

DM-P Series

Multi-Purpose Plastic Digital Flow Meters



Installation, Operation, & Maintenance Manual



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Doc. AA-DM-P-IOM-2017.12.05

1. Selecting the Unit of Measure:

Before using the meter you should select the desired UOM. To do so, follow these instructions:

Note: Changing the UOM resets the batch AND total.

1. Press and hold both the **CAL** and **RESET** buttons, until the UOM indicator blinks (approx. 3 seconds.) Once this happens, release both buttons. The UOM will continue to blink, indicating that you are in UOM selection mode.

2. Press the **RESET** button to cycle through the different units available:

Gal = US gallons

Qts = quarts (1/4 gallon)

Pts = pints (1/8 gallon)

L = liters

3. Once the desired UOM indicator is blinking, press and hold the **CAL** button to exit the UOM selection mode.

2. Calibration:

Before using the meter for critical applications, it should be calibrated to ensure accuracy for that particular application.

Calculate the proper correction factor by following these steps:

1. Record the current correction factor by pressing and holding the **CAL** button, then pressing the **RESET** button. The large digits are the correction factor. Note: If you press **RESET** momentarily, the correction factor will only display until **RESET** is released. If you hold **RESET** for more than 3 seconds, you will enter UOM selection mode, and will need to exit by pressing and holding **CAL**. Entering UOM selection mode will also reset the totalizer... even if you do not change the UOM! All units ship with the correction factor set to 1.000, but meters that have been calibrated previ-

ously may have a different value. ALWAYS CHECK THIS VALUE WHEN CALIBRATING.

2. Reset the batch total by pressing the **RESET** button momentarily. Then measure a known amount of the fluid to be metered by filling a vessel of an actual known volume. The larger the volume, the more accurate your correction factor will be. A minimum volume of 50 gallons is recommended.

3. Record the metered value from the batch volume register. The large digits are the batch volume.

4. Calculate the new correction factor using this equation:

$$\text{current correction factor} \times \frac{\text{actual known value}}{\text{metered value}}$$

Example:

- The current correction factor is **0.998**.

- You fill a **200** gallon tank with the same liquid that is to be metered.

- The meter displays the total of **190.5** gallons.

$$\text{new correction factor} = 0.998 \times (200 / 190.5) = 1.048$$

Set the meter's new correction factor by following these steps:

1. To enter calibration mode, press and hold the **CAL** button until the display reads **Cal USEr** across the bottom. The large digits will display the current correction factor.

2. Once in calibration mode, the first digit will begin to blink. You must now enter the new correction factor that was calculated during the tests you just ran.

CAL - pressing the **CAL** button will cycle you through each digit, then loop back to the first digit over and over until calibration mode is exited.

RESET - pressing the **RESET** button will increase the blinking digit by 1 then loop back to 0 over and over until calibration mode is exited.

3. Once the proper correction factor has been entered, you must exit calibration mode by pressing and holding the **CAL** button.

3. Operation:

Once installed, the operation of the meter is quite simple.

Batch Total: The meter will measure and display the batch volume with the large digit register on top. The units of measure are displayed to the right as Qts, Pts, L, or Gal.

To reset the batch total simply press the **RESET** button momentarily.

Flow Rate and Totalizer Volume: The small digit register across the bottom of the display shows either the total volume (totalizer) or the current flow rate. This is indicated by the words "FLOW RATE" above the small digits, or "RESET TOTAL" to the right of them.

To toggle back and forth between the 2, simply press the **CAL** button momentarily.

To reset the totalizer, press and hold the **RESET** button until all 0's show (approx. 3 seconds.) The totalizer will be reset regardless of whether the meter is displaying the totalizer or flow rate.

4. Maintenance:

Aside from replacing the batteries, the meter should operate maintenance free for its entire lifetime.

Replacing the Batteries: The meter is powered by 1.5v alkaline batteries (AAA x 2). The expected lifetime is 2 years, however, it is recommended that they be replaced every year. As the batteries run low, you will notice the display will fade, or go completely blank. If this happens, and/or on the regularly scheduled changeout time, follow these steps to replace the batteries.

1. Remove the screws in each of the 4 corners on the front of the digital display with a phillips head screwdriver.

2. Separate the display face and rubber shroud from the plastic housing, being careful not to break the battery wire or harm any of the electronics on the back-side of the display.

3. Remove the old batteries, and check the terminals on the battery housing for corrosion and debris. Clean if necessary.

4. Insert the new batteries making sure that the polarity is correct. Then check the display to confirm that power has been restored.

5. Reassemble the housing, shroud, and display with attention to the following:

- The rotation of the display is in the desired orientation

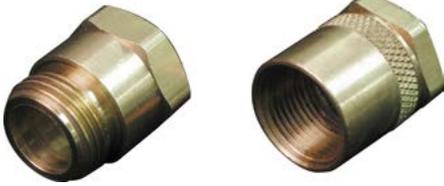
- Keep the battery wires clear from any pinch point

- The rubber shroud is properly seated in between the housing and display

- Do not over tighten the screws or strip the heads

5. Accesories:

Garden Hose Adapters (set):



One NPT Female x Male Garden Hose Thread
One NPT Female x Female Garden Hose Thread

Attach these adapters to the meter ensuring that the flow direction is correct to use the meter inline on any standard garden hose.

WMGHA050 = Garden Hose Adapter set for 1/2" meters

WMGHA075 = Garden Hose Adapter set for 3/4" meters

Only available for sizes 1/2" & 3/4".



Check Valves:



Lead free brass check valves are available to prevent reverse flow through meter. Reverse flow will deduct from the meter's total. The use of a check valve will also prevent the meter and upstream water from being contaminated by debris or additives like fertilizer that get added downstream from the meter.

C112CVLFN = 1/2" NPT Lead Free Brass Check Valve

D112CVLFN = 3/4" NPT Lead Free Brass Check Valve

E112CVLFN = 1" NPT Lead Free Brass Check Valve

6. Warranty:

DM-P flow meters are warranted to perform to AWWA new DMR accuracy standards, and for twelve months from the shipment date will be free from defects in materials and workmanship. If a meter fails to perform as warranted, Assured Automation will repair it free of charge subject to the terms of this warranty. Assured Automation's liability under this performance warranty is expressly limited to the repair or replacement of the meter upon the customer's returning the complete meter prepaid to:

Assured Automation
19 Walnut Avenue
Clark, NJ 07066

This performance guarantee is not applicable to meters which have been damaged by aggressive water conditions, foreign matter in media, misapplication, willful misconduct, negligence, vandalism, act of God, improper installation, frost/freeze damage or using the meter outside of its specific operating parameters (especially temperature and flow ranges).

In no event shall Assured Automation be liable for incidental or consequential damages of any kind, including but not limited to loss of profits or revenue, loss of use, cost of capital, cost of substitute equipment, facilities or services, downtime costs, delays and claims of customers of the customer or other third parties.