



## Specification

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### Digital-Flo® Model DF53540 Steam to Water Shell and Tube Heat Exchanger

Category: Steam to Water Shell and Tube Heat Exchanger

Type: Digital-Flo®

Model: DF53540

#### General:

##### 1.0 Digital-Flo DF53540

- A. The assembly shall be pre-piped steam to water shell and tube water heater with performance matched components and pressure tested before delivery. The instantaneous shell and tube water heater shall be of single wall construction with straight admiralty brass tubes expanded into naval brass tube sheets with a bolted end cover. Heat exchanger will be fixed on one end of the shell and free floating on the opposite end designed and manufactured in accordance with ASME Code Section VIII.
- B. Temperature controller (DRV) shall be digital using integrated circuit board technology designed to deliver blended water economically at a safe, accurate temperature for sanitary use in re-circulated hot water systems. The DRV shall have a 2 line, 16 character display of delivered temperature with the option of °F or °C. Display also shows the error codes and alarm conditions. DRV shall be compliant with ASSE Standard 1017 and CSA B125, UL listed and so certified and identified.
- C. The assembly shall comprise domestic side check valves, strainers, DRV, thermometers, ball valves, safety shut-off valve, shell and tube exchanger all pre-piped with type L copper on a painted carbon steel frame.
- D. Complete assembly to be Lead Free compliant
- E. Steam pressure on system to be no more than 15 PSIG. Designed to generate 41 GPM with a 40°F entering cold water temperature, a 140°F. mixed water set point utilizing 15 PSIG steam at a maximum of 2185 lbs/hr steam load.
- F. Water heater assembly shall have all of the following operational capabilities:
  - 1. +/- 2F water temperature control from 0 to full system demand.
  - 2. 2°F minimum inlet to outlet water temperature differential
  - 3. Automatic shutoff of hot water flow upon cold water inlet supply failure.
  - 4. Automatic shutoff of hot water flow in the event of a power failure
  - 5. Programmable set point range of 81-158°F (27-70°C)
  - 6. Programmable 1st level hi/lo temp alarm display
  - 7. Programmable error temperature error level for double safety shutdown.
  - 8. LCD display which indicates: set point, delivered temperature, error codes and alarm conditions.
  - 9. Isolation valves and clean in place connections to chemically clean the exchanger without dis-assembly of the exchanger
  - 10. ¼" domestic side pressure relief pop-off valve with 165 psig crack pressure. Self seating.

- G. Water heater assembly shall have the following connectivity capabilities:
1. SPCO relay outputs which are energized during operation.
  2. RS485 Serial Port for connection to Modbus RTU (onboard) or(BrainScan® (optional adder)
- H. Warranty  
Water heater assembly shall have a 2 year warranty from date of installation but not longer than 27 months from date of shipment. DRV shall have a 5 year all component parts warranty.