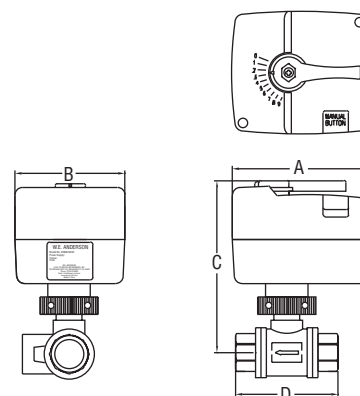




## Series 3HBAV Three-Way Detachable Electric Ball Valve

### Specifications - Installation and Operating Instructions



Size	A in [mm]	B in [mm]	C in [mm]	D in [mm]	Weight lb [kg]
1/2"	3.62 [92]	3.03 [77]	4.53 [115]	2.68 [68]	1.43 [0.65]
3/4"	3.62 [92]	3.03 [77]	4.53 [115]	2.68 [68]	1.54 [0.70]
1"	3.62 [92]	3.03 [77]	4.72 [120]	3.23 [82]	2.09 [0.95]
1-1/4"	4.84 [123]	3.07 [78]	5.16 [131]	3.86 [98]	3.20 [1.45]
1-1/2"	4.84 [123]	3.07 [78]	5.16 [131]	4.13 [105]	3.31 [1.50]
2"	4.84 [123]	3.07 [78]	5.31 [135]	4.80 [122]	4.19 [1.90]

The **Series 3HBAV** is an electrical ball valve ideal for flow control in hot and cold water HVAC systems. These valves are typically used in conjunction with air conditioning systems, heating systems, water treatment and production industries. The 3HBAV is electrically driven open and/or closed via a bidirectional AC motor. The electrical valve offers a detachable actuator with position switches and indicator. The 3HBAV is available with modulating or floating actuators.

Model	Cv	Size	Supply Voltage	Input
3HBAV0212	4.5	1/2"	120 VAC	Floating
3HBAV0214	4.5	1/2"	24 VAC	Floating
3HBAV0224	4.5	1/2"	24 VAC	Modulating
3HBAV0312	7.0	3/4"	120 VAC	Floating
3HBAV0314	7.0	3/4"	24 VAC	Floating
3HBAV0324	7.0	3/4"	24 VAC	Modulating
3HBAV0412	11.2	1"	120 VAC	Floating
3HBAV0414	11.2	1"	24 VAC	Floating
3HBAV0424	11.2	1"	24 VAC	Modulating
3HBAV0512	17.9	1-1/4"	120 VAC	Floating
3HBAV0514	17.9	1-1/4"	24 VAC	Floating
3HBAV0524	17.9	1-1/4"	24 VAC	Modulating
3HBAV0612	27.9	1-1/2"	120 VAC	Floating
3HBAV0614	27.9	1-1/2"	24 VAC	Floating
3HBAV0624	27.9	1-1/2"	24 VAC	Modulating
3HBAV0712	44.7	2"	120 VAC	Floating
3HBAV0714	44.7	2"	24 VAC	Floating
3HBAV0724	44.7	2"	24 VAC	Modulating

#### SPECIFICATIONS

**Service:** Compatible fluids.

**Body:** 3-way, NC.

**Line Size:** 1/2 to 2" NPT.

**End Connections:** Female NPT.

**Pressure Limits:** Max: 375 psi (25 bar); Close off: 87 psi (6 bar).

**Temperature Limit:**

Ambient: -22 to 158°F (-30 to 70°C);

Process: 23 to 122°F (-5 to 50°C).

**Wetted Materials:** Brass, SS, NBR, PTFE.

**Input:** Floating: 3-wire; Modulating: 4 to 20 mA (24 VAC power only).

**Power Requirements:** 120 VAC or 24 VAC, 50/60 Hz, single phase.

**Power Consumption:** Floating: 3 to 5 VA; Modulating: 4 VA.

**Electrical Connection:** 18 AWG.

**Cycle Time (per 90°):** 1/2 to 1": 45 s.; 1-1/4 to 2": 50 s.

**Enclosure Rating:** NEMA 1 (IP10).

**Housing Material:** Plastic, nylon, and polyoxymethylene.

**Weight:** See table above.

## Instructions For Operation And Use

Assembly and disassembly of the actuator from the valve body is done simply by twisting the connection between them (see Figure 1). In order to do this properly, the actuator lever needs to be in the '0' position so the actuator stem and pins match with the corresponding hole. Use little force to pull apart the actuator.

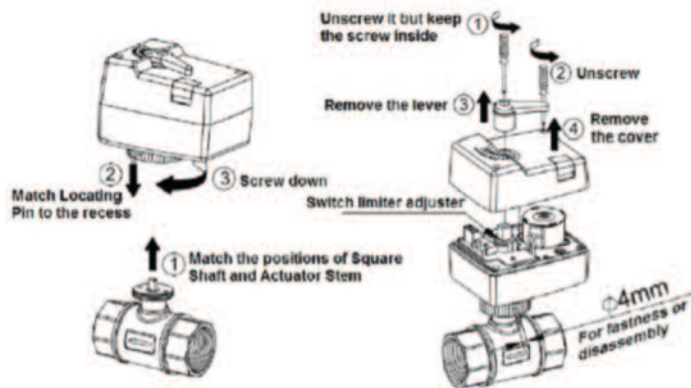


Figure 1

2. 3-way valves are installed by matching the pipe male connection to the 3HBAV female valve connection. Do not mount the 3HBAV upside down. For the correct direction of the 3HBAV placement (see Figure 2).

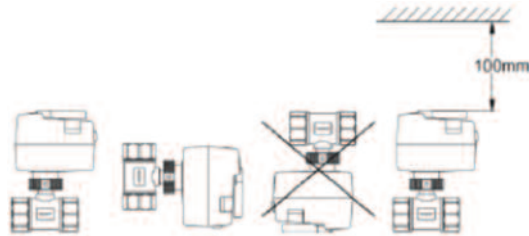


Figure 2

3. Manual operating lever: To move the ball valve manually, press and hold down the manual button located on the top of the actuator (see Figure 3). Moving the lever allows you to rotate the ball valve open or closed. When the manual button is released, the valve is locked in that position automatically.

Automatic operating lever: To have the ball valve rotate automatically, install a three wire electric connection of 18 AWG into the sensor input located under the plastic cover of the actuator.

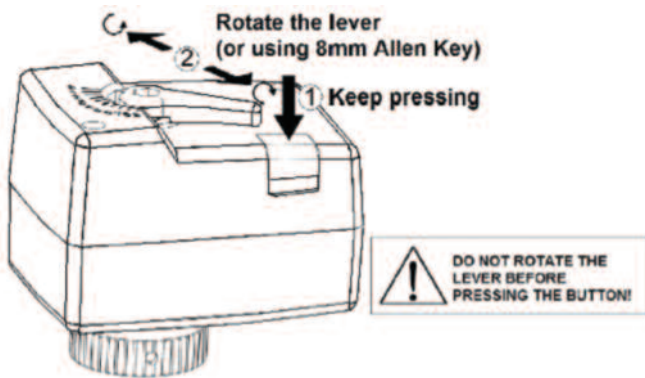
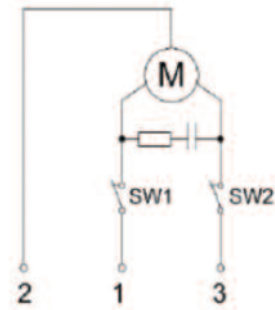


Figure 3

## Wiring Diagrams

### FLOATING



POWER SUPPLY	ROTATE TO
1-2	0°
2-3	90°

Figure 4

### MODULATING

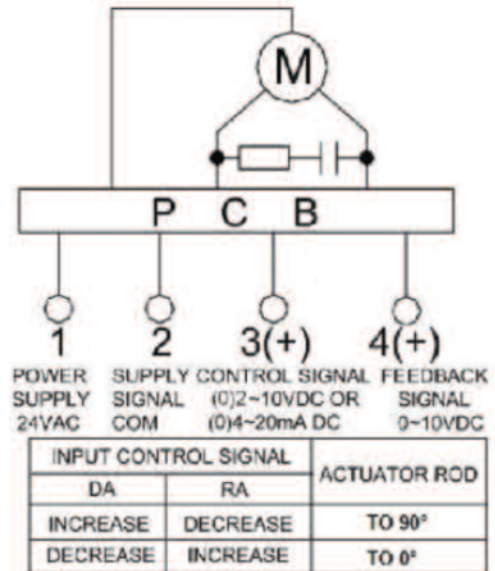


Figure 5

### NOTE

Modulating model sizes 1/2" through 1" include an electric cord attached on the outside. Modulating model sizes 1-1/4" through 2" contain a 4-wire terminal block.

### MAINTENANCE/REPAIR

Upon final installation of the Series 3HBAV, no routine maintenance is required. The Series 3HBAV is not field serviceable and should be returned if repair is needed. Field repair should not be attempted and may void warranty.

### WARRANTY/RETURN

Refer to "Terms and Conditions of Sales" in our catalog and on our website. Contact customer service to receive a Return Goods Authorization number before shipping the product back for repair. Be sure to include a brief description of the problem plus any additional application notes.