



Deaerators

Deaeration

The dissolved gases normally present in water cause many corrosion problems. Deaeration is a process in which these dissolved gasses, specifically oxygen and carbon dioxide, are mechanically removed from water. Oxygen-rich water is heated to its boiling point using oxygen-free steam flowing counter-currently. As the temperature of the water rises, the solubility of air in water decreases and free oxygen is released, where it is driven off into the steam phase.

The primary application for deaerator heaters is boiler feed water systems.

Ecodyne designs deaerating heaters for use in small industrial plants up to large utility applications.

Loads ranging from
10,000 - 10,000,000 lbs/hr
or 4,500 - 4,500,000 kg/hr.

Ecodyne offers you the most cost-effective design for your application, from a complete selection of deaerator types and sizes:

Spray-Tray Deaerators

for high turn-down and low steam demand.



Spray-Scrubber Deaerators provide lower costs and are satisfactory for most applications.



Compact Spray Scrubber Deaerators are ideal for smaller and medium capacity requirements.



Vacuum Deaerators for cold water systems and when steam is not available.

Cost-Effective Solutions

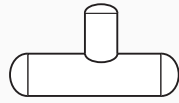
Standard Designs

Fabrication of Deaerating Heaters

Ecodyne shops use the most advanced equipment and techniques to achieve the highest possible standards of fabrication. These include automatic welding, stress relieving, wet fluorescent magnetic particle testing and X-ray facilities together with the most modern fabricating procedures. Nearly 60 years of fabrication experience in steel, stainless steel and other special materials is built into every unit furnished by Ecodyne.

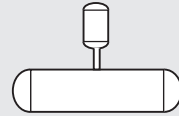
Deaerating Heater Type

Application



Vertical with attached horizontal storage.

10+ minute storage. Size restricted by vertical shipping clearances.



Vertical with detached horizontal storage.

10+ minute storage. Small to medium capacity units.



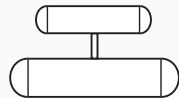
Vertical with storage in same shell.

Up to 10 minutes of storage where floor space is limited but unlimited headroom.



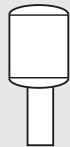
Horizontal with storage in same shell.

10+ minute storage where headroom is limited.



Horizontal with detached horizontal storage.

Large capacity units.



Vacuum tower.

For 3 - 10 minute storage where steam is not available in the process and headroom is unlimited.

Proprietary Spray Valves

Ecodyne's spray valves are constructed of 316 series stainless steel, and are attached by three (3) bolt assemblies. The body and single piece stem and plug are investment cast for precision and reliability. The valves are spring loaded and self-adjusting to assure that the water is sprayed in controlled thin films at loads from less than 10% to over 150% of rated capacity. This feature assures heating of inlet water to within 2°F of the steam temperature at all load conditions and, in addition, provides proper distribution to the second stage de aerator. The controlled spray pattern ensures maximum efficiency of the internal vent condenser. The valves are installed in the heater so that they are easily accessible for inspection. Experience has shown that this spray valve construction is free from difficulties of scaling or corrosion.



Proprietary Trays

Ecodyne's high efficiency stainless steel trays are manufactured in a single forming and are of extremely rugged construction. They utilize a unique lock-together assembly feature and are easy to install. In addition, there are no welds or rivets to fail in these trays. Maximum efficiency is assured by exclusive Ecodyne designs. The multi-weir design provides a longer weir edge per unit volume and assures more complete deaeration at all loadings.



The Ecodyne Difference

- Custom Engineering
- Shop Assembly and Trial Fit Capability
- Global Experience
- Industry Leader
- Spare Parts
- ISO 9001 Certified
- ASME, HEI, NACE Compliance



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