PERFORMANCE SPECIFICATIONS

1. PRESSURE INDEPENDENT AND TEMPERATURE INDEPENDENT SYSTEM
   1.1. Contractor shall install where indicated in drawings.
   1.2. System shall include a pressure independent modulating dynamic control valve, a sensor kit and an electronic unit.
      1.2.1. The valve shall accurately control flow independent of system pressure fluctuations.
      1.2.2. The sensor kit shall include 2 temperature sensors and 2 pressure sensors. Temperature sensors shall measure the ΔT across the coil and pressure sensors shall measure the ΔP across the PICV.
      1.2.3. The intelligence interface shall accurately change PICV flow to maintain target ΔT. In addition, the electronic unit shall calculate BTU heat transfer and supply continuous information on ΔT, ΔP and flow.
2. PRESSURE INDEPENDENT MODULATING DYNAMIC FLOW CONTROL VALVE
   2.1. Valve shall be electronic, dynamic, modulating 2-way control device
   2.2. Maximum flow setting shall be adjustable to 55 different settings within the range of the valve size by changing the actuator programming.
   2.3. Flow regulation unit shall be manufactured of stainless steel and hydrogenated acrylonitrile-butadiene rubber and shall be capable of controlling flow within ±5% of controlled flow rate or ±2% of maximum flow rate.
   2.4. Flow regulation unit shall be accessible for change-out or maintenance.
   2.5. VALVE HOUSING
      2.5.1. Housing shall consist of ductile iron ASTM A395 Grade 60-40-18 rated at no less than 580 psi (4000 kPa) static pressure and 248°F (120°C).
      2.5.2. Housing shall be permanently marked to show direction of flow.
      2.5.3. Dual pressure/temperature test plugs for verifying accuracy of flow performance shall be standard on all valve sizes.
   2.6. VALVE ACTUATOR
      2.6.1. Valve actuator housing shall be rated to IP44 insulation.
      2.6.2. Actuator shall be driven by a 24Vdc motor, and shall accept 2-10 Vdc, 4-20mA, 3-point floating or pulse width modulation electric signal and shall include resistor to facilitate any of these signals.
      2.6.3. Actuator shall be capable of providing 4-20mA or 2-10 Vdc feedback signal to the control system.
      2.6.4. External LED readout of current valve position and maximum valve position setting shall be standard.

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2.6.5. Optional fail safe system to power valve to either open or closed position from any position in case of power failure shall be available.

3. INTELLIGENCE INTERFACE / ELECTRONIC UNIT

3.1. Intelligence interface shall consist of UL94 V0-rated plastic.

3.2. Intelligence interface shall be rated to IP54 including upside-down mounting.

3.3. Intelligence interface shall be driven by a 24V DC signal.

3.4. Intelligence interface shall be Bluetooth® enabled.

3.5. Intelligence interface shall be capable of providing analog feedback signal to the control system and wireless feedback signal to handheld devices. Shall communicate with both Android and iPhone devices and display via App.

4. TEMPERATURE SENSOR

4.1. Temperature sensors shall consist of 304 stainless steel.

4.2. Temperature sensors shall be IP65.

4.3. Temperature sensors shall be driven by a 24V DC signal.

4.4. Temperature sensors shall provide a 0-5V DC output signal corresponding to water temperature.

5. PRESSURE SENSOR

5.1. Pressure sensors shall consist of 304 stainless steel.

5.2. Pressure sensors shall IP65.

5.3. Pressure sensors shall be driven by a 24V DC signal.

5.4. Pressure sensors shall provide a 4-20mA output signal corresponding to water pressure.

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