

Engineering Specifications



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► Boilers and Burners

Vitorond 100, VR1-245 Compact Triple-Pass Cast Iron Boiler (Qty. of 1)

Beckett AFG Oil Burner (Qty. of 1)

► Boiler Controls

► System Accessories

Boiler Specifications: Vitorond 100, VR1-245

1.0 General

The hot water heating boiler shall incorporate a triple-pass cast iron heat transfer design. The control packages shall come pre-wired for the boiler/burner combination.

1.1 Performance Criteria

Each boiler shall be designed for operating at:

Total input 245 MBH (72 kW)

Total CSA/DOE output 215 MBH (63 kW)

Certified AFUE efficiency shall not be below 87.1%.

ASME maximum allowable working pressure (MAWP): 30 psig. MAWP is 58 psig when no CRN is required.

ASME maximum water temperature (Fixed High Limit): 248°F (120°C).

The boiler shall operate without a flow switch.

2.0 Construction

The castings shall consist of special gray cast iron blended with alloys to increase operational reliability and corrosion resistance on the water side and fire side. There shall be limited flexibility in the castings to reduce movement and stress on the nipples, cast sections and system piping.

The stainless steel combustion chamber insert, integral to the heat exchanger assembly, shall be designed to reduce the high temperature fuel/air reaction for the purpose of lowering nitrogen oxide emissions. The large fire side heat exchanger surfaces shall be of triple-pass design with removable turbulators to enhance efficiency. The internal flue gas passages shall be easy to access from the combustion chamber door, hinged to the left or to the right.

The heating water side shall have wide water passageways to allow for optimum flow with minimum pump requirements.

The final fit and finish shall incorporate boiler enclosure panels that encase the boiler with a minimum of 3" (80 mm) fiberglass wrap-around insulation blanket.

The boiler shall be rated for installation on a combustible floor with zero (0") clearance to combustibles on left and right sides.

Standard equipment shall also include the following items:

- Stainless steel combustion chamber insert
- Burner hood for reduced noise level (on certain burners)
- Vent pipe adaptor
- Temperature, pressure gage
- 30 or 45 psig relief valve
- Boiler drain

3.0 Certifications

All individual components shall be accepted as part of the system under the governing body having jurisdiction. Field approval shall not be required for any component. Boiler shall be CSA approved and shall be built in compliance with ASME Section IV, carrying the "H" stamp.

The boiler shall have the following approvals and listings, or be in compliance with:

CSA, CRN, ASME, I=B=R, NY City approval, AHRI (GAMA), CEC, Energy Star

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