



Consolidated Sterilizers

Designed to Transform Your Laboratory

WaterEco Series™
Steam Sterilizer Water Saving Systems



Green Technology for Water Savings, Energy Savings and Minimal Environmental Impact

Consolidated Environmental Impact Design

Consolidated is dedicated to supporting architects and new facility owners with products engineered and tested to be the greenest possible building solutions. Even though familiar consumer products' criteria such as EnergyStar® do not yet extend to specialized laboratory equipment, Consolidated's forward-looking designs include many proprietary systems and processes to provide environmentally-friendly and cost-efficient products around the world.

With water and power costs rising and resources becoming scarcer, Consolidated is proud to offer WaterEco™ Series green features for steam sterilizers.

- The WaterEco™ Series further enhances all of the conservation features already present on Consolidated autoclaves.
- The WaterEco™ Series is specifically designed to reduce utility consumption thereby saving resources (and the environment) as well as cost.
- Assists architects in achieving LEED (Leadership in Energy and Environment Design) credits as set forth by the U.S. Green Building Council. The LEED initiative promotes energy efficiency, water savings and other construction and utility attributes to lower the aggregate environmental impact of renovations or new buildings.



Featuring Green Technology  for Energy Savings and Minimal Environmental Impact



**CONSOLIDATED
STILLS & STERILIZERS**

CONSOLIDATED MACHINE CORPORATION

Water Saving WaterEco™ Gravity Series

For Gravity Autoclaves

Most modern autoclaves utilize a large amount of water in order to reduce the discharge temperature to drain and comply with local building codes. The Consolidated WaterEco™ Gravity Series has been developed to drastically reduce the water consumed by the autoclave. Both the WaterEco™ Gravity Basic and WaterEco™ Gravity Plus systems operate without the use of electricity, and can be installed on new sterilizers or retrofitted onto previously installed sterilizers.

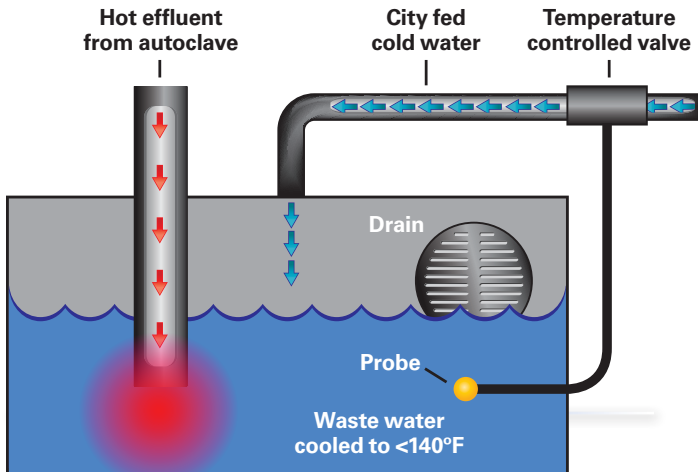
WaterEco™ Reduces Daily Water Consumption

	Conventional Sterilizer	WaterEco™ Gravity Basic	WaterEco™ Gravity Plus
Water Consumption	150-175 Gallons	15-25 Gallons	Less than 1 Gallon

Calculations are based on a 20"x20"x38" steam sterilizer with house-fed steam, gravity (no vacuum) exhaust and three 60 minute cycles per day at 250°F.

WaterEco™ Gravity Basic

The WaterEco™ Gravity Basic system works by collecting autoclave drainage into a cooling reservoir. Before it is discharged this effluent is cooled using a combination of air, previously cooled effluent and a minimal amount of cold water. In addition to cooling the effluent to below 140°F, the WaterEco™ Gravity Basic system enhances the overall exhaust cycle by more efficiently collapsing steam.



WaterEco™ Gravity Basic-Hot effluent from the sterilizer mixes with cooler water stored in the cooling reservoir forcing the steam to collapse and causing the water mixture to heat. A cold water valve opens at a pre-set temperature to inject additional water as needed to keep the effluent below the 140°F threshold. As the reservoir level rises the overflow is routed to the building drain.

WaterEco™ Gravity Plus

The WaterEco™ Gravity Plus system is ideal for use in installations where a facility chilled water supply is readily available. This method uses a stainless steel heat exchanger to isolate and cool effluent without consuming additional water. All cooling water is recycled to the chiller, in a closed-loop system, and effluent is piped to the drain.

Water Saving WaterEco™ Vacuum Series

For Pre-Vacuum Autoclaves

Steam sterilizer vacuum systems require a relatively high flow of cold water to function properly. Typically, the cold water absorbs the steam and this heated discharge is then released to the drain line. If this water is cooled and returned to the vacuum system, however, water consumption can be cut in half with the Vacuum Basic system or reduced up to 99% with the Vacuum Plus system. Both WaterEco™ Vacuum systems use minimal energy and can be ordered on new sterilizers or retrofitted to previously installed sterilizers.

WaterEco™ Vacuum Basic

If a chilled-water circulation system is not available, the partial recovery system cools the sealant water by using cold city water. Most of this water is returned to the vacuum while overflow is sent to drain. The partial recovery system allows the autoclave to reduce vacuum water consumption by up to 50%.

WaterEco™ Vacuum Plus

If a chilled-water circulation system is available, a full-recovery closed-loop system presents the best solution to minimize city water consumption. The full recovery process uses this chilled water to cool the sealant water. The cooling water is returned to the chiller and the sealant water is returned to the vacuum system. The full recovery system reduces waste water from the vacuum system by up to 99%.

Additional Consolidated Energy Saving Features

Because steam generation is the most energy intensive function of the sterilizer, Consolidated Advantage Pro controllers permit timed calendar power-up and shut-down to establish and maintain steam readiness during normal operation

- All Consolidated sterilizers are protected with a minimum of 1" insulation to efficiently minimize heat loss, to maintain steam and to reduce the heat load on facility HVAC systems.
- All electrically actuated valves are set in default positions - either normally open or normally closed - so that energy is used only during cycle functions when valves are energized.



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