

AERCO

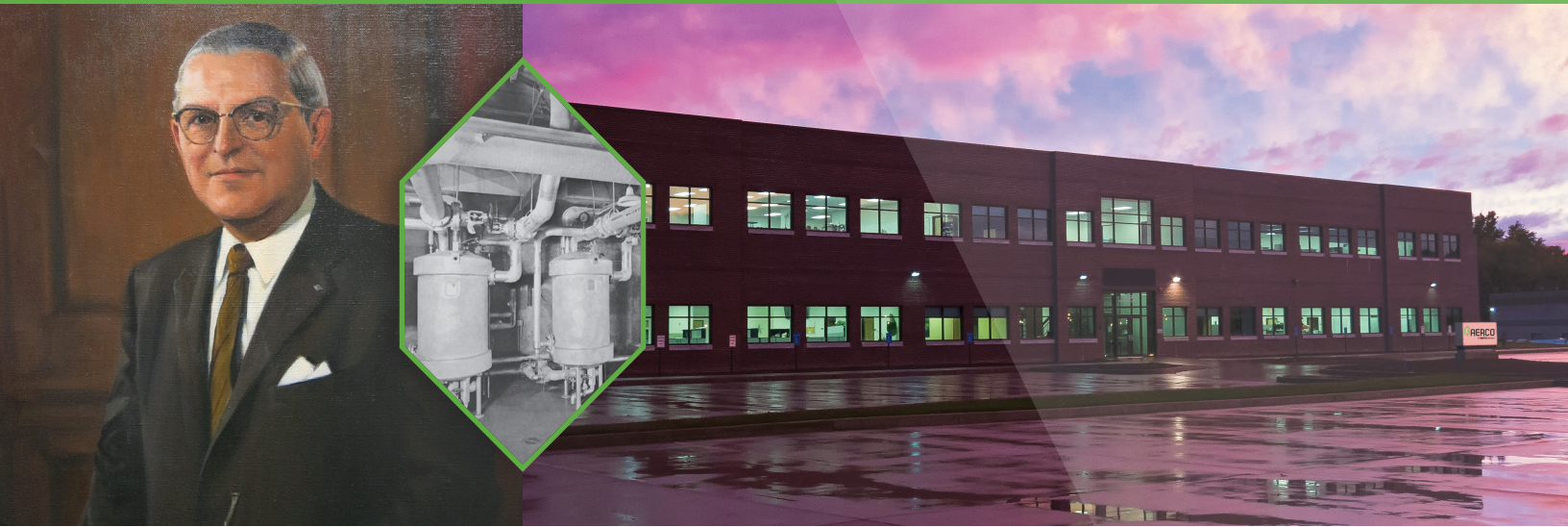
Commercial High Efficiency Boilers and Water Heaters



AERCO.com

 **AERCO**[®]
A **WATTS** Brand

About AERCO



About AERCO

Henry Angelery founded AERCO as Angelery Engineering Research Company in 1949, with a goal to deliver on-demand, temperature-controlled water heating without storage. That vision became a reality when AERCO introduced an innovative design for an indirect-fired water heater – and it revolutionized the water heating industry. AERCO continued to innovate introducing the first condensing and fully modulating boiler and water heater to the commercial market. The fully modulating capability matched the equipment’s output to real-time heating demand, ensuring units draw no more fuel to operate than is absolutely necessary saving precious energy and money.

Tailored to Every Need

AERCO differentiates itself through a solution-based model, leveraging decades of engineering experience and industry application expertise to understand each customer’s unique needs. AERCO’s high efficiency commercial boilers and water heaters feature compact footprints, high turndown ratios, unique fuel delivery, advanced control systems, proprietary design elements and reduced fuel emissions that combine to deliver greater energy savings. Our system design approach enables us to provide customer-specific solutions that deliver superior building performance at a lower operating cost while assuring uptime reliability.

75 Years of Innovation and Engineering Excellence



For 75 years, AERCO has been a leader in designing and manufacturing high quality, cost-effective, commercial boilers and water heaters for a variety of commercial markets, including education, healthcare, hospitality, office buildings, multifamily, government and military, industrial and more.



Heating Solutions

Electric, oil and gas-fired condensing boilers; outdoor options, hybrid plants



Hot Water Solutions

Tankless, indirect-fired, water-to-water, steam-to-water and gas-fired high efficiency water heaters



Accessories

Controls, valves, pumps, tanks, water quality, digital mixing valves, installation kits, maintenance kits, condensate neutralizer kits



Heat Smarter With an Optimized Hydronic System

The Benchmark boiler provides maximum efficiency and precise combustion through its patented AERtrim O₂ Trim technology, Dual Returns, as well as onAER Predictive Maintenance analytics tool that helps ensure the system operates at peak performance. Benchmark's advanced Edge Controller and mobile app enable you to save time and money on installation and operation costs, simplify startups and strengthen overall system performance. Benchmark delivers up to 9% additional efficiency, reduces unscheduled maintenance and delivers big energy savings – all with an industry-leading warranty. The Benchmark boiler pairs seamlessly with Benchmark E (hybrid plant) and SmartPlate® EV (combination plant).

Features and Benefits

- Available in eight sizes from 750 to 6000 MBH
- **Edge® Controller and Mobile App** – saves time and money by simplifying startup, operation and maintenance; mobile app provides full unit setup, enhanced diagnostics and configuration capabilities
- **AERtrim** – patented O₂ Trim, ensures your system works properly with precise air/fuel ratios during combustion, lowering operating and maintenance costs (optional)
- **onAER Predictive Maintenance** – access to real-time system performance so you're not merely correcting faults, but predicting when you need to take action to prevent them (optional)
- **Dual Returns** – keeps high and low temperature return water separate to increase the heat exchanger's condensing zone, maximizing efficiency up to an additional 7% (optional)
- **Industry-leading Warranty**

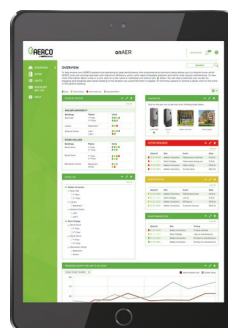
Case Study

Overachiever in Efficiency at Canadian School

Henry Kelsey School wanted to update their heating system and replace a firetube steam boiler that was operating at 50-60% efficiency. Two AERCO Benchmark 1000 boilers were selected. The boiler's dual returns allowed engineers to take advantage of diverse load demands specific to the school so they could design a customized system that maximized operational efficiencies by another 7% in addition to a 1-2% gain in seasonal efficiency due to patented AERtrim O₂ Trim technology. onAER's predictive maintenance will help optimize the system and decrease unscheduled maintenance.

Return on Investment

30% fuel savings in the first year, estimated 40% in overall annual operational savings.



Benchmark® E



A Powerful, Emission-Free Electric Boiler

Benchmark E is a powerful, emission-free electric boiler that offers the superior reliability and energy savings of the original, compact gas-fired Benchmark boiler, in addition to new technology such as Peak Load Management and Hybrid Plant capability.

In addition to effectively meeting local regulations and codes on building electrification and decarbonization, Benchmark E features powerful technology that maximizes system efficiency and optimizes plant management. Up to 16 boilers can be easily sequenced – including gas-fired Benchmark boilers for a hybrid plant – and peak loads can be easily managed to reduce electricity usage. Benchmark E also pairs seamlessly with AERCO's SmartPlate EV indirect water heater for a fully electric heating and hot water plant solution.

Features and Benefits

- Available in five sizes from 216 kW to 684 kW, equivalent to ~750 MBH to 2500 MBH output
- Exceptional modulation and superior low-load control due to SCR-controlled element group
- Resistant to poor water quality (durable incoloy sheathed elements)
- Virtually 100% efficiency and zero emissions
- Compact, lightweight and fits in freight elevator
- Integrated Edge Controller saves time and money by simplifying startup, operation and maintenance
- Peak load management to take advantage of off-peak rates
- Integrated 'Boiler Sequencing Technology' to pair up to 16 boilers in one system
- Hybrid plant control to easily integrate with Benchmark as-fired boilers
- Easily pairs with the SmartPlate EV indirect water heater for a completely electric combination plant



Sequoia



Electric High Voltage Immersed Electrode Hot Water Boilers

Sequoia is AERCO's high voltage immersed electrode hot water boiler designed for large commercial and industrial applications, including hospitals, universities, and manufacturing plants. Sequoia features long-life, low-maintenance electrodes and has fewer parts to clean and maintain compared with electric element boilers. There are no combustion hazards because there are no flames, fumes, fuel lines or fuel storage tanks. Because it's virtually 100% energy efficient and emission-free, Sequoia provides an ideal solution for applications where building decarbonization or electrification are key considerations.

The boiler is simple to install and even simpler to operate and maintain. The automatic controls provide seamless control over an output range from 10% to 100% (10:1 modulation) to optimize for demand fluctuations.

Features and Benefits

- Available in eight sizes from 2,500 kW to 68,000 kW (~8,550 MBH to 232,000 MBH) with power voltage from 4.16 kV to 25 kV
- Virtually 100% efficiency and zero emissions
- Pressure vessel, ASME (Section I or IV) design, CRN/U stamp pressure vessel registration
- 10% to 100% output range (10:1 modulation) to optimize for demand fluctuations
- Fast response – from 0 to 100% in about 1 minute (hot standby)
- Quiet and reliable operation
- Designed for safer operation (no need for safety enclosure)
- Built with long-life, low-maintenance electrodes and fewer parts to clean and maintain for greater reliability
- Automatic and simple controls





Perfect Retrofit Solution with Unmatched Reliability and Efficiency

The world's first stainless steel condensing boiler that can be installed in a Category I Vent.

Building on AERCO's industry leadership and decades of experience, CFR is engineered to enable building owners and facility managers to cost-effectively upgrade their boiler plant and maximize performance while safely reusing existing Category I / Type B venting.

All CFR models are complemented with AERCO's Edge Controller to optimize system efficiency and operation, and easily integrate the CFR boiler with a facility-wide Energy Management or Building Automation System. This makes CFR a perfect retrofit solution in buildings striving for best-in-class system performance and operational excellence.

Features and Benefits

- Available in 1500 and 3000 MBH
- Up to 87.6% thermal efficiency
- Approved for Category I / Type B venting materials
- Up to 4:1 turndown ratio
- Durable 439 stainless steel fire-tube heat exchanger (10-year limited warranty)
- Compact footprint to fit through standard doorway
- Edge Controller and Mobile App – saves time and money by simplifying startup, operation and maintenance; mobile app provides full unit setup, enhanced diagnostics and configuration capabilities
- Integrated 'Boiler Sequencing Technology' to pair up to 16 CFR boilers in one system
- Low NOx emission
- Combination plant: the CFR boiler easily pairs with the SmartPlate® EV indirect water heater



AM Series



A Single Unit with the Redundancy of a Multi-Unit System

The AM boilers function as a pre-packaged boiler plant. Every unit consists of between two and four individual modules, each with its own combustion chamber, burner, gas valve, and combustion controls and safeguards, all tied together to common water connections and assembled in a single enclosure. This provides all of the advantages of a larger boiler plant, including high turndown and multiple-unit redundancy, while keeping operation simple and decreasing installation costs.

Features and Benefits

- Available in 399, 500, 799 and 1000 MBH
- Efficiencies up to 99%
- Superior uptime reliability
- Natural gas or propane
- Small footprint
- Turndown up to 20:1
- Whisper-quiet operation, even at full fire
- Removable front panel allows for easy access and simplifies maintenance
- Direct/conventional vent with PVC, CPVC, Polypropylene or AL29-4C materials
- Can be vented with concentric venting

Case Study

Retirement Village Maintains Gold Standard

A high end retirement community wanted to install a new heating system for its 70-room expansion with a total of 90 variable air volume (VAV) systems – one for each room and 20 for the common areas. Two 98%-efficient, compact AM Series 750 boilers were able to run a much lower return water temperature than the original boilers specified for the project, allowing management to turn down the loop temperature and save further on operating costs.

Return on Investment

The AM Series 750 boilers required fewer BTUs than the originally designed system, saving the village management money through lower operating costs and energy savings.



Modulex EXT



Compact Boiler with Outdoor Capabilities

Modulex EXT incorporates advanced technology and built-in redundancy to produce best-in-class efficiency for space and financial savings in both retrofits and new designs. By incorporating separate thermal modules that operate independently, Modulex EXT delivers superior turndown of up to 39:1. Its advanced design also features simultaneous low-fire operation, which helps maximize operating efficiency up to 99%.

Features and Benefits

- Available in 450, 600, 800, 1100, 2300, 2600, 3000 MBH
- Rated for outdoor installation without additional accessories or changes
- Superior reliability with minimal maintenance
- Compact footprint with easy access to service
- Installation flexibility with multiple supply/return piping and venting connections
- Operates on natural gas or propane
- Whisper quiet operation
- Intuitive color touchscreen controller for easy and fast navigation

Case Study

A Toast to Big ROI in a Small Footprint

A popular Jersey Shore biergarten wanted to discreetly install a new, compact HVAC system on their rooftop. The Modulex EXT's compact design allowed it to be installed easily and quickly in an existing rooftop supply closet without additional costs of having to build a new structure. Its whisper-quiet operation of <50 dBA now provides an inviting environment where patrons are able to hear each other and the live music that's played on a nearby stage.

Return on Investment

Increased energy savings in addition to greater reliability and redundancy from Modulex EXT's seven independent modules.





Dual Fuel Capability for Emergencies

The MFC (Multi-Fuel Condensing) hydronic boiler has the capability to be fired with multiple fuels including natural gas, propane or #2 fuel oil (as back-up for emergencies). It's an ideal boiler for the healthcare market, military bases, emergency shelters, industrial operations, and any other market sector or project that typically requires a back-up fuel. Its standard dual returns not only provide greater flexibility in each application, but also optimize your plant's efficiency with lower water return temperatures increasing energy savings and delivering a greater ROI.

Features and Benefits

- Available in 3000, 4000, 5000, 6000, 8000 and 10000 MBH
- Capable of firing with multiple fuels including natural gas, propane or #2 fuel oil (as back-up)
- Full condensing on natural gas/propane; condensing capability on #2 fuel oil (<15 ppm sulfur content)
- High quality carbon steel/316Ti SS 4-pass fire tube heat exchanger
- Industry-leading power burner (Riello)
- Proven durable construction for maximum system longevity and reliability
- High quality carbon steel/316Ti SS 4-pass fire tube heat exchanger
- Dual return water connections
- Easy serviceability



Innovation® and Innovation 1600-2000



Hot Water on Demand without the Tank

The compact Innovation is a highly efficient tankless water heater that delivers reliable, instantaneous hot water on demand without the need for storage tanks, mixing valves and tank circulators. With a reliable heat exchanger and a compact footprint, the Innovation provides energy savings and lower operating costs.

Features and Benefits

- Available in 600, 800, 1060, 1350, 1600, 2000 MBH
- Condensing, high efficiency
- $\pm 4^{\circ}\text{F}$ precise temperature control
- Proprietary Triplex™ heat exchanger assembly with superior corrosion resistance and robust design
- Small footprint and high installation flexibility
- Stainless steel helical firetube heat exchanger
- Advanced Edge Controller with 4.3" touchscreen
- Onboard multi-unit sequencing controls
- 1/3 standby losses compared to conventional tank type heaters
- 3x warranty protection vs. the competition



Case Study

Top Healthcare Facility Reduces Fuel Bills By 40%

A top healthcare facility needed to replace their centralized steam system that had been working at 50-60% efficiency. Compact 96%-efficient Innovation 600 and 800 water heaters were sent up the elevator and installed with zero-side clearance for the facility's stringent sterilization requirements. Additionally, a 94%-efficient Benchmark 3000 was installed for space heating. All units were individually sidewall-vented. No cranes, disassembly or costly rigging were required due to the units' compact footprints.

Return on Investment

30-40% reduction in fuel operating costs.

SmartPlate® EV



SmartPlate has Evolved

SmartPlate EV 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. Easy to install, these compact heaters offer single point header connections for domestic hot water, cold water, boiler water inlet, boiler water outlet and electrical power supply and are available in five sizes able to support loads ranging from 10 to 90 gallons per minute.

When paired with a condensing hydronic boiler, such as the Benchmark or the CFR, SmartPlate water heaters can utilize boiler water as little as 5°F above the required potable water temperature to minimize radiation losses and maximize boiler efficiency.

The SmartPlate EV pairs best with both the Benchmark gas-fired and electric boilers due to its ability to seamlessly communicate with these boilers. To ensure longevity, all water wetted (potable water side) parts are stainless steel, copper or copper alloy materials.

Features and Benefits

- Lower return water temperature increases overall plant efficiencies when paired with condensing space heating system
- Precisely matches energy input to system's load while maintaining a $\pm 4^{\circ}\text{F}$ temperature control
- Two-way or three-way valve configuration
- Ultra-compact footprint of $<10\text{ft}^2$
- Low operating costs
- Option for up to 300 PSIG domestic and boiler water operation
- Fully modulating variable primary input
- Packaged with controller and 3-way electronic valve
- Field adjustable for 2- or 3-way application
- Supports BAS Integration
- All stainless steel, copper or copper alloy wetted (potable water side) surfaces
- Supports up to 90 gpm loads





Highly Efficient Water-to-Water Heating

SmartPlate water heaters are specifically engineered to complement today's condensing boilers in low temperature applications to promote system-wide energy efficiency. Unlike competitive products, SmartPlate heaters incorporate special features and ancillary components that set a new standard for fully-packaged, turn-key solutions. Easily installed in any combination space heating/domestic hot water system, SmartPlate heaters will maintain accurate temperature control under diversified loads without the need for storage tanks.

Features and Benefits

- Available in 500 to 6000 MBH, dependent on service and boiler water temperatures; single-wall and double-wall configurations
- 200 PSIG DHW operation and 250°F boiler water
- $\pm 4^\circ\text{F}$ precise temperature control
- Maximizes energy efficiency
- Integrated safety shut-off system
- Fully packaged solution - ships fully assembled
- Compact $<10\text{ft}^2$ footprint
- Field adjustable for 2- or 3-way application

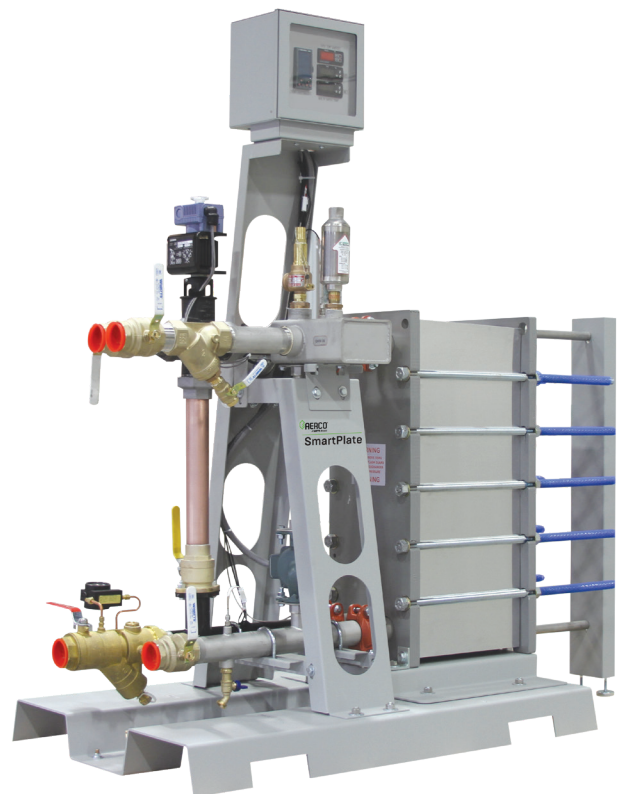
Case Study

5-star Hotel Saves More than \$100,000 Annually

A 5-star hotel in Washington DC wanted to upgrade its 40-year-old heating system that serviced 838 rooms, a fitness center, pool and sauna. Nine Benchmark 3000's were installed for space heating in addition to three SmartPlate DW113 water heaters for domestic hot water. The Benchmark 3000's 15:1 turndown maximized operating efficiency and seasonal fuel savings. Paired with the Benchmark 3000, SmartPlate heaters utilize boiler water as little as 5°F above the required potable water temperature to minimize radiation losses and maximize boiler efficiency.

Return on Investment

32% reduction in fuel bills within the first six months (\$42,000 savings) and 65% decrease in annual maintenance costs.



AMR



Powerful Water Heater with a Compact Footprint

The AMR (Advanced Modular Rapid Recovery) water heaters provide a complete water heating solution in one convenient package. With integrated thermal buffer, pump and required piping, the AMR series is the easiest solution for domestic water heating from 199 to 500 MBH. AMR includes all the best AM Series features remain, from the. With built-in redundancy and a small footprint, the AMR is ready for fast installation to get your domestic water heating plant up and running quickly. Multiple units can be located with near-zero side clearance for even larger installations.

Features and Benefits

- Available in 199, 250, 399 and 500 MBH
- Efficiencies up to 99%
- Superior uptime reliability
- Natural gas or propane
- Small footprint
- Turndown up to 20:1
- Whisper-quiet operation, even at full fire
- Removable front panel allows for easy access and simplifies maintenance
- Direct/conventional vent with PVC, cPVC, Polypropylene or AL29-4C
- Concentric and common vent capabilities

Case Study

Busy Hotel Saves 60% in Energy

A busy hotel needed to replace a rusty, 20-year-old heating system servicing 110 guest rooms, one house laundry and three guest laundries. With the hotel at 98% occupancy, two 95%-efficiency AMR water heaters with two 80 gallon thermal buffer tanks were installed quickly on a space-saving skid. Using AERCO's proprietary sizing program, BTU input was reduced from 2,400 MBH to 1,500 MBH enabling the new system's tank capacity to be three times smaller.

Return on Investment

95% increase in efficiency and 60% increase in fuel savings.



B+II WaterWizard®



Packaged Steam-to-Water Heater

The B+II WaterWizard high-efficiency water heater is a packaged, steam-fired system that incorporates real-time, load tracking and responsive controls to maintain accurate hot water temperatures under diversified loads. Performing with 90-99% thermal efficiency, the unique 2-pass helical coil heat exchanger design of the single wall is self-descaling and produces sub-cooled condensate (<160°F) to preserve condensate return pump life. All units are compatible with low or high steam pressures and do not require a storage tank, trap or associated maintenance.

Features and Benefits

- Available in 13 sizes ranging from 500 to 11000 MBH
- $\pm 4^{\circ}\text{F}$ accurate temperature control
- Compact footprint <4ft²
- Choice of electronic or pneumatic controls
- Supports a variety of applications
 - 5 to 150 PSIG steam supply
 - Intermittent water flow rates up to 250 GPM
 - Set point range 50-205°F
 - 235 PSIG ASME working pressure certified

Case Study

The Cure for Hackensack University Medical Center

The nation's fourth-largest hospital needed to update its 781-bed teaching and research facility's heating system. Despite the fact that the heaters had to provide hot water to two buildings as well as for sterilization purposes, they had to be installed in a 1,000 square feet mechanical room. AERCO's compact A-Plus and B-Plus water heaters were selected to provide hot water for all the showers and sinks used by patients and 7,200 employees, and support intermittent flow rates of 115 GPM and 250 GPM. The B+II WaterWizard unit supports the facility's sterilization requirements.

Return on Investment

Reduced operating costs and decreased maintenance. "I love these units because I never have to worry about them. They're very low maintenance." said HUMC facility manager.



U-Tube Double Wall



Space-saving Steam-to-Water Heater

The U-Tube Double Wall water heater incorporates real-time, load tracking and responsive controls to maintain accurate hot water temperatures under persified loads and can be fueled using steam. Packaged with electronic controls, it maintains outstanding temperature control when operated under constant load conditions with variances held to $\pm 4^{\circ}\text{F}$ under normal load changes of up to 25% of water heater capacity. An integrated load monitoring system and high turndown control valve deliver accurate temperature control without the need for storage tanks, blending valves or other temperature averaging components. When packaged with the electronic control system, the heater can be remotely monitored and/or fully integrated with BAS software.

Features and Benefits

- Available in three models: #SWDW24, #SWDW45, #SWDW68
- Accurate temperature control $\pm 4^{\circ}\text{F}$
- Space-saving, vertical, double wall U-tube heat exchanger
- Compact foot print $< 4\text{ft}^2$
- All wetted parts are 304 stainless steel, virgin Teflon, copper or copper alloy for longevity
- Fully modulating variable primary input
- All stainless, TFE, copper or copper alloy wetted surfaces
- UL-listed as Doublewall Heat Exchanger for Potable Hot Water Use



ADMS® and DigiTemp® Jr



Precisely-controlled Water Temperatures

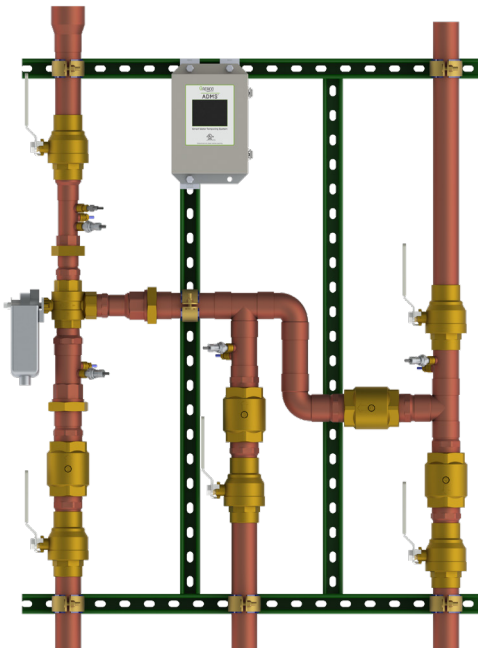
The ADMS (AERCO Digital Mixing Station) and DigiTemp Jr are smart water tempering systems that allow temperature controlled distribution of potable hot water within the building recirculation loop. They regulate distribution temperature within $\pm 2^{\circ}\text{F}$ in accordance to ASSE 1017 at all flow conditions (including low and zero demand periods) and their temperature setting is field configured without the use of special software and laptop. Unlike the traditional thermostatic mixing valves, they are capable of functioning under varying pressure differentials across the inlets. When paired with an AERCO water heater they provide a fully integrated and proven solution from a common manufacturer for safe and reliable hot water distribution. Through more efficient water temperature management, ADMS and DigiTemp Jr help conserve energy, reducing overall operational expense.

Features and Benefits

- ASSE 1017 and NSF 372 compliance
- Configurable on site without special software and laptop
- Tight temperature control of $\pm 2^{\circ}\text{F}$
- User programmable high-temp. sanitization mode
- Thermal sanitization mode for pathogen mitigation
- Cold water failsafe with manual override feature to set mixed outlet temperature
- Settings can be adjusted/monitored at the controller or remotely via BACNET or Modbus
- Displays pressure, temperature and flow/BTU data
- Pass code protected for security
- User programmable high temperature alarm

ADMS

Ideal for Hospitals, Full/Select Service Hotels, Universities/Colleges, Prisons, Large Offices, and Multifamily.



DigiTemp Jr

Ideal for Nursing Homes, Assisted Living, Ambulatory Care, Select Service/Budget Hotels, K-12 Schools, Jails, Offices.





An Environmentally-friendly Commercial Scale Control System

AquaSolve uses the scientifically proven concept of Media Assisted Crystallization (MAC) technology to control the formation of scale in plumbing systems by transforming dissolved hardness minerals into harmless, passive microscopic particles without using salt or harsh chemicals like water softeners and chemical additives.

With a compact footprint and simple sizing to reduce installation time, AquaSolve increases operational efficiency and helps to reduce maintenance costs and premature equipment failure, while ensuring the longevity of your water heating system.

Features and Benefits

- Scale-control without salt or chemicals
- Extends product life
- Simple sizing and installation
- Virtually maintenance-free
- Compact footprint
- No control valve, electricity, or drain system required
- No wastewater or backwashing
- Provides immediate ROI through energy savings
- Retains beneficial minerals including
- Calcium and Magnesium
- Available in four tank sizes with flow rates of 12, 20, 50 and 75 GPM



Accessories



AM Series Installation Kits

Everything you need to install your AM Series boiler or water heater compiled into one convenient place.

Carbon Monoxide Detector

The low voltage, dual relay Macurco CM-6 Carbon Monoxide (CO) Detector measures and displays CO concentrations from 0-200 ppm.

Communications and Controls

Communication and Controls give you solutions for sequencing multiple boiler installation and interfacing with building automation systems.

Condensate Neutralizer Kit

AERCO Condensate Neutralizers are ideal for neutralizing condensate from condensing boilers and furnaces operating on natural gas or propane.

Pump Kits

Pump Kits provide boiler loop pumping solutions for Modulex EXT and AM Series equipment.

Scale Prevention and Removal

Scale Prevention and Removal products provide protection from scale formation, eliminate limescale deposits on domestic hot water systems.

Sentinel Hydronic Systems

Sentinel Hydronic Systems products clean, protect, and help maintain optimum performance and reliability of hydronic heating systems.

Steam Traps

Specifically selected for domestic water heating application, these steam traps are ideal for condensate drainage of SWDW installations.

Tank Products

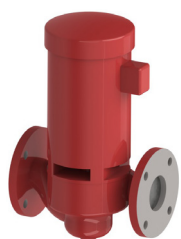
We offer tanks as accessories to our full line of boilers and water heaters.

Tools

AERCO provides customers with tools for easier and proper service/maintenance of equipment.

Valve Products

Valve Products provide solutions for boiler isolation, chiller isolation, cooling tower isolation, change-over systems, air handler coil control, bypass and process control applications.



Constant Speed Pump Kits



Combustion Analyzer



Buffer Tanks



Communications and Controls



AM Series Installation Kit



Belimo F6...HDU Valves



Condensate Neutralizer Kit



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

© 2025 AERCO