

## For Commercial and Industrial Applications

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

Contractor's P.O. No. \_\_\_\_\_

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# Series EMVII-6400SS

## 2-Piece, Standard Port, Bronze Electric Motor Valves

Sizes: 1/4" – 3" (8 – 80mm)

Series EMVII-6400SS 2-Piece, Standard Port, Bronze Motorized Ball Valves consist of an electrically actuated motor available in 115 or 24 VAC models and features visual position indicator, manual override, and can be mounted in any position. The EMVII-6400SS ball valve features a 316 stainless steel ball and stem, Durafil® PTFE seats, stem packing, thrust washer and an adjustable packing nut.

### Features

- 316 stainless steel ball and stem bottom loaded blowout proof stem
- Durafil® PTFE seats
- Adjustable PTFE packing
- Hole in stem slot of each ball valve to equalize pressure between the body cavity and the flow stream
- 115 VAC or 24 VAC motor
- 25% duty cycle (1/4" – 1 1/2") and 75% duty cycle (2" – 3")
- Standard auxiliary SPDT switch, 10 amps rating @ 115 VAC
- Adjustable cam provides the capability of properly aligning the ball in both the open and closed position using a single, simple adjustment
- Accessible, clearly marked integral terminal strip assures fast, easy wiring
- Standard position indicator
- Manual override standard
- Motor can be changed without draining system
- Mountable in any position
- Completely assembled

### Specifications

A 2-piece, standard port, bronze ball valve with electrically actuated motor to be installed as indicated on the plans. The electric motor shall have manual override, position indicator, be available in 115 VAC or 24 VAC, and be mounted in any position with an adjustable cam for easy alignment of the ball in open or close position, and clearly marked, easily accessible integral terminal strip for ease of wiring.

The ball valve shall have a 316 stainless steel ball and stem, PTFE seats, and adjustable packing. Top loaded stems or valves without adjustable packing are not acceptable. Valves rated no less than 600psi (41 bars) WOG/100psi (7 bars) WSP 1/4" – 2", 400psi (27.6 bars) WOG/100psi (7 bars) WSP 2 1/2" and 3". Supply valves tested, mounted, and fully assembled for installation. Valve shall be a Watts Regulator Company Series EMVII-6400SS.



### Pressure – Temperature

**Maximum Temperature:** 150° F (66° C)

1/4" – 2" (8 – 50mm)

600psi (41 bars) WOG

100psi (7 bars) WSP

2 1/2" and 3" (65 and 80mm)

400psi (27.6 bars) WOG

100psi (7 bars) WSP

### Operating Data

#### 115 VAC

5 amps max @ 40 sec. cycle time 1/4" – 1 1/2"

.75 amp max @ 5 sec. cycle time 2"

.50 amp max @ 25 sec. cycle time 2 1/2" and 3"

#### 24 VAC

2.2 amps max @ 40 sec. cycle time 1/4" – 1 1/2"

4.0 amps max @ 5 sec. cycle time 2"

3.0 amp max @ 25 sec. cycle time 2 1/2" and 3"

### Applications

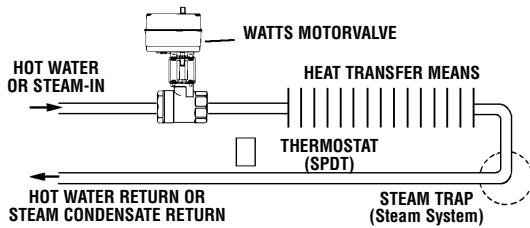
- Zone control valve for space heating with hot water or steam
- Zone control valve for air conditioning with chilled water
- Remotely operated valve for control of process liquids or gases (ie: steam, water or air)
- Drain or blow-down valve to eliminate water from compressed air lines and systems



Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.

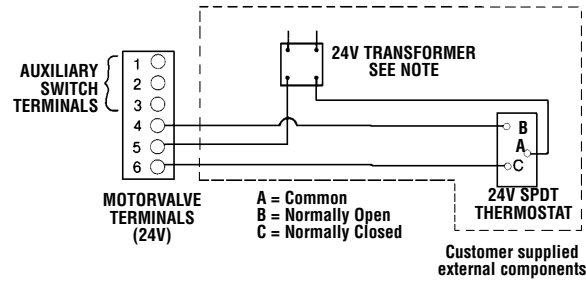
## Sample Installation #1

Use of Watts Electric Motorvalve as a zone control for hot water or steam space heating. Valve opens upon temperature drop. Closes when demand for heat is satisfied.



## Wiring Diagram #1 (1/4" - 1 1/2")

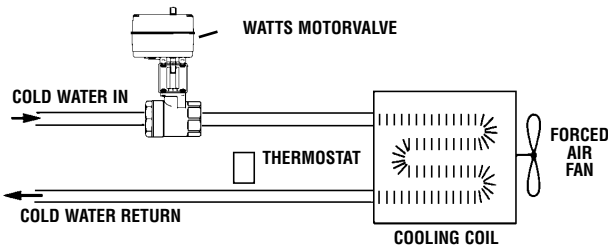
Electrical diagram with 24V control circuit, 24V Motorvalve, SPDT thermostat.



NOTE: 1/4" - 1 1/2" EMVII-6400SS-24-40 will operate with a 40 VA transformer. Thermostat must be capable of handling amp rating at stall.

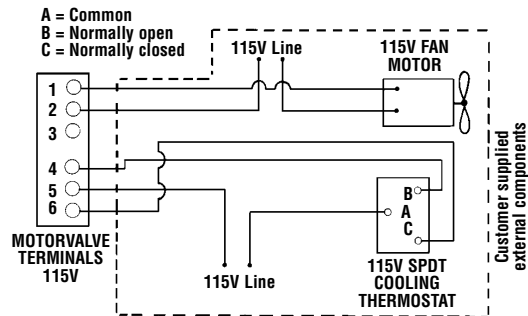
## Sample Installation #2

Cooling with refrigerated water and operating forced air fan with auxiliary switch. Motorvalve opens and starts blower upon temperature rise. Shuts off blower and closes when temperature drops to thermostat setting.



## Wiring Diagram #2 (1/4" - 1 1/2")

Electrical diagram with 115V control circuit, 115V Motorvalve, line voltage SPDT cooling thermostat, 115V blower.

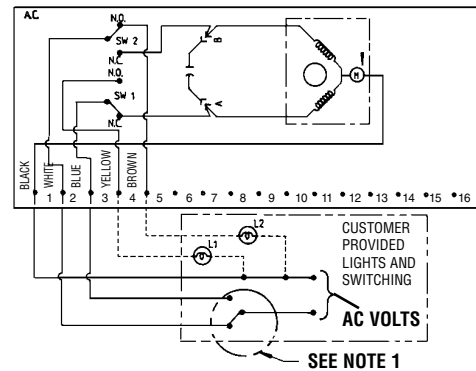


## Wiring Diagram #3 (2" - 3")

Actuator shown in counter-clockwise extreme of travel, or 'Open' position.

### NOTES:

1. 2", 2 1/2" and 3" motorvalves are supplied with wiring terminal strips having 16 terminals.
2. Each actuator must be powered through its own individual switch contacts to avoid cross feed.
3. Motor has a thermal protector as shown in diagram.



## Terminal Function (1/4" - 1 1/2")

1/4" - 1 1/2" motorvalves are supplied with wiring terminal strips having six terminals. Terminals 4, 5 and 6 operate the motorvalve, while terminals 1, 2 and 3 are connected to an internal SPDT auxiliary switch.

NOTE: 24 VAC or 115 VAC models, the following terminal explanation will always apply.

| TERMINAL NO.                 | FUNCTION                                 |
|------------------------------|--|
| Operating terminal #4        | When power is applied, valve will open.  |
| Operating Terminal #5        | Common                                   |
| Operating Terminal #6        | When power is applied, valve will close. |
| Auxiliary Switch Terminal #1 | Makes when valve is fully open.          |
| Auxiliary Switch Terminal #2 | Common                                   |
| Auxiliary Switch Terminal #3 | Makes when valve is not fully open.      |



# For Technical Assistance Call Your Authorized Watts Agent.

|                          |  |  | Telephone #  | Fax #        |
|--------------------------|--|--|--------------|--------------|
|                          | <b>HEADQUARTERS:</b> Watts Regulator Company                     | 815 Chestnut St., North Andover, MA 01845-6098 U.S.A.                        | 978 688-1811 | 978 794-1848 |
| <b>North East</b>        | Edwards, Platt & Deely, Inc.                                     | 271 Royal Ave., Hawthorne, NJ 07506  | 973 427-2898 | 973 427-4246 |
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|                          | Soderholm & Associates, Inc.                                     | 7150 143rd Ave. N.W., Anoka, MN 55303  | 763 427-9635 | 763 427-5665 |
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|                          | GTA Sales Team.  | Greater Toronto Area   | 888 208-8927 | 888 479-2887 |
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| Walmar Mechanical Sales  | 24 Gurdwara Rd., Nepean, Ontario K2E 8B5                         | 613 225-9774   | 613 225-0673 |              |
| 0444                     | <b>EXPORT Hdqtrs.:</b> Watts Regulator Co.                       | 815 Chestnut St., North Andover, MA 01845-6098 U.S.A.                        | 978 688-1811 | 978 794-1848 |



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