

Water Tempering Innovation Since 1891

Product Catalog



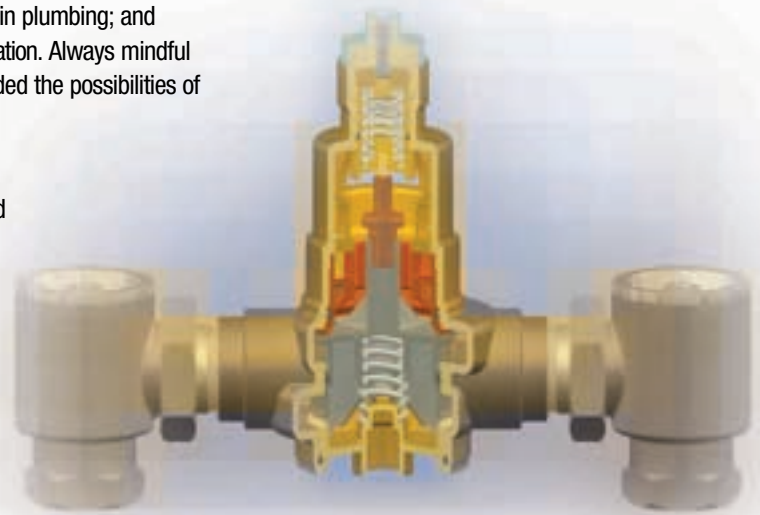
Over a century ago, smarter, better, and safer water tempering ideas began to flow...

During Chicago's World Columbian Exposition in 1893, the first Powers gradual acting, vapor disk thermostat was unveiled, along with such life-changing inventions as long-distance phone lines, the first adding machine, and the first gas-powered motorcar in America.

Founded in 1891 by William Penn Powers, the Powers Regulator Company began its history of innovation and leadership in water temperature control. Twenty years earlier in 1874, Joseph Watts, an inventor and entrepreneur, set up shop in Lawrence, Massachusetts. A skillful machinist and brass finisher, Mr. Watts amassed 18 patents and pioneered the first pressure reducing valves, used to regulate water, steam and air in textile mills. In the decades that followed, Watts became the most recognized and respected name in plumbing; and Powers went on to establish major milestones in water tempering innovation. Always mindful of each other's contribution to the industry, the two companies expanded the possibilities of water management throughout the 20th century.

WATTS® Today, after a combined 250
years of innovation, Watts and
Powers are united as one

company. As the one and only leader in water tempering technology, we have begun our second century together with a renewal of our long-time commitment to you: Smarter, better and safer water tempering ideas are flowing your way.



POWERS, a Tradition of Innovation and Excellence

Yesterday...

1891

Powers Regulator established



1923

First pressure
balancing
shower valve
"Style A"
mixer



1946

"Type H"
thermostatic
shower mixer



2000

Powers introduces
paraffin actuation



490 multi-unit
lavatory mixer



480 first lavatory
mixer to control
to 0.5 gpm



e420 first T/P shower
valve with single
actuation technology



1889

William Penn Powers
invents vapor disc
thermostat



1919

First high-capacity
master mixing
valve "Type C"
mixer



1939

Powers "System A"
supply fixture with recorder



1960

HydroGuard®
420 bath and shower valve



2001

Watts acquires Powers
Single valve Hi-Lo
e430/1430



Powers pioneers paraffin
in large valves, introduces
patented "expandable
restrictor" for low flow
ES Series for
emergency fixtures
with patented
dual internal
by-pass



Table of Contents

■ Introduction and History	
Watts and Powers.... legacies in tempering valve innovation and design with nearly 250 years of combined leadership	1
■ Tempering Technology	
Superior paraffin-based actuation technology provides unprecedented speed and accuracy.	2-3
■ Bath and Shower Standards	
A closer look at ASSE 1016 and valve Types T, P and T/P	4-5
■ Solutions by Application	
A quick reference guide that matches tempering valve applications to Powers products	6-7
■ ASSE Standards	
Side-by-side comparison of ASSE safety standards including ASSE 1016, 1017, 1062, 1069, 1070 and 1071	8-9
■ Distribution Valves and Systems	
IntelliStation™ digital Water Mixing Valve, HydroGuard® XP master tempering valves, single and multi-valve Hi-Los, supply fixtures and PowerStations. ASSE 1017.	10-12
■ Emergency Tempering Solutions	
HydroGuard® tempering solutions for emergency appliances including eye/face washes, drench showers and combination units ASSE 1071	13
■ Industrial Valves and Controllers	
Self-operating and pneumatically actuated valves for mixing and industrial process applications featuring Flowrite, #11, and Accritem brands.	14
■ Bath and Shower Solutions	
Pressure balancing and combination T/P valves and systems for all applications featuring HydroGuard®, Biltmore and HydroPanel™ brands. ASSE 1016	15-19
■ Lavatory Tempering and Hot Water Solutions	
HydroGuard® tempering valves for single and multi-bank lavatories, hot water heaters and whirlpools. ASSE 1070	20
■ Specialty Products	
ADA compliant products including metering faucets and infrared showers	21

Today...

2002 e490 multi-lavatory mixer with integrated checks 	2004 Super capacity tempering stations to 750 gpm 	2005 LM490/495 next generation lavatory and tempering 	2005 Automatic Balancing Valve 	2010 TempTAP thermostatic lavatory faucet 	2015 IntelliStation™ Lead Free digital water mixing and recirculation for commercial and institutional facilities 
2003 POWERSTATION™ self-contained tempering and recirculation station 	2008 Next Generation Master Mixing 	2003 e700 first affordable combination T/P shower valve 	2003 e480 first T/P listed lavatory mixer to 0.5 gpm 	2013 Introduce complete line of Lead Free* valves for potable water applications 	



Better water tempering installations

start with better T/P valve technology...

HydroGuard® T/P

paraffin-based valve actuation technology is the force behind today's smarter, safer, lower-cost valve installations.

Only Powers can offer you an affordable combination shower valve that meets the highest T/P requirements set by ASSE 1016 – because only Powers offers you single-valve, high-speed, paraffin-based valve actuation technology.



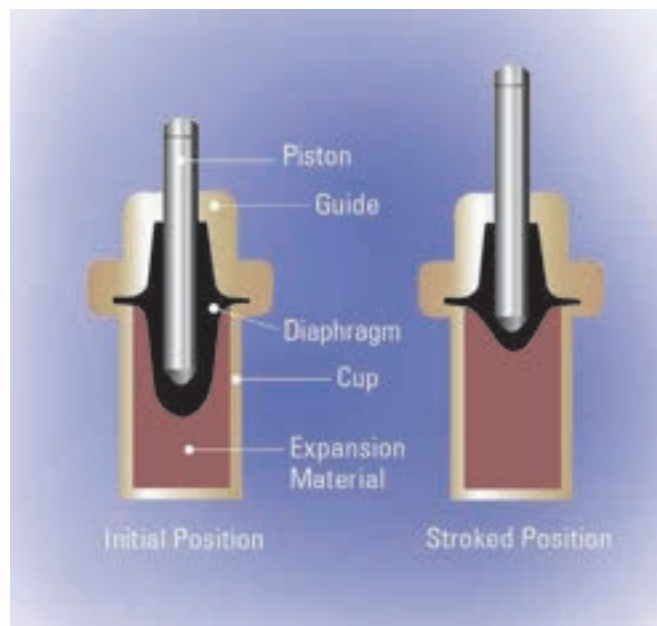
HydroGuard e700 Series
for affordable T/P protection

Advanced Activation Technology How it works



At the core of our T/P shower valves is a paraffin sensor that operates on the principle of converting heat energy into mechanical energy, using the expansion of paraffin from a solid to a liquid state. As shown in the illustration below, when

the temperature of the water enveloping the sensor increases, the expansion of the paraffin actuates the valve piston. As the water cools, the paraffin contracts into a solid, and the valve piston returns to its starting position.



Better for your business

By perfecting single valve, paraffin actuation technology, Powers is able to produce smaller valves that provide greater user protection by way of combined temperature/pressure regulation. At the same time, the technology has enabled us to produce larger T/P valves that feature unparalleled low flow control. Most important, the benefit to you and your customers is a wide range of safer, better performing, and more cost-effective valve solutions.

HydroGuard paraffin actuation technology is simple, reliable, field-proven, tested to one million cycles – and the valve meets the stringent T/P requirements of ASSE 1016.

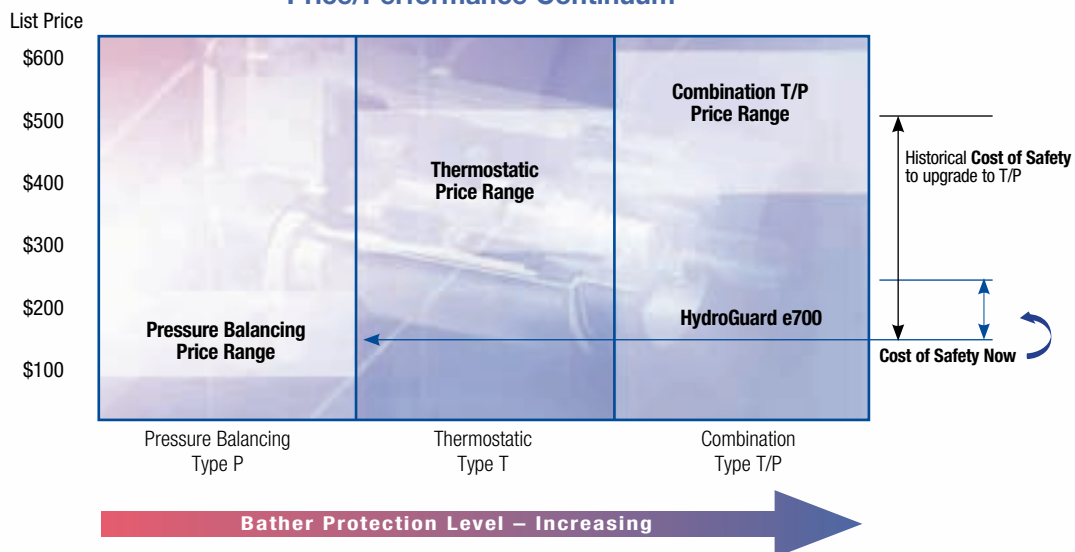
Simple, efficient, proven reliability

Powers' innovation brings you the right combination of safety, performance and value. Whether your tempering applications require large valves or small, all of our HydroGuard® T/P solutions feature single-valve, paraffin-based, thermal actuation. This assures you of many advantages, including the following:

- Valve actuates near instantaneously to temperature changes
- Provides superior temperature control at low flows, down to 0.5 gpm
- Reduces overall valve size for easier installation in shallow wall depths
- Economically achieves total ASSE 1016 T/P protection of users
- Won't stick or seize due to harsh water conditions



Price/Performance Continuum



HydroGuard® T/P valves offer your customer a safer and more cost-effective installation, compared to traditional pressure balancing valves.



Bath & Shower Standards ASSE 1016

Cost, performance and risk prevention are three important factors to consider when evaluating valve technology options. Proper assessment is guided by the standards published by the American Society of Sanitary Engineers (ASSE). The latest ASSE 1016 standard defines a hierarchy of shower valve types that correspond to a range of options around cost, performance and risk.



Type P: Lowest Protection / Lowest Cost

While pressure-balancing valves will compensate for pressure fluctuations within a plumbing system, these types of valves cannot make adjustments for sudden or gradual changes in supply temperature. If hot water supply line temperature unexpectedly increases to a dangerous level while inlet water pressure remains constant, the pressure balancing valve will continue to pass water but at a dramatically increased temperature.

- Pressure-balancing valves react to water pressure changes only. They are not designed to sense temperature changes and so do not provide true temperature regulation.
- Pressure-balancing valves can provide some level of protection against scalding — when limit stops are adjusted seasonally.
- Pressure-balancing valves do not provide complete protection when coupled with upstream thermostatic valves (master mixers) in the event of a master mixer valve failure.

Type T: Higher Protection / Higher Cost

Thermostatic valves manage both temperature and minimal pressure changes unlike pressure balancing valves which manage only pressure. Key features and limitations are listed below.

- Delivers blended water at a constant selected temperature
- Adjustable limit stop to prevent excessive handle rotation
- Temperature sensing is key advantage over Type P valves
- No need to adjust limit stop season to season
- Manages only 20% pressure fluctuations, not 50%
- Three to four times more cost than Type P valves

Type T/P: Highest Protection / Highest Cost — Until Now

Also known as combination valves, Type T/P valves are required to meet ASSE 1016's most stringent performance requirements for both temperature and pressure changes. However, widespread specification of Type T/P valves has been impeded by their relatively higher cost — until now.

Powers Type T/P valves provide the highest protection, at a lower cost. In fact, Powers HydroGuard® T/P valves are hundreds of dollars less than traditional Type T/P valves and very close to the cost of basic Type P valves. Better technology has enabled us to reduce the cost of safety to an easy-to-specify level.

- Allows water to be held in the system at higher temperatures
- Delivers water at safe temperatures to the bather
- Minimizes the risk of scalding
- Minimizes the risk of Legionella growth in the system
- No seasonal adjustment of the limit stop is required
- Saves potentially thousands of dollars in maintenance costs over the life of a system

Powers HydroGuard®

Type T/P shower valves meet the most stringent requirements of ASSE 1016 — at a cost that makes them easy to specify over basic Type P valves.

**ASSE 1016 Hierarchy of Protection**

Valve Type	Description	Protection Against Supply Temperature Changes	Protection Against Supply Pressure Fluctuations Up to 50%
Type T/P	Both temperature and pressure regulation	YES	YES
Type T	Thermostatic for temperature and some pressure regulation	YES	NO
Type P	Pressure balancing for pressure regulation	NO	YES

Scalding

At a water temperature of 130°F, only 20 seconds of exposure can produce a first-degree burn. To control against scalding, facilities need to control the water temperature in their systems at the point of use. Powers Type T/P valves respond near instantaneously to temperature fluctuations and to supply fluctuations up to 50%.

Cost and Value

For total protection, specify HydroGuard® total control. Of the three types of bath and shower valves recognized by ASSE 1016, only Powers HydroGuard® Type T/P shower valves meet the most stringent requirements of ASSE 1016 — and they do so at a per-unit cost that is comparable to basic Type P valves.

Infection

Legionella, which can be contracted by inhaling airborne water droplets containing the bacterium, thrive within a narrow water temperature range of 68 –122°F. To control the disease, facilities need to control the temperature of the water in their storage and delivery systems. Type T/P combination valves enable this by addressing the risk of exposing users to scalding.



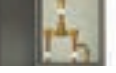
Solutions by Application

Every Powers valve is engineered
to solve real-world application needs

Commercial Water Distribution



Commercial – hotel/motel, office,
multi-family, fitness
Institutional – healthcare, education,
corrections
Industrial – factory, process, safety

Application	Valve Type	Description	Standards Compliance
	Lead Free* HydroGuard® XP LFMM430 Series	Water tempering in 5 sizes to 208 gpm	ASSE 1017, CSA B125 
High and Low Capacity Water	Lead Free* HydroGuard® XP LFSH1430 Series	Low to high flow valve from 1 to 200 gpm	ASSE 1017, CSA B125 
	IntelliStation™ NEW!	Digital Water mixing and recirculation with a high-speed actuator that provides temperature stabilization within $\pm 2^{\circ}\text{F}$	ASSE1017 
	Lead Free* PowerStation™	Water tempering with built-in recirculation line, pump, aquastat and balancing valve	ASSE 1017▲, CSA B125▲ 
	Lead Free* HydroGuard® Multiple Valve Hi/Lo	Low to high flow for demand up to 700 gpm	ASSE 1017▲, CSA B125▲ 
	Lead Free* HydroGuard® LFLM490 Series, LFMM430 Series, LFSH1430 Series	Multiple configuration tempering for specific	ASSE 1017▲, CSA B125▲ 
Hot Water Heating Tempering	Lead Free* HydroGuard® Thermostatic Valves LFLM490 Series	From 0.5 gpm to 23 gpm	ASSE 1017, CSA B125 
High Temperature Alarm	Lead Free* AquaSentry 2® LF460	Used in conjunction with master tempering valves to monitor temperature	UL†, CSA 

Industrial Process

Application	Valve Type	Description	Standards Compliance
Self-Operating Regulators	#11- 595 Series	Bronze valves for heating, cooling, mixing and by-pass	Not applicable 
Heavy-Duty Globe Control with Pneumatic	Flowrite II® 593/596/597 Series	Bronze (1/2" – 2") and iron (2-1/2"– 6") for steam and water modulating mixing and by-pass	ASME/ANSI B16.1 
Rigid and Remote Bulb Blind Controllers	Accritem® 744 Series	Non-indicating, air and water operated	Not applicable 

▲ Individual Valves

† Transformer

* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Commercial Point-of-Use

Application	Valve Type	Description	Standards Compliance	
Bath and Shower Tempering	HydroGuard® T/P e420 Series Combination	High end T/P protection ideal for healthcare facilities with elderly users	ASSE 1016 Type T/P, CSA B125	
	HydroGuard® e427/428 Series Thermostatic	High-capacity thermostatic for therapy tubs, sitz baths, multiple showers	ASSE 1016 Type T, CSA B125	
	HydroGuard® T/P e700 Series Combination	Affordable T/P technology brings maximum safety to all budgets and facility types	ASSE 1016 Type T/P, CSA B125	
	VisuGuard LCD F727 Series Combination	T/P technology with digital temperature indication	CSAB125 .1, ASSE1016 T/P, ASME A112 .18 .1	
	Biltmore P900 Series Pressure Balancing	Pressure protection for multi-family housing, hotels and motels	ASSE 1016 Type P, CSA B125	
	HydroGuard® P410 Series Pressure Balancing	Pressure protection for heavy use areas, such as health clubs, locker rooms, correctional facilities	ASSE 1016 Type P, CSA B125	
Shower Shut Down Device	HydroGuard® HT115	High temperature shutoff device can be installed on any shower arm	ASSE 1062, CSA B125	
Lavatory Tempering	Lead Free* HydroGuard® LFe480 Series	Single or multiple low-flow lavatory	CSA B125 ASSE 1070	
	Lead Free* HydroGuard® LFLM495 Series Thermostatic	Single or multiple lavatory tempering	ASSE 1069, ASSE 1017 ASSE 1070, CSA B125	
Emergency Fixture Tempering	Lead Free* TempTAP™ Thermostatic Faucets	Integrated temperature protection with single-lever operation	ASSE 1070, cUPC, IAPMO WaterSense, NSF Annex G	
	HydroGuard® XP ES150 Series	Eye wash and eye/face wash with by-pass	ASSE 1071	
	HydroGuard® XP ETV200 Series	Drench shower or multiple eye/face wash with by-pass	ASSE 1071	
	HydroGuard® XP ETV400 Series	Multiple drench shower or combination units with by-pass	ASSE 1071	
	HydroGuard® XP ETV500 Series	Multiple drench shower or combination units with by-pass	ASSE 1071	
Surface Mounted Shower Systems	HydroPanel II™ 450 Series	Stainless steel paneled showers for buildings with no in-wall piping	ASSE 1016 Types T/P▲, P▲ and CSA B125	

* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.



A Comparison of ASSE 1062, 1069, 1070 and 1071 with revised 1016 and 1017 standards.

ASSE Standards

Standard	ASSE 1016 - 2017	ASSE 1017 - 2009
Status	Current	Current
Title	Automatic Compensating valves for individual showers and tub-shower combinations	Temperature-Activated Mixing Valves for hot water distribution systems
Category	Point-of-use, bather or bather attendant interface	Tempered water distribution
Application	Shower or tub-shower combination only	Hot water source/boiler
Types	Type P - Pressure Balancing, Type T - Thermostatic, Type T/P - Combination	Thermostatic only
Valve Temp Range - Outlet	Full cold to 105°F minimum, 120°F maximum	Minimum adjustable range 105°F - 120°F
Temperature Tolerance	T/P and P = $\pm 3.6^{\circ}\text{F}$ T = $+5.4^{\circ}\text{F}$, -9.0°F	$\pm 3^{\circ}\text{F}$ to $\pm 7^{\circ}\text{F}$ (depending on valve size/capacity)
Pressure Change Test (Hot & Cold)	P = 50% up/down T = 20% up/down T/P = 50% up/down	No pressure change test
Temperature Change Test (Hot)	P = Does not test for temperature change T = 25°F hot water increase T/P = 25°F hot water increase	25°F hot water increase
Flow Test	Minimum 2.25 gpm or manufacture rated minimum	Not applicable
Minimum Tested Flow to Provide Control	2.5 gpm	50% of flow at a 10psid
Cold Water Failure Allowance	P, T, T/P < 0.5 gpm within 5 seconds before 120°F	Not applicable
Life Cycle	100,000 cycles – all	Not applicable
Applicable Powers Products	e700 Type T/P - bath & shower e420 Type T/P - bath & shower e427 Type T - high capacity bath & shower e428 Type T - high capacity bath & shower 900 Type P - bath & shower 410 Type P - bath & shower	IntelliStation™ - Digital Water Mixing Valves Lead Free* MM430 Series - Master Mixing Valves Lead Free* LM490 Series for multiple lavatories Lead Free* SH1430 Single Valve Hi/Los Lead Free* Powerstation▲ Lead Free* Supply Fixtures▲ Lead Free* Hi/Los-Multi-valve▲

* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

ASSE 1062 - 2006	ASSE 1069 - 2005	ASSE 1070 - 2015	ASSE 1071 - 2012
Current	Current	Current	Current
Temperature-Actuated, Flow Reduction valves for individual fixture fittings (TAFR)	Automatic Temperature Control Mixing Valves	Water Temperature Limiting Devices	Temperature-Activated Mixing valves for plumbed emergency equipment
In-line high temperature limit devices	Point-of-use distribution Adjustment by installer	Point-of-use or distribution	Point-of-use or distribution
Faucets, shower heads, tub spouts dramatically reduce flow when temperature exceeds actuation point	Gang showers, sitz baths, spas, gang lavatories	Sinks, lavatories, baths	Eye washers, eye/face washes, drench showers and combination units
Thermostatic only	Thermostatic only	Thermostatic only	Thermostatic only
Not applicable	100°F - 115°F	105°F - 110°F	65°F - 95°F
Maximum actuation temperature 120°F or less	+ 5°F lasting more than 1.5 seconds within first 5 seconds - 9°F lasting more than 1 second within first five seconds	Maximum actuation temperature 120°F or less	Varies depending on capacity. Also, hot water control has a tighter tolerance than cold water control.
Not applicable cold & hot supply	20% up and down for cold & hot supply	20% up and down for	Not applicable
Not applicable	25°F hot water increase	25°F hot water increase	25°F hot water increase
0.25 gpm within five seconds when temp. exceeds 120°F and one second once actuation temperature exceeds 129°F	Must be 90% of manufacturer's published flow	Must be 90% of manufacturer's published flow	HW Failure, CW flow = manufacturer's rated by-pass flow @ 30psid
Not applicable	2.5 gpm or minimum specified	Manufacturer's minimum stated flow	3.0 gpm or manufacturer's stated minimum
Not applicable 1.0 gpm for 1" devices and larger	0.5 gpm for 1/2" and 3/4" devices minimum flow, whichever	0.2 gpm or 20% of not to exceed 0.5 is greater before 120°F	CW failure, HW flow gpm <7.0 gmp max flow 0.5 gmp 1 gmp for all others
125,000 cycles	100,000 cycles	100,000 cycles	Not applicable
HT115	Lead Free* LFLM495 Series	TempTAP™ Thermostatic Faucets Lead Free* LFe480 Series Lead Free* LFLM495 Series	ES150 - Eye/face washes ETV200 - Drench showers ETV400 - Combination units ETV500 - Combination units

▲ Individual Valves



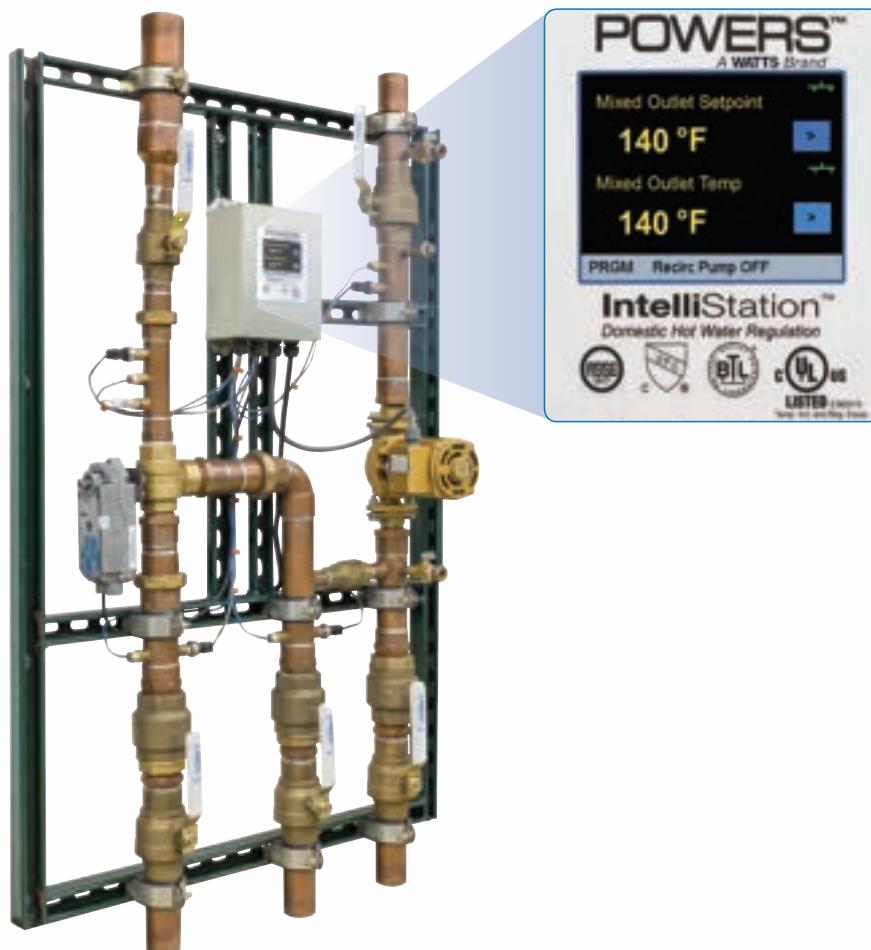
Distribution Valves and Systems

Digital Water Mixing Valves – ASSE 1017

Smart mixing & recirculation system for domestic hot water in commercial and institutional facilities

IntelliStation™ Digital Water Mixing Valves

- ▶ High-speed actuator for temperature stabilization within +/- 2°F in accordance with ASSE 1017
- ▶ Smart, color touchscreen with 3.5-inch interface
- ▶ Temperature and pressure sensors on hot/cold water inlet supplies, mixed water outlet, and tempered water return
- ▶ BAS integration (BACnet® IP, BACnet MSTP and Modbus® protocols are supported.)
- ▶ Integrated pump control for reliable, consistent temperatures
- ▶ Compliant with lead free legislation requirements
- ▶ Field configurable without the need for a laptop or special software



Distribution Valves and Systems

Manifold Tempering Stations – ASSE 1017

When high and low capacity demand is required

Lead Free*



Installer Friendly, Self-Contained
Water Tempering and Recirculation Stations

- ▶ Fully assembled and tested system. Designed to save time, money and call backs during set-up and installation
- ▶ Mounted on heavy-duty welded struts for fast, easy installation
- ▶ Standard features include ASSE 1017 listed and CSA B125 approved valves, return line with recirculation pump, pressure/temperature gauges, GFCI outlet and ball valves
- ▶ Exclusive by-pass loop allows for fast easy set up. No need to wait for water to circulate throughout the building to set system temperature
- ▶ Optional features include automatic balancing valve, aquastat and temperature alarm

Lead Free*

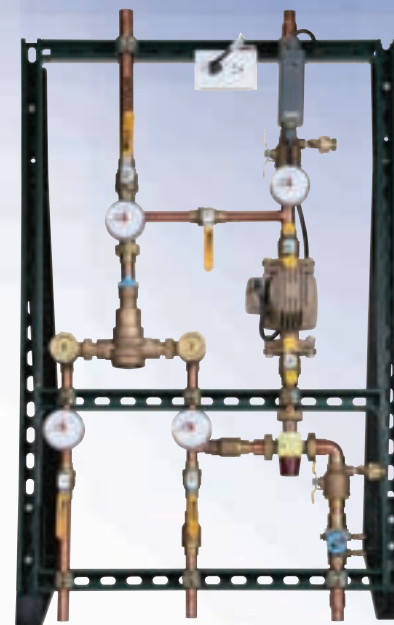
HydroGuard® Multi-Valve Hi/Lo Systems

- ▶ Fully assembled and tested water tempering stations
- ▶ Feature ASSE and 1017 listed tempering valves with paraffin-based actuation technology
- ▶ Systems include PRV, pressure/temperature gauges, triple-duty checkstops and ball valves
- ▶ Control from as little as 0.5 gpm to 850 gpm

Lead Free*

HydroGuard® Series LFLM490, LFMM430 & LFSH1430
Supply Fixtures

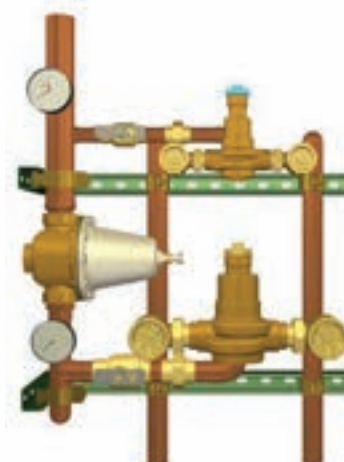
- ▶ Includes ASSE 1016 or 1017 thermostatic tempering valve, union inlet-strainer checkstops, dial thermometer, valve control, shutoff valve and interconnecting piping
- ▶ Optional equipment includes cabinets (recessed, semi-recessed or wall mount), cold water by-pass and vacuum breaker



PowerStation



LFMM432AENS600



LFSH1432HLAEM00

* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Distribution Valves and Systems

Master Tempering Valves – ASSE 1017

Thermostatically mix and control hot and cold water to deliver safe, blended water

Master Tempering Valves

- ▶ Paraffin-based actuation technology responds dramatically to temperature fluctuations caused by changes in supply line temperature and pressure changes
- ▶ ASSE 1017 listed, CSA B125 approved
- ▶ Triple-duty checkstops with filtration screens and rotatable unions allow for horizontal and vertical mounting
- ▶ Available in rough bronze and polished chrome finish



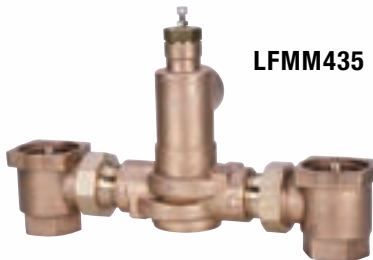
LFSH1434

Series LFSH1430 Single-Valve Hi/Lo

- ▶ Value engineered, single-valve does the work of two-valve manifold system
- ▶ Controls temperature for flows as low as 1.0 gpm (to ASSE 1017) and in excess of 200 gpm

Series LFMM430 Master Mixers

- ▶ The industry workhorse with over 50 years of reliability and unparalleled performance
- ▶ Available in five sizes up to 208 gpm to meet all requirements



LFMM435

US Patent No. 7,913,926



Lead Free* AquaSentry2
High Temperature Alarm

LF4600150

* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Emergency Tempering Solutions

Emergency Tempering with Bypass – ASSE 1071

Deliver safe, tempered water to Eye/Face Wash,
Drench Showers and Combination Units

HydroGuard® XP Series

- ▶ Features patented internal bypass that provides substantial flow in the event of hot water failure
- ▶ Ensures uninterrupted flow of flushing fluid in the event of hot water loss or actuator failure
- ▶ Paraffin-based actuation technology provides greater force than conventional elements resulting in superior control for improved safety
- ▶ Tamper resistant temperature adjustment includes locking mechanism to insure unauthorized set point readjustment
- ▶ ASSE 1071 listed



Advanced
Thermal Actuation



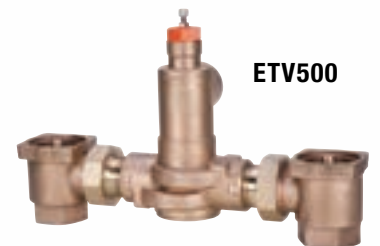
ES150



ETV200



ETV400



ETV500



Eye/Face Wash



Drench Shower



Industrial Valves and Controllers

A Complete Line of Self-Operating and Pneumatically Actuated Valves and Mechanical Controllers for Tempering and Industrial Processes



595

#11 Self Operating Temperature Regulators

- ▶ Interchangeable sensing and control components for minimum downtime, greater flexibility and added economy
- ▶ Open yoke design minimizes heat transfer from valve to bellows
- ▶ Setting scale provides easy, convenient reference when changing set points
- ▶ Large (7.8 in²) bellows provides extra valve positioning power
- ▶ Wide range of heating, cooling and mixing valve bodies available

FLOWRITE II® Heavy Duty Globe Control Valves

- ▶ Heavy duty bronze and iron bodies
- ▶ Designs to meet 1/2" - 6" steam and water modulating, mixing or bypass applications
- ▶ Multiple packing choices – spring loaded
- ▶ Stainless steel hardware and actuator mounting accessories
- ▶ Field reversible 46 in² and 100 in² pneumatic diaphragm actuators available



593

ACCRITEM® Rigid and Remote Bulb Blind Controllers

- ▶ Precise, rapid response to temperature changes by sending a proportional pneumatic signal to the control valve
- ▶ Supply and pressure control gauges included
- ▶ Rugged, non-indicating construction is unaffected by moisture or dust
- ▶ Trouble-free operation – simple design with few moving parts
- ▶ Air or water operated



596/597



744-1256

744-1213

Bath & Shower Solutions

Combination Tempering – ASSE 1016, Type T/P

Affordable T/P protection against pressure and temperature changes

HydroGuard® T/P

Series e700 Combination Tempering Valve – ASSE 1016, Type T/P

- ▶ The first *affordable* T/P combination shower valve that allows distribution of higher hot water temperatures, minimizing the risk of Legionella while protecting bathers against unsafe water temperatures
- ▶ Does not require seasonal adjustment of handle rotation stop common to pressure balancing valves
- ▶ Solid brass construction features 4 gpm capacity (at 45psid) and corrosion resistant internal components that will not stick or seize
- ▶ Self-contained cartridge simplifies maintenance and retrofits into Biltmore pressure balancing valves (model 3)
- ▶ ASSE 1016, Type T/P, and cUPC listed
- ▶ Ideal for hospitals, nursing homes, assisted living facilities or anywhere those with diminished physiological, mental and emotional capacities are resident
- ▶ 5-year limited warranty on internal tempering mechanism
- ▶ Simple back-to-back installation without cross-connecting pipes



U.S. Patent No. 7,163,157



e707



e705



e710J101Y0



e705M1S000



e707J1S000



e700 Series



Bath & Shower Solutions

Combination Tempering – ASSE 1016, Type T/P

Institutional grade construction, high-capacity output with over 40 years of dependable service

HydroGuard® T/P

Series e420 Combination Tempering Valve – ASSE 1016, Type T/P



e423



e420S22

- ▶ T/P combination shower valve allows distribution of higher hot water temperatures, minimizing the risk of legionella while protecting bathers against unsafe water temperatures
- ▶ Guards against both pressure and temperature changes, meeting the most stringent requirements of ASSE 1016 – Type T/P
- ▶ Does not require seasonal adjustment of handle rotation stop common to pressure balancing valves
- ▶ Solid brass construction features 5.0 gpm capacity (at 45psid) and corrosion resistant internal components that will not stick or seize
- ▶ Self-contained cartridge simplifies maintenance and retrofits into HydroGuard® 420 valves dating back to 1960
- ▶ Ideal for hospitals, nursing homes, assisted living facilities – anywhere those with diminished physiological, mental and emotional capacities are resident
- ▶ High capacity models e427 and e428 are ideal for sitz baths, therapy tubs and multi-head showers (14 gpm @ 45psid). Listed ASSE 1016, Type T



e420 paraffin upgrade kit for valves dating back to 1960



420 451



e420S22M1S000

e420S22J1S000

e420S22J101Y0

Bath & Shower Solutions

Pressure Balancing – ASSE 1016, Type P

A legacy of bather protection since 1929. Powers Type A mixer earned first pressure balancing patent

Biltmore

Series P900 Pressure Balancing Valve

- ▶ Affordable protection against pressure fluctuations within a plumbing system
- ▶ Reliable poppet/diaphragm design won't stick or seize like piston/sleeve type valves
- ▶ Cast integral checkstops prevent cross flow and simplify maintenance
- ▶ Simple back-to-back installation without cross-connecting pipes
- ▶ Shallow wall design installs in as little as 2" wall depth
- ▶ ADA compliant activation and configurations
- ▶ ASSE 1016, Type P and cUPC listed

U.S. Patent No. 6,050,285



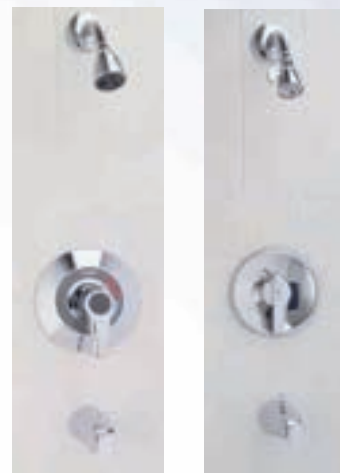
P902

P905

HydroGuard®

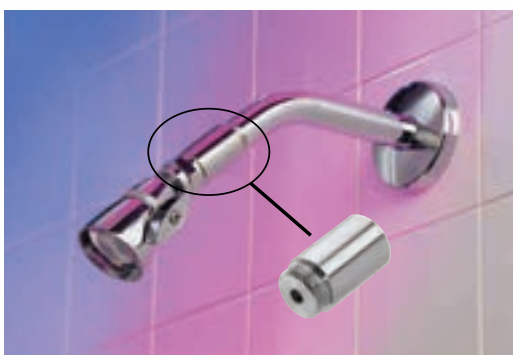
Series HT115 High Temperature Flow Reduction Device

- ▶ Thermostatically shuts off water if temperature reaches 115°F (46°C)
- ▶ Ideal for pressure balancing and mechanical mixing valves
- ▶ Installs in minutes with no special tools
- ▶ ASSE 1062 listed



P905HJ1U

P902HKIS



HT115



Bath and Shower Solutions

Pressure Balancing – ASSE 1016, Type P

HydroGuard® Series P410 Pressure Balancing Valve



PB410

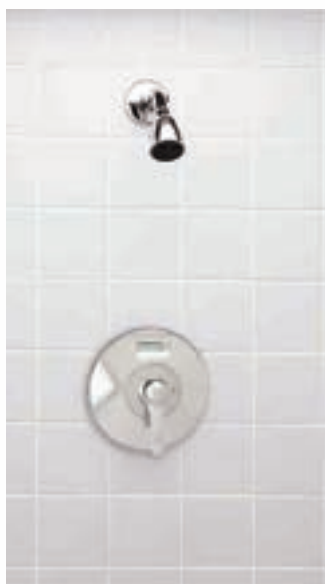
- ▶ Rugged bronze construction for heavy use applications like health clubs, schools and light security correction facilities
 - ▶ Reliable poppet/diaphragm design won't stick or seize like piston/sleeve type valves in harsh water
 - ▶ ADA compliant activation and configurations
 - ▶ ASSE 1016, Type P compliant, CSA B125 approved
- U.S. Patent No. 6,050,285

VisuGuard® LCD Series F727 Combination Tempering Valve - ASSE 1016, Type T/P

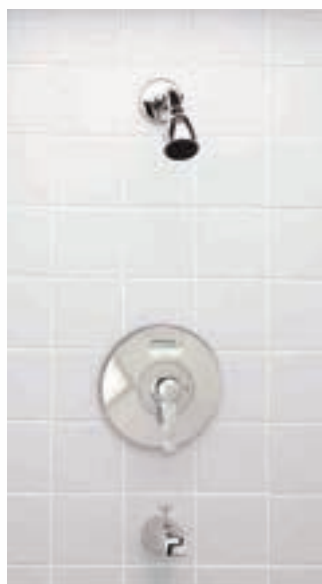


F727

- ▶ Integral 1" LCD temperature display in °F or °C
- ▶ Single AAA battery provides up to four years of service
- ▶ Water tight enclosure protects electronics behind Lexan lens
- ▶ Back to back installation without costly cross over piping
- ▶ Precise temperature display within 1/10th of a degree
- ▶ ASSE 1016, Type T/P and cUPC listed



F727AM1000



F727AM1T00



F727A00090

Bath and Shower Solutions

Surface Mounted Shower

Available with all Powers Series Point-of-Use Tempering Valves - ASSE 1016, Types T/P and P

HydroPanel II™ Surface Mounted Shower Systems.

- ▶ Ideal for installations where in-wall piping doesn't exist or may be impractical such as schools, health clubs and light security correctional facilities
- ▶ Single unit stainless steel panel allows easy access to concealed components
- ▶ Vandal-resistant fasteners prevent tampering
- ▶ Modular design allows all vertical and horizontal piping to be concealed with standard components



4507054



4507100

HydroPanel II™ Series e700▲ – ASSE 1016, Type T/P

- ▶ Maximum protection against pressure and temperature changes utilizing Powers exclusive series e700 combination valves
- ▶ Tempering valves ASSE 1016, Type T/P and cUPC listed

HydroPanel II™ Series e420▲ – ASSE 1016, Type T/P

- ▶ Maximum protection combined with rugged construction and greater flow
- ▶ Tempering valves ASSE 1016, Type T/P compliant and CSA B125 approved

Biltmore Series P900▲ – ASSE 1016, Type T

- ▶ Powers most specified system protects against dangerous pressure swings
- ▶ Tempering valves ASSE 1016, Type P and cUPC listed

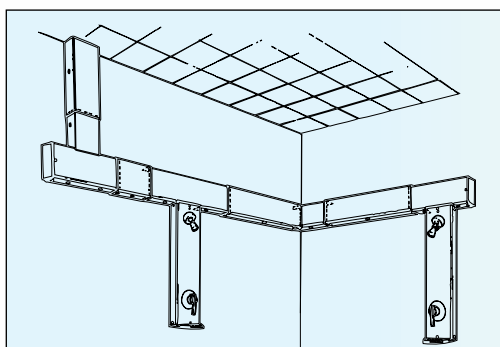
HydroPanel II™ Series P410▲ – ASSE 1016, Type T

- ▶ Powers rugged, high capacity, pressure balance option
- ▶ Tempering valves ASSE 1016, Type P compliant and CSA B125 approved



4504002

▲Valve only





Lavatory Tempering & Hot Water Solutions



Blended and Hot Water Tempering – ASSE 1070

Superior low flow protection for infrared, single-handle, two-handle and metering faucets

TempTAP™ Series 105, 115, 205 and 215 Thermostatic Lavatory Faucets – ASSE 1070

- ▶ Thermostatic tempering built inside the faucet
- ▶ ASSE 1070 and IAPMO cUPC listed
- ▶ NSF 61 Section 9 Annex G approved for Lead Free
- ▶ ADA compliant
- ▶ Integral checks and filters



Lead Free*

HydroGuard® LFe480/LFG480 Lavatory Tempering - ASSE 1070

- ▶ Allows facility to distribute water at higher temperatures, minimizing the potential occurrence of Legionella and other known bacteria while protecting against unsafe water temperatures
- ▶ Integral checks with filtration screens standard
- ▶ ASSE 1070 listed, CSA B125 certified
- ▶ Tamper-resistant temperature adjustment with locking mechanism from 80 – 120°F (27 – 49°C)



Lead Free*

HydroGuard® Series LFLM495 Lavatory Tempering - ASSE 1069, ASSE 1070, & ASSE 1017

- ▶ Powers highest capacity lavatory tempering valves for multiple lavatories and hot water heaters in flows from 12 gpm
- ▶ 1/2", 3/4" and 1" sizes with union connections – Sweat, NPT, CPVC & PEX, Quick-Connect
- ▶ Adjustable temperature selection with locking mechanism
- ▶ Integral checks with filtration screens are standard
- ▶ Series LFLM495 – ASSE 1069, 1070, 1017 and UPC listed, CSA B125 approved



* The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

Specialty Products

Tempering and Control Providing Engineered Solutions for Commercial Applications



Series LF460 Alarm System

- ▶ Use in tandem with all Powers master tempering valves, Hi/Lo valves systems and PowerStations.
- ▶ Provides audible and visible alarm when temperature exceeds high or low set points.
- ▶ Can be used in conjunction with a solenoid valve to shut down water when temperature limit is exceeded.



**LF4600150
AquaSentry**

PressureGuard™ Balancing Valve

- ▶ Adds pressure balancing protection to standard two-handle or single-lever mechanical shower valves.



**4100063
PressureGuard**

HydroGuard® ESP Electronic Shower Systems

- ▶ Infrared or Piezo technology delivers tempered water in vandal prone areas.
- ▶ Adjustable timing and lock-out features prevent tampering and abuse.
- ▶ ADA compliant operation, UL, CSA approved power source.



450-100IC03WD

SAFETY

SAFETY

STYLE

STYLE

POWERS™
A **WATTS Brand**