Specification

Digital-Flo™ Model D665 DW Instantaneous Water Heater Assembly

Category: Instantaneous Water Heater Package
Type: Digital-Flo™ Shell and Tube
Model: D665 DW

General:

The instantaneous water heater assembly with integral programmable digital recirculation valve (DRV) shall be mounted on an angle iron frame. The assembly shall be pre-piped with performance matched components and pressure tested before delivery. Substitute assemblies which require field assembly other than basic water, and steam service shall be unacceptable. The instantaneous water heater shall be of the horizontal shell and tube design providing easy access to the individual tubes without moving the heater from its installed position. No overhead clearance shall be required for servicing. The tubes shall be double wall with a U-bend. Helical tubes shall be unacceptable. Only the necessary steam, water and condensate connections to the instantaneous water heater shall be pre-plumbed. Copper lined storage tanks shall not be used. Temperature controller (DRV) shall be controlled digitally via integrated circuit board technology designed to deliver blended water economically at a safe, accurate temperature for sanitary use in re-circulated hot water systems. No minimum system draw-off required. 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. The temperature controller shall be compliant with ASSE Standard 1017, CSA B125 & CE and so certified and identified. Model shall be D665 DW by Armstrong International, Three Rivers, Michigan

Materials of construction and items included shall be:

1. Shells of carbon steel with 3” NPT steam inlet and 1-1/4” NPT condensate exit ports
2. Tubes of 5/8” copper inner, ¾” ID grooved copper outer expanded into steel (steam side) and brass (water side) tube sheets
3. 2” NPT water connections
4. Stand of 2” Carbon Steel Angle
5. Water pipe of Type L copper
6. Armstrong Steam Trap model 814
7. Armstrong Thermostatic Air Vent
8. One 12V Digital Recirculating Valve (DRV)
9. One UL Listed Power supply’s rated at 100-240V (12V AC output)
10. All required valve fittings and isolation valves, pressure gauges, inlet combination ball valve strainers, inlet/return check valves, inlet, system blend and return line thermometers
11. All Stainless Steel Construction (DRV only)

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Performance:

The instantaneous water heater assembly with DRV shall include all of the following capabilities:

1. Maximum water pressure drop not exceeding 10 psi in the instantaneous heater
2. Operational steam pressure of 2-15 psig
3. Maximum allowable steam pressure of 150 psig
4. Operational water pressure of 20-150 psig
5. Maximum allowable water pressure of 150 psig
6. Accurate control of blended water drawn from the system at a point of use typically within +/-2°F at draw off points a minimum of 5m downstream of mixing valve during consistent system demand periods
7. Minimum valve inlet to outlet temperature requirement (system recirculation temperature loss) of 2°F
8. Automatic shutoff of hot water flow upon cold water inlet supply failure
9. Automatic shutoff of hot water flow in the event of a power failure
10. Maintain a consistent system “idling” temperature and control “temperature creep” without the use of a manual throttling device or balance valve.
11. System shall not require a temperature activated pump shut-off device (aquastat).
12. Programmable set point range of 100-160°F (37-71°C) plus full hot/full cold
13. Ability to thermally disinfect at recommended temperatures
14. Programmable 1st level hi/lo temp alarm display
15. Programmable 2nd level hi/lo temp alarm display/full cold
16. 2 x 4-20 mA current loop interfaces
17. Input: Setpoint Selection
18. Output: Measured Blend Temperature
19. Relay output: 24V DC/240V AC SPCO
20. Error Relay: Activated in alarm or error mode
21. Serial data port for BAS Module (BrainScan™) connectivity. Transmits/receives all field programmable and LED display features
22. Setpoint configuration, unit selection, and alarm conditions available via the IrDA programming port used with the programming software or via the Building Automation System