

SOLENOID VALVES

FEED SOLENOID VALVE

1. The solenoid valve will be inoperative if the coil is defective or if no power is reaching the valve. Fix or replace as required.
2. If the valve continues to flow water through it when the machine is disconnected from power, replace the valve.
3. Any dripping fittings should be immediately tightened to avoid a potentially serious leak.

PLASTIC DISPENSER SOLENOID VALVE

1. The dispenser solenoid valve contains no field replacement internal components.
2. The solenoid valve inlet screen protects it from particles. This screen can be cleaned by flushing with clean water.
3. The solenoid valve will be inoperative if the coil is defective or if no power is reaching the valve.
4. Any dripping fittings should be immediately tightened to avoid a potentially serious leak.

MEASURING TDS

When taking a TDS reading, follow the specific instructions included with your meter. The following are general instructions for taking a TDS reading.

1. Rinse a cup with drinking or purified water.
2. Rinse your TDS meter probe with drinking or purified water. Shake off excess water.
3. Fill cup with sample water.

NOTE: In order to sample the feed water, the machine must be in a RO charging cycle. Vending two gallons from the dispenser will place the machine in a charging mode and allow sampling to be completed.

NOTE: When testing RO product water, vend one gallon prior to taking samples.

4. Insert TDS meter probe into sample. Record meter reading on log sheet, if desired.

MEASURING CHLORINE



WARNING: Free Chlorine can damage the reverse osmosis membrane. Feed water free chlorine must be 0 to 0.1 ppm maximum. Carbon filters must be replaced when the residual free chlorine approaches 0.1 ppm. Failure to maintain proper chlorine levels may void your warranty. If the free chlorine level in the supply water is unusually high (greater than 1.0 ppm) additional pretreatment devices may be required.

Typical processes/procedures to measure Free Chlorine. Follow manufacturer instructions for accurate test procedures.

1. Free Chlorine Test Strips:
 - a) Available from many online vendors.
 - b) Typically sold in packages of 50 test strips.
 - c) Purchase test strips with a range of range 0.0-5.0 ppm free chlorine.
 - d) Test strips have a shelf life (expiration date), only purchase a quantity which can be used before they expire)
2. Hach Free Chlorine Color Disc Test Kit
 - a) Available from from many online vendors.
 - b) Considered more accurate than test strips.
 - c) Hach catalog number CN-66F.

CLEANING - SANITIZATION

CUSTOMER CONTACT SURFACES

Cleaning and disinfecting of the customer contact surfaces must conform to state and local codes. However, it is recommended that daily cleaning and disinfecting of the customer contact surfaces be performed.

The customer contact surfaces of the Water Vending Machines are the dispensing chamber and nozzle. The following steps outline their cleaning and disinfection procedure.

1. Wash off any dirt or debris in or around the dispensing chamber and dispensing nozzle with a mild detergent solution. Rinse with clean water.
2. Spray a chlorine based 100 ppm disinfecting solution into the dispensing chamber and nozzle. Allow to air dry.

NOTE: Prepare 100 PPM chlorine based cleaning solution as follows:

- Mix one (1) gallon of clean RO water with one (1) tablespoon of standard household bleach containing 5.25 % sodium hypochlorite.

NOTE: Stronger more concentrated solutions of chlorine may cause rusting and/or damage to stainless steel and other components.

DRAIN TANK

The drain tank can get bacterial growth within a few days. Therefore, a regular cleaning procedure should be completed.

1. Remove drain tank from bracket.

2. Wash, rinse and disinfect internal surfaces using cleaning solutions above.
3. Fill drain tank with a gallon of clean R.O. water to verify prime of drain pump, and proper operation of float switches.

PLUMBING

This procedure should be used if a bacterial contamination is suspected in the vending machine. This contamination may occur when poorly treated water containing a high coliform count is fed into the machine. Although bacteria should not pass through the membrane, bacteria colonies may start to grow on the membrane surface coating it with a slimy film. Bacteria may also grow in the machine if it is taken out of service and stored without sodium metabisulfite membrane preservative. This growth can sometimes occur in little as a one to two week period depending upon the conditions. No matter the cause, if you suspect bacterial contamination of a vending machine, this contamination should be eliminated through the following sanitization procedure.

NOTE: Ideally, the membrane should be cleaned before sanitization. All membranes that have been in use for any period of time will have some degree of fouling. This may mask any attempts for complete sanitization.



WARNING: The temperature of your hydrogen peroxide sanitization solution should not exceed 75° Fahrenheit (24° centigrade) or damage to the membrane may occur.

- Use only drinking (reverse osmosis) water to mix the .2% (by volume) sterilization solution.
- The maximum concentration of hydrogen peroxide (H2O2) that should come in contact with a R.O. membrane is .25% (by volume).
- If an R.O. membrane has been in operation for several months, it should be cleaned with an acid and/or alkaline cleaner before the sterilization procedures are completed.

EQUIPMENT

The following materials will be needed for the disinfection of the vending plumbing system.

- Two (2) 5 gallon pails.
- 6 to 9 pints of 3% hydrogen peroxide.

MIXING INSTRUCTIONS

Vend 4.5 gallons of reverse osmosis water into two five gallon pails.

Add 3 pints of a 3% hydrogen peroxide solution to the water in each pail.

IMPORTANT: Always allow sanitizing solution to remain a minimum of 2 hours to 12 hours. The longer your exposure, the greater your killing time.

A. All Units - Before Next Sanitation Step

1. Empty storage tank.
2. Remove power (unplug unit).
3. Remove and discard ALL sediment and carbon filters.
4. Clean filter housing. Fill with sanitizing solution and replace on unit.

NOTE: Do not install new filters at this point.

C. Storage Tank

1. Open Tank
 - a. Clean any debris from inside of tank.
 - b. Wash and rinse internal tank with a chlorine based disinfectant solution at 100 ppm. Drain chlorine base solution completely.
 - c. Add approximately 5 gallons of hydrogen peroxide sanitizing solution to tank.
 - d. Pump disinfectant solution through system by pushing vend button.
 - e. Allow solution to set in system for 2 to 12 hours. The longer your exposure time the greater the killing effectiveness.
 - f. Pump out all disinfectant solution from tank by holding vend button.
 - g. Install new post carbon filter.

Let machine charge approximately 5 minutes then empty pressure tank by holding selector button to the "on" position, alternating between drinking and purified water option (if included).

Triple rinse tank by repeating above step 3 times.

C. Pump/Membrane Cleaning

1. Line Pressure Series (Open Tank).
 - a. Add 5 gallons premixed sanitizing solution to storage tank. Cleaning tank inside as required.
 - b. Empty prefilters. Discard filters.
 - c. Disconnect the feed line from the outside rear of machine.
 - d. Remove the 3/8" hose from RO output solenoid located after UV light. Connect a hose from RO output solenoid to rear feed port of machine.

- e. Plug in machine.
- f. Vend approx. 3 gallons of tank solution into membrane pressure vessel.

NOTE: Vend pump will cycle on/off during this time.

- g. Remove electrical power (unplug machine).
- h. Allow this sanitizing solution to set for 2 to 12 hours of time. The longer your exposure time the greater the killing effectiveness if the solution.
- i. Reconnect feed (input) and RO output solenoid valve.
- j. Discard all sanitizing solution in tank and filter housings.
- k. Install new sediment and carbon filters.

2. Pressure Pump Systems.

- a. Disconnect the feed and drain (discharge) lines from the outside rear of machine.
- b. Attach a 1/2 inch diameter plastic hose extension (approx. 3') to the feed (inlet) and discharge (drain) ports on rear outside of machine, place the ends of these two hoses in the 5 gallon sanitizing solution. You will be recirculating the solution to your 5 gallon container.
- c. Unhook spade electrical terminals at low pressure input switch located at lower rear corner of machine. Connect with jumper the terminals together.

NOTE: This will temporarily bypass low pressure switch and allow pressure pump to run. Do not allow the 24 VDC terminals to contact metal cabinet or components.

- d. Plug in machine and turn on pressure pump switch.

NOTE: Do not allow pressure pump to run dry. If pump does not prime in 15 - 20 seconds, shut off power. Recheck all hoses, 5 gallon sterilization solution and then retry pressure pump switch.

Recirculate this solution through the reverse osmosis membrane for 15 - 20 minutes.

IMPORTANT: Recirculate at low pressure 50 psi or less.

- e. Remove electrical power (unplug machine).
- f. Allow this sanitizing solution to set for 2 to 12 hours of time. The longer your exposure time the greater the killing effectiveness of the solution.
- g. Discard all sanitizing solution in storage tank and filter housings.
- h. Install new sediment and carbon filters.