

NEW



EBX™  
SERIES



EBX 4 KW  
EBX 8 KW  
EBX 10 KW  
EBX 12 KW

**Suitable For:**

- ✓ Primary heating up to 41 MBH
- ✓ Supplemental heat to an existing hydronic system
- ✓ A backup for heat pump / solar heating applications

HIGH EFFICIENCY MODULATING  
ELECTRIC BOILER

1  
YEAR  
ELEMENT/PUMP  
WARRANTY

5  
YEAR  
PARTS  
WARRANTY

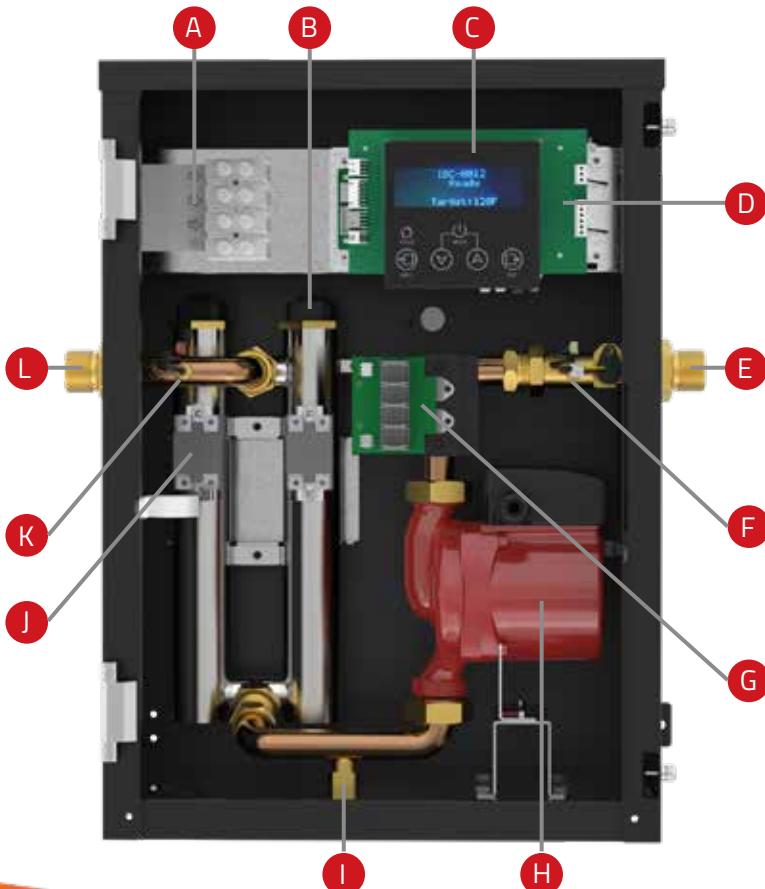
IBC®

# Superior Element Design

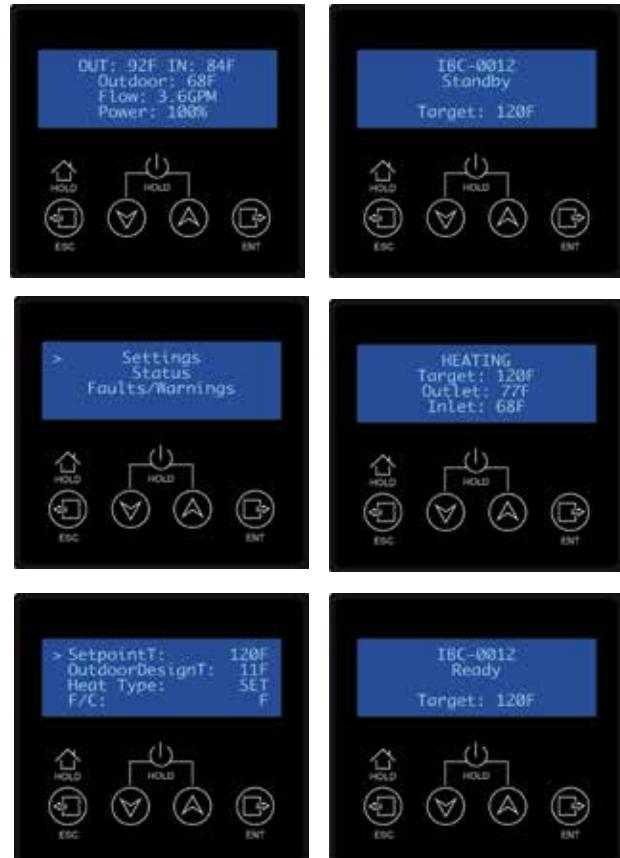
All EBX™ Electric Boilers contain dual titanium elements for improved performance and reliability, providing high resistance to scaling and corrosion.



This innovative design ensures years of worry-free performance.

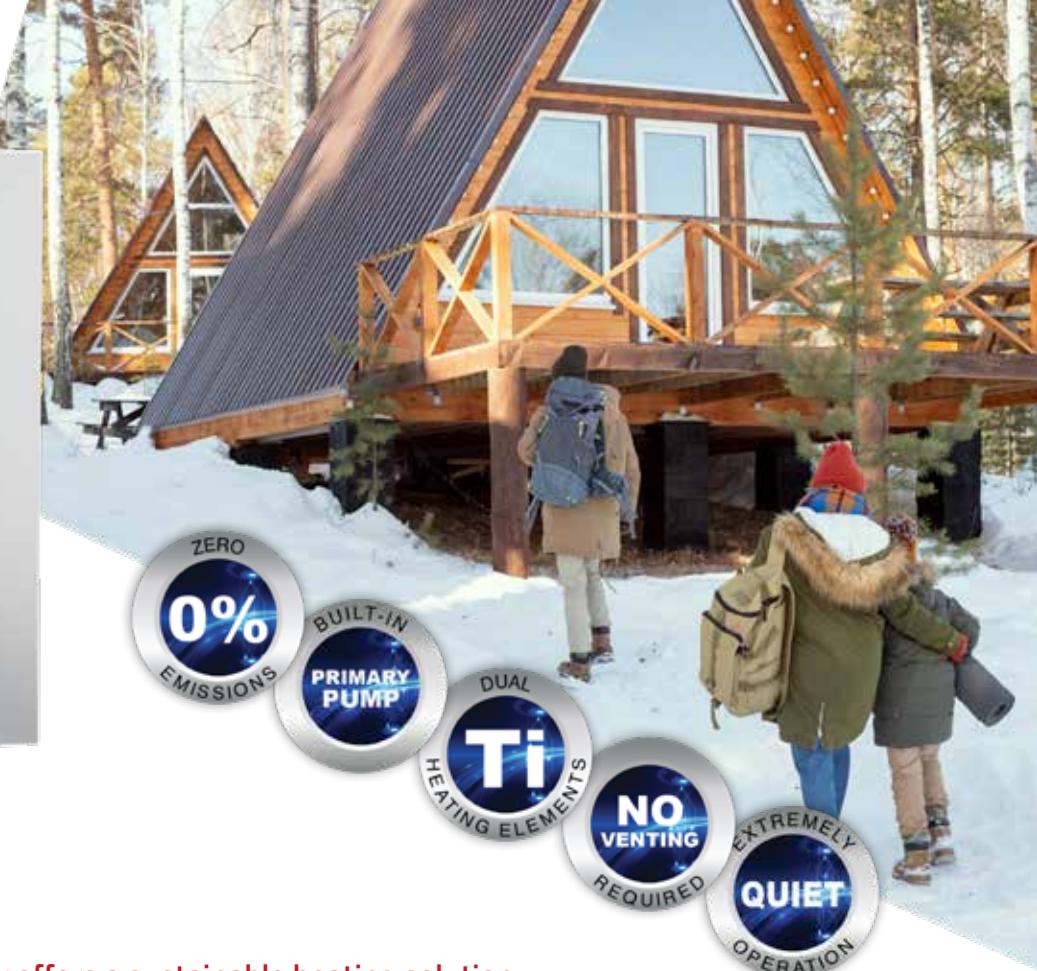


## Easy To Use Boiler Control



## Interior

- A) Incoming Power Wiring Connections
- B) Heating Element (1 of 2)
- C) Display Screen / Controller
- D) Control Wiring Terminals
- E) Return Piping Connection
- F) Flow Sensor / Inlet Temp. Sensor Assembly
- G) Solid-State Relay
- H) 3-Speed Pump
- I) Drain Port
- J) High Temp. Limit Switch
- K) Outlet Temp. Sensor
- L) Outlet Piping Connection



The EBX modulating electric boiler offers a sustainable heating solution for a primary and secondary heat source for space heating needs up to 41 MBH. Its simple, compact design is easy to install, requires fewer connections, and is ideal for locations where the feasibility of fossil fuel (NG/LP) or venting is unavailable. The EBX requires little maintenance and is 100% energy-efficient with no carbon emissions produced.

4 Sizes: Space heating up to 41 MBH  
4KW 8KW  
10KW 12KW

Primary or supplemental heat to existing hydronic systems

A backup for heat pump / solar heating applications up to 41 MBH

## BUILT-IN FEATURES

- Easy set-up for either Set-Point or Outdoor Reset operation
- User-friendly interface with plain English
- Outdoor reset capable with outdoor sensor (sold separately)
- Modulating electric elements provide better temp control
- Full modulation control of heating elements (0-100%)
- Built-in 3-speed boiler pump
- Built-in flow sensor and high-limit safety

## MAXIMUM PERFORMANCE

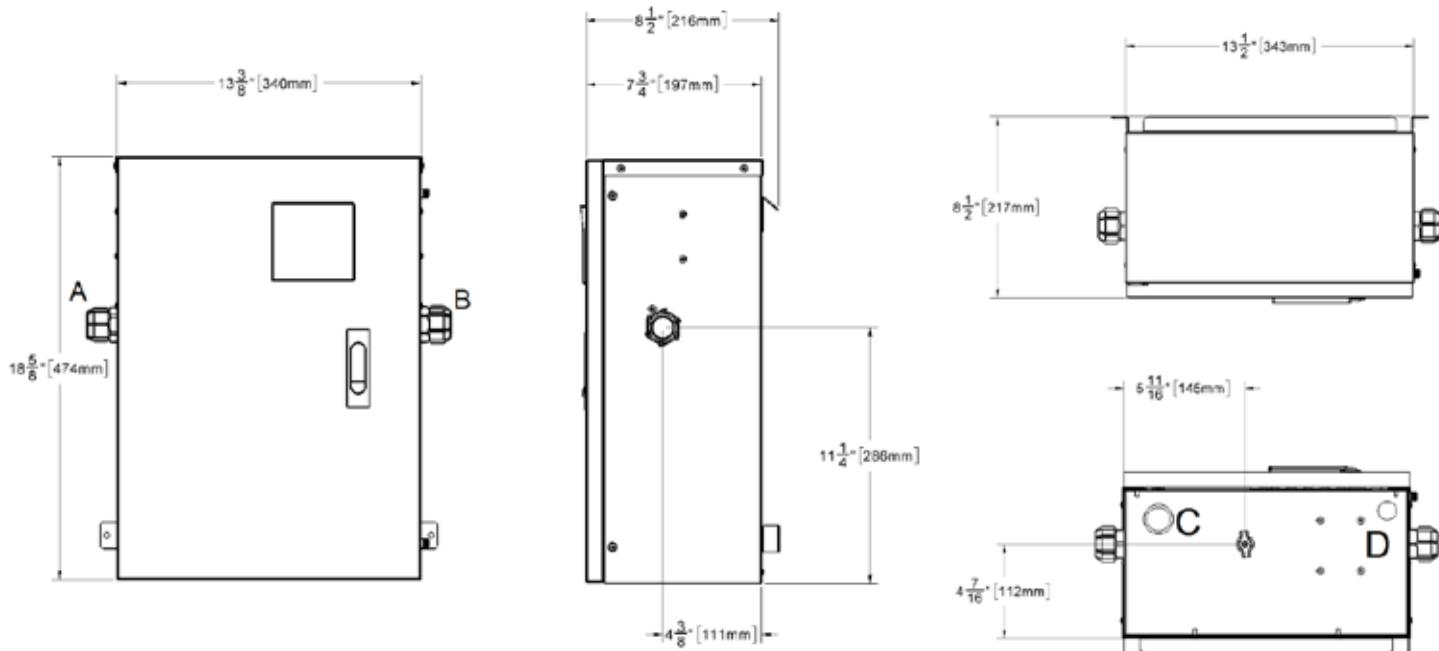
- No greenhouse gas production means zero CO<sub>2</sub> emissions
- 100% efficient
- Dual Titanium heating elements for long life
- Can be used in high temp applications up to 190°F

## EASY TO INSTALL AND SERVICE

- No venting is required. No combustion means no greenhouse gas emissions.
- Top cover comes off for easy element replacement
- Only 2 moving parts (pump and flow meter)
- Compatible with IBC AHU Series air handlers
- Propylene Glycol compatible
- Low upfront cost
- Flexible installation
- Integrated drain port
- Aligned side supply and return water connections for series multi-unit operation
- Little infrastructure means low installation cost



## Dimensions



### CLEARANCE FROM BOILER CABINET

Surface	Min. Distance From Combustible	Recommended Distance For Installation
Front	2"	24"
Left Side	2"	4" (allow access to water connections)
Right Side	2"	4" (allow access to water connections)
Top	2"	8" (to allow access to elements)
Bottom	2"	6" (for drain and power supply access)

### PIPING CONNECTIONS

Description	EBX
A Supply Water Outlet	3/4" NPT-M
B Return Water Inlet	3/4" NPT-M
C Supply Power Knock-Out	Dual 3/4" and 1"
D Control Wiring Knock-Out	1/2"

### MODELS

Description	Model No.	Part No.
EBX 4K-240	IBEWSW1-004K	016-001
EBX 8K-240	IBEWSW1-008K	016-006
EBX 10K-240	IBEWSW1-010K	016-011
EBX 12K-240	IBEWSW1-012K	016-016



## Boiler Pump

### EBX SERIES PUMP AVAILABLE HEAD - 3 SPEEDS (WATER)

The factory-installed boiler pump can overcome the system head resistances listed on the right, according to the selected speed.

The installed pump is rated for the designed water temperature range; some pumps have a minimum water temperature rating above the low temperature potential of the boiler.

## Application Drawings

### PRIMARY-SECONDARY PIPING DETAILS WITH CLOSELY-SPACED TEES

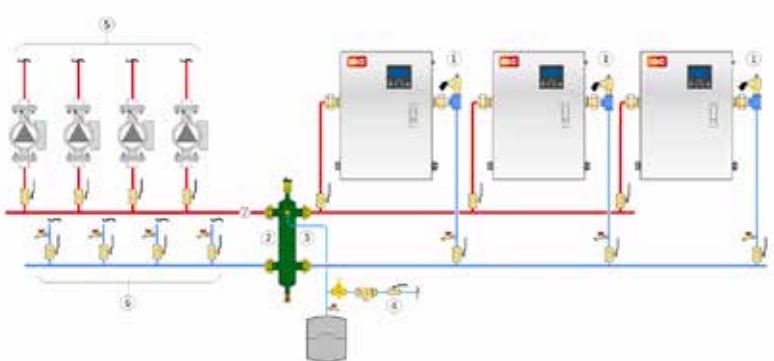
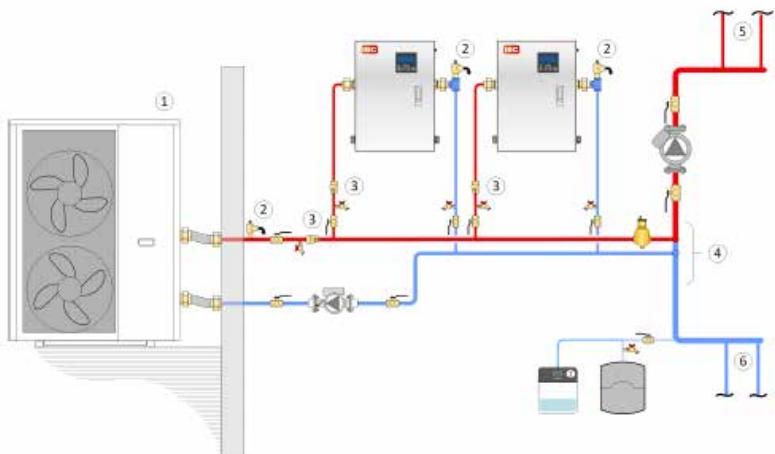
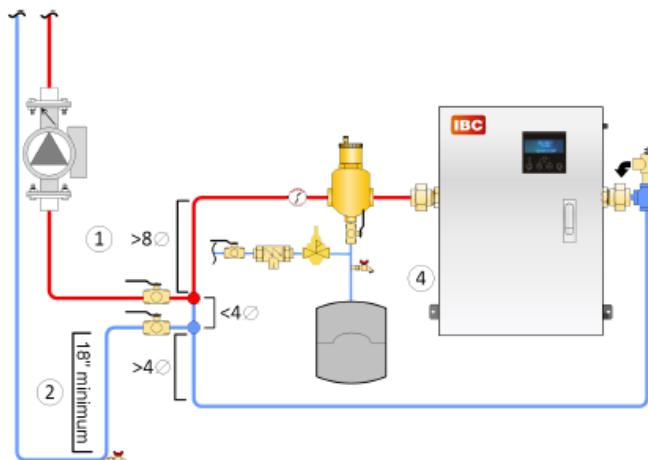
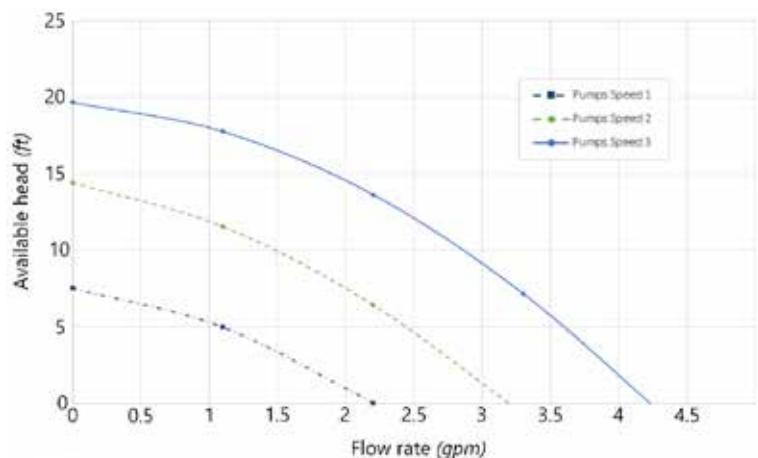
- 1 Closely-spaced tees: Install tees a maximum of four pipe diameters apart with no restrictions between fittings, and with a minimum of eight pipe diameters of straight piping upstream of the first tee and a minimum of four pipe diameters of straight piping downstream of the second tee.
- 2 Heat Migration—on secondary loops that extend vertically to a load that is above the primary loop, steps must be taken such as fabricating a thermal trap in the return piping – minimum 18' (46cm) drop– to prevent thermal siphoning and heat migration to the load when there is no demand for heat to that loop. Alternatively, use check valves on both supply and return of secondary piping.

### MULTIPLE BOILER PIPING

- 1 Heat Pump boiler; system fluid circulates outdoors so typically requires glycol treatment.
- 2 Electric boilers staged to supplement heat pump below system balance point.
- 3 Check Valves
- 4 Closely-spaced tees are a maximum of four pipe diameters apart, with a minimum of eight pipe diameters of straight piping upstream of the first tee and a minimum of four pipe diameters of straight piping downstream of the second tee.
- 5 Supply to Heating System: heat pump piping without buffer tank requires that every zone have a large thermal mass.
- 6 Return from Heating System: see above.

### PRIMARY-SECONDARY MULTIBOILER WITH HYDRAULIC SEPARATOR

- 1 Pressure relief valve (shipped with the boiler); no isolation valve permitted between boiler and relief valve
- 2 Hydraulic separator
- 3 Recommended expansion tank connection point
- 4 Fill station with isolation valve closed, or fill tank
- 5 Supplying piping to loads
- 6 Returns to loads





## Specifications

*Suitable as a backup for solar heating applications*

SPECIFICATIONS	EBX 4K-240	EBX 8K-240	EBX 10K-240	EBX 12K-240
Power @ 240V	1.3-13.7 MBH (0.4-4 kW)	2.7-27.3 MBH (0.8-8 kW)	3.4-34.1 MBH (1.0-10 kW)	4.1-41.0 MBH (1.2-12 kW)
Power @ 208V	1.0-10.2 MBH (0.3-3 kW)	2.1-20.5 MBH (0.6-6 kW)	2.6-25.6 MBH (0.8-7.5 kW)	3.1-30.7 MBH (0.9-9 kW)
Max. Current Draw (w/ pump) @ 240V	17.6 A	34.2 A	42.6 A	50.9 A
Max. Current Draw (w/ pump) @ 208V	15.4 A	30.0 A	37.1 A	44.3 A
Breaker Size	30 A	45 A	60 A	70 A
Copper Wire Size	10 AWG	8 AWG	8 AWG	6 AWG
Min. Ambient Temperature	32°F (0°C)	32°F (0°C)	32°F (0°C)	32°F (0°C)
Max. Ambient Temperature	122°F (50°C)	122°F (50°C)	122°F (50°C)	122°F (50°C)
Max. Relative Humidity (Non-Condensing)	90%	90%	90%	90%
Min. Water Temperature	34°F (1°C)	34°F (1°C)	34°F (1°C)	34°F (1°C)
Max. Water Temperature (Electronic Hi-Limit)	190°F (88°C)	190°F (88°C)	190°F (88°C)	190°F (88°C)
Max. Water Temperature Lockout Limit	210°F (99°C)	210°F (99°C)	210°F (99°C)	210°F (99°C)
Weight (Empty)	29 lb (13.2 kg)	29 lb (13.2 kg)	29 lb (13.2 kg)	29 lb (13.2 kg)
Min. Boiler Flow Rate	0.7 USgpm (2.6 Lpm)	1.4 USgpm (5.3 Lpm)	1.7 USgpm (6.4 Lpm)	2.1 USgpm (8.0 Lpm)
Max. Boiler Flow Rate	4.2 USgpm (16 Lpm)	4.2 USgpm (16 Lpm)	4.2 USgpm (16 Lpm)	4.2 USgpm (16 Lpm)
Max. Operating Water Pressure*	50 psig (345 kPa)	50 psig (345 kPa)	50 psig (345 kPa)	50 psig (345 kPa)
Min. Water Pressure	8 psig (55 kPa)	8 psig (55 kPa)	8 psig (55 kPa)	8 psig (55 kPa)
Element Construction	Titanium	Titanium	Titanium	Titanium

\*Boiler ships with a 30 psi Pressure Relief Valve



We are committed to delivering a *GREATERT DEGREE OF GOOD* across the globe – through our intelligent products, responsible processes and inspired people.

