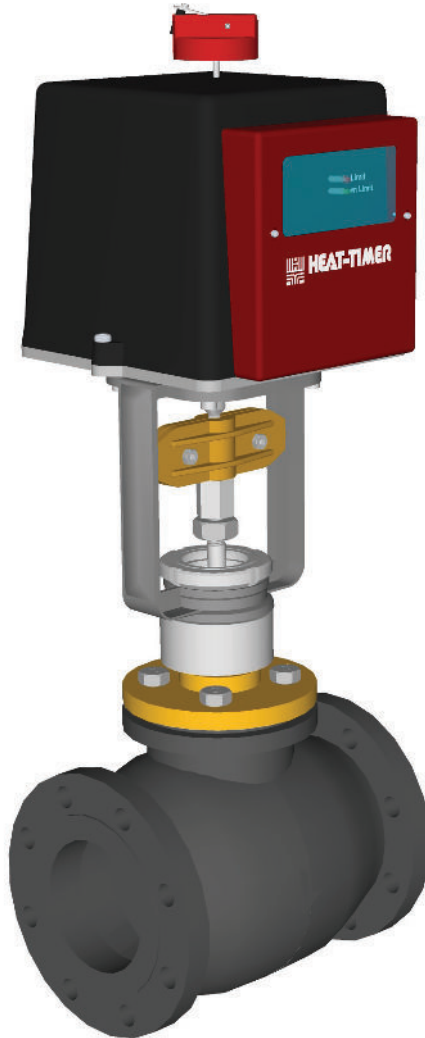


Installation and Operation Manual

2-Way Motorized Valves

with Feedback

for Vacuum and Subatmospheric Steam Heating Systems



⚠ WARNING

All Heat-Timer controls and valves are strictly operating controls and valves; they should never be used as a primary limit or safety control. All equipment must have its own certified limit and safety controls required by local codes. The installer must verify proper operation and correct any safety problems prior to the installation of any Heat-Timer equipment.

 **HEAT-TIMER**[®]
CORPORATION

APPLICATIONS

Steam Heating Applications

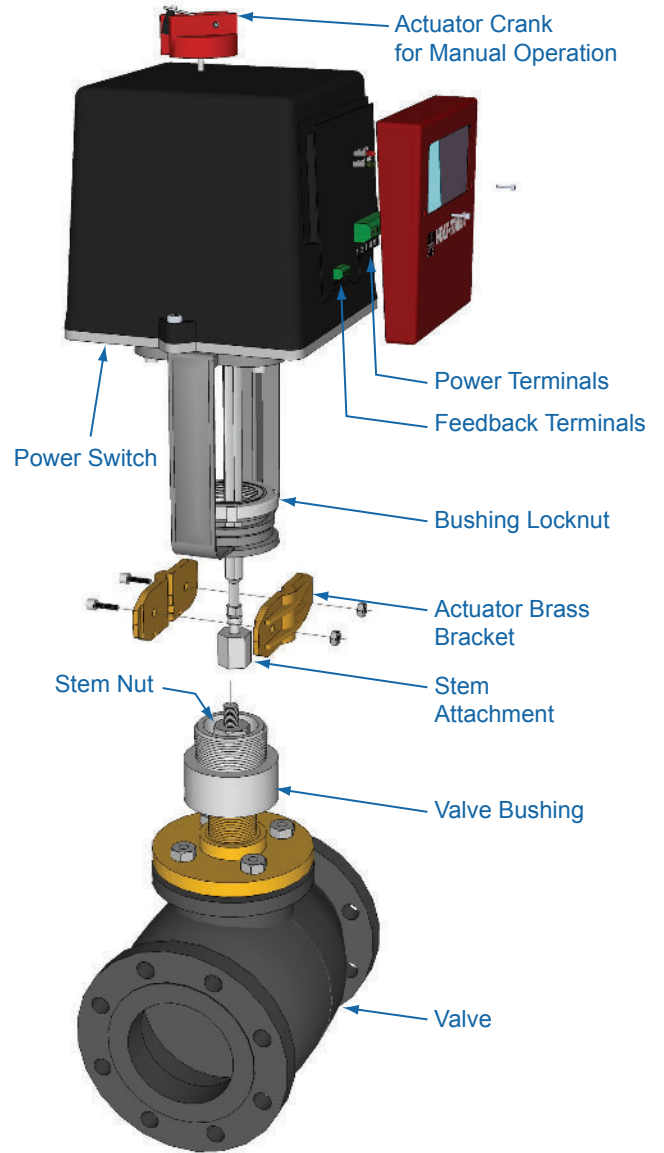
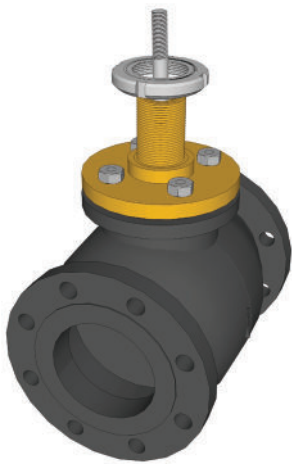
The 2-Way Floating Motorized Valves are used to modulate or turn on or off the vacuum (subatmospheric steam) to a building or process applications. They are used with Heat-Timer steam heating controls (MPC Platinum and SRC Platinum controls).

INSTALLATION

Components

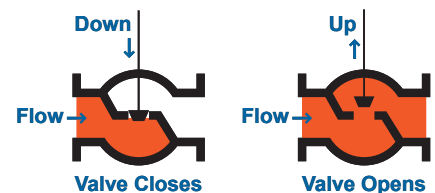
A Valve and actuator are usually shipped in different crates or boxes. The following components are shipped per the following packing lists:

Valve Package:	Actuator Package:
<ul style="list-style-type: none"> • Valve • Bushing Locknut 	<ul style="list-style-type: none"> • Actuator • Actuator Brass Bracket (with two hex screws and two nuts). • Hex Wrench (#5) • 24 VAC Transformer • Stem Nut • Stem Attachment • Valve Bushing



Flow Direction

- The valve body has an arrow to show the flow direction.
- Actuator shaft moving Down will close the valve.
- Actuator Shaft moving Up will open the valve.



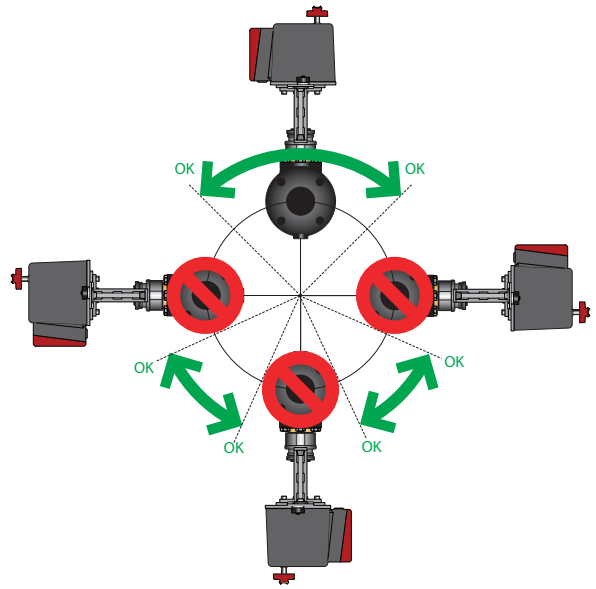
HT# 059301-00 A

Mounting Alignment

- To avoid valve problems, all dirt, metal shavings, and debris inside the piping must be removed or flushed out prior to installing the valve.
- The preferred installation position of the valve and actuator is upright. However, where space restrictions dictate, the valve assembly can be mounted diagonally.
- The installation should account for an additional clearance of 4 to 6" above the actuator. This space is needed for the manual operation of the actuator. See "Actuator Manual Operation" on page 4.

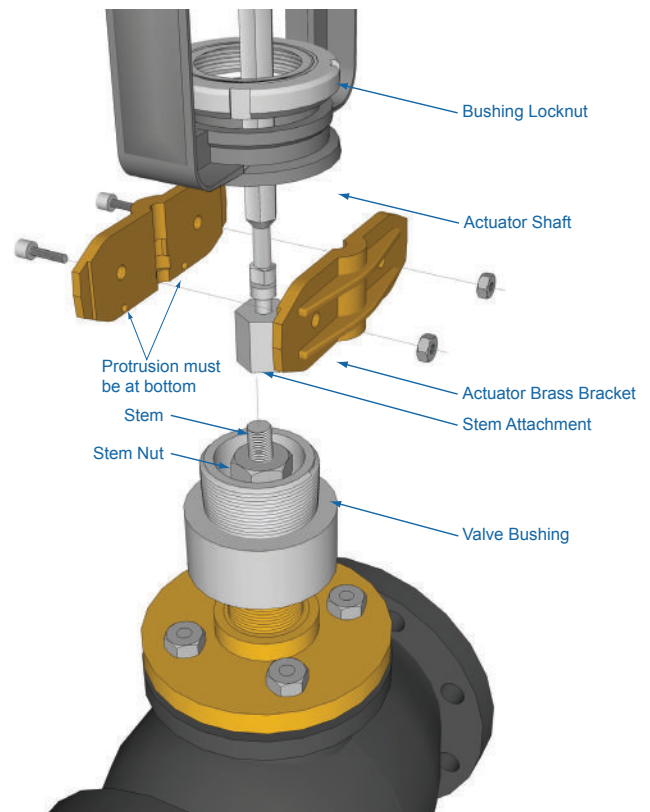
⚠ WARNING

Motorized Valves **MUST NOT** be installed upside down or horizontally. Warranty is void if valve installation position was installed incorrectly.



Valve Actuator Assembly

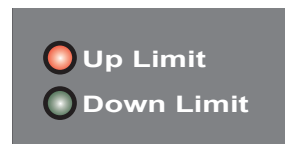
- For smaller valves, it is usually easier to assemble the valve and actuator before the installation of the valve on the pipe.
- For larger valves, install the valve in position prior to installing the actuator to the valve.
- Thread and tighten the Valve Bushing to the valve.
- Remove the Actuator Brass Brackets. This should release the Stem Attachment.
- Thread the Stem Attachment to the Valve Stem. Make sure that it is tightened against the Stem Nut.
- Mount the Actuator on top of the Valve.
- Thread the Bushing Locknut to the Valve Bushing. Make sure that the locknut's beveled surface is facing the valve.
- Manually close or open the actuator to bring the Stem Attachment to meet the bottom of the Actuator Shaft. See "Actuator Manual Operation" on page 4.
- Join the Stem Attachment and the Actuator Shaft using the Actuator Brass Bracket. Make sure the Actuator Brass Bracket internal shape fits and locks Stem Attachment and Actuator Shaft securely.
- For proper Actuator Brass Bracket operation, its protrusions must be at the bottom (closer to the valve).
- Tighten the Actuator Brass Bracket screws and nuts using the provided Hex Wrench.



Actuator LED

The actuator has two LEDs.

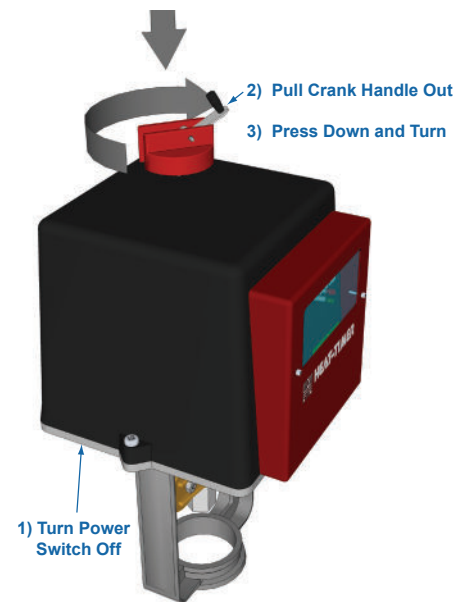
- A Green LED that lights when the actuator is moving its shaft downward. It is labeled Down Limit.
- A Red LED that lights when the actuator is moving its shaft upward. It is labeled Up Limit.



Actuator Manual Operation

The actuator Red Crank is used to operate the valve manually in periods of no power or when installing or servicing the equipment.

- First, make sure that the Power Switch is turned Off prior to operating the actuator manually.
- Pull the Crank Handle out and press it down to move the Actuator Shaft.
- Turn the Crank Handle clockwise to move the Actuator Shaft down (Close Valve).
- Turn the Crank Handle counter-clockwise to move the Actuator Shaft up (Open Valve).



WIRING

- The Heat-Timer Motorized Valve can be used with virtually any floating motor controller. However, it is designed to work with Heat-Timer controls.
- The actuator/motor uses a floating type signal (R. W. B.).
- The actuator must be powered using the provided 24 VAC transformer. A single transformer can only power a single actuator. The transformer is supplied with every complete valve package.
- Remove the Red Actuator cover to reveal the wiring terminals.
- After finalizing the wiring, reinstall the actuator Red cover.
- Auto Calibrate the SRC Platinum control to the motorized valve. See SRC Platinum Manual.

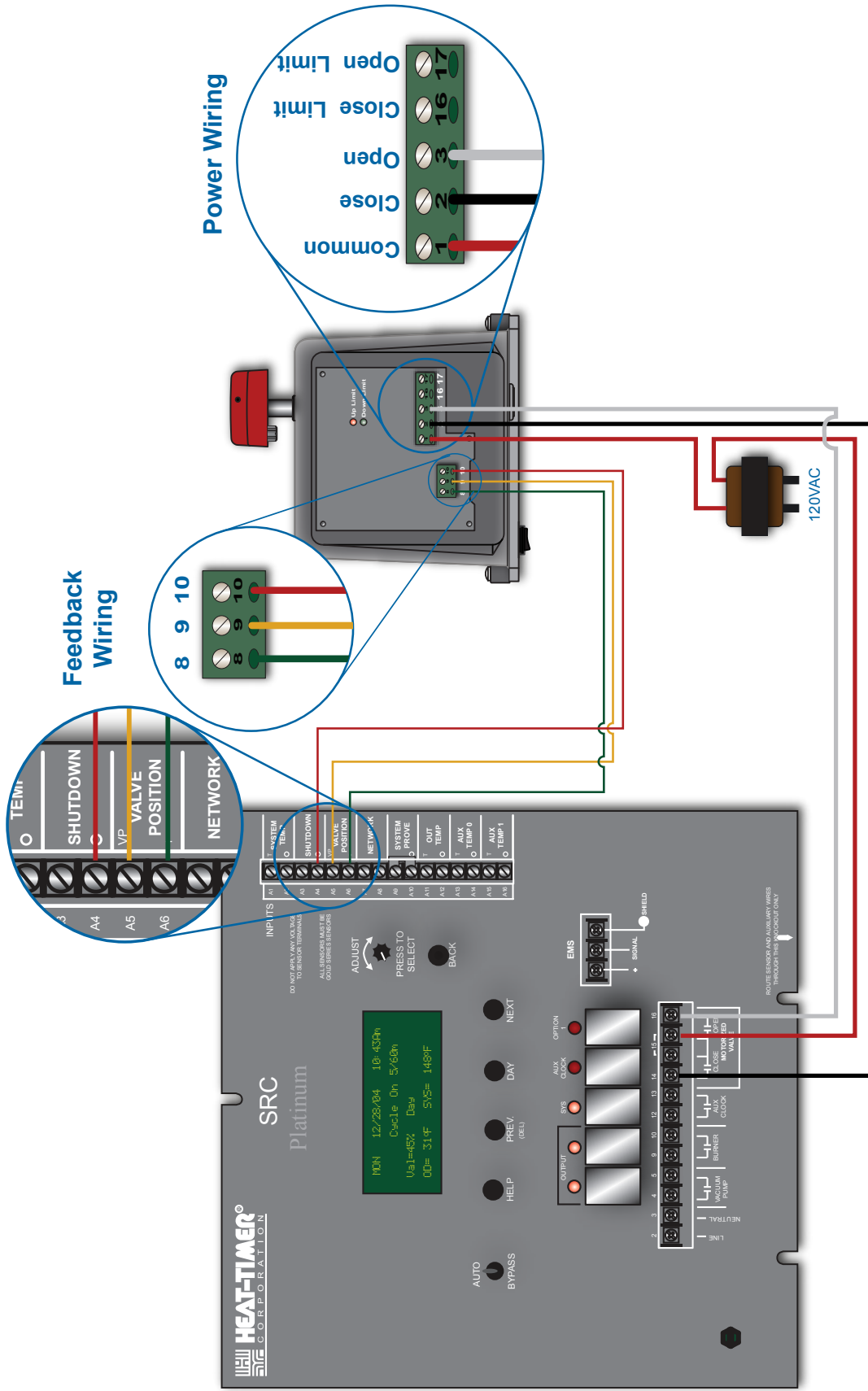
Wiring the Actuator Power

- Wire one of the 24VAC transformer outputs to the Actuator (1) Common terminal.
- Wire the second 24VAC transformer output to the SRC Platinum (15) Common output terminal.
- Connect the SRC Platinum (14) output terminal to the Actuator (2) Close terminal.
- Connect the SRC Platinum (16) output terminal to the Actuator (3) Open terminal.

Wiring the Actuator Feedback

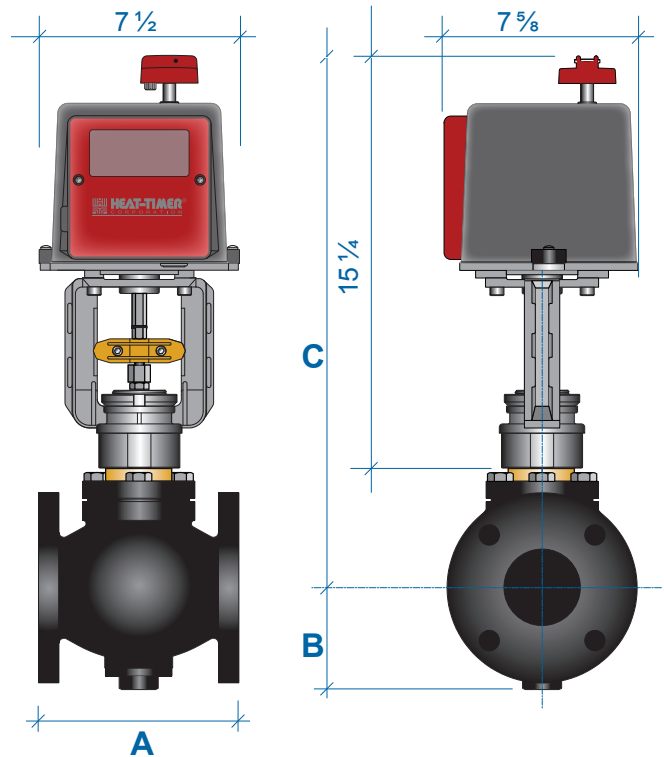
- Connect the SRC Platinum (A4) input terminal to the Actuator (10) terminal.
- Connect the SRC Platinum (A5) input terminal to the Actuator (9) terminal.
- Connect the SRC Platinum (A6) input terminal to the Actuator (8) terminal.

Wiring 2-Way Motorized Valve with Feedback to SRC Platinum



VALVE DIMENSIONS

Motorized Valves should be sized by Cv ratings (the capacity factor or flow coefficient). This is defined as the number of gallons of water at 60°F that pass through a device with a one pound per square inch pressure differential.



2-Way Single-Seat Motorized Valve

Valve Size	Catalog Number	Flow Coefficient Cv	Dimensions			Mount	Body	Trim	Est Shipping Weight	Medium Temp Range °F
			A	B	C					
1 1/2"	928051-50-VM	24	5 3/4"	3 1/4"	19"	NPT	Bronze	S. Steel	31	32 to 400
2"	928052-00-VM	40	6 1/2"	3 5/8"	19 1/4"	NPT	Bronze	S. Steel	35	32 to 400
2 1/2"	928052-50-VM	65	9"	4 3/4"	20 3/4"	Flanged	Iron	Bronze	71	32 to 300
3"	928053-00-VM	90	10"	5 3/8"	21 5/8"	Flanged	Iron	Bronze	88	32 to 300
4"	928054-00-VM	170	13"	6 3/8"	22 5/8"	Flanged	Iron	Bronze	135	32 to 300
5"	928055-00-VM	280	15 3/4"	5 3/4"	23 1/4"	Flanged	Iron	Bronze	150	32 to 300
6"	928056-00-VM	360	17 3/4"	6 1/2"	23 7/8"	Flanged	Iron	Bronze	191	32 to 300
8"	928058-00-VM	680	16 1/4"	8 7/8"	25 1/8"	Flanged	Iron	Bronze	306	32 to 300
10"	928060-00-VM	960	20"	9 7/8"	25 7/8"	Flanged	Iron	Bronze	451	32 to 300

TROUBLESHOOTING

Loud banging noise.

- Make sure that the valve is installed on a horizontal pipe.
- Make sure that no condensate will drain back against the valve when closed. This will cause the steam to flash the condensate causing the banging when the valve opens.

Actuator does not move.

- Make sure that the control is sending a moving signal to the actuator. The control must have a relay in each of the outputs.
- Check that the transformer is operating properly and its VA rating is equal to or higher than the actuator's VA rating. See "Actuator Specifications" on page 8.

WARRANTY

WARRANTIES AND LIMITATIONS OF LIABILITY AND DAMAGE: Heat-Timer Corporation warrants that it will replace, or at its option, repair any Heat-Timer Corporation manufactured product or part thereof which is found to be defective in material workmanship within one year from the date of installation only if the warranty registration has been properly filled out and returned within 30 days of the date of installation. Damages to the product or part thereof due to misuse, abuse, improper installation by others or caused by power failure, power surges, fire, flood or lightning are not covered by this warranty. Any service, repairs, modifications or alterations to the product not expressly authorized by Heat-Timer Corporation will invalidate the warranty. Batteries are not included in this warranty. This warranty applies only to the original user and is not assignable or transferable. Heat-Timer Corporation shall not be responsible for any maladjustments of any control installed by Heat-Timer Corporation. It is the users responsibility to adjust the settings of the control to provide the proper amount of heat or cooling required in the premises and for proper operation of the heating or cooling system. Heat-Timer Corporation shall not be required to make any changes to any building systems, including but not limited to the heating system, boilers or electrical power system, that is required for proper operation of any controls or other equipment installed by Heat-Timer Corporation or any contractor. Third Party products and services are not covered by this Heat-Timer Corporation warranty and Heat-Timer Corporation makes no representations or warranties on behalf of such third parties. Any warranty on such products or services is from the supplier, manufacturer, or licensor of the product or service. See separate Terms and Conditions of Internet Control Management System (“ICMS”) services, including warranties and limitations of liability and damages, for ICMS services.

THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED AND HEAT-TIMER CORPORATION SPECIFICALLY DISCLAIMS ANY AND ALL WARRANTIES OF MERCHANTABILITY FOR A PARTICULAR PURPOSE. UNDER NO CIRCUMSTANCES SHALL HEAT-TIMER CORPORATION, ITS AUTHORIZED REPRESENTATIVES, AFFILIATED OR SUBSIDIARY COMPANIES BE LIABLE FOR SPECIAL, CONSEQUENTIAL OR INCIDENTAL DAMAGES, EXCEPT AS SPECIFICALLY STATED IN THESE TERMS AND CONDITIONS OF SALE. THE SOLE REMEDY WITH RESPECT TO ANY PRODUCT OR PART SOLD OR INSTALLED BY HEAT-TIMER CORPORATION SHALL BE LIMITED TO THE RIGHT TO REPLACEMENT OR REPAIR F.O.B. FAIRFIELD, NJ. HEAT-TIMER CORPORATION SHALL NOT BE LIABLE OR RESPONSIBLE FOR LOSS OR DAMAGE OF ANY KIND RESULTING FROM DELAY OR INABILITY TO DELIVER FOR ANY REASON, INCLUDING BUT NOT LIMITED TO FIRE, FLOOD, LIGHTNING, POWER FAILURE OR SURGES, UNAVAILABILITY OF PARTS, STRIKES OR LABOR DISPUTES, ACCIDENTS AND ACTS OF CIVIL OR MILITARY AUTHORITIES.

03122010

SPECIFICATIONS

Actuator Specifications

Actuator Input Signal: 24VAC Floating
Power Consumption: 10VA
Operating temperature Ambient 15°F to 120°F
Manual Override: Manual Crank
Construction: Aluminum Bracket and Housing
Locations: NEMA Type 2 / IP54 Indoor Only
Clearance: Minimum of 4- 6" above the actuator for manual operation
Mounting: Vertical above center line of valve
Feedback Signal: 1K ohm Terminals (8, 9, 10)

2-Way Valve Specifications

Body: (1 1/2" -2" Valves) ANSI B16.15 Bronze 250lb. Threaded (NPT)
. (2 1/2" - 10" Valves) ANSI B16.1 Iron 125lb. Flange
Trim: (1 1/2" -2" Valves) 316 Stainless Steel
. (2 1/2" - 10" Valves) Bronze
Packing: Long-Life Multi-Stack, EPDM Lip Packing for temperatures up to 350°F
Seat Closure: (1 1/2" - 2" Valves) Single-Seat ANSI Class IV and Class VI shut-off
. (2 1/2" - 6" Valves) Single-Seat ANSI Class IV shut-off
. (8" - 10" Valves) Double-Seat ANSI Class IV shut-off
Temperature: (1 1/2" -2" Valves) +32°F to 400°F
. (2 1/2" - 10" Valves) +32°F to 350°F

HT# 059301-00 A



20 New Dutch Lane, Fairfield, NJ 07004
Ph: (973) 575-4004 • Fax: (973) 575-4052
<http://www.heat-timer.com>