



**IT ALL COMES BACK TO CONTROLS**

THERE IS NO SUBSTITUTE FOR QUALITY.

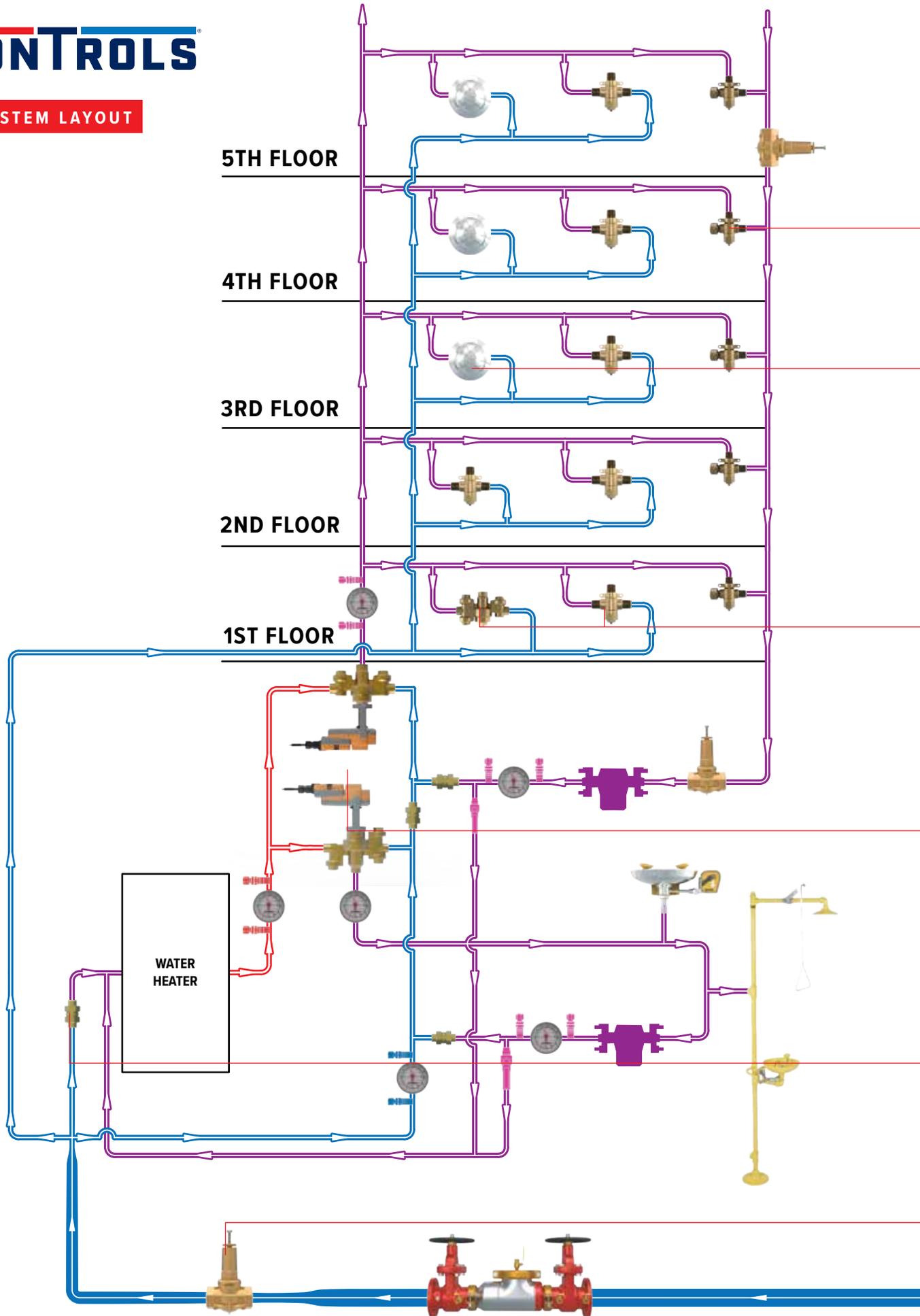


**TECHNICAL BROCHURE**

 MORRIS GROUP INTERNATIONAL

[WWW.MORRISGROUPINT.COM](http://WWW.MORRISGROUPINT.COM)

## FULL SYSTEM LAYOUT



# A COMPLETE LINE OF MIXING, TEMPERING, BALANCING, CHECK, AND PRESSURE REDUCING VALVES

## Model TZV1 and TZV2

Thermostatic Zone Valves are installed after the last hot water device in each loop to maintain domestic hot water zone temperature. They self-adjust and balance the recirculated flow and heat loss for each zone.

## Model SV16

A point-of-use valve for showers and tubs that delivers tempered water and prevents sudden changes in temperature.

## Models ST70, ST7017, ST7069, STP7069

Provides tempered water for single and multi-station sinks and lavatories, preventing sudden changes in temperature.

## Model ABMMV

The Acorn Controls® BASyC system provides distributed regulation and monitoring of Acorn Controls mixing valves and a wide variety of temperature, pressure and flow sensors for recirculated hot water systems.

## Model CV

Check Valves are designed to allow flow in one direction and protect against crossflow.

## Model RV03 and RV03B

Pressure Reducing Valves lower the pressure of the incoming water from the municipal line to an acceptable level.

## IT ALL COMES BACK TO ACORN CONTROLS®.

We know water pressure-reducing, balancing, and tempering valves. We know how to manufacture, test, and use valves and their importance to you in managing a potable water system.

For nearly 50 years, we've made commercial buildings safer for their occupants with dependable valves. Our passion is to build reliable products that meet or exceed standard listings and approvals. We manufacture well-known brands like BASyC®, TempFlow®, Alpha®, and Omega®, and we recently began manufacturing a full line of Acorn ConTrols® water pressure-reducing valves (PRVs).

The Acorn ConTrols® division of Morris Group International is dedicated to a principle first expressed by Earl L. Morris, "There is no substitute for quality." That sentiment - from our founder - has remained with us since the beginning.

We don't simply stand behind the quality pledge; we have constructed and invested in Morris Group Innovation Centers (MGIC) in Los Angeles, CA, and Chicago, IL. The Morris Group Innovation Centers research, develop and test products for all MGI divisions. Pressure-reducing valves are the latest product group from our state-of-the-art facilities. In 2024, with the help of the MGIC, we will introduce a line of backflow preventers.

## THE ACORN CONTROLS NAME IS BRANDED ON ALL OUR PRESSURE-REDUCING, BALANCING, AND TEMPERING VALVES. OUR NAME ENSURES AND PROTECTS AGAINST THE

### FOLLOWING:

- » Hot/cold water temperature changes
- » Pressure variations
- » Unauthorized setpoint changes
- » Legionella
- » Risk of scalding and thermal shock
- » Lead poisoning
- » Deadlegs/stagnation

### LEAD-FREE:



Acorn ConTrols Valves comply with the Federal Reduction of Lead in Drinking Water Act, which requires that any valve, fitting, or fixture coming in contact with potable water intended for human consumption must have a weighted average lead content of less than 0.25%.

## LISTINGS & APPROVALS

The complete line of Acorn Controls products meet or exceed the following Standards

- » ASSE 1003
- » ASSE 1016
- » ASSE 1017
- » ASSE 1070
- » ASSE 1069
- » ASSE 1071
- » NSF/ANSI-372
- » ANSI/ISEA Z358.1
- » ASME A112-18.1
- » CSA B125.3-11
- » CSA B356-10
- » NSF-61

 **WARNING:** Cancer and Reproductive Harm - [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



# CONTROLS<sup>®</sup>



**MV17**  
Hi-Lo Master  
Mixing Valve

## MASTER MIXING VALVES – ASSE 1017

MV17	<b>06</b>
SFMV	<b>07</b>
SFMMV	<b>07</b>
CSMV	<b>08</b>
CSMMV	<b>08</b>
ABMV	<b>09</b>



**ET71**  
Emergency Tempering Valve

## EMERGENCY TEMPERING VALVES – ASSE 1071

ET71	<b>10</b>
SFET	<b>11</b>
CSET	<b>12</b>
ABET	<b>13</b>
STS	<b>14</b>



**ST70**  
Tempering Valve

## LAVATORY TEMPERING VALVES – ASSE 1070

ST70	<b>15</b>
STP7069-Alpha	<b>16</b>
ST7017-Omega	<b>17</b>
ST7069	<b>18</b>
SFST	<b>19</b>



**SV16**  
Shower Valve

## TUB/SHOWER VALVES – ASSE 1016 TYPE T, TYPE P & TYPE T/P

SV16	<b>20</b>
Accessories	<b>21</b>



**TZV-1**  
Thermostatic  
Balancing Valve

## THERMOSTATIC BALANCING VALVES

TZV	<b>22</b>
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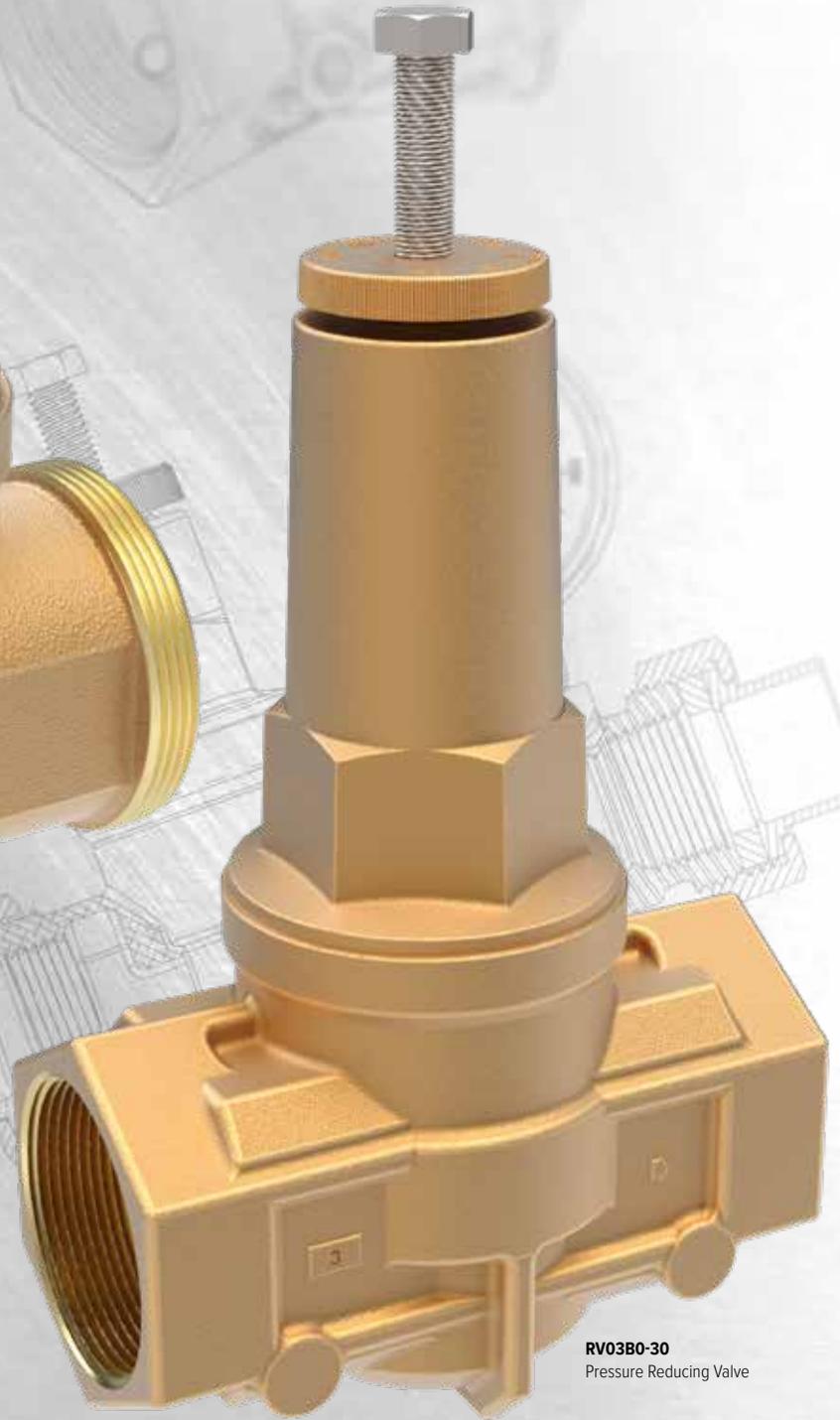
**ATM-1**  
Automatic Temperature Monitoring  
Alarm System

## AUTOMATIC TEMPERATURE MONITORING ALARM SYSTEM

ATM-1	<b>23</b>
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**RV03P-150-0000**  
Pressure Reducing Valve



**RV03B0-30**  
Pressure Reducing Valve

**PRV**

RV03	<b>24</b>
RV03B	<b>26</b>
RVSK	<b>27</b>
Check Valve	<b>27</b>

# HI-LO MASTER MIXING VALVES

## MODEL NO. MV17

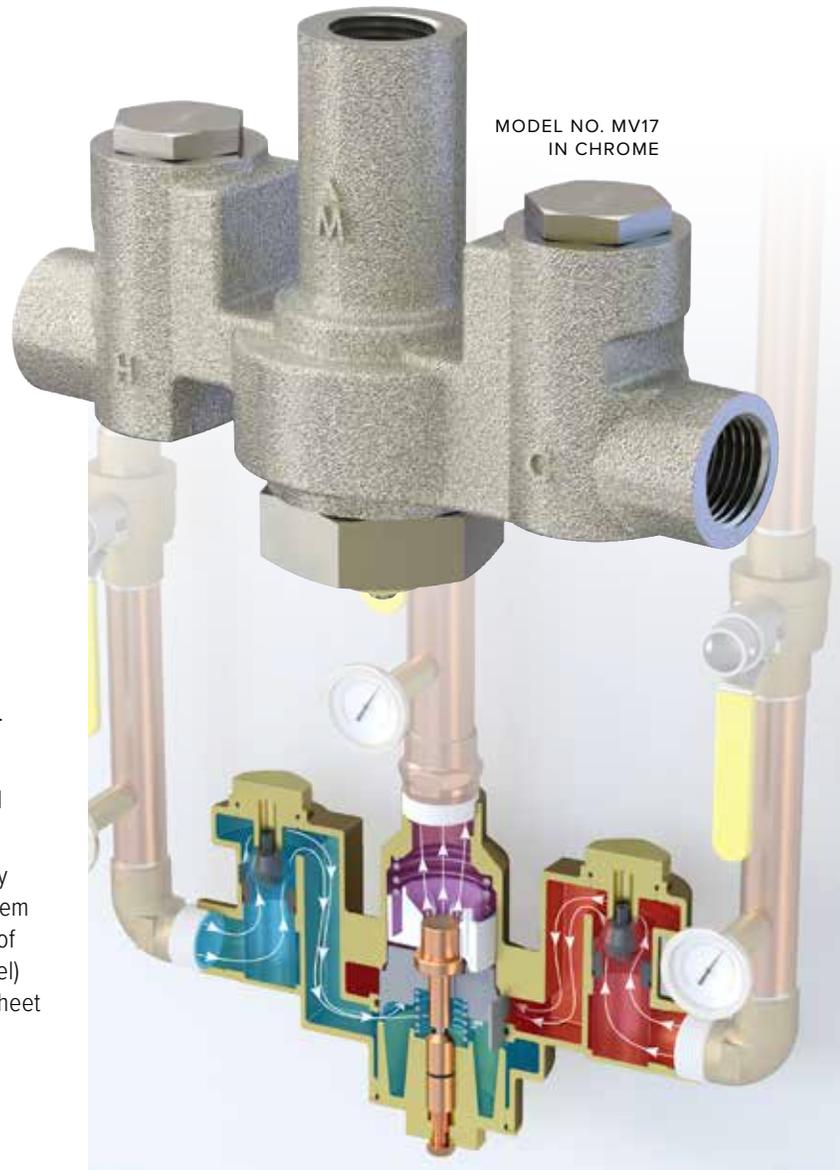
MV17 is intended for use in Hot Water Distribution Systems.

### FEATURES

- » Lead Free DZR Brass (chrome-plated brass optional) with corrosion-resistant internal components.
- » IAPMO certified minimum flows as low as 0.5 gpm far exceeds the requirements set forth in ASSE 1017.
- » All valves provide Hi-Lo performance equal or superior to other manufacturers' Hi-Lo valves.
- » Paraffin wax design ensures reliable performance
- » 100% tested for porosity and cross flow
- » All valves include ball valve shut-off – a proven, standard method for shut-off which does not trap debris and eliminates the need for additional shut-off valves.
- » Integral strainers are accessible for cleaning.
- » Reliable integral cartridge style checks.
- » 5 available models ensure the appropriate size for your application.
- » Connections: 1/2" to 2" NPT
- » Allen wrench setpoint adjustment and lock nut resists unauthorized setpoint changes.
- » The MV17 is capable of exceeding the temperature control accuracy requirements of ASSE 1017 at zero draw, i.e. user demand. The system must include a continuously operating recirculation pump capable of meeting the minimum flow rate of 0.5 to 4 GPM (based on the model) with a properly adjusted balancing valve. See our MV17 submittal sheet for more information.

### STANDARDS

- » Far exceeds ASSE 1017 requirement
- » cUPC 
- » Lead Free 
- » CSA B125.3
- » Patent No. 9,898,017



ATTRIBUTE	VALUE
<b>Flow Rate</b>	Up to 225 GPM @ 45 psid
<b>Temperature Adjustment Range</b>	100 to 160°F
<b>Minimum Hot Water Temperature Required</b>	5°F above setpoint
<b>Maximum Hot Water Temperature</b>	180°F
<b>Maximum Supply Pressure</b>	125 psi
<b>IAPMO certified Minimum flow Rate, per ASSE 1017</b>	MV17-1: 0.5 GPM MV17-2: 1 GPM MV17-3: 2 GPM MV17-4: 3 GPM MV17-5: 4 GPM

# SUPPLY FIXTURES FOR MV17



## MODEL NO. SFMV AND SFMMV

The full line of Acorn ConTrols® supply fixtures are 100% factory assembled and tested. Model SFMV is a Acorn ConTrols supply fixture based on the MV17 Master Mixing Valve. It includes everything required to ensure proper installation, set up, service, and troubleshooting, including:

- » Ball valves on the inlets and outlet.
- » Outlet temperature gauge.
- » Piping.
- » Tempering valve with integral checks and strainers.
- » Cabinets are offered in wall-mounted and fully recessed versions, either painted or stainless steel with a piano hinge and lock.
- » Hot/cold water bypass.
- » Inlet temperature gauges.
- » We are pleased to consider other modifications and options upon request.

## FEATURES

- » Based on MV17 Master Mixing Valves.
- » Regulates temperatures in Hot Water Distribution Systems.
- » 5 models/sizes for small to large commercial applications.
- » Can be used with recirculating and non-recirculating systems, depending on specific fixture set up.
- » SFMMV fixtures come standard with the BASyC upgradability.
- » SFMV fixtures can be upgraded to a BASyC system.

## STANDARDS

- » ASSE 1017
- » CSA B125.3
- » cUPC
- » Lead Free
- » Patent No. 9,898,017



# COMMAND STATION® SYSTEM CSMV SERIES

## CSMV AND CSMMV SERIES

The CSMV Series Command Station system is a self-contained tempering and recirculating water system customized for mixed use applications.

Model CSMV offers the best in hot water distribution and regulation. Model CSMV utilizes MV17 series valves to meet the requirements of ASSE 1017.

CSMMV fixtures come standard with the BASyC® upgradability; CSMV fixtures can be upgraded to a BASyC system.

## FEATURES

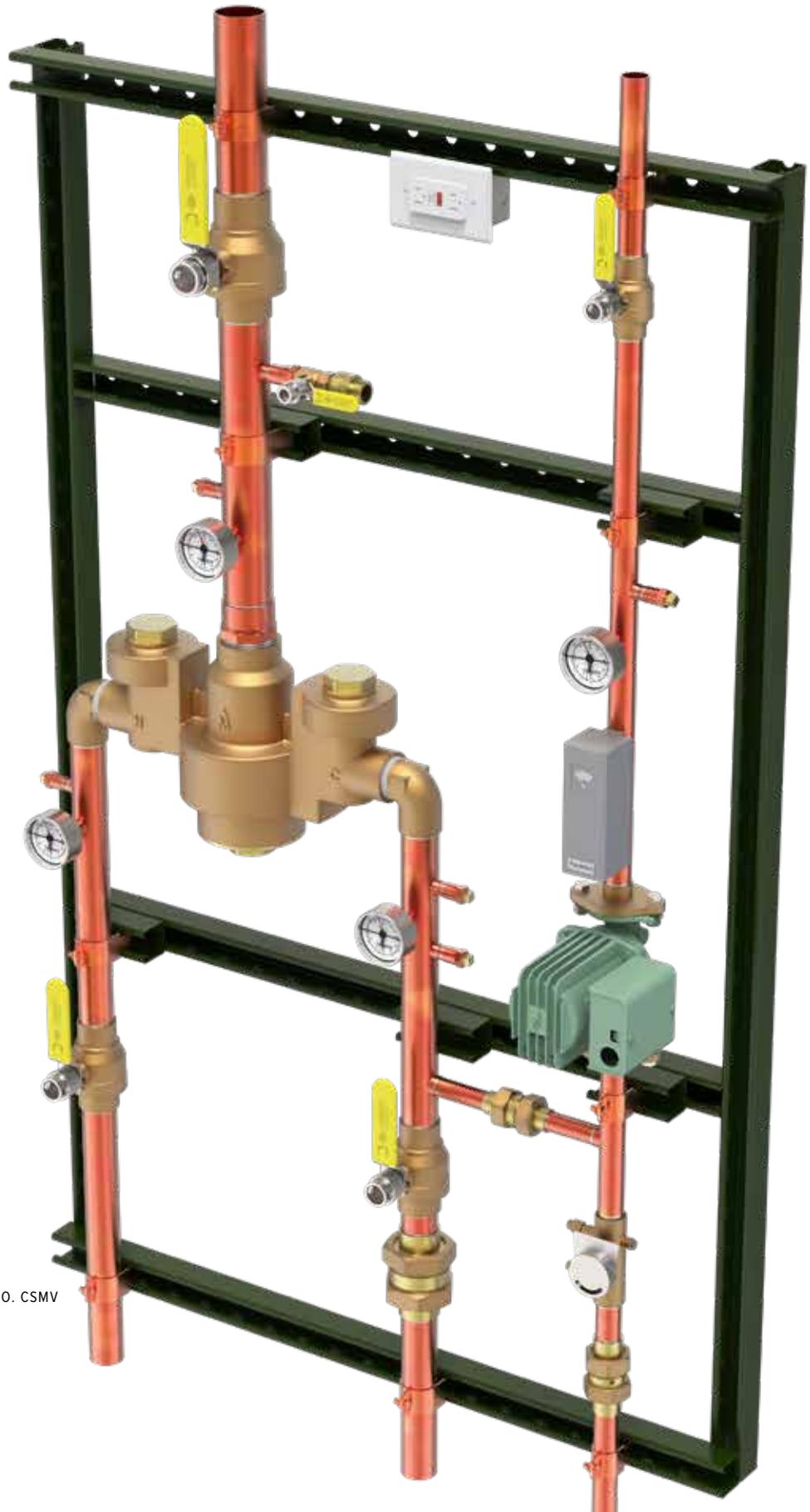
- » Includes MV17 Master Mixing Valves
- » Easy temperature adjustment by authorized personnel
- » High-quality thermal actuators for reliable performance
- » Lockable brass ball valves
- » Combination temperature/pressure gauges
- » Easy installation due to heavy-duty welded frame with pre-attached valves
- » Leak-free installation—100% air-under-water tested to 80 PSI
- » Includes GFI receptacle for electrical components
- » Upgrade to digital monitoring with the BASyC system—Command Station systems ship with necessary components to accommodate future upgrade

## STANDARDS

- » ASSE 1017
- » CSA B125.3
- » cUPC
- » Lead Free
- » Patent No. 9,898,017



MODEL NO. CSMV



# BASyC<sup>®</sup> MONITORING SYSTEM

MODEL NO. ABMV

The Acorn ConTrols<sup>®</sup> BASyC<sup>®</sup> system provides distributed regulation and monitoring of Acorn ConTrols mixing valves and a wide variety of temperature, pressure and flow sensors for recirculated hot water systems. The BASyC System is ideal for facilities that are looking to provide optimal bather safety, legionella regulation/monitoring and customized solutions.

## STANDARDS

- » ASSE 1017
- » CSA B125.3
- » cUPC
- » Lead Free



Operating Overview Screen

## FEATURES

### Installation/Maintenance

- » Simple, 24-volt system with 115VAC outlet connection—no electrician required
- » Quick, low-cost parts replacement
- » Non-proprietary electronics system easily interfaces with any building management software system

### Regulating

- » Each system can maintain up to 4 valves and 2 separate temperature loops or zones
- » Available with up to 34 inputs/outputs (16 universal inputs, 10 relay outputs, 8 analog outputs)
- » Inbuilt capacity/regulation redundancy features
- » Cost-effective customization: Reassign unused inputs and outputs to monitor, activate, or regulate third-party devices

### Safety

- » Actuator/thermostatic sensor redundancy ensures temperature control during power, equipment, or other failure
- » User-programmable sanitization feature with email alert

Command Station<sup>®</sup> System with  
BASyC upgrade

**BASyC<sup>®</sup>**  
by  **CONTRLS**



### Monitoring & Reporting

- » Generate highly customizable reports
- » Accurate flow and energy data on command

### Redundancy

The BASyC system provides redundancy in both electronic regulation and capacity. Powerful automation ensures that key safety and comfort-related capabilities remain active in the event of power, system, or other failure.

Trust the BASyC system to provide nonstop...

- » Outlet temperature and setpoint regulation
- » Flow to meet peak demand
- » Alarm/alert communications
- » Recirculation with an integral backup pump

# EMERGENCY TEMPERING VALVES

MODEL NO. ET71

ET71 is intended for use with emergency eye washes, face washes, eye/face wash combinations, and drench showers.

## FEATURES

- » Lead Free DZR Brass with corrosion-resistant internal components.
- » IAPMO Lab Certified to ASSE 1071 with minimum flow rates as low as 0.5 GPM.
- » The ET71 is capable of exceeding the temperature regulation accuracy requirements of ASSE 1071 at zero draw, i.e. user demand. The system must include a continuously operating recirculation pump capable of meeting the minimum flow rate of 0.5 to 3 GPM (based on the model) with a properly adjusted balancing valve. See the ET71 submittal sheet for more information.
- » Integral strainers are accessible for cleaning.
- » Paraffin wax design ensures reliable performance.
- » More reliable than bi-metal design valves, which can stick and provide unreliable and inconsistent performance.
- » Can operate at a lower flow rate.
- » 100% tested for porosity and crossflow.
- » Suitable for recirculating systems.
- » Reliable integral cartridge style checks.
- » 4 models ensure the appropriate size/flow for your application; eye washes, face washes, drench showers and combination units.
- » Patented, instantaneous cold water bypass ensures that hot water supply failure cannot prevent the cold water from reaching the safety device.
- » Connections: 1/2" to 1-1/2" NPT
- » Hex key setpoint adjustment and lock nut resists unauthorized setpoint changes.
- » Optional Outlet Temperature Gauge and Connection "T."
- » Unlike check stops that are standard with competitive products, optional Acorn ConTrols locking ball valves meet ANSI Z358.1 and ASSE 1071 requirements that state "if shut-off valves are installed in the supply line for maintenance purposes, provisions shall be made to prevent unauthorized shut-off." Acorn ConTrols' optional locking ball valves eliminate the need for a lockable cabinet to prevent unauthorized shut-off.
- » Ideal for use with: Acorn Safety Eye Washes, Eye/Face Washes, Drench Showers, and Combination Units to provide tepid water per ANSI z358.1.

## STANDARDS

- » ASSE 1071
- » CSA B125.3
- » UPC
- » Lead Free
- » Patent No.
  - 9,898,017
  - 9,879,658



ATTRIBUTE	VALUE
<b>Flow Rate</b>	up to 150 GPM @ 45 psid
<b>Temperature Adjustment Range</b>	60 to 95°F
<b>Minimum Hot Water Temperature Required</b>	5°F above setpoint
<b>Maximum Hot Water Temperature</b>	180°F
<b>Maximum Supply Pressure</b>	125 psi
<b>IAPMO certified Minimum Flow Rate, per ASSE 1071</b>	ET71-1: 1GPM ET71-2: 1GPM ET71-3: 3GPM ET71-4: 3GPM

# EMERGENCY TEMPERING VALVES – ASSE 1071

## SFET SERIES

### FEATURES

- » Based on ET71 Series Mixing Valves.
- » Delivers safe, tepid water to safety systems such as eye/face washes and drench showers.
- » 4 models/sizes based on minimum flow performance requirements and maximum flow demands.
- » Regulates temperature for both recirculating and nonrecirculating supply systems.
- » Special configurations allow for manifolding multiple valves, adding test ports, integrating hot and/or cold water bypass lines, pumps, etc., all in one complete assembly.
- » Available with upgradable BASyC® option



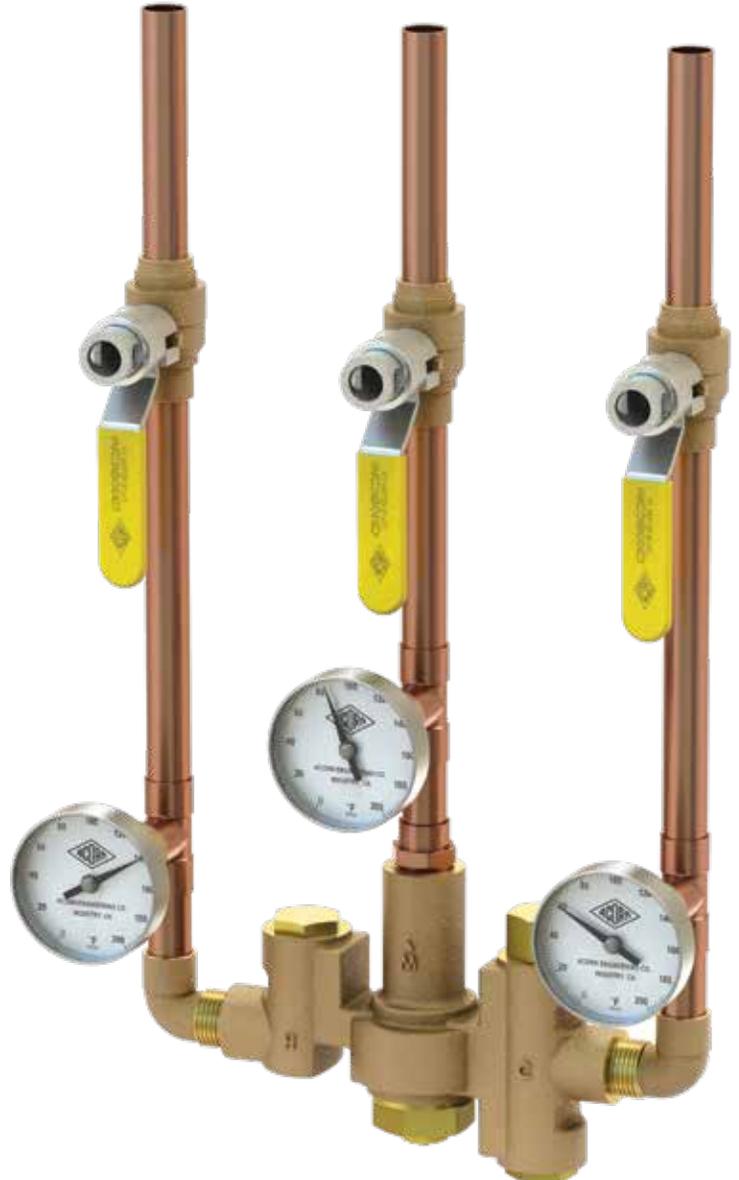
The full line of Acorn ConTROLS® supply fixtures are 100% factory assembled and tested. They typically include everything required to ensure proper installation, set-up, service and troubleshooting. The SFET Series supply fixture includes an ET71 thermostatic mixing valve.

### TYPICAL ITEMS INCLUDED

- » Ball valves on the inlets and outlet.
- » Outlet temperature gauge.
- » Piping.
- » Tempering valve with integral checks and strainers.
- » Cabinets are offered in wall-mounted and fully recessed versions, either painted or stainless steel with a piano hinge and lock.
- » Hot/cold water bypass.
- » Inlet temperature gauges.
- » Other modifications and options available upon request.

### STANDARDS

- » ASSE 1071
- » CSA B125.3
- » UPC
- » Lead Free
- » Patent No.  
- 9,898,017  
- 9,879,658



# COMMAND STATION® SYSTEM - CSET SERIES

## MODEL NO. CSET

The CSET Series Command Station system is a self-contained tempering and recirculating water system customized for emergency fixture applications.

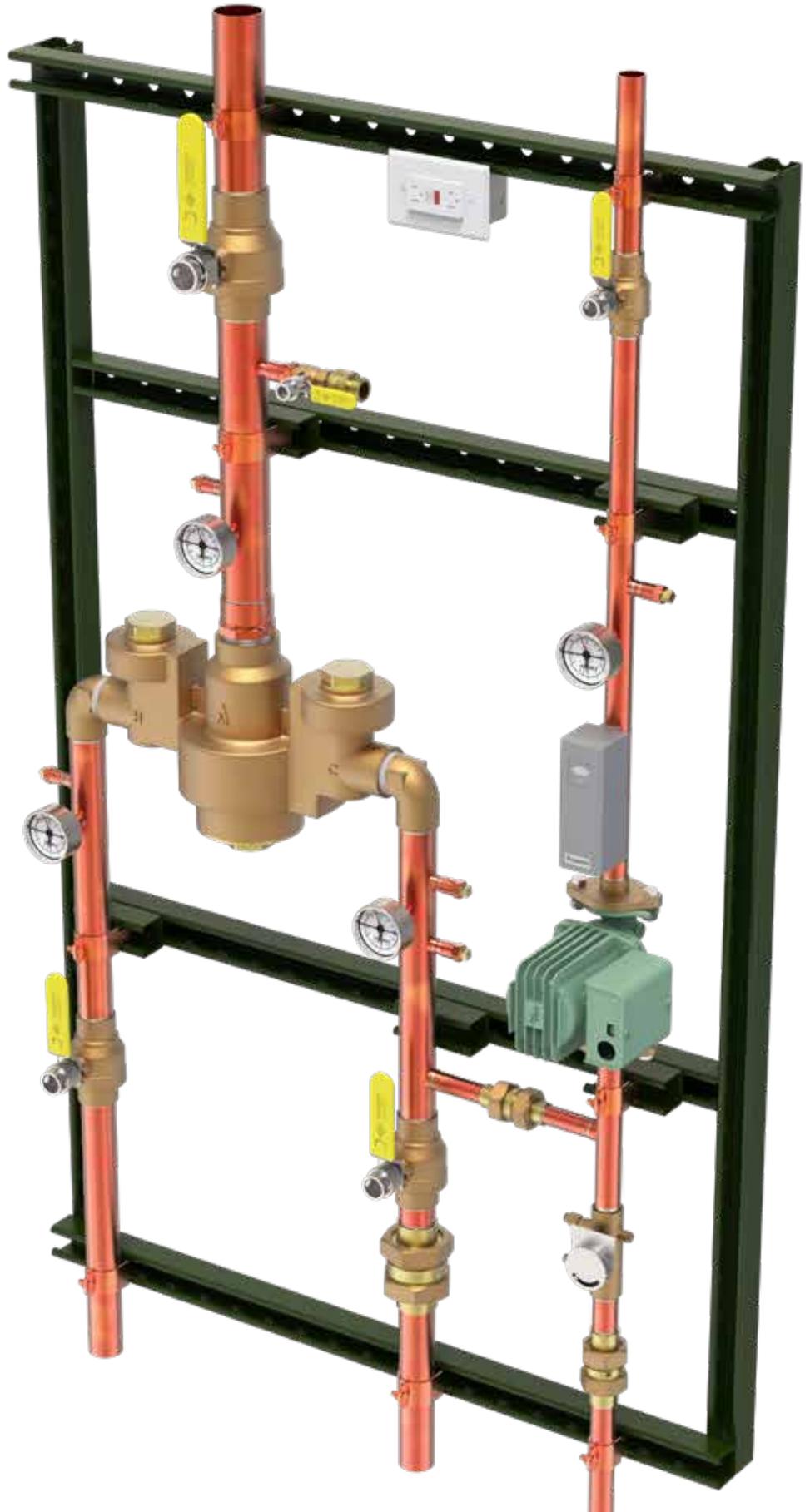
Model CSET is specifically designed to address the tepid water distribution and regulation needs in systems with emergency drench equipment. Model CSET utilizes ET71 valves to meet the requirements of ASSE 1071.

## FEATURES

- » Lead Free, DZR brass valve bodies with corrosion resistant and Lead Free internal components
- » Integral checks with strainers prevent crossflow and debris from damaging internal valve components
- » Easy temperature adjustment by authorized personnel
- » High-quality thermal actuators for reliable performance
- » Lockable brass ball valves
- » Combination temperature/pressure gauges
- » IAPMO-Certified valves capable of exceeding ASSE temperature and accuracy requirements
- » Easy installation due to heavy-duty welded frame with pre-attached valves
- » Leak-free installation—100% air-under-water tested to 80 PSI
- » Includes GFI receptacle for electrical components
- » Upgrade to digital monitoring with the BASyC® system—Command Station systems ship with necessary components to accommodate future upgrade

## STANDARDS

- » ASSE 1071
- » CSA B125.3
- » cUPC
- » Lead Free



# EMERGENCY TEMPERING VALVES – ASSE 1071

## MODEL NO. ABET

The Acorn ConTrols® BASyC® system provides distributed regulation and monitoring of Acorn Controls mixing valves and a wide variety of temperature, pressure and flow sensors for emergency tempered water systems. The BASyC System is ideal for facilities that are looking to provide optimal bather safety, legionella regulation/monitoring and customized solutions.



## FEATURES

### Installation/Maintenance

- » Simple, 24-volt system with 115VAC outlet connection—no electrician required
- » Quick, low-cost parts replacement

### Regulating

- » Each system can maintain up to 4 valves and 2 separate temperature loops or zones
- » Available with up to 34 inputs/outputs (16 universal inputs, 10 relay outputs, 8 analog outputs)
- » Inbuilt capacity/regulate redundancy features
- » Cost-effective customization: Reassign unused inputs and outputs to monitor, activate, or regulate third-party devices

### Safety

- » Actuator/thermostatic sensor redundancy ensures temperature regulation during power, equipment, or other failure
- » User-programmable sanitization feature with email alert

### Monitoring & Reporting

- » Generate highly customizable reports
- » Accurate flow and energy data on command

### Redundancy

The BASyC system provides redundancy in both electronic regulation and capacity. Powerful automation ensures that key safety and comfort-related capabilities remain active in the event of power, system, or other failure.

Trust the BASyC system to provide nonstop...

- » Outlet temperature and setpoint regulation
- » Flow to meet peak demand
- » Alarm/alert communications
- » Recirculation with an integral backup pump

### STANDARDS

- » ASSE 1071
- » CSA B125.3
- » cUPC



# EMERGENCY WATER TEMPERING SYSTEM & ALARM

MODEL NO. STS

This water tempering system provides usable tempered water immediately in an emergency, where time delays in receiving proper irrigation of hazardous material exposure can increase the severity of trauma and/or injury. Available tank and valve size options are able to supply multiple showers, eye/face washes and eyewashes simultaneously.

## FEATURES

- » 5' x 5' All stainless steel constructed skid for corrosive environments.
- » 120 gallon NON ASME tank with ET71-2 tempering valve standard. 120 and 300 gallon ASME tanks optional available.
- » 300 gallon tank will include ET71-3 tempering valve.
- » Utilizes Acorn ConTrols ET71 Series tempering valves which are IAPMO certified per ASSE 1071 and CSAB125.3.
- » Electrical components in NEMA4 standard, or optional NEMA7 classifications.
- » 15'(4.5 m), 10 gage, 4 wire power cord with 3", 4 blade twist-lock connector.

## STANDARDS

- » ASSE 1071
- » CSA B125.3
- » cUPC



# TEMPERING VALVE

MODEL NO. ST70

ST70 is a valve intended for use with lavatories, tubs, and single or multi-station sinks.

## FEATURES

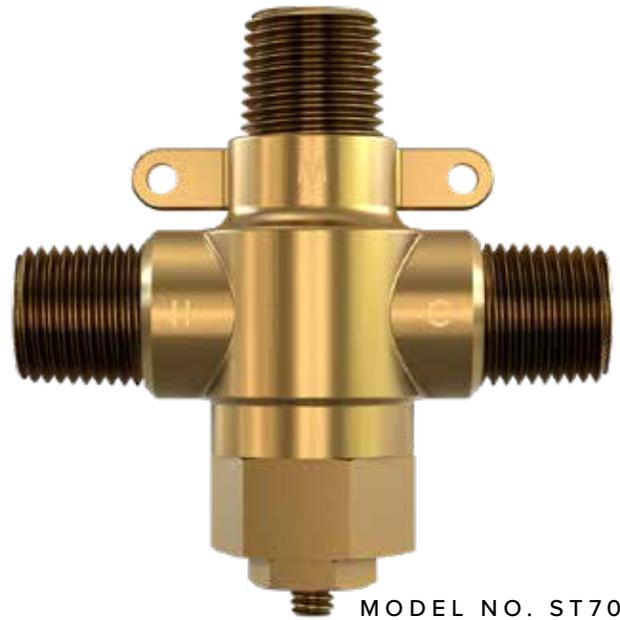
- » Lead Free Brass with corrosion-resistant internal components.
- » Brass or chrome plate finish.
- » ST70: IAPMO Lab Certified to ASSE 1070 at 0.25 GPM, for excellent regulation accuracy to a single low flow faucet.
- » Allen wrench temperature adjustment and locknut resists tampering.
- » Reliable integral cartridge style checks and strainers improve reliability and ensure safe performance.
- » Maximum Setpoint for ASSE 1070 performance: 115° F.
- » Connections: Available with 1/2" NPT or 3/8" compression fittings, both of which will accept standard flex line connections.
- » Factory set at 105° F
- » Ideal for use with: Acorn® lavatories and combys, Whitehall® Manufacturing Patient Care Units, and Chromomite® Instantaneous Electric Water Heaters.
- » Point of Use valve.
- » Paraffin wax design ensures reliable performance.
- » More reliable than bi-metal design valves, which can stick and provide unreliable and inconsistent performance.
- » Acorn Controls® valves operate at a lower flow rate.
- » 100% tested for porosity and crossflow.

## STANDARDS

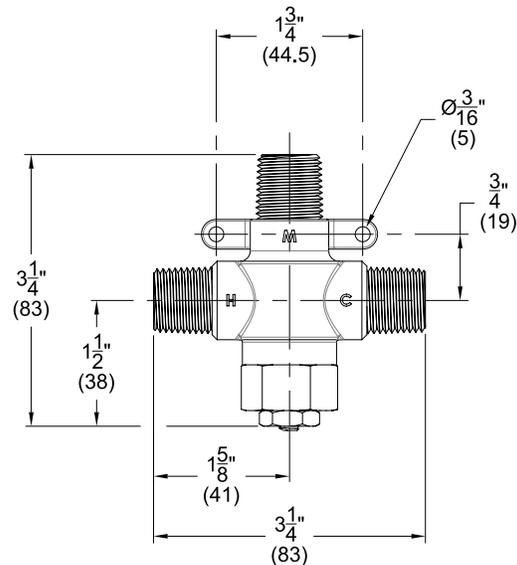
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- » CSA B125.3
- » cUPC
- » Lead Free
- » NSF/ANSI 61
- » Patent No. 9,898,017



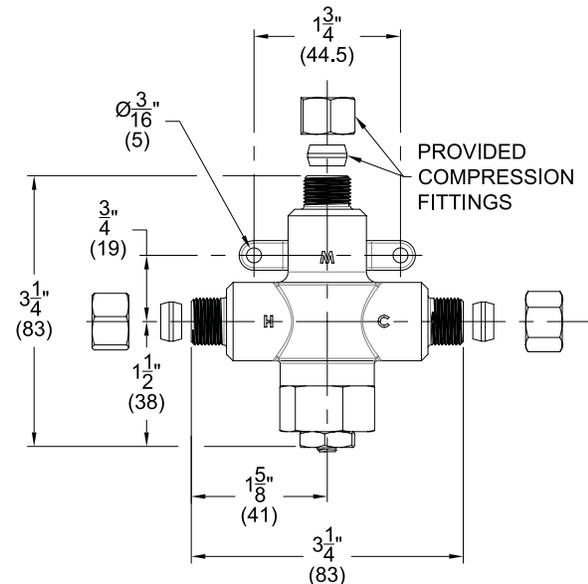
ATTRIBUTE	VALUE
<b>Flow Rate</b>	ST70-12: 4.5 GPM @ 45 psid ST70-38: 4.0 GPM @ 45 psid
<b>Temperature Adjustment Range</b>	85 to 115°F
<b>Minimum Hot Water Temperature Required</b>	5°F above setpoint under normal operating conditions
<b>Maximum Hot Water Temperature</b>	180°F
<b>Maximum Supply Pressure</b>	125 psi



MODEL NO. ST70-12



ST70-12



ST70-38

# ALPHA® THERMOSTATIC SHOWER AND LAVATORY TEMPERING VALVE

# Alpha<sup>®</sup>

by **ACORN CONTROLS**

MODEL NO. STP7069

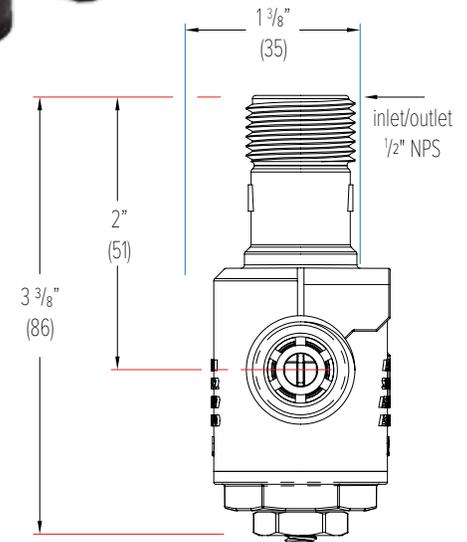
Alpha Model ST7069 is intended for use with group shower(s), meaning it could be used for one or two showers, sinks, tubs and lavatories.

## FEATURES

- » Noryl body/bonnet construction utilize Lead Free internal components that result in a corrosion/lime-resistant valve.
- » IAPMO Lab Certified to ASSE 1070 at 0.25 GPM, for excellent regulatory accuracy of a single low flow faucet. Also works with high flow and multiple faucets.
- » IAPMO Lab Certified to ASSE 1069 at 1.25 GPM for excellent regulation of a single, fixed temperature shower.
- » Integral mounting bracket.
- » Integral cartridge-style checks prevent cross-flow.
- » Strainers prevent debris from entering the valve.
- » Factory set to 105°F (41°C) and field adjustable.
- » Available with 1/2" NPS connections that accept standard flex connectors where desired. Optionally available with 3/8" or 1/2" Twistconnect™ fittings for quick/easy installations using copper, PEX and/or CPVC.
- » Point of use valve for sinks, baths, showers, or lavatories.
- » Paraffin wax design ensures reliable performance.
- » Acorn ConTrols® valves can operate at a lower flow rate.
- » 100% tested for porosity and crossflow.



MODEL NO. STP7069

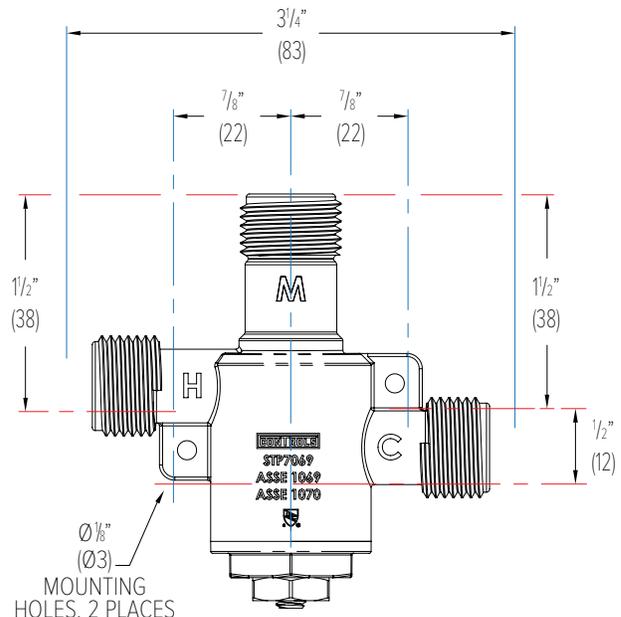


## STANDARDS

- » ASSE 1069
- » ASSE 1070
- » CSA B125.3
- » cUPC
- » Lead Free
- » Patent No. 9,898,017
- » NSF/ANSI 61



ATTRIBUTE	VALUE
Flow Rate	4.5 GPM @ 45 psi
Temperature Adjustment Range	85°F-115°F
Minimum Hot Water Temperature Required	5°F Above Set Point
Maximum Hot Water Temperature	180°F
Maximum Supply Pressure	125 PSI



# OMEGA® THERMOSTATIC SHOWER AND LAVATORY TEMPERING VALVE



MODEL NO. ST7017

The Omega valve ST7017 is intended for use in hot water distribution systems, as a hot water extender and/or to limit the distribution temperature supplied to sinks, bidets, lavatories, showers and/or bathtubs.

## FEATURES

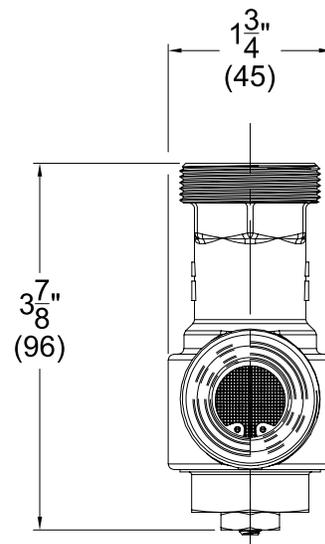
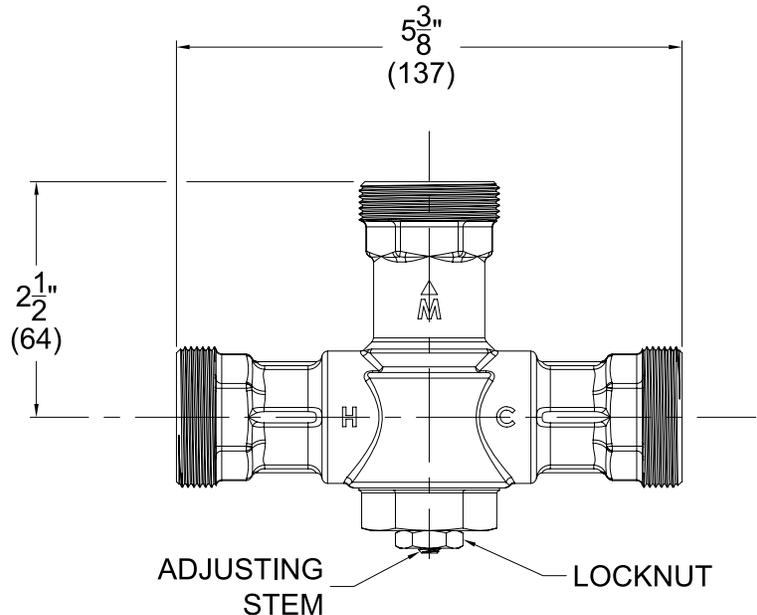
- » Lead Free DZR brass body with corrosion-resistant and Lead Free internal components.
- » Integral cartridge-style checks prevent cross-flow and strainers filter debris from entering the valve.
- » Temperature adjustment is made using an Allen wrench. A locknut on the bonnet prevents unauthorized or accidental temperature adjustment.
- » Commercial quality paraffin thermal actuator provides repeatable, reliable performance.
- » Factory set to 105°F (41°C) and field adjustable.
- » IAPMO certified to ASSE 1070 down to 0.1 GPM (0.4 LPM) within ± 7°F (5.5°C).
- » IAPMO certified to ASSE 1017 down to 0.1 GPM (0.4 LPM).
- » The ST7017 is capable of exceeding the temperature regulation accuracy requirements of ASSE 1070 and 1017 at all flow requirements without requiring a continuously recirculating pump.
- » More reliable than bi-metal design valves, which can stick and provide unreliable and inconsistent performance.
- » Acorn ConTrols® valves can operate at a lower flow rate.
- » 100% tested for porosity and crossflow.
- » Can be used as a hot water extender to increase hot water capacity

## STANDARDS

- » ASSE 1017
- » ASSE 1070
- » CSA B125.3
- » cUPC
- » Lead Free
- » Patent No. 9,989,017



ATTRIBUTE	VALUE
<b>Flow Rate</b>	1/2" 18.6 gpm, 3/4" 21.3 gpm, 1" 24.0 gpm (at 45 psid)
<b>Temperature Adjustment Range</b>	100 to 130°F
<b>Minimum Hot Water Temperature Required</b>	5°F above setpoint under normal operating conditions
<b>Maximum Hot Water Temperature</b>	180°F



# SHOWERING & LAVATORY TEMPERING VALVE

MODEL NO. ST7069

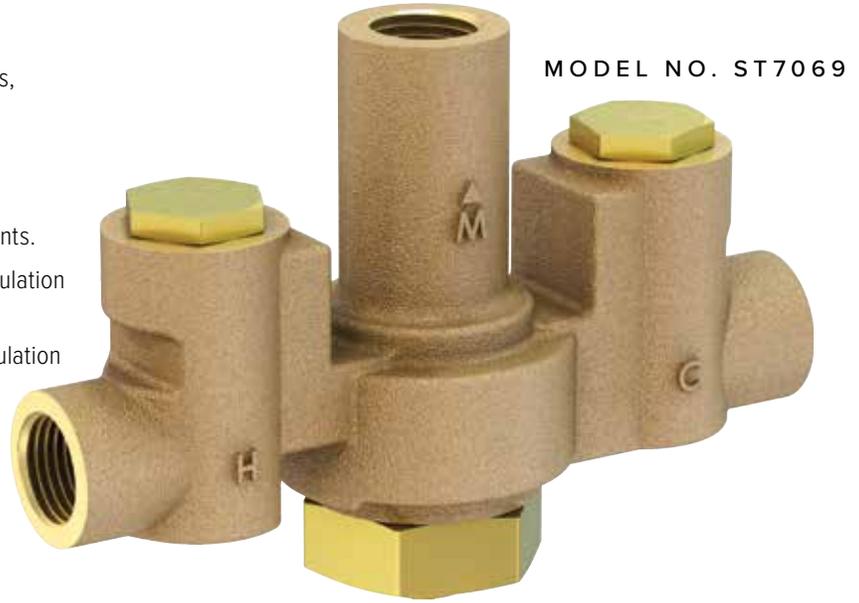
ST7069 is intended for use with single temperature showers, sinks, bidets, lavatories and bathtubs.

## FEATURES

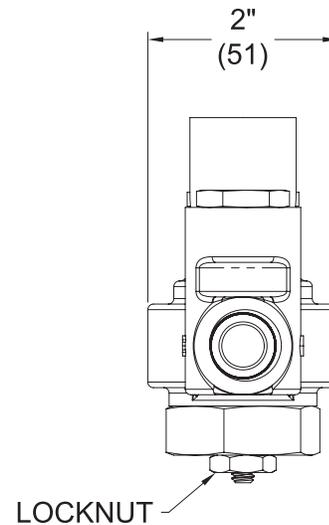
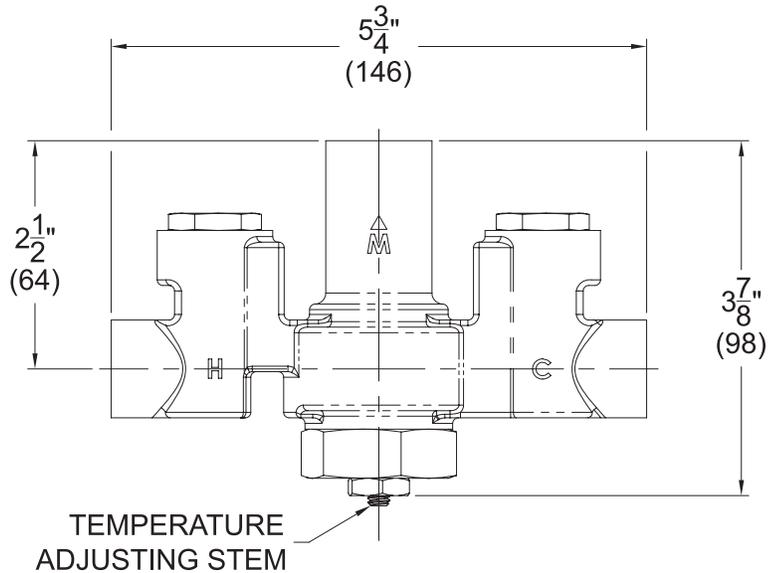
- » Lead Free DZR Brass with corrosion-resistant internal components.
- » IAPMO Lab Certified to ASSE 1070 at 0.5 GPM, for excellent regulation accuracy of a single 1/2 GPM faucet.
- » IAPMO Lab Certified to ASSE 1069 at 0.5 GPM for excellent regulation of a single, low flow, fixed temperature shower.
- » Integral strainers are accessible for cleaning.
- » Reliable integral cartridge style checks.
- » 1/2 NPT connections.
- » Allen wrench setpoint adjustment and lock nut resists unauthorized setpoint changes.
- » Optional inlet ball valves and outlet gauge are available.
- » Point of use valve for sinks, baths, showers, or lavatories.
- » Paraffin wax design ensures reliable performance.
- » More reliable than bi-metal design valves, which can stick and provide unreliable and inconsistent performance.
- » 100% tested for porosity and crossflow.
- » IAPMO listed, industry-leading minimum flow.
- » Ideal for use with: Acorn® Group Showers and Whitehall® Whirlpools.

## STANDARDS

- » ASSE 1069
- » ASSE 1070
- » CSA B125.3
- » cUPC
- » Lead Free
- » NSF/ANSI 61
- » Patent No. 9,989,017



MODEL NO. ST7069



ATTRIBUTE	VALUE
<b>Flow Rate</b>	12 GPM @ 45 psid (handles up to 24 low flow faucets or 8 fixed temperature showers)
<b>Temperature Adjustment Range</b>	90 to 115°F
<b>Minimum Hot Water Temperature Required</b>	10°F above setpoint under normal operating conditions
<b>Maximum Hot Water Temperature</b>	180°F
<b>Maximum Supply Pressure</b>	125 psi

# SFST SUPPLY FIXTURE

## MODEL NO. SFST SERIES

The full line of Acorn ConTrols® supply fixtures are 100% factory assembled and tested. They typically include everything required to ensure proper installation, set-up, service and troubleshooting. The SFST Series supply fixture includes an ST7069 thermostatic mixing valve.

### TYPICAL ITEMS INCLUDED

- » Ball valves on the inlets and outlet.
- » Outlet temperature gauge.
- » Piping.
- » Tempering valve with integral checks and strainers.
- » Cabinets are offered in wall-mounted and fully recessed versions, either painted or stainless steel with a piano hinge and lock.
- » Hot/cold water bypass.
- » Inlet temperature gauges.
- » We are pleased to consider other modifications and options upon request.

### FEATURES

- » Based on the ST7069 Mixing Valve.
- » Delivers safe, tempered water to point of use fixtures such as sinks, baths and showers.
- » Ideal for commercial, institutional or residential applications.
- » Available with upgradable BASyC® option.



### STANDARDS

- » ASSE 1069
- » ASSE 1070
- » CSA B125.3
- » NSF/ANSI 61
- » cUPC
- » Lead Free
- » Patent No. 9,898,017



# SHOWERING AND TEMPERING VALVES

## MODEL NO. SV16

SV16 is a point-of-use thermostatic-based Temperature/Pressure compensating Shower Valve.

### FEATURES

- » Exceeds the setpoint regulation test requirements of ASSE 1016-2011, T/P at 1.25 GPM as certified by IAPMO Lab tests.
- » Maximum temperature limit stop is factory set to 110°F – no installer adjustment required.
- » Lead Free DZR Brass with corrosion-resistant internal components.
- » Allows a bath temperature as high as 5 degrees below the hot water supply temperature, 5 degree approach temperature allows lower hot water distribution temperature, which is critical when low hot water supply temperatures are required by code or as a means to help avoid scalding.<sup>1</sup>
- » Non-binding ceramic shut-off with non-rising stem ensures long-term reliability, eliminating the gap between the handle and faceplate to reduce risk of pinching, and provides ADA compliance throughout the entire temperature operating range.
- » Integral check stops and accessible inlet strainers.
- » Field reversible cartridge eliminates the need for cross-piping in back-to-back installations and helps easily rectify a reverse piping installation error.
- » Thermostatic regulation is recommended by the CDC and ASHRAE in publications addressing higher hot water supply temperatures as a means of limiting the spread of Legionella.
- » Comparable in cost to commercial grade Pressure Balance (Type P) shower valves.
- » Available in all metal, ligature-resistant (std) or lever handle trim packages.
- » Ideal for use with: Standard T/P valve for all Acorn® Shower-Ware® products and systems.
- » Paraffin wax design ensures reliable performance.
- » More reliable than bi-metal design valves, which can stick and provide unreliable and inconsistent performance.
- » Acorn ConTrols® valves can operate at a lower flow rate.
- » 100% tested for porosity and crossflow.
- » IAPMO certified for use with low flow showerheads.

### STANDARDS

- » ADA
- » ASSE 1016 Type T/P
- » CSA B125.1
- » cUPC
- » Lead Free
- » Ligature Resistant
- » Patent Nos. D697,591-S 10,474,170-B2



**NOB STYLE**  
MODEL NO. SV16



**LEVER STYLE**  
MODEL NO. SV16-LVR

ATTRIBUTE	VALUE
<b>Flow Rate</b>	4 GPM @ 45 psid
<b>Minimum Flow Rate</b>	per ASSE 1016 type T/P 1.25 gpm
<b>Temperature Adjustment Range</b>	85 to 115°F
<b>Minimum Hot Water Temperature Required</b>	5°F above setpoint
<b>Maximum Hot Water Temperature</b>	180°F
<b>Maximum Supply Pressure</b>	125 psi

<sup>1</sup> Based on scalding concerns while using Pressure Balancing valves and/or no scald protection at the fixture. Maintaining a minimum of 124°F throughout the domestic hot water recirculating system is recommended by the CDC, ASRAE, OSHA, AWT and others in published documents relating to Legionella mitigation and prevention.

# PRODUCT OPTIONS AND ACCESSORIES



**ECONO-SOWERHEAD**  
MODEL NO. ESH15



**INLINE 3 PORT  
DIVERTER VALVE**  
MODEL NO. IDIV



**HANDHELD GRAB BAR  
MOUNTING BRACKET**  
MODEL NO. HHGB



**HANDHELD SUPPLY ELBOW**  
MODEL NO. HHSE



**HANDHELD SHOWER**  
MODEL NO. HHW



**GRAB BAR**  
MODEL NO. 1108



**TUB SPOUT**  
MODEL NO. TUB1

## SHOWERHEADS - FEATURING CONSTANT FLOW RESTRICTORS:

- » 1.5 or 2.5 GPM Chrome Plated Brass Conical Ligature-Resistant Showerhead
- » 1.5 or 2.5 GPM Chrome Plated ABS Economy Showerhead
- » 1.5 or 2.5 GPM Large Chrome Plated Brass Showerhead
- » 1.5 or 2.5 GPM Chrome Plated Brass Showerhead

## SHOWERHEAD CONNECTION:

- » Deluxe Arm and Flange

## TUB SPOUTS:

- » Tub Spout, Chrome Plated Brass w/ Divert. & 1/2" NPT or 3/4" NPT Adapter
- » Tub Spout, Chrome Plated Zinc w/ Divert. & 1/2" NPT or 3/4" NPT Adapter
- » Tub Spout, Chrome Plated Brass w/ Divert. & 1/2" Slip Fit Connection
- » Tub Spout, Chrome Plated Zinc, No Divert. w/ 1/2" NPT Connection

## HANDHELD SHOWER HANDLES:

- » 1.5 GPM Chrome Handheld Shower
- » 1.5 GPM White Handheld Shower

## HANDHELD SHOWER HOSE:

- » 60" Stainless Steel or Vinyl Handheld Shower Hose

## HANDHELD MOUNTING:

- » 24" or 30" Glide Rail
- » Handheld Grab Bar Mounting Bracket
- » Handheld Wall Mounting Bracket

## DIVERTER:

- » Diverter Valve
- » Inline 3 Port Diverter Valve

## GRAB BARS:

- » 24" or 36" Grab Bar

## VACUUM BREAKER:

- » Exposed Elevated Vacuum Breaker
- » Inline Vacuum Breaker

## HANDHELD SUPPLY CONNECTION:

- » Handheld Supply Elbow
- » Quick Disconnect

# TEMPFLOW® ZONE BALANCING VALVE

## MODELS TZV1 AND TZV2

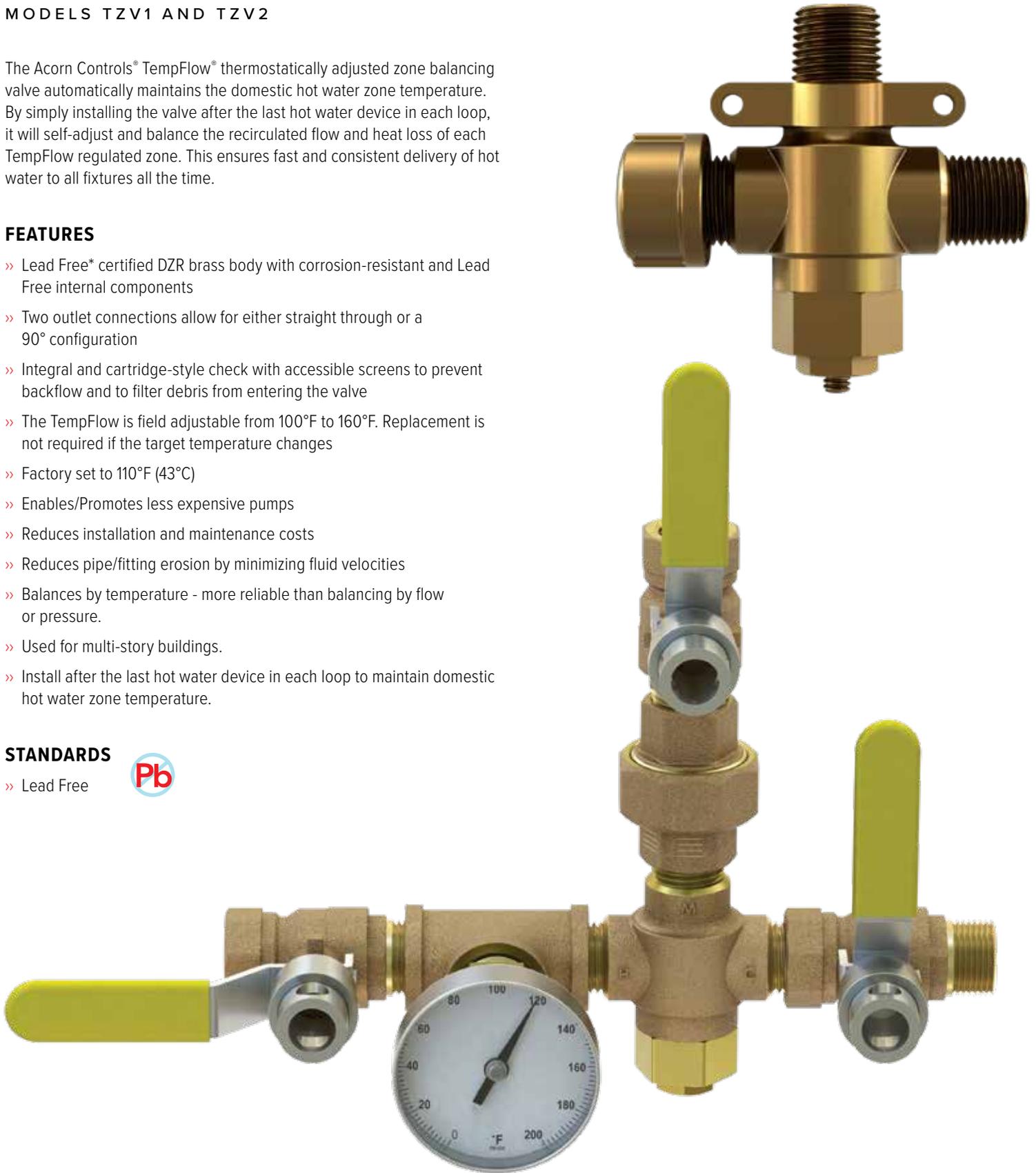
The Acorn Controls® TempFlow® thermostatically adjusted zone balancing valve automatically maintains the domestic hot water zone temperature. By simply installing the valve after the last hot water device in each loop, it will self-adjust and balance the recirculated flow and heat loss of each TempFlow regulated zone. This ensures fast and consistent delivery of hot water to all fixtures all the time.

### FEATURES

- » Lead Free\* certified DZR brass body with corrosion-resistant and Lead Free internal components
- » Two outlet connections allow for either straight through or a 90° configuration
- » Integral and cartridge-style check with accessible screens to prevent backflow and to filter debris from entering the valve
- » The TempFlow is field adjustable from 100°F to 160°F. Replacement is not required if the target temperature changes
- » Factory set to 110°F (43°C)
- » Enables/Promotes less expensive pumps
- » Reduces installation and maintenance costs
- » Reduces pipe/fitting erosion by minimizing fluid velocities
- » Balances by temperature - more reliable than balancing by flow or pressure.
- » Used for multi-story buildings.
- » Install after the last hot water device in each loop to maintain domestic hot water zone temperature.

### STANDARDS

- » Lead Free



# AUTOMATIC TEMPERATURE MONITORING ALARM SYSTEM

MODEL NO. ATM-1



## SPECIFICATIONS:

<b>Mounting:</b>	Wall or Desk
<b>Electrical:</b>	24 VAC
<b>Transformer:</b>	10 VAC to 24 VAC Plug-in
<b>Power Consumption:</b>	40 VA Max.
<b>Temp Range:</b>	40°F - 199°F (4°C - 93°C)
<b>Accuracy:</b>	± 1.0°F (± 1.8°C)
<b>Sensor:</b>	Type "T" Thermocouple
<b>LED Display:</b>	Red and Green
<b>Alarm:</b>	High Temperature Warning/ Alarm

The Acorn ConTrols® Automatic Temperature Monitor (ATM) is a microprocessor-based device for sensing and alerting of abnormal temperature conditions. Target applications for this device are in health care and nursing facilities, but can be used anywhere a temperature alarm is required.

## FUNCTION

The Acorn ConTrols ATM-1 Automatic Temperature Monitoring Alarm System is ideal for monitoring domestic and institutional tempered water systems. With the use of an optional solenoid valve, the ATM-1 will alert and shut down tempered water flow when the water temperature exceeds preset limit conditions. Most common commercial uses would include hospitals, shower rooms, therapeutic applications, boilers and hot water heaters.

## FEATURES

- » Microprocessor Based Temperature Monitor
- » 110 VAC to 24 VAC Plug-In Transformer (40 VA)
- » LED Temperature, Limit Setting, and Alarm Display
- » Stainless Steel Cabinet
- » Type "T" Thermocouple, with 10 Feet Wire
- » Compression Fittings
- » Plug & Play system – no electrical contractor required
- » Red Warning Light and Buzzer
- » Keyed Buzzer
- » Latching Warning and Limit Alarm
- » Manual Reset
- » High/Low Temperature Monitoring
- » Adjustable Temperature Settings
- » Security Lockout Code

# PRESSURE REDUCING VALVES

## MODEL RV03P SERIES

Series RV03 Water Pressure Reducing Valves are designed to reduce incoming potable water pressure to protect plumbing system components and reduce water consumption.

### APPLICATION

Series RV03 Water Pressure Reducing Valves are designed to regulate incoming potable water pressure to protect plumbing system components and reduce water consumption. The valve is suitable for supply pressures up to 400psi (27.6 bar), is factory set to 50psi and may be adjusted from 10-75psi (69-517 kPa).

Optionally available with factory preset pressure to suit customer requirements (must specify). All parts, including the strainer, are quickly and easily serviceable without removing the valve from the line. The Integral Bypass prevents excessive downstream pressure caused by thermal expansion. The RV03 is designed to provide longevity with smooth, quiet operation under a wide range of inlet pressure and flow variations.

### SPECIFICATIONS

Pressure Rating ..... 400 PSI (2758 kPa)

Temperature Rating ..... 180°F (82.2°C)

Adjustable Pressure Range ... 10-75 PSI (69-517 kPa)

Factory Preset ..... 50±5 PSI (345kPa)

### STANDARDS

- » NSF/ANSI 61
- » ASSE 1003
- » CSA B356-10
- » cUPC
- » Lead Free



### FEATURES

- » All Stainless Steel Hardware eliminates need for “Sealed Cage”
- » Integral 300 Series Stainless Steel Strainer
- » Available in Sizes 1/2” to 2” with Sweat, NPTF, PEX, Press and CPVC Adapter Kits
- » Brass Body and Internal Stem
- » Lead Free\* Construction to meet NSF-61 Requirements
- » EPDM Seals and Reinforced Rolling Diaphragm
- » Available with Engineered UV Resistant Thermoplastic or Steel Bonnet
- » Temporary Spool Kit available; refer to Acorn Controls® RVSK Spool Kit
- » Optional Pressure Gauge Available
- » Valve Bodies and Gauge Adapters have female NPT threads to allow for installation without optional adapter(s).



MODEL NO. RV03P0-100G

**PRESSURE REDUCING VALVES**  
**MODEL RV03P SERIES**

**GUIDE SPECIFICATION**

The Acorn ConTrols® RV03 PRV Water Pressure Reducing Valve shall be installed, when supply pressures are inconsistent or they exceed desired levels. The water pressure regulating valve shall be constructed of Lead Free\* materials and shall comply with the national Lead Free law, ASSE 1003 & NSF-61. The main Body shall be constructed of Lead Free brass

while the Bonnet is made of UV resistant material. An internal bypass will permit the flow of water back through the Valve into the main when pressure increases due to thermal expansion occurring downstream from the valve. Stainless steel springs and adjusting bolts eliminate the need for a “sealed cage”. The Pressure Reducing Valve shall be a Acorn ConTrols RV03 Series

VALVE SIZE	ADAPTER	DIMENSION									
		A		B		C		D		E	
1/2"	Sweat	3-3/8"	86mm	1"	25mm	5"	127mm	1-5/8"	41mm	4-3/4"	121mm
	NPTF			7/8"	22mm						
	PEX			1"	25mm						
	CPVC			7/8"	22mm						
	Press Fit			1-1/4"	32mm						
3/4"	Sweat	3-3/8"	86mm	1"	25mm	5"	127mm	1-5/8"	41mm	4-3/4"	121mm
	NPTF			7/8"	22mm						
	PEX			1"	25mm						
	CPVC			1-1/8"	29mm						
	Press Fit			1-3/8"	35mm						
1"	Sweat	3-7/8"	98mm	1-1/8"	29mm	5-3/4"	6-7/8"	1-7/8"	48mm	5-1/2"	140mm
	NPTF			1"	25mm						
	PEX			1-1/8"	29mm						
	CPVC			1-1/8"	29mm						
	Press Fit			1-3/8"	35mm						
1-1/4"	Sweat	5"	127mm	1-1/4"	32mm	6-7/8"	175mm	2-3/8"	60mm	8-1/8"	206mm
	NPTF			1-1/8"	29mm						
	PEX			1-1/4"	32mm						
	CPVC			1-1/4"	32mm						
	Press Fit			1-5/8"	41mm						
1-1/2"	Sweat	5"	127mm	1-1/4"	32mm	6-7/8"	175mm	2-7/8"	73mm	8-1/8"	206mm
	NPTF			1-1/8"	29mm						
	PEX			1-3/8"	35mm						
	CPVC			1-5/8"	41mm						
	Press Fit			2"	51mm						
2"	Sweat	5"	127mm	1-1/4"	32mm	7"	178mm	3-1/2"	89mm	8-1/8"	206mm
	NPTF			1-1/8"	29mm						
	PEX			1-3/4"	44mm						
	CPVC			2"	51mm						
	Press Fit			2-1/4"	57mm						

# PRESSURE REDUCING VALVES

## MODEL RV03B SERIES

### APPLICATION

Series RV03B Water Pressure Reducing Valves are designed to reduce incoming potable water pressure to protect plumbing system components and reduce water consumption. The Valve is suitable for supply pressures up to 400psi (27.6 bar), is factory set to 50psi and may be adjusted from 10-75psi (69-517 kPa). Optionally available with factory preset pressure to suit customer requirements (must specify). All parts, including the strainer, are quickly and easily serviceable without removing the Valve from the line. The Integral Bypass prevents excessive downstream pressure caused by thermal expansion. The RV03B is designed to provide longevity with smooth, quiet operation under a wide range of inlet pressure and flow variations.

### SPECIFICATIONS

Pressure Rating ..... 400 PSI (2758 kPa)  
 Temperature Rating ..... 180°F (82.2°C)  
 Adjustable Pressure Range ... 10-75 PSI (69-517 kPa)  
 Factory Preset ..... 50±5 PSI (345kPa)

### STANDARDS

- » NSF/ANSI 61
- » ASSE 1003
- » CSA B356-10
- » cUPC
- » Lead Free



### FEATURES

- » All Stainless Steel hardware eliminates need for “Sealed Cage”
- » Integral 300 Series Stainless Steel Strainer
- » Sizes Available 2-1/2” to 3”
- » Brass Body and Internal Stem
- » Lead Free\* Construction to meet NSF-61 Requirements
- » EPDM Seals and Reinforced Rolling Diaphragm
- » Optional Pressure Gauge Available



MODEL NO. RV03B0-30

### GUIDE SPECIFICATION

Acorn ConTrols® RV03B PRV Water Pressure Reducing Valve shall be installed, when supply pressures are inconsistent or they exceed desired levels. The water pressure regulating valve shall be constructed of Lead Free\* materials and shall comply with the national Lead Free law, ASSE 1003 & NSF-61. The main Body and Bonnet shall be constructed of Lead Free brass. An internal bypass will permit the flow of water back through the Valve into the main when pressure increases due to thermal expansion occurring downstream from the valve. Stainless steel springs and adjusting hardware eliminate the need for a “sealed cage”. The Pressure Reducing Valve shall be an Acorn Controls® RV03B Series.

VALVE SIZE	DIMENSION											
	A		B		C		D		E		F	
2-1/2"	8-1/2"	216mm	14-3/8"	365mm	4-1/2"	107mm	4"	107mm	1-7/8"	48mm	2-1/4"	57mm
3"												

## SPOOL KIT

### MODEL RVSK SERIES

#### APPLICATION

Series RVSK Spool Kits are designed as a temporary spacer in potable water systems. The face-to-face length of the spool piece matches that of the Acorn ConTrols® RV03. These are intended for installation in newly constructed systems to both deter theft and help prevent valve damage caused by start-up debris.

The Spool Kit permits testing of the piping for leaks and pressure loss while providing means to flush piping systems prior to installing the PRV. The kit allows for fast and easy replacement with the suitable Pressure Regulating Valve and features Lead Free construction suitable for water supply pressures up to 400psi (27.6bar) and temperatures up to 180°F (82.2°C).

#### STANDARDS

- » NSF/ANSI 372
- » Lead Free



MODEL NO. RVSK-1CC0

#### FEATURES

- » Flush supply lines of all foreign material such as pipe dope, chips or solder prior to connecting to mixing valve.
- » To ensure proper installation, review the Manual thoroughly to verify dimensional details before beginning any work.
- » Installation and field adjustment are the responsibility of the installer.
- » Maximum water pressure is 400 PSI (2758kPa).
- » Maximum temperature rating is 180°F (82°C).

## CHECK VALVE

### MODEL CV SERIES

Check Valves are designed to allow flow in one direction and protect against crossflow.

#### PRODUCT FEATURES & BENEFITS:

- » Available in 1/2" - 1-1/2" with Sweat, NPTF, PEX, Press and CPVC Adapter Kits
- » Lead Free\* Construction
- » EPDM Gaskets
- » Engineered Thermoplastic
- » Stainless Steel Springs
- » Cracking Pressure <0.5 PSI
- » High Flow Rates
- » Optional Strainer Available

#### STANDARDS

- » NSF/ANSI 372
- » Lead Free



MODEL CV-2AAF

#### SPECIFICATIONS:

- » Pressure Rating: 125 PSI (862 kPa)
- » Temperature Rating: 180°F (82.2°C)

#### FLOW COEFFICIENT CV:

- » 1/2" ..... 5.9
- » 3/4" ..... 6.1
- » 1" ..... 9.8
- » 1-1/4" ..... 21.0
- » 1-1/2" ..... 25.3

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