 3. What do you mean by a "positive displacement meter?"

A positive displacement meter allows a VERY specific volume of fluid to move through the meter with every rotation of the mechanism. Conversely if the mechanism of a positive displacement meter is held, there should be no flow through the meter. That VERY specific volume is determined by the designed size of the meter chamber and allows the rotating meter shaft to be tied to a counter which indicates the count of rotations as the volume of fluid passing through the meter. By varying the gear ratio tying the chamber to the counter, the same chamber can be used for two different units of measure, like gallons and liters.

[\[back to data sheet index\]](#)

[\[back to FAQ's\]](#)

### 4. How can I be sure my meter is operating properly?

After zeroing the meter, fill a container of known volume and compare the indicated volume to the measured volume. As simple as this method seems it is used universally as the absolute calibration means by all requiring accurate meter indication. A container used for this type calibration is described as a "proving can" and the use of a proving can 5X the major unit of calibration is recommended. In the case of the 800 meter, where gallon is the most common unit of measure, a five gallon proving can is recommended and generally can be obtained from the dealer where your meter was purchased.

[\[back to data sheet index\]](#)

[\[back to FAQ's\]](#)

### 5. What limits the flow capacity of this meter?

AThe forced flow of fluid through the meter results in a pressure differential measured across the meter, and the higher the flow through the meter, the higher that pressure drop across the meter. While the increase in pressure drop is close to linear with the increase of flow over a considerable range, that linearity is lost at the upper flow levels because of the physical size of the chamber and the ports into and out of the chamber. The upper limit where that linearity is lost is

normally taken as the upper flow limit of allowed operation. In the case of the 800C that flow level is 20 GPM.

[\[back to data sheet index\]](#)