



Hot Water Generation – Boiler Water/Water Single Wall

Digital-Flo® Boiler Water/Water Plate and Frame Heat Exchanger

Model DF90W80BS

DF90W80BS is a complete pre-piped instantaneous boiler water/water heater. The package includes a properly sized plate and frame heat exchanger packaged with a Digital Recirculating Valve (DRV80) and BrainScan® hot water monitoring control module.

Digital technology provides enhanced water temperature control accuracy and enhanced user safety in a single control component. BrainScan® technology to control set point, data log and monitor inlet hot, inlet cold/return and mixed water outlet with multiple BAS interface options.

Operational Specifications

- $\pm 2^{\circ}\text{F}$ water temperature control at points of use 25' downstream during demand
- $\pm 2^{\circ}\text{F}$ water temperature control during zero system demand "idling" periods
- 2°F minimum valve inlet to outlet temperature requirement (system recirculation temperature loss)
- Automatic shutoff of hot water flow upon cold water inlet supply failure
- Automatic shutoff of hot water flow in the event of a power failure
- Programmable set point range of $81\text{--}158^{\circ}\text{F}$ ($27\text{--}70^{\circ}\text{C}$)
- Programmable thermal disinfection mode
- Programmable 1st level hi/lo temp alarm display
- Programmable temperature error level for double safety shutdown.

Technical Specifications

- Maximum boiler water temp: 220°F
- Maximum domestic pressure: 150 PSI
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- Minimum recirculation flow: 10 GPM
- Design conditions: Domestic-90 GPM at 100°F delta T Boiler side- 160°F at 30 deg delta T.
- Complete package Lead Free Compliant
- All domestic side valve fittings and isolation valves, strainers, Inlet/return check valves, inlet, system blend and return thermometers, pre-piped. Boiler side piping/fittings supplied by others.
- DRV – all wetted parts 316 stainless steel
- DRV to be UL Listed
- Stainless steel liners on plate and frame exchanger
- Plates shall be single wall field replaceable 316 stainless steel
- Water pipe of type L copper
- Fabricated carbon steel frame with machine grade enamel paint
- 120 volt power supply required
- Secondary (double) safety shut-off valve included

Connectivity

BrainScan® – Is an optionally selected control module from Armstrong which enables an interface with Building Automation Systems (BAS) which utilize Modbus, Bacnet™ or LonWorks™ protocols via the use of specific processor cards. BrainScan® also has an ethernet port and operates as a web server for remote network access.

BrainScan® has the following outputs:

- Set Point
- Inlet/Outlet Temperature
- Over Temperature Alert
- Error Messages

