



### SERIES EBVB / TEBVB MULTI-VOLTAGE ACTUATOR WITH FAIL-SAFE AND 4-20mA DIGITAL POSITIONER OPTIONS



#### STANDARD FEATURES

- Multi-voltage with auto-voltage sensing
  - 12-24V AC or DC
  - 85-240V AC or DC
- LED status light to indicate operational status of actuator
- Electronic over-torque protection against valve jam
- Thermostatic anti-condensation heater
- Easy-to-turn hand wheel for manual override
- Large, dome style visual position indicator
- Remote position indicator
- NEMA4/4X weatherproof anti-corrosive and UV protected glass filled polypro housing
- Easy mounting with double-D drive
- All external electrical connections via DIN plugs
- CE marked, IP67 ingress protection
- ISO 9000 manufacturer
- Fail-safe and 4-20mA digital positioner options
- Thermally protected motor

The EBVB/TEBVB features a rugged weatherproof and anti-corrosive polypro housing. A visual indicator shows whether the actuator is operating correctly, or has tripped out either by its electronic torque limiter, or has been left in 'manual' mode. Site operators are no longer left with the 'valve or actuator' question when an actuator does not respond to a signal.

The EBVB/TEBVB is quick and easy to install, with a double-D drive, allowing fast mounting to True-Blue valves. There is no need to remove the cover to connect the EBVB/TEBVB electrically, saving installation time. Using the external DIN plugs and external wiring diagrams supplied with the actuator, installation can be pre-wired.

Protection against valve jams is provided by an electronic torque limiter, which auto-relaxes the gearbox when activated, allowing the manual override to be selected to assist in clearing the jam. The effect of condensation is eliminated by an internal thermostatic anti-condensation heater that does not require a separate independent power supply.

Standard function for the EBVB/TEBVB is power open (TEBVB left), power close (TEBVB right), stays put on power failure.

Units are available with factory installed Fail-safe and modulating options. The modulating digital positioner offers auto-calibrating and self-resetting functions.

**NOTE:** For TEBVB flow characteristics see catalog TMBV.

SPECIFICATIONS				
Sizes	3/8" - 2" Valves		3" and 4"	
Actuator	EBVB2 / TEBVB6	EBVB1 / TEBVB5	EBVB4/TEVB8	EBVB3/TEVB7
Voltage AC (1ph) or DC)	12 - 24	85 - 240	12 - 24	85 - 240
Working Time - Sec. 0-90° (No Load) ±10%	5.5 / 11++	5.5 / 11++	16 / 16**	14 / 14**
Maximum Run Torque Nm / in./lbs.	20 / 177	20 / 177	55 / 487	55 / 487
Maximum Break Torque Nm / in./lbs.	25 / 221	25 / 221	60 / 531	60 / 531
On/Off Duty Rating %	75	75	75	75
*Modulating Duty Rating %	100	100	100	100
IP Rating - IEC 60529	IP67	IP67	IP67	IP67
Working Angle Standard	90/180	90/180	90	90
Temperature Range (F)	-4° to +158°	-4° to +158°	-4° to +158°	-4° to +158°
Motor Switch	2 x V3	2 x V3	2 x V3	2 x V3
Volt Free End of Travel Confirmation	2 x V3	2 x V3	2 x V3	2 x V3
Anti-Condensation Heater (W)	4	4	4	4
Current Full Load 12VDC	2.05A		3.23A	
24VDC	1.05A		1.44A	
<b>INRUSH CURRENT IS 3X THE STATED LOAD</b> 24V/1ph	0.85A		1.07A	
110V/1ph		0.17A		0.23A
240V/1ph		0.09A		0.12A
Weight (kg)	1.8	1.8	2.0	2.0
Drive	Double-D	Double-D	Double-D	Double-D

\* Option 3 and 4 only. \*\* Based on 3-hole ball. ++11 seconds @ 180°

### EBVB STATUS LIGHT FUNCTIONS



#### CONSTANTLY LIT LED

If the actuator is operating correctly, with no faults, the LED shows a constantly lit light.



#### THE LED FLASHES WITH 2 BLINKS

If the actuator has been left in 'manual' mode, the actuators motor runs but doesn't drive the output shaft. After a pre-set time, the actuator knows that as the torque limiter has not activated, and that the motor is running, it must be in manual mode.



#### THE LED FLASHES ON/OFF

When the actuator senses impending valve jam, the electronic torque limiter is activated and on activation, repeatedly flashes the LED on and off



### EBVB OPTIONAL FEATURES

#### MODULATING ACTUATOR (Option 3, 4, 5 & 6)

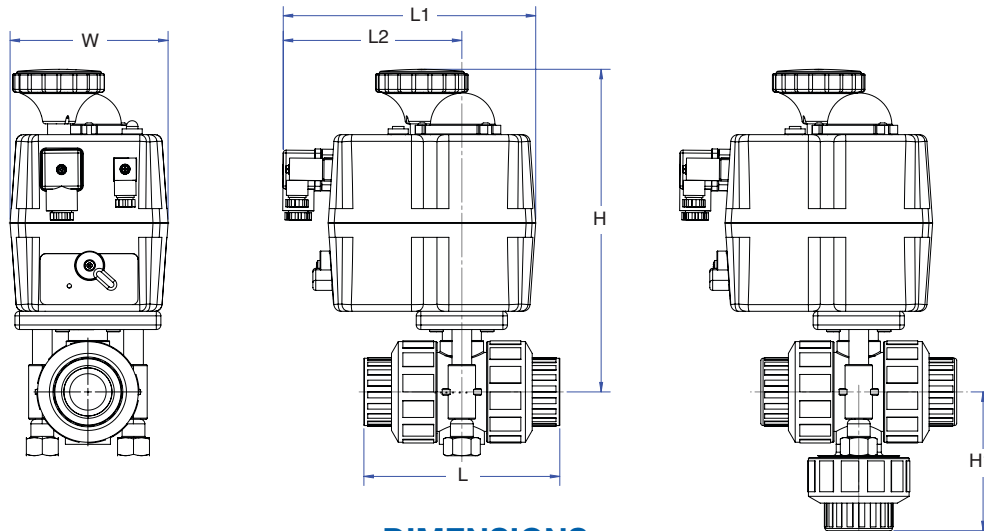
Provided via factory installed, self-calibrating digital positioner with 4-20mA or 0-10V.

#### FAIL-SAFE ACTUATOR (Option 2, 4, or 6)

Fail-safe achieved with the use of an industrial re-chargeable battery which is supplied with the actuator. Specify fail closed or fail open.

#### APPROXIMATE FLOW RATES AT 1.0 PSI (0,07 Bar) PRESSURE DROP

Valve Sizes	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	3"	4"
Cv Factor	10	20	40	80	100	120	485	768



### DIMENSIONS

MODEL	SIZE		L		L1		L2		H		H1		W	
	IN.	DN	IN.	MM.	IN.	MM.	IN.	MM.	IN.	MM.	IN.	MM.	IN.	MM.
EBVB/TEVBV-037	3/8"	16	4.13	104.8	6.97	177.0	4.89	124.2	8.16	207.3	2.75	1.2	4.34	2.0
EBVB/TEVBV-050	1/2"	20	4.13	104.8	6.97	177.0	4.89	124.2	8.16	207.3	2.75	69.9	4.34	2.0
EBVB/TEVBV-075	3/4"	25	4.75	120.7	6.97	177.0	4.89	124.2	8.59	218.2	3.25	82.6	4.34	2.0
EBVB/TEVBV-100	1"	32	5.38	136.5	6.97	177.0	4.89	124.2	8.84	224.5	3.81	96.8	4.34	2.0
EBVB/TEVBV-125	1-1/4"	40	6.70	170.2	6.97	177.0	4.89	124.2	9.32	236.7	5.00	127.0	4.34	2.0
EBVB/TEVBV-150	1-1/2"	50	6.75	171.5	6.97	177.0	4.89	124.2	8.84	236.7	5.00	127.0	4.34	2.0
EBVB/TEVBV-200	2"	63	7.90	200.7	6.97	177.0	4.89	124.2	8.84	236.7	5.56	141.2	4.34	2.0
EBVB/TEVBV-300	3"	90	10.80	274.3	6.97	177.0	4.93	125.2	14.20	360.7	8.30	210.8	4.34	2.0
EBVB/TEVBV-400	4"	110	11.50	292.1	6.97	177.0	4.93	125.2	15.00	381.0	9.90	251.5	4.34	2.0

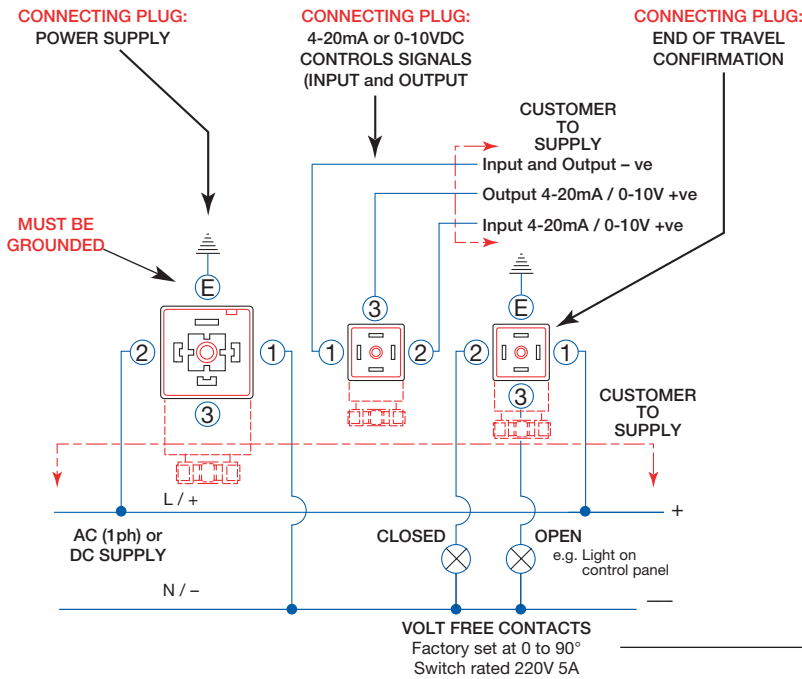
### ORDERING INFORMATION

Order by part number and specify exact chemicals, temperatures and pressures. To arrive at the proper part number, please consult diagram below. The letters and numbers used in this part number are for example only!

<b>EBVB/TEVBV</b>   <b>BASIC MODEL VALVE</b> EBVB 2-Way  <hr/> TEBVB 3-Way	<b>1</b>   <b>VALVE TYPE SIZE/VOLTAGE</b> 1 - 2-Way, 3/8"-2", 85-240 Volts, A/C or D/C 2 - 2-Way, 3/8"-2", 12-24 Volts, A/C or D/C 3 - 2-Way, 2 1/2"-4", 85-240 Volts, A/C or D/C 4 - 2-Way, 2 1/2"-4", 12-24 Volts, A/C or D/C  5 - 3-Way, 3/8"-2", 85-240 Volts, A/C or D/C 6 - 3-Way, 3/8"-2", 12-24 Volts, A/C or D/C 7 - 3-Way, 3" & 4" 85-240 Volts, A/C or D/C 8 - 3-Way, 3" & 4" 12-24 Volts, A/C or D/C	<b>1</b>   <b>OPTIONS</b> 1 - Standard Actuator 2 - Actuator, Fail-Safe 3 - Actuator, 4-20 mA 4 - Actuator, 4-20 mA Fail-Safe 5 - Actuator, 0-10 VDC 6 - Actuator, 0-10 VDC Fail-Safe	<b>050</b>   <b>VALVE SIZE</b> 037 - 3/8" 050 - 1/2" 075 - 3/4" 100 - 1" 125 - 1 1/4" 150 - 1 1/2" 200 - 2" 300 - 3" 400 - 4"  20 - 20mm 25 - 25mm 32 - 32mm 40 - 40mm 50 - 50mm 63 - 63mm 90 - 90mm 110 - 110mm	<b>X</b>   <b>SEAL MATERIAL</b> V FKM EP EPDM	<b>V</b>   <b>CONNECTIONS</b> S Socket T Thread FL Flanges SC Sanitary	<b>T</b>   <b>BODY MATERIAL</b> -PV PVC -CP CPVC -PP Natural Polypro -PF PVDF	<b>PV</b>   <b>BALL OPTIONS</b> A - 3-Hole Ball C - Characterized Vent Vent - Vented Ball
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**SPECIAL DESIGNATION —**  
When "X" appears in this spot it designates BSP threads

### AC (1ph) or DC SUPPLY – WIRING FOR MODULATING ACTUATORS



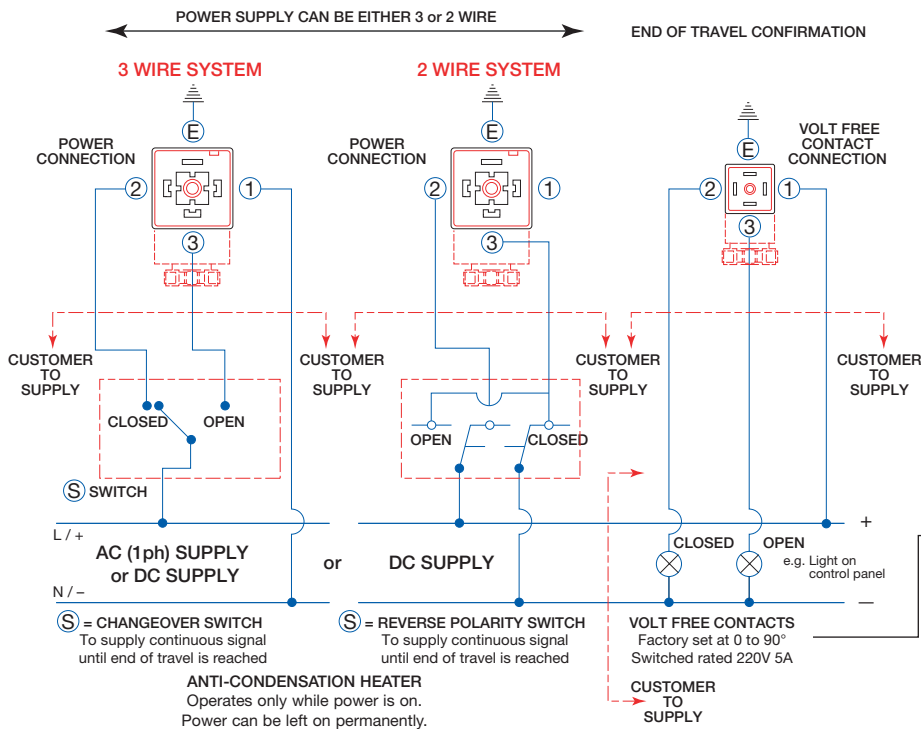
#### Function: MODULATING VERSION

- Power open, power close – Actuator movement controlled by input signal (4-20mA or 0-10VDC)
- Standard Operation:  
4mA or 0V = Actuator Closed, 20mA or 10V = Actuator Open (can be reversed)
- Standard Operation:  
Actuator close on loss of control signal, stays put if loss on main power.
- Output signal provided as standard (in same format as supply signal)

**NOTE:** Wiring showing same supply as motor is only a suggestion, Read *“Installation, Operation and Maintenance Instructions”* before connecting.

**!** Actuator power supply must be on a dedicated circuit and must be grounded.

### AC (1ph) or DC SUPPLY – WIRING ON/OFF OR FAIL SAFE ACTUATORS



#### Function: ON/OFF VERSION

- Power open. power close
- Stays in place during power failure

#### Function: FAIL-SAFE VERSION

- Power open, power close – Trickle charges battery in either open or closed position
- Actuator sent by battery power to preset fail safe position on power failure
- Actuator returns to pre-failure position on power resumption
- Fail-safe can be either NC (normally-closed) or NO (normally-open)

**NOTE:** Wiring showing same supply as motor is only a suggestion, Read *“Installation, Operation and Maintenance Instructions”* before connecting.

**!** Volt free switches are set approximately 5° ahead of the final motor stop position. Do not use the signal from the volt free switches to cut the power to the motor, otherwise the actuator will not reach the full open or full closed position. The actuator is designed to have continuously energized power.

**!** Actuator power supply must be on a dedicated circuit and must be grounded.