



655 Andover Street
Lawrence, MA
01843

INSTRUCTIONS

Series 83A Electric Actuator “ELECTROMNI”

Description

- 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 Multi-Port 3-way ball valves.
- Motor** The Series 83 “Electromni” motor is a dc gear motor with a set of diodes in lead wires for AC low voltage operation, which opens and closes the omni or Type 21 ball valve in approximately 5 seconds through 90-degrees of travel. Multi-port 3-way ball valves run 10 seconds for 180-degrees of travel.
- 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)
- 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

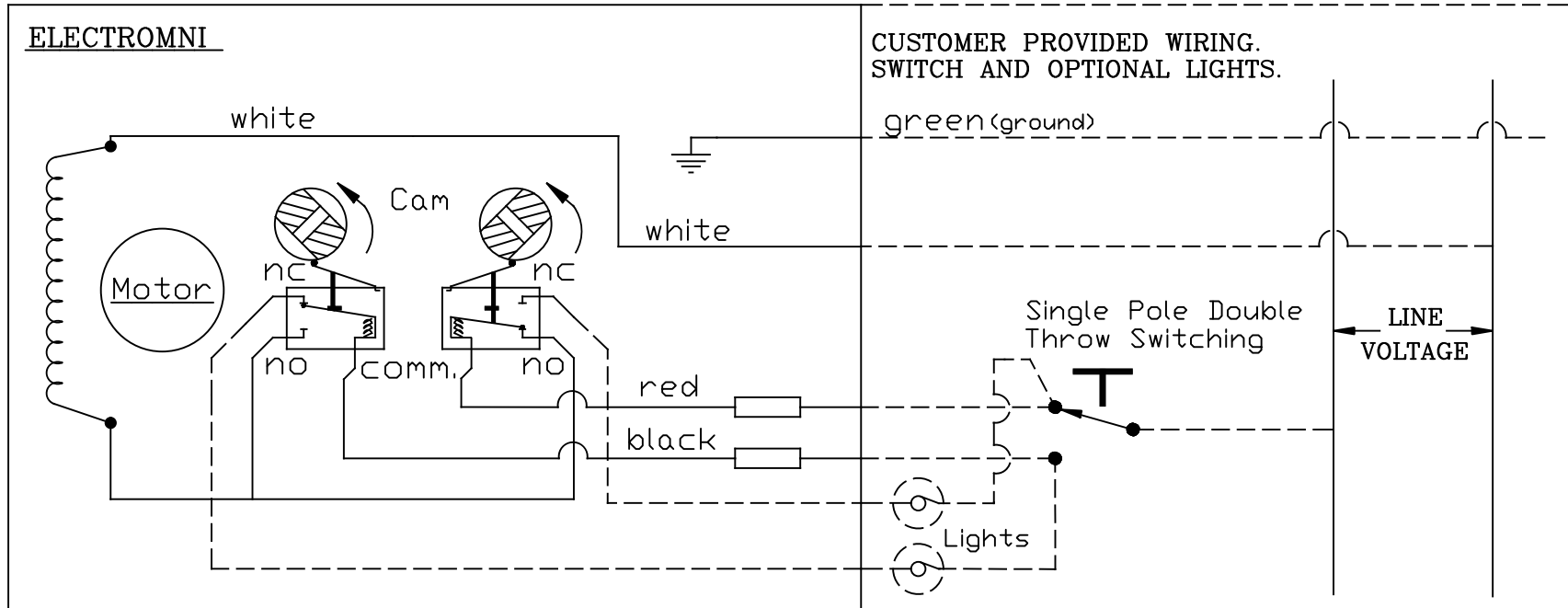
| Valve Size | Voltage | Current Draw | Cycle Time | Duty Cycle |
|------------|---------|--------------|------------|------------|
| 1/2”-2” | 12 VAC | 2.25 AMPS | 5 sec. | 75% |
| 1/2”-2” | 24 VAC | 4.0 AMPS | 5 sec. | 75% |

Standard enclosure is weather resistant (NEMA 4).


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 #0003EL, #0119BV83T27, #0046BV, #132BV83

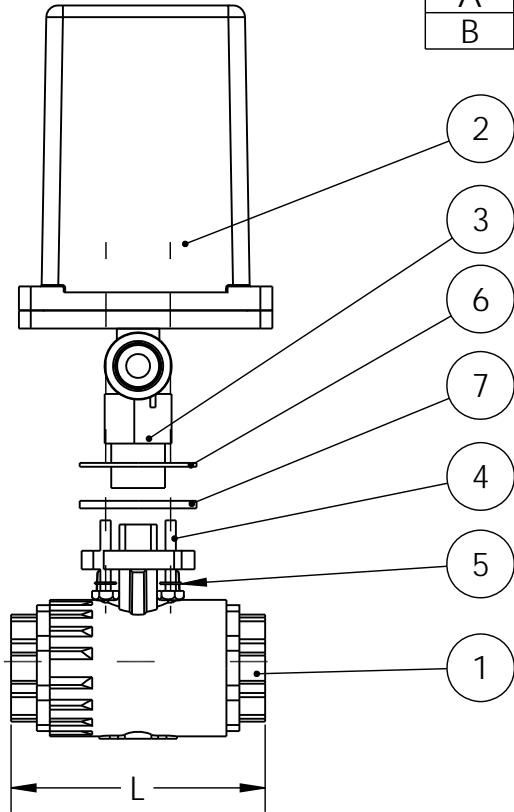
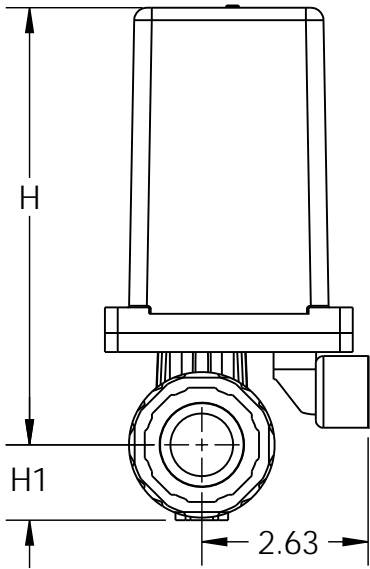
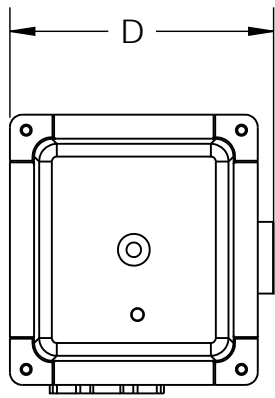
WIRING DIAGRAM:



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

| | | | | | |
|---|------------|--------|--|-----------------|---|
| THIS DRAWING AND ALL INFORMATION HEREON IS THE PROPERTY OF ASAHI/AMERICA. ANY COPYING, REPRODUCTION OR UNAUTHORIZED USE IS FORBIDDEN WITHOUT WRITTEN CONSENT. | | | ASAHI/AMERICA ISO 9001 CERTIFIED 35 GREEN STREET, P.O. BOX 653, MALDEN, MA. | |  |
| | | | ELECTROMNI WIRING DIAGRAM 12/24 VAC | | |
| DR | JJG | 9/9/04 | SIZE A | DWG. NO. 0003EL | |
| APPD | K.BLYSTONE | 9/9/04 | SCALE NTS | | SHEET 1 OF 1 |
| PROD | D.HURLEY | 9/9/04 | | | |
| WO#/SO# | | | | | |
| FILE | | | | | |

| REV | DATE | DESCRIPTION | DR | FROM |
|-----|----------|----------------|----|------|
| A | 3/8/10 | FIRST ISSUE | CW | DH |
| B | 11/29/16 | +RING & GASKET | CW | MW |



| SIZE | H1 | H | L | D |
|--------|------|------|------|------|
| 1/2" | .81 | 6.68 | 3.11 | 4.14 |
| 3/4" | 1.00 | 6.96 | 3.70 | 4.14 |
| 1" | 1.18 | 7.23 | 4.25 | 4.14 |
| 1-1/4" | 1.38 | 7.59 | 4.76 | 4.14 |
| 1-1/2" | 1.66 | 7.92 | 5.75 | 4.14 |
| 2" | 2.09 | 8.37 | 6.86 | 4.37 |

*PVC/CPVC/SOCKET/THREAD


| ITEM | DESCRIPTION | MATERIAL | QTY |
|------|---------------------|---------------------|-----|
| 1 | OMNI T27 BV | PVC, CPVC | 1 |
| 2 | ELECTROMNI ACTUATOR | ABS & PVC | 1 |
| 3 | COUPLING | 303 STAINLESS STEEL | 1 |
| 4 | BOLT | STAINLESS STEEL | 4 |
| 5 | FLAT WASHER | STAINLESS STEEL | 4 |
| 6 | GASKET | NITRILE | 1 |
| 7 | SEALING RING | PP BLACK | 1 |

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

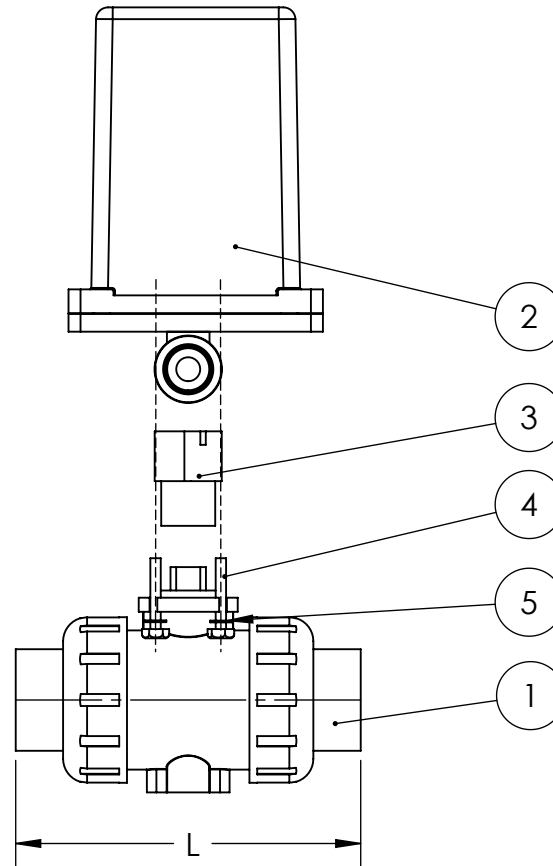
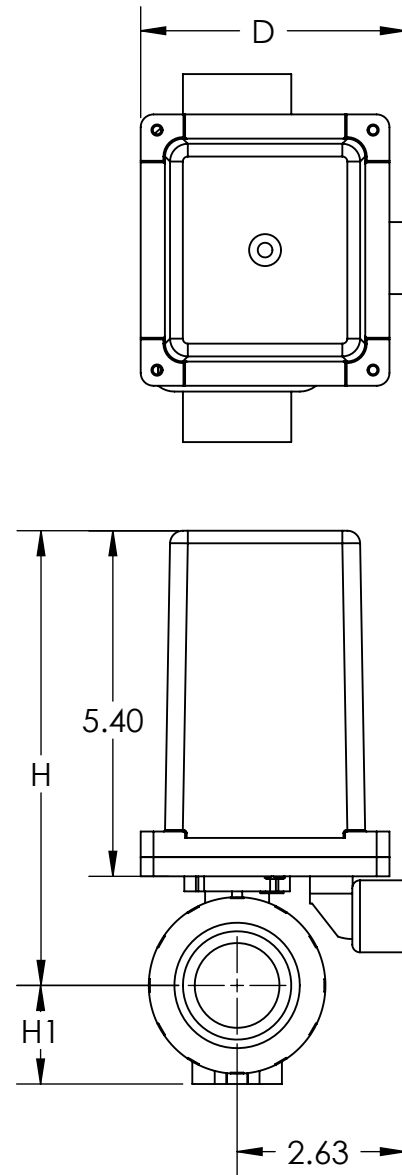
1 - ELECTROMNI (SERIES 83) ACTUATOR IS AVAILABLE IN 110 VAC, 220 VAC, 24 VAC, 12 VAC, 24 VDC, AND 12 VDC MODELS

| UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES | |
|--|----------------------|
| MACHINING | 2 PL DECIMALS ± .01 |
| TOLERANCES: | 3 PL DECIMALS ± .005 |
| | ANGULAR ± 1/2° |
| | FRACTIONAL ± 1/64 |
| FABRICATION | 1/2" - 8" ± 1/4 |
| TOLERANCES: | 10" AND UP ± 1/2 |
| | ANGULAR ± 1.0° |
| WELD TYPE: | N/A |
| MATERIAL: | AS NOTED |
| FINISH: | 125µ" |

| | | |
|---|-------------|----------|
| THIS DRAWING AND ALL INFORMATION HEREIN IS THE PROPERTY OF ASAHI/AMERICA. ANY COPYING, REPRODUCTION OR UNAUTHORIZED USE IS FORBIDDEN WITHOUT WRITTEN CONSENT. | | |
| NAME | DATE | |
| C. Williams | 11/29/16 | |
| APPR | M. Willen | 02/14/17 |
| PRODUCT: | VALVE & ACT | |
| WO#/SO# | | |

| | | |
|---|----------------------------|---|
| ASAHI/AMERICA ISO 9001 CERTIFIED 655 ANDOVER STREET, LAWRENCE, MA | |  |
| 1/2" - 2" OMNI T-27 BV to S83 | | |
| JDE PART # 0119BV83T27 | | |
| SIZE A | DWG # 0119BV83T27 | REVISION B |
| SCALE N/A | SHEET <u>1</u> OF <u>1</u> | |

| REV | DATE | DESCRIPTION | DR | APPD |
|-----|--------|-------------|----|------|
| A | 3/8/10 | FIRST ISSUE | CW | DH |



| SIZE | H1 | H | L | D |
|--------|------|------|------|------|
| 1/2" | 1.14 | 6.58 | 4.45 | 4.14 |
| 3/4" | 1.38 | 6.83 | 5.08 | 4.14 |
| 1" | 1.54 | 7.10 | 5.75 | 4.14 |
| 1-1/4" | 1.85 | 7.46 | 6.46 | 4.24 |
| 1-1/2" | 2.17 | 7.79 | 7.24 | 4.60 |
| 2" | 2.60 | 8.25 | 8.23 | 4.90 |

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

| 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 |

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

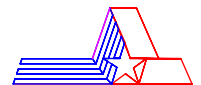
1 - ELECTROMNI (SERIES 83) ACTUATOR IS AVAILABLE IN 110 VAC, 220 VAC, 24 VAC, 12 VAC, 24 VDC, AND 12 VDC MODELS

| UNLESS OTHERWISE SPECIFIED | | DIMENSIONS ARE IN INCHES | |
|----------------------------|---------------|--------------------------|--|
| MACHINING TOLERANCES: | 2 PL DECIMALS | ±.01 | |
| | 3 PL DECIMALS | ±.005 | |
| | ANGULAR | ± 1/2° | |
| | FRACTIONAL | ± 1/64 | |
| FABRICATION TOLERANCES: | 1/2" - 8" | ± 1/4 | |
| | 10" AND UP | ± 1/2 | |
| | ANGULAR | ± 1.0° | |
| MATERIAL: | PRODUCT: | | |
| FINISH: | N/A | WO#/CO# | |

THIS DRAWING AND ALL INFORMATION HEREON IS THE PROPERTY OF ASAHI/AMERICA. ANY COPYING, REPRODUCTION OR UNAUTHORIZED USE IS FORBIDDEN WITHOUT WRITTEN CONSENT.

| | NAME | DATE |
|------|--------------------|--------|
| DR | <i>C. Williams</i> | 3/8/10 |
| APPD | <i>D. Hurley</i> | 3/8/10 |
| PROD | | |

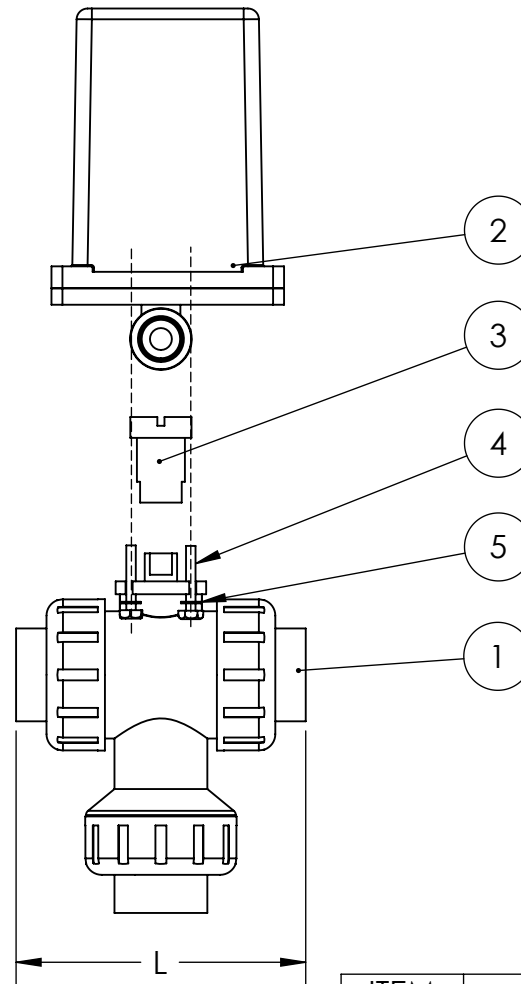
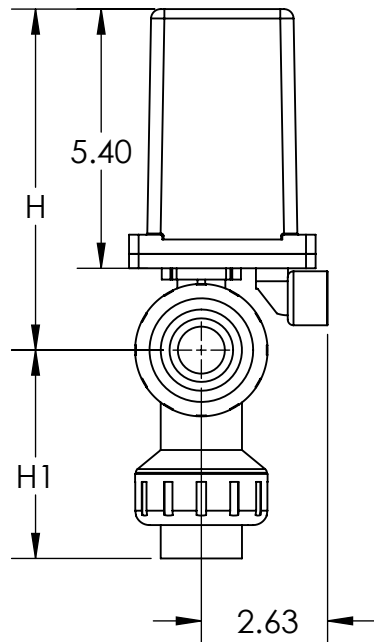
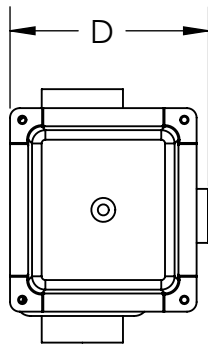
ASAHI/AMERICA
ISO 9001 CERTIFIED
35 GREEN STREET, P.O. BOX 653, MALDEN, MA.



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

| | | | | | |
|-------|-----|----------|--------------|-----|---|
| SIZE | A | DWG. NO. | 0046BV83 | REV | A |
| SCALE | 1:5 | | SHEET 1 OF 1 | | |

| REV | DATE | DESCRIPTION | DR | APPD |
|-----|--------|-------------|----|------|
| A | 3/8/10 | FIRST ISSUE | CW | DH |



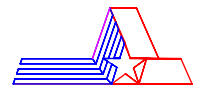
| SIZE | H1 | H | L | D |
|--------|------|------|------|------|
| 1/2" | 3.05 | 6.58 | 4.45 | 4.14 |
| 3/4" | 3.56 | 6.83 | 5.08 | 4.14 |
| 1" | 4.34 | 7.11 | 5.75 | 4.14 |
| 1-1/2" | 6.09 | 7.80 | 7.24 | 4.59 |
| 2" | 6.87 | 8.25 | 8.23 | 5.10 |

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

| 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 |

| UNLESS OTHERWISE SPECIFIED | | THIS DRAWING AND ALL INFORMATION HEREON IS THE PROPERTY OF ASAHI/AMERICA. ANY COPYING, REPRODUCTION OR UNAUTHORIZED USE IS FORBIDDEN WITHOUT WRITTEN CONSENT. | |
|----------------------------|---------------------|---|------|
| DIMENSIONS ARE IN INCHES | | | |
| MACHINING TOLERANCES: | 2 PL DECIMALS ±.01 | DR | NAME |
| | 3 PL DECIMALS ±.005 | | DATE |
| | ANGULAR ±1/2° | | |
| | FRACTIONAL ±1/64 | | |
| FABRICATION TOLERANCES: | 1/2" - 8" ±1/4 | APPD | |
| | 10" AND UP ±1/2 | | |
| | ANGULAR ±1.0° | PROD | |
| MATERIAL: | | PRODUCT: | |
| FINISH: | 125μ" | WO#/CO# | |

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



1/2" THRU 2" T-23 BALL VALVE TO ELECTROMNI ACTUATOR

| | | | | | |
|-------|-----|----------|--------------|-----|---|
| SIZE | A | DWG. NO. | 0132BV83 | REV | A |
| SCALE | 1:5 | | SHEET 1 OF 1 | | |

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