



Scale and biofouling are big problems with steam generators

Packaged steam generators produce steam for human relaxation and rejuvenation in steam rooms, steam showers and other therapeutic settings. Industrial processes rely on steam for its high energy content, and the properties of steam are valued for low toxicity, high efficiency, reasonable production costs and transportability.

Scale formation and fouling within steam generators is a costly and persistent problem causing efficiency losses, unexpected downtime and excessive maintenance expense. Scaling affects all wetted components, resulting in continuous degradation of system performance and unpredictable reliability. Field experience has shown that even when steam generators are operated with some form of traditional water pre-treatment, the adverse effects of scaling and fouling are difficult to avoid.

“Steam generators fitted with Zeta Rods have proven to run better and longer with reduced expense.”

Zeta Rod systems are a **green technology solution** for reducing the costs and headaches associated with the efficient operation of steam generation equipment. The patented design works by utilizing the effects of high potential electrostatic fields to boost the natural surface charge of bacteria and scale forming colloids in fluids. By forming a capacitor within the water system, particles remain in stable dispersion, rather than uniting to form scale, or colonizing to form biofilms or other system fouling. The result is that heat transfer and other surfaces remain clean, allowing equipment to maintain design efficiency.

“ Zeta provided very positive results... steam systems where replacement parts were common every 3-4 months have run more than a year without repair. ”

Jay Reese, J Reese Mechanical, Lodi, CA (referring to steam generator applications within health clubs)



The modular design of the Zeta Rod is engineered for economical field application by qualified MEP contractor, requiring minimal or no downtime to install. Because the system functions to create a true capacitor, electrical usage is about .3 amps, almost too low to measure, making it an extremely energy efficient device. There are no filters to change or consumable components to wear out, so ongoing maintenance expense is eliminated. Systems are installed directly ahead of the steam generators or may be designed to treat the entire water source for the facility. Whole building and main water line installations provide long term benefits to protect entire piping systems and infrastructures. Zeta Rod systems are scalable from small, single rod applications to large multi-rod industrial installations.

Zeta Rod systems are **IAPMO GREEN** listed to Uniform Plumbing Code (UPC) standards, NSF/ANSI 61- Drinking Water Systems, Health Effects, NSF 50- Pools, Spas and Recreational Water Products, and the CA Low Lead Law; as well as ETL listed to UL 61010-1 for electrical safety. Zeta Rod systems are Made in the USA.

Whether you are operating a steam generation system for therapeutic purposes or utilizing steam for industrial process applications, operators of steam generation equipment recommend Zeta Rods to reduce their environmental footprint through extended life cycles, reduced maintenance man hours, and preservation of the highest energy efficiency possible.

**“ Exceptional results with vapor control
valving systems and venturis
reduced our efforts from replacement
and repair to maintenance monitoring.”**

*David Meyers, Quality Control Manager, Superlite Block,
an Oldcastle company (referencing installations on
concrete block vapor curing systems.)*



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