

## NV-200-LF-IF-R125

### 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-200-LF shall have 2" inlet/outlet connections with integral stop/check valves, deliver mixed water flow of 173 GPM @ 30 PSI Pressure Drop and maintain temperature with .25 GPM flow from the domestic hot water loop
- C. NV-200-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-200-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-200-LF shall be compliant with ASSE standard 1017 and CSA B125/cUPC and so certified and identified
- F. NV-200-LF shall be cULus listed and identified
- G. NV-200-LF-IF-R125 shall be strut mounted and include 1-1/4" check valves, full port ball valve, and RTD probe on recirculation loop tie-in and a 2" check valve on the cold-water inlet with inlet RTD probes and pressure sensors on the hot and cold inlets.