Armstrong

Specification

Digital-Flo™ Model D3W Instantaneous Water Heater Assembly

Category: Instantaneous Water Heater Package
Type: Digital-Flo™ Plate and Frame
Model: D3W

General:

The instantaneous water heater assembly with integral programmable digital recirculation valve (DRV) shall be mounted on a carbon steel frame accessible for lifting. 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 boiler water service shall be unacceptable. The instantaneous water heater shall be of the counter-current flow stainless steel gasketed plate heat exchanger designed and manufactured in accordance with ASME Code Section VIII. Gaskets shall be of glue free design, made of Nitrile, suitable for fluids. 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. 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. Specify as: Digital Flo D3W by Armstrong International, Three Rivers, Michigan.

Materials of construction and items included shall be:

1. The plates shall be field replaceable 316 stainless steel herringbone pattern channel corrugated plates. Plate gaps should not be less than 2.4 mm.
2. The heat exchanger frame shall be constructed of SA516-70 or A36 material
3. 2” NPT water connection on domestic side
4. 3” NPT water connection on boiler water side
5. Frame of Carbon Steel Angle
6. Water pipe of Type L copper
7. One 12V Digital Recirculating Valve (DRV)
8. One UL Listed Power supply’s rated at 100-240V (12V AC ouput)
9. All required valve fittings and isolation valves, inlet combination ball valve strainers, inlet/return check valves, inlet, system blend and return line thermometers
10. All Stainless Steel Construction (DRV only)

Performance:

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

1. Maximum water pressure drop of 10 psi (0.69 bar) in the instantaneous heater
2. Maximum steam pressure of 15 psig (1.03 bar)

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3. Operational domestic water pressure of 20-150 psig (1.38-10.34 bar)
4. Maximum allowable domestic water pressure of 150 psig (10.34 bar)
5. Maximum boiler water temperature of 220°F (104°C)
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 100-158°F (37-70°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