SERIES TEBV • 3-Way Electrically Actuated Ball Valves

Heavy duty, all plastic actuation package designed to meet NEMA 4 standards

Features:

- Direct manual override with visual position indication.
- Position and motor running lights.
- Thermally protected motor withstands stall torque.
- Pre-powered limit switch connection.
- Pre-assembled to 3-way ball valve.
- True-unions on all ports.
- CSA approved (120 volt models).

Each valve and actuator is 100% individually inspected and tested prior to shipment.

Installation and Actuation Signal:

Wiring diagrams are included; all wiring should conform to local codes. Motor must receive a continuous signal for minimum of 16 seconds. For applications where a momentary signal or one of less than 16 seconds is supplied, a time delay relay can be used; consult factory.

Duty Cycle and Thermal Overload:

Duty cycle is defined as the percentage of motor on time to the motor off plus motor on time. The TEBV-65 has a duty cycle of 50% with a motor run time of 12 seconds at 60 Hz AC; required off time is 12 seconds. The TEBV-104 has a duty cycle of 20% with a motor run time of 10 seconds at 60 Hz AC; required off time is 40 seconds. For voltages at 50 Hz, motor run time is 14 seconds. These duty cycles are at an ambient temperature of 70°F (21°C). A special gear motor can be supplied if a greater duty cycle is required. Increases in temperature will result in a reduced duty cycle.

If duty cycles are exceeded, temperature will rise in the housing and the thermal overload protection will open the electrical circuit when the coil temperature reaches 220°F (105°C). It will automatically close when the temperature drops to an acceptable level. The maximum recommended ambient temperature for Series TEBV is 120°F (49°C), but duty cycle is diminished considerably at this temperature.

Manual Override:

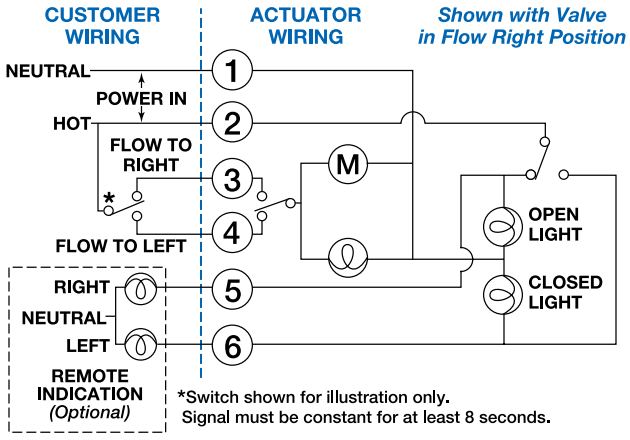
A manual override is directly linked via a one-way clutch to the valve shaft, allowing positive and rapid positioning of the valve. This eliminates slow manual actuation through actuator gearing, and if the gear train is jammed, the manual override will still function properly.

Installation and Actuation Signal:

Ball valves are available in Geon® PVC and Corzan® CPVC, with Teflon® seats. A 2-hole ball design is standard; it is ideal for applications where flow cannot be mixed. To prevent a momentary no-flow ("dead head") condition, an optional 3-hole ball is available. Please specify when ordering. Seals are EPDM or Viton®. For complete specifications on the 3-way ball valve element, refer to Series TMBV on previous page.

Actuator motor is totally contained within a glass-filled polyester housing designed to meets NEMA 4. Housing screws are stainless steel, seals are Buna-N, and override wheel bearings are Teflon. For optional materials, please consult factory.

Wiring Diagram:



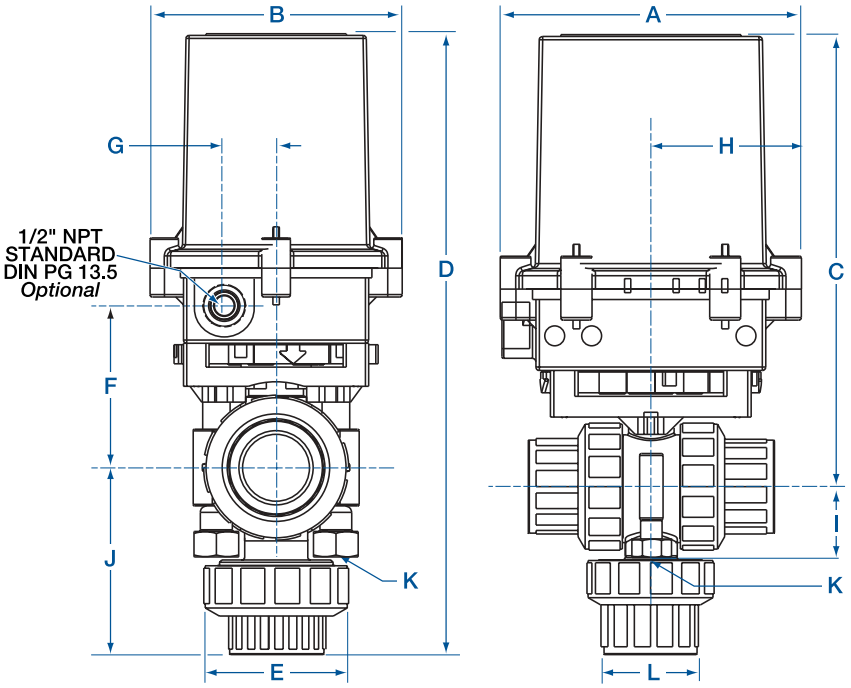
SPECIFICATIONS

Type	TEBV 050 / 075 / 100	TEBV 150 / 200
Ball Valve Size	1/2", 3/4", & 1"	1 1/2" & 2"
Voltage AC	24, 120, 220, 230, 240V – (50 or 60 Hz)	
Duty Cycle	50% @ 70°F	20% @ 70°F
Motor Run Time	12 seconds @ 60 Hz AC 14 seconds @ 50 Hz AC	10 seconds @ 60 Hz AC 14 seconds @ 50 Hz AC
Required "OFF" Time	12 seconds	40 seconds
Actuation Signal	16 Seconds	

MODEL NUMBERS, WEIGHTS & ELECTRICAL REQUIREMENTS

Model Number	Valve Size	Weight (Includes PVC Valve) Lbs.	Weight Kg	Voltage AC*	Amps
TEBV-65	1/2"	5.4	2.4	24	3.0
				120	0.6
	3/4"	6.1	2.8	220	0.3
	1"	6.3	2.9	240	0.3
TEBV-104	1 1/2"	10.0	4.5	24	10.0
				120	2.0
	2"	14.0	6.4	220	1.1
				240	1.0

* AC Voltage and cycles (50 or 60 Hz) must be specified with order. *Consult factory for DC applications.*



LR 65116

CSA ENCL. 3

ENCL. 5

Pipe Size	K Thread Size	L Hex Nut Size	*TEBV Weight
1/2"	1/4 – 20	5/8	6 lbs. 3 oz.
3/4"	1/4 – 20	7/8	6 lbs. 3 oz.
1"	1/4 – 20	7/8	6 lbs. 3 oz.
1½"	3/8 – 16	1	10 lbs.
2"	3/8 – 16	1	10 lbs.

* Ball Valve and Actuator Assembly

VALVE & ACTUATOR ASSEMBLY – MODEL NUMBERS & DIMENSIONS

Pipe Size	Actuator** with Valve Model No.	A		B		C		D		E		F		G		H		I		J	
		IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	MM
1/2"	TEBV-050 –	5.37	136.5	4.87	123.8	7.81	198.8	10.56	268.0	2.00	50.8	2.62	66.7	0.94	23.8	2.69	68.3	0.76	19.3	2.75	70.0
3/4"	TEBV-075 –	5.37	136.5	4.87	123.8	8.19	208.0	11.50	292.1	2.46	62.5	3.00	76.2	0.94	23.8	2.69	68.3	1.25	31.8	3.31	84.1
1"	TEBV-100 –	5.37	136.5	4.87	123.9	8.37	212.7	12.18	309.4	2.84	72.1	3.25	82.5	0.94	23.8	2.69	68.3	1.65	41.9	3.81	96.8
1½"	TEBV-150 –	7.62	193.7	5.75	146.0	9.44	239.7	14.44	367.0	4.08	103.6	4.25	107.9	1.19	30.2	4.66	118.5	2.50	6.35	5.00	127.0
2"	TEBV-200 –	7.62	193.7	5.75	146.0	9.44	239.7	15.00	381.0	4.08	103.6	4.25	107.9	1.19	30.2	4.66	118.5	2.50	6.35	5.56	141.0

**IMPORTANT: To complete the Model Number:

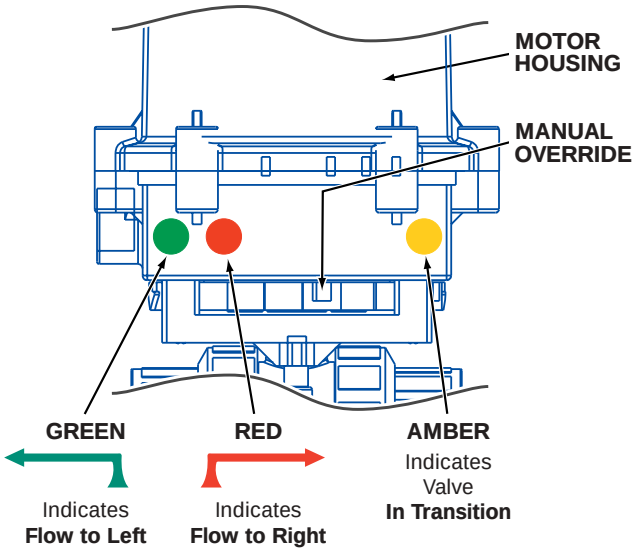
1. Add "V" for Viton seals or "EPDM" seals.
2. Followed by "T" for NPT threads or "S" for Schedule 80 Socket.
3. Followed by "PV" for PVC or "CP" for CPVC for ball valve material.
4. Specify voltage required.

Example: *3/4" Three-Way Electrically Actuated Valve with Viton seals threaded in PVC at 120 volts, 60 cycle TEBV075VT-PV@120 Volts 60 cycle.*

NOTE:

1. All 3-Way actuators are only available with ball valves. (Ball valve cannot be field adapted to actuators).

POSITION INDICATOR LIGHTS



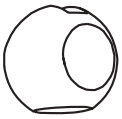
FLOW CHARACTERISTICS DURING CYCLING

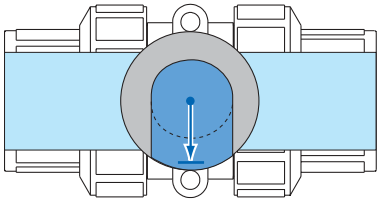
BALL STYLE

TOP VIEW

Flow from bottom, center

2-HOLE STANDARD

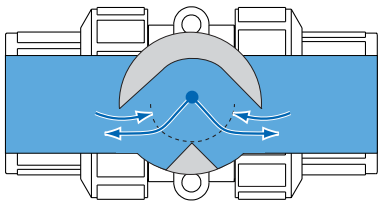




During cycling, the standard 2-hole ball has a momentary dead-head when the ball outlet is between ports.

3-HOLE OPTION

Add "–A" to Part Number



During cycling, the optional 3-hole ball has a momentary mixing of streams when the ball outlet is between ports. This option should be specified if a brief interruption of flow will be detrimental to your process.