



Product Specification

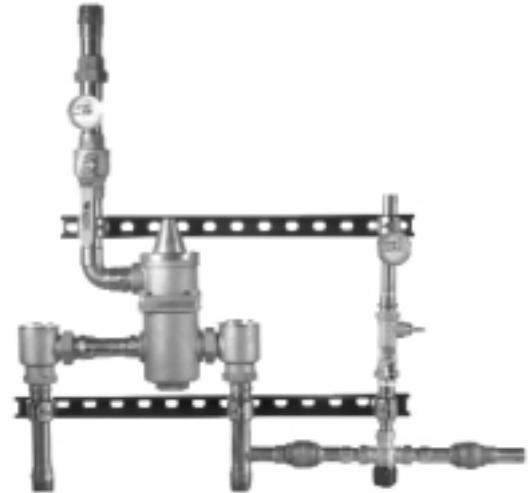
HydroGuard® Water Tempering with Automatic Balancing System

Description ■

The new HydroGuard water tempering and re-circulation system is an economical way to provide a safe, balanced system for stand-alone master tempering valves. The system monitors return line temperature, and automatically directs water to the cold side of the valve (if within set point) or to the hot water source (if too cool). This is accomplished with Powers exclusive automatic balancing valve (ABV), featuring paraffin-based, advanced actuation technology.

Each HydroGuard system is mounted on heavy-duty welded struts, comes fully assembled and factory tested, includes temperature/pressure gauges for system diagnostics and a return-line flow meter to insure minimum flow requirements are met.

ABV Loop assemblies can also be purchased without the master-tempering valve for existing installations where consistent water temperature is a problem.



Valves Only

Advanced Thermal Activation

Specifications ■

Maximum Pressure Differential	100 psi (689 kPa)
Maximum Static Pressure.....	125 psig (861 kPa)
Maximum Hot Water Temperature	200°F (93°C)
Minimum Flow*	0.5 gpm (1.89 lpm)

Minimum Flow at which valve will control to ASSE 1017 requirements.

431	4.0 gpm (15 lpm)
432	7.0 gpm (26 lpm)
433	10.0 gpm (38 lpm)
434	15.0 gpm (57 lpm)
1432	1.5 gpm (6 lpm)
1434	5.0 gpm (19 lpm)
Approach Temperature.....	15°F (8°C)
Temperature Adjustment Range	40° - 160°F (4° - 71°C)

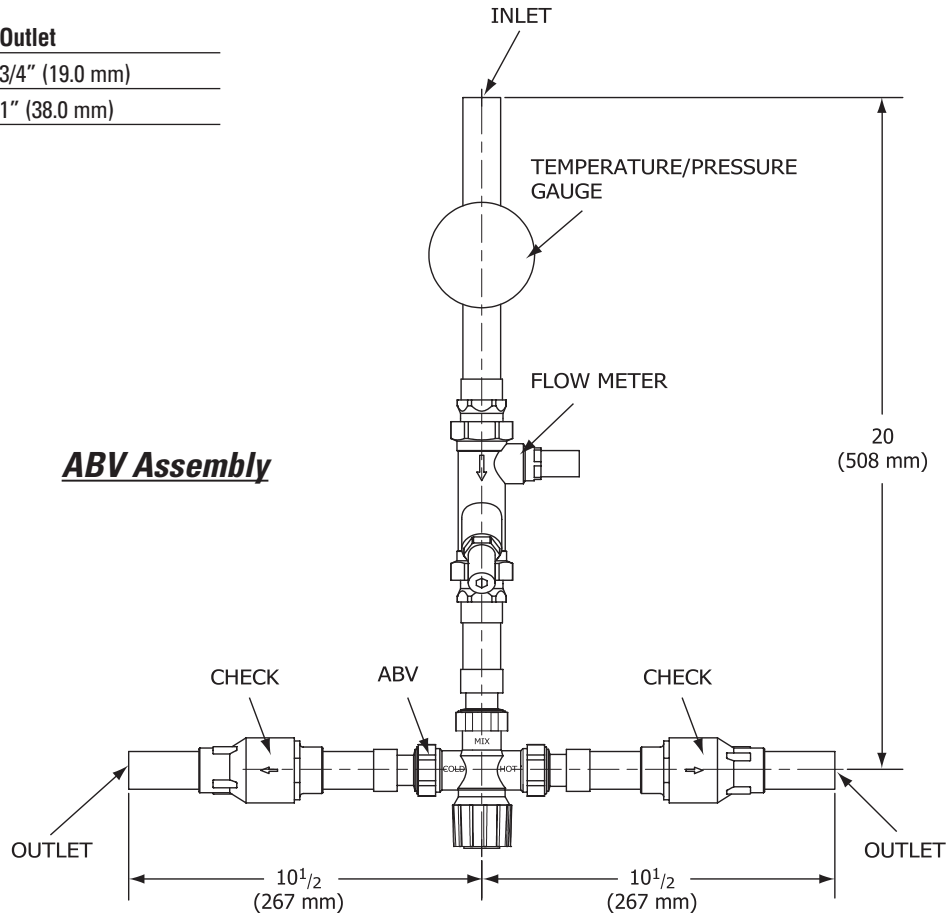
* Minimum flow when the valves are installed at or near hot water source with a properly sized continuously operating re-circulating pump.

Flow Capacity When Tested To ASSE 1017 Standard ■

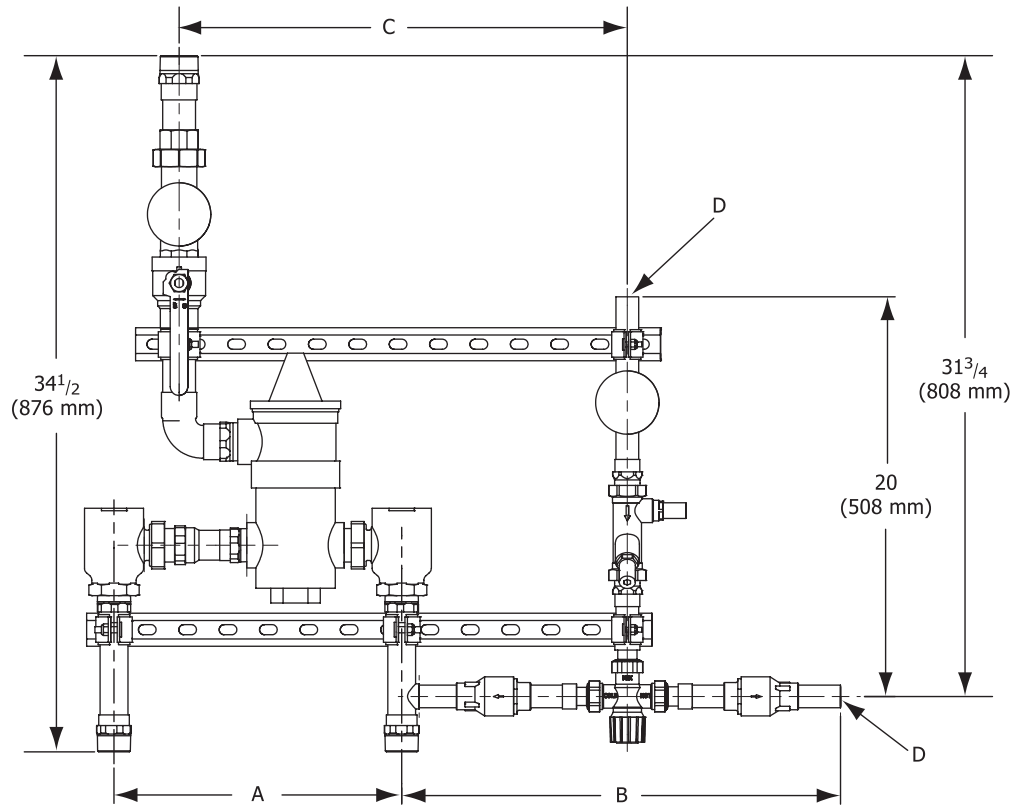
Valve Model	CV 1 psi (7 kPa)	Min. Flow to ASSE 1017	Pressure Differential						
			5 psi (34 kpa)	10 psi (69 kpa)	15 psi (103 kpa)	20 psi (138 kpa)	30 psi (207 kpa)	45 psi (310 kpa)	60 psi (414 kpa)
431	3.73	4.0 gpm (15.0 lpm)	8.3 gpm (31.0 lpm)	11.8 gpm (45.0 lpm)	14.4 gpm (55.0 lpm)	16.7 gpm (63.0 lpm)	20.4 gpm (77.0 lpm)	25.0 gpm (95.0 lpm)	28.9 gpm (109.0 lpm)
432	6.71	7.0 gpm (26.0 lpm)	15.0 gpm (57.0 lpm)	21.2 gpm (80.0 lpm)	26.0 gpm (98.0 lpm)	30.0 gpm (113.0 lpm)	36.8 gpm (139.0 lpm)	45.0 gpm (170.0 lpm)	52.0 gpm (197.0 lpm)
433	11.93	10.0 gpm (38.0 lpm)	26.7 gpm (101.0 lpm)	37.7 gpm (143.0 lpm)	46.2 gpm (175.0 lpm)	53.4 gpm (202.0 lpm)	65.3 gpm (247.0 lpm)	80.0 gpm (303.0 lpm)	92.4 gpm (350.0 lpm)
434	18.63	15.0 gpm (57.0 lpm)	41.7 gpm (158.0 lpm)	58.9 gpm (223.0 lpm)	72.2 gpm (273.0 lpm)	83.3 gpm (315.0 lpm)	102.0 gpm (386.0 lpm)	125.0 gpm (473.0 lpm)	144.3 gpm (546.0 lpm)
1432	5.96	1.5 gpm (6.0 lpm)	13.3 gpm (50.0 lpm)	18.8 gpm (71.0 lpm)	23.1 gpm (87.0 lpm)	26.7 gpm (101.0 lpm)	32.6 gpm (123.0 lpm)	40.0 gpm (151.0 lpm)	46.2 gpm (175.0 lpm)
1434	14.91	5.0 gpm (19.0 lpm)	33.3 gpm (126.0 lpm)	47.2 gpm (179.0 lpm)	57.8 gpm (219.0 lpm)	66.7 gpm (252.0 lpm)	81.7 gpm (309.0 lpm)	100.0 gpm (379.0 lpm)	115.5 gpm (437.0 lpm)

Dimensions ■

Model	Inlet	Outlet
RLOOP34	3/4" (19.0 mm)	3/4" (19.0 mm)
RLOOP10	1" (38.0 mm)	1" (38.0 mm)



Dimensions



Dimension						
Model	Inlets	Outlets	A	B	C	D
S431AEMS0-L34	3/4" (19.0 mm)	3/4" (19.0 mm)	9-3/16" (233.0 mm)	21-1/4" (540.0 mm)	28-11/16" (729.0 mm)	3/4" (19.0 mm)
S432AEMS0-L34	3/4" (19.0 mm)	1" (25.0 mm)	9-3/16" (233.0 mm)	21-1/4" (540.0 mm)	29-7/16" (748.0 mm)	3/4" (19.0 mm)
S433AEMS0-L34	1-1/4" (32.0 mm)	1-1/4" (32.0 mm)	14-1/4" (362.0 mm)	21-1/2" (546.0 mm)	31-5/8" (803.0 mm)	3/4" (19.0 mm)
S434AEMS0-L34	1-1/4" (32.0 mm)	1-1/2" (38.0 mm)	14-1/4" (362.0 mm)	21-1/2" (546.0 mm)	32-9/16" (827.0 mm)	3/4" (19.0 mm)
S431AEMS0-L10	3/4" (19.0 mm)	3/4" (19.0 mm)	9-3/16" (233.0 mm)	21-1/4" (540.0 mm)	28-11/16" (729.0 mm)	1" (25.0 mm)
S432AEMS0-L10	3/4" (19.0 mm)	1" (25.0 mm)	9-3/16" (233.0 mm)	21-1/4" (540.0 mm)	29-7/16" (748.0 mm)	1" (25.0 mm)
S433AEMS0-L10	1-1/4" (32.0 mm)	1-1/4" (32.0 mm)	14-1/4" (362.0 mm)	21-1/2" (546.0 mm)	31-5/8" (803.0 mm)	1" (25.0 mm)
S434AEMS0-L10	1-1/4" (32.0 mm)	1-1/2" (38.0 mm)	14-1/4" (362.0 mm)	21-1/2" (546.0 mm)	32-9/16" (827.0 mm)	1" (25.0 mm)
S1432AEMS0-L34	3/4" (19.0 mm)	1" (25.0 mm)	9-3/16" (233.0 mm)	21-1/4" (540.0 mm)	29-7/16" (748.0 mm)	3/4" (19.0 mm)
S1432AEMS0-L10	1-1/4" (32.0 mm)	1-1/2" (38.0 mm)	9-3/16" (233.0 mm)	21-1/4" (540.0 mm)	29-7/16" (748.0 mm)	1" (25.0 mm)
S1434AEMS0-L34	3/4" (19.0 mm)	1" (25.0 mm)	14-1/4" (362.0 mm)	21-1/2" (546.0 mm)	32-9/16" (827.0 mm)	3/4" (19.0 mm)
S1434AEMS0-L10	1-1/4" (32.0 mm)	1-1/2" (38.0 mm)	14-1/4" (362.0 mm)	21-1/2" (546.0 mm)	32-9/16" (827.0 mm)	1" (25.0 mm)

Dimensions shown are $\pm 1/4"$

Product	Description	
RLOOP34	Automatic Balancing Assembly only with 3/4" return	<input type="checkbox"/>
RLOOP10	Automatic Balancing Assembly only with 1" return	<input type="checkbox"/>
S431AEMS0-L34	Automatic Balancing Assembly with 431 valve and 3/4" return	<input type="checkbox"/>
S432AEMS0-L34	Automatic Balancing Assembly with 432 valve and 3/4" return	<input type="checkbox"/>
S433AEMS0-L34	Automatic Balancing Assembly with 433 valve and 3/4" return	<input type="checkbox"/>
S434AEMS0-L34	Automatic Balancing Assembly with 434 valve and 3/4" return	<input type="checkbox"/>
S431AEMS0-L10	Automatic Balancing Assembly with 431 valve and 1" return	<input type="checkbox"/>
S432AEMS0-L10	Automatic Balancing Assembly with 432 valve and 1" return	<input type="checkbox"/>
S433AEMS0-L10	Automatic Balancing Assembly with 433 valve and 1" return	<input type="checkbox"/>
S434AEMS0-L10	Automatic Balancing Assembly with 434 valve and 1" return	<input type="checkbox"/>
S1432AEMS0-L34	Automatic Balancing Assembly with 1432 valve and 3/4" return	<input type="checkbox"/>
S1434AEMS0-L34	Automatic Balancing Assembly with 1434 valve and 3/4" return	<input type="checkbox"/>
S1432AEMS0-L10	Automatic Balancing Assembly with 1432 valve and 1" return	<input type="checkbox"/>
S1434AEMS0-L10	Automatic Balancing Assembly with 1434 valve and 1" return	<input type="checkbox"/>

Note:
Please contact Powers' Technical Support Department to ensure selection of proper model to meet specific application requirements.

Typical Specifications: Automatic Balancing Valve (ABV) Systems ■

Tempering and automatic balancing system shall feature HydroGuard master tempering and automatic balancing valves with paraffin-actuation technology for near instantaneous response. System shall be mounted on heavy-duty welded struts and ship fully assembled and factory tested.

Master tempering valves shall be constructed of solid brass with triple-duty checkstops (integral filters) and balanced poppet design. Master Tempering Valves shall have temperature adjustment range of 40°F - 160°F (4°C - 71°C) and feature minimum flow control to ASSE 1017. All valves shall feature temperature locking mechanism to deter vandalism or unintended adjustment.

ABV assembly shall feature temperature/pressure gauges for diagnostics, flow meter with volume control and in-line checks to prevent cross-flow. Systems shall be of Powers' S431, S432, S433, S434, S1432 or S1434. Any alternate must have written approval prior to bidding.

ENGINEERING APPROVAL	
Project:	_____
Contractor:	_____
Architect/Engineer:	_____



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