



PARTNERSHIP PROFILE

INDUSTRY: HOSPITALITY



CUSTOMER: Marriott International, Inc.

LOCATION: Washington, D.C.



SCOPE OF AGREEMENT:

Marriott International has selected The Brain® Digital Re-Circulating Valve from Armstrong International, as its corporate standard domestic hot water temperature control device for all Marriott branded hotels. The Brain® is designed specifically to be the primary water temperature controller in a continuously pumped recirculating hot water system. The Brain® will control within a $\pm 2^{\circ}\text{F}$ (1°C) accuracy and provide flow capacities from 0-188 gpm (0-712 lpm). The Marriott Design Standard pertains to New Construction and Engineered Renovation projects for all Marriott brands.

MARRIOTT DESIGN STANDARD:

Digital Re-Circulating Valve (DRV): Provide DRVs for the following hot water system applications; systems with a maximum simultaneous demand (MSD) less than or equal to 3.8 l/sec (60 gpm), provide one DRV40R-BS-DS, systems up to 7.2 l/sec (115 gpm), provide either two DRV40R-BS-DS in parallel or one DRV80R-BS-DS, systems up to 11 l/sec (175 gpm), provide one DRV40R-BS-DS and one DRV80R-BS-DS in parallel, and systems up to 14.5 l/sec (230 gpm), provide two DRV80R-BS-DS in parallel.

The Marriott Design Standard does not specify an otherwise approved equal and will not accept substitution within this product category.

Installation: Install valve in compliance with manufacturer's published instructions at www.armstronginternational.com/marriott.

Designer and installer may also consider a fully pre-piped "Digital Mixing Center" (DMC40-BS-DS, DMC40-40-BS-DS, DMC80-BS-DS, DMC80-80-BS-DS).

Please contact the following individuals if you have questions:

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Armstrong International

INTELLIGENT SOLUTIONS IN STEAM, AIR AND HOT WATER

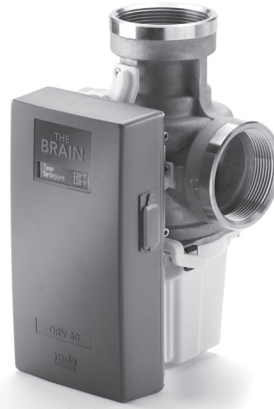
North America • Latin America • India • Europe / Middle East / Africa • China • Pacific Rim

armstronginternational.com

THE BRAIN®:



DRV40



DRV80

- +/- 2°F (+/- 1°C) water temperature control at points of use 25' downstream during demand
- +/- 2°F (+/- 1°C) water temperature control at the DRV during zero system demand "idling" periods
- 2°F (-16°C) minimum valve inlet to outlet temperature requirement (system recirculation temperature loss)
- 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
- ASSE

For Drawings, Piping Schematics, and Revit Compatible Files, please visit:
armstronginternational.com/marriott

Recirculation Systems - Digital (gpm)					
Model	Pressure Drop (psi)		Minimum System Draw-Off	Maximum Flow @7.5 ft/sec. (2.28 m/sec.)	C _v
	5	10			
DRV40/R-BS-DS	48	70	0	41	22
DMC40-BS-DS	48	70	0	41	22
DMC40-40-BS-DS	96	140	0	115	44
DRV50/R-BS-DS	94	133	0	73	42
DMC50-BS-DS	94	133	0	73	42
DRV80/R-BS-DS	94	133	0	165	42
DMC80-BS-DS	94	133	0	165	42
DMC80-80-BS-DS	188	266	0	294	84
DMC80-80-80-BS-DS	282	399	0	459	126



December 22, 2015

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Ryan,

Marriott International has selected The Brain® Digital Re-Circulating Valve from Armstrong International, as its corporate standard domestic hot water temperature control device for all brands of Marriott Hotels. We have selected the Brain® since it is a fully digital recirculation valve (DRV) designed specifically to be the primary water temperature controller in a continuously pumped recirculating hot water system.

The sizing criteria, as stated in Module 15B in the January 2015 Marriott Design Standards for all brands requires Digital Re-Circulating Valve (DRV); Provide DRVs for the following hot water system applications; systems with a maximum simultaneous demand (MSD) less than or equal to 3.8l/sec (60 gpm), provide one DRV40R-BS-DS, systems up to 7.2 l/sec (115 gpm), provide either two DRV40R-BS-DS in parallel or one DRV80R-BS-DS, systems up to 11 l/sec (175 gpm), provide one DRV40R-BS-DS and one DRV80R-BS-DS in parallel, and systems up to 14.5 l/sec (230 gpm), provide two DRV80R-BS-DS in parallel. Designer and installer may also consider a fully pre-piped "Digital Mixing Center" (DMC).

The Marriott Design Standard does not specify an otherwise approved equal and will not accept substitution within this product category.

Please feel free to advise all parties involved in hot water system design and installation for all Marriott projects that, Module 15B of the 2015 Marriott Design Standard, is now in effect and should be strictly adhered to.

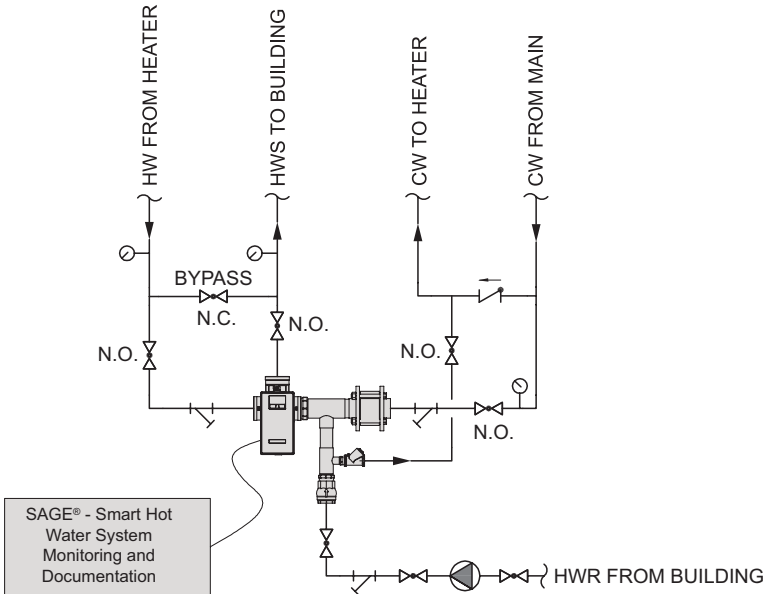
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Sincerely,

Terry C. Smith
VP of Engineering & Technical Services

Plan A - One Valve Installation Schematic



Plan B - Two Valve Installation Schematic

