

## COMPARISON OF ASSE STANDARDS APPLICABLE TO SHOWERING AND TEMPERING

	<i>STANDARDS</i>					
<b>FEATURES/TESTS</b>	ASSE 1016	ASSE 1017	ASSE 1062	ASSE 1070	ASSE 1069	ASSE 1071
Application >	Shower Valve	Distribution	High Temp. Shut-off	Hot Water Limiting	Single Temp. Bath	Emergency Valves
<b>Powers Products</b>	P900, P410, e420-T/P, e700-T/P, e480-T/P, LM495-T	MM430, SH1430, LM490	HT115	LM490, E480	e480-T/P, LM495	ES150, ES200, ES400
<b>Control Accuracy</b>	±3.6° F after 5 seconds	< 6 GPM - ±3° F < 41 - ±5° F 41 GPM - ±7° F	5 Sec. Response for shut-off	±7° F – “NOT intended for Thermal Shock”	±3.6° F after 5 seconds	< 7 GPM: +3/-5° F < 20: +5/-8° F < 40: +7/-12° F >40: +7/-15° F
<b>Technology Required</b>	<b>Pressure Balance or Thermostatic</b>	<b>Thermostatic only</b>	<b>Thermostatic only</b>	<b>Thermostatic only</b>	<b>Thermostatic only</b>	<b>Thermostatic only</b>
<b>High Temp Limit</b>	120° F	None	120° F	120°F	120° F	100° F
<b>Spikes allowed in first 5 seconds?</b>	Yes – P < 1 sec T < 1.5 sec.	Not Applicable	Not Applicable	Not Applicable	Limited and < 1 sec.	Yes – 1 minute
<b>HW Temp. Increase</b>	<b>P – None T and T/P - 25° F</b>	<b>+30° F</b>	<b>Not Applicable</b>	<b>+25° F</b>	<b>+25° F</b>	<b>+25° F</b>
<b>Pressure Variation</b>	<b>P - 50%, T - 20% T/P - 50%</b>	<b>None</b>	<b>Not Applicable</b>	<b>20%</b>	<b>20%</b>	<b>None</b>
<b>Bather Control of Temp?</b>	Yes	No	No	Not Likely	No	No
<b>Flow Rate for Temp. Control</b>	<b>2.5 GPM</b>	<b>50% of flow @ 10 psi. diff.</b>	<b>2 to 4 GPM – device dependent</b>	<b>Advertised Min. Flow</b>	<b>Lesser of 2.5 GPM OR Adv. Min. Flow</b>	<b>3 GPM or Adv. Min. Flow</b>
<b>Mandatory Point of Use</b>	Yes	No	Yes	No	No	No
<b>CW Failure Test</b>	.5 GPM max.	No	< .25 GPM max.	.2 GPM max.	.5 GPM max.	.5 to 2 GPM based on capacity
<b>Life Cycle Test</b>	20,000 cycles	No	125,000 cycles	100,000 Cycles	100,000 Cycles	100,000 Cycles
<b>High Temp. Test @ 180° F</b>	Yes	200° F	200° F	Yes	Yes	200° F
<b>Working Press. Test @ 125 psi.</b>	Yes	Yes	No	Yes	Yes	Yes
<b>Flow Capacity Test - &gt; 90% to pass</b>	Yes (min. 2.25)	No	Yes	Yes	Yes	No
<b>Cross Flow Test</b>	No	No	No	Yes	Yes	Yes
<b>Hydro. Press. Test @ 500 psi. 1 min.</b>	Yes	No	250 psi	Yes	Yes	Yes - 5 min.