

## REVERSE OSMOSIS (RO)

Hydro-Thermal provides versatile, proven water purification solutions for a wide variety of industries. Our products can heat RO inlet water or heat membrane back flush water while achieving precise temperature control and maintaining consistent throughput. Ultimately, A Hydro-Thermal heater can prolong the performance and life expectancy of your membranes in your RO system.

### INLET WATER

RO filters are designed for a given water temperature. As water cools, viscosity increases and RO capacity decreases. For every 1°F below design temperature, a RO can lose up to 3% of capacity. A Hydroheater can keep the inlet water temperature at  $\pm 1^\circ\text{F}$  of the set point so the RO can operate at the designed capacity without wasting energy overheating the water.

### BACK FLUSH WATER

Similar to above, if the membrane back flush water is heated to the designed temperature, a Hydroheater will optimize the amount of water used and ensure the membranes are properly cleaned, eliminating the need for an additional filter.

### Industries using Hydro-Thermal products for Reverse Osmosis:

#### CHEMICAL DISPOSAL

- + reduces the volume of waste disposed by removing excess water

#### DESALINATION FACILITIES

- + removes salt from ocean water for human consumption

#### FOOD, BEVERAGE, COSMETICS, PERSONAL CARE

- + produces thicker syrups by removing excess water
- + creates pure, potable water so flavoring, quality and taste are more tightly controlled

#### POWER PLANTS

- + provides efficient treatment of boiler feedwater including sediment and dissolved solids removal, which reduces boiler chemical usage and blow down

## APPLICATION EXAMPLE

### PLASTICS FABRICATION FACILITY

#### Challenge

precise, non-stop heating of reverse osmosis inlet water

#### Conditions

Steam pressure: 170 psi  
Flow rate: 800-2000 gpm  
Temperature in: 33°F  
Temperature out: 72°F

#### Solution

A K514 Hydroheater provides extremely accurate ( $\pm 1^\circ\text{F}$ ), efficient temperature control which allows continuous operation during winter months



For more information on the benefits of using Hydro-Thermal products or to learn which would work best for your application and specifications, contact us.