



## Hot Water Generation – Steam/Water Double Wall

### Flo-Rite-Temp® Steam/Water Shell and Tube Heat Exchanger Pre-Piped Tempered Water Recirculating

#### Model FRT8120DW80BS

FRT8120DW80BS is a complete pre-piped double wall instantaneous steam/water shell and tube heater. The assembly includes a 8120 instantaneous Flo-Rite-Temp water heater 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 remotely view and adjust set point, data log and monitor inlet hot, inlet cold/return and mixed water outlet with multiple BAS interface options.

#### Operational Specifications

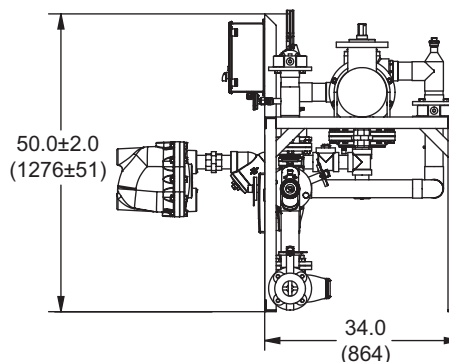
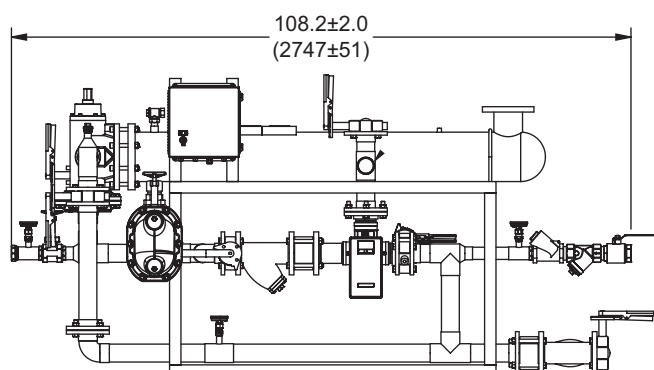
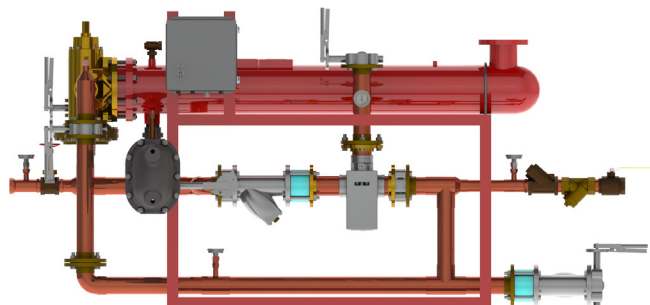
- $\pm 2^{\circ}\text{F}$  water temperature control at points of use 25' downstream during demand
- $\pm 2^{\circ}\text{F}$  water temperature control during zero system demand "idling" periods
- $2^{\circ}\text{F}$  minimum valve inlet to outlet temperature requirement (system recirculation temperature 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 1st level hi/lo temp alarm display
- Programmable temperature error level for safety shutdown

#### Technical Specifications

- Maximum steam pressure: 15 PSIG
- Maximum domestic pressure: 150 PSI
- Minimum recirculation flow: 10 GPM
- Design conditions: Domestic-165 GPM at  $100^{\circ}\text{F}$  delta T using 15 PSIG steam
- Complete assembly Lead Free Compliant
- All domestic side valve fittings and isolation valves, strainers, inlet/return check valves, inlet system blend and return thermometers pre-piped.
- DRV – all wetted parts 316 stainless steel
- DRV to be UL Listed
- Heat exchanger shell shall be double wall wall 5/8" copper inner tube and 3/4" grooved copper outer tube expanded into brass/stainless steel tube sheet with indicating weep holes
- Water pipe of type L copper
- Fabricated carbon steel frame with machine grade enamel paint
- 120 volt power supply required
- ModBus RTU Connectivity to communicate directly with BAS (Building Automation System)

#### Standard Materials of Construction

- Control Valve: Lead Free Bronze
- Water pipe: Type L Copper
- Fittings: Lead Free Brass/Bronze
- Double wall copper tubes expanded into brass/stainless tube sheets
- Heat Exchanger Shell: Carbon Steel
- Steam Trap: Model 20JD8 F&T Ductile Iron
- Air Vent: Model TS-2 angle-pattern-bronze
- Vacuum Breaker: Brass
- Digital Mixing Valve: Stainless Steel



#### 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

Designs, materials, weights and performance ratings are approximate and subject to change without notice. Visit [armstronginternational.com](http://armstronginternational.com) for up-to-date information.