

## NV-300-LF-NIF-R150

### Nucleus Digital Mixing Valve Recirculation Assembly

#### 1.0 Nucleus Digital Mixing Valve

- A. Mixing Valve shall be Digital and comply with National Low Lead Laws @ < .25% Lead
- B. NV-300-LF shall have 3" inlet/outlet connections with in-line full port ball valves and check valves, deliver mixed water flow of 235 GPM @ 30 PSI Pressure Drop and maintain temperature with .25 GPM flow from the domestic hot water loop
- C. NV-300-LF shall have all the following operational capabilities:
  - 1. 1X per day shuttle sweep designed to prevent scale buildup on internal mechanical components
  - 2. +/- 2°F water temperature control
  - 3. 2°F minimum inlet to outlet water temperature differential
  - 4. Automatic shutoff of hot water upon cold water inlet supply failure
  - 5. Automatic shutoff of cold water upon hot water inlet supply failure
  - 6. Maintain last control position in the event of power failure or be equipped with UPS standby power for approximately 2 hour run time
  - 7. Programmable set point range of 65-180°F (18-82°C)
  - 8. Programmable thermal disinfection mode
  - 9. Programmable hi/low temperature alarm display
  - 10. Primary printed circuit board capable of displaying up to 4 temperature sensors, and 2 pressure sensors with plug-in expansion board capabilities for 4 additional temperatures, 1 flow and 1 configurable channel (flow or pressure)
- D. NV-300-LF shall have all the following connectivity capabilities:
  - 1. Relay Rating: 30V DC, SELV, LPS, or Class 2, 2Amp MAX, 60 W, NO Only
  - 2. 2-line, 16-character LED display with plumbing system overlay diagram and 6 LED status indicators providing for ease of identification of system status
  - 3. Six (6) standard Protocol Languages including BACnet IP & MS/TP, Modbus RTU & TC/IP, Metasys N2 by JCI, Ethernet/IP with BACnet Testing Laboratories approval
  - 4. Local keypad user interface or laptop connectivity via RS485 Serial Port for temperature adjustment and commissioning
- E. NV-300-LF shall be compliant with ASSE standard 1017 and CSA B125/cUPC and so certified and identified
- F. NV-300-LF shall be cULus listed and identified
- G. NV-300-LF-NIF-R150 shall include 1-1/2" check valves and tee for recirculation loop tie-in.