

# Deaerating Heaters Spray Scrubber

**ECODYNE** Limited



Ecodyne spray-scrubber deaerators are used when there is a requirement for significant heating steam and treating maximum cold water inlet at relatively constant operation. **They have the same oxygen removal ability as spray-tray units and are more economical.**

## Design Features

- ~ Capacity that meets your specification
- ~ Oxygen reduced to 0.007ppm (0.005ml/L) or less in the outlet stream
- ~ Carbon dioxide reduced to negligible concentration in the outlet stream
- ~ The water will be heated to within 2°F of the temperature of the saturated steam in the heater
- ~ The unit will operate quietly from minimum to maximum capacity.
- ~ Low maintenance design

## Our Customers

- Cabot Corporation
- Chrysler Automobile Company
- Dofasco Inc.
- Imperial Oil Ltd.
- Kraft Foods Inc.
- Suncor Energy Inc.

- ~ **Two stage deaeration.**
- ~ **Counter flow operation through a scrubber to ensure the most efficient oxygen removal.**
- ~ **Each unit is customized to guarantee your specification.**
- ~ **Specially designed scrubber chamber.**
- ~ **Internal vent condenser to minimize steam loss.**

## Contact Us

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A Marmon Water/Berkshire Hathaway Company

ecodyne.com

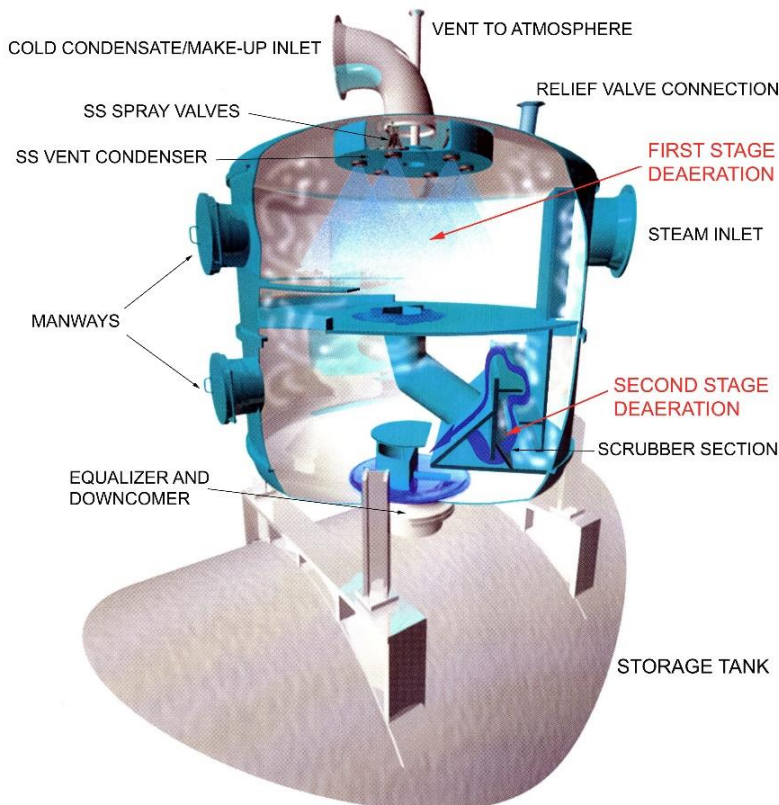
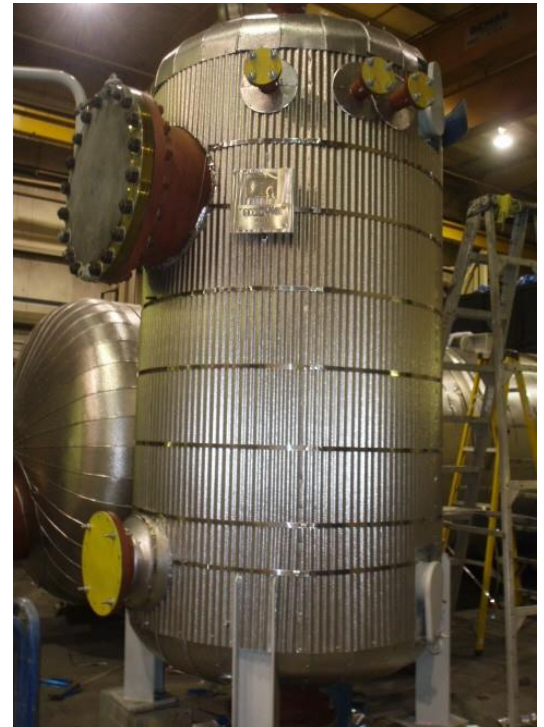
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The effectiveness of deaeration in an Ecodyne Spray Scrubber Deaerating Heater is a result of the two stage design.

The **first stage of the spray scrubber** is identical to that of the spray-tray unit with 95% of the non-condensable gases removed in the spray section. The spray valves are arranged so that the water does not strike any metal surface of the unit.

**The sprayed water enters the second stage scrubber section** where it is vigorously mixed with a large excess of fresh oxygen free steam. In this stage the water is heated to the temperature corresponding to the saturated steam pressure in the deaerator. As the steam and water rise upward through the baffled scrubber, the violent action frees the remaining non-condensable gases from the water. Proper design of the scrubber passages ensures complete deaeration without noise or vibration. **The steam carrying with it the non-condensable gases rises up through the steam duct to the first stage spray section.** Here, as with the spray-tray units, the vent condenser ensures minimum steam loss.



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