



# Specification: ReadiTemp™

## Model: RT812050

### Article I. General Specifications:

- Section 1.01 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.
- Section 1.02 Temperature controller (E50WR) shall be a 3 port mixing valve using a single moving shear action disk for inlet control and fitted with an electronic actuator and integrated temperature sensor. Mixing shall occur within the body of the valve and the temperature probe shall be integrated into the blended water outlet port.
- Section 1.03 The water heater assembly shall comprise of all stainless steel materials including check valves, thermometers, pressure gauges, and isolation valves on a stainless steel frame. The shear action disks shall be made of ceramic material.
- Section 1.04 The E50WR shall provide bubble tight zero seat leakage shut off which exceeds ASME B16.104 as well as exceeds FCI 70.2 (Class V and VI standards) and conforms to ASME B16.34.
- Section 1.05 The E50WR shall have an integral control keypad and be capable of both stand-alone operation and integration into an automation or remote control system.
- Section 1.06 The actuator shall respond aggressively to inlet pressure and temperature changes and control the mixing valve to minimize outlet temperature variations.
- Section 1.07 There shall be a non-contact absolute encoder for failsafe position feedback all in an electronic actuator enclosure designed to NEMA 4.
- Section 1.08 The actuator shall be 100% duty cycle rate and be powered by a regulated 24VDC 3.5A supply; customer supplied power 110VAC 1A.

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Section 1.09 The water heater assembly shall be pre-piped with a float and thermostatic condensate trap as well as pressure relief pop-off valve with 165 PSIG crack pressure.

Section 1.10 Water heater assembly shall have the following connectivity capabilities:

1. Accept a 4-20mA analog control signal
2. Provides a 4-20mA analog output temperature or position signal
3. External RS232 connection (cable supplied)
4. Extra digital input for interfacing ancillary devices

Section 1.11 Warranty

1. Pre-packaged skid shall have a 1 year warranty from date of installation but not longer than 15 months from date of shipment.

## **Article II. Operational Specifications:**

Section 2.01 Water pressure on system to be no more than 145 PSIG. Steam pressure on system to be no more than 15 PSIG constant. Utilizing 15 PSIG steam with 40°F entering cold water temperature the unit is designed to generate:

- 167 GPM using 7,070 lbs/hr of 120°F hot water
- 124 GPM using 6,554 lbs/hr of 140°F hot water
- 95 GPM using 6,003 lbs/hr of 160°F hot water

Section 2.02 Water heater assembly shall have all of the following operational capabilities:

1. Operating temperature range of -13°F to 257°F
2. Output water temperature control accuracy to within +/- 1°F over a 32°F to 212°F control range
3. Capable of control blending to within 1°F of either hot or cold inlet temperature
4. Manual override via an included handle
5. Software configurable control settings
6. Push button power switch
7. 90° stroke time as low as 1.5 seconds for fast control action
8. Capable of positioning from 0% to 100% of either inlet temperature

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