

HS LF-2 FLOW TEST/ SHURFLO

Before the test, change all filters and clean the strainer. Make sure that there are no leaks. Check for air leaks, as air in the system will cause low production and erratic salinity. Look for air bubbles in the product flow meter, feed water hoses, and brine overboard hose.

Run the system and watch the pressures very closely. Make sure that on each shift everything is even from side to side. If the feed pressure to the Clark Pump is different (asymmetrical) on one stroke from the other, this could be part of the problem. A difference of a few PSI is acceptable, but anything over that is an issue. If the pump is asymmetrical, Clark Pump repairs should be done before continuing with these tests. Ask for "[CP-5 Clark Pump Checkout](#)" instructions.

If no asymmetry is noted, continue with this test.

NOTE: On 150 and 200 models with only one feed pump, disregard the instructions concerning "Pump Two" and "Both"

Make sure the ShurFlo overpressure cutout switches (p/n PL-PMP-SFPH), are set to 125 psi. With pump 1 running, close the brine service valve. The feed pressure should rise to 125 psi and the pump should shut off. Repeat with pump 2. If the pumps shut off at a lower pressure see "[SF-2 Adjust ShurFlo Pressure Switch](#)" bulletin.

1. Measure and log the product flow GPM (LPM) and the feed pressure with pump 1, pump 2, and both pumps running. Use a graduated container and timer to measure the flow. Log the voltage at the feed pumps at the same time. Confirm at least 12.5 volts at the pumps. You may have to run the engine or battery charger during the test.
2. Measure the total flow rate of the system. Run the system making water and divert the brine discharge and product water into a bucket. It is preferable to use separate buckets. Time how long it takes to make a given amount of water. Repeat with pump 2 and both pumps.

In order to make good water, you need the proper amount of feed water flow. Each pump alone should produce 1.5 gallons per minute (5.7 lpm) of brine discharge PLUS product water. Running on both pumps the flow should be 2.7gpm (10 lpm).

Compare the product flow to the total feed flow. Product flow should be 7% of total flow for a 150, and 9.5% of total flow for a 200 or 380 model. If product percentage is low, you may have an internal leak in the Clark Pump.

For every $\frac{1}{10}$ th of a gpm feed water flow loss, we will lose about $\frac{1}{2}$ gallon per hour of product flow and the salinity will go up 100ppm.

Low feed flow combined with low system pressures (see [Misc-4: Nominal Pressures](#)) is most frequently due to worn Shur Flo pump heads (p/n PL-PMP-SFPH).

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