MILLENIUM TDS DISPLAY AND CONDUCTIVITY BOARD EVALUATION AND REPLACEMENT

Tools and Materials Required

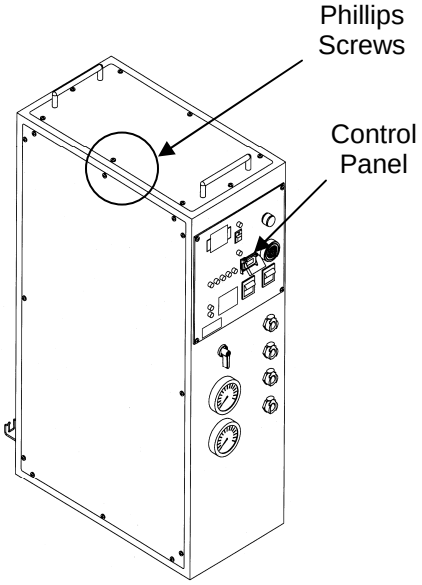
- Screwdriver (flat & Phillips)
- Sensors (ME12131)
- TDS Display Board (ME12312)
- Temperature Thermistor (ME20178)
- Conductivity Board (ME12311)

Initial Preparation

1. Measure and record the TDS levels with a calibrated, hand-held meter.
2. Turn off Millenium.
3. Turn off water supply at source.
4. Briefly turn ON the Inlet Water Valve switch. Allow system (including, if present, carbon tank(s), softener, pre-filter housing, etc.) to fully depressurize.
5. Disconnect water lines: Product, Feed and Waste.
6. Unplug power cord.

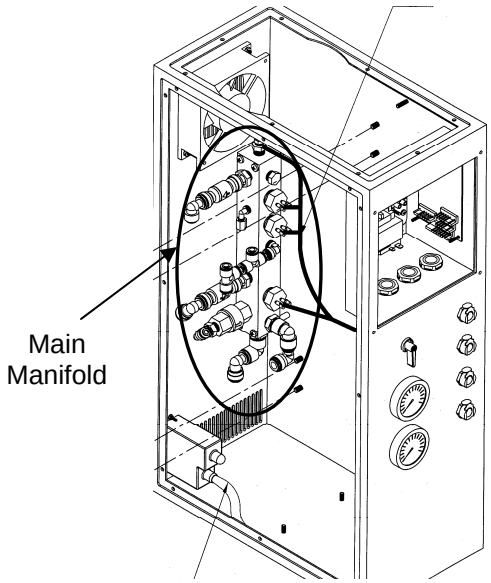
WARNING: Ensure power cord is disconnected to prevent risk of electric shock, which could result in injury or death.

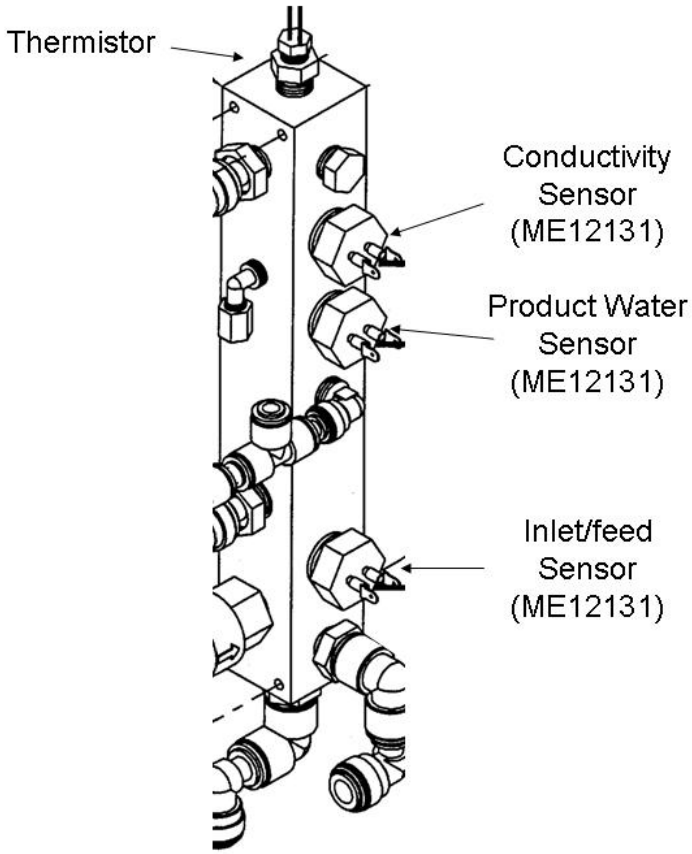
7. Remove Millenium from cart.
8. Remove large side panel cover (Phillips screwdriver).



TDS DISPLAY AND CONDUCTIVITY BOARD EVALUATION PROCEDURE

1) Locate the Main Manifold assembly.
   a) To perform a RO component test connect the GFI power cord to the back of the Millenium, plug the cord into a wall socket, reset the breaker in the GFI block in the middle of the power cord and finally, turn the black power switch to ON (located on the back of the machine).
   b) If the TDS display on the front of the machine is blank or distorted, proceed to the procedure below and replace the TDS Display board. If the display reads a clear, easy to read value/number, proceed to the next step.
   c) Check – Compare the displayed readings to the results of the test in step a) above with a handheld meter. If the meter and display match, the TDS display board and related components are functioning properly. If the meter and display readings do not match, proceed to the next step.
   d) Locate the Main Manifold in the "back, left corner" of the Millenium cabinet.





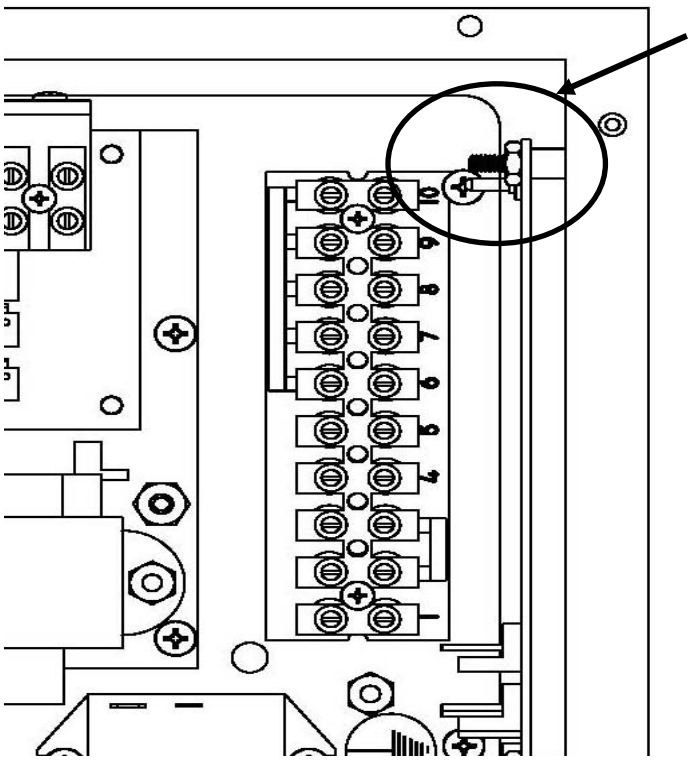
Millenium Main Manifold

   e) Check the thermistor by disconnecting one wire from thermistor. If the display does not change, the thermistor is faulty. Change the thermistor. If the TDS value on the

display changes, i.e., increases by a factor of 2X or 3X, the thermistor is functioning properly. Proceed to the next step.

f) Using a screw driver blade or metal object, short across the two contacts of the conductivity sensor. The TDS display should change to read 120 or higher. If the display does not change, inspect the cable and connections. If there isn't any damage to the cable, replace the TDS display board see procedure below. If the display changes as described, proceed to the next step.

g) Locate the conductivity board, mounted inside the electrical enclosure on the right side. Inspect the mounting of the board to ensure the conductivity board is mounted using nylon nuts (not metal). If the conductivity board in mounted with metal nuts, it is possible that the metal fasteners have worn through the protective coating on the surface of the board and caused a short between circuits. If this has occurred, proceed to the procedure below and replace the conductivity board. Ensure that the new board is installed with non-metallic fasteners. If the mounting of the conductivity board appears to be correct, proceed to the next step.



h) If possible, locate and connect a new or "known to be good" RO probe cable to the suspect conductivity board. If the display begins to show the correct TDS, repair or replace the cable as needed. If the display still shows an incorrect reading, proceed to step 2 below.

2) If the TDS reading is high, remove one of the wires from the Conductivity Sensor. The TDS level should drop to "0"; if the TDS does not change to 0.0, increases or stays the same, replace the Conductivity Display Board.

TDS DISPLAY AND CONDUCTIVITY BOARD REPLACEMENT PROCEDURE

1) Turn off the black power switch on the back of the RO and remove the power cord.

WARNING: Ensure power cord is disconnected to prevent risk of electric shock which could result in injury or death.

3) Remove the Phillips screws from the control panel cover, take care when removing the panel cover not to stretch or tear the wires connected to the panel cover components.

4) Unplug the wire harness connectors from the TDS or Conductivity Display Printed Circuit Board (PCB).

5) Loosen and remove the Nylon retaining nuts; remove the PCB.

6) Install in reverse order.

Prepare for leak testing, restore water and power connections and then reference:

Tech Note 207 - MILLENIUM START-UP PROCEDURE