



High Chloramine Removal RO/DI System



CR-RODI-90-10

INSTALLATION AND OPERATING MANUAL

WARNING

Please read carefully before proceeding with installation. Failure to follow any attached instructions or operating parameter may lead to the product's failure and possible damage to property.

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Thank You for your purchase of a SpectraPure® System. With proper installation and maintenance, this system will provide you with high quality water for years to come. All SpectraPure® products are rigorously tested by us for safety and reliability. If you have any questions or concerns, please contact our customer service department at 1.800.685.2783 or refer to our online troubleshooting at www.spectrapure.com.

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SYSTEM DESCRIPTION:

The SpectraPure® High Chloramine Removal system is a five-stage reverse osmosis deionization system.

1. First, the incoming feed water is passed through a 0.5 micron MicroTec™ sediment prefilter. This filter is required to remove excess turbidity (particulate matter) that may cause the membrane to become fouled.
2. The second stage of filtration is a 1 micron Pentek ChlorPlus carbon block prefilter. This filter removes organics and chlorine from the feed water that can damage the membrane and any particulates that are not removed by the sediment filter. The Pentek ChlorPlus filter provides greater chloramine performance capacities than granular carbon filters.
3. The third stage of filtration is a second Pentek ChlorPlus filter. This ensures that the maximum amount of chlorine and chloramines are removed before they can negatively affect the performance of the RO Membrane.
4. The fourth filtration stage of the system is a high rejection, thin film composite (TFC) reverse osmosis membrane. It removes, on average, 98% of most inorganic salts, all microorganisms and almost all high molecular weight organics in the water.
5. The fifth stage moves water through a SilicaBuster® Mixed-Bed Multi-Layer Deionization Cartridge. SilicaBuster® Deionization Cartridges are fabricated with semiconductor grade resins for the highest possible purity water. They are capable of producing 18 megohm-cm resistivity water. They are the first DI cartridges designed to reduce silica, nitrates and phosphate levels in the low ppb range. These newly formulated cartridges far exceed the performance of previous cartridges, offering enhanced contaminant removal, longer life and higher purity.

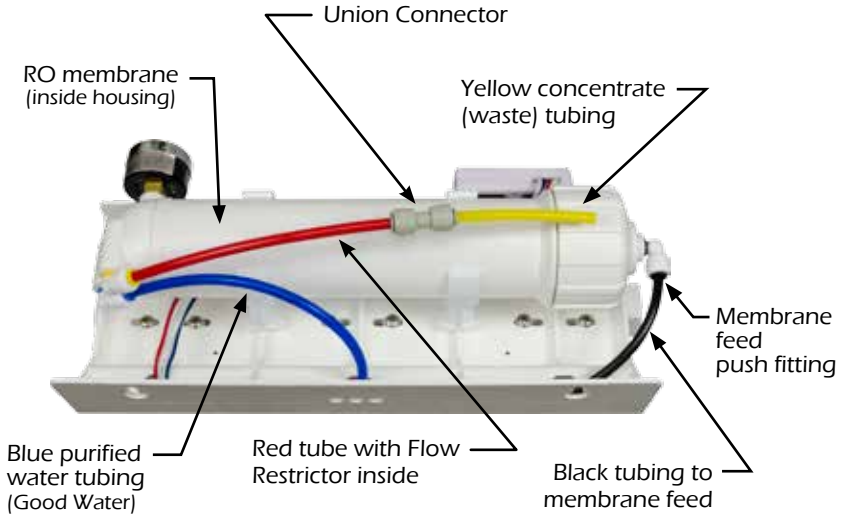
Caution: The deionization cartridge life is greatly reduced when operated on low pH waters or water with high CO₂ (carbon dioxide) levels. The exact cartridge life will vary greatly with pH, carbon dioxide levels, TDS, etc., in your RO water or the feed water supplying the RO system. Aeration or degasification of RO product water is recommended for such waters for removal of carbon dioxide.



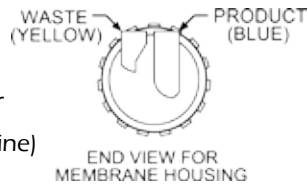
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Fig. A: Single-Membrane Assembly
Top/Rear View



1/4" BLACK LINE: Tap Water
1/4" BLUE LINE: Product Water
1/4" YELLOW LINE: Waste Water
(Flow Restrictor is inside the Waste line)



SpectraPure® Inc. assumes no responsibility for water damage due to leaks.
It is the user's responsibility to determine that the system is leak-free.

WORKING WITH PUSH FITTINGS:

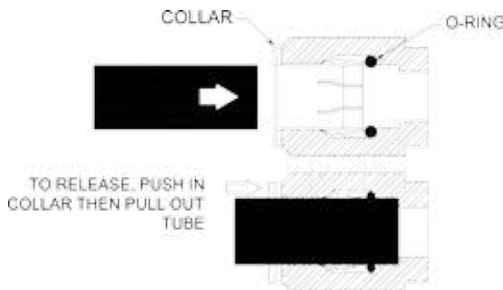
Push fittings are very reliable and convenient tubing connectors.

To remove the tubing from its push fitting:

1. Firmly depress and hold the push fitting collar down with your thumbnail.
2. While the push fitting collar is depressed, pull the tubing straight out of the push fitting. Once the tubing is removed, release the collar.

To reinsert the tubing into its push fitting:

1. Moisten the O-ring seal inside the push fitting by dripping a few drops of clean water into the fitting.
2. Grasp the tubing near the end, and insert the tubing into the push fitting.
3. Push the tubing into the fitting until resistance is felt, approximately 1/2 inch (12.7 mm). The tubing is now resting on the O-ring seal inside the fitting.
4. Firmly push the tubing approximately an additional 1/4 inch (6.35 mm) further into the fitting to completely seat the line into the fitting and past the O-ring seal.
5. Turn on the system water supply and check for leaks prior to further use or testing. If a leak is observed, you may not have pushed the tubing into the push fitting far enough to seal the tubing against the O-ring. Turn off the system water supply and reseal the tubing as described above.



SYSTEM INSTALLATION & INITIALIZATION:

1. Most of the components of this system are plastic and are subject to damage by ultraviolet light from the sun and other sources such as metal halide lighting.
2. Avoid installing this unit in an area where it may be subjected to bright light or direct sunlight, as algae is more likely to thrive inside the clear filter housings when exposed to bright light. The unit must be kept out of areas that are subject to freezing temperatures.
3. High temperatures greater than 113° F (45° C) must be avoided. If the unit is used outside, avoid putting the system in direct sunlight or connecting it to a garden hose that may be exposed to sunlight.
4. Attach the black tap water tubing to the left side of the Sediment Filter Housing (See "IN Port" on page 4).
5. Attach the yellow drain line to the union connector at the rear of the system. This connector already has a red tube attached to it.
6. Attach the blue product line to the front port (after the "tee") of the right-hand DI housing. (See image below)



7. Attach the black tubing and elbow to the membrane housing cap.
8. Attach the garden hose adapter (**connected to the black tubing**) to your cold water source. Never run hot water (greater than 113° F/45° C) through the system.
9. Remove the DI filter cartridge from the right-hand filter housing. Reconnect the housing to its threaded cap. Hand tighten.
10. An optional ball valve can be located at a convenient place on the black tap water line. Cut the black tubing in two and reconnect the two cut ends with the ball valve, if desired.

(continued on next page)

SYSTEM INSTALLATION & INITIALIZATION: (cont.)

11. Place the **yellow concentrate (waste) tubing** and the **blue purified (product) water tubing** temporarily into a drain. Do not restrict flow from these lines.
12. Let both tubings run water down the drain for one hour.
13. Reinstall the DI cartridge into the DI housing. Hand tighten.
14. There is a group of red, white, and green sensor wires. At the end of the wires, you will find a white connector. Just insert the connector into the receptacle on the top of the TDS monitor. You can then use the Velcro on the back to mount the meter wherever it's convenient. For example, even on a wall for easier viewing.
15. Open the cold water supply valve. The pressure should not exceed 80 psi.
16. Upon startup, air may be trapped in the DI cartridge (housing may not appear full), this is a normal condition and it will not affect the operation of the DI system. However, if you later install an ASO Valve/Check Valve/Float Valve for automatic operation, all air must be kept purged from the housings by slightly unscrewing the housing and letting the running water displace the air until the housing is full of water. When full, hand tighten the housing.
17. Set the meter to "Line 3" and run the system until the meter reads zero. The water is now ready to use. **You can set the meter to monitor either of the 3 probes at any time.** "Line 1" displays the Tap Water TDS. "Line 2" displays the TDS of the RO Water. "Line 3" displays the TDS of the DI (product) Water.
18. Close the cold water supply valve.
19. Finish the installation by directing or connecting the yellow line to a permanent drain.
20. Check the system to ensure that all fittings are tight and leak-free before leaving the system unattended. (If anything is leaking, contact SpectraPure for assistance.)

NOTE: It may take several days of normal operation for the membrane to reach its full production rate.

CHECK:

- » **Ensure that all fittings are tight and leak-free before leaving the system unattended.**
- » **The red concentrate (waste) line includes a smaller capillary tube (flow restrictor) that is located "inside" of the tubing. Do not remove or discard this restrictor - the system will not produce permeate (product)water without the flow restrictor.**

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METERING AND DIAGNOSTICS:

This SpectraPure purification system has been fully equipped with sufficient instrumentation to make monitoring and troubleshooting an easy process. The provided pressure gauge is used to determine the tap water pressure and to evaluate the condition of the sediment and carbon prefilters.

USING THE PRESSURE GAUGE

The pressure gauge is used to monitor the condition of the Sediment and Carbon Prefilters (**not the RO Membrane**). When the filters are new, the gauge will indicate the actual available house water pressure. As the filters collect particulates, the pressure will begin to drop. A 15-20% (or more) drop in pressure would indicate that the prefilters are in need of replacement.

USING THE THREE-PROBE TDS METER (TRM-1 METER)

The digital TDS meter (three probe) will provide a reliable means of evaluating the performance of the RO membrane and the Deionization Cartridge. The numbers from the three probe readings can be used to calculate the percentage of rejection of the RO membrane and the exhaustion point of the DI Cartridge.



| |
|---|
| Line 1 (left) — Tap water TDS |
| Line 2 (center) — RO water TDS |
| Line 3 (right) — Product (DI) water TDS |

Line Selector Switch

Procedure for testing the RO Membrane:

1. Follow the instructions on page 11.

Procedure for testing the Deionization Cartridge:

1. When the reading on the probe (set to "Line 3") displays "001", it is time to replace the DI cartridge. The system must be running when taking this reading.

Warning!!

The TRM-1 TDS Meter does not detect the presence of CO₂, silica, organic contaminants or microorganisms, nor should it be used as a medical or scientific instrument. It should be used as an indicator or guide only, and does not imply water safe for human consumption. No application other than monitoring the electrical conductivity of water is expressed or implied.

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TESTING THE QUALITY OF THE MEMBRANE:

MEMBRANE OUTPUT CALCULATION

Membranes produce the rated gallons per day (GPD) at 60 psi (4.1 bars) operating pressure, 77°F (25°C) operating temperature and 250 ppm total dissolved solids.

Membrane output gallons per day (GPD) depends on operating pressure, water temperature and the ppm TDS in the feed water.

$$\text{Expected GPD} = \text{Rated GPD} \times \text{PCF} \times \text{TCF}$$

PCF is the pressure correction factor

TCF is the temperature correction factor

Calculation of Pressure Correction Factor (PCF): The output (GPD) from the membrane is directly proportional to the applied pressure.

NOTE: The membrane is rated to produce the rated GPD at 60 psi. For any pressure other than 60 psi the output GPD is multiplied by the PCF.

$$\text{PCF} = \text{Line Pressure (in psi)} \div 60$$

Calculation of Temperature Correction Factor (TCF): The output (GPD) also decreases with decrease in temperature. This is because water viscosity increases with decrease in water temperature.

Temperature Correction Factor Table (TCF)

| °F/°C | TCF | °F/°C | TCF | °F/°C | TCF |
|---------|-------|---------|-------|---------|-------|
| 41.0/5 | 0.521 | 59.0/15 | 0.730 | 77.0/25 | 1.000 |
| 42.8/6 | 0.540 | 60.8/16 | 0.754 | 78.8/26 | 1.031 |
| 44.6/7 | 0.560 | 62.6/17 | 0.779 | 80.6/27 | 1.063 |
| 46.4/8 | 0.578 | 64.4/18 | 0.804 | 82.4/28 | 1.094 |
| 48.2/9 | 0.598 | 66.2/19 | 0.830 | 84.2/29 | 1.127 |
| 50.0/10 | 0.620 | 68.0/20 | 0.857 | 86.0/30 | 1.161 |
| 51.8/11 | 0.640 | 69.8/21 | 0.884 | 87.8/31 | 1.196 |
| 53.6/12 | 0.661 | 71.6/22 | 0.912 | 89.6/32 | 1.232 |
| 55.4/13 | 0.684 | 73.4/23 | 0.941 | 91.4/33 | 1.267 |
| 57.2/14 | 0.707 | 75.2/24 | 0.970 | 93.2/34 | 1.304 |

Membrane Output Calculation Example

What is the expected GPD from a 75 GPD System at 40 psi pressure and 60°F water temperature?

$$PCF = 40 \div 60 = 0.666$$

$$TCF = 0.754 \text{ (from Table 1)}$$

$$\text{Expected GPD} = 75 \times 0.666 \times 0.754 = 37.7 \text{ GPD} \pm 15\%$$

37.7 GPD would be the Actual Production Rate

MEMBRANE REJECTION TEST

The performance of a RO membrane is measured by its ability to reject salts (or TDS-Total Dissolved Solids).

Important: Test the quality of the membrane once every 6 months.

Procedure:

1. Set meter to "Line 1" and read tap water TDS. (Call it X)
2. Run the system for 15-20 minutes.
3. Set meter to "Line 2" and read RO water TDS. (Call it Y).
4. Subtract RO water TDS from tap water TDS. (X - Y)
5. Divide this quantity by tap water TDS. (X - Y) ÷ X
6. Rejection = [(X - Y) ÷ X] × 100

Rejection of the RO Membrane Calculation Example

1. Tap water TDS = 150 ppm (X)
2. RO water TDS = 7 ppm (Y)
3. X - Y = 143 ppm
4. (X - Y) ÷ X = 143 ÷ 150 = 0.953
5. Rejection = [(X - Y) ÷ X] × 100 = 0.953 × 100 = 95.3

Membrane TDS Rejection = 95.3%: Rejection rates less than 95% may indicate that the membrane should be replaced.

SEDIMENT PREFILTER REPLACEMENT:

For maximum contaminant removal and long membrane life, the sediment and carbon prefilters must be changed when a 15-20% drop in pressure is observed OR at least 6 month intervals. If your water contains a great deal of sediment or chlorine, the prefilters may require more frequent changes to maintain adequate production rate and extended membrane life.

Sediment Prefilter Replacement

Materials Required: 0.5 micron MicroTec™ Sediment Filter (SF-MT-0.5-10), Filter Wrench

Procedure:

1. Turn off water supply to the system.
2. Using the provided filter wrench, remove the first housing on the left. Unscrew it by rotating it to the left.
3. Remove the old filter and discard.
4. Thoroughly wash the housing with a mixture of hot soapy water and a few teaspoons of household bleach. Rinse well with clean hot water.
5. Install the new prefilter onto the round port in the head of the housing. Screw the housing back onto the assembly, and hand tighten **only**.

NOTE: Do not use filter wrench to tighten housings. Over-tightening will damage housings and void your warranty.

6. Proceed with carbon block filter replacement.

CARBON BLOCK PREFILTER REPLACEMENT:

For maximum contaminant removal and long membrane life, the sediment and carbon prefilters must be changed when a 15-20% drop in pressure is observed OR at 6-month intervals. Test for chlorine breakthrough by collecting a 10 ml sample of the concentrate from the yellow tubing and test the chlorine concentration using test kit TK-CL-10-KIT. If the chlorine concentration is above 0.1ppm, replace the carbon prefilters.

Carbon Block Filter Replacement

Materials Required: (2) Pentek ChlorPlus Carbon Block Filters (CF-CR-1-10), Filter Wrench, Chlorine Test Kit (TK-CL-10-KIT)

Procedure:

1. Perform steps 1-5 listed above for each carbon block filter.
2. Turn on system water supply and check for leaks.

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DEIONIZATION CARTRIDGE REPLACEMENT:

(located in rightmost housing)

The DI stage is the SilicaBuster™ Extended Life SUPER DI™ Deionization Cartridge, DI-SB-10HC. The condition of this cartridge should be judged by observing the “Line 3” probe on the TDS monitor.

Turn the on the system and allow water to flow past the monitor probe for at least 20 minutes before attempting to use the monitor. When the reading on the TDS monitor (set to “Line 3”) displays “001”, it is time to replace the DI cartridge.

Materials Required: One DI-SB-10HC Deionization cartridge, filter wrench.

Procedure:

1. Remove the filter housing from its cap by rotating it to the left.
2. Remove and discard the old cartridge from the housing.
3. Thoroughly wash out the housings with hot soapy water to which a few teaspoons of household bleach have been added. Rinse well with clean hot water.
4. Install the new deionization cartridge. Make sure the cartridge is installed in the correct direction as marked on the filter housing and that the top seal is securely attached to the top of the cartridge.
5. Reinstall the bottom housing onto the cap by rotating it to the right and hand tighten only.



NOTE: Do not use filter wrench to tighten housings. Over-tightening will damage housings and void your warranty.

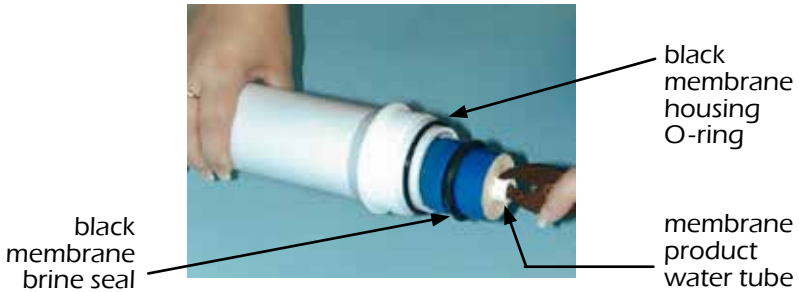


Warning: SpectraPure does not recommend drinking deionized water.

RO MEMBRANE REPLACEMENT:

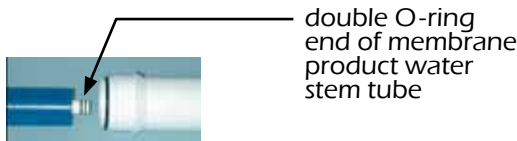
1. Turn off the water supply to the RO system. Place the system where the membrane housing is easily accessible.
2. Remove the black tubing from the membrane feed push fitting by depressing the collar on the fitting with your thumb and pulling the tubing from the push fitting.
3. Lift the membrane housing from the retention clips.
4. Unscrew the membrane housing lid using the included filter wrench. This may require two people.
5. Use a pair of pliers to grasp the membrane stem and pull the membrane from the housing (Fig. B).

Fig. B: Removing the Membrane Element



6. Remove the black housing O-ring (Fig. B). Wash the empty housing with soapy water. Rinse thoroughly with hot, clean water.
7. Insert new membrane into the housing, with the double O-ring end first (Fig. C). The tube must fit into the recess at the bottom of the membrane housing. When the membrane is aligned with the hole, firmly push the membrane into the hole until it bottoms out.

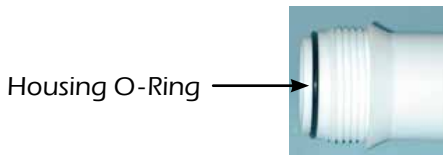
Fig. C: Inserting the New Membrane Element



RO MEMBRANE REPLACEMENT: (continued)

8. Place the black housing O-ring on the housing rim and carefully screw the lid back on to the base. (Fig. D)

Fig. D: Location of Housing O-Ring



9. Reconnect the black tubing to the membrane feed push fitting.
10. Unscrew the rightmost housing and remove the DI cartridge. Screw the empty housing back on and hand-tighten.
11. Turn the system on and run both the product and waste water lines to a drain for one hour.
12. Using the built-in TDS meter, determine the membrane rejection rate. The system must be running to perform this step. (See "Using The Three-Probe TDS Meter" on page 8 and "Membrane Rejection Test" on page 11. You may skip step 2 on page 11 as the system has already been running.)
13. If the membrane rejection rate is 96% or higher, turn the system off and reinstall the DI cartridge.

NOTE: Make sure the DI cartridge is in the correct orientation and that the rubber gasket is positioned correctly. Hand-tighten the housing only. Use of the included filter wrench is not necessary or recommended for tightening the housing.

14. If the rejection rate is below 96%, run the system for another hour and repeat step 12.
15. The system is now ready for use.



Membrane Troubleshooting Guide

The following chart illustrates the procedure for determination of RO membrane performance. However, the chart represents only rough guidelines for determining performance of RO membrane. Depending on your tap water chemistry, the rejection characteristics of the membrane may vary significantly.

| Method of Testing | Calculate % Rejection | Test Results | Conclusion |
|--------------------------------|---|--------------------------------------|--|
| TDS/ Conductivity Tester | Measure feed water and RO product water TDS/ Conductivity | Is Rejection greater than 95%? | No - Replace Membrane Yes - Membrane OK |
| Alkalinity Test Kit | Measure feed water and RO product water Alkalinity | Is Rejection greater than 90%? | No - Replace Membrane Yes - Membrane OK |
| Hardness Test Kit** | Measure feed water and RO product water Hardness | Is Rejection greater than 90%? | No - Replace Membrane Yes - Membrane OK |

**Caution: This test is not to be used on softened water sources.

TEMPERATURE EXTREMES:

1. The unit must be kept out of areas that are subject to freezing temperatures.
2. High temperatures greater than 113° F (45° C) must be avoided. If the unit is used outside, avoid putting the system in direct sunlight or connecting it to a garden hose that may be exposed to sunlight.

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TIPS FOR LONG MEMBRANE LIFE:

1. Replace the 0.5 micron sediment filter once every 6 months. This will prevent membrane fouling due to silt or sediment depositing on the membrane.
2. Replace the carbon block filters at least once every 6 months or when chlorine breakthrough occurs. This will ensure good membrane life and protect the membrane from chlorine damage.
3. Operating reverse osmosis systems on softened feed water greatly reduces the chances of membrane fouling.
4. Use the optional flush valve kit after each use of the system to extend membrane life.

STORAGE:

1. It is recommended that you store your RO System in a cool, dark place when not being used.
2. If your system is exposed to sunlight you will grow algae in the housing and it may damage your system.
3. Your RO System must be protected from freezing or temperatures above 113° F (45°C).
4. **MEMBRANE WARNING:** All SpectraPure RO membranes must remain moist at all times. Do not open or remove the membrane from its bag until ready for use.
5. Replacement membranes should be kept in the sealed non-permeable shipping bag and in a refrigerator until use. The membrane may be kept there for up to 1 year. **(DO NOT FREEZE)**

TROUBLESHOOTING GUIDE FOR RO/DI SYSTEMS:

1. Low production rate:
 - a. plugged prefilters.
 - b. low water temperature
 - c. low line pressure.
 - d. high TDS content.
 - e. fouled membrane.
 - f. plugged flow restrictor.
 - i. Replace prefilters.
 - ii. Warm feed water OR use higher GPD membrane.
 - iii. Use booster pump OR use higher GPD membrane.
 - iv. Use booster pump OR use higher GPD membrane.
 - v. Replace membrane to restore flux.
 - vi. Replace flow restrictor & membrane.

2. Zero production rate:
 - a. Missing flow restrictor.
 - b. Dried RO membrane.
 - c. Plugged flow restrictor.
 - i. Install flow restrictor in the yellow line.
 - ii. Try to restore flux by soaking in rubbing alcohol OR replace the membrane.
 - iii. Replace flow restrictor and replace the membrane.

3. Extremely high production rate:
 - a. Opened membrane due to chlorine damage.
 - b. Very high line pressure (> 90 psi).
 - i. Replace membrane and carbon filter.
 - ii. Use a pressure reducing valve.

4. High or "Unreasonable" Readings on TDS Meter:
 - a. Exhausted deionization cartridge.
 - b. Bad membrane & exhausted cartridge.
 - c. Faulty monitor/probe.
 - d. Exhausted batteries.
 - i. Replace cartridge.
 - ii. Replace membrane and deionization cartridge.
 - iii. Replace monitor/probe.
 - iv. Replace with (2) 357A batteries.

5. Pressure gauge does not register anything:
 - a. Missing flow restrictor.
 - b. Pressure gauge screwed in too far.
 - c. Plugged pressure gauge orifice.
 - d. Defective pressure gauge.
 - i. Put flow restrictor in yellow line.
 - ii. Unscrew pressure gauge one turn and retest.
 - iii. Clean orifice with a needle.
 - iv. Replace it.

6. Low deionization cartridge life:
 - a. Defective membrane.
 - b. Low pressure (< 40 psi).
 - c. High CO2 levels in water (> 5 ppm)
 - d. High TDS in feed water (> 1000 ppm).
 - e. High levels of silica, nitrates, phosphates, etc., in tap water.
 - f. High pH tap water (>9.0).
 - i. Replace it.
 - ii. Use booster pump.
 - iii. Aerate RO product water or use a straight anion cartridge ahead of DI cartridge.
 - iv. NO EASY SOLUTION.
 - v. Use a straight anion cartridge ahead of mixed-bed cartridge.
 - vi. Acidify feed water to the RO membrane to improve its rejection.

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THREE-YEAR LIMITED WARRANTY:

All standard water purification products manufactured by SpectraPure have a 3 year limited warranty, except the Eliminator™ MarinePro™, Industrial, Laboratory, Custom Systems, Commercial and electrical products which have a 1 year limited warranty. LiterMeters™ & UPLC™ have a 5 year limited warranty. OEM equipment resold by SpectraPure (pumps and monitors) carry the original manufacturer's warranty.

SpectraPure, Inc.® warrants the product to the original owner only to be free of defects in material and workmanship for a period of three years from the date of receipt. SpectraPure's liability under this warranty shall be limited to repairing or replacing at SpectraPure's option, without charge, F.O.B. SpectraPure's factory, any product of SpectraPure's manufacture. SpectraPure will not be liable for any cost of removal, installation, transportation or any other charges which may arise in connection with a warranty claim. Products which are sold but not manufactured by SpectraPure are subject to the warranty provided by the manufacturer of said products and not by SpectraPure's warranty. SpectraPure will not be liable for damage or wear to products caused by abnormal operating conditions, accident, abuse, misuse, unauthorized alteration or repair or, if the product was not installed in accordance with SpectraPure's or other manufacturer's printed installation and operating conditions, or damage caused by hot water, freezing, flood, fire or acts of God.

SpectraPure will not be responsible for any consequential damages arising from installation or use of the product, including any water or mold damage due to flooding which may occur due to malfunction or faulty installation, including, but not limited to failure by installer to over- or under-tighten fittings, housings, and/or push-style fittings, or improper installation of push-style fittings. Consumable items such as prefilters and membranes are not covered under the 3 year warranty.

SpectraPure warrants (prorated) the performance of tested SpectraSelect™ RO membrane elements only, for one year from date of receipt by the buyer, providing that the loss of performance was not caused by fouling, neglect or water conditions exceeding the feed water parameters listed in the applicable product manual (refer to detailed membrane warranty information). SpectraPure will, on confirmation of loss of performance during the warranty period, credit the prorated amount of the current catalog price of the element. The disposable filters and cartridges are not covered under the warranty.

To obtain service under this warranty, the defective system or components must be returned to SpectraPure with proof of purchase, installation date, failure date and supporting installation data. Any defective product to be returned to the factory must be sent freight prepaid; documentation supporting the warranty claim and a Return Goods Authorization (RMA) number must be included. SpectraPure will not be liable for shipping damages due to the improper packaging of the returned equipment and all returned goods must also have adequate insurance coverage and a tracking number.

SpectraPure will not pay for loss or damage caused directly or indirectly by the presence, growth, proliferation, spread or any activity of "fungus", wet or dry rot or bacteria. Such loss or damage is excluded regardless of any other cause or event that contributes concurrently or in any sequence to the loss. We will not pay for loss or damage caused by or resulting from continuous or repeated seepage or leakage of water, or the presence or condensation of humidity, moisture or vapor, that occurs over a period of 14 days or more. "Fungus" and "fungi" mean any type or form of fungus or Mycota or any byproduct or type of infestation produced by such fungus or Mycota, including but not limited to, mold, mildew, mycotoxins, spores, scents or any biogenic aerosols.

SpectraPure will not be liable for any incidental or consequential damages, losses or expenses arising from installation, use, or any other causes. There are no expressed or implied warranties, including merchantability or fitness for a particular purpose, which extend beyond those warranties described or referred to above.

***The three year limited warranty does not apply to consumable items, including but not limited to, filters and cartridges unless specifically stated above.**

SpectraPure®

REPLACEMENT PARTS:

| <u>Part Number</u> | <u>Description</u> |
|--------------------|--|
| SF-MT-0.5-10 | 0.5 micron MicroTec™ Sediment Filter |
| CF-CR-1-10 | 1 micron Pentek ChlorPlus Carbon Block Prefilter |
| DI-SB-10HC | SilicaBuster™ Extended Life SuperDI™ Cartridge |
| MEM-0090 | 90 gpd/340 lpd TFC Membrane |
| FR-90-RED | Flow Restrictors for 90gpd/340 lpd System |

UPGRADE PARTS:

| <u>Part Number</u> | <u>Description</u> |
|--------------------|---|
| MEM-SP-0090 | 90 gpd SpectraSelectPlus 99% Rejection TFC Membrane |

ACCESSORIES:

| <u>Part Number</u> | <u>Description</u> |
|--------------------|---|
| MTR-PH80 | Hand-held pH Meter |
| MTR-EC/TDS-C100 | Hand-held EC/TDS Meter |
| FAU-SNP | Quick Connect Faucet Adapter |
| TK-CL-10-KIT | Total Chlorine Test Kit |
| TK-CL-10TABS | 10 Replacement Tabs for Chlorine Test Kit |

Visit our website at www.spectrapure.com for Liquid Level Controllers and other Optional Accessories



Warning: SpectraPure does not recommend drinking deionized water.