

Green Box America, Inc.

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Adiabatic and Closed-Loop Fluid Coolers

The Most Reliable System is Green Box

Green Box designs Fluid Coolers to replace cooling towers for benefit of your factory, and our Planet Earth. We provide clean water and in closed-loop to your industrial processes, all year long...

Summer Operation:



Adiabatic Cooling
SSS Option
Polyurethane Filters

All Year Long:



Clean Water
No Chemicals
Energy and Water Savings

Winter Operation:



Free-Cooling
No freeze-ups
Reliable

The latest generation of **Green Box** Fluid Coolers are designed with **iC³ Technology**, and provide benefits beyond other manufacturers.

The Fluid Coolers operate as an air-to-water heat exchanger, a very economical and reliable means of cooling your process water. Several fans, variable speed or staged, match your required cooling needs. The process heat load dictates the Fluid Cooler fans RPM.

During the hottest hours of the summer, *Adiabatic Cooling* increases the relative humidity of the ambient air. This is achieved by nozzles spraying a fine mist of tap water into the air, on both sides of the Fluid Cooler. This effect decreases the air temperature before entering the heat exchanger. Hence, the leaving water temperature to your process is below the ambient temperature.

The **Adiabatic-SSS Option** (Super Spray System) increases much more the Adiabatic efficiency, by using nebulizers. Tap water is pressurized close to 1,000 PSI, and instead of spraying a mist, we nebulize to a very fine haze or fog. The cooling effect in the air is largely increased. The leaving water temperature to your process could be 95° F or even 85° F like a traditional cooling tower. *Polyurethane Filters*, that do not need yearly-replacements, complete the **Adiabatic-SSS Option**.

It is important to mention that our design is a technological evolution which allows for both sides of the Fluid Cooler to benefit from a very advanced and extremely efficient *Adiabatic Cooling*. The Adiabatic effect is created near the large surface areas of the heat exchangers, and not, for instance, underneath, where most of the water will drop to the ground, just by gravity.

The **Green Box** Fluid Coolers keep *the heat exchanger fins dry*. Also, the ground below does not accumulate large amounts of water, like other traditional Adiabatic systems.

Another benefit **Green Box** gives is Free-Cooling. Because the water in the Fluid Cooler is in closed-loop, and not contaminated, it can take the heat load from your chillers. Whenever the ambient temperature is below your process chiller temperature, you could get Free-Cooling. Save Energy and Save on chiller wear. ***Our Fluid Cooler operates at a fraction of the cost of a chiller!***

A fully Modular Design allows growing in the future to any additional number of Fluid Coolers.

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iC³ Technology

Intelligent Closed-Circuit Cooling

The average Water Savings compared to a cooling tower are over 95% per year. Depending on your process temperatures and location, the average Electrical Savings compared to a chiller vary between 90% and 50% per year.

The Green Box Fluid Coolers are above the rest and feature:

- **Adiabatic and SSS** capabilities.
- High Efficiency Super Spray System (SSS) increases the Saturation of the Air during Adiabatic Mode.
- Washable thin Polyurethane Adiabatic Filters, do not need yearly replacement. Included external SST Metal Grille for protection.
- During Adiabatic operation, the Air vs. Nebulized Water Surface Area is bigger than other manufacturers.
- Air-to-Nebulized Water are in direct Counterflow. The heat exchanger fins are kept Dry. No large water accumulation of water on the ground under the unit, like other manufacturers.
- Easy-access Brass Nebulizers with micron holes.
- Available also as **Self-Draining without Glycol**. Safety **Automatic Drain System** to prevent Freezing during winter operation.
- Glycol is not needed to obtain Free-Cooling at the molds.
- Total Free-Cooling/Partial Free-Cooling/Heat Recovery Systems Integration.
- Microprocessor Control Panel shows Temperatures, Alarms and includes Electrical Disconnect Switch. Included in the price of the Fluid Cooler.
- DC Brushless and Variable Speed Fan Motors of large dia. provide Higher Air Flow.
- **Circuit Breakers** for each individual Fan Motor for Safety. Main Electrical Disconnect Switch.
- Both UL-Listed and UL Certified available.
- Recirculation Pumps have **Check-Valves for Safety**, or if maintenance is required.
- **Modular** - any number of units can be added for Future Expansions.
- Closed-Loop System can be also **Pressurized**.

Contact us, or our Sales Network for additional information.



more than answers