

Technical Data Sheet

Sequoia Immersed Hot Water Electrode Boiler

Sequoia is a high voltage immersed electrode hot water boiler for large commercial and industrial applications. It features nearly 100% efficiency, clean operation, and zero on-site emissions. Sequoia is available in eight sizes from 2.5 MW to 68 MW.

Reliable, Low-Maintenance Boiler Ideal for Decarbonization and Electrification

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. Sequoia provides seamless operation over an output range of 10% to 100% (10:1 modulation) to optimize demand fluctuations while reducing operating and supervisory personnel. Users can take advantage of lower energy rates during daily or seasonal off-peak periods to significantly reduce energy costs. Mechanical room space is saved, as Sequoia matches the capacity of large gas- or oil-fired boilers (up to 68 MW) in a much smaller footprint.



Features

- Any voltage up to 25 KV, 3 phases, 3 wires, and centerline grounded line
- Capacity range: 2.5 to 68 MW
- Electric Power Supply Voltage: 4160 to 25000 V
- Maximum Operating Temperature for Standard Models: 360 ° F (180 °C)
- Operating pressure: 50 to 200 psi (3 to 14.5 bar)
- Power Feeds (Current Passage) assembled and certified for 42000 V and 230 psi (16 bar) for any operating voltage
- Fast Response: 0 to 100% capacity in hot state - 1 minute; Cold to hot state - 15-25 minutes (depending on size)
- Economical even for capacities between 2 to 6 MW
- Simple controls
- Can be added to existing systems and is suitable for optional water storage facilities
- Ability to take advantage of low off-peak electricity rates and demand swings
- Steam solutions available. Consult your local AERCO Industrial Sales Representative or the AERCO factory for additional information

Other Features

Mechanical (Base)

- Pressures vessel: A.S.M.E design, CRN – pressure vessel registration certificate (Canada)
- Complete assembled power feeds and internal parts
- Boiler actuator and capacity control system
- 24" manway
- Sheet metal jacket and thermal insulation
- Cage surrounding high voltage connections

Mechanical (Heating loop design)

- Vertical Inline Centrifugal pump(s)
- Heat-exchanger, water to water
- Expansion tank

Plumbing (Base)

- Safety valve(s)
- Manual blowdown and drain valve
- Automatic air vent

Plumbing (Heating loop design)

- Butterfly isolating valves, for boiler, heat-exchanger and centrifugal pump
- Y strainer, located on the pump suction pipe
- Make up water system, connected to the Expansion tank-includes pump, y strainer
- Chemical feed fitting, located on the pump suction pipe equipped with an isolating gate valve

Electrical

- Neutral terminal
- Electrode terminal enclosures
- Electrodes
- Circulation pump motor and motor starter

Control

- Free standing control panel
- Pre-programmed electronic processor
- Shield position indicator
- Boiler pressure gauge
- Boiler temperature gauge
- Operating temperature control
- High temperature limit
- High conductivity detection
- Temperature transmitter
- Water flow switch
- Low water level detection

Customer-Supplied Optional items

- Supply circuit protective relays
- Supply circuit switchgear
- Special valves
- Special instrumentation
- Chemical feed systems
- Water treatment equipment

Shipping

The unit must be laid down for shipment requiring some disassembly. Valves, trim, water level controller, electrodes and actuator will be removed for shipping and require field installation. Unit may then be field connected to feedwater, electric power and control panel.

Water Treatment

All boilers require adequate water quality as determined by conductivity, pH, softness and chemical content. The type and degree of water treatment will be determined by local water quality, type of boiler, nature of operation, and quantity of raw make-up water required.

Most water supply systems are suitable for use with AERCO Electrode Boilers when supplied with proper water treatment. A complete water analysis must be furnished to AERCO for review in order to assure proper water quality.

Electrical Requirements

CEJW boiler can be connected directly on the high voltage power distribution network. Any voltage up to 25 KV, 3 phases, 3 wires and centerline grounded line. The boiler shell and cage must be grounded to the building steel and ground mat.

Warranty

All our Immersed Electrode Boilers are warranted for one year against defective workmanship and material. Warranty limited to replacement of defective parts only, when returned, prepaid, to the factory. Refer to Sequioa Limited Warranty document for additional details.

Specifications and Dimensions

Model	Voltage (kV)	Power (kW)	# Power Feeds	Diameter x Height (inch)	Thickness (inch)	Dry Weight of Vessel (lbs)	Weight with Accessories (lbs)
CEJW-6	4.16-10	2500	3	66 x 165	1/2	3,804	4,184
	13.8	7000	3	72 x 165	1/2	4,200	4,620
	25	7000	3	108 x 165	3/4	10,116	11,127
CEJW-10	13.8	11000	3	90 x 185	5/8	7,726	8,498
	25	11000	3	108 x 185	3/4	11,551	12,706
CEJW-15	13.8	17000	6	90 x 208	5/8	8,723	9,595
	25	17000	6	108 x 208	3/4	12,986	14,285
CEJW-20	13.8	22000	6	108 x 228	3/4	11,551	12,706
	25	22000	6	120 x 228	7/8	15,384	16,922
CEJW-30	13.8	33000	6	108 x 230	3/4	14,565	16,022
	25	33000	6	120 x 230	7/8	19,291	21,220
CEJW-40	13.8	45000	6	114 x 267	3/4	20,876	22,964
	25	45000	6	120 x 267	7/8	25,802	28,382
CEJW-60	13.8	60000	9	144 x 267	1	32,393	35,633
	25	60000	9	150 x 267	1	34,121	37,533
CEJW-68	13.8	60000	9	144 x 267	1	32,393	35,633
	25	60000	9	150 x 267	1	34,121	37,533

Horizontal Units available in CEJW-6 and CEJW-10- please consult with factory for these sizes.

The information in this bulletin is a general description of the units. All specifications are subject to change without notice. Installation, maintenance, operating and any other instructions furnished with the equipment must be carefully followed by installers, owners and users.



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