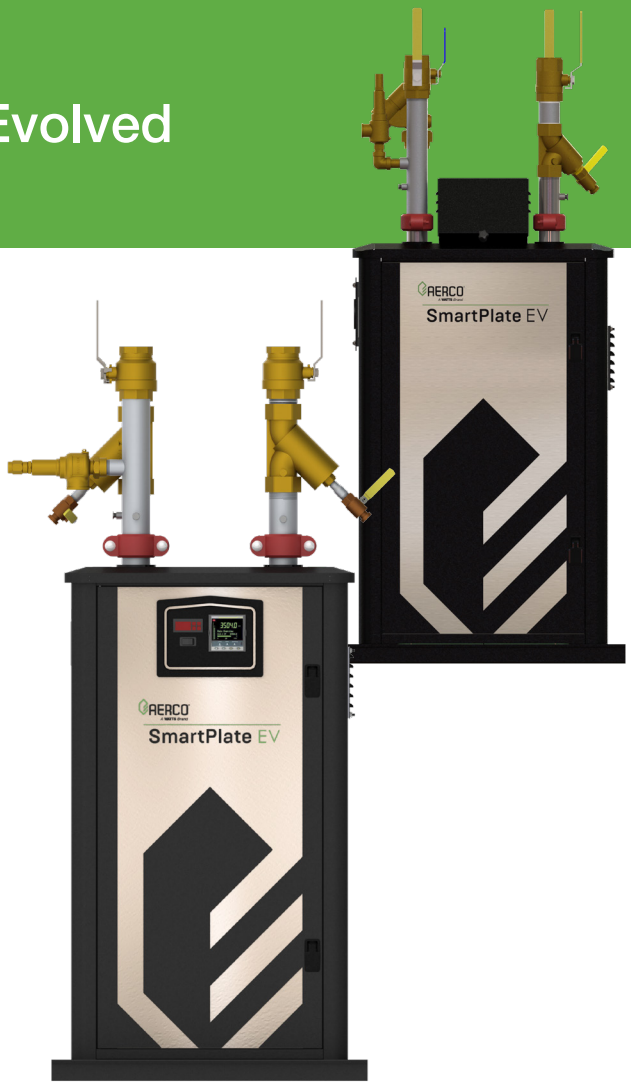
SmartPlate EV

Indirect Water Heaters

AERCO.com

AERCO®
A WATTS Brand

Domestic Water Heating has Evolved



SmartPlate® EV ultra-compact indirect water heaters are specifically engineered to complement condensing boilers in low temperature applications to provide safe, reliable domestic hot water while promoting system-wide energy efficiency. It is available in seven sizes, from 1100 to 7000 MBH and up to 140 GPM.

AERCO pioneered the concept of brazed plate, indirect water heaters with the original SmartPlate series. SmartPlate EV is the next step in the evolution of high-efficiency domestic hot water solution delivering outstanding performance in even the most demanding commercial environments, combining precision control with plug-and-play simplicity in a compact, turnkey package.

Engineered to work seamlessly with condensing boilers, SmartPlate EV is also designed to be easily paired with AERCO's Benchmark, Benchmark E, and CFR boilers. It is an ideal solution for low-temperature heating systems that demand energy efficiency, tight temperature control, and maximum reliability. It eliminates the need for storage tanks or blending valves and simplifies venting requirements.

1100 to 7000 MBH and up to 140 GPM

Ultra-compact Footprint (<6 ft²)

Easy to Install and Maintain

Tight Temperature Control

No Need for Tanks, Valves, Extensive Piping

Fully Assembled for Plug-and-Play

Double-Wall Brazed Plate Heat Exchanger

Seamless Boiler Integration

High-Pressure Operation

Performance, Precision and Simplicity

When it comes to delivering reliable, energy-efficient domestic hot water, SmartPlate EV outperforms conventional systems on many fronts. Designed specifically for modern condensing boiler systems and low-temperature applications, SmartPlate EV helps facility managers, engineers, and contractors achieve the perfect balance of performance, precision, and simplicity.

Traditional water heating methods typically require large storage tanks, mixing valves, and excess boiler water temperatures, all of which waste energy and occupy valuable space. SmartPlate EV eliminates those inefficiencies by leveraging a highly responsive brazed plate heat exchanger and an advanced, integrated controller that work together to provide on-demand water heating with precise temperature control without the need for additional equipment or storage tanks.

Built for Today's Mechanical Rooms

This is not just a more efficient way to heat water. It is a smarter solution designed for:

- Tighter mechanical rooms
- Dynamic load profiles
- Condensing boiler compatibility
- Institutional and commercial applications where uptime and reliability are critical
- Sites challenged by poor or deteriorating water quality conditions

Whether retrofitting an older system or designing a new high-efficiency plant, SmartPlate EV allows to right-size your boiler plant, improve system-wide energy efficiency, and minimize long-term maintenance while reducing capital and operational costs.

Five Ways SmartPlate EV Works Smarter

1

Space-Saving Design

Compact footprint with top-mounted piping maximizes install flexibility

2

Precise Temperature Control

Delivers ±4°F stability under varying load conditions

3

No Storage, No Mixing

Eliminates tanks and blending valves for simpler, safer designs

4

Energy Optimization

Uses boiler water just 5°F above domestic hot water temperature to reduce energy waste

5

Plug-and-Play Simplicity

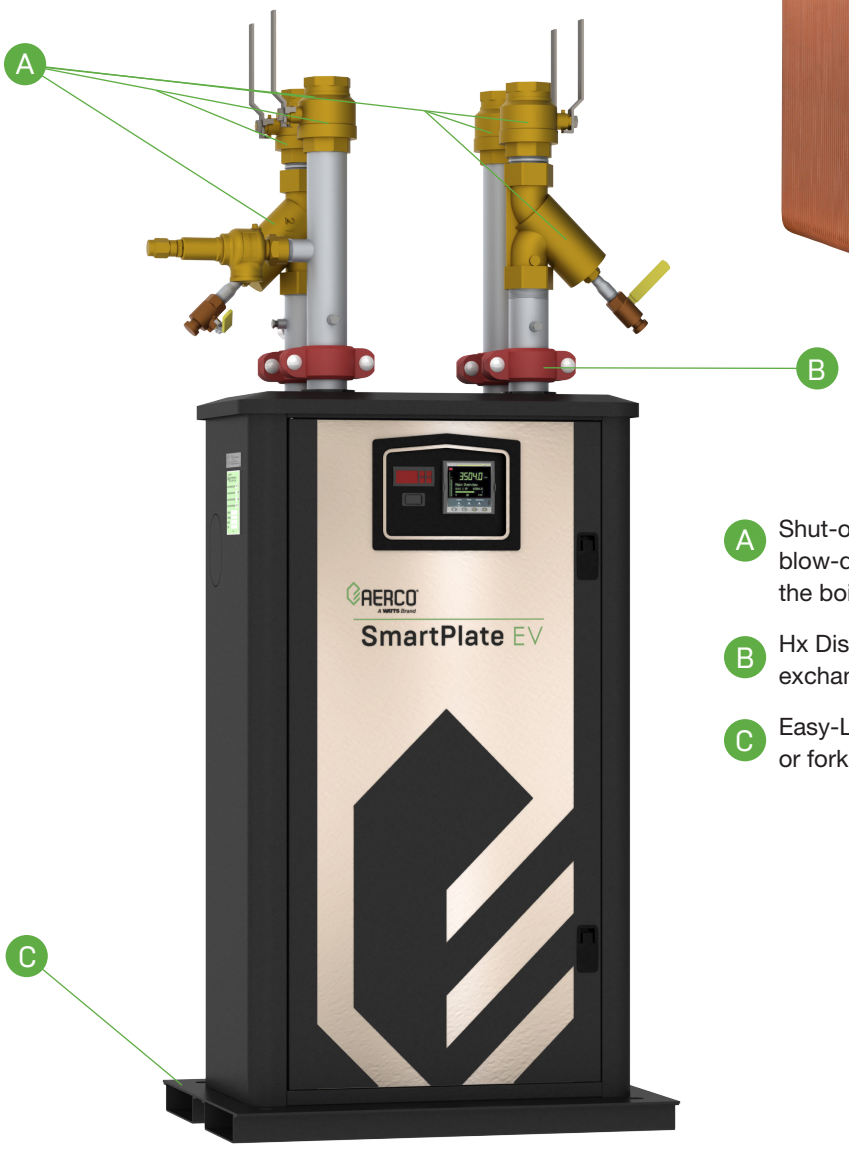
Fully packaged and factory-assembled for faster installation and commissioning

Designed to Maximize System-Wide Energy Efficiency

SmartPlate EV is purpose-built for integration with condensing boilers in low-temperature hydronic systems. The high-efficiency heat exchanger design — stainless steel, double-wall, and brazed plate in a counterflow configuration — extracts maximum thermal energy from boiler water while operating at the lowest feasible supply temperatures. This design strategy minimizes the temperature differential between primary and domestic water circuits, enabling exceptional boiler plant efficiency and reducing radiation losses throughout the system.

By using boiler water just 5°F higher than the desired DHW temperature, SmartPlate EV eliminates the waste and inefficiency associated with overheating and blending. And by keeping system-wide water temperatures lower, SmartPlate EV helps minimize scale accumulation, reducing maintenance frequency while preserving thermal transfer efficiency over time. The result? Longer equipment life, better system performance, and significantly reduced operating costs.

A double-wall, brazed plate heat exchanger ensures optimal heat transfer while providing a secure barrier between boiler water and domestic hot water. Ideal for applications requiring backflow protection.



- **A** Shut-off Valves and Inlet Strainers with Integral blow-down Valve for easy maintenance of both the boiler water and DHW sides of the unit
- **B** Hx Disconnect Fittings make removal of the heat exchanger fast and easy
- **C** Easy-Lift Base can be moved with pallet jack or forklift

Fully Assembled, Field-Ready, and Built to Last

SmartPlate EV arrives at the job site as a complete, preassembled solution, eliminating any field-assembly headaches or need to coordinate around third-party components. Every system element is included to simplify installation and ongoing service, from inlet strainers and isolation valves on both domestic hot water and boiler water lines to sensor ports, electronic controller, and clean-out connections.

Smart Control, Precision Performance

The control system features integrated PID logic and a digital interface for simple setup. Just set and go! Potable water inlet and outlet sensors feed real-time data to the high-turndown control valve, delivering tight temperature control (±4°F) without the need for thermal mixing or storage. An independent safety shut-off system provides added protection during over-temperature conditions or power loss, ensuring safe operation in all circumstances.

Built to Last and Designed for Easy Installation

Durability is built in. All wetted parts are stainless steel, copper, or copper alloy, while the easy-lift base enables simple positioning with a forklift or pallet jack. In short: everything about SmartPlate EV is designed to make installation easier and deliver hot water, efficiently and reliably.

- Seven sizes, from 1100 to 7000 MBH
- Supports up to 90 or 140 GPM loads
- Ultra-compact footprint (32x24 inches)
- Packaged with controller and 3-way electronic valve
- Field adjustable for 2- or 3-way application
- Two-way or three-way valve configuration
- Fully modulating variable primary input
- Supports BAS Integration
- All stainless steel, copper or copper alloy wetted surfaces (potable water side)
- Up to 300 PSIG domestic and boiler water operation (optional)

Versatility Built In: SmartPlate EV Supports a Variety of Applications

System Compatibility
LTBW up to 300 PSIG and 190°F

Temperature Range
Set point range: 50°F to 180°F

System Scalability
Single or multi-unit installations

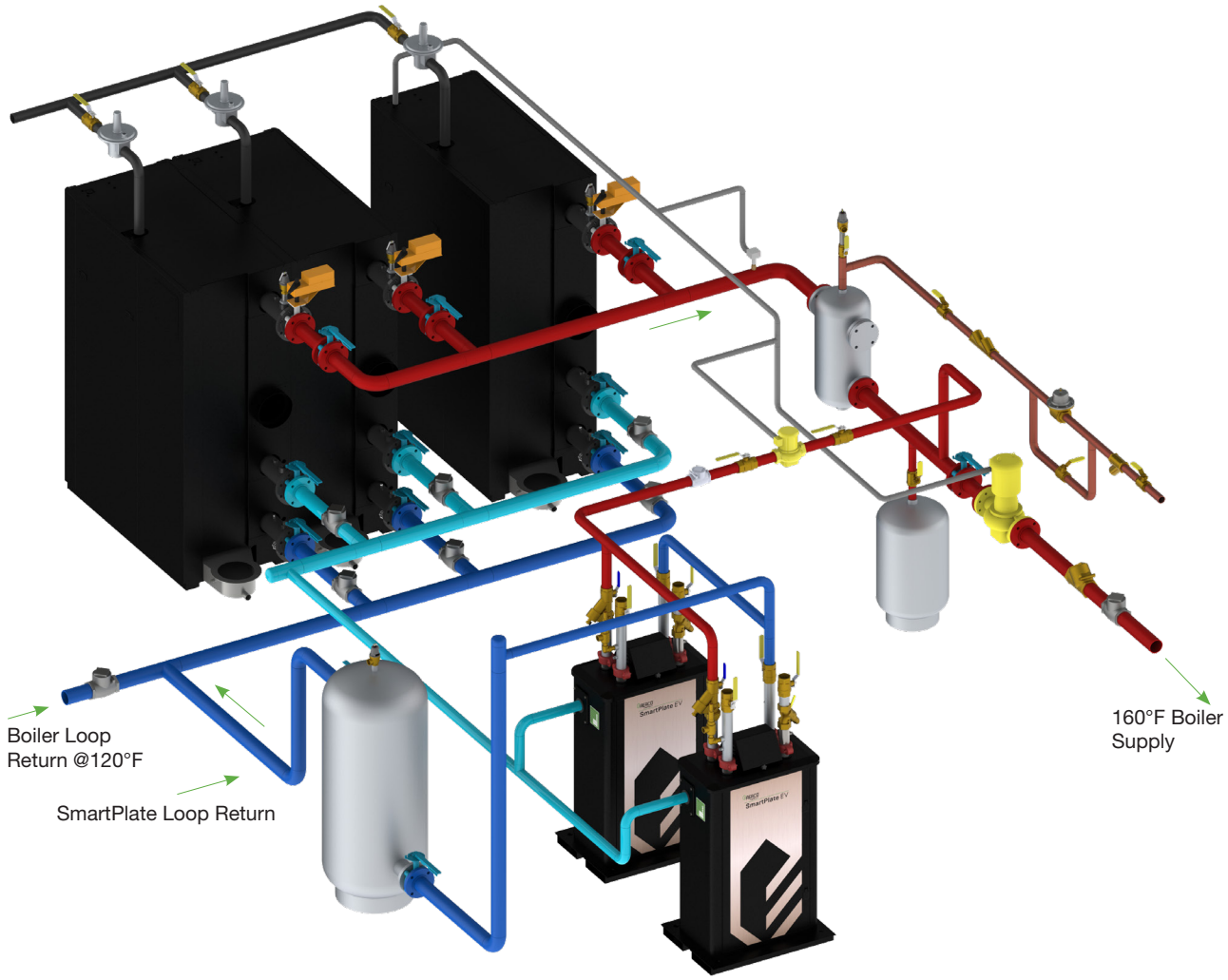
Installation Type
New or retrofit-friendly

Water Pressure Capability
Handles DHW pressures up to 300 PSIG

Seamless Combination Plants

A SmartPlate EV indirect water heater is the perfect pairing for any of AERCO's high-efficiency boilers. Whether an application calls for gas-fired Benchmark boilers, electric Benchmark E models, or the Category I-vent compatible CFR condensing boiler, SmartPlate EV integrates directly into your heating plant for space-saving combination systems.

In a combination plant, domestic hot water and space heating loads are served by the same high-efficiency boiler system – with loads typically peaking at different times. This enables engineers to design lower-capacity plants that save on capital and operating costs while increasing overall utilization and efficiency. The compatibility of SmartPlate EV with both 2-way and 3-way configurations, as well as its boiler bypass connection, allows facilities to extract every possible point of efficiency from their combination plant.



Smarter by Design: Built to Pair with AERCO Boilers

Benchmark: Improve system-wide efficiency with ultra-compact design

A condensing boiler that offers a smarter way to heat commercial buildings with unmatched efficiency, reliability, and compact design. Featuring patented AERtrim® O_2 Trim technology, dual returns, and onAER predictive maintenance, Benchmark optimizes hydronic systems for peak performance while lowering installation, startup, and operating costs. Its durable 439 stainless steel fire tube heat exchanger withstands thermal shock for long life. With high turndown ratios, low NOx emissions, and flexible venting, Benchmark is ideal for decarbonization projects and LEED-certified facilities. Easy to service and compatible with EMS software, Benchmark maximizes uptime and simplifies maintenance. *aerco.com/benchmark*

750-6000 MBH • Up to 94.6% efficiency • AERtrim

Benchmark E: Install a fully electric, vent-free system

A powerful, zero-emissions electric boiler designed to meet the demands of modern building electrification and decarbonization goals. Offering the same reliability and energy savings as the original Benchmark gas-fired boiler, Benchmark E introduces advanced technologies such as Peak Load Management and Hybrid Plant capability. With five sizes ranging from 216 kW to 684 kW, it provides flexible heating solutions for various commercial applications. Benchmark E pairs seamlessly with AERCO's SmartPlate EV indirect water heater for a fully electric heating and hot water plant, ensuring optimal performance and efficiency. *aerco.com/BenchmarkE*

216 kW to 684 kW • Virtually 100% efficiency • Peak Load Management

CFR: Easily upgrade retrofit system to high efficiency

A high-efficiency, gas-fired, fire-tube boilers designed for commercial applications. With inputs of 1,500,000 and 3,000,000 BTU/hr, respectively, these boilers offer up to 87.1% thermal efficiency. They are the world's first stainless steel condensing boilers approved for installation in Category I vent systems, allowing for cost-effective retrofits without the need for extensive venting modifications. Equipped with AERCO's Edge Controller, they provide precise temperature control and seamless integration with building automation systems, ensuring optimal performance and energy savings. *aerco.com/CFR*

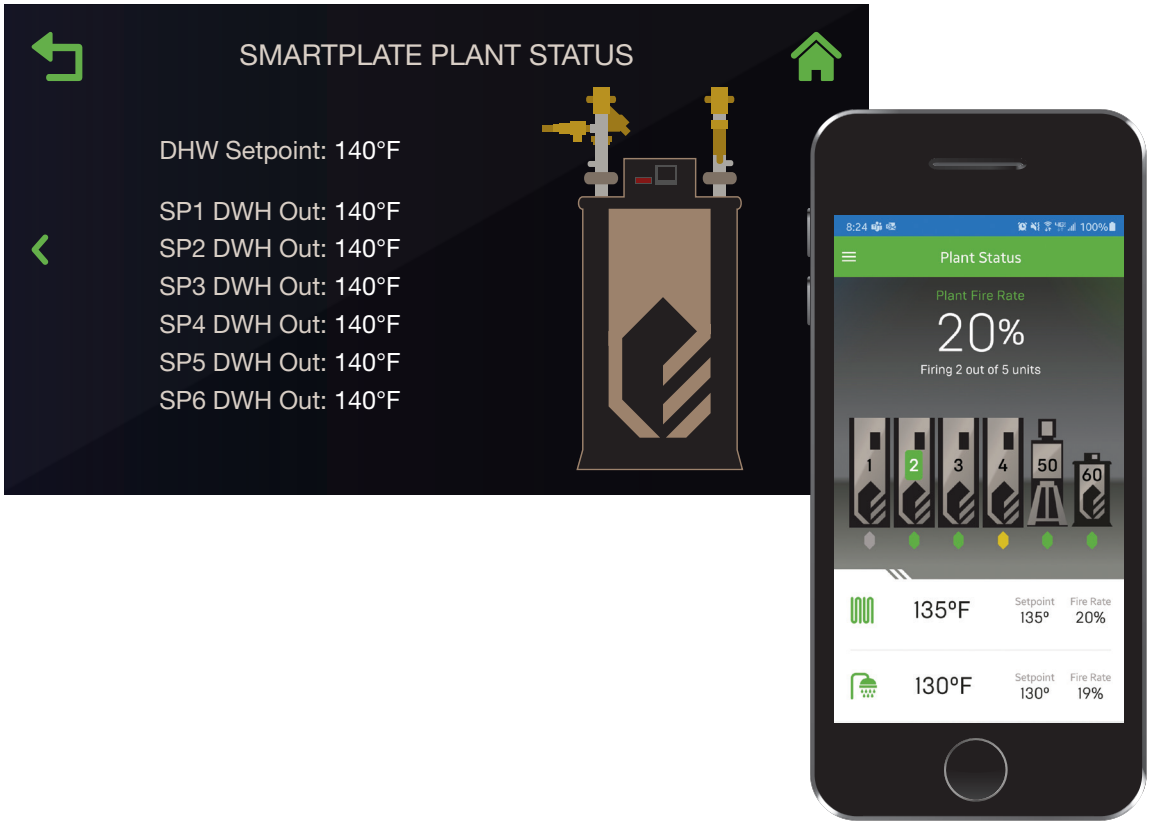
1500-3000 MBH • Up to 87.1% efficiency • Approved for Category I vent

Smart Control Integration

When paired with Benchmark, Benchmark E, or CFR boilers, SmartPlate EV becomes part of a fully integrated domestic hot water solution, thanks to AERCO's Edge Controller, standard on these boiler models.

The Edge Controller enables two-way communication between the boiler and the SmartPlate EV. Operators can view temperature setpoints, performance trends, and real-time status of the SmartPlate EV directly on the boiler's touchscreen, simplifying diagnostics and optimizing plant control.

For system-wide visibility, the Edge Controller also supports native Modbus and BACnet connectivity (no external gateway needed) ensuring easy integration into building automation systems (BAS). Whether managing a single unit or a multi-heater system, this intelligent control platform delivers precise, coordinated performance across the entire plant.



Versatile Performance in a Variety of Applications

SmartPlate EV is ideally suited for commercial and institutional buildings where reliability, space savings, and energy efficiency are critical. Its compact, high-performance design makes it an excellent fit for a variety of sectors — including schools and universities, office buildings, hospitals, laboratories, hotels, and multifamily residential towers. Whether the demand for domestic hot water (DHW) is steady or fluctuating throughout the day, SmartPlate EV delivers consistent, on-demand hot water — even under dynamic load conditions.

Compact Design for Easy Installation and Retrofit

Thanks to its ultra-compact footprint and vent-free configuration, SmartPlate EV installs easily in tight mechanical rooms and is ideal for both new construction and retrofit projects. It integrates seamlessly with existing boiler systems and can be configured for two-way or three-way operation, giving engineers and contractors more flexibility when designing for performance and space constraints.

Supports Decarbonization and Electrification Goals

For facilities pursuing decarbonization or electrification goals, SmartPlate EV can be paired with an electric boiler, reducing or even eliminating the need for gas piping and venting. This not only simplifies installation, but also supports code compliance and future-proofs the building's mechanical system.

Flexible by Design, Powerful in Any Configuration

SmartPlate EV also supports a wide range of operating conditions and system configurations:

- Compatible with low-temperature boiler water (LTBW) systems up to 300 PSIG and 190°F
- Flexible set point range from 50°F to 180°F for tailored temperature control
- Available for single-unit or scalable multi-unit installations
- Rated for domestic hot water pressures up to 300 PSIG
- Built with stainless steel, copper, or copper alloy wetted surfaces for long-term durability

No matter the building type or system requirement, SmartPlate EV offers a smart, efficient, and future-ready domestic hot water solution that's easy to specify, install, and maintain.

Ideal Solution for Demanding Water Conditions

Domestic water quality varies widely, and poor water quality can take a serious toll on traditional water heating systems. In many regions, aggressive municipal treatment practices, high chlorine levels, and hard water (see map below) can corrode internal components, drive up maintenance costs, and shorten equipment life.

CHALLENGE	CONSEQUENCE	SOLUTION
Mineral-rich or chemically treated water	Corrosion, scaling, and pre-mature system failure	SmartPlate EV is engineered for durability in aggressive water conditions

Non-Ferrous, Corrosion-Resistant Design

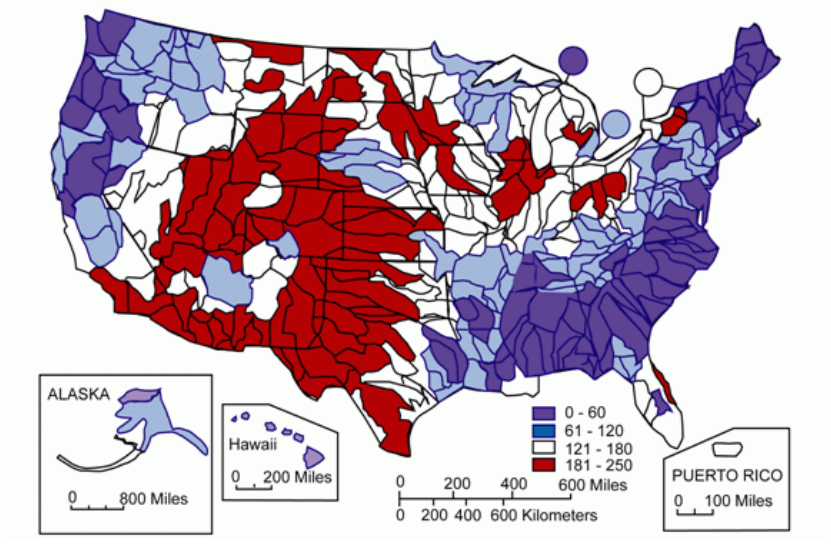
With no need for large storage tanks, the system also limits bacterial growth and Legionella risk, maintaining safer water quality in all conditions.

SmartPlate EV is built from the ground up with 316L stainless steel and copper/copper alloy wetted parts, offering long-term resistance to chlorinated and treated water. Unlike many other systems available, it avoids the pitting, scaling, and corrosion often caused by chlorination and chloramines, especially in hospitals, labs, correctional institutions, and similar environments.

Corrosion-Resistant Design for a Safer, Cleaner System

SmartPlate EV is designed with long-lasting, low-lead wetted components, including 316L stainless steel and copper or copper alloy materials, to provide strong resistance to corrosion in systems where water quality is a concern. These features make it an ideal fit for applications that may encounter aggressive municipal treatment practices or elevated chlorine levels.

Its tankless design also reduces the risk of bacterial growth and Legionella, helping to consistently ensure safer domestic hot water. All SmartPlate EV units support compliance with NSF/ANSI 372 standards for lead content, aligning with the needs and requirements of many healthcare and educational facilities, as well as other regulated environments.



Concentration of hardness as calcium carbonate, in milligrams per liter

Map by USGS

Specifications

	SmartPlate EV						
	SPEV30	SPEV40	SPEV60	SPEV90	SPEV140	SPEV140HF	SPEV200HF
Domestic Water Pressure Drop	7 PSIG @ max. rated flow						
Ambient Operating Temperature	23°F to 122°F						
Electrical Requirements	100-230V/1PH/50-60Hz						
Standby Amperage Draw	2 Amp						
High Limit “Tripped” Amperage Draw	2 Amp						
Max. Continuous Water Flow Rate	90 GPM					140 GPM	
Max. Boiler Water Pressure & Temperature	150 PSIG @ 250°F or 300 PSIG @ 250°F						
Max. Domestic Water Operating Pressure	150 PSIG or 300 PSIG						
Adjustable Temperature Control	up to 180°F						
Adjustable High Limit Control	up to 200°F						
Standard Listings and Approvals	ASME, NSF 372						
Water Connection Inlets/Outlets	2” FNPT					2.5” FNPT	
Wetted Surface Area (Sq.ft.)	34.8	46.4	69.6	104.4	162.4	162.4	232.1
Volume, Domestic Side (Gal.)	0.6	0.9	1.3	1.9	3.0	3.0	4.3
Volume, Boiler Side (Gal.)	0.6	0.9	1.3	1.9	3.0	3.0	4.3
Dry Weight (lbs.)	430	440	455	485	525	670	720
Wet Weight (lbs.)	440	455	475	515	575	720	790

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Heating and Hot Water Solutions

AERCO International, Inc. • 100 Oritani Drive • Blauvelt, NY 10913
USA: T: (845) 580-8000 • Toll Free: (800) 526-0288 • AERCO.com