Technical Data Sheet

Benchmark E 216-684 kW with Edge X Controller Electric Boilers (Benchmark 750 to 2500 MBH equivalent)

The AERCO Benchmark® E is an all-electric hot water boiler designed for closed-loop hydronic systems. Producing zero on-site emissions, it gives building owners a flexible path toward electrification while maintaining the performance, reliability, and advanced controls expected from the Benchmark family.

Like AERCO's Benchmark condensing boilers, Benchmark E features a compact footprint that fits through a standard doorway and can be transported in a freight elevator, simplifying installation in both new construction and retrofit applications.

Benchmark E Exclusive Options:

- Advanced Edge® X Controller
- Boiler Sequencing Technology (BST) to manage up to 16 Benchmark E boilers with the Edge X Controller
- Hybrid plant control to sequence Benchmark and Benchmark E boilers without an external controller
- Peak Load Management to manage electrical demand by limiting power output



Energy Efficient

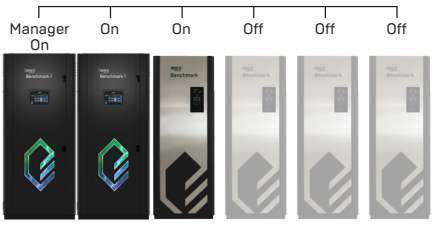
Peak Load Management comes standard on the Benchmark E, helping facilities reduce electrical demand and take advantage of off-peak utility rates.

Using the Edge X Controller, power output can be limited based on a time schedule, Building Automation System (BAS) point, or analog input for greater design flexibility. It allows building operators to align boiler operation with utility programs, energy strategies, and site-specific demand requirements.

Hybrid Boiler Plant Capability

The Benchmark E can be seamlessly sequenced with Benchmark gas-fired condensing boilers, allowing electric and gas-fired technologies to operate together as a single, integrated plant. Hybrid operation can prioritize either electric or gas-fired heating based on customer preferences, utility rates, operating conditions, or emissions objectives.

Using the Edge X Controller's integrated hybrid plant control, building owners can reduce operating costs, support decarbonization initiatives, and maintain reliable heating performance without requiring an external controller. Boiler status can be viewed locally in real time or remotely monitored through BACnet integration.



*See BST System technical data sheet for additional system details and capabilities

Application and Plant Design

Benchmark E boilers can be installed as standalone units or integrated into modular boiler plants, controlled from a fixed setpoint, outdoor reset schedule, analog input, or BAS signal, providing flexibility for a wide range of hydronic applications.

Multiple units can be interconnected using the Modbus communication protocol, while AERCO's built-in Boiler Sequencing Technology (BST) provides coordinated control for plants up to 16 boilers. Benchmark E boilers also support multiple BAS communication protocols for seamless building integration.

Standard Features

- ASME Section IV rated for 150 PSIG at 250°F
- Sequence up to 10 stages with stage sequencer
- 100kA SCCR
- Capable of variable primary flow installations
- Compact footprint, light weight, freight elevator friendly
- Real-time clock
- Full-port drain valve
- Easy open access for service
- Reliable quiet operation
- 2 year Edge X controller warranty, 10 year pressure vessel warranty
- Lifting lugs
- Audible alarm

Edge X Controller

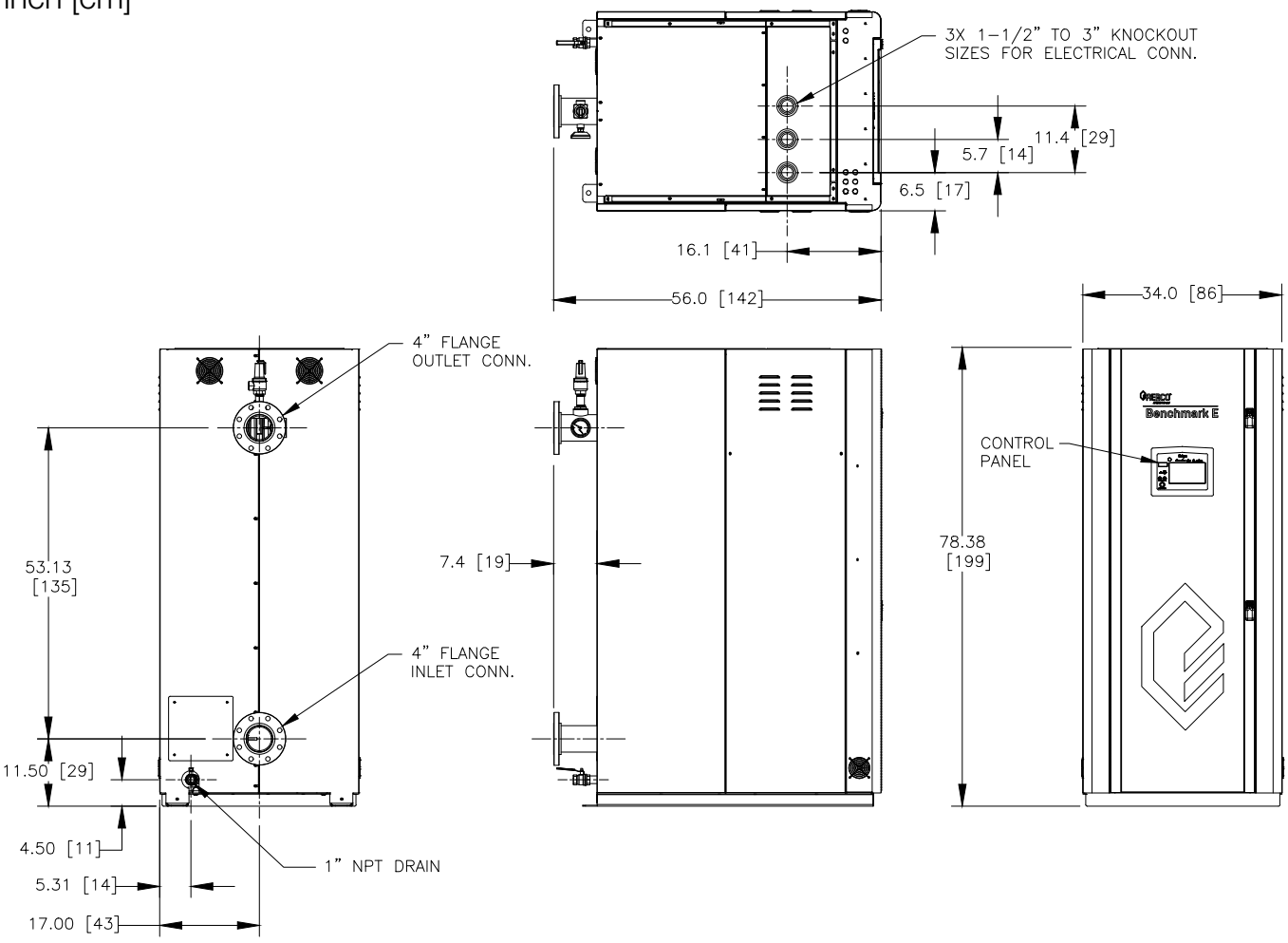
- 7" touchscreen
- Precise temperature control
- Setpoint control options:
  - Constant setpoint
  - Outdoor reset
  - Remote BAS setpoint
  - Analog signal
- On-board BST
- Hybrid boiler plant controls
- Peak Load Management
- Integrated BACnet IP and BACnet MSTP

Specifications

	Benchmark E				
	216 kW (737 MBH)	360 kW (1228 MBH)	432 kW (1474 MBH)	576 kW (1965 MBH)	684 kW (2334 MBH)
Boiler Category	ASME Sect.IV				
Max. Allowed Working Pressure	150 PSIG				
Electrical Req. 480V/3PH/60Hz	260 A	433 A	520 A	693 A	823 A
Electrical Req. 600V/3PH/60Hz	208 A	347 A	416 A	555 A	659 A
Number of Elements	12	20	24	32	38
Number of Stages	6	10			
Thermal Efficiency	99+%				
Water Connect. (Flanged)	4"				
Min. Water Flow (GPM)	25				
Max. Water Flow (GPM)	350				
Water Volume Gallons	135				
Water Pressure Drop	1.3 PSIG @ 350 GPM				
Temp. Control Range	40ºF to 220ºF				
Ambient Temp. Range	0ºF to 130ºF				
Standard Listings & Approvals	ASME, UL-834, CSA-C22.2 No. 165, CSD-1				
Dry Weight (lbs)	1450				
Shipping Weight (lbs)	1700				
36kW Modulating Element Group (SSR)	Standard				

Dimensions

inch [cm]



Benchmark E	Width	Depth	Height
216-684 kW	34"	56"	78.4"

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