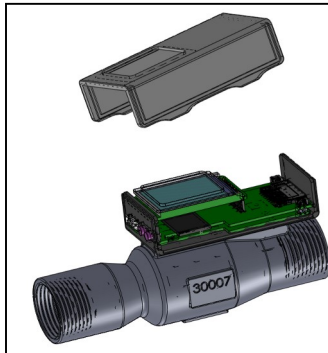


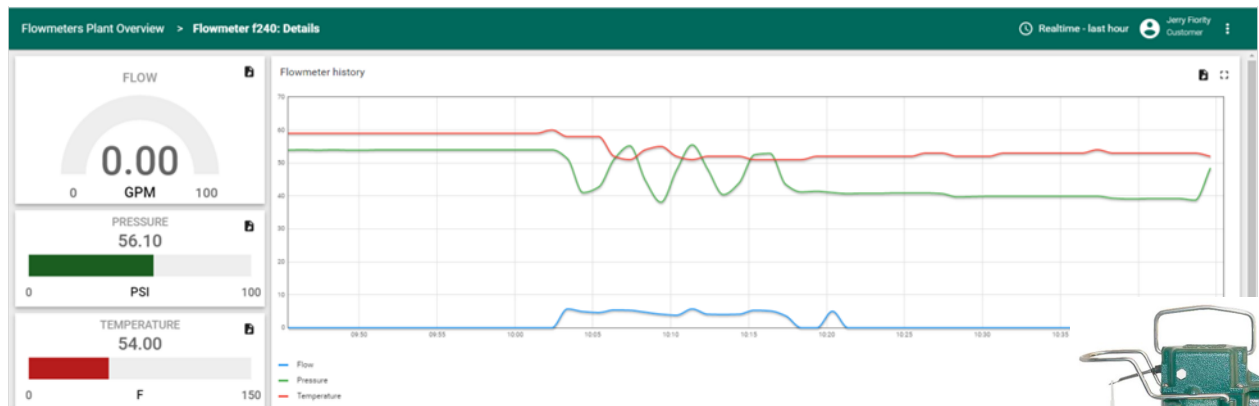
Sump Pump Application Guide

Why install the NetFlow Meter on your sump pump system?



- **Flow Tracking & Totalizing**
- **Sump Pump Health based on flow rate**
- **Level Switch Failure or Malfunction**
- **Short Cycle Detection**
- **Cycle Reduction for Extended Pump Life**

Function:	Sump Pump Flow/Pressure/Temperature Monitor with Real-Time Usage and Totalized Flow Tracking
Critical Data:	Record and trend instantaneous flow, pressure, and temperature, as well as total flow over a period of time.
Top 2 Value Propositions	Total Discharge Flow Recording for remote compliance monitoring with cloud based data system. Predictive maintenance alerts to prevent pump or level switch failure avoiding costly floods or unsafe conditions.



This plot shows an example of the remote data monitoring capability of the NetFlow process meter. This example is for a well* pump on a residence.

The blue line shows the flow rate, red is the water temperature, and green the water pressure at the NetFlow® location. The well pump cycled on 3 times during the shower, and then at the end of the plot. We can also see that the limits on the pressure control relay are



NetFlow® Process Meter Dashboard Data Analysis

- **Flow and Total Usage Tracking**

NetFlow measures and reports any water usage within the flow range from 4 to 40 gpm. This covers 95% of sump pumps. Monthly usage can be measured and compared for tracking improvements or reporting to a community center or municipality if needed.

- **Sump Pump Health**

The rate of pressure rise indicated in the historical trends shows how well the pump is working. The rate of pressure rise can be compared to prior data to allow predictive maintenance prior to pump failure.

- **Blockage**

Blockage on the sump outlet will be indicated by high pressure with low flow conditions.

Blockage on the pump intake will be indicated by low flow and low pressure with rising temperature as the pump fails to move much water to the outlet.

Alerts can be set up to warn the owner or municipality of these events.

- **Level Switch Failure or Malfunction**

Knowing your sump pump normal operation allows for detection of abnormal operation. For example, if your pump normally operates for about 5 minutes three times every day in the wet season, but you check your NetFlow Dashboard and find that it is on for 15 minutes instead. Then the owner can check the level switch and clean the inlet or outlet as needed.

- **Freeze Protection Warning**

Temperature tracking data and email alerts when the water temperature drops below 35°F.