

OP-4: FRESH WATER FLUSH

The purpose of the fresh water flush is to replace the sea water in the watermaker with fresh water whenever the system is not operating. The Auto Flush Mode changes the fresh water every five days if the system has been idle that long. The watermaker will last longer and operate better if it is always kept filled with fresh water between uses.

Most spectra watermakers are equipped with a fresh water flush module. This module includes a charcoal filter to remove any chlorine in the fresh water that might damage the membrane, an electrically or hand operated valve and in some systems, a check valve. The valve is opened during the fresh water flush allowing the boats pressurized water system to supply water to the feed pump. The check valve, if fitted, prevents the fresh water from going out backwards through the sea strainer and sea cock. The charcoal filter has a maximum flow rate of 1.5 gallons per minute (6 LPM) so the feed pump is operated at a reduced speed on some models, or is cycled on and off on other models, to avoid exceeding this flow rate. Some flush modules also include a 50 micron filter to filter out abrasive particles in the feed water that might damage the feed pump.

If the ship's water system is unable to provide flush water at the required 1.5 GPM flow rate, sea water will be drawn in to make up the difference. This will cause the flush water to be brackish and ineffective in preserving the watermaker. As part of the installation process the fresh water flush system should be tested by taking a sample of the brine discharge water just as the flush cycle is ending. This water should not taste salty, and should read less than 1000 ppm on a digital TDS meter. The flush cycle should also be tested by closing the sea cock during the flush cycle. If the feed pump pulls a vacuum on the suction hoses, or if the MPC-control display gives a CK SEA STRAINER or SERVICE PREFILTER alarm this means that the fresh water supply is insufficient or the feed pump flush speed is too high.

Because the pre-filters trap the plankton in the feed water they can be subject to "going anaerobic" or starting to smell like rotten eggs, as the trapped plankton decay. For this reason it is advisable to always put in clean elements if the unit is going to be left on Auto Flush Mode. In daily or regular use the fresh water flush after each shutdown will help prevent this problem, but in excessively warm or fertile waters the pre-filters will need regular attention.

Charcoal filters have a limited service life and should be replaced at least every six months.

10/12/06