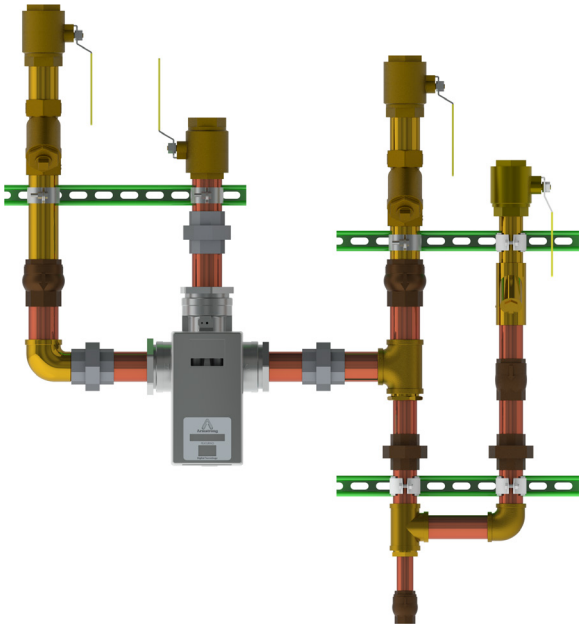
Water Temperature Control - Recirculation Systems

Digital

The Brain® Model DMC50 Flex

DMC50 Flex is a fully Digital Mixing Center (DMC) specifically designed to be the primary water temperature controller in a domestic hot water system with continuous recirculation.

Digital technology provides precise water temperature control and resolves “temperature creep” common with other technologies during periods of no demand. The Brain operates independently without the support of manual throttling valves, temperature activated pump controls, or a series of supplemental components.

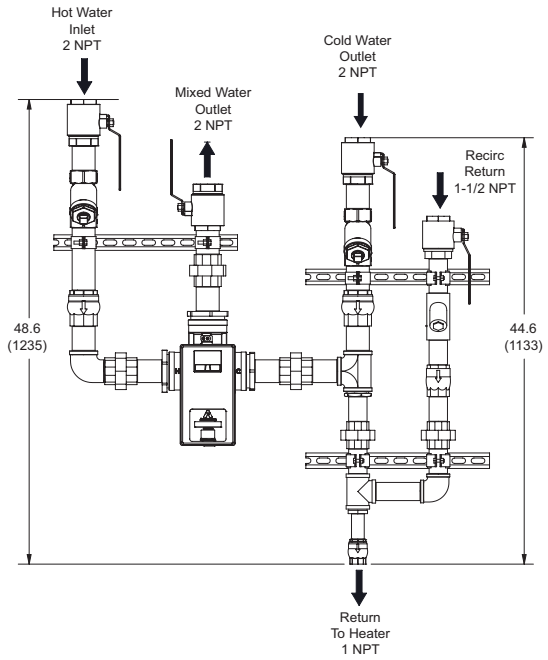


Operational Specifications

- +/-2°F water temperature control at points of use 25’ (7.7 m) downstream during demand
- +/-2°F water temperature control at the DRV during zero system demand “idling” periods
- 2°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 81-158°F (27-70°C)
- Programmable thermal disinfection mode
- Programmable 1st level hi/lo temp alarm display
- Programmable temperature error level for safety shutdown

Technical Specifications

- 100-240 V AC
- Polymer Electronics Enclosure
- Stainless Steel Valve Construction
- Complete Assembly Lead Free Compliant
- Maximum inlet HW supply temperature 185°F (85°C)
- Minimum Recirculation Flow – 10 GPM (38 LPM)
- Minimum System Draw Off - 0
- ASSE 1017, CSA B125 and CE Certified
- Operational water pressure of 10-150 psig (.7-10 bar)
- LCD Display in °C or °F
- SAGE™ enabled



Connectivity

SPCO Relay Outputs – Relay which is energized during operation.

LCD Display – Provides information on set point, delivered temperature, error messages and alert conditions.

RS485 Serial Port – Connects the DRV to either Modbus® RTU or SAGE™. (See DRV40BS for package with SAGE™.)

Modbus® RTU – DRV can be configured to communicate directly with Building Automation Systems (BAS) using Modbus® RTU protocol.

For a submittal drawing, refer to D86393.

Recirculation Systems - Digital (GPM and PSI)							
Model DMC50 Flex	Pressure Drop (PSI)				Minimum System Draw-Off	Maximum Flow @7.5 ft/sec.	C_v
	5	10	15	20			
GPM	94	133	163	188	0	73	42

Recirculation Systems - Digital (LPM and BAR)							
Model DMC50 Flex	Pressure Drop (BAR)				Minimum System Draw-Off	Maximum Flow @7.5 ft/sec.	C_v
	0.3	0.7	1.0	1.4			
LPM	355.8	503.5	617.0	711.7	0	276	42

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