

## HS LF-7 FLOW TEST VANE PUMP

The correct feed water flow rate and product flow ratio are essential to producing rated product flow and quality. You will need a large container or small drum and a watch. Before starting the test, clean all the filters and check for leaks. Check for, and repair, air leaks in the low pressure inlet side. Air leaks cause low production and erratic salinity. Listen carefully for a buzzing sound caused by cavitation or air in the feed pump. Cavitation will be caused by restricted feed water suction.

Set up the unit so that the brine discharge and the product can be directed into a container. On automated units the system will have to be run for a minute or two as it times through the start cycle. You may have to direct the brine and product into the bilge until the test starts. Once the unit is running normally, direct the brine and product into the bucket. Time how long it takes to fill the container with a given amount of water. For example, if it takes 60 seconds to produce 4 gallons (15.2l) your feed rate (brine + product) is 4gpm (15.2lpm.) Note: If the system is rejecting the product the product will already be in the brine stream.

Empty the container. Direct the product into the container with the brine going overboard and time the product flow rate. If the Controls are delivering the product to the water tank you will have to break into the product line at the membrane, the sampling tap (if installed) or diversion valve with a separate hose.

Compare your readings with these nominal flow rates for the various models:

Model 300: feed 2.3gpm, product 12.5gph. Model 400: feed 2.8gpm, product 16.7gph.  
Model 700: feed 3.8gpm, product 29 gph. Model 1000: feed 3.5gpm, product 41.7 gph.  
If you are working in liters divide liters by 3.8 to convert to US Gallons.

If the feed flow is low there may be something wrong with the feed pump, the unit could be sucking air, or the suction lines may be restricted. The 700 and 1000 feed pumps are equipped with an internal pressure regulator. If the regulator is set to too low water will be by-passed inside the pump and feed flow will be too low. See the [VP-4 "Adjust Relief Valve"](#) bulletin. If the regulator is not the problem it may be a worn or damaged feed pump.

Models 700 and 1000 have variable speed feed pumps. If the speed control is not set properly feed flow will be too high or low. See bulletins [VP-2](#) and [VP-5](#) for instructions on adjusting the speed controls. Contact the factory before adjusting feed pump speed.

If the feed flow is up to spec but product flow rate is low the problem is leakage in the high pressure side, probably in the Clark pump. See [CP-5 Clark Pump Checkout](#).

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