

# 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  $\pm 1^\circ$  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 (11.7 barg)

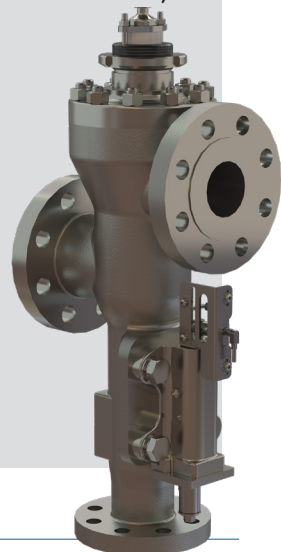
> Flow rate: 800-2000 gpm (182 - 454 m<sup>3</sup>/hr)

> Temperature in: 33°F (0.6°C)

> Temperature out: 72°F (0.6°C)

#### Solution

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



**Need more information about Hydro-Thermal products?**

Go to [www.hydro-thermal.com](http://www.hydro-thermal.com) or contact us at [info@hydro-thermal.com](mailto:info@hydro-thermal.com)

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