Water Temperature Control - Recirculation Systems

Digital

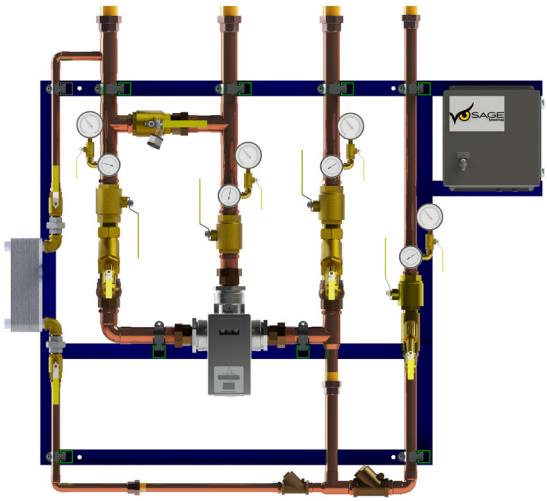
The Brain® Model DMC50BS Zone PHE

DMC50BS Zone PHE is a fully Digital Mixing Center (DMC) specifically designed to be the primary water temperature controller in a domestic hot water zone with independent continuous recirculation reheat generated by a plate heat exchanger (PHE).

Digital technology provides enhanced water temperature control accuracy which resists zero system demand “Temperature Creep” without the use of a manual throttling valve or a temperature activated pump shut-off device (aquastat).

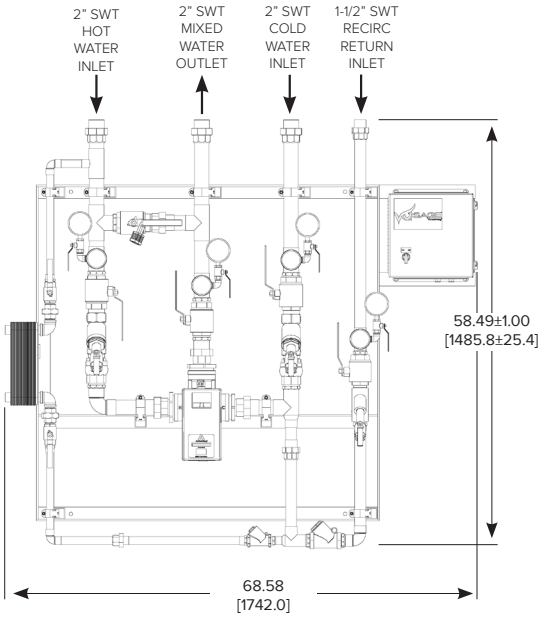
SAGE® (BS) available with specific ProtoCessor cards for BAS connectivity to systems which operate on Modbus TCP, BACnet™, or LonWorks™ protocols.

Mobile connectivity features smart hot water system dashboard monitoring, secure remote programming, multi-location view, temperature and system diagnostic alerts, with unlimited digital documentation and automated report generation. Mobile connectivity may be enabled by a customer activated subscription.



Operational Specifications (DRV50)

- +/-2°F DRV water temperature control at peak, moderate or zero fixture demand on hot water system designed for continuous recirculation
- 1°F minimum recirculating water temperature differential
- LCD display which indicates: set point, delivered temperature, error codes and alarm conditions capable of BAS and mobile connectivity
- Programmable set point range of 81-158°F (27-70°C) capable of BAS or mobile monitoring and adjustment
- Programmable thermal disinfection range of 158-185°F (70-85°C)
- Programmable 1st level hi/lo temp alarm display capable of BAS or mobile alerting
- Automatic safe closure of hot water inlet in response to: inlet supply failure, 110V power failure, or programmable high temperature error
- Automatic safe closure of hot water inlet powered by a replaceable lithium battery monitored for low-level alerting



Technical Specifications (DRV50)

- 100-240V AC
- Polymer Electronics Enclosure
- Stainless Steel Valve Construction
- Lead Free compliant
- Maximum inlet HW supply temperature 185°F (85°C)
- Minimum Continuous Recirculation - 10 GPM (38 LPM)
- Minimum System Draw Off - 0 GPM
- Conforms to ASSE 1017, CSA B125.3-11, UL E357437, and CE
- Operational water pressure of 10-150 psig (.7-10 barg)
- Display in °C or °F
- SAGE® (BS) for BAS or Mobile Connectivity
- Shipping weight 535 lbs (242.6 kg)
- Stainless steel brazed plate double wall PHE (Custom PHE options available)
  - 2 Standard Configurations Available; Customs Available upon Request
  - Standard #1 = PHE-410-38 (see Specification & Submittal Drawing-D131540 for System Parameters)
  - Standard #2 = PHE-415-32 (see Specification & Submittal Drawing-D131663 for System Parameters)

Recirculation Systems - Digital (GPM and PSIG)

Model DMC50BS	Pressure Drop (PSIG)				Minimum System Draw-Off	C_v
	5	10	15	20		
GPM	94	133	163	188	0	42

Recirculation Systems - Digital (LPM and BARG)

Model DMC50BS	Pressure Drop (BARG)				Minimum System Draw-Off	C_v
	0.3	0.7	1.0	1.4		
LPM	355.8	503.5	617.0	711.7	0	42

Designs, materials, weights and performance ratings are approximate and subject to change without notice. Visit **armstrong**international.com for up-to-date information.