

# SPECTRA

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## WATERMACHINES™

### Z-GUARD OPERATION AND INSTALLATION MANUAL



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Server/ Masterdocs/ Man current/Z-Guard Install 9-23

**Shipping List:**

- 1) Z-guard Assembly (Electrode, Reaction Chamber, Power Supply, may vary according to model)
- 2) 3/4" x 3/4" Hose Barb St. fitting
- 2) 3/4" x 5/8" Hose Barb St. fitting
- 1) Instruction Manual

**Tools you will need:**

- Teflon Tape
- Adjustable Wrench
- Phillips Screwdriver
- Nutdrivers or Socket Wrench

**Before you begin:**

- Make sure that DC power is turned OFF or is disconnected at source before stalling.
- Close all water intake valves.
- Familiarize yourself with the contents of this manual before beginning installation.

## Installation for Watermaker Systems::

### Pre-Assembly:

Give all pipe fittings 6 to 7 wraps of Teflon tape in the direction the threads will turn. Tighten all pipe fittings with a wrench, do not over tighten.

### Mounting:

Mount the unit upright, against the bulkhead or any solid surface. Try to mount the power supply out of the “splash zone”, as far away from water connections as possible. Mount the unit as close to the other watermaker components as possible.

### Plumbing:

Plumb the reaction chamber between the output of the fresh water flush module and the feed pump. If you do not have a fresh water flush module, plumb the reaction chamber directly after the intake seacock or intake strainer. The unit should be in the path of all incoming water to the system. Use 5/8 or 3/4 braided hose, whichever is applicable. Snug the hose as far as possible against the hose barbs, and tighten hose clamps tightly. See plumbing diagram.

### Electrical:

**Make sure the power to the circuit you are working on is disconnected before performing this work!**

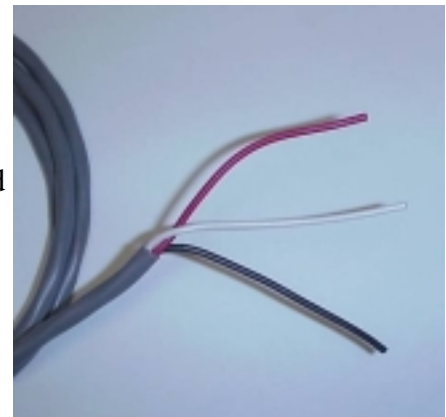
**Note: There is no reason to open the transformer enclosure. Do not service this unit without disconnecting both power sources! There may be high voltage present.**

The **red** wire is the primary source which can be connected to the AUX1 terminal of the MPC-3000 control. This is internally fused. If you chose another primary power location you must supply a fuse and install it at the source. The second power (**White**) feed is a back up source that may be connected to any **Fused** power source. The **Black** wire is the ground that may be connected to the common ground in the MPC control.

Fuse the secondary power feed at the source. A five amp fuse is ample.

### Before applying power to the unit:

- Make sure all electrical connections are sound, no bare wires or wires touching.



At this point inspect the entire system looking for any leaks in the plumbing. If there are any, stop the unit and disconnect power, and fix the leak. Re-wrap any loose pipe fittings with Teflon tape and re-tighten, or tighten hose clamps further. Clean up any spilled water before re-applying power to the unit.

### **Installation for Air conditioning and Refrigeration systems.**

Follow the above instructions for the mounting and plumbing. The best results for Air conditioning and refrigeration systems will be obtained by installing the reaction chamber just downstream of the sea strainer and in an upward ascending flow path to avoid any air locks in the system.

Connect the power supply to any solid source of power that is continuously on. The backup source can be from another battery bank or if desired connected with the primary source.



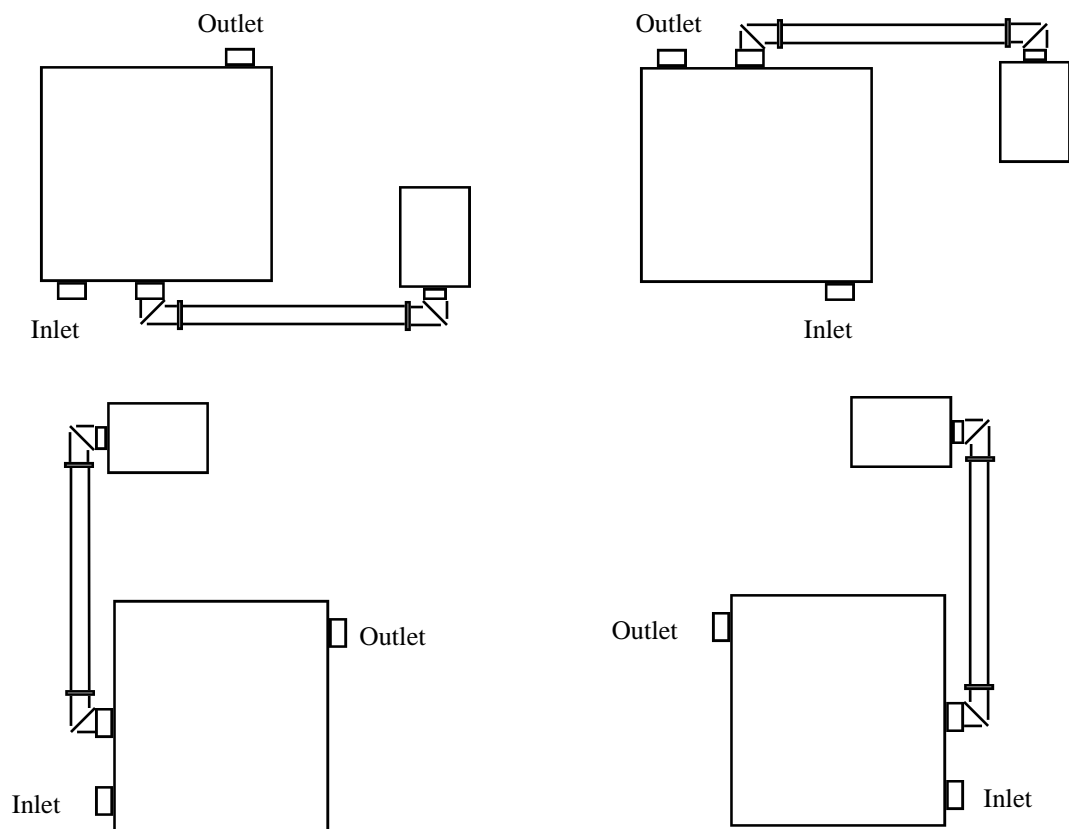
### **Operation**

During normal operation the Green LED should be on at all times that the water maker or air conditioning system is running or that the fresh water flush system is activated. Power needs to be supplied to the Z-Guard unit at all times. Should the primary power source be disconnected the Z-Guard unit automatically switches to the secondary power source. Secondary power can be checked by pushing the test button and confirming that the yellow LED activates. To achieve full effectiveness thoroughly fresh water flush the water maker several times before leaving the vessel.

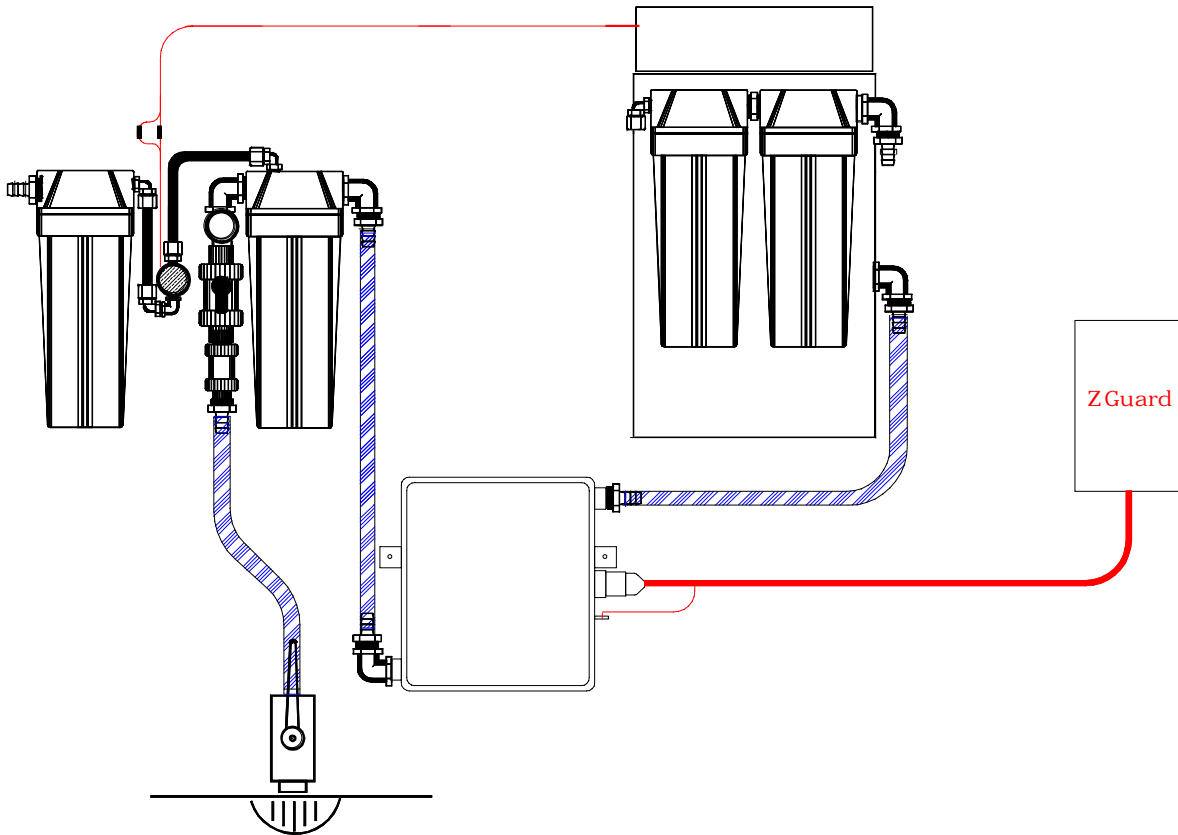
## Spectra Z-Guard Mounting Notes

The new Z-Guard reaction chamber has been designed for maximum flexibility with many mounting options. Either port can be used as intake or outlet, and the electrode cable has been specially fitted with flexible angle elbows.

However you choose to mount the reaction chamber, it is important to plumb your water intake at the lowest port, and water out at the highest port.



## Water maker System Layout



The Zeta Reaction Chamber is installed between the fresh water flush module and the water-maker. This way both the sea water and the fresh water for the flush cycle is treated by the **Zeta- Guard**