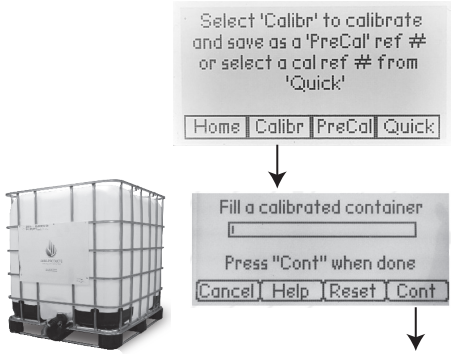
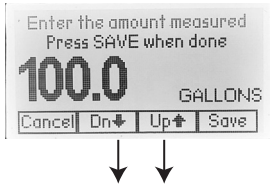
MANUAL CALIBRATION

NOTE: Use a primed system. Verify your calibration. Fluid viscosity changes with temperature.

- Most accurate
- Usually only takes one attempt
- Adjustable to compensate for different measurement containers

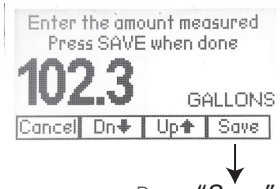


Fill a container that can be weighed with approximately 100 gallons. Then select **"Cont"**. Divide the weight by fluid density to determine gallons dispensed.



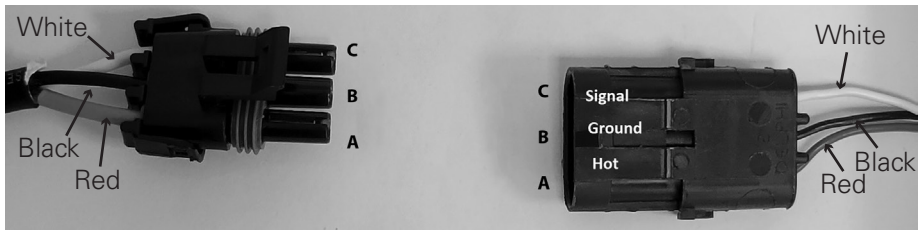
Adjust

Adjust the default value **"Up"** or **"Dn"** to match the volume dispensed.



Press **"Save"** as fluid #1 - #5 and Verify!

WIRING DIAGRAM



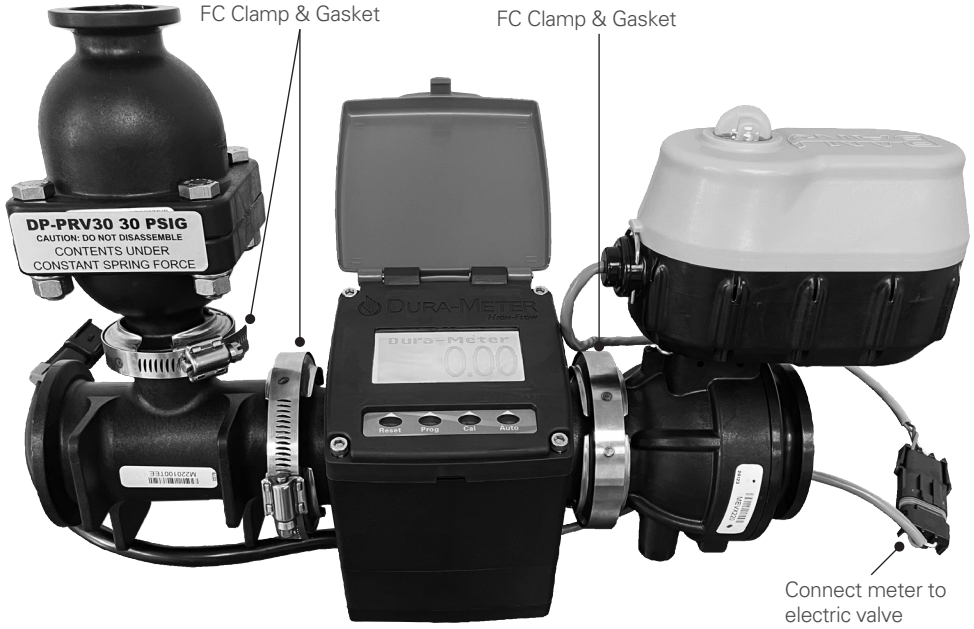
Meter Connection

Electric valve connection

DURA PRODUCTS
Technology with Lasting Value
www.DuraProducts.com
Arcadia, IN 46030 | (317) 984-4003

Dura **Auto-Batch**™

High-Flow Meter System



Model	DPAB-HFM2KIT	DPAB-HFM3KIT	TECHNICAL SPECIFICATIONS
Connection	M220 Flange	M300 Flange	
Meter Accuracy	+/ - 0.5%*		
Backlit Display	Yes; with back-light timeout		
Max Pressure	150 PSI		
Battery Size/Voltage	(2) 9V		
Fluid Flow Intiates Measurement	Yes		
Wetted Materials	Polypropylene; Sapphire, EPDM, Viton® seals		
Minimum GPM	40	80	
Maximum GPM	300	700	
Min/Max Temp	+32 °F / +140°F		
Meter Type/Style	Paddlewheel		
Body Construction Material	GF Polypropylene		
Paddle Wheel Bearing	Sapphire		
Units Measured	Gallons or Liters		
Calibration	Manual		
Dimensions	6"W x 7"H x 4½"D		
Weight	2.7 lbs		

*With manual calibration

INSTALLATION GUIDELINES

The following are principles of operation for the Dura Auto-Batch™ High-Flow Meter, intended to guide installation, and not to be construed as a complete troubleshooting guide.

Good results can be assured by following these five principles.

❶ THE FLOW RATE OF THE SYSTEM MUST BE WITHIN THE RECOMMENDED RANGE FOR THE METER. All flow meters have a minimum flow rate they will measure for their nominal size. No flow meter reads down to 0. This lower limit is a result of the flow velocity not containing enough momentum to keep the paddle wheel spinning. Below a certain flow rate the paddle no longer spins linearly with respect to the flow rate. This is the lowest flow rate the meter can accurately measure. The meter may indicate flow rates below this value but will contain a large inaccuracy. At some point the flow velocity becomes too low and the meter will indicate 0, even though there is still flow. The bottom line – if you don't have an adequate flow rate, you won't get satisfactory results.

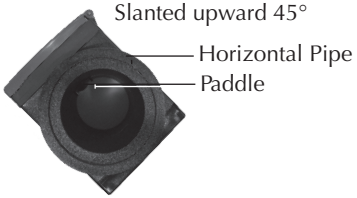
❷ THE SYSTEM MUST BE FULL OF FLUID AT ALL TIMES. The meter and plumbing must be completely full of liquid! Flow should ALWAYS be horizontal or upward. Downward flow will not provide consistent movement of liquid across the paddlewheel. Consistent flow across the paddlewheel is essential for accuracy and consistency. To encourage this, in a horizontal installation, the paddlewheel should be at "10 o'clock" or "2 o'clock" position when viewed from the end of the flow meter. It should NOT be at "12 o'clock" or "6 o'clock"!

❸ THERE MUST BE A SUFFICIENT LENGTH OF STRAIGHT PIPE BEFORE AND AFTER THE METER. To develop a uniform flow profile in the pipe, a straight length of smooth pipe must be both upstream and downstream of the meter. The meter should be installed away from sources of turbulence, such as pumps, strainers, elbows, etc. The diagram is a general idea of lengths of pipe needed to develop uniform flow and get accurate results from the flow meter. If an adequate run of straight pipe isn't possible, a reduction in accuracy may result. Typically, the error is uniform (linear) across the flow range. If the flow profile is consistent, the flow meter can be adjusted for it by manual calibration. The instruction manual illustrates the manual calibration method.

10X pipe diameter  5X pipe diameter

❹ INSTALLATION OF METER WITH HORIZONTAL OR VERTICAL PIPE. Install the meter in the plumbing system where the meter and pipe will always be full of liquid. Again, the installation should be designed with the goal of the flow across the paddlewheel being constant and consistent. It is also important for accuracy that the meter sees the same flow profile in use as it saw during calibration.

A. Horizontal pipe optimal option:



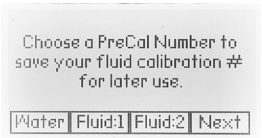
B. Vertical pipe optimal option:

❺ THE FLUID ENTERING THE METER MUST BE FREE OF DEBRIS. A strainer should be installed before the flow meter to lengthen service life and improve measurement accuracy. The strainer will remove impurities or foreign objects from the fluid that can interfere with the mechanical components. Be aware that the strainer will cause turbulence, and for that reason should be installed as far away from the meter as is practical.

5 SAVED CALIBRATIONS

This meter is equipped with the ability to save and recall five different manual calibrations. Always be aware of the cal factor or Fluid # being used and **VERIFY!**

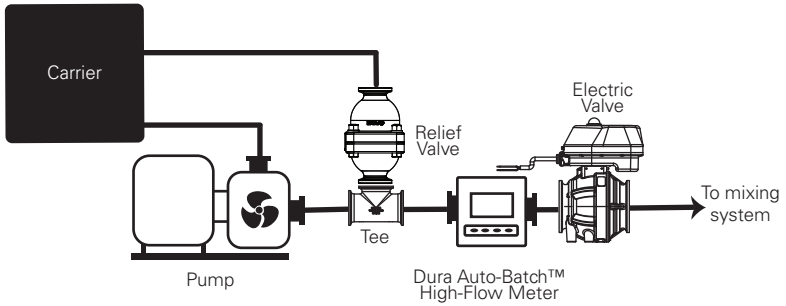
SAVING: Manually calibrate. After pressing **"Cont"**, you will be prompted to enter the fluid # where you want the calibration stored.



RECALLING: Press the **"Cal"** button.
Select **"PreCal"** and then the Fluid #.

NOTE: Use a primed system. Always verify your calibration. Fluid viscosity changes with temperature.

IMPORTANT! Before the Auto-Batch operation begins, a bypass back to the carrier tank will need to be plumbed in using Dura's custom pressure relief valve. The pressure relief valve and bypass is placed after the pump but before the Auto-Batch High-Flow meter; the valve is placed after the Auto-Batch High-Flow meter. See plumbing diagram below.



AUTO-BATCH OPERATION

1. Press **"Auto"** button on meter to enter Auto-Batch mode (valve will close)
2. Set desired batch amount using **"Up"** and **"Dn"** buttons (scroll speed will increase the longer a button is held)
3. Start transfer pump
4. Press **"Start"** button on meter (valve will open to allow fluid flow & will close when the batch set amount has been measured)
5. Batch completion message will be displayed (Button press is required to continue. Batch amount will reset to previous volume)

If the meter detects no fluid flow within the meter time-out period, the valve will close. This will happen in MAN and AUTO mode. When this occurs in AUTO mode, a Flow Detection Error message will be displayed and a button push will be required to continue. In MAN mode, push the **"Reset" button to reopen the valve. The volume reading will be cleared.