

PRODUCT DATA SHEET

Series 820 Digital Flow Meter

Description of Included Models

Model Number	Description	Shipping Weight
825	All the great standard features of the Sotera digital meters can be found on the model 825, which is equipped with 180° inlet and outlet ports - 1"NPT.	3 lbs. 1.4 kgs.

Available Options

SAE threaded inlet/outlet ports available for both models.

Accessories

No accessories available for this meter at this time.

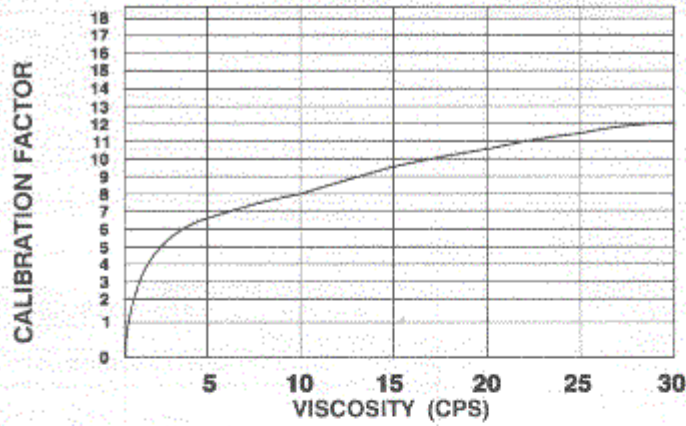
Performance

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

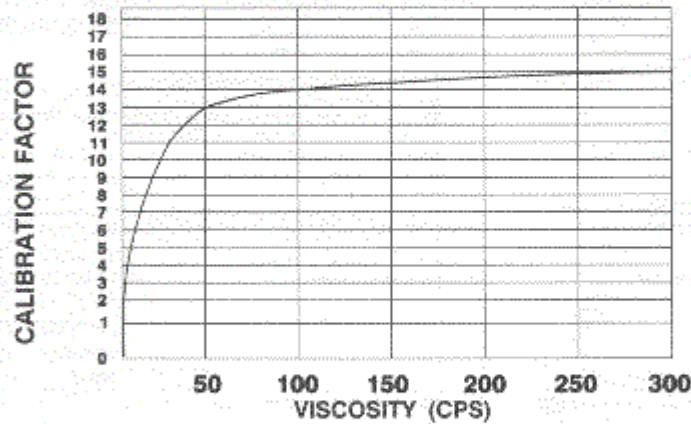
Calibration Curve

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

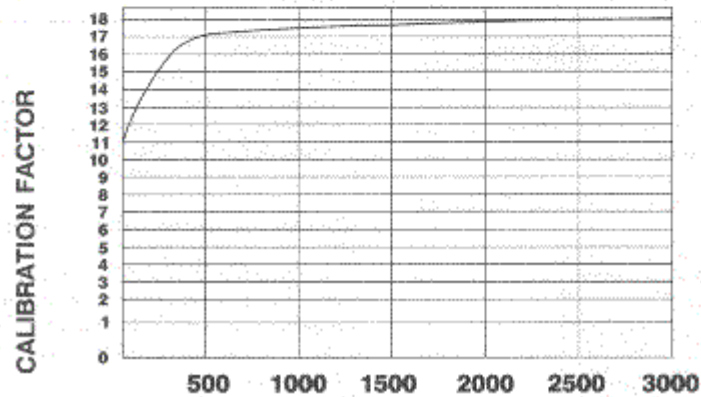
See the Parts and Service Guide that came packed with your meter, or available in the Reference Documents section of this page for a more extended discussion of calibration and factors for common fluids.



Low
Viscosity
(thin)
Fluids



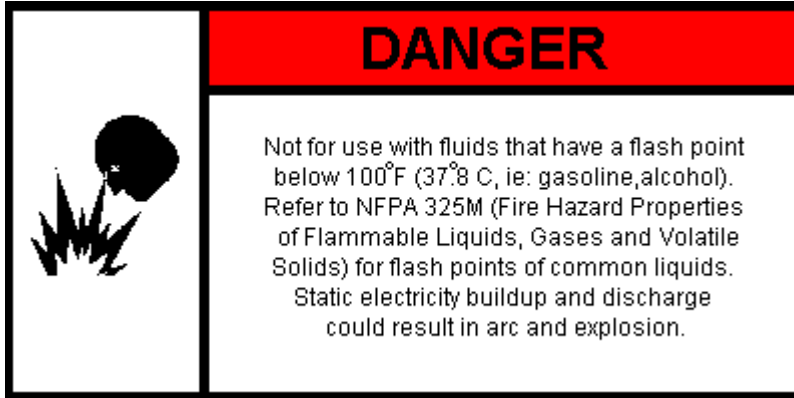
Medium
Viscosity
Fluids



High
Viscosity
(very thick)
Fluids

Fluid Compatibility

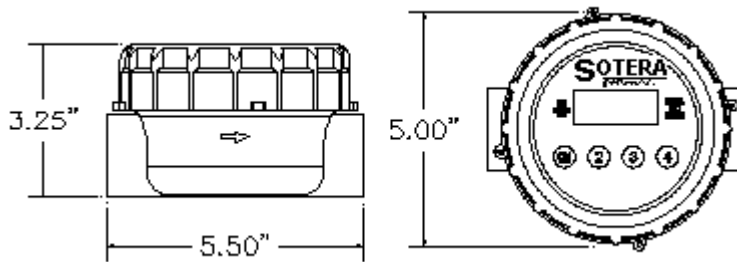
The 825 Digital Meter will handle most pesticides, automotive fluids (except gasoline) and mild acids. The 825 Digital Meters are NOT compatible with very strong acids.



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 Stainless Steel Screws/Shaft
Fluorocarbon Seals Ryton Chamber

Dimensions



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 and available below in the Reference Literature section.

Warranty repairs on your meter should only be carried out according to the procedures specified in the Warranty Procedure outlined in the Reference Literature section.

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 or is available below in the Reference Literature section for the procedure.

Frequently Asked Questions

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.

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.

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.

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.

5. What limits the flow capacity of this meter?

The 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.



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