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.
### EBVB STATUS LIGHT FUNCTIONS

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSTANTLY LIT LED</td>
<td>If the actuator is operating correctly, with no faults, the LED shows a constantly lit light.</td>
</tr>
<tr>
<td>THE LED FLAShes WITH 2 BLINKS</td>
<td>If the actuator has been left in 'manual' mode, the actuator's motor runs but doesn't drive the output shaft. After a pre-set time, the actuator knows that as the torque limiter hasn't activated, and that the motor is running, it must be in manual mode.</td>
</tr>
<tr>
<td>THE LED FLAShes ON/OFF</td>
<td>When the actuator senses impending valve jam, the electronic torque limiter is activated and on activation, repeatedly flashes the LED on and off</td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>Valve Sizes</th>
<th>1/2&quot;</th>
<th>3/4&quot;</th>
<th>1&quot;</th>
<th>11/4&quot;</th>
<th>11/2&quot;</th>
<th>2&quot;</th>
<th>3&quot;</th>
<th>4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cv Factor</td>
<td>10</td>
<td>20</td>
<td>40</td>
<td>80</td>
<td>100</td>
<td>120</td>
<td>485</td>
<td>768</td>
</tr>
</tbody>
</table>
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!

EBVB/TEBVB 1

1. BASIC MODEL VALVE
   EBVB 2-Way
   TEBVB 3-Way

   5. - 3-Way, 1/8" - 2", 85-240 Volts, A/C or D/C
   6. - 3-Way, 1/16" - 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

   1. VALVE TYPE SIZE/VOLTAGE
      1 - 2-Way, 1/4" - 2", 85-240 Volts, A/C or D/C
      2 - 2-Way, 1/4" - 2", 12-24 Volts, A/C or D/C
      3 - 2-Way, 1/2" - 4", 12-24 Volts, A/C or D/C
      4 - 2-Way, 1/2" - 4", 12-24 Volts, A/C or D/C

   1. OPTIONS
      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

   1. 050 VALVE SIZE
      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

   1. X SEAL MATERIAL
      V FKM
      EP EPDM

   1. T BODY MATERIAL
      PV PVC
      CP CPVC
      PP Natural Polyprop
      PF PVDF

   1. PV CONNECTIONS
      S Socket
      T Thread
      FL Flanges
      SC Sanitary

   1. A BALL OPTIONS
      A - 3-Hole Ball
      C - Characterized Vent
      V - Vented Ball

   SPECIAL DESIGNATION —
   When “X” appears in this spot it designates BSP threads
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.

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.