INSTRUCTIONS
Series 83A Electric Actuator
“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 brushless, uni-directional (non-reversing) shaded pole electric 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 an internal single pole double throw limit switch activated by a cam/coupling with 90-degree positive and negative lobes. (180-degree for 3-ways)

4. **Adjustment** The Actuator limit switch has a small amount of adjustment for fine tuning the open and close positions. Any changes will affect both open and closed positions simultaneously. The adjustment can be achieved by loosening the hex standoffs that secure the switch plate to the motor housing and moving the plate slightly 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>115 VAC</td>
<td>2.1 AMPS</td>
<td>5 sec.</td>
<td>25%</td>
</tr>
<tr>
<td>1/2”-2”</td>
<td>220 VAC</td>
<td>.60 AMPS</td>
<td>5 sec.</td>
<td>25%</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:** 4-Drawings #0002EL, #0119BV83, #0046BV83, #132BV83
WIRING DIAGRAM:

Electromni

Customer provided wiring, switch and optional lights

Cam/Coupling

white

red

no black

Limit Switch

Line Voltage

Single Pole Double Throw Switching

Position Indicating Lights

green (ground)

WHITE = NEUTRAL
BLACK = HOT COMMAND OPEN
RED = HOT COMMAND CLOSE
GREEN = GROUND

ELECTROMNI WITH EXTRA LIMIT SWITCH

Electromni

External Wiring

white

orange

brown

yellow

red

SPDT switch

black

green (ground)

WHITE = NEUTRAL
BLACK = HOT COMMAND OPEN
RED = HOT COMMAND CLOSE
GREEN = GROUND

ELECTROMNI WITH TWO WIRE CONTROL

Electromni

External Wiring

white

blue

Control Switch

black

green (ground)

CONTROL SWITCH OPERATION
CLOSURE = OPEN COMMAND
NON-CLOSURE = CLOSED COMMAND

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NAME DATE
DR JJJG 6/19/07
CHK K.BLYSTONE 6/19/07
APPD PATH

DO NOT SCALE DRAWING

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

WIRING DIAGRAM
FOR ELECTROMNI 115 & 220 VAC

SIZE DWG. NO. REV
A 0002EL C

SCALE NTS SHEET 1 OF 1
NOTE: The shape and appearance of assembly differ a little with nominal size

ITEM | DESCRIPTION | MATERIAL | QTY
--- | --- | --- | ---
1 | OMNI BALL VALVE | PVC, CPVC, PP, PVDF | 1
2 | ELECTROMNI ACTUATOR | ABS & PVC | 1
3 | COUPLING | 303 STAINLESS STEEL | 1
4 | ALLEN SET SCREW | STAINLESS STEEL | 2

UNLESS OTHERWISE SPECIFIED

DIMENSIONS ARE IN INCHES

MACHINING:
- 2 PL DECIMALS ±.01
- 3 PL DECIMALS ±.005
- ANGULAR ± 1/2°

FABRICATION:
- 1/2” - 8” ± 1/4
- 1" AND UP ± 1/2
- ANGULAR ± 1.0°

TOLERANCES:
- WO#/CO#

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

1/2" THRU 2" OMNI BALL VALVE
ELECTROMNI

SIZE | H1 | H | W | D
--- | --- | --- | --- | ---
1/2" | .61 | 5.93 | 3.82 | 4.14
3/4" | .94 | 6.15 | 4.06 | 4.14
1" | 1.16 | 6.35 | 4.45 | 4.14
1-1/4" | 1.15 | 6.36 | 5.00 | 4.14
1-1/2" | 1.45 | 6.75 | 5.94 | 4.14
2" | 1.74 | 7.04 | 6.97 | 4.37
NOTE: The shape and appearance of assembly differ a little with nominal size.

1 - ELECTROMINI (SERIES 83) ACTUATOR IS AVAILABLE IN 110 VAC, 220 VAC, 24 VAC, 12 VAC, 24 VDC, AND 12 VDC MODELS

D. Hurley 3/8/10

<table>
<thead>
<tr>
<th>ITEM</th>
<th>DESCRIPTION</th>
<th>MATERIAL</th>
<th>QTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>T-21 BALL VALVE</td>
<td>PVC, CPVC, PP, PVDF</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>ELECTROMINI ACTUATOR</td>
<td>ABS &amp; PVC</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>COUPLING</td>
<td>303 STAINLESS STEEL</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>BOLT</td>
<td>STAINLESS STEEL</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>FLAT WASHER</td>
<td>STAINLESS STEEL</td>
<td>4</td>
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</table>

<table>
<thead>
<tr>
<th>SIZE</th>
<th>H1</th>
<th>H</th>
<th>L</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot;</td>
<td>1.14</td>
<td>6.58</td>
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<td>4.14</td>
</tr>
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<td>6.83</td>
<td>5.08</td>
<td>4.14</td>
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<td>5.75</td>
<td>4.14</td>
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<td>6.46</td>
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<td>7.79</td>
<td>7.24</td>
<td>4.60</td>
</tr>
<tr>
<td>2&quot;</td>
<td>2.60</td>
<td>8.25</td>
<td>8.23</td>
<td>4.90</td>
</tr>
</tbody>
</table>

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

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

C. Williams 3/8/10
NOTE: The shape and appearance of assembly differ a little with nominal size.