

Heat Sanitization and Disinfection Guidelines for the SanRO Elements

SanRO-HS Heat Sanitization Guidelines

New heat sanitizable spiral elements must be heat annealed prior to first use by exposure to hot water. A recommended procedure to condition new elements or to periodically heat sanitize a system consists of the following:

- Remove process solution from system, then flush with chlorine-free, RO permeate water at low pressure.
- Recycle warm chlorine-free, RO permeate water (~45°C) at low pressure (< 25 psig).
- Introduce hot water into the system to increase temperature up to 85°C as required at a rate not to exceed 4°C/minute.
- Maintain sanitization temperature for at least 60 minutes as required for appropriate sanitization.
- Cool system to 45°C or below at a rate not to exceed 7°C/minute.
- Flush the system adequately to drain with chlorine-free, RO permeate water.
- Do not recycle permeate water during initial conditioning for new elements.
- Do not start-up a second pass RO system before the first pass RO system has been conditioned.

SanRO, SanRO-HS Disinfection Guidelines

The SanRO product line may require periodic disinfection. Hydrogen peroxide or a solution of hydrogen peroxide with paracetic acid can be used for disinfection. Special care must be taken that transition metals (Fe, Mn) are not present in the feed water, since in the presence of transition metals, oxidation of the membrane surface may occur resulting in membrane degradation. The concentration of hydrogen peroxide in the disinfection solution should not exceed 0.1%. The water temperature should not exceed 77°F (25°C) and the application of hydrogen peroxide should be done in acidic conditions.

- Cycle the solution for one hour through the system at 30 - 60 psi (2 - 4 bar).
- Prior to restarting the system, flush the system adequately with RO permeate water.

NOTE : Refer to Hydranautics' TSB 207, Foulants and cleaning procedures for sanitary, food processing type composite polyamide RO/NF membrane elements, for complete information on foulants and membrane element cleaning instructions.

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