



SPECTRA
WATERMACHINES™

Z-Guard

Electronic Water Treatment System



***Keep Watermakers, Chillers, Air Conditioners and
Condensers Clean Without Chemicals***

Spectra Watermakers Inc. introduces a final solution to the problem of acid washing and de-scaling chillers, air conditioners and condensers with the revolutionary **Z-Guard™**.

Using this proven technology, Spectra now is applying it directly to the intake raw water to permanently prevent scaling and biological-fouling, the principle cause of failure in your water circulating equipment. Fouling has been labeled as unavoidable by many sources. The origin of fouling varies and can be mineral, biological or a combination of both.

Bio-film is the slick coating or slime found on wetted surfaces produced by many types of microbes. A thin layer of bio-film usually coats the interior of piping, strainers, heat exchangers and other equipment when exposed to water. This bio-film provides both habitat and food supply for a range of bacteria and scale forming compounds. The Z-Guard™ will eliminate conditions that foster biofouling, scaling and barnacle growth.

How it works

As water enters the reaction chamber it is exposed to a powerful electrostatic field charging all water molecules in a positive orientation. This positive charge prevents particulates from bonding to one another, preventing the formation of sludge, scale and biological fouling. The wetted charged surfaces form a strong boundary layer preventing particles from attaching. Bacteria are rendered inactive and unable to absorb nutrition to replicate into colonies. With the Z-Guard™ you can eliminate the fouling and scaling of watermaker membranes, heat exchangers, chillers and condensers now and forever.

Convenient

No more hoses, buckets or dangerous chemicals. The inconvenience of having to apply chemicals to watermaker membranes, heat exchangers, chillers and condensers is gone forever. Spectra's new environmentally sound technology will maintain your equipment without the cost and hassles related to conventional maintenance.

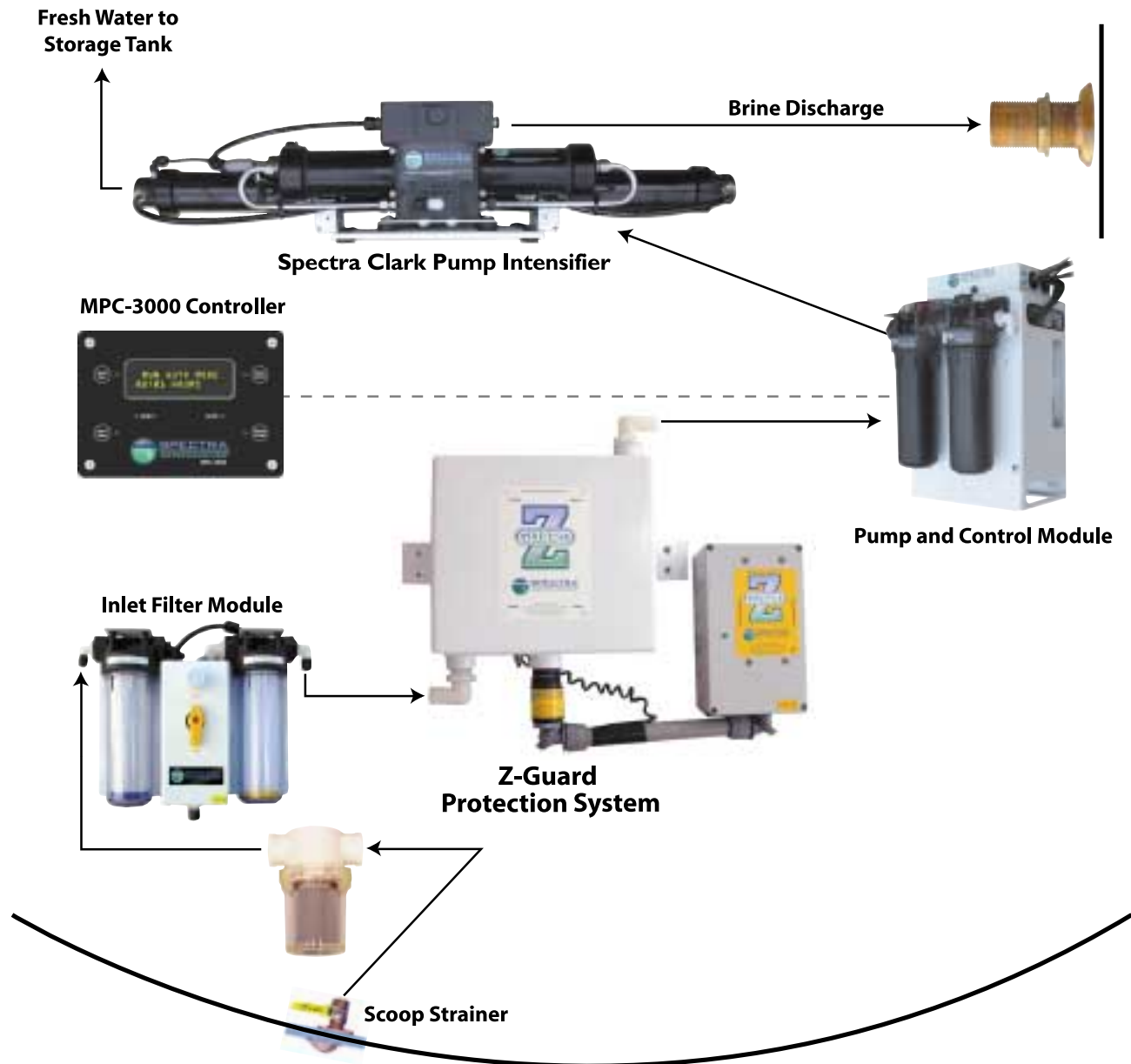
Do Not Use Chemicals

Repeated use of chemicals will substantially shorten the usable life of watermakers, heat exchangers, condensers and chillers. The Z-Guard™ will not allow bio-growth or scaling to attack your system, maintaining the overall performance of your units while dramatically increasing the life of the equipment.

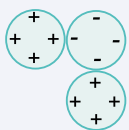
Sized to Fit Your Needs

Z-Guard™ Systems are available in 7, 16, 25 and 50 gallons per minute configurations. Please contact your local Spectra Distributor or Spectra's San Rafael factory for higher flow rates or custom applications.

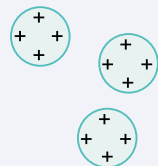
System Layout



How Z-Guard Technology Works



Under normal circumstances dielectric particles attract each other. This process allows small micro organisms to grow.



Z-Guard technology repels dielectric particles by lowering the Zeta-Potential reversing ion charges. Micro organisms cannot build-up because they don't attract.

As water enters into the membrane pressure vessel chamber or heat exchanger, particles exposed to the powerful electrostatic field of the Z-Rod electrode experience an elevation in surface charge. This positive charge prevents the particles from approaching close enough to bond to each other or nearby surfaces. This prevents scale, sludge and biological fouling. Wetted surfaces also form a strong boundary layer which prevents particles from attaching. Bacteria are unable to attach, absorb nutrition, or replicate into colonies.

Got an unusual application? Call a Spectra Tech at 415 526-2780

Z-Guard™ Specifications



Z-Guard Reaction Chamber

Power Supply

Note: Dimensions shown are for Z-7 Model except where indicated

Depth: Z-7 = 3" (7.6 cm) Depth: Z-16 = 3 1/2" (8.9 cm)

Depth: Z-25 = 6" (15.2cm) Length = 14" (35.6 cm), Height = 14" (35.6 cm)

Depth: Z-50 = 6" (15.2cm) Length = 27" (68.4 cm), Height = 14" (35.6 cm)



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Distributor