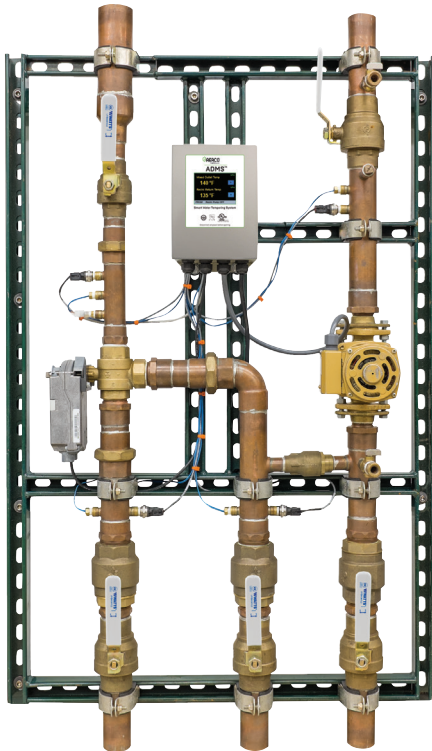


Technical Data Sheet

# ADMS™ Smart Water Tempering System



The AERCO Digital Mixing Station (ADMS™) is a smart water tempering system that allows temperature controlled distribution of potable hot water throughout the loop. The lead-free<sup>1</sup> ADMS™ regulates distribution temperature within  $\pm 2^{\circ}\text{F}$  in accordance to ASSE 1017 at all flow conditions (including low and zero demand periods) and its temperature setting is field configured without the use of special software and laptop. The building automation system (BAS) ready ADMS™ can be configured with strainers, building recirculation pump and Flow/BTU monitor package to allow facilities managers to remotely monitor and control distribution water temperatures along with monitoring of flow and energy consumption. Unlike the traditional thermostatic mixing valves, it is capable of functioning under varying pressure differentials across the inlets.

## Features

- Configurable on site without special software and laptop
- Tight temperature control of  $\pm 2^{\circ}\text{F}$  in accordance with ASSE 1017
- Control  $\pm 2^{\circ}\text{F}$  during periods of low/zero demand
- 3.5" full-color, user-selectable touch screen display
- User programmable high-temperature sanitization mode
- Cold water failsafe with manual override feature to set mixed outlet temperature
- Settings can be adjusted/monitored at the controller or remotely via BACNET or Modbus interface
- Displays pressure, temperature and flow/BTU data
- Pass code protected for security
- User programmable high temperature alarm



## Notes

<sup>1</sup>The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight.

<sup>2</sup> With equal pressure

<sup>3</sup> Minimum flow when ADMS is installed at or near hot water source recirculating tempered water with a properly sized continuously operating recirculating pump.

<sup>4</sup> Low limit cannot be less than the cold water temperature. For best operation, hot water should be at least  $2^{\circ}\text{F}$  above desired set point.

<sup>5</sup> Listed without pump

## Technical Specification

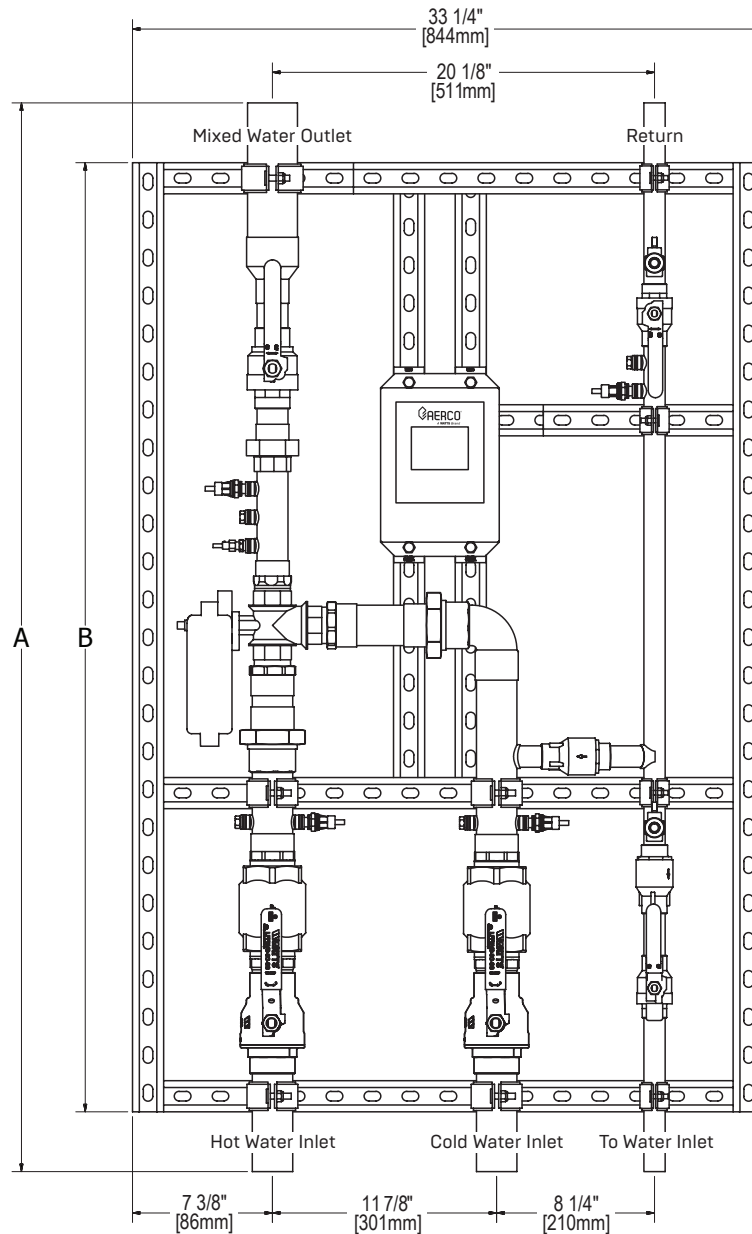
Maximum Operating Pressure . . . . .	200psi (1379kPa)
Maximum Hot Water Temperature . . . . .	200°F (93°C)
Minimum Hot Water Supply Temperature <sup>2</sup> . . . . .	2°F (1°C) above set point
Hot Water Inlet Temperature Range . . . . .	120-180°F (49-82°C)
Cold Water Inlet Range . . . . .	39-80°F (4-27°C)
Minimum Flow <sup>3</sup> . . . . .	0.5gpm (1.89lpm)
Temperature Adjustment Range <sup>4</sup> . . . . .	80-180°F (27-82°C)
Listing /Compliance . . . . .	ASSE 1017 <sup>5</sup> , cUPC <sup>5</sup> , NSF <sup>5</sup> , CSA 24/UL873
Pump relay . . . . .	16A @ 250 VAC
Alert relay . . . . .	5A @ 250 VAC, 5A @ 30 VDC
Input Power . . . . .	115/230V (ac) $\pm 10\%$ 50/60HZ, 30VA, 1180VA fully loaded

## Flow Capacity

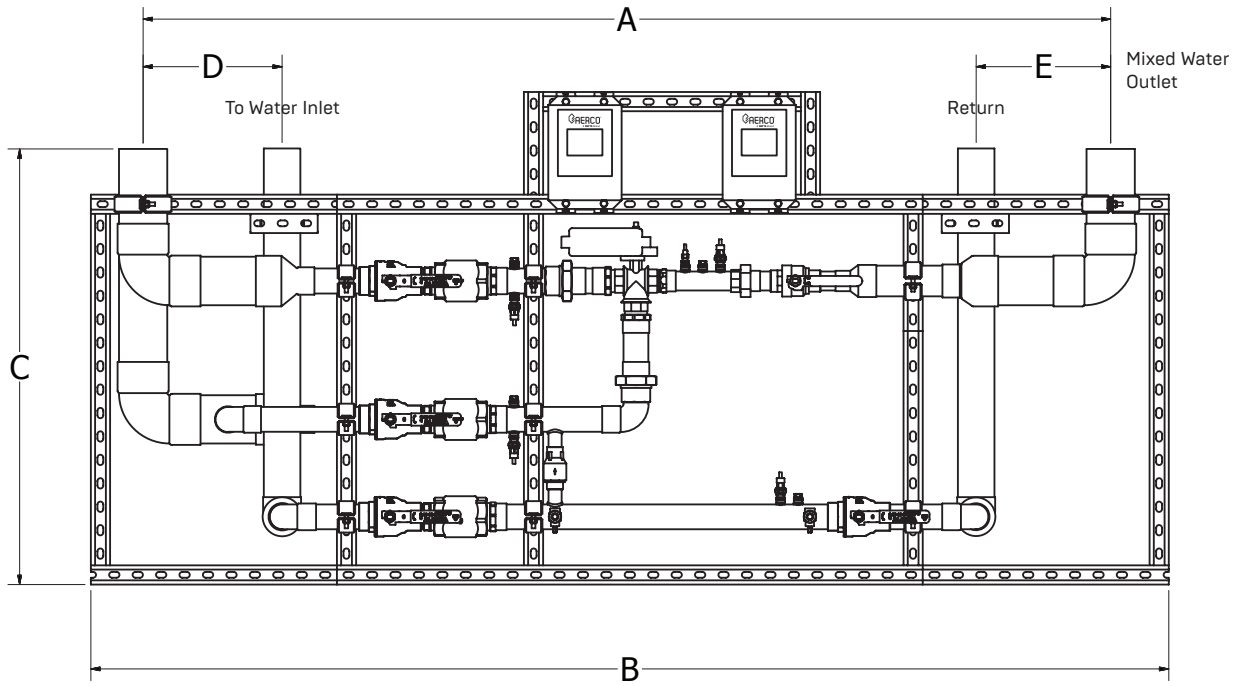
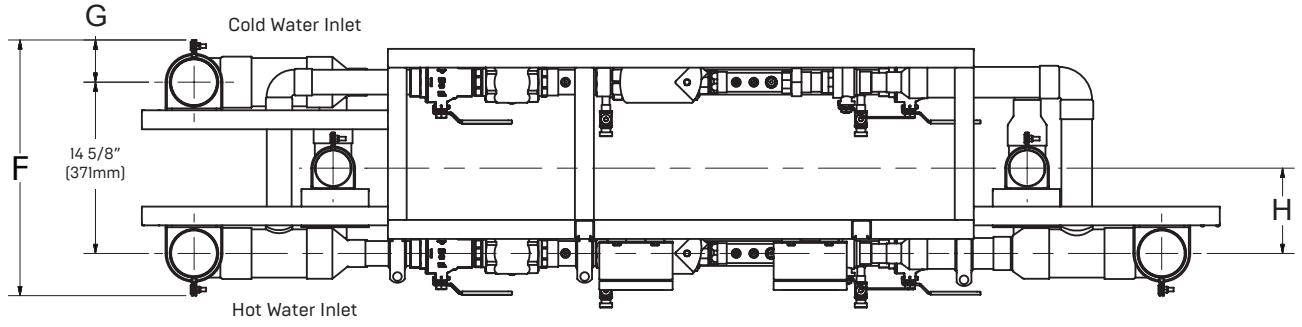
Model	Min System Draw	C <sub>v</sub>	Pressure Drop Across Valve			
			5 psi [34 kPa]	10 psi [69 kPa]	20 psi [138 kPa]	30 psi [207 kPa]
ADMS150-S	0.5 gpm [1.9 lpm]	26.88	60 gpm [227 lpm]	85 gpm [322 lpm]	120 gpm [454 lpm]	147 gpm [556 lpm]
ADMS200-S	0.5 gpm [1.9 lpm]	42.70	96 gpm [363 lpm]	135 gpm [511 lpm]	191 gpm [723 lpm]	234 gpm [886 lpm]
ADMS150-D	0.5 gpm [1.9 lpm]	53.57	120 gpm [454 lpm]	170 gpm [644 lpm]	240 gpm [908 lpm]	294 gpm [1113 lpm]
ADMS200-D	0.5 gpm [1.9 lpm]	85.27	192 gpm [727 lpm]	270 gpm [1022 lpm]	382 gpm [1446 lpm]	468 gpm [1772 lpm]
ADMS200-T	0.5 gpm [1.9 lpm]	127.90	288 gpm [1090 lpm]	405 gpm [1533 lpm]	573 gpm [2169 lpm]	702 gpm [2657 lpm]

## Dimensions

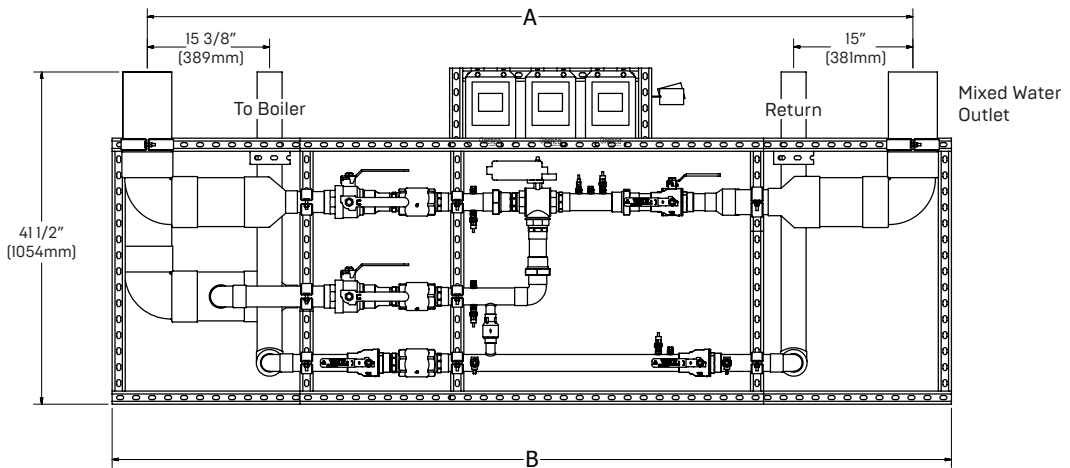
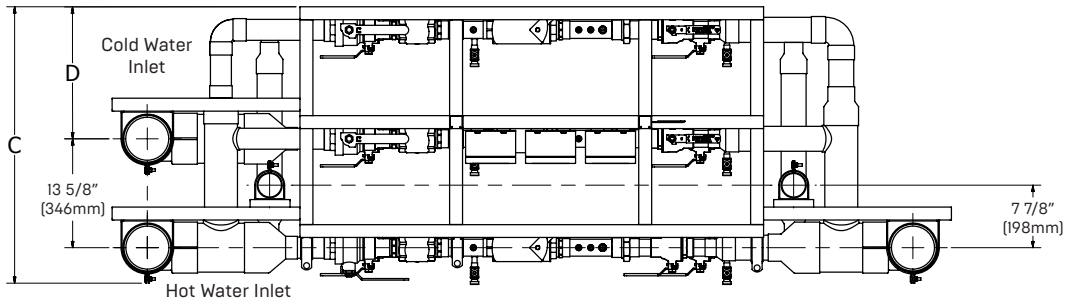
### Single Valve



Dual Valve



Triple Valve



## Single Valve\*

Model	Inlets	Outlet	Return	A	B
ADMSI50-SI-0	2" (51 mm)	2.5" (64 mm)	1" (25 mm)	56.375" (1432 mm)	50" (1270 mm)
ADMSI50-SI-1	2" (51 mm)	2.5" (64 mm)	1" (25 mm)	78.25" (1988 mm)	72" (1829 mm)
ADMSI50-S2-0	2" (51 mm)	2.5" (64 mm)	2" (51 mm)	56.375" (1432 mm)	50" (1270 mm)
ADMSI50-S2-1	2" (51 mm)	2.5" (64 mm)	2" (51 mm)	78.25" (1988 mm)	72" (1829 mm)
ADMS200-SI-0	2.5" (64 mm)	3" (76 mm)	1" (25 mm)	63.625" (1616 mm)	57" (1448 mm)
ADMS200-SI-1	2.5" (64 mm)	3" (76 mm)	1" (25 mm)	80.75" (2051 mm)	74" (1880 mm)
ADMS200-S2-0	2.5" (64 mm)	3" (76 mm)	2" (51 mm)	63.625" (1616 mm)	57" (1448 mm)
ADMS200-S2-1	2.5" (64 mm)	3" (76 mm)	2" (51 mm)	80.75" (2051 mm)	74" (1880 mm)

\*Strainers shipped loose and are field installed

## Dual Valve

Model	Inlets	Outlet	Return	A	B	C	D	E	F	G	H
ADMSI50-D3-00	4" (102 mm)	4" (102 mm)	3" (76 mm)	82.625" (2099 mm)	92" (2337 mm)	37.125" (943 mm)	11.875" (302 mm)	11.5" (292 mm)	21.875" (556 mm)	3.625" (92 mm)	7.25" (184 mm)
ADMSI50-D3-01	4" (102 mm)	4" (102 mm)	3" (76 mm)	90.625" (2302 mm)	100" (2540 mm)	37.125" (943 mm)	11.875" (302 mm)	11.5" (292 mm)	21.875" (556 mm)	3.625" (92 mm)	7.25" (184 mm)
ADMSI50-D3-10	4" (102 mm)	4" (102 mm)	3" (76 mm)	104.375" (2651 mm)	113.75" (2889 mm)	37.125" (943 mm)	11.875" (302 mm)	11.5" (292 mm)	21.875" (556 mm)	3.625" (92 mm)	7.25" (184 mm)
ADMSI50-D3-11	4" (102 mm)	4" (102 mm)	3" (76 mm)	112.375" (2854 mm)	121.75" (3092 mm)	37.125" (943 mm)	11.875" (302 mm)	11.5" (292 mm)	21.875" (556 mm)	3.625" (92 mm)	7.25" (184 mm)
ADMS200-D3-00	6" (152 mm)	6" (152 mm)	3" (76 mm)	91.75" (2330 mm)	100" (2540 mm)	41.75" (1060 mm)	13" (330 mm)	13.5" (343 mm)	23.5" (597 mm)	4.5" (114 mm)	7.375" (187 mm)
ADMS200-D3-01	6" (152 mm)	6" (152 mm)	3" (76 mm)	103" (2616 mm)	111.25" (2826 mm)	41.75" (1060 mm)	13" (330 mm)	13.5" (343 mm)	23.5" (597 mm)	4.5" (114 mm)	7.375" (187 mm)
ADMS200-D3-10	6" (152 mm)	6" (152 mm)	3" (76 mm)	107.75" (2737 mm)	116" (2946 mm)	41.75" (1060 mm)	13" (330 mm)	13.5" (343 mm)	23.5" (597 mm)	4.5" (114 mm)	7.375" (187 mm)
ADMS200-D3-11	6" (152 mm)	6" (152 mm)	3" (76 mm)	121.375" (3083 mm)	130" (3302 mm)	41.75" (1060 mm)	13" (330 mm)	13.5" (343 mm)	23.5" (597 mm)	4.5" (114 mm)	7.375" (187 mm)

## Triple Valve

Model	Inlets	Outlet	Return	A	B	C	D
ADMS200-T3-00	6" (152 mm)	6" (152 mm)	3" (76 mm)	95.75" (2432 mm)	105" (2667 mm)	36.25" (921 mm)	18.125" (460 mm)
ADMS200-T3-01	6" (152 mm)	6" (152 mm)	3" (76 mm)	107" (2718 mm)	116.25" (2953 mm)	36.25" (921 mm)	18.125" (460 mm)
ADMS200-T3-10	6" (152 mm)	6" (152 mm)	3" (76 mm)	111.75" (2838 mm)	121" (3073 mm)	36.25" (921 mm)	18.125" (460 mm)
ADMS200-T3-11	6" (152 mm)	6" (152 mm)	3" (76 mm)	123.75" (3143 mm)	133" (3378 mm)	36.25" (921 mm)	18.125" (460 mm)

# Ordering Information



**Valve Size**  
 150: 1.50" Valve  
 200: 2.00" Valve

**Valve Quantity**  
 S: Single Valve  
 D: Double Valve  
 T: Triple Valve

**Return Pipe Size\***  
 1: 1" Return  
 2: 2" Return  
 3: 3" Return

**Flow/BTU Package**  
 0: None  
 1: Flow/BTU Package\*\*

**Strainers**  
 0: None  
 1: Strainers

**Recirc Pump**  
 0: No Pump  
 1: Factory supplied  
 and installed pump

If the pump option is selected, the following information must be provided on an order.  
 If customization requires a mounted pump, please note that any pump that exceeds 35 lbs will be shipped loose and must be installed onsite where its weight can be supported.

Pump manufacturer: \_\_\_\_\_

Manufacturer model and p/n: \_\_\_\_\_

System head loss: \_\_\_\_\_

Required flow to maintain recirculation temperature: \_\_\_\_\_

\*1" Return or 2" return are available options for single valve configurations

\*\*Default flow meter diameters are 1.46" for ADMS150 valves and 1.67" for ADMS200 valves for the mixed outlet, and 0.75" for ADMS150 valves and 1.142" for ADMS200 valves for the return. If the non-default-size flow meter is required, consult representative.

Consult representative for additional custom options.

## Typical Specification

Lead free digital water temperature control and monitoring system shall feature full-color touchscreen interface which is configurable on location and does not require factory pre-programming. System shall control water temperature to  $\pm 2^{\circ}\text{F}$  in accordance with ASSE 1017 and during periods of low/zero demand and feature a user-programmable high temperature alarm. Unit shall feature Feed Forward or Predictive Control which anticipates changes in system demand and adjusts valve pre-emptively to maintain mixed set point. Controller shall be password protected and feature a user-adjustable outlet temperature range of 80 - 180°F and an approach temperature of 2°F.

System shall digitally monitor inlet pressure and temperature, mixed outlet temperature, mixed outlet set point, pressure and flow/BTUs (optional), as well as return temperature without the use of an external module. System shall control an engineer specified recirculation pump based on user-set return temperature limits. Controller shall integrate with building automation systems through Bacnet and Modbus protocols and feature local and remote temperature alarms. System will also feature a user-set and controlled, high-temperature sanitization mode for use as part of user's safe and properly designed thermal bacteria eradication protocol. In the event of a power failure or loss of cold water, system will close the hot water supply. System shall be listed/approved to ASSE 1017, cUPC, NSF and CSA 24/UL873 and should be mounted on a heavy-duty welded strut with corrosion resistance coating and factory tested as a complete unit.

System shall be a ADMSXXX-XX-XXX.

## Warning

ADMS™ provides user-directed control and monitoring of water distribution systems. It is the user's responsibility to select and maintain water temperatures that are safe and appropriate for the water system users and facility. ADMS's Sanitization mode is intended for use as part of a user-directed, controlled and supervised protocol that has been safely and properly designed.

It is recommended to install ADMS™ as part of a ASSE compliant water distribution system, including point-of-use mixings valves. Installation and adjustment of the ADMS™ are the responsibility of the owner and installer and must be done by qualified personnel in accordance with the manufacturer's instructions, and complying with all governmental requirements, building and construction codes and standards.

The owner and user of the ADMS™ is responsible for selecting and installing the product in an appropriate water distribution system, proper sizing, maintaining proper water quality/condition, and deciding what temperature is safe and appropriate for the water distribution users and facility.

Always read and follow User Guide & Instruction Manual and all product warnings and labels, and comply with all governmental and safety requirements.



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