CleaverBrooks®

Electric Boilers

Hot Water Boilers
To 11.5 MMBU
12 to 3360 kW

A Cleaver-Brooks
Sustainable Solution

Decarbonizing Energy One Electric Boiler at a Time

Electric boilers are one of many products that Cleaver-Brooks offers to help meet your sustainability goals of decarbonization, emissions reduction and energy efficiency. Because they utilize electricity as a fuel source, these compact, economical units deliver maximum output with no local emissions.

Helping to achieve sustainability goals, our electric boiler solutions can:

- Reduce or eliminate dependency on fossil fuels up to 100%
- Leverage renewable energy sources to increase process efficiency to nearly 100%
- Eliminate 17.7 metric tons annual CO_2 emissions per boiler horsepower (24/7/365)

Electric Boilers meet the strict performance and sustainability criteria required to earn the Cleaver-Brooks Sustainability Seal.

Features / Advantages

For areas affected by allocations or interruptions of natural gas and costly oil supplies, electric boilers provide a dependable source of hot water. They offer a clean alternative to fossil fuels, allowing users to take advantage of lower energy rates during daily or seasonal off-peak periods.

- **Compact Design** – Simple installation and ideal for quick replacement of existing fuel-fired boilers.
- **No Combustion Equipment Required** – Reduces installation costs by eliminating the need for gas/oil piping, combustion air supply and exhaust stack.
- **Quiet Operation** – No noise from a combustion fan and burner.
- **Ease of Maintenance** – The absence of higher-maintenance combustion equipment and the use of solid-state control devices reduce the complexity and number of moving parts.
- **Flexible Fuel Supply** – Electricity is readily available from several sources, including renewables such as wind, solar and hydroelectric power.
- **Zero Local Emissions** – 100% emissions-free and well suited for decarbonization or site-emissions-reduction projects.
- **High Efficiency** – Nearly 100% efficient at all operating points.
- **Full Modulation and Optional Infinite Turndown** – Only the amount of electrical energy required in response to the system demand is used.

Cleaver-Brooks stands behind its equipment

2-year comprehensive parts warranty
5-year electrical heating element warranty
10-year pressure vessel warranty

Why Choose our Electric Boilers?

- **Durable and Reliable** – Electric boilers use many heavy-duty and individually replaceable electric resistance heating elements. Units are resistant to poor water quality and can continue operating even if one heating element fails.
- **Quality and Consistent Manufacturing** – Each packaged unit is quality tested in an ISO-certified shop and certified in accordance with stringent (c)UL standards.
- **Packaged Hydronic System** – Available as part of a Cleaver-Brooks skidded boiler room package for ease of installation.

Markets

- **Healthcare**
- **School**
- **Apartments**
- **Government**
- **Supplemental Heat for Heat Pumps**
- **Bacterial Digester Pools**
- **Swimming Pool**
- **Thermal Storage**
- **Building Heat**

Fits anywhere with compact footprint and quiet for places with limited mechanical room space and noise limits.

Suitable for up to 50% glycol mixtures, excellent for snow-melt applications.

Count on consistent temperature control and operational reliability.

Compact, Quiet and Highly Efficient

Standard Features

Boiler

- ASME code vessel
- UL listed
- Integral steel frame
- Incoloy 800 heating elements
- Fiberglass insulation, 2”
- ASME pressure relief valves
- Heavy-duty steel jacket
- Forklift skid base

Trim

- Proportional temperature control
- Manual reset high temperature
- Main low-water cutoff
- Pilot light: Control power on, low water, temperature and step status

Electrical Equipment

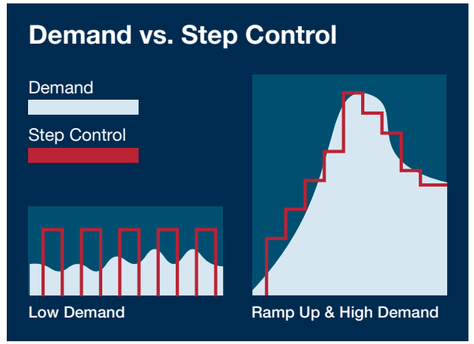
- 200,000 AIC-rated fuses
- Contactors rated at 500,000 cycles
- Control circuit step-down transformer
- Customer connection terminal strip
- Primary connection lugs

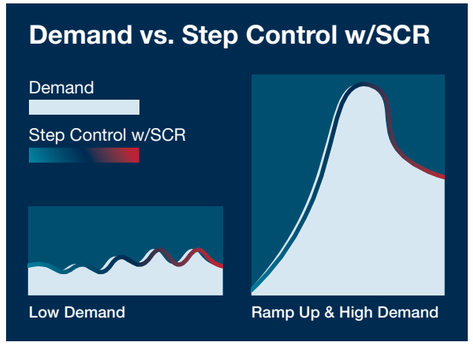
Intuitive, Intelligent Control

Our electric boilers feature an intuitive touchscreen control that has a built-in ability to control multiple boilers, enable time of day boiler scheduling to avoid demand charges, and improve system operating efficiency with outside air reset. The control can be configured for advanced silicon controlled rectifier (SCR) integration to achieve enhanced boiler modulating control and increased heater longevity. It also is IoT compatible to enable remote monitoring and offers control and trending through building management system integration.

Proven SCR/Thyristor Control Strategy for Infinite Turndown

Using the same concept as variable speed drive technology, SCR control is an option to improve electric boiler step control scheme. The SCR allows true linear-modulation control with infinite turndown, provides precise boiler supply temperature control, reduced electrical contactor cycling, reduced power surges, and allows for higher operational efficiencies at low flow rates.





Walmart Views Electrification as Key to Decarbonization

In early 2020, Walmart asked its mechanical engineering firm to outfit a new central utility plant for its global headquarters. It directed the firm to source boilers that did not use fossil fuels to help achieve its goal of zero emissions, by 2040.

After considering its options, the engineering firm recommended five 3,300 kW electric resistance boilers, with two more planned.

The electric resistance boilers will provide heat to campus buildings. From start-up, the boilers will achieve near 100% efficiency at all operating points with zero site emissions and no carbon footprint.

Nearly

100%

efficiency at
all operating points

Zero emissions across
global operations by

2040

Electric Boiler Skid System with Accessories

- Fully packaged solution for simple installation and quick startup
- Peace of mind in single source responsibility
- Equipment is pre-engineered and selected by experts

Dimensions and Ratings

WB-Model

- Hot Water Boiler
- 12 to 3360 KW
- Up to 11,464 MBH
- 208-600V available

	Boiler Output (MBH @480V)	Width (IN)	Depth (IN)	Height (IN)	Supply/Return Connection Size
WB-120	246	28	34	50	2" NPT
WB-121	491	32	34	50	3” NPT
WB-122	983	36	34	68	3” NPT
WB-201	1474	52	47	80	4” 150# flanged
WB-202	1965	52	47	90	4” 150# flanged
WB-241	2457	48	58	81	6” 150# flanged
WB-242	3276	60	58	89	6” 150# flanged
WB-243	4094	72	58	97	6” 150# flanged
WB-361	4422	72	70	97	6” 150# flanged
WB-362	5896	72	72	109	8” 150# flanged
WB-363	7370	112	72	117	8” 150# flanged
WB-421	9008	112	78	103	10” 150# flanged
WB-422	11464	112	78	114	10” 150# flanged

The power of total integration.

The **Power of Total Integration** is how Cleaver-Brooks delivers the world's broadest range of integrated, sustainable boiler plant solutions. In addition to our products, this includes our global representative and service network, training resources, and trusted expertise that add significant value to your Cleaver-Brooks investment.

Click or scan the QR code with a smartphone camera to access Electric and Electrode resources

CleaverBrooks®

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