396-4507Y1

QuickDraw Lite
Operator's Manual

WARNING

It is the responsibility of the operator to read and understand this manual for the safe operation of the QuickDraw.

The operator must follow all safety precautions from the label of all products being used.

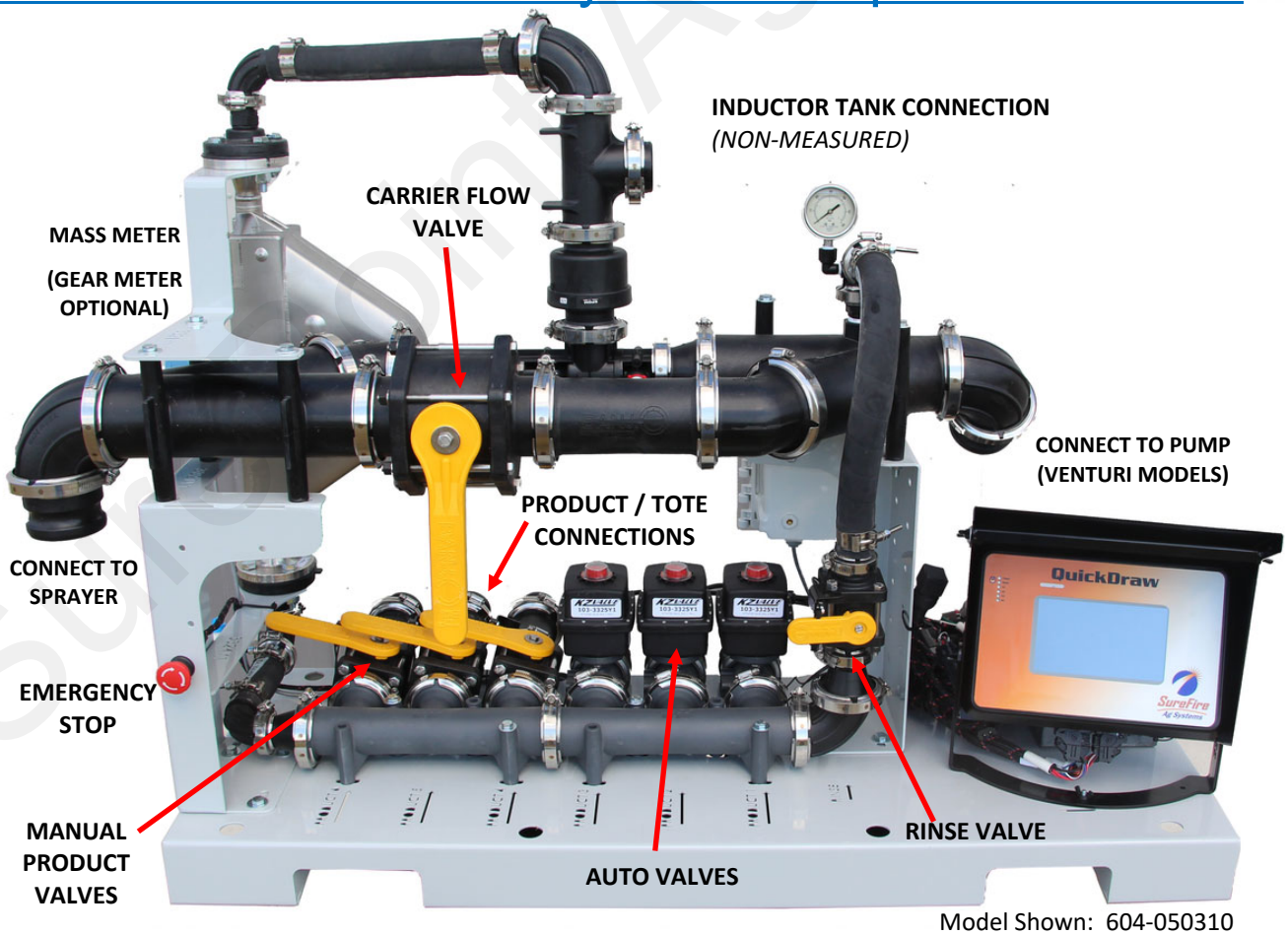
QuickDraw Lite - Models

Model Number	Description
604-025100	QuickDraw Lite - Suction Side w/ 6 Manual Valves (Oval Gear Meter)
604-025110	QuickDraw Lite - Venturi w/ 6 Manual Valves (Oval Gear Meter)
604-025300	QuickDraw Lite - Suction Side w/ 3 Manual & 3 Auto Valves (Oval Gear Meter)
604-025310	QuickDraw Lite - Venturi w/ 3 Manual & 3 Auto Valves (Oval Gear Meter)
604-025600	QuickDraw Lite - Suction Side w/ 6 Auto Valves (Oval Gear Meter)
604-025610	QuickDraw Lite - Venturi w/ 6 Auto Valves (Oval Gear Meter)
604-050100	QuickDraw Lite - Suction Side w/ 6 Manual Valves (Mass Meter)
604-050110	QuickDraw Lite - Venturi w/ 6 Manual Valves (Mass Meter)
604-050300	QuickDraw Lite - Suction Side w/ 3 Manual & 3 Auto Valves (Mass Meter)
604-050310	QuickDraw Lite - Venturi w/ 3 Manual & 3 Auto Valves (Mass Meter)
604-050600	QuickDraw Lite - Suction Side w/ 6 Auto Valves (Mass Meter)
604-050610	QuickDraw Lite - Venturi w/ 6 Auto Valves (Mass Meter)

QuickDraw Lite - Add On Accessories

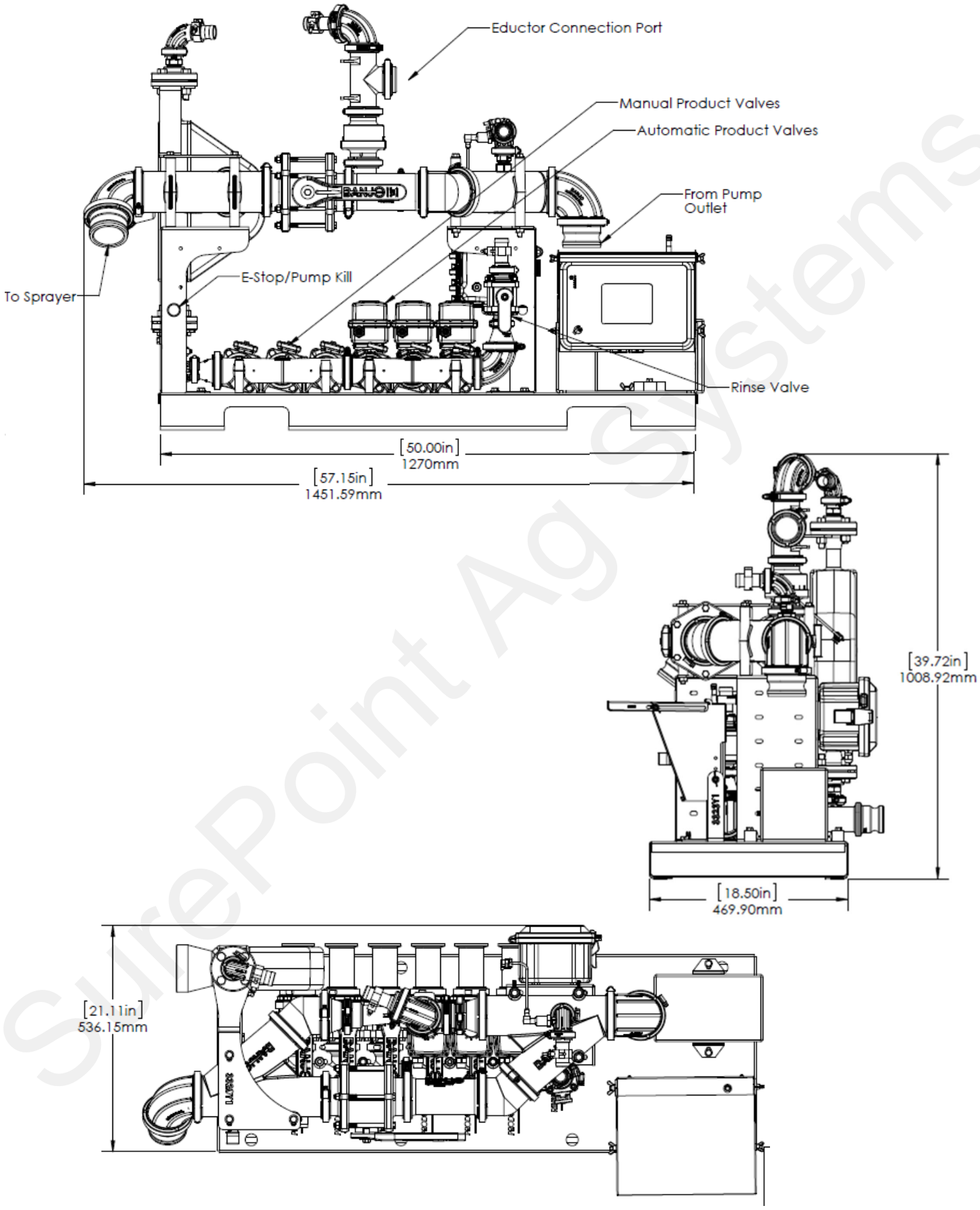
Model Number	Description
604-200100	QuickDraw Lite - Water Flowmeter Kit (Add-On Option)
604-200300	QuickDraw Lite - Pump Start / Stop Kit (Add-On Option)
604-300100	QuickDraw Lite - 3 Automatic Valve Upgrade Kit (From All Manual Valves)
604-300200	QuickDraw Lite - 6 Automatic Valve Upgrade Kit (From All Manual Valves)
604-300300	QuickDraw Lite - 3 Automatic Valve Upgrade Kit (From 3 Auto / 3 Manual Valves)

QuickDraw Lite - Basic System Components



Model Shown: 604-050310

QuickDraw Lite - Basic System Dimensions



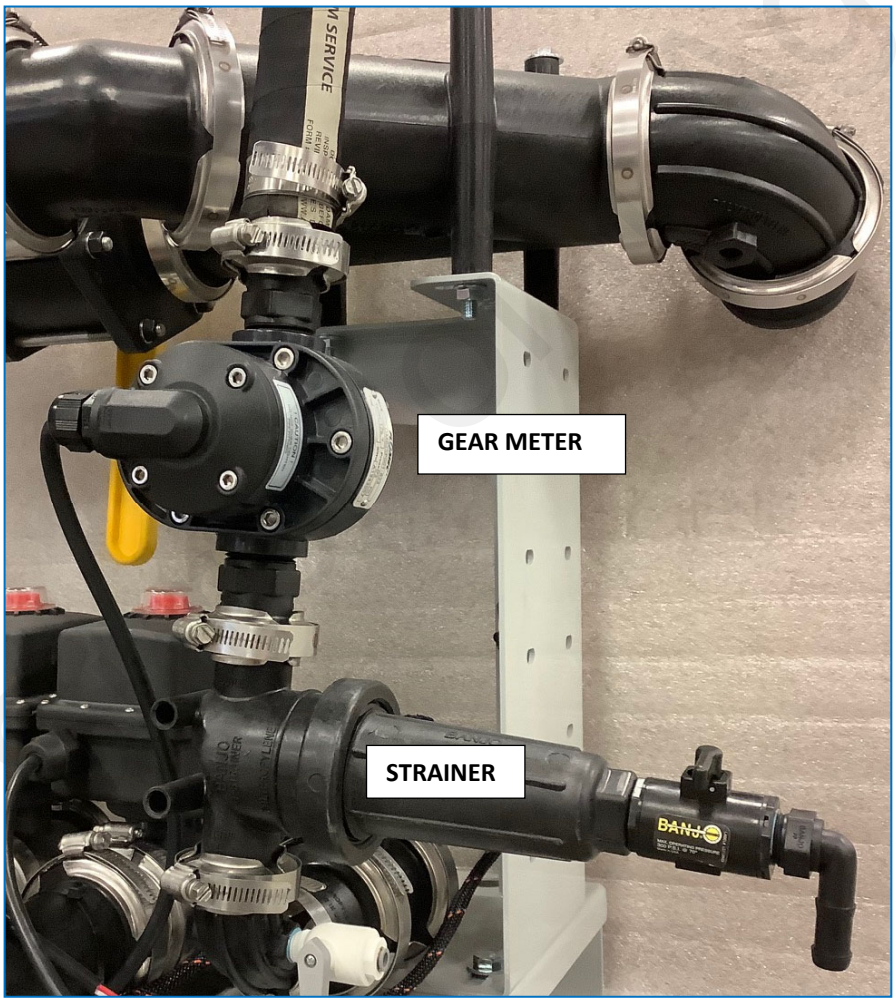
Chemical Flow Measuring Technology - Mass Meter

Mass Flow is the most accurate flow meter technology available. The Micro-Motion mass flow sensor used in QuickDraw measures the mass flow (weight) and density of the product as it moves through the sensor. With those two measurements, it calculates the volume of any liquid with extreme accuracy, regardless of physical properties.

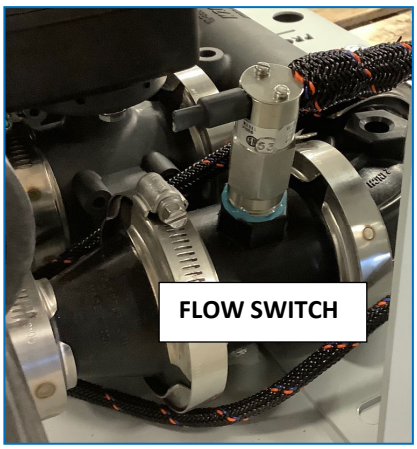
It is **EXTREMELY IMPORTANT** to winterize and maintain the Mass Flow meter. The QuickDraw Lite is equipped with a drain valve at the bottom of the Mass Flow meter plumbing assembly. Open valve and allow water to drain out during freezing conditions to avoid damage to the internal comonents of the Mass Flow meter. Best practice is to pump RV antifreeze through the entire system, then open the drain valve to ensure no water is trapped in the plumbing that could damage the meter.

Chemical Flow Measuring Technology - Gear Meter

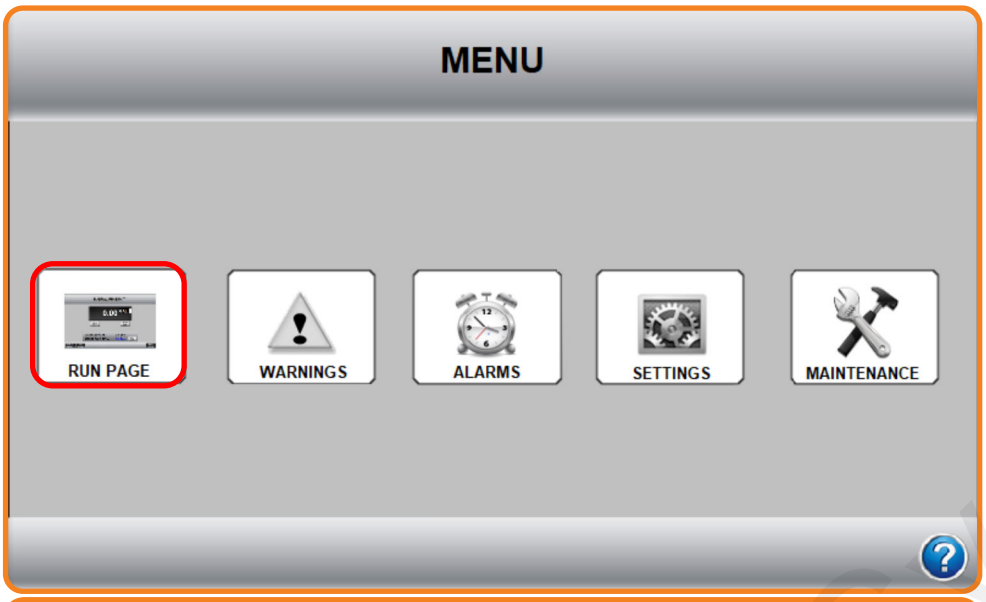
The QuickDraw Lite can be purchased with a Gear Meter instead of the Mass Meter. The Gear Meter provides very accurate measurement of the chemical products. The Gear Meter must be used with a strainer to be sure no particles get into the finely machined gear mechanism. This strainer must be drained and cleaned out thoroughly between crops to avoid cross-contamination and crop damage.



The Gear Meter system also comes with a paddle flow switch plumbed into the line before the strainer. This flow switch guarantees that product is flowing when the meter is spinning. The meter can turn from the venturi suction even if no product is flowing. With the flow switch, the controller will not read flow if the meter is spinning without any liquid flow. The flow sensor is displayed on the Manual Operation screen.



QuickDraw Lite Operation - Run Page (Manual Products)



From the **MENU** screen you can access the other controller screens.

WARNINGS/ALARMS will provide a list of all active warnings and alarms with the system. Push these buttons in order to see what alarms and warnings are active. They will only be visible if there are active alarms or warnings.

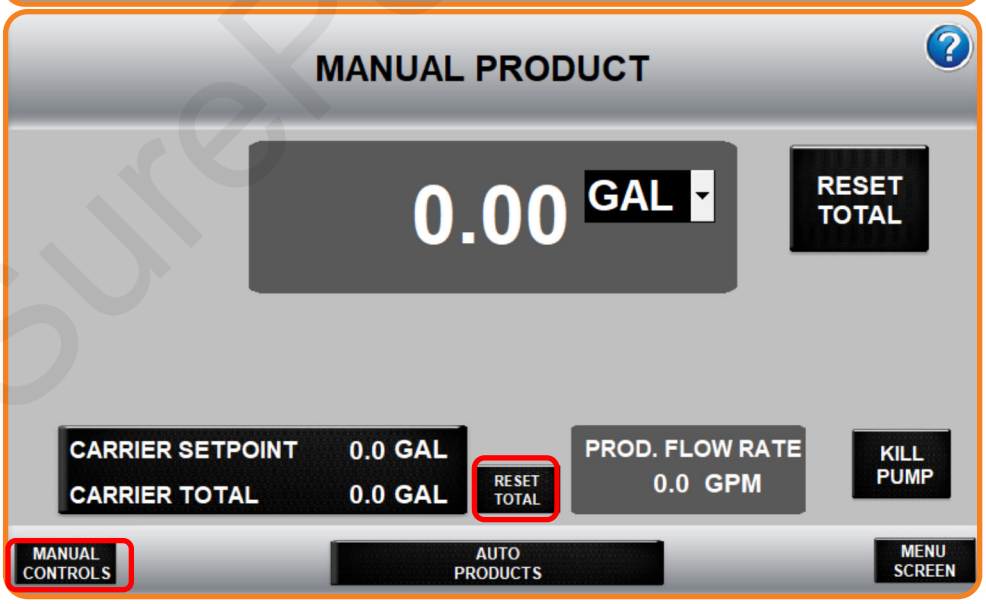
See pages 7/8 for system Settings and Maintenance.

RUN PAGE brings up the **MANUAL PRODUCT** screen.

RESET TOTAL sets the Total at 0.00 GAL. Do this before loading each product.

After each product, open the rinse valve for 3-5 seconds to rinse the plumbing.

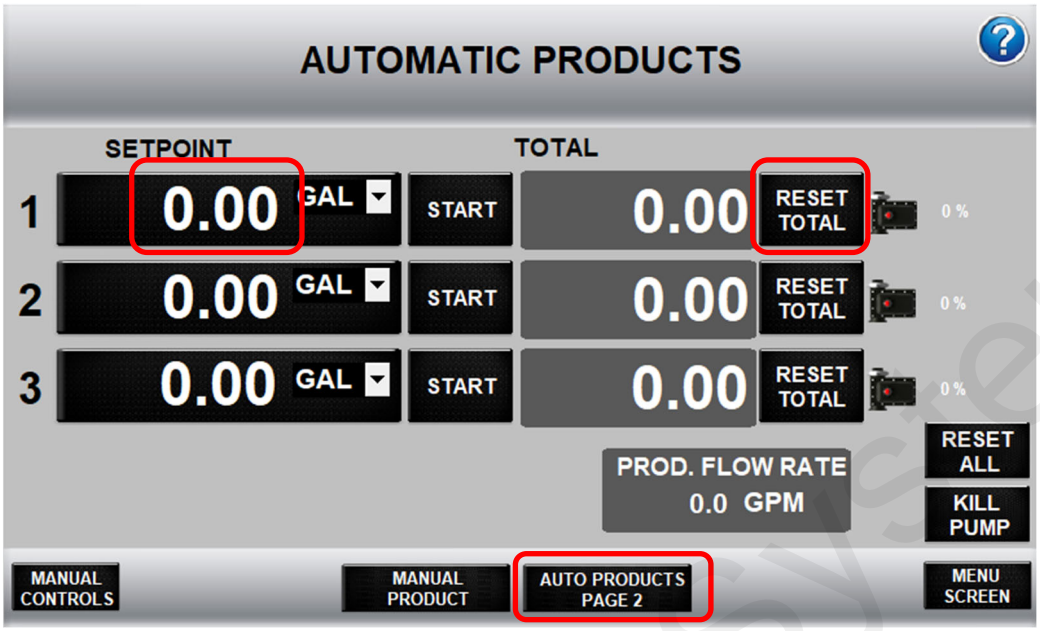
AUTO PRODUCTS PAGE takes you to the screen for Valves 1, 2, and 3. See next page for Auto Product functions.



When a Carrier flowmeter is installed and enabled, the controller will count all carrier/water flow with the batch. **RESET TOTAL** after each batch. See settings page for carrier flowmeter setup.

MANUAL CONTROLS brings up the Manual Operation and Debugging Screen.

QuickDraw Lite Operation - Automatic Products



AUTO PRODUCTS allows the user to set the desired amount of product prior to the batch. Manually starting each product is still required.

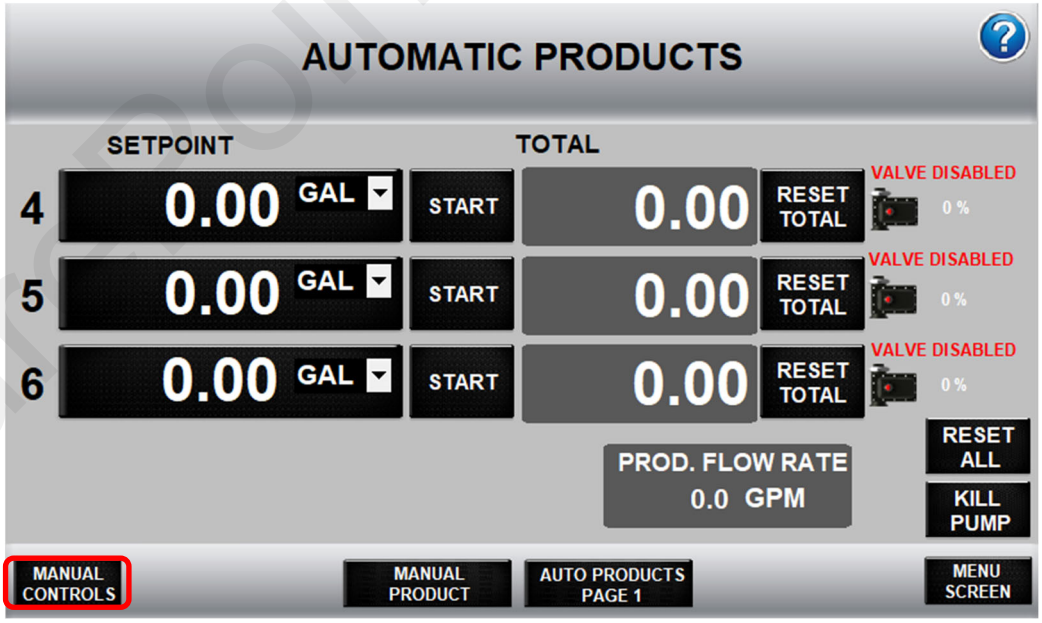
Enter the **SETPOINT** for the amount of each product in the batch.

Push **RESET TOTAL** for each product or **RESET ALL** to bring each Total back to 0.00 prior to each batch.

Push **START** to automatically load a product. The controller will open the valve and the total will accumulate in the gray **TOTAL** box as the product is being measured, then the valve will close when the desired setpoint is reached.

After each product, it is recommended to manually open the rinse valve for 3-5 seconds to rinse the plumbing.

AUTO PRODUCTS PAGE 2 takes you to the screen for Valves 4, 5, and 6. (*When auto valves are present)*

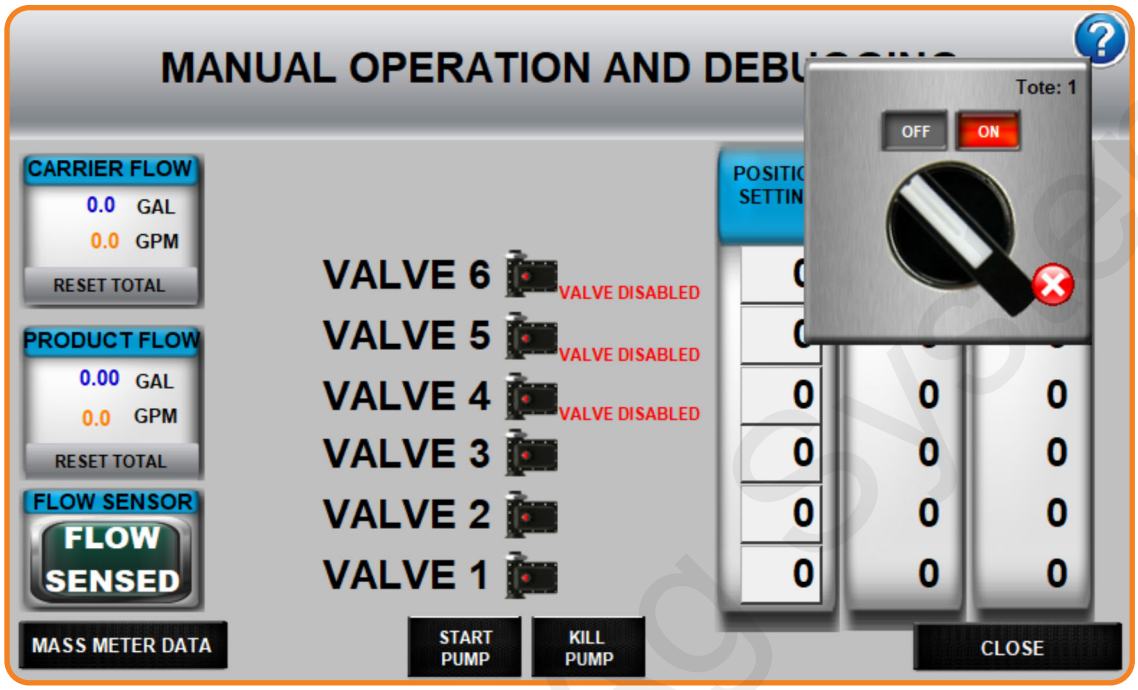


MANUAL CONTROLS brings up the Manual Operation and Debugging Screen.

QuickDraw Lite Manual Operations

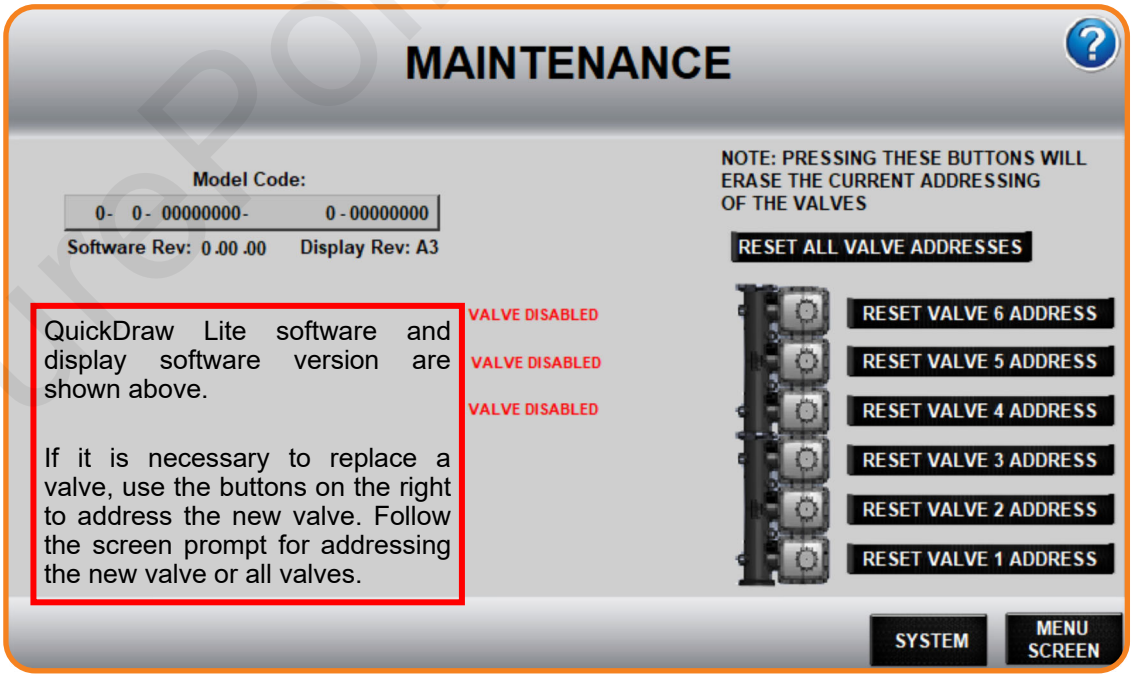
Manual Controls

To manually operate a valve, press on that valve on this screen. An ON/OFF switch will appear. Press ON to open the valve. Press the valve again to bring back the switch. Press OFF to stop the flow. Access this page to start and kill transfer pump. Proper harnessing must be installed in order to start/kill pump from the controller.

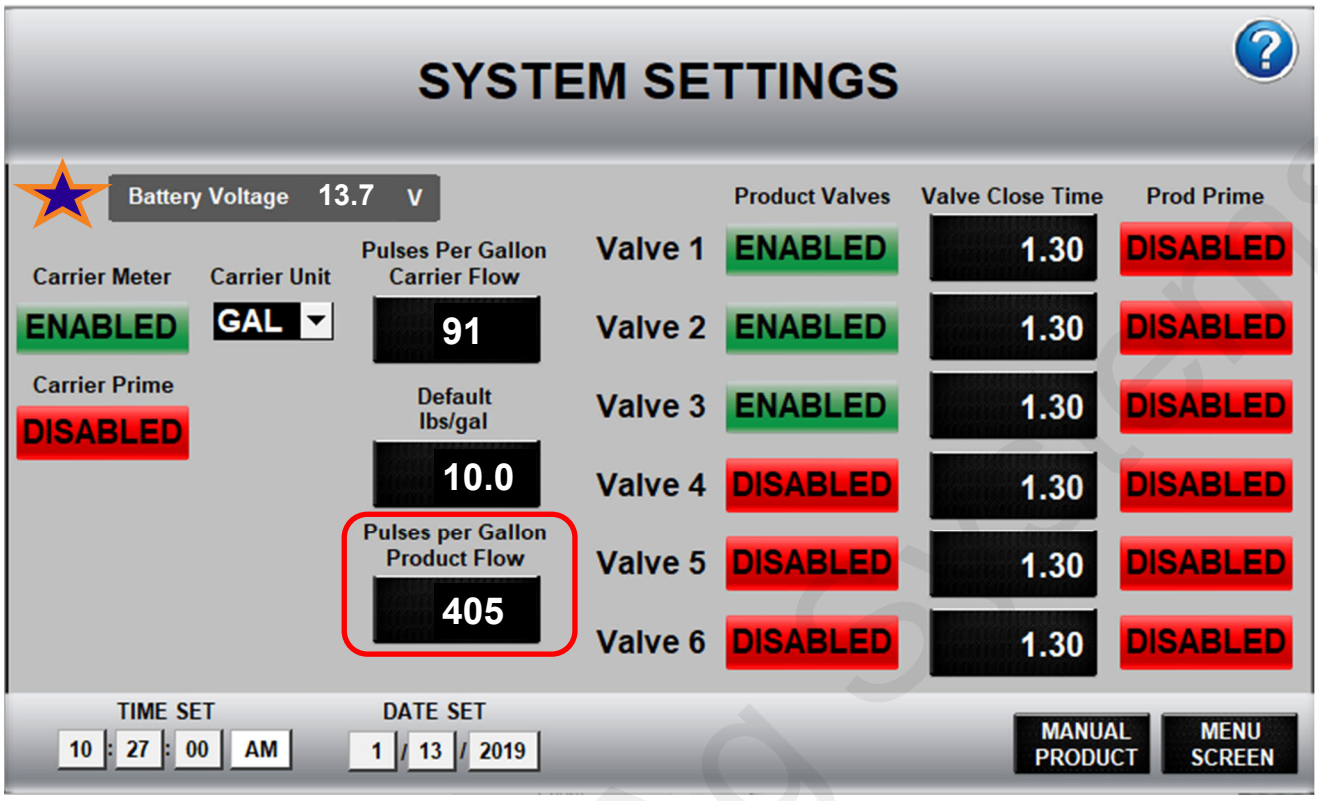


This page also provides some troubleshooting information for product or carrier flowrates. The flow sensor will display Flow or No Flow based on the conditions present. Product will not totalize on the manual/auto screen if the sensor does not sense flow.

QuickDraw Lite Maintenance Screen



QuickDraw Lite System Settings



If a carrier flowmeter is installed, set **Carrier Meter** to **ENABLED.** Adjust Pulses per Gallon as needed, default pulses per gallon for water is 91. This may need calibrated when using fertilizer as a carrier or if the batch is consistently over or under the target.

When Carrier supply has run empty or when starting with empty lines set **Carrier Prime** to **ENABLED** so the controller will give it time to prime before shutting down for a flow error.

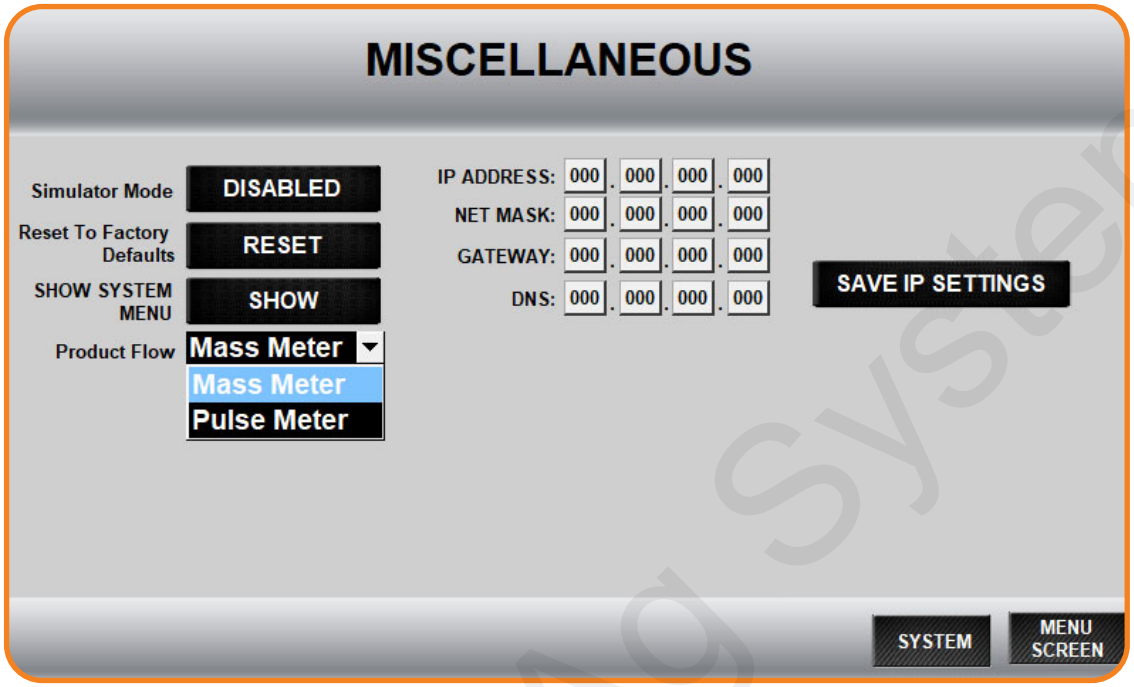
Set electric automatic valves to **ENABLED.** Default **Valve Close Time is 1.5 seconds.** If the batch is overshooting the target, increase this number because the valve needs more time to get closed on time. If the batch is undershooting, lower this value. 1" valve default is 1.5 seconds.

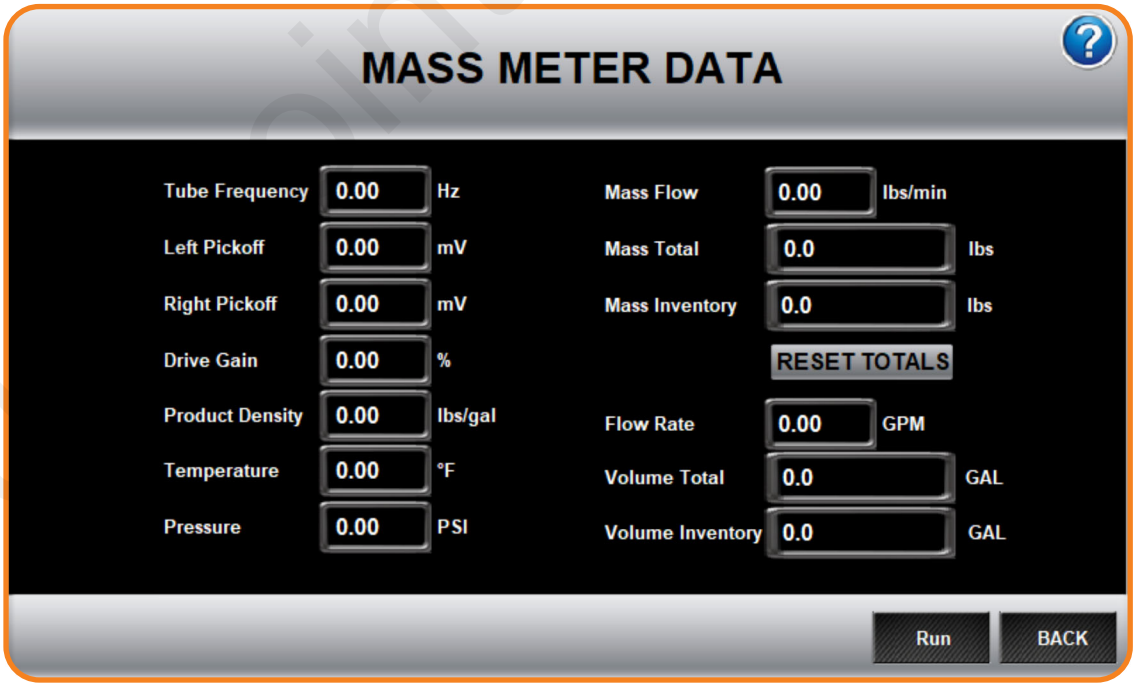
When connecting a new tote, set **Prod Prime** to **ENABLED** on the first batch, so the controller won't time out before the hose gets filled with the new product.

Pulse per Gallon Product Flow - This setting is only necessary for Gear meter models. This number is entered by manufacturing, matching the calibration certificate of the gear meter. This field will only show up if "Pulse Meter" is selected in an advanced settings screen. *To access Gear Meter / Mass Flow meter settings, press the location indicated by the star. This should be done at time of manufacturing, however, some software updates may reset defaults to Mass Flow meter and it is necessary to access this page. See next page for setup.*

QuickDraw Lite - Advanced Settings

Only in very rare cases or for troubleshooting is it necessary to access this screen. For use with a gear meter, select "Pulse Meter" on the drop down menu. It is not recommended at any time to Reset Factory Defaults unless instructed by SurePoint Ag Systems service team.

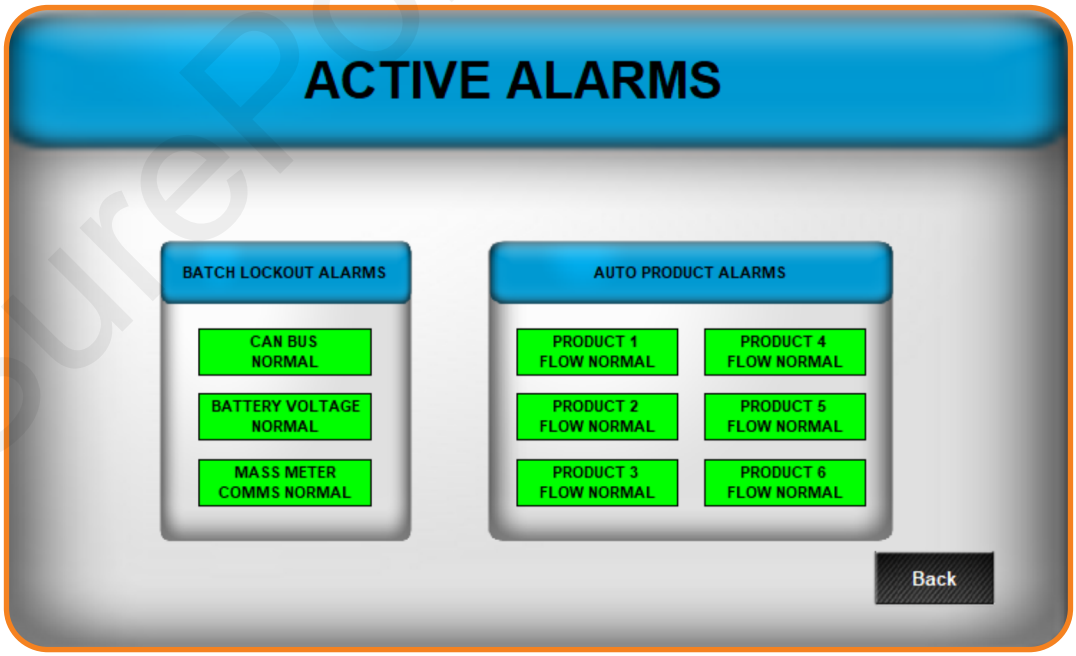




Alarms and Warnings

WARNINGS will NOT stop a batch, but should be checked to prevent a problem.

ALARMS will prevent a batch from running and must be resolved before continuing.



Running a Batch with QuickDraw Lite

Calculate the amount of each product that will be needed in the batch.

Products can be loaded in any order.

Open the carrier flow valve for preloading and for finishing the batch with carrier.

Close the carrier flow valve when loading products.

Open the rinse valve for 3-5 seconds between products.

Enter the SETPOINTS for AUTO PRODUCTS before starting the batch. RESET TOTALS (to 0.00) for each product. (*Setpoints can be entered or changed and Totals can be reset while the batch is running, but not while that product is being loaded.)* An AUTO PRODUCT that is loading can be stopped by pressing STOP on that product.

To Load MANUAL PRODUCTS

Go to the **MANUAL PRODUCT** screen (RUN PAGE).

Press **RESET TOTAL** (to 0.00)**.**

Open the valve for the product. Close the valve when the desired amount has been loaded.

Open the **rinse valve** for 3-5 seconds to flush the header.

Repeat Steps 2-4 for all Manual Products.

To Load AUTO PRODUCTS

Go to the **AUTO PRODUCTS** screen (RUN PAGE > AUTO PRODUCTS).

Press **RESET ALL** or **RESET TOTAL** to set the Totals to 0.00.

Enter the **SETPOINT** for the desired amount of each product (if not already entered).

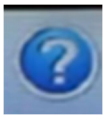
Press **START** for the product. The valve will close automatically when it reaches the setpoint.

Open the **rinse valve** for 3-5 seconds to flush the header.

Repeat steps 4 and 5 for each Auto Product.

After all products are loaded, open the Carrier Flow Valve until the batch is completed.

Kill the pump when the batch is complete.



Run Page Help Screen

Alarm Retry

This button appears if the system has paused due to an alarm failure. Pushing the button allows the system to restart and try again. Start pump before re-trying.

Warnings & Alarms Active

Push these buttons in order to see what alarms and warnings are active. They will only be visible if there are active alarms or warnings.

Rate and Totals

The manual product total is the large number in the middle of the screen and can be reset.

Mass flow is the amount of flow through the mass meter.

Carrier total, if enabled, show the total carrier pumped and can be reset.