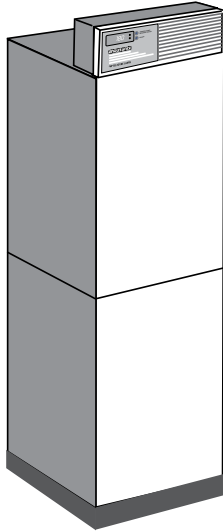


# ENDURANCE™



Date:

Project #:

Engineer:

Prepared By:

Bid Date:

Project Name:

# Modulating Gas-Fired Boiler

EBP | Space/Water Heating Boiler

Indoor Sizes 110 and 175

Submittal Data **LAARS** Heating Systems

Location:

Contractor:

## Standard Equipment

- Design certified and tested to ANSI standard Z21.13
- Designed and constructed in accordance with the ASME Boiler & Pressure Vessel Code, Sections II, IV, and IX
- Maximum working pressure – water 30 psi, ASME rated
- Hydrostatic test pressure at factory – 60 psi
- Natural or propane gas
- Minimum gas supply pressure – 4" w.c.
- Maximum gas supply pressure – 13" w.c.
- 85+% A.F.U.E.
- Sealed stainless steel combustion chamber
- Hot surface ignition
- Automatic burner modulation from 57% to full fire
- NOx levels less than 25ppm
- Venting – Direct vent (sealed combustion with ducted combustion air in concentric vent) or Category IV
- Design certified for installation directly on a combustibile floor (except carpeting)
- One-inch clearance on all 4 sides
- Zero clearance from combustibles to the vent when concentric venting is used
- Electrical: 115V-60HZ – 1PH less than 15 Amps with 24V transformer mounted and wired
- Outdoor reset with the addition of outdoor air sensor (limited temperature range available).
- Control overrides outdoor reset when air sensor is faulty
- Easy-to-use viewing and programming menus
- 3-character alphanumeric display of temperatures and fault codes
- Displays fault codes for supply sensor, return sensor, tank sensor, outdoor air sensor, internal control, and lockout
- Displays 6 temperatures: supply water, return water, tank water, heat exchanger temperature rise, outdoor air temperature (when outdoor reset is used), and calculated setpoint (when outdoor reset is used)
- Control LEDs indicate pump energized, attempt to ignite and gas valve energized
- Ignition control LEDs show faults for erroneous flame signal, internal error and lockout
- Low water temperature feature – attempts to run the pump when supply water temperature falls below 39°F (4°C)
- Built-in circulating pump and by-pass loop
- Equipped with anti-condensing controls
- Pump exerciser to ensure pump remains free from corrosion
- Built-in safety limit
- Copper finned, cylindrical tube design heat exchanger brazed into ASME bronze headers
- Units store 20 gallons of boiler water to provide instantaneous domestic hot water production through a brazed plate heat exchanger, with DHW priority
- 20 Year limited warranty

## Clearances

### Minimum Clearances from Combustible Materials

Back	1 inch	25mm
Left Side	1 inch	25mm
Right Side	1 inch	25mm
Front	1 inch	25mm
Top (Alcove Install)	1 inch	25mm
Top (Closet Install)*	22 inches	559mm
Vent: Concentric, Direct	0 inch	0mm
Vent: Category IV	3 inches	76mm

\*Minimum closet height 6'9" (206cm)

### Suggested Serviceability Clearances

Front	18 inches	457mm
Left Side	6 inches	152mm
Right Side	6 inches	152mm

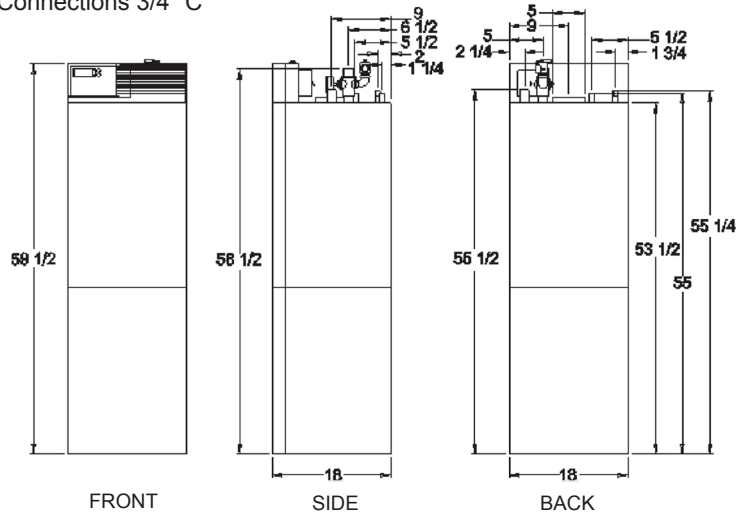
## Specifications

Model	Input		Output		AFUE %	Contin. GPH@ 100°F Rise	Inter.DHW Output @77°F Rise	NOx Levels ppm
	MBTU/h	kW	MBTU/h	kW				
EBP 110	61.8 to 108.2	18.1 to 31.7	53.7 to 94.0	15.7 to 27.5	85.5	114	4 gpm	<25
EBP 175	102.9 to 175.3	30.1 to 51.4	88.6 to 151.0	25.4 to 44.2	86.1	183	5 gpm	<25

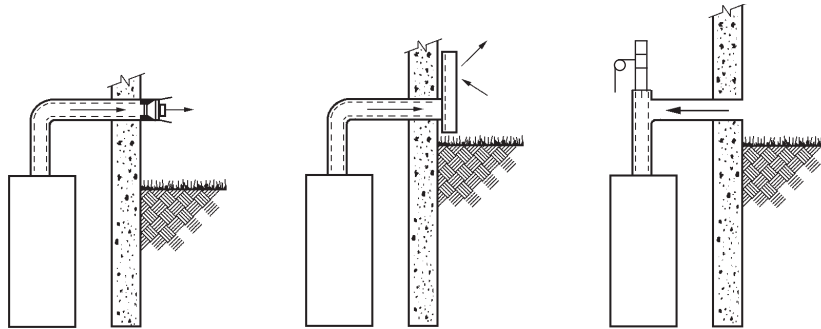
## Dimensions

### Tapping Sizes:

System Supply and Return 1-1/4" NPTM  
 Domestic Hot Water Connections 3/4" C  
 Gas Supply 1/2" NPT



## Venting



### Direct Vent

#### SEALED COMBUSTION

1. Utilizes outside air for combustion.
2. Horizontal vent lengths up to 15' with three 90° bends.

### Optional Vent

#### Terminal-Direct Vent:

1. For vent locations less than 16 1/2" above grade.

### Alternative Vent

1. Horizontal and vertical venting.
2. Up to 50 equivalent feet.
3. Can take combustion air from outside or from inside space.
4. Vent material must meet code UL1738 (US) or ULC636 (Canada).

