INSTRUCTIONS
Series 83A Electric Actuator
12/24 VDC Service
“ELECTROMNI”

Description

1. **Valves** Corrosion Resistant Thermoplastic uni-body construction ball valve in PVC or CPVC with Teflon seats and EPDM or Viton Backing Cushions and EPDM or Viton stem seal. Also available for our Tru-Union Type-21 ball valves and Tru-Union Type-23 Multi-Port 3-way ball valves.

2. **Motor** The Series 83 “Electromni” motor is a DC gear motor, which opens and closes the omni or Type 21 ball valve in approximately 5 seconds through 90-degrees of travel. Type-23 multiport 3-way ball valves run 10 seconds for 180-degrees of travel.

3. **Operation** Travel is controlled by 2 internal single pole double throw limit switches activated by individual cams located on top of motor with positive and negative lobes. (180-degree for 3-ways)

4. **Adjustment** The Actuator limit switches are fully adjustable for fine tuning the open and close positions. The cams are negative lobe cams. The adjustment can be achieved by loosening the set screws that secure the cams to the motor shaft and by rotating the cams ahead to trip the switch later or slightly back to trip the switch sooner. To see if change is valid look inside the valve itself and watch the ball travel.

**Engineering Data**

<table>
<thead>
<tr>
<th>Valve Size</th>
<th>Voltage</th>
<th>Current Draw</th>
<th>Cycle Time</th>
<th>Duty Cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2”-2”</td>
<td>12 VDC</td>
<td>2.0 AMPS</td>
<td>5 sec.</td>
<td>75%</td>
</tr>
<tr>
<td>1/2”-2”</td>
<td>24 VDC</td>
<td>3.5 AMPS</td>
<td>5 sec.</td>
<td>75%</td>
</tr>
</tbody>
</table>

Standard enclosure is weather/corrosion resistant (NEMA 4X).

**Options:** 1 additional limit switch (Dry set of contacts)
2-position indicating lights (For visual position indication)
2-wire control (For Retrofitting Solenoids must provide constant voltage )

**Attachments:** 3-Drawings #0004EL, #0119BV, #0046BV83, #0132BV83.
WIRING DIAGRAM:

TO CLOSE: NEG. TO WHITE
POS. TO BLACK

TO OPEN: POS. TO WHITE
NEG. TO RED

ELECTROMNOI

CUSTOMER PROVIDED WIRING,
SWITCH AND OPTIONAL LIGHTS.

DC LINE VOLTAGE

(−) − (−)

Green (ground)

3PDT

CONTROL SWITCH

Lights

Motor

Cam

nc

no

com

nc

red

black

white
NOTE: The shape and appearance of assembly differ a little with nominal size.
1 - ELECTROMNI (SERIES 83) ACTUATOR IS AVAILABLE IN 110 VAC, 220 VAC, 24 VAC, 12 VAC, 24 VDC, AND 12 VDC MODELS

NOTE: The shape and appearance of assembly differ a little with nominal size

1/2" THRU 2" T-21 BALL VALVE TO SERIES 83 ACTUATOR

ITEM | DESCRIPTION | MATERIAL | QTY
--- | --- | --- | ---
1 | T-21 BALL VALVE | PVC, CPVC, PP, PVDF | 1
2 | ELECTROMNI ACTUATOR | ABS & PVC | 1
3 | COUPLING | 303 STAINLESS STEEL | 1
4 | BOLT | STAINLESS STEEL | 4
5 | FLAT WASHER | STAINLESS STEEL | 4

SCALE 1:5

SHEET 1 OF 1

NOTE: The shape and appearance of assembly differ a little with nominal size
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**UNLESS OTHERWISE SPECIFIED**

**DIMENSIONS ARE IN INCHES**

**MACHINING**
- 2 PL DECIMALS ± .01
- 3 PL DECIMALS ± .005
- ANGULAR ± 1/2°
- FRACTIONAL ± 1/64

**FABRICATION**
- 1/2" - 3/8" ± 1/4
- 1" AND UP ± 1/2
- ANGULAR ± 1.0°

**TOLERANCES:**

**MACHINING:**
- ± 1.0°
- ± 1/2" for dimensions 10" and up
- ± 1/4" for dimensions 1/2" - 8"
- ± 1/64" for fractional dimensions

**FABRICATION:**
- ± 1/4" for dimensions 1/2" - 3/8"
- ± 1/2" for dimensions 1"
- ± 1.0° for angular tolerances

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**NOTE:** The shape and appearance of assembly differ a little with nominal size.

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**TABLE:**

<table>
<thead>
<tr>
<th>SIZE</th>
<th>H1</th>
<th>H</th>
<th>L</th>
<th>D</th>
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<tbody>
<tr>
<td>1/2&quot;</td>
<td>3.05</td>
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<td>6.87</td>
<td>8.25</td>
<td>8.23</td>
<td>5.10</td>
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</tbody>
</table>

* PVC/CPVC/ SOCKET/ THREAD
FOR FLANGED/OTHER SEE CATALOG

**ASAHI/AMERICA**
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.

**DRAWING NUMBER:**
0132BV83

**REV:** A

**SCALE:** 1:5

**SHEET:** 1 OF 1