

## Resilient Seat Butterfly Valve with Electric Actuator Two-Way and Three-Way



### Description

Butterfly Valve assemblies provide excellent flow control of hot water, chilled water, condenser water, thermal storage systems, and steam applications. Valves are available in two-way and three-way arrangements for two-position (On/Off) and modulating control.

### Features

- Molded-in resilient seat provides bubble-tight shutoff to 150 psi.
- Temperature rating for standard EPDM seat: -40°F to 250°F (-40°C to 121°C).
- Lugged body is drilled and tapped for isolation and removal of downstream piping at full rated pressure.
- Round, polished disc and hub edge provides 360° concentric seating, minimum flow restriction, lower torques and longer seat life.
- Upper and lower inboard bronze bearings ensure longer service life with low operating torques.
- Thru-stem design provides high strength and positive disc control with standardized end connection for operator interchangeability.
- Extended neck allows adequate clearance for flanges and insulation.
- Bi-directional, select adjusting stem seat is suitable for vacuum and pressure while preventing external contamination of the stem area.
- Heavy-duty corrosion resistant top bushing absorbs actuator side thrust.
- Cast-in top plate is an integral part of the body and is standardized to allow direct mounting of actuators.
- Each valve is factory tested to 110 percent of specified pressure rating.
- Available in multiple configurations to match jobsite needs.

**Table 1. 2-Way Butterfly Valve with Electric Actuator –SPRING RETURN 100 psi Close Off.**

|                 | Size Inches | 24 Vac          |                 |                  |                    |                 |
|-----------------|-------------|-----------------|-----------------|------------------|--------------------|-----------------|
|                 |             | 120 Vac On/Off  |                 |                  |                    |                 |
|                 |             | On/Off          | Floating        | Modulating 0-10V | Modulating 4-20 mA |                 |
|                 |             | Part Number     | Part Number     | Part Number      | Part Number        | Part Number     |
| Normally Closed | 2           | BV2W02UG1LCXXXX | BV2W02UG2LCXXXX | BV2W02UG3LCXXXX  | BV2W02UG4LCXXXX    | BV2W02UG5LCXXXX |
|                 | 2.5         | BV2W25UG1LCXXXX | BV2W25UG2LCXXXX | BV2W25UG3LCXXXX  | BV2W25UG4LCXXXX    | BV2W25UG5LCXXXX |
|                 | 3           | BV2W03UG1LCXXXX | BV2W03UG2LCXXXX | BV2W03UG3LCXXXX  | BV2W03UG4LCXXXX    | BV2W03UG5LCXXXX |
|                 | 4*          | BV2W04UG1LCXXXX | BV2W04UG2LCXXXX | BV2W04UG3LCXXXX  | BV2W04UG4LCXXXX    | BV2W04UG5LCXXXX |
| Normally Open   | 2           | BV2W02UG1LOXXXX | BV2W02UG2LOXXXX | BV2W02UG3LOXXXX  | BV2W02UG4LOXXXX    | BV2W02UG5LOXXXX |
|                 | 2.5         | BV2W25UG1LOXXXX | BV2W25UG2LOXXXX | BV2W25UG3LOXXXX  | BV2W25UG4LOXXXX    | BV2W25UG5LOXXXX |
|                 | 3           | BV2W03UG1LOXXXX | BV2W03UG2LOXXXX | BV2W03UG3LOXXXX  | BV2W03UG4LOXXXX    | BV2W03UG5LOXXXX |
|                 | 4*          | BV2W04UG1LOXXXX | BV2W04UG2LOXXXX | BV2W04UG3LOXXXX  | BV2W04UG4LOXXXX    | BV2W04UG5LOXXXX |

\* Requires two actuators

**Table 2. 2-Way Butterfly Valve with Electric Actuator –NON-SPRING RETURN (Non Fail-Safe).**

| Close-Off | Floating / 2-position Control |                          | Modulating 0-10V Control |                          | Modulating 4-20 mA Control |                          |
|-----------|-------------------------------|--------------------------|--------------------------|--------------------------|----------------------------|--------------------------|
|           | 150 psi<br>120 Vac            | 100 psi (2-6)<br>24 Vac  | 150 psi<br>120 Vac       | 100 psi (2-6)<br>24 Vac  | 150 psi<br>120 Vac         | 100 psi (2-6)<br>24 Vac  |
|           |                               | 50 psi (8-12)<br>120 Vac |                          | 50 psi (8-12)<br>120 Vac |                            | 50 psi (8-12)<br>120 Vac |
| Inches    | Part Number                   | Part Number              | Part Number              | Part Number              | Part Number                | Part Number              |
| 2         | BV2W02FE2LNXXXX               | BV2W02UG6LNXXXX          | BV2W02FEMLNXXHX          | BV2W02UG7LNXXXX          | BV2W02FEPLNXXHX            | BV2W02UG8LNXXXX          |
| 2.5       | BV2W25FE2LNXXXX               | BV2W25UG6LNXXXX          | BV2W25FEMLNXXHX          | BV2W25UG7LNXXXX          | BV2W25FEPLNXXHX            | BV2W25UG8LNXXXX          |
| 3         | BV2W03FE2LNXXXX               | BV2W03UG6LNXXXX          | BV2W03FEMLNXXHX          | BV2W03UG7LNXXXX          | BV2W03FEPLNXXHX            | BV2W03UG8LNXXXX          |
| 4         | BV2W04FE2LNXXXX               | BV2W04UG6LNXXXX          | BV2W04FEMLNXXHX          | BV2W04UG7LNXXXX          | BV2W04FEPLNXXHX            | BV2W04UG8LNXXXX          |
| 5         | BV2W05FE2LNXXXX               | BV2W05UG6LNXXXX *        | BV2W05FEMLNXXHX          | BV2W05UG7LNXXXX *        | BV2W05FEPLNXXHX            | BV2W05UG8LNXXXX *        |
| 6         | BV2W06FE2LNXXXX               | BV2W06UG6LNXXXX *        | BV2W06FEMLNXXHX          | BV2W06UG7LNXXXX *        | BV2W06FEPLNXXHX            | BV2W06UG8LNXXXX *        |
| 8         | BV2W08FE2LNXXXX               | BV2W08UE2LNXXXX          | BV2W08FEMLNXXHX          | BV2W08UEMLNXXHX          | BV2W08FEPLNXXHX            | BV2W08UEPLNXXHX          |
| 10        | BV2W10FE2LNXXXX               | BV2W10UE2LNXXXX          | BV2W10FEMLNXXHX          | BV2W10UEMLNXXHX          | BV2W10FEPLNXXHX            | BV2W10UEPLNXXHX          |
| 12        | BV2W12FE2LNXXXX               | BV2W12UE2LNXXXX          | BV2W12FEMLNXXHX          | BV2W12UEMLNXXHX          | BV2W12FEPLNXXHX            | BV2W12UEPLNXXHX          |

\*Requires two OpenAir™ actuators

**Table 3. 3-Way Butterfly Valve with Electric Actuator –SPRING RETURN 100 psi.**

| Assembly<br>FC = Fully Closed<br>FO = Fully Open<br>ACT = Actuator | Inches | 120 Vac         |                       | 24 Vac          |                 |                       |
|--|--------|-----------------|-----------------------|-----------------|-----------------|-----------------------|
|  |        | On/Off          | Modulating<br>0 – 10V | On/Off          | Floating        | Modulating<br>4-20 mA |
|  |        | Part Number     | Part Number           | Part Number     | Part Number     | Part Number           |
|  | 2      | BV3W02UG1LAXXXX | BV3W02UG4LAXXXX       | BV3W02UG2LAXXXX | BV3W02UG3LAXXXX | BV3W02UG5LAXXXX       |
|  | 2.5    | BV3W25UG1LAXXXX | BV3W25UG4LAXXXX       | BV3W25UG2LAXXXX | BV3W25UG3LAXXXX | BV3W25UG5LAXXXX       |
|  | 3 *    | BV3W03UG1LAXXXX | BV3W03UG4LAXXXX       | BV3W03UG2LAXXXX | BV3W03UG3LAXXXX | BV3W03UG5LAXXXX       |
|  | 4*     | BV3W04UG1LAXXXX | BV3W04UG4LAXXXX       | BV3W04UG2LAXXXX | BV3W04UG3LAXXXX | BV3W04UG5LAXXXX       |
|  | 2      | BV3W02UG1LBXXXX | BV3W02UG4LBXXXX       | BV3W02UG2LBXXXX | BV3W02UG3LBXXXX | BV3W02UG5LBXXXX       |
|  | 2.5    | BV3W25UG1LBXXXX | BV3W25UG4LBXXXX       | BV3W25UG2LBXXXX | BV3W25UG3LBXXXX | BV3W25UG5LBXXXX       |
|  | 3*     | BV3W03UG1LBXXXX | BV3W03UG4LBXXXX       | BV3W03UG2LBXXXX | BV3W03UG3LBXXXX | BV3W03UG5LBXXXX       |
|  | 4*     | BV3W04UG1LBXXXX | BV3W04UG4LBXXXX       | BV3W04UG2LBXXXX | BV3W04UG3LBXXXX | BV3W04UG5LBXXXX       |
|  | 2      | BV3W02UG1LCXXXX | BV3W02UG4LCXXXX       | BV3W02UG2LCXXXX | BV3W02UG3LCXXXX | BV3W02UG5LCXXXX       |
|  | 2.5    | BV3W25UG1LCXXXX | BV3W25UG4LCXXXX       | BV3W25UG2LCXXXX | BV3W25UG3LCXXXX | BV3W25UG5LCXXXX       |
|  | 3*     | BV3W03UG1LCXXXX | BV3W03UG4LCXXXX       | BV3W03UG2LCXXXX | BV3W03UG3LCXXXX | BV3W03UG5LCXXXX       |
|  | 4*     | BV3W04UG1LCXXXX | BV3W04UG4LCXXXX       | BV3W04UG2LCXXXX | BV3W04UG3LCXXXX | BV3W04UG5LCXXXX       |
|  | 2      | BV3W02UF1LDXXXX | BV3W02UG4LDXXXX       | BV3W02UG2LDXXXX | BV3W02UG3LDXXXX | BV3W02UG5LDXXXX       |
|  | 2.5    | BV3W25UG1LDXXXX | BV3W25UG4LDXXXX       | BV3W25UG2LDXXXX | BV3W25UG3LDXXXX | BV3W25UG5LDXXXX       |
|  | 3*     | BV3W03UG1LDXXXX | BV3W03UG4LDXXXX       | BV3W03UG2LDXXXX | BV3W03UG3LDXXXX | BV3W03UG5LDXXXX       |
|  | 4 *    | BV3W04UG1LDXXXX | BV3W04UG4LDXXXX       | BV3W04UG2LDXXXX | BV3W04UG3LDXXXX | BV3W04UG5LDXXXX       |

\* Requires two actuators.

**Table 4. 3-Way Butterfly Valve with Electric Actuator – NON-SPRING RETURN – (Non Fail-Safe).**

| Assembly<br>FC = Fully Closed<br>FO = Fully Open<br>ACT = Actuator | Close-Off<br>Inches | Modulating 0-10V Control |   | Modulating 4-20 mA Control |   | Floating 2-Position Control |   |
|--|---------------------|--------------------------|---|----------------------------|---|-----------------------------|---|
|  |                     | 150 psi 120 Vac          | 100 psi 24 Vac (2-6)<br>50 120 Vac (8-12) | 150 psi 120 Vac            | 100 psi 24 Vac (2-6)<br>50 120 Vac (8-12) | 150 psi 120 Vac             | 100 psi 24 Vac (2-6)<br>50 120 Vac (8-12) |
|  |                     | Part Number              | Part Number                               | Part Number                | Part Number                               | Part Number                 | Part Number                               |
|  | 2                   | BV3W02FEMLAXXH           | BV3W02UG7LAXXXX                           | BV3W02FEPLAXXH             | BV3W02UG8LAXXXX                           | BV3W02FE2LAXXXX             | BV3W02UG6LAXXXX                           |
|  | 2.5                 | BV3W25FEMLAXXH           | BV3W25UG7LAXXXX                           | BV3W25FEPLAXXH             | BV3W25UG8LAXXXX                           | BV3W25FE2LAXXXX             | BV3W25UG6LAXXXX                           |
|  | 3                   | BV3W03FEMLAXXH           | BV3W03UG7LAXXXX                           | BV3W03FEPLAXXH             | BV3W03UG8LAXXXX                           | BV3W03FE2LAXXXX             | BV3W03UG6LAXXXX                           |
|  | 4                   | BV3W04FEMLAXXH           | BV3W04UG7LAXXXX                           | BV3W04FEPLAXXH             | BV3W04UG8LAXXXX                           | BV3W04FE2LAXXXX             | BV3W04UG6LAXXXX                           |
|  | 5                   | BV3W05FEMLAXXH           | BV3W05UG7LAXXXX*                          | BV3W05FEPLAXXH             | BV3W05UG8LAXXXX*                          | BV3W05FE2LAXXXX             | BV3W05UG6LAXXXX*                          |
|  | 6                   | BV3W06FEMLAXXH           | BV3W06UG7LAXXXX*                          | BV3W06FEPLAXXH             | BV3W06UG8LAXXXX*                          | BV3W06FE2LAXXXX             | BV3W06UG6LAXXXX*                          |
|  | 8                   | BV3W08FEMLAXXH           | BV3W08UEMLAXXH                            | BV3W08FEPLAXXH             | BV3W08UG8LAXXXX                           | BV3W08FE2LAXXXX             | BV3W08UE2LAXXXX                           |
|  | 10                  | BV3W10FEMLAXXH           | BV3W10UEMLAXXH                            | BV3W10FEPLAXXH             | BV3W10UG8LAXXXX                           | BV3W10FE2LAXXXX             | BV3W10UE2LAXXXX                           |
|  | 2                   | BV3W02FEMLBXXHX          | BV3W02UG7LBXXXX                           | BV3W02FEPLBXXHX            | BV3W02UG8LBXXXX                           | BV3W02FE2LBXXXX             | BV3W02UG6LBXXXX                           |
|  | 2.5                 | BV3W25FEMLBXXHX          | BV3W25UG7LBXXXX                           | BV3W25FEPLBXXHX            | BV3W25UG8LBXXXX                           | BV3W25FE2LBXXXX             | BV3W25UG6LBXXXX                           |
|  | 3                   | BV3W03FEMLBXXHX          | BV3W03UG7LBXXXX                           | BV3W03FEPLBXXHX            | BV3W03UG8LBXXXX                           | BV3W03FE2LBXXXX             | BV3W03UG6LBXXXX                           |
|  | 4                   | BV3W04FEMLBXXHX          | BV3W04UG7LBXXXX                           | BV3W04FEPLBXXHX            | BV3W04UG8LBXXXX                           | BV3W04FE2LBXXXX             | BV3W04UG6LBXXXX                           |
|  | 5                   | BV3W05FEMLBXXHX          | BV3W05UG7LBXXXX*                          | BV3W05FEPLBXXHX            | BV3W05UG8LBXXXX*                          | BV3W05FE2LBXXXX             | BV3W05UG6LBXXXX*                          |
|  | 6                   | BV3W06FEMLBXXHX          | BV3W06UG7LBXXXX*                          | BV3W06FEPLBXXHX            | BV3W06UG8LBXXXX*                          | BV3W06FE2LBXXXX             | BV3W06UG6LBXXXX*                          |
|  | 8                   | BV3W08FEMLBXXHX          | BV3W08UEPLBXXHX                           | BV3W08FEPLBXXHX            | BV3W08UEPLBXXHX                           | BV3W08FE2LBXXXX             | BV3W08UE2LBXXXX                           |
|  | 10                  | BV3W10FEMLBXXHX          | BV3W10UEPLBXXHX                           | BV3W10FEPLBXXHX            | BV3W10UEPLBXXHX                           | BV3W10FE2LBXXXX             | BV3W10UE2LBXXXX                           |
|  | 2                   | BV3W02FEMLCXXHX          | BV3W02UG7LCXXXX                           | BV3W02FEPLCXXHX            | BV3W02UG8LCXXXX                           | BV3W02FE2LCXXXX             | BV3W02UG6LCXXXX                           |
|  | 2.5                 | BV3W25FEMLCXXHX          | BV3W25UG7LCXXXX                           | BV3W25FEPLCXXHX            | BV3W25UG8LCXXXX                           | BV3W25FE2LCXXXX             | BV3W25UG6LCXXXX                           |
|  | 3                   | BV3W03FEMLCXXHX          | BV3W03UG7LCXXXX                           | BV3W03FEPLCXXHX            | BV3W03UG8LCXXXX                           | BV3W03FE2LCXXXX             | BV3W03UG6LCXXXX                           |
|  | 4                   | BV3W04FEMLCXXHX          | BV3W04UG7LCXXXX                           | BV3W04FEPLCXXHX            | BV3W04UG8LCXXXX                           | BV3W04FE2LCXXXX             | BV3W04UG6LCXXXX                           |
|  | 5                   | BV3W05FEMLCXXHX          | BV3W05UG7LCXXXX*                          | BV3W05FEPLCXXHX            | BV3W05UG8LCXXXX*                          | BV3W05FE2LCXXXX             | BV3W05UG6LCXXXX*                          |
|  | 6                   | BV3W06FEMLCXXHX          | BV3W06UG7LCXXXX*                          | BV3W06FEPLCXXHX            | BV3W06UG8LCXXXX*                          | BV3W06FE2LCXXXX             | BV3W06UG6LCXXXX*                          |
|  | 8                   | BV3W08FEMLCXXHX          | BV3W08UEMLCXXHX                           | BV3W08FEPLCXXHX            | BV3W08UEPLCXXHX                           | BV3W08FE2LCXXXX             | BV3W08UE2LCXXXX                           |
|  | 10                  | BV3W10FEMLCXXHX          | BV3W10UEMLCXXHX                           | BV3W10FEPLCXXHX            | BV3W10UEPLCXXHX                           | BV3W10FE2LCXXXX             | BV3W10UE2LCXXXX                           |
|  | 2                   | BV3W02FEMLDXXHX          | BV3W02UG7LDXXXX                           | BV3W02FEPLDXXHX            | BV3W02UG8LDXXXX                           | BV3W02FE2LDXXXX             | BV3W02UG6LDXXXX                           |
|  | 2.5                 | BV3W25FEMLDXXHX          | BV3W25UG7LDXXXX                           | BV3W25FEPLDXXHX            | BV3W25UG8LDXXXX                           | BV3W25FE2LDXXXX             | BV3W25UG6LDXXXX                           |
|  | 3                   | BV3W03FEMLDXXHX          | BV3W03UG7LDXXXX                           | BV3W03FEPLDXXHX            | BV3W03UG8LDXXXX                           | BV3W03FE2LDXXXX             | BV3W03UG6LDXXXX                           |
|  | 4                   | BV3W04FEMLDXXHX          | BV3W04UG7LDXXXX                           | BV3W04FEPLDXXHX            | BV3W04UG8LDXXXX                           | BV3W04FE2LDXXXX             | BV3W04UG6LDXXXX                           |
|  | 5                   | BV3W05FEMLDXXHX          | BV3W05UG7LDXXXX*                          | BV3W05FEPLDXXHX            | BV3W05UG8LDXXXX*                          | BV3W05FE2LDXXXX             | BV3W05UG6LDXXXX*                          |
|  | 6                   | BV3W06FEMLDXXHX          | BV3W06UG7LDXXXX*                          | BV3W06FEPLDXXHX            | BV3W06UG8LDXXXX*                          | BV3W06FE2LDXXXX             | BV3W06UG6LDXXXX*                          |
|  | 8                   | BV3W08FEMLDXXHX          | BV3W08UEMLDXXHX                           | BV3W08FEPLDXXHX            | BV3W08UEPLDXXHX                           | BV3W08FE2LDXXXX             | BV3W08UE2LDXXXX                           |
|  | 10                  | BV3W10FEMLDXXHX          | BV3W10UEMLDXXHX                           | BV3W10FEPLDXXHX            | BV3W10UEPLDXXHX                           | BV3W10FE2LDXXXX             | BV3W10UE2LDXXXX                           |

\* Requires two actuators

**Table 5. Valve Torque Data (Seating and Unseating).**

| Valve Model | Valve Size Inches (mm) | Differential Pressure |         |         |         |         |         |
|-------------|------------------------|-----------------------|---------|---------|---------|---------|---------|
|             |                        | 50 psi                |         | 100 psi |         | 150 psi |         |
|             |                        | In-lb                 | Nm      | In-lb   | Nm      | In-lb   | Nm      |
| 222         | 4 (102)                | 359                   | 40.56   | 395     | 44.62   | 430     | 48.58   |
| 222         | 5 (127)                | 600                   | 67.79   | 668     | 75.47   | 724     | 82.93   |
| AR2-u/c     | 5 (127)                | 477                   | 53.89   | —       | —       | —       | —       |
| 222         | 6 (152)                | 798                   | 90.16   | 893     | 100.90  | 989     | 111.74  |
| AR2-u/c     | 6 (152)                | 663                   | 74.91   | —       | —       | —       | —       |
| 222         | 8 (203)                | 2070                  | 233.88  | 2268    | 256.25  | 2466    | 278.62  |
| AR2-u/c     | 8 (203)                | 1110                  | 125.41  | —       | —       | —       | —       |
| 222         | 10 (254)               | 3567                  | 403.02  | 4964    | 560.86  | 4362    | 492.84  |
| AR2-u/c     | 10 (254)               | 1721                  | 194.45  | —       | —       | —       | —       |
| 222         | 12 (305)               | 4173                  | 471.49  | 4746    | 536.23  | 5319    | 600.97  |
| AR2-u/c     | 12 (305)               | 2318                  | 261.9   | —       | —       | —       | —       |
| AR2         | 14 (356)               | 5147                  | 581.53  | 5995    | 677.35  | 6842    | 773.04  |
| AR2-u/c     | 14 (356)               | 3747                  | 423.35  | —       | —       | —       | —       |
| AR2         | 16 (406)               | 6808                  | 796.20  | 8116    | 916.99  | 9424    | 1064.77 |
| AR2-u/c     | 16 (406)               | 5008                  | 565.83  | —       | —       | —       | —       |
| AR2         | 18 (457)               | 8810                  | 995.40  | 10720   | 1211.20 | 12630   | 1427.00 |
| AR2-u/c     | 18 (457)               | 6610                  | 746.83  | —       | —       | —       | —       |
| AR2         | 20 (508)               | 11172                 | 1262.27 | 13847   | 1564.28 | 16517   | 1866.17 |
| AR2-u/c     | 20 (508)               | 8372                  | 945.91  | —       | —       | —       | —       |

**NOTE:** AR valves are utilized for all assemblies 14-inch through 20-inch (150 psi) and undercut assemblies (50 psi) size 8-inch to 20-inch. 222 valves are used for all other assemblies.


**Table 6. Electric Actuator Output Torques.**

| Actuator Model | Output Torque In-lb (Nm) | Time for 90° Travel (Sec) | Current Full Load (Amp) |
|----------------|--------------------------|---------------------------|-------------------------|
| EPI-3          | 300 (33.89)              | 17                        | 0.8                     |
| EPI-6          | 600 (67.79)              | 21                        | 0.75                    |
| EPI-13         | 1300 (146.88)            | 21                        | 1.1                     |
| EPI-36         | 3600 (406.75)            | 22                        | 1.5                     |
| EPI-51         | 5100 (576.22)            | 22                        | 2.1                     |
| EPI-91         | 9100 (1028.16)           | 60                        | 1.8                     |
| EPI-151        | 15100 (1706.07)          | 60                        | 2.5                     |



**Table 7. Electric Actuator Output Torques – Modulating.**

| Actuator Model | Output Torque In-lb (Nm) | Time for 90° Travel (Sec) | Current Full Load (Amp) |
|----------------|--------------------------|---------------------------|-------------------------|
| EPI-3          | 240 (27.11)              | 17                        | 0.8                     |
| EPI-6          | 480 (54.23)              | 21                        | 0.75                    |
| EPI-13         | 1040 (117.50)            | 21                        | 1.1                     |
| EPI-36         | 2880 (325.40)            | 21                        | 1.5                     |
| EPI-51         | 4080 (460.98)            | 21                        | 2.1                     |
| EPI-91         | 7280 (822.53)            | 60                        | 1.8                     |
| EPI-151        | 12080 (1364.86)          | 60                        | 2.5                     |

**Table 8. Butterfly Valve Body Specifications**

|   |                 |                               |
|---|-----------------|-------------------------------|
|  |                 |                               |
| Body  | Cast Iron       | ASTM-A 126 Class B            |
| Disc  | Aluminum bronze | ASTM-A 148 UNS C95100 Grade A |
| Stem  | Stainless Steel | ASTM-A 743 CF8M               |
| Molded-In liner   | EPDM            |                               |
| Inboard bearings  | Bronze          |                               |
| Upper brushings   | Polyester       |                               |
| Upper stem seal   | NBR             |                               |

**Table 9. Electronic Actuator Specifications.**

|  |              |   |                                   |   |
|--|--------------|---|-----------------------------------|---|
|  |              |  |                                   |  |
|  |              | Siemens OpenAir™  |                                   |   |
| Specifications                             |              | GCA& GIB  | GCA<br>2-position only            | EPI   |
| Operating Voltage                          |              | 24 Vac ±20%   | 120 Vac ±10%                      | 120 Vac ±10%  |
| Frequency                                  |              | 50/60 Hz  |                                   | 50/60 Hz  |
| Power Consumption                          | Running Max. | 9 VA  | 8 VA                              | See <i>Note</i> below   |
|  | Holding Max. | 5 VA  | 3 VA                              | None  |
| Position Input Signal                      |              | 2 or 3 position<br>0-10 Vdc<br>4-20 mA  | 2-position                        | 2 or 3 position<br>0-10 Vdc<br>4-20 mA  |
| Equipment Rating: Op. Volt                 |              | Class 2   | Class 1                           | Class 1   |
| Equipment Rating:<br>Input & Output Signal |              | Class 2   |                                   | Class 2   |
| Auxiliary Limit Switches                   |              | 2 SPDT Switches<br>6A @ 250 Vac (Option)  |                                   | 2 SPDT Switches<br>10A @ 125 Vac (Standard)   |
| Runtime for 90°                            |              | 90 seconds  |                                   | See <i>Note</i> below   |
| Nominal Angle of Rotation                  |              | 90°   |                                   | 90°   |
| Ambient Temperature                        | Operating    | -25°F to 130°F<br>(-32°C to 55°C)   | -20°F to 140°F<br>(-32°C to 55°C) | -20°F to 140°F (-32°C to 55°C)  |
|  | Storage      | -40°F to 158°F (-40°C to 70°C)  |                                   | -40°F to 185°F (-40°C to 85°C)  |
| Ambient Humidity                           |              | 95% rh  |                                   | 0-90% (non-condensing)  |
| Housing Enclosure                          |              | NEMA 1  |                                   | NEMA 4  |
| Agency Approvals.                          |              | UL873, C-UL (C22.2 No. 24-93)   |                                   | FM, CSA Approvals (optional)  |
| Heater                                     |              | Optional  |                                   | Optional  |

**NOTE:** See dimensional tables, as well as Table 10, for actuator model for each valve size.

**Table 10.**

| Actuator | FLA<br>120 Vac | Travel Time<br>(sec) |
|----------|----------------|----------------------|
| EPI-3    | 0.8            | 17                   |
| EPI-6    | 0.75           | 21                   |
| EPI-13   | 1.1            | 21                   |
| EPI-36   | 1.5            | 22                   |
| EPI-51   | 2.1            | 22                   |
| EPI-91   | 1.8            | 60                   |
| EPI-151  | 2.5            | 60                   |

Wiring Diagrams

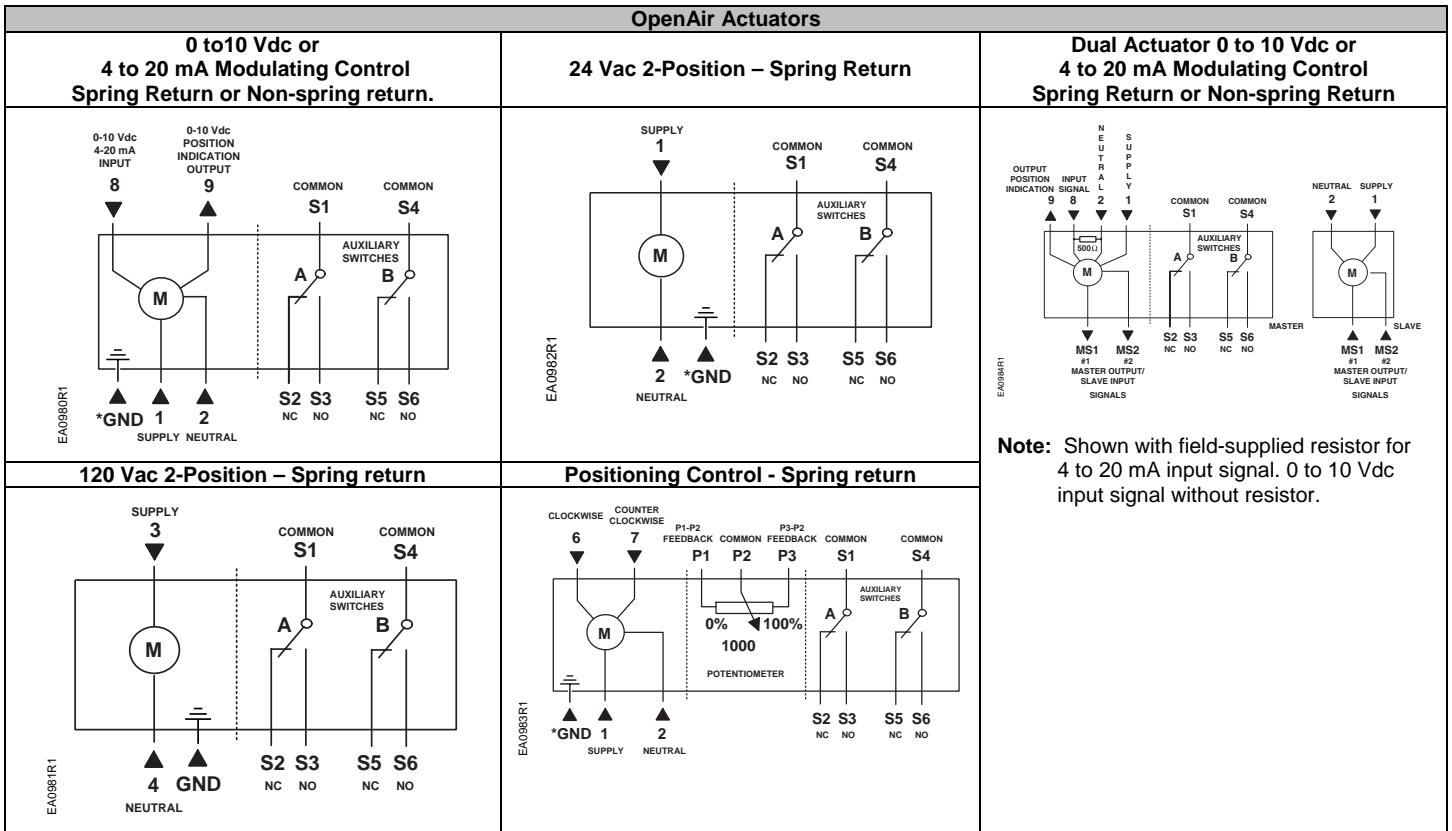


Figure 1. OpenAir Actuator Wiring Diagrams.

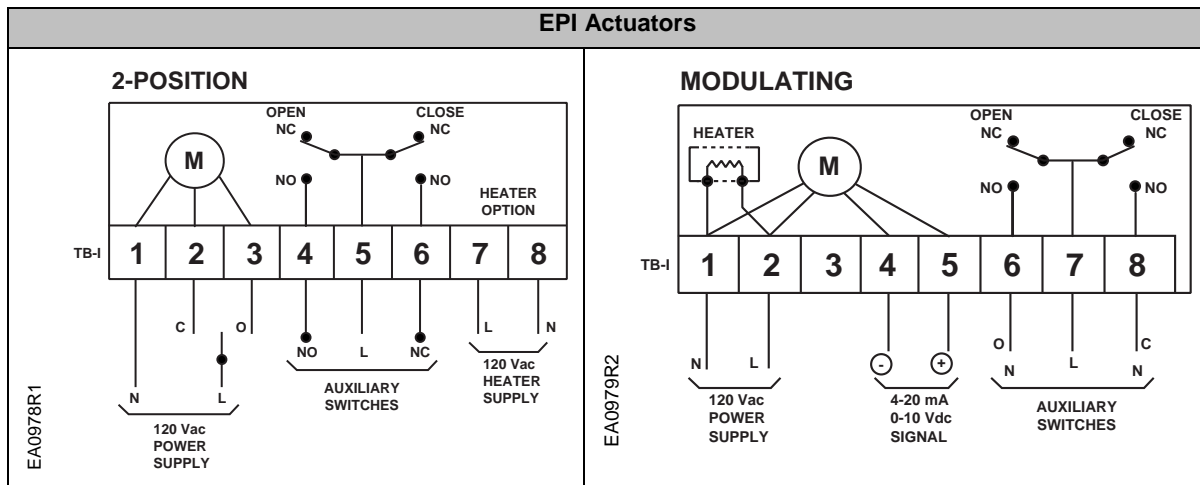


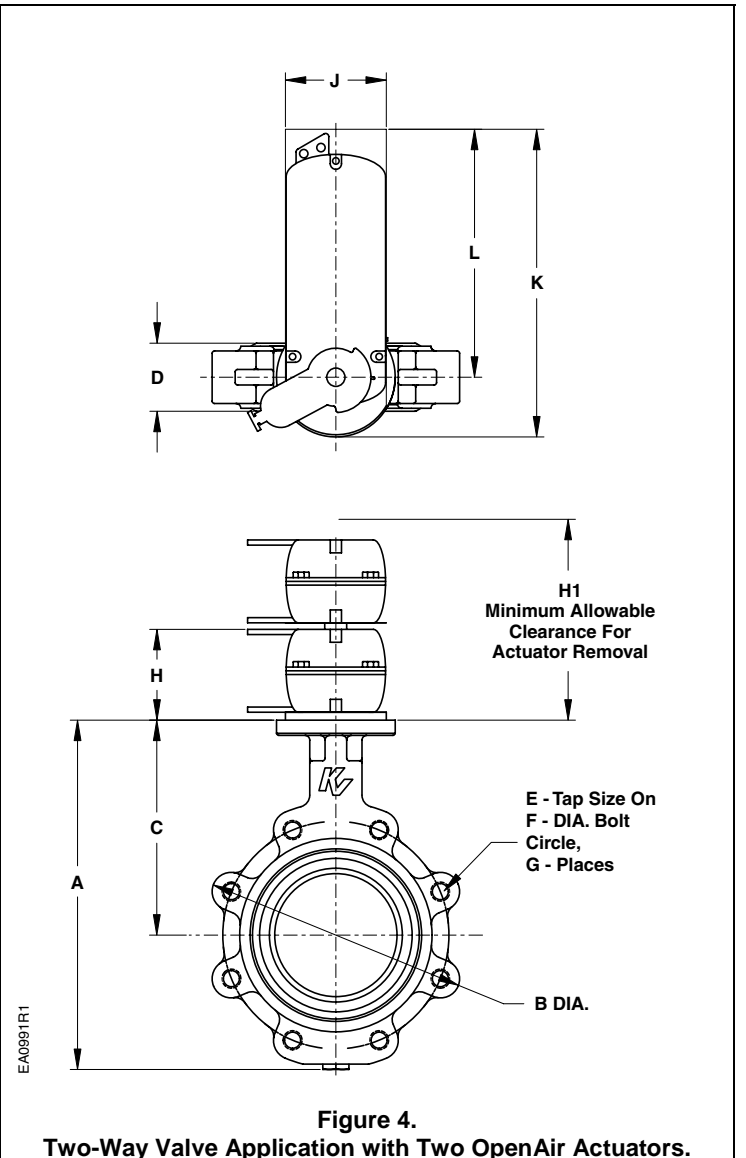
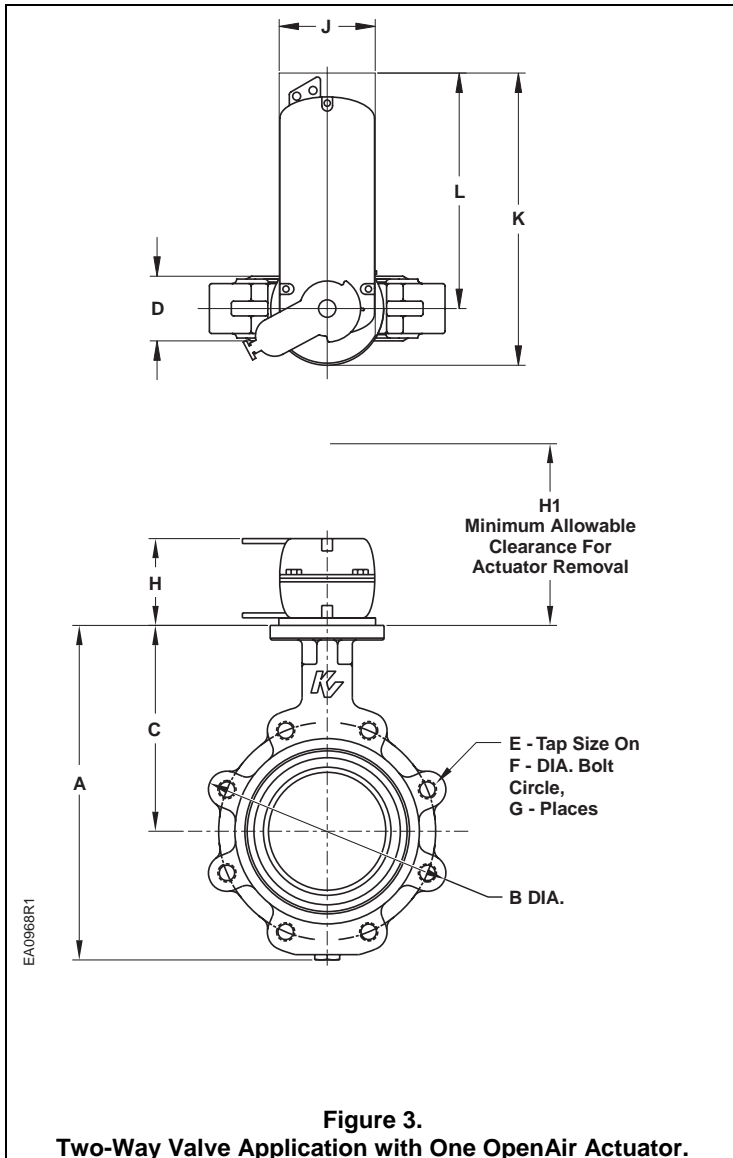
Figure 2. EPI Actuator Wiring Diagrams.

**Dimensions**

| Table 11. 2-Way OpenAir Electric Actuator Valve Assemblies |                |                |               |              |                    |                  |                |              |               |               |               |                |                |            |
|--|----------------|----------------|---------------|--------------|--------------------|------------------|----------------|--------------|---------------|---------------|---------------|----------------|----------------|------------|
| Size Inch  | A              | B              | C             | D            | E<br>Tap Size      | F<br>Bolt Circle | G<br>No. Bolts | H            | H1            | H2            | J             | K              | L              | Notes      |
| 2  | 8.5<br>(216)   | 6<br>(153)     | 5.31<br>(135) | 1.69<br>(43) | 0.625-11<br>UNC-2B | 4.75<br>(121)    | 4              | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 10.35<br>(263) | 8.35<br>(212)  | 1, 2, 4, 5 |
| 2.5  | 9.31<br>(236)  | 6.75<br>(172)  | 5.98<br>(135) | 1.81<br>(46) | 0.625-11<br>UNC-2B | 5.50<br>(140)    | 4              | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 10.35<br>(263) | 8.35<br>(212)  | 1, 2, 4, 5 |
| 3  | 10<br>(254)    | 7.25<br>(184)  | 6.31<br>(160) | 1.81<br>(46) | 0.625-11<br>UNC-2B | 6.00<br>(152)    | 4              | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 10.35<br>(263) | 8.35<br>(212)  | 1, 2, 4, 5 |
| 4  | 11.38<br>(288) | 8.81<br>(223)  | 7.14<br>(180) | 2.06<br>(52) | 0.625-11<br>UNC-2B | 6.00<br>(152)    | 4              | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 10.35<br>(263) | 8.35<br>(212)  | 1, 2, 5    |
| 4  | 11.13<br>(283) | 8.175<br>(222) | 7.00<br>(178) | 2.00<br>(51) | 0.625-11<br>UNC-2B | 7.50<br>(191)    | 8              | 3.25<br>(83) | 9.00<br>(229) | 7.00<br>(178) | 4.00<br>(102) | 14.84<br>(377) | 12.84<br>(327) | 1, 2, 3, 4 |
| 5  | 12.13<br>(337) | 19<br>(254)    | 7.50<br>(191) | 2.13<br>(54) | 0.625-11<br>UNC-2B | 8.50<br>(216)    | 8              | 3.25<br>(83) | 9.00<br>(229) | 7.00<br>(178) | 4.00<br>(102) | 14.84<br>(377) | 12.84<br>(327) | 1, 2, 3, 5 |
| 6  | 13.25<br>(337) | 11.00<br>(279) | 8.00<br>(203) | 2.13<br>(54) | 0.625-11<br>UNC-2B | 9.50<br>(241)    | 8              | 3.25<br>(83) | 9.00<br>(229) | 7.00<br>(178) | 4.00<br>(102) | 14.84<br>(377) | 12.84<br>(327) | 1,2,3,5    |

**Notes:**

1. 100 psi shutoff pressure
2. Undercut assemblies
3. Tandem actuators
4. Spring return
5. Non-spring return

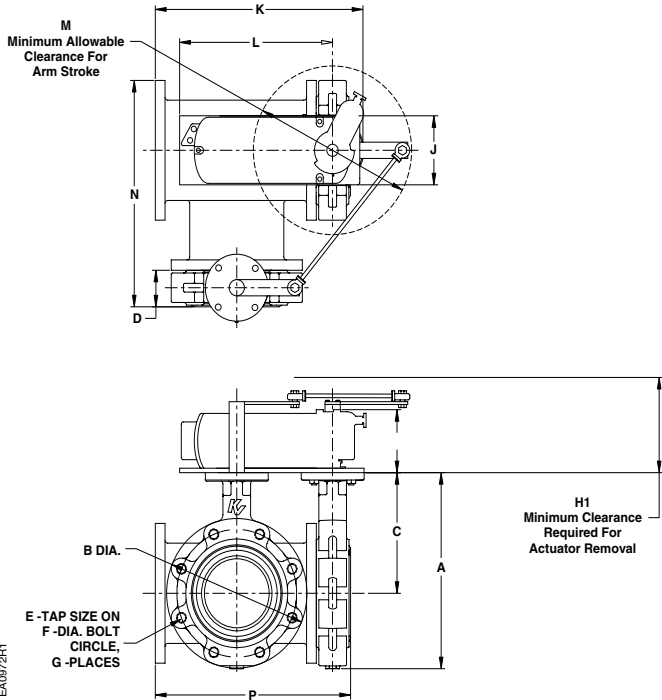


**Table 12. 3-Way OpenAir Electric Actuator Valve Assemblies**

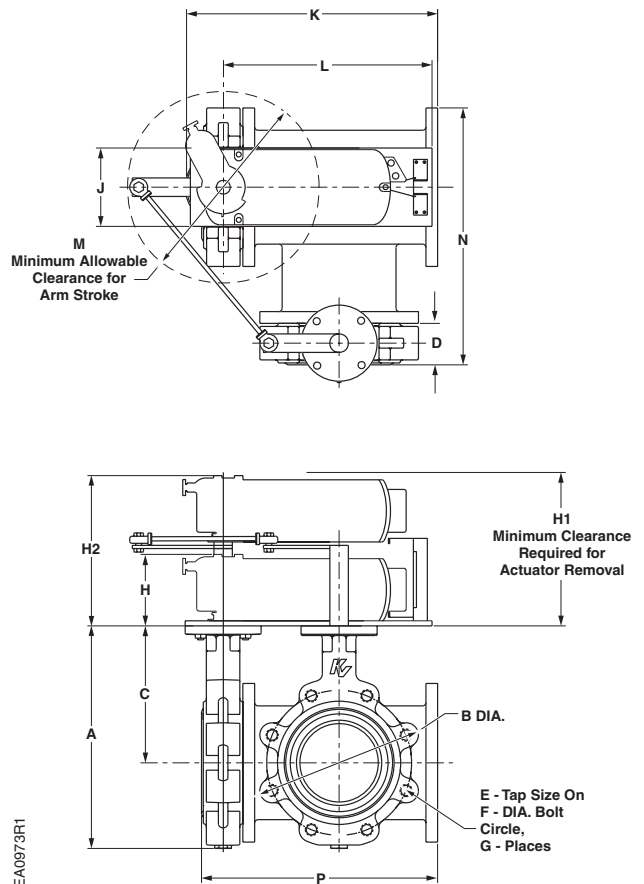
| Size Inch (mm) | A              | B              | C             | D            | E Tap Size         | F Bolt Circle  | G # Bolts | H            | H1            | H2            | J             | K              | L              | M             | N              | P              | Notes   |
|----------------|----------------|----------------|---------------|--------------|--------------------|----------------|-----------|--------------|---------------|---------------|---------------|----------------|----------------|---------------|----------------|----------------|---------|
| 2<br>(216)     | 8.50<br>(216)  | 6.00<br>(153)  | 5.31<br>(135) | 1.69<br>(43) | 0.625-11<br>UNC-2B | 4.75<br>(121)  | 4         | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 11.84<br>(301) | 8.35<br>(212)  | 7.25<br>(184) | 9.22<br>(234)  | 10.69<br>(272) | 1,2,4,5 |
| 2.5<br>(236)   | 9.31<br>(236)  | 6.75<br>(172)  | 5.94<br>(150) | 1.81<br>(46) | 0.625-11<br>UNC-2B | 5.50<br>(140)  | 4         | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 13.41<br>(341) | 8.35<br>(212)  | 7.25<br>(184) | 10.31<br>(262) | 12.31<br>(313) | 1,2,4,5 |
| 3<br>(254)     | 10.00<br>(254) | 7.25<br>(184)  | 6.31<br>(160) | 1.81<br>(46) | 0.625-11<br>UNC-2B | 6.0<br>(152)   | 4         | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 13.98<br>(355) | 8.35<br>(212)  | 7.25<br>(184) | 11.44<br>(291) | 12.88<br>(327) | 1,2,5   |
| 3<br>(254)     | 10.00<br>(254) | 7.25<br>(184)  | 6.31<br>(160) | 1.81<br>(46) | 0.625-11<br>UNC-2B | 6.00<br>(1.52) | 4         | 3.25<br>(83) | 9.00<br>(229) | 7.00<br>(178) | 4.00<br>(102) | 13.98<br>(355) | 8.35<br>(212)  | 7.25<br>(184) | 11.44<br>(291) | 12.88<br>(327) | 1,2,3,4 |
| 4<br>(288)     | 11.38<br>(288) | 8.81<br>(223)  | 7.13<br>(180) | 2.06<br>(52) | 0.625-11<br>UNC-2B | 7.50<br>(191)  | 8         | 3.25<br>(83) | 5.25<br>(133) | -             | 4.00<br>(102) | 16.06<br>(408) | 8.35<br>(212)  | 7.25<br>(184) | 13.06<br>(332) | 15.06<br>(383) | 1,2,5   |
| 4<br>(283)     | 11.13<br>(283) | 8.75<br>(222)  | 7.00<br>(178) | 2.00<br>(51) | 0.625-11<br>UNC-2B | 7.50<br>(191)  | 8         | 3.25<br>(83) | 9.00<br>(229) | 7.00<br>(178) | 4.00<br>(102) | 16.06<br>(408) | 8.35<br>(212)  | 7.25<br>(184) | 13.06<br>(332) | 15.06<br>(383) | 1,2,3,4 |
| 5<br>(310)     | 12.19<br>(310) | 10.00<br>(254) | 7.50<br>(191) | 2.13<br>(54) | 0.750-10<br>UNC-2B | 8.50<br>(216)  | 8         | 3.25<br>(83) | 9.00<br>(229) | 7.00<br>(178) | 4.00<br>(102) | 18.06<br>(459) | 8.35<br>(212)  | 7.25<br>(184) | 14.44<br>(367) | 17.13<br>(435) | 1,2,3,5 |
| 6<br>(337)     | 13.25<br>(337) | 11.00<br>(279) | 8.00<br>(203) | 2.13<br>(54) | 0.750-10<br>UNC-2B | 9.50<br>(241)  | 8         | 3.25<br>(83) | 9.00<br>(229) | 7.00<br>(178) | 4.00<br>(102) | 4.00<br>(102)  | 19.06<br>(484) | 7.25<br>(184) | 15.38<br>(391) | 18.13<br>(460) | 1,2,3,5 |

**Notes:**

1. 100 psi shutoff pressure
2. Undercut assemblies
3. Tandem actuators
4. Spring return
5. Non-spring return



**Figure 5.**  
Three-Way Valve Application with One OpenAir Actuator.



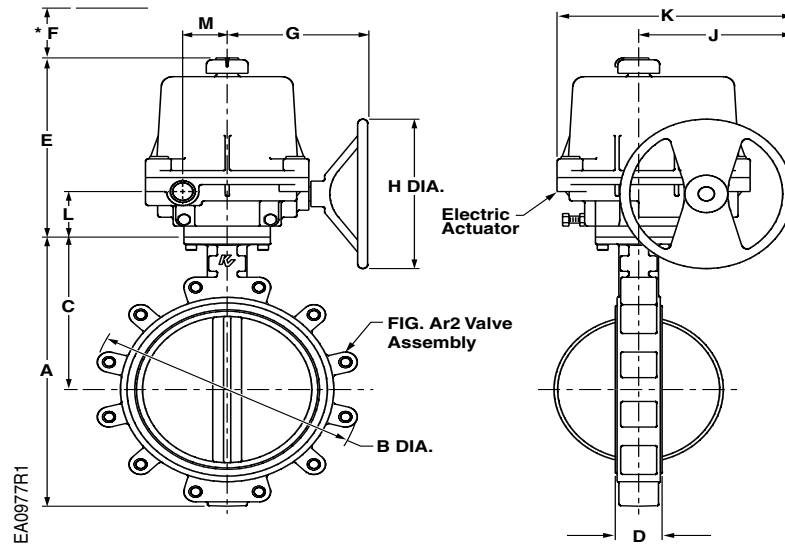
**Figure 6.**  
Three-Way Valve Application with Two OpenAir Actuators.

**Dimensions, continued**

| Table 13. 2-Way EPI Electric Actuator Valve Assemblies |                   |                |  |                |                         |                                     |                  |   |                     |                   |         |  |
|--|-------------------|----------------|--|----------------|-------------------------|-------------------------------------|------------------|---|---------------------|-------------------|---------|--|
| Valve Size<br>Inch (mm)                                | A<br>Valve Height | B<br>Body O.D. | C<br>C <sub>L</sub> Pipe to<br>Top Plate | D<br>Face/Face | E<br>Actuator<br>Height | G<br>Pipe C <sub>L</sub> to<br>H.W. | H<br>H.W<br>D.A. | J<br>Valve C <sub>L</sub> to<br>H.W. Ring | K<br>Total<br>Width | Actuator<br>Model | Notes   |  |
| 2  | 8.50<br>(216)     | 6.00<br>(152)  | 5.31<br>(135)                            | 1.69<br>(43)   | 7.75<br>(196)           | 4.56<br>(115)                       | 5.00<br>(127)    | 4.94<br>(125)                             | 7.38<br>(200)       | EPI-3             | 1,2,3,4 |  |
| 2.5  | 9.31<br>(237)     | 6.75<br>(171)  | 5.94<br>(151)                            | 1.81<br>(46)   | 7.75<br>(196)           | 4.56<br>(115)                       | 5.00<br>(127)    | 4.94<br>(125)                             | 7.38<br>(200)       | EPI-3             | 1,2,3,4 |  |
| 3  | 10.00<br>(254)    | 7.25<br>(184)  | 6.31<br>(160)                            | 1.81<br>(46)   | 7.75<br>(196)           | 4.56<br>(115)                       | 5.00<br>(127)    | 4.94<br>(125)                             | 7.38<br>(200)       | EPI-3             | 1,2,3,4 |  |
| 4  | 11.38<br>(289)    | 8.81<br>(224)  | 7.13<br>(181)                            | 2.06<br>(52)   | 9.63<br>(244)           | 6.50<br>(165)                       | 8.00<br>(203)    | 7.13<br>(181)                             | 10.94<br>(278)      | EPI-6             | 2,3,4   |  |
| 4  | 11.38<br>(289)    | 8.81<br>(224)  | 7.13<br>(181)                            | 2.06<br>(52)   | 7.75<br>(196)           | 4.56<br>(116)                       | 5.00<br>(127)    | 4.94<br>(125)                             | 7.38<br>(200)       | EPI-3             | 1       |  |
| 5  | 12.81<br>(325)    | 10.00<br>(254) | 7.69<br>(195)                            | 2.25<br>(56)   | 9.63<br>(244)           | 6.50<br>(165)                       | 8.00<br>(203)    | 7.13<br>(181)                             | 10.94<br>(278)      | EPI-13            | 3, 4    |  |
| 5  | 12.81<br>(325)    | 10.00<br>(254) | 7.69<br>(195)                            | 2.25<br>(56)   | 9.63<br>(244)           | 6.50<br>(165)                       | 8.00<br>(203)    | 7.13<br>(181)                             | 10.94<br>(278)      | EPI-6             | 1, 2    |  |
| 6  | 13.94<br>(354)    | 11.00<br>(279) | 8.31<br>(210)                            | 2.25<br>(56)   | 9.63<br>(244)           | 6.50<br>(165)                       | 8.00<br>(203)    | 7.13<br>(181)                             | 10.94<br>(278)      | EPI-13            | 2,3,4   |  |
| 6  | 13.94<br>(354)    | 11.00<br>(279) | 8.31<br>(210)                            | 2.25<br>(56)   | 9.63<br>(244)           | 6.50<br>(165)                       | 8.00<br>(203)    | 7.13<br>(181)                             | 10.94<br>(278)      | EPI-6             | 1       |  |
| 8  | 16.44<br>(418)    | 13.25<br>(337) | 9.50<br>(241)                            | 2.38<br>(60)   | 13.00<br>(330)          | 8.25<br>(210)                       | 12.00<br>(305)   | 10.31<br>(262)                            | 4.00<br>(102)       | EPI-36            | 2,3,4   |  |
| 8  | 16.19<br>(411)    | 13.25<br>(337) | 9.50<br>(241)                            | 2.50<br>(64)   | 9.63<br>(244)           | 6.50<br>(165)                       | 8.00<br>(203)    | 7.13<br>(181)                             | 10.94<br>(278)      | EPI-6             | 1       |  |
| 10   | 19.00<br>(483)    | 16.00<br>(406) | 10.88<br>(276)                           | 2.69<br>(68)   | 13.00<br>(330)          | 8.25<br>(210)                       | 12.00<br>(305)   | 10.31<br>(262)                            | 4.00<br>(102)       | EPI-36            | 3,4     |  |
| 10   | 19.00<br>(483)    | 15.90<br>(403) | 10.80<br>(273)                           | 2.50<br>(64)   | 13.00<br>(330)          | 8.25<br>(210)                       | 12.00<br>(305)   | 10.31<br>(262)                            | 4.00<br>(102)       | EPI-13            | 1,2     |  |
| 12   | 21.63<br>(549)    | 18.75<br>(476) | 12.25<br>(311)                           | 3.13<br>(80)   | 13.00<br>(330)          | 8.25<br>(210)                       | 12.00<br>(305)   | 10.31<br>(262)                            | 4.00<br>(102)       | EPI-51            | 3       |  |
| 12   | 21.63<br>(549)    | 18.60<br>(473) | 12.30<br>(311)                           | 3.00<br>(76)   | 13.00<br>(330)          | 8.25<br>(210)                       | 12.00<br>(305)   | 10.31<br>(262)                            | 4.00<br>(102)       | EPI-36            | 1,2     |  |
| 12   | 21.63<br>(549)    | 18.60<br>(473) | 12.30<br>(311)                           | 3.00<br>(76)   | 17.375<br>(441)         | 8.25<br>(210)                       | 12.00<br>(305)   | 16.132<br>(414)                           | 23.375<br>(594)     | EPI-91            | 4       |  |

**Notes:**

1. Undercut position assemblies
2. Undercut modulating assemblies
3. Fullcut two-position assemblies
4. Fullcut modulating assemblies



**Figure 7. Two-Way Valve Application with One EPI Actuator.**

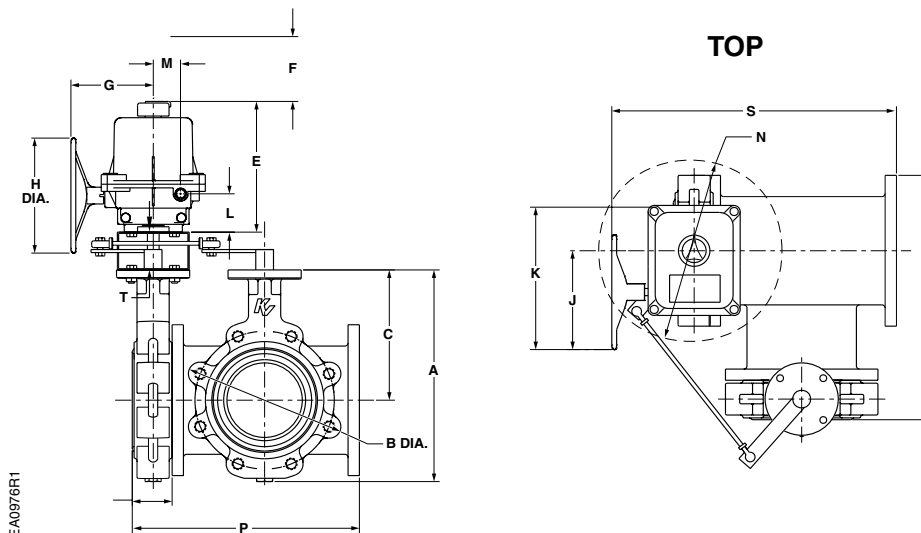


**Dimensions, continued**

| Table 14. 3-Way EPI Electric Actuator Valve Assemblies |                      |                   |  |                |                    |                |              |                            |                     |                      |                        |                   |         |
|--|----------------------|-------------------|--|----------------|--------------------|----------------|--------------|----------------------------|---------------------|----------------------|------------------------|-------------------|---------|
| Valve Size<br>Inch<br>(mm)                             | A<br>Valve<br>Height | B<br>Body<br>O.D. | C<br>C <sub>L</sub> Pipe to<br>Top Plate | D<br>Face/Face | Tap Size           | Bolt<br>Circle | No.<br>Holes | P<br>Pipe<br>Run<br>Length | R<br>Total<br>Width | S<br>Total<br>Length | T<br>Bracket<br>Height | Actuator<br>Model | Notes   |
| 2  | 8.50<br>(216)        | 6.00<br>(152)     | 5.31<br>(135)                            | 1.69<br>(43)   | 0.625-11<br>UNC-2B | 4.75<br>(121)  | 4            | 10.69<br>(272)             | 9.22<br>(234)       | 14.38<br>(365)       | 4.00<br>(102)          | EPI-3             | 1,3     |
| 2  | 8.50<br>(216)        | 6.00<br>(152)     | 5.31<br>(135)                            | 1.69<br>(43)   | 0.625-11<br>UNC-2B | 4.75<br>(121)  | 4            | 10.69<br>(272)             | 9.22<br>(234)       | 14.38<br>(365)       | 4.00<br>(102)          | EPI-6             | 2,4     |
| 2.5  | 9.31<br>(236)        | 6.75<br>(171)     | 5.94<br>(151)                            | 1.81<br>(46)   | 0.625-11<br>UNC-2B | 5.50<br>(140)  | 4            | 12.31<br>(313)             | 10.31<br>(262)      | 15.95<br>(405)       | 4.00<br>(102)          | EPI-6             | 2,3,4   |
| 2.5  | 9.31<br>(236)        | 6.75<br>(171)     | 5.94<br>(151)                            | 1.81<br>(46)   | 0.625-11<br>UNC-2B | 5.50<br>(140)  | 4            | 12.31<br>(313)             | 10.31<br>(262)      | 15.95<br>(405)       | 4.00<br>(102)          | EPI-3             | 1       |
| 3  | 10.00<br>(254)       | 7.25<br>(184)     | 6.31<br>(160)                            | 1.81<br>(46)   | 0.625-11<br>UNC-2B | 6.00<br>(152)  | 4            | 12.88<br>(327)             | 11.44<br>(291)      | 16.52<br>(420)       | 4.00<br>(102)          | EPI-6             | 2,3,4   |
| 3  | 10.00<br>(254)       | 7.25<br>(184)     | 6.31<br>(160)                            | 1.81<br>(46)   | 0.625-11<br>UNC-2B | 6.00<br>(152)  | 4            | 12.88<br>(327)             | 11.44<br>(291)      | 16.52<br>(420)       | 4.00<br>(102)          | EPI-3             | 1       |
| 4  | 11.38<br>(289)       | 8.81<br>(224)     | 7.13<br>(181)                            | 2.06<br>(52)   | 0.625-11<br>UNC-2B | 7.50<br>(191)  | 8            | 15.13<br>(384)             | 13.13<br>(334)      | 20.59<br>(523)       | 4.00<br>(102)          | EPI-13            | 4       |
| 4  | 11.38<br>(289)       | 8.81<br>(224)     | 7.13<br>(181)                            | 2.06<br>(52)   | 0.625-11<br>UNC-2B | 7.50<br>(191)  | 8            | 15.13<br>(384)             | 13.13<br>(334)      | 20.59<br>(523)       | 4.00<br>(102)          | EPI-6             | 1,2,3   |
| 5  | 12.81<br>(325)       | 10.00<br>(254)    | 7.69<br>(195)                            | 2.25<br>(57)   | 0.750-10<br>UNC-2B | 8.50<br>(216)  | 8            | 17.25<br>(438)             | 14.56<br>(370)      | 22.63<br>(575)       | 4.00<br>(102)          | EPI-13            | 1,2,3,4 |
| 6  | 13.94<br>(354)       | 11.00<br>(279)    | 8.31<br>(211)                            | 2.25<br>(57)   | 0.750-10<br>UNC-2B | 9.50<br>(241)  | 8            | 18.25<br>(464)             | 15.50<br>(394)      | 23.63<br>(600)       | 4.00<br>(102)          | EPI-36            | 3, 4    |
| 6  | 13.94<br>(354)       | 11.00<br>(279)    | 8.31<br>(211)                            | 2.25<br>(57)   | 0.750-10<br>UNC-2B | 9.50<br>(241)  | 8            | 18.25<br>(464)             | 15.50<br>(394)      | 23.63<br>(600)       | 4.00<br>(102)          | EPI-13            | 1, 2    |
| 8  | 16.44<br>(418)       | 13.25<br>(337)    | 9.50<br>(241)                            | 2.38<br>(60)   | 0.750-10<br>UNC-2B | 11.75<br>(298) | 8            | 20.38<br>(518)             | 17.69<br>(449)      | 25.66<br>(652)       | 4.00<br>(102)          | EPI-51            | 4       |
| 8  | 16.19<br>(411)       | 13.25<br>(337)    | 9.50<br>(241)                            | 2.50<br>(64)   | 0.750-10<br>UNC-2B | 11.75<br>(298) | 8            | 20.50<br>(521)             | 17.81<br>(452)      | 25.69<br>(652)       | 4.00<br>(102)          | EPI-36            | 1, 2,3  |
| 10   | 19.00<br>(483)       | 16.00<br>(406)    | 10.88<br>(276)                           | 2.69<br>(68)   | 0.875-9<br>UNC-2B  | 14.25<br>(361) | 12           | 26.69<br>(678)             | 23.09<br>(543)      | 33.81<br>(859)       | 4.00<br>(102)          | EPI-91            | 3, 4    |
| 10   | 19.00<br>(483)       | 15.88<br>(403)    | 10.75<br>(273)                           | 2.50<br>(64)   | 0.875-9<br>UNC-2B  | 14.25<br>(361) | 12           | 24.50<br>(622)             | 21.38<br>(543)      | 31.50<br>(800)       | 4.00<br>(102)          | EPI-36            | 1, 2    |
| 12   | 21.63<br>(549)       | 18.75<br>(476)    | 12.25<br>(311)                           | 3.13<br>(80)   | 0.875-9<br>UNC-2B  | 17.00<br>(432) | 12           | 27.13<br>(622)             | 23.53<br>(598)      | 33.81<br>(859)       | 4.00<br>(102)          | EPI-91            | 3, 4    |
| 12   | 21.63<br>(549)       | 18.60<br>(473)    | 12.30<br>(311)                           | 3.00<br>(76)   | 0.875-9<br>UNC-2B  | 17.00<br>(432) | 12           | 27.00<br>(686)             | 23.41<br>(595)      | 33.75<br>(857)       | 4.00<br>(102)          | EPI-36/51         | 1, 2    |

**Notes:**

1. Undercut position assemblies
2. Undercut modulating assemblies
3. Fullcut 2 position assemblies
4. Fullcut modulating assemblies



**Figure 8. Three-Way Application with EPI Actuator.**

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