



## Specification

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### DMC80 Flex Zone PHE THE BRAIN® DIGITAL RECIRCULATION VALVE

**Category: The Brain®**  
**Type: Digital Recirculation Valve**  
**Model: DMC80 Flex Zone PHE**

#### 1.0 Digital Mixing Center Flex (DMC FLEX)

- 1.1 Digital Recirculation Valve (DRV80) shall be supplied pre-piped and pressure tested as a lead-free Digital Mixing Center complete with hot water inlet, cold water inlet, mixed water outlet, recirculation return inlet, and independent continuous recirculation reheat generated by a plate heat exchanger.
- 1.2 DMC80 FLEX shall comprise of a DRV80, isolation valves, strainers, and check valves assembled on Type L copper securely mounted on unistruts with industrial grade enamel paint.
- 1.3 Plate heat exchanger shall be brazed double wall 316L stainless steel.

#### 2.0 Digital Recirculation Valve (DRV80)

- 2.1 DRV shall have four thermistors integral of the mixing valve body that measure the cold water inlet, hot water inlet, mixed water outlet, and over-temp safety temperatures.
- 2.2 DRV mixing valve body shall be of 316L stainless steel, mixing valve proportioner of 316L stainless steel, and a NEMA 3S electronics enclosure.
- 2.3 DMC80 FLEX shall have 3" inlets and outlet connections rated to deliver 94 gpm @ 5 psid.
- 2.4 DMC80 FLEX shall be capable of +/- 2°F control during high, low or extended periods of zero system demand with a continuous recirculation of >10 gpm. Temperature control shall be achieved without aquastat-like control of the recirculation pump.

- 2.5 DRV setpoint shall be configured by the factory to customer specification. DRV shall also be field adjustable.

**3.0 DMC80 FLEX shall have the following operational specifications:**

- 3.1 +/- 2°F water temperature control
- 3.2 1°F minimum return differential
- 3.3 Minimum continuous recirculation of 10 gpm per DRV
- 3.4 Automatic shutoff of hot water flow upon cold water inlet supply failure
- 3.5 Automatic shutoff of hot water flow in the event of a power failure
- 3.6 Programmable set point range of 81-158°F (27-70°C)
- 3.7 Programmable thermal disinfection mode
- 3.8 Programmable 1st level hi/lo temp alert display
- 3.9 Programmable temperature error level for safety shutdown
- 3.10 Standard (custom options are available upon request) zone reheat system parameters based on typical system setpoint temperatures of either 126°F, 129°F or 134°F (52°C, 54°C or 56°C) with a zone recirculation temperature loss of 2°F, 5°F or 10°F (1°C, 2.8°C or 5.6°C) respectively

**4.0 DRV shall have the following connectivity specifications:**

- 4.1 SPCO relay outputs which are energized during operation
- 4.2 LCD display which indicates: set point, delivered temperature, error codes and alarm conditions
- 4.3 MODBUS 485 port for remote set point adjustment and remote operating temperature visibility
- 4.4 RS485 Serial Port for connection to a performance matched hot water monitoring system

**5.0 DRV shall be certified to ASSE 1017, UL listed, and conform to CSA B125.**

## 6.0 Warranty

- 6.1 DRV shall have a 5-year all components warranty, with exception of batteries and O-rings.
- 6.2 Pre-piped DMC components shall have a 2-year warranty from date of installation, but not longer than 27 months from date of shipment.