



# Suggested Specifications Dunkirk Combi Condensing Boiler DCCF-115

## **1.0 General Requirements:**

- 1.1 Provide and Install Boiler(s) in accordance with the plan drawings, written specifications and contract documents.
- 1.2 All work shall be performed in a neat workmanship like manner compliant with all local code authorities.

## **2.0 Submittal**

- 2.1 Product Data: Submit manufacturer's technical product data, including rated capacities of selected model, weight, installation and start-up instructions, and furnished accessory information.
- 2.2 Shop Drawings: Submit manufacturer's assembly drawings indicating dimensions, connection locations, and clearance requirements.
- 2.3 Wiring Diagrams: Submit manufacturer's electrical requirements for the boiler including ladder type wiring diagrams for interlock and control wiring.

## **3.0 Boiler Requirements**

- 3.1 Boiler shall provide hot water for heating zones and shall include a built-in stainless steel brazed plate heat exchanger to provide potable domestic hot water at the stated rate.
- 3.2 Boiler shall be certified for Direct Vent operation.
- 3.3 Boiler shall be factory fire tested.
- 3.4 Refer to all local codes and jurisdictional requirements for installation of field supplied anti-scald valve(s).

## **4.0 Acceptable Manufacturers**

- 4.1 Equivalent units and manufacturers must meet all performance criteria for all fuel options, and will be considered upon prior approval.

## **5.0 Certifications & Listings**

- 5.1 Boiler shall be certified by CSA, AHRI, NRCAN.
- 5.2 Boiler shall be registered with Massachusetts Board, National Board BPVI.
- 5.3 Boiler shall be constructed in accordance with the American Society of Mechanical Engineers (ASME)
- 5.4 Boiler shall have an ASME H stamp that is applied to the heat exchanger. Each heat exchanger shall be independently reviewed by an ASME authorized inspector. The boiler heat exchanger shall be rated for a maximum allowable working pressure of 50 psig. The boiler shall be equipped with a 30 psig relief valve.

## **6.0 System Requirements**

- 6.1 Central heat hydronic system pressure shall be no more than 30 psig and no less than 7.25 psig.
- 6.2 Domestic hot water hydronic system pressure shall be no more than 116 psig.





## **7.0 Construction**

- 7.1 Boiler heat exchanger shall be constructed of Iron-Chromium stainless steel parallel tube, encased in a Noryl Resin housing.
- 7.2 Burner Components
  - 7.2.1 Gas valve shall be a modulating valve capable of firing from:
    - 115,500 BTU input down to 16,600 BTU input in Combi mode (7:1 turn down)
    - 93,500 BTU input down to 16,600 BTU input in Heat mode (5.6:1 turn down)
  - 7.2.2 Induced draft blower shall be variable speed and controlled by a PCB.
  - 7.2.3 Burners shall be constructed of Iron-Chromium stainless steel.
  - 7.2.4 Ignition system shall be direct spark with separate flame sensing rod.
  - 7.2.5 Boiler shall include an internal stainless steel brazed plate heat exchanger for potable hot water and an automatic 3 way diverting valve to allow Domestic Hot Water Priority operation.
  - 7.2.6 Boiler shall include: an internal factory installed and wired Boiler Loop Pump, and factory supplied primary secondary manifold.

## **8.0 Control System**

- 8.1 Control system shall be PCB integral controller with LCD digital display that also includes graphic interface.
- 8.2 Control shall be self commissioning, automatically recognizing fuel type (Natural or LP gas).
- 8.3 Control shall continuously monitor flame signal and automatically adjust the gas valve during normal operation for optimum combustion and maximum efficiency.
- 8.4 Control will sense supply water temperature and adjust firing rate of the boiler to deliver amount of heat needed.
- 8.5 Control will sense and display supply water temperature and indicate by icon when boiler is in central heating or domestic water mode.
- 8.6 Control will have Brazed Plate Pre-Heat function. Pre-Heat mode will maintain temperature of brazed plate heat exchanger to speed DHW delivery.
- 8.7 Control can accept wired Outdoor Air sensor and have field adjustable reset curves.
- 8.8 Control displays error codes and diagnostic information.
- 8.9 Control can accept 0-10V input to manage heating set-point or heating power level.

## **9.0 Combustion Air And Flue Vent Exhaust**

- 9.1 The boiler shall be Direct Vent only, with materials compatible with those standards, and installed as per the manufacturer's written instruction, plan drawings and all applicable code authorities.
- 9.2 The flue gas exhaust shall connect directly to the boiler at the location labeled.





## **10.0 Electrical Connections**

10.1 Supply voltage 120 volts 60 HZ 12 amp minimum size circuit.

10.2 Boiler shall have Low voltage terminal strip with clearly marked connections.

## **11.0 Quality Assurance**

11.1 Warranty

11.1.1 Boiler shall be supplied with written Manufacturer's Standard Warranty. Warranty is 10 years on Primary heat exchanger, one year on parts.

11.1.2 Warranty is extended to 10 years on Primary heat exchanger, two years on parts plus two years on labor upon on-line warranty registration and completion of contractor registration.

11.2 Factory testing - boiler shall be factory test fired. A copy of the test data shall be provided on request.

## **12.0 Boiler Manuals**

12.1 The boiler shall be provided with a complete set of instructions as follows:

12.1.1 Installation, Operation and Maintenance Manual (IOM) with Application Guide

12.1.2 Repair Parts Manual

12.1.3 User's Manual

