



## Thermaflo Heat Exchanger Specification

Heat Exchanger shall be ASME rated carbon  
Heat Exchanger shall be sized per data provided in the attached Schedule.

Supply and install approximately where shown on plans and with the manufacturer's recommendations, heat exchanger(s) as follows:

1. TYPE: Shell and tube, single wall tubes, u-bend removable bundle.

### 2. MATERIALS

Tubes :copper -20ga Shell :carbon stl

Tubesheet :carbon stl Baffles :carbon stl

Front Head :cast iron (bonnet) Studs & Nuts :carbon stl

Head Gasket :non - asbestos Shell Gasket :non - asbestos

### 3. CONSTRUCTION

Each heat exchanger is to be designed, built, and tested in accordance with the ASME Boiler and Pressure Vessel Code, Section VIII, Division 1. A manufacturer's data report for pressure vessels, Form number U-1 or a manufacturer's certificate of compliance form Number U-3 as required by the provisions of the ASME Code rules is to be furnished to the user or designated agent upon request. This form must be signed by a qualified inspector, holding a National Board Commission when required, certifying that construction conforms to the latest ASME Code for pressure vessels for a minimum design metal temperature of 35 F, a tube side working pressure of 125 psi at 375 F, and, a shell side working pressure of 150 psi at 375 F.

### 4. CAPACITY

To heat 30.0 USgpm of water in the tubes from 50.0 F to 140.0 F using 120.0 USgpm of boiler water in at 180.0 F and out at 156.8 F.

### 5. OPERATING CONDITIONS

The tube side velocity shall be no more than 1.0 ft/s. The tube side pressure drop shall be no more than 0.1 psi.

The shell side velocity shall be no more than 0.8 ft/s. The shell side pressure drop shall be no more than 0.1 psi.

The maximum bundle length shall be no more than 4 ft. The fouling factor shall be no less than 0.0005 hr.ft<sup>2</sup>F/Btu. The heat exchanger(s) shall be capable of providing a heat load of no less than 1,348,658 Btu/hr. Each heat exchanger shall contain a tube heating surface of no less than 79.8 sq.ft.

### 6. MANUFACTURER & MODEL

The heat exchanger(s) shall be the Thermaflo Engineering Inc. liquid to liquid model

P.O. Box 473639 • Charlotte, NC 28247

12249 Nations Ford Road • Pineville, North Carolina 28134

Phone 704.940.1228 • Fax 704.940.1227 • [www.thermafloengineering.com](http://www.thermafloengineering.com)



W-1248-2B.

#### 7. DOCUMENTATION

Each heat exchanger shall be shipped complete with one copy each of the ASME U-1 or U-3 form and the manufacturer's installation and operating instructions.

#### 8. SHIPPING

Each heat exchanger shall be prepared for shipping firmly mounted on a wooden skid. The skid shall be designed so as to prevent damage to the vessel during transport. All vessel connections shall be capped so as to prevent contamination of the tube surfaces.

#### 9. INSTALLATION

Each heat exchanger shall be connected to the proper relief valves, vent and/or vacuum breaker as required.