

Radiant Floor Heating

ELECTRO BOILER™

The Electro-Boiler provides an ideal water heating energy source for radiant floor tubing applications. An electric boiler system means lower equipment cost and off-peak electric rates makes the electric boiler your best economical value. As a compact wall mounted boiler, less space is required. Simplified controls will also reduce installation cost without compromising quality.

Standard Features

<i>240V, single phase</i>	<i>Pressure relief valve, 30 psi</i>	<i>15-year element warranty</i>
<i>Internal control module</i>	<i>Pump relay contact</i>	<i>2-year product warranty</i>
<i>Element staging</i>	<i>Thermostat contact operation</i>	<i>ASME certified & inspected vessel</i>
<i>Pressure/temp gauge</i>	<i>Cold boiler concept</i>	<i>CSA/UL listed product</i>

Three Phase Models

208-volt
240-volt
480-volt

Vessel Size

Mini-Boiler
TS Series, as shown, 27 kW max.
TS Series, large, not shown, 54 kW max.

Mini-Boiler Models

	Preset Temp*	Outdoor Reset**	kW size	Btu/h size
EMB-5			4.5	15,000
EMB-9			9	31,000
EMB-W-9	✓		9	31,000

TS Series Models

	Preset Temp*	Outdoor Reset**	kW size	Btu/h size
EB-S-13	✓		13.5	46,000
EB-S-18	✓		18	61,000
EB-S-23	✓		22.5	77,000
EB-S-27	✓		27	92,000
EB-WO-13		✓	13.5	46,000
EB-WO-18		✓	18	61,000
EB-WO-23		✓	22.5	77,000
EB-WO-27		✓	27	92,000

*Maintains desired output water temperature.

**Output water temperature varies depending upon outside temperature.

Mini-Boiler

4.5 kW & 9 kW



Bottom to top feed
3/4" male pipe
1 gallon vessel
12"W x 34"H x 7"D
52# shipping weight

TS Series Boiler

13.5 kW - 27 kW



Top in feed, top out discharge
1-1/4" male pipe
7.1 gallon vessel
19"W x 37"H x 13"D
150# shipping weight



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Hydronics Radiant Floor, with Electro-Boiler™

Application suggestions (average residential, size):

	<u>EMB</u>	<u>EMB-W</u>	<u>EB-S</u>	<u>EB-WO</u>
1. Lower level, 1 zone - warm floor, also has forced air heating system	✓			
2. Lower level, small and large zones - warm floor, also has forced air heating system		✓		
3. Garage, residential, 1,000 sq. ft. max.	✓			
4. Lower level, large zones - warm floor, also has forced air heating system			✓	
5. Lower level, large, unequal and many zones - warm floor, also has forced air heating system			✓*	
6. Slab on grade - only heating system			✓	
7. Slab on grade, unequal and many zones - only heating system			✓*	
8. Whole house, zones - all radiant, two temp. requirement			✓*	
9. Whole house hydronics, zones - air handler coil, etc. - two temp. req.				✓*
10. Garage or shop, zones - only heating system			✓	
11. Garage or shop, unequal and many zones - only heating system			✓*	
12. Large building, multi-boilers, large and many small zones - add EB-C-STG5			✓*	✓*
13. Dual heat, standby gas boiler				✓

* Suggest adding EB-ZTS-* zone controller board (installed within boiler cabinet).

Off-peak electric rate, placement of tubing, spacing, etc. - application sheet BL002 has cross-section drawings

Electro Industries has installation training sessions or guides for various applications, request training schedule or assistance. In summary, for paragraphs 1 through 5 tubing can be in the concrete or under, preferably under. For paragraphs 6 through 13 tubing should be in the sand in order to effectively store heat and qualify for off-peak rates.

Accessories and Options

In addition to the Electro-Boiler itself, Electro Industries can provide you with accessories and installation packages leading up to the loop manifold. Our accessories and external controls are designed to match the Electro-Boiler features. Added system performance and long-term reliability is **improved** when matching controls and accessories to the same manufacturer's boiler.

Slab stat - for off-peak/storage application and almost all radiant floor applications, we strongly recommend using a remote sensing room thermostat. Electro Industries offers 3 types, sheet BL001 details each.

Zone controller - some models can be installed directly within the TS boiler cabinet. Most zone controllers feature easy installation, simplified wiring, and troubleshooting lights. In addition to these industry standard features, the Electro zone controller actually communicates with the boiler control and is used as a **staging mechanism**.

Two supply water temperature requirement - the two pump zone controller and the basic four zone valve controller include the ability to condition the TS Series boiler for a two temperature application. Priority zone set at 150° or 176°, the remaining zone(s) operates at preset temp. This can eliminate mixing valves or injection pump requirements.

Plumbing kit - depending upon model series, there are four installation kits which provide all the necessary fittings, valves, expansion tank, etc. in a carton.

Circulating pump - two basic sizes, convenient to purchase item with plumbing kit.

Switching relay - sometimes needed for zone pumps and other control combinations.