



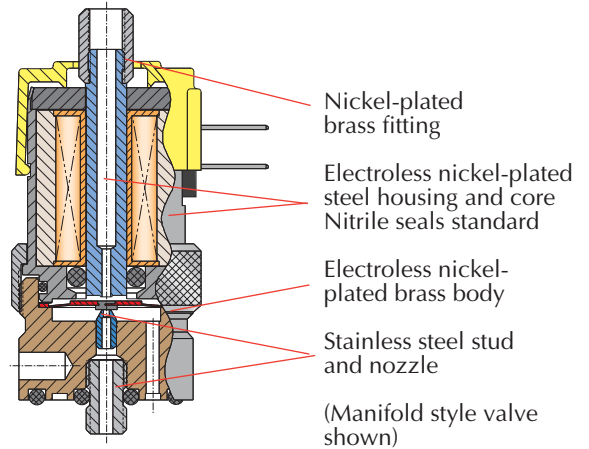
# MOUSE VALVE SERIES DESCRIPTIONS



## Standard Series

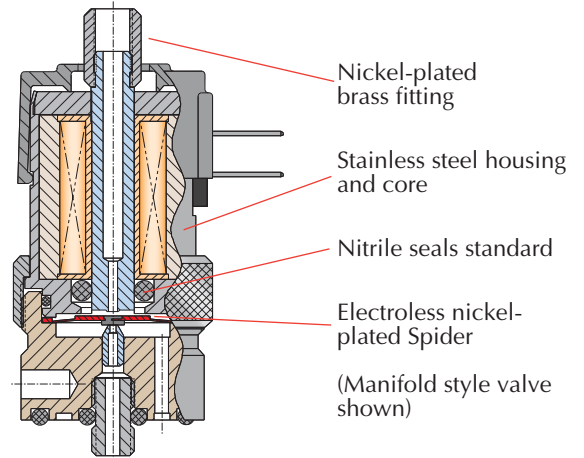
2- and 3-way manifold and in-line mounting. Normally-Closed and fully-ported versions.

**Higher Flow 2-Way Version.** The standard series also includes an option that provides higher flow for 2-way, Normally-Closed applications. Although manifold mounting is accomplished in the same fashion, the inlet is the annular port, and the outlet becomes the center port, through the convenient stud mount of the valve.



## Corrosion-Resistant "CR-" Series

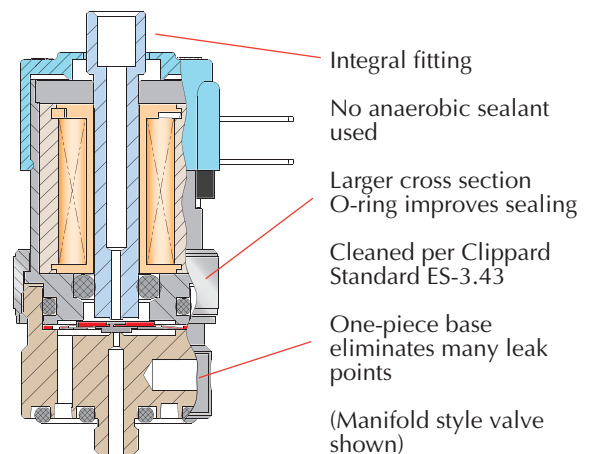
Clippard's Corrosion-Resistant Series (CR-) incorporates materials and construction that provides enhanced protection for valves used with mildly corrosive media such as moisture in air or gases. Where stainless steel is not possible, plating is incorporated to add life to wear components. A nickel-plated brass valve body is standard, but stainless steel may be substituted.



## Analytical "A-" Series

Clippard's Electronic Analytical Valve (A-) series combines the proven features of the "Mouse" series with the specific needs of the analytical industry, and for applications where cleanliness is especially important. Special materials, manufacturing and assembly processes make this valve perfectly suited for applications where internal cleanliness, bubble-tight operation, and long life are imperative.

*For more information, visit [clippard.com/analytical](http://clippard.com/analytical)*

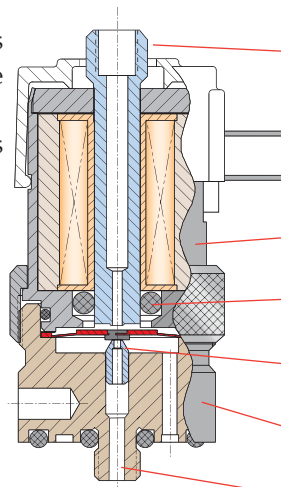




## Oxygen Clean "O-" Series

All EV, ET, EC and EW series electronic valves with the "O-" part number option are available manufactured and assembled for use in Oxygen-enriched environments for applications that are extremely sensitive to contamination.

- Valves are ultrasonically cleaned, assembled, inspected and tested in an enclosed controlled area with a state-of-the-art positive pressure HEPA filtration system
- Both organic and inorganic contaminants such as particulate matter and Hydrocarbon oils are removed
- No organic sealants, adhesives or lubricants are used in the manufacturing process
- Component parts are lubricated with Oxygen-compatible PFPE (perfluoropolyether) grease, only as needed for assembly
- Individual testing and inspection is accomplished utilizing compressed Nitrogen and ultra-violet light



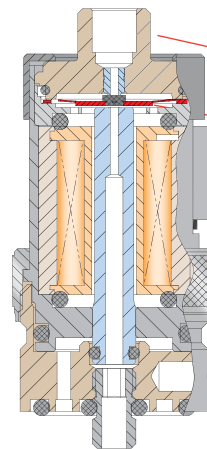
- Integral fitting  
No thread sealant
- All wetted parts  
cleaned per Clippard  
Standard ES-3.41
- Electroless nickel-plated  
steel housing and core
- FKM seals
- Stainless steel  
nozzle
- Electroless nickel-  
plated brass body
- Integral stud  
No thread sealant
- PFPE lubricant  
  
(Manifold style valve  
shown)

For more information  
on the process, visit  
[www.clippard.com/oxygen](http://www.clippard.com/oxygen)



## ECN, EVN, ETN Mouse Valves

Normally-Open, manifold mount to allow Normally-Closed and Normally-Open valves on the same manifold. See page 187 for ordering information.



- Integral fitting
- Armature "spider"  
above coil
- Mounts side-  
by-side with  
Normally-Closed  
version
- (Manifold style  
valve shown)

## Custom EV Valves

Don't see it here? Call us! Many people shy away from asking for customized products and fear increased price and lead times. Clippard's electronic valve production consist of nearly 50% customized product. From the simple tweaks to complex challenges, Clippard is your partner for finding the right solution to your needs.



Metric line available. Visit [www.clippard.com](http://www.clippard.com)

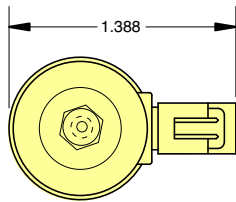


# MOUNTING OPTIONS & FLOW DIAGRAMS

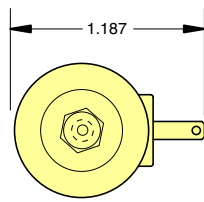
## Electrical Connection Options



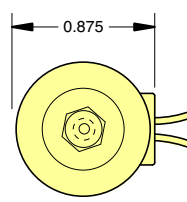
0.025" Pin Connector



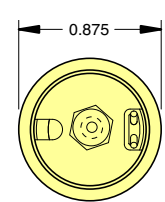
Spade Terminals



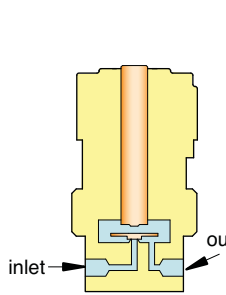
Wire Leads Side (Radial)



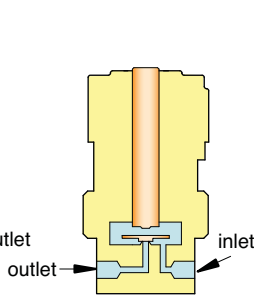
Wire Leads Top (Axial)



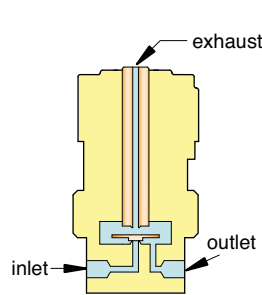
## In-Line Mount



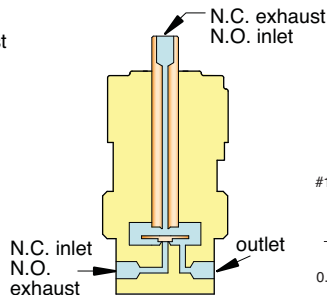
2-Way Normally-Closed In-Line Mount



2-Way Normally-Closed High Flow In-Line Mount

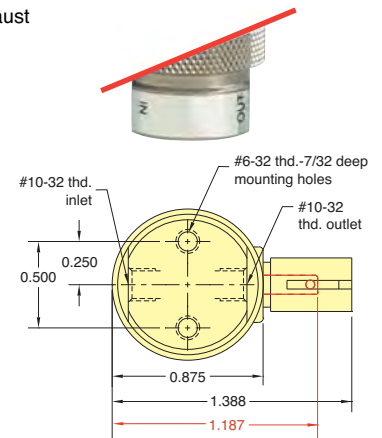


3-Way Normally-Closed In-Line Mount

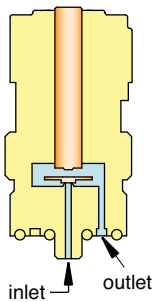


3-Way Fully-Ported In-Line Mount

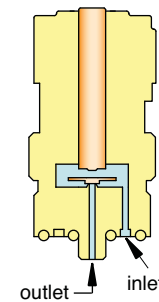
## Mounting Options



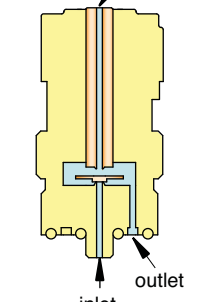
## Manifold Mount



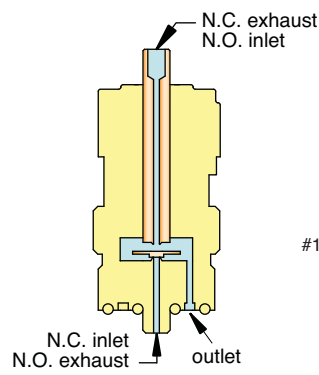
2-Way Normally-Closed Manifold Mount



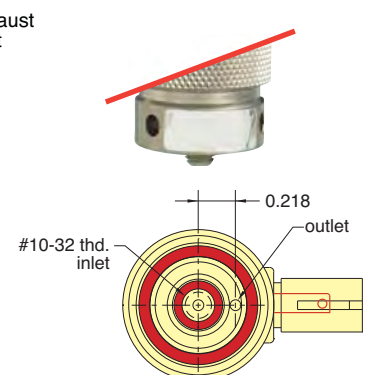
2-Way Normally-Closed High Flow Manifold Mount



3-Way Normally-Closed Manifold Mount

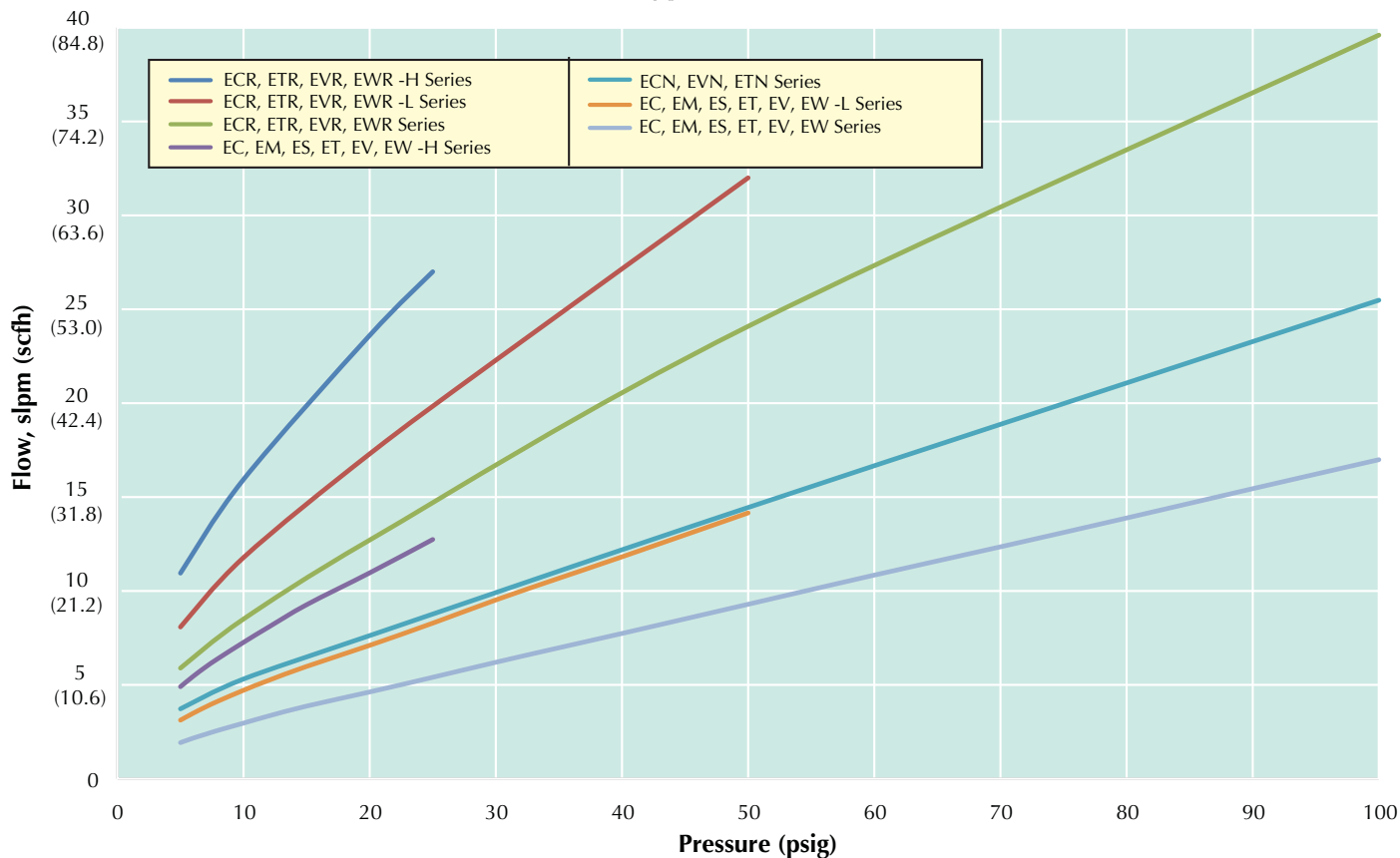


3-Way Fully-Ported Manifold Mount





## Typical Air Flow



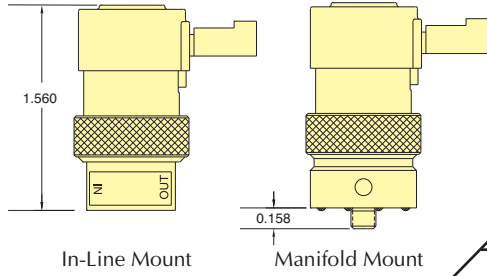
## Electrical Specifications

| Series                                       | Nominal |                |                   | Power (watts) | Working Range (cont. duty)     |
|----------------------------------------------|---------|----------------|-------------------|---------------|--------------------------------|
|                                              | Voltage | Current (amps) | Resistance (ohms) |               |                                |
| - Standard<br>- Oxygen Clean<br>- Analytical | 12      | 0.055          | 218               | 0.67          | 90 to 150%<br>of rated voltage |
|                                              | 24      | 0.028          | 864               |               |                                |
| - Corrosion-Resistant                        | 12      | 0.098          | 122               | 1.2           | 90 to 110%<br>of rated voltage |
|                                              | 24      | 0.049          | 486               |               |                                |
| - EM Series<br>- ES Series                   | 12      | 0.083          | 144               | 1.0           | 90 to 120%<br>of rated voltage |
|                                              | 24      | 0.042          | 576               |               |                                |

Metric line available. Visit [www.clippard.com](http://www.clippard.com)



# 2-WAY NORMALLY-CLOSED VALVES, IN-LINE & MANIFOLD MOUNT



|  |  | Pressure Range   |   | Voltage         |   | Part No.        |             |
|--|--|------------------|---|-----------------|---|-----------------|-------------|
|  |  | Vac. to 105 psig |   | Vac. to 50 psig |   | Vac. to 25 psig |             |
|  |  | 12 VDC           |   | 24 VDC          |   |                 |             |
|  |  | In-Line Mount    |   | Manifold Mount  |   |                 |             |
|  |  | •                |   | •               |   | *EC-2-12        | *EC-2M-12   |
|  |  | •                |   | •               |   | *EC-2-24        | *EC-2M-24   |
|  |  |                  | • |                 | • | *EC-2-12-L      | *EC-2M-12-L |
|  |  |                  | • |                 | • | *EC-2-24-L      | *EC-2M-24-L |
|  |  |                  |   | •               |   | *EC-2-12-H      | *EC-2M-12-H |
|  |  | •                |   | •               |   | *EC-2-24-H      | *EC-2M-24-H |
|  |  | •                |   | •               |   | *ET-2-12        | *ET-2M-12   |
|  |  | •                |   | •               |   | *ET-2-24        | *ET-2M-24   |
|  |  |                  | • |                 | • | *ET-2-12-L      | *ET-2M-12-L |
|  |  |                  | • |                 | • | *ET-2-24-L      | *ET-2M-24-L |
|  |  |                  |   | •               |   | *ET-2-12-H      | *ET-2M-12-H |
|  |  | •                |   | •               |   | *ET-2-24-H      | *ET-2M-24-H |
|  |  | •                |   | •               |   | *EV-2-12        | *EV-2M-12   |
|  |  | •                |   | •               |   | *EV-2-24        | *EV-2M-24   |
|  |  |                  | • |                 | • | *EV-2-12-L      | *EV-2M-12-L |
|  |  |                  | • |                 | • | *EV-2-24-L      | *EV-2M-24-L |
|  |  |                  |   | •               |   | *EV-2-12-H      | *EV-2M-12-H |
|  |  | •                |   | •               |   | *EV-2-24-H      | *EV-2M-24-H |
|  |  | •                |   | •               |   | *EW-2-12        | *EW-2M-12   |
|  |  | •                |   | •               |   | *EW-2-24        | *EW-2M-24   |
|  |  |                  | • |                 | • | *EW-2-12-L      | *EW-2M-12-L |
|  |  |                  | • |                 | • | *EW-2-24-L      | *EW-2M-24-L |
|  |  |                  |   | •               |   | *EW-2-12-H      | *EW-2M-12-H |
|  |  | •                |   | •               |   | *EW-2-24-H      | *EW-2M-24-H |

**Medium:** Clean, dry air (40 micron filter)

**Power Consumption:** 0.67 watt (CR Series: 1.2 watt)

**Temperature Range:** 32 to 180°F; CR Series: 32 to 150°F

**Response:** 5 to 10 milliseconds (nominal)

**Operating Range:** 90 to 150% of rated voltage (CR Series: ±10%)

**Ports:** #10-32

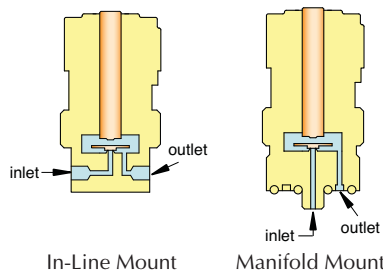


| Valve Series (*)                          | Standard | Non-Standard                                |
|-------------------------------------------|----------|---------------------------------------------|
| Standard                                  | (blank)  |                                             |
| Oxygen Clean                              | O-       | See Pages 179 & 180 for further information |
| Analytical Series**                       | A-       |                                             |
| Corrosion-Resistant<br>(not std. on "EW") | CR-      |                                             |
| Options (add to end of Part No.)          |          |                                             |
| FKM Seals                                 | -V       |                                             |
| EPR Seals                                 |          | -E                                          |
| Silicone Seals                            |          | -S                                          |
| Diode                                     |          | -D                                          |

Example Part No's:  
ET-2M-12-V  
CR-ET-2-12

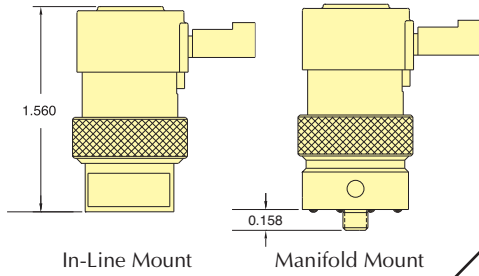
See Page 181 for mounting options

\*\* Available on manifold mount valves only



| Pressure Range          | Suffix  | Air Flow            |
|-------------------------|---------|---------------------|
| 28" Hg Vac. to 105 psig | (blank) | 0.6 scfm @ 100 psig |
| 28" Hg Vac. to 50 psig  | -L      | 0.5 scfm @ 50 psig  |
| 28" Hg Vac. to 25 psig  | -H      | 0.45 scfm @ 25 psig |

# 2-WAY NORMALLY-CLOSED HIGH FLOW VALVES, IN-LINE & MANIFOLD MOUNT



Part No.

|                              |   | Pressure Range   |                 |                 | Voltage |        | In-Line Mount | Manifold Mount |
|------------------------------|---|------------------|-----------------|-----------------|---------|--------|---------------|----------------|
|                              |   | Vac. to 105 psig | Vac. to 50 psig | Vac. to 25 psig | 12 VDC  | 24 VDC |               |                |
| <br>0.025" Pin Connector     | • |                  |                 |                 | •       |        | *ECR-2-12     | *ECR-2M-12     |
|                              | • |                  |                 |                 |         | •      | *ECR-2-24     | *ECR-2M-24     |
| <br>Spade Terminals          | • |                  |                 |                 | •       |        | *ECR-2-12-L   | *ECR-2M-12-L   |
|                              | • |                  |                 |                 |         | •      | *ECR-2-24-L   | *ECR-2M-24-L   |
| <br>Wire Leads Side (Radial) | • |                  |                 |                 | •       |        | *ECR-2-12-H   | *ECR-2M-12-H   |
|                              | • |                  |                 |                 |         | •      | *ECR-2-24-H   | *ECR-2M-24-H   |
| <br>Wire Leads Top (Axial)   | • |                  |                 |                 | •       |        | *ETR-2-12     | *ETR-2M-12     |
|                              | • |                  |                 |                 |         | •      | *ETR-2-24     | *ETR-2M-24     |
|                              | • |                  |                 |                 | •       |        | *ETR-2-12-L   | *ETR-2M-12-L   |
|                              | • |                  |                 |                 |         | •      | *ETR-2-24-L   | *ETR-2M-24-L   |
|                              | • |                  |                 |                 | •       |        | *ETR-2-12-H   | *ETR-2M-12-H   |
|                              | • |                  |                 |                 |         | •      | *ETR-2-24-H   | *ETR-2M-24-H   |
|                              | • |                  |                 |                 | •       |        | *EVR-2-12     | *EVR-2M-12     |
|                              | • |                  |                 |                 |         | •      | *EVR-2-24     | *EVR-2M-24     |
|                              | • |                  |                 |                 | •       |        | *EVR-2-12-L   | *EVR-2M-12-L   |
|                              | • |                  |                 |                 |         | •      | *EVR-2-24-L   | *EVR-2M-24-L   |
|                              | • |                  |                 |                 | •       |        | *EVR-2-12-H   | *EVR-2M-12-H   |
|                              | • |                  |                 |                 |         | •      | *EVR-2-24-H   | *EVR-2M-24-H   |
|                              | • |                  |                 |                 | •       |        | *EWR-2-12     | *EWR-2M-12     |
|                              | • |                  |                 |                 |         | •      | *EWR-2-24     | *EWR-2M-24     |
|                              | • |                  |                 |                 | •       |        | *EWR-2-12-L   | *EWR-2M-12-L   |
|                              | • |                  |                 |                 |         | •      | *EWR-2-24-L   | *EWR-2M-24-L   |
|                              | • |                  |                 |                 | •       |        | *EWR-2-12-H   | *EWR-2M-12-H   |
|                              | • |                  |                 |                 |         | •      | *EWR-2-24-H   | *EWR-2M-24-H   |

**Medium:** Clean, dry air (40 micron filter)

**Power Consumption:** 1.2 watt

**Temperature Range:** 32 to 150°F

**Response:** 10 milliseconds (nominal)

**Operating Range:** ±10% of rated voltage

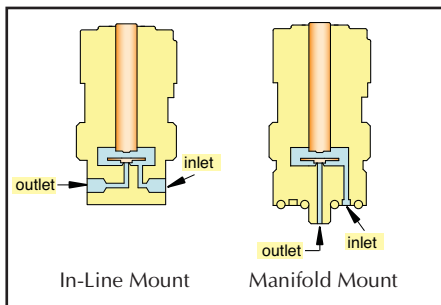
**Ports:** #10-32



| Valve Series (*)                        | Standard      | Non-Standard                                |
|-----------------------------------------|---------------|---------------------------------------------|
| Standard Analytical Series**            | (blank)<br>A- | See Pages 179 & 180 for further information |
| <b>Options (add to end of Part No.)</b> |               |                                             |
| FKM Seals                               | -V            |                                             |
| EPR Seals                               |               | -E                                          |
| Silicone Seals                          |               | -S                                          |
| Diode                                   |               | -D                                          |

See Page 181 for mounting options

\*\* Available on manifold mount valves only

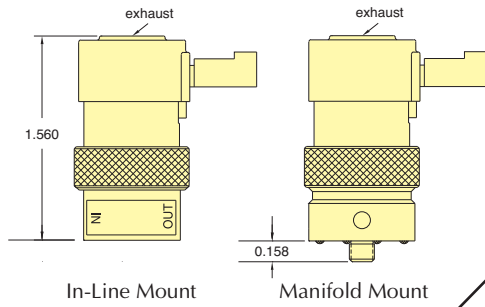


| Pressure Range          | Suffix  | Air Flow            |
|-------------------------|---------|---------------------|
| 28" Hg Vac. to 100 psig | (blank) | 1.4 scfm @ 100 psig |
| 28" Hg Vac. to 50 psig  | -L      | 1.1 scfm @ 50 psig  |
| 28" Hg Vac. to 25 psig  | -H      | 0.95 scfm @ 25 psig |

Metric line available. Visit [www.clippard.com](http://www.clippard.com)



# 3-WAY NORMALLY-CLOSED VALVES, IN-LINE & MANIFOLD



|                              |   | Pressure Range   |   | Voltage         |             | Part No.        |                |
|------------------------------|---|------------------|---|-----------------|-------------|-----------------|----------------|
|                              |   | Vac. to 105 psig |   | Vac. to 50 psig |             | Vac. to 25 psig |                |
|                              |   | 12 VDC           |   | 24 VDC          |             | In-Line Mount   | Manifold Mount |
| <br>0.025" Pin Connector     |   | •                | • | •               | •           | *EC-3-12        | *EC-3M-12      |
|                              |   | •                | • | •               | •           | *EC-3-24        | *EC-3M-24      |
|                              |   | •                | • | •               | •           | *EC-3-12-L      | *EC-3M-12-L    |
|                              |   | •                | • | •               | •           | *EC-3-24-L      | *EC-3M-24-L    |
|                              |   | •                | • | •               | •           | *EC-3-12-H      | *EC-3M-12-H    |
| •                            | • | •                | • | *EC-3-24-H      | *EC-3M-24-H |                 |                |
| <br>Spade Terminals          |   | •                | • | •               | •           | *ET-3-12        | *ET-3M-12      |
|                              |   | •                | • | •               | •           | *ET-3-24        | *ET-3M-24      |
|                              |   | •                | • | •               | •           | *ET-3-12-L      | *ET-3M-12-L    |
|                              |   | •                | • | •               | •           | *ET-3-24-L      | *ET-3M-24-L    |
|                              |   | •                | • | •               | •           | *ET-3-12-H      | *ET-3M-12-H    |
| •                            | • | •                | • | *ET-3-24-H      | *ET-3M-24-H |                 |                |
| <br>Wire Leads Side (Radial) |   | •                | • | •               | •           | *EV-3-12        | *EV-3M-12      |
|                              |   | •                | • | •               | •           | *EV-3-24        | *EV-3M-24      |
|                              |   | •                | • | •               | •           | *EV-3-12-L      | *EV-3M-12-L    |
|                              |   | •                | • | •               | •           | *EV-3-24-L      | *EV-3M-24-L    |
|                              |   | •                | • | •               | •           | *EV-3-12-H      | *EV-3M-12-H    |
| •                            | • | •                | • | *EV-3-24-H      | *EV-3M-24-H |                 |                |
| <br>Wire Leads Top (Axial)   |   | •                | • | •               | •           | *EW-3-12        | *EW-3M-12      |
|                              |   | •                | • | •               | •           | *EW-3-24        | *EW-3M-24      |
|                              |   | •                | • | •               | •           | *EW-3-12-L      | *EW-3M-12-L    |
|                              |   | •                | • | •               | •           | *EW-3-24-L      | *EW-3M-24-L    |
|                              |   | •                | • | •               | •           | *EW-3-12-H      | *EW-3M-12-H    |
| •                            | • | •                | • | *EW-3-24-H      | *EW-3M-24-H |                 |                |

- Medium:** Clean, dry air (40 micron filter)
- Power Consumption:** 0.67 watt (CR Series: 1.2 watt)
- Temperature Range:** 32 to 180°F, CR Series: 32 to 150°F
- Response:** 5 to 10 milliseconds (nominal)
- Operating Range:** 90 to 150% of rated voltage (CR Series: ±10%)
- Ports:** #10-32



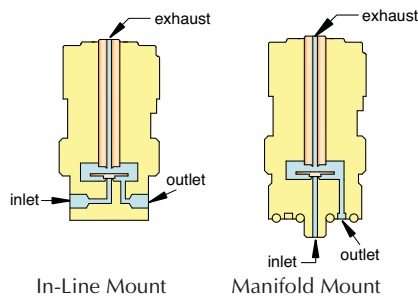
| Valve Series (*)                       | Standard        | Non-Standard                                |
|----------------------------------------|-----------------|---------------------------------------------|
| Standard                               | (blank)         |                                             |
| Oxygen Clean Analytical Series**       | O-<br>A-<br>CR- | See Pages 179 & 180 for further information |
| Corrosion-Resistant (not std. on "EW") |                 |                                             |
| Options (add to end of Part No.)       |                 |                                             |
| FKM Seals                              | -V              |                                             |
| EPR Seals                              |                 | -E                                          |
| Silicone Seals                         |                 | -S                                          |
| Diode                                  |                 | -D                                          |

Example Part No's:  
ET-3-12-S  
O-EW-3-24

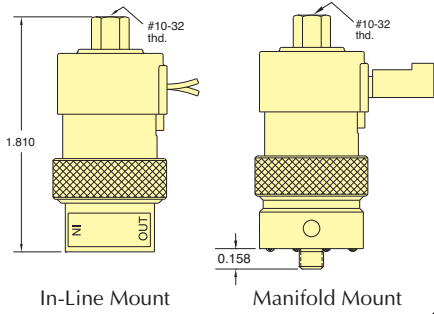
See Page 181 for mounting options

\*\* Available on manifold mount valves only

| Pressure Range          | Suffix  | Air Flow            |
|-------------------------|---------|---------------------|
| 28" Hg Vac. to 105 psig | (blank) | 0.6 scfm @ 100 psig |
| 28" Hg Vac. to 50 psig  | -L      | 0.5 scfm @ 50 psig  |
| 28" Hg Vac. to 25 psig  | -H      | 0.45 scfm @ 25 psig |



# 3-WAY FULLY-PORTED VALVES, IN-LINE & MANIFOLD



Part No.

|                              |   | Pressure Range   |                 | Voltage         |        | In-Line Mount | Manifold Mount |
|------------------------------|---|------------------|-----------------|-----------------|--------|---------------|----------------|
|                              |   | Vac. to 105 psig | Vac. to 50 psig | Vac. to 25 psig | 12 VDC | 24 VDC        |                |
| <br>0.025" Pin Connector     | • |                  |                 |                 | •      | *ECO-3-12     | *ECO-3M-12     |
|                              | • |                  |                 |                 | •      | *ECO-3-24     | *ECO-3M-24     |
|                              |   | •                |                 |                 | •      | *ECO-3-12-L   | *ECO-3M-12-L   |
|                              |   | •                |                 |                 | •      | *ECO-3-24-L   | *ECO-3M-24-L   |
|                              |   |                  | •               |                 | •      | *ECO-3-12-H   | *ECO-3M-12-H   |
|                              |   |                  | •               | •               |        | *ECO-3-24-H   | *ECO-3M-24-H   |
| <br>Spade Terminals          | • |                  |                 |                 | •      | *ETO-3-12     | *ETO-3M-12     |
|                              | • |                  |                 |                 | •      | *ETO-3-24     | *ETO-3M-24     |
|                              |   | •                |                 |                 | •      | *ETO-3-12-L   | *ETO-3M-12-L   |
|                              |   | •                |                 |                 | •      | *ETO-3-24-L   | *ETO-3M-24-L   |
|                              |   |                  | •               |                 | •      | *ETO-3-12-H   | *ETO-3M-12-H   |
|                              |   |                  | •               | •               |        | *ETO-3-24-H   | *ETO-3M-24-H   |
| <br>Wire Leads Side (Radial) | • |                  |                 |                 | •      | *EVO-3-12     | *EVO-3M-12     |
|                              | • |                  |                 |                 | •      | *EVO-3-24     | *EVO-3M-24     |
|                              |   | •                |                 |                 | •      | *EVO-3-12-L   | *EVO-3M-12-L   |
|                              |   | •                |                 |                 | •      | *EVO-3-24-L   | *EVO-3M-24-L   |
|                              |   |                  | •               |                 | •      | *EVO-3-12-H   | *EVO-3M-12-H   |
|                              |   |                  | •               | •               |        | *EVO-3-24-H   | *EVO-3M-24-H   |
| <br>Wire Leads Top (Axial)   | • |                  |                 |                 | •      | *EWO-3-12     | *EWO-3M-12     |
|                              | • |                  |                 |                 | •      | *EWO-3-24     | *EWO-3M-24     |
|                              |   | •                |                 |                 | •      | *EWO-3-12-L   | *EWO-3M-12-L   |
|                              |   | •                |                 |                 | •      | *EWO-3-24-L   | *EWO-3M-24-L   |
|                              |   |                  | •               |                 | •      | *EWO-3-12-H   | *EWO-3M-12-H   |
|                              |   |                  | •               | •               |        | *EWO-3-24-H   | *EWO-3M-24-H   |

**Medium:** Clean, dry air (40 micron filter)

**Power Consumption:** 0.67 watt (CR Series: 1.2 watt)

**Temperature Range:** 32 to 180°F, CR Series: 32 to 150°F

**Response:** 5 to 10 milliseconds (nominal)

**Operating Range:** 90 to 150% of rated voltage (CR Series: ±10%)

**Ports:** #10-32

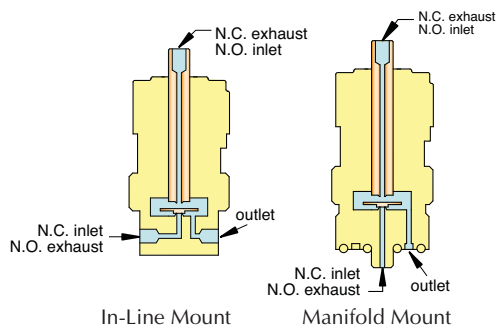


| Valve Series (*)                 | Standard | Non-Standard                                |
|----------------------------------|----------|---------------------------------------------|
| Standard                         | (blank)  |                                             |
| Oxygen Clean                     | O-       | See Pages 179 & 180 for further information |
| Analytical Series**              | A-       |                                             |
| Corrosion-Resistant              | CR-      |                                             |
| <i>(not std. on "EWO")</i>       |          |                                             |
| Options (add to end of Part No.) |          |                                             |
| FKM Seals                        | -V       |                                             |
| EPR Seals                        |          | -E                                          |
| Silicone Seals                   |          | -S                                          |
| Diode                            |          | -D                                          |

Example Part No's:  
ETO-3M-24-D  
CR-EVO-3-12

See Page 181 for mounting options

\*\* Available on manifold mount valves only



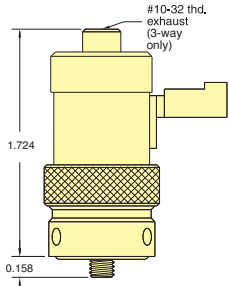

| Pressure Range          | Suffix  | Air Flow            |
|-------------------------|---------|---------------------|
| 28" Hg Vac. to 105 psig | (blank) | 0.6 scfm @ 100 psig |
| 28" Hg Vac. to 50 psig  | -L      | 0.5 scfm @ 50 psig  |
| 28" Hg Vac. to 25 psig  | -H      | 0.45 scfm @ 25 psig |

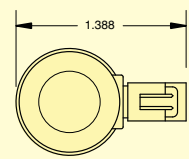
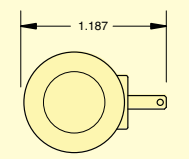
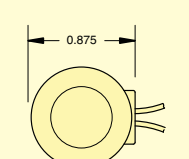
Metric line available. Visit [www.clippard.com](http://www.clippard.com)





# 2-WAY & 3-WAY NORMALLY-OPEN VALVES, MANIFOLD

|                                                                                                                |   | Voltage |           | Part No.  |       |
|----------------------------------------------------------------------------------------------------------------|---|---------|-----------|-----------|-------|
|                                                                                                                |   | 12 VDC  | 24 VDC    | 2-Way     | 3-Way |
| <br>0.025" Pin Connector      | • |         | ECN-2M-12 | ECN-3M-12 |       |
|                                                                                                                |   | •       | ECN-2M-24 | ECN-3M-24 |       |
| <br>Spade Terminals           | • |         | ETN-2M-12 | ETN-3M-12 |       |
|                                                                                                                |   | •       | ETN-2M-24 | ETN-3M-24 |       |
| <br>Wire Leads Side (Radial) | • |         | EVN-2M-12 | EVN-3M-12 |       |
|                                                                                                                |   | •       | EVN-2M-24 | EVN-3M-24 |       |

- Medium:** Clean, dry air (40 micron filter)
- Power Consumption:** 0.67 watt
- Temperature Range:** 32 to 180°F
- Response:** 5 to 10 milliseconds (nominal)
- Operating Range:** 90 to 150% of rated voltage
- Voltage:** 12 VDC or 24 VDC. Other voltages available upon request.
- Ports:** #10-32

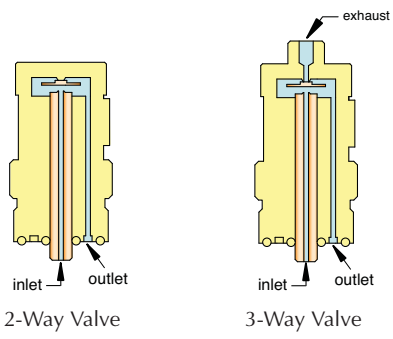


| Valve Series (*)                        | Standard | Non-Standard |
|-----------------------------------------|----------|--------------|
| Standard                                | (blank)  |              |
| <b>Options (add to end of Part No.)</b> |          |              |
| FKM Seals                               | -V       |              |
| EPR Seals                               |          | -E           |
| Silicone Seals                          |          | -S           |
| Diode                                   |          | -D           |

Example Part No's:  
EVN-2M-12-V  
ETN-3M-24

See Page 181 for mounting options

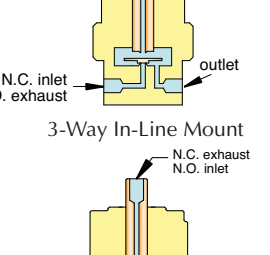
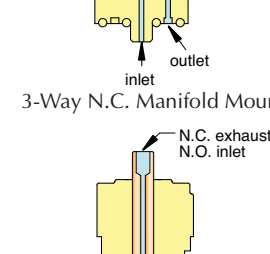
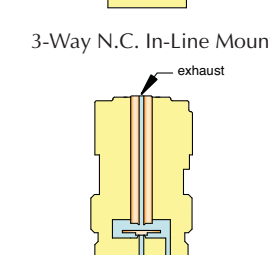
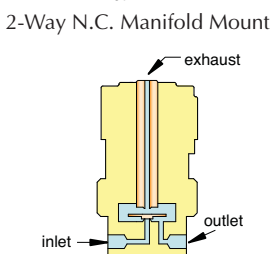
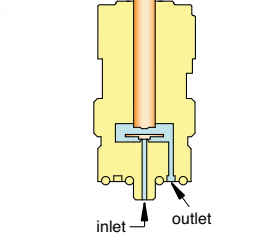
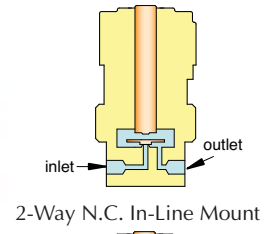
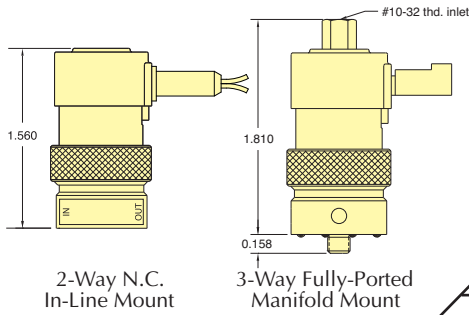
| Pressure Range          | Air Flow            |
|-------------------------|---------------------|
| 28" Hg Vac. to 105 psig | 0.9 scfm @ 100 psig |



# 2- & 3-WAY INTRINSICALLY SAFE VALVES



## 2-WAY INTRINSICALLY SAFE NORMALLY-CLOSED VALVES, IN-LINE & MANIFOLD MOUNT



| Pressure Range   | Part No.      |                |
|------------------|---------------|----------------|
|                  | In-Line Mount | Manifold Mount |
| Vac. to 105 psig | •             | •              |
|                  | •             | •              |
|                  | •             | •              |
| Vac. to 50 psig  | •             | •              |
|                  | •             | •              |
|                  | •             | •              |
| Vac. to 25 psig  | •             | •              |
|                  | •             | •              |
|                  | •             | •              |

| Pressure Range | In-Line Mount | Manifold Mount |
|----------------|---------------|----------------|
| •              | EI-2-15.5     | EI-2M-15.5     |
| •              | EI-2-15.5-L   | EI-2M-15.5-L   |
| •              | EI-2-15.5-H   | EI-2M-15.5-H   |
| •              | EI-2-15.5-C   | EI-2M-15.5-C   |
| •              | EI-2-15.5-LC  | EI-2M-15.5-LC  |
| •              | EI-2-15.5-HC  | EI-2M-15.5-HC  |

| Pressure Range | In-Line Mount | Manifold Mount |
|----------------|---------------|----------------|
| •              | EI-3-15.5     | EI-3M-15.5     |
| •              | EI-3-15.5-L   | EI-3M-15.5-L   |
| •              | EI-3-15.5-H   | EI-3M-15.5-H   |
| •              | EI-3-15.5-C   | EI-3M-15.5-C   |
| •              | EI-3-15.5-LC  | EI-3M-15.5-LC  |
| •              | EI-3-15.5-HC  | EI-3M-15.5-HC  |

| Pressure Range | In-Line Mount | Manifold Mount |
|----------------|---------------|----------------|
| •              | EIO-3-15.5    | EIO-3M-15.5    |
| •              | EIO-3-15.5-L  | EIO-3M-15.5-L  |
| •              | EIO-3-15.5-H  | EIO-3M-15.5-H  |
| •              | EIO-3-15.5-C  | EIO-3M-15.5-C  |
| •              | EIO-3-15.5-LC | EIO-3M-15.5-LC |
| •              | EIO-3-15.5-HC | EIO-3M-15.5-HC |

Medium: Clean, dry air (40 micron filter)

Power Consumption: 0.67 watt

Temperature Range: 32 to 180°F

Response: 5 to 10 milliseconds (nominal)

Operating Range: 90 to 150% of rated voltage

Voltage: 15.5 VDC

Ports: #10-32 and manifold mount



| Pressure Range          | Suffix  | Air Flow            |
|-------------------------|---------|---------------------|
| 28" Hg Vac. to 105 psig | (blank) | 0.6 scfm @ 100 psig |
| 28" Hg Vac. to 50 psig  | -L      | 0.5 scfm @ 50 psig  |
| 28" Hg Vac. to 25 psig  | -H      | 0.45 scfm @ 25 psig |

See Page 181 for mounting options

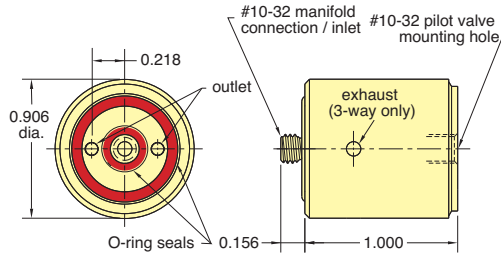
Other seal materials optional

See [www.clippard.com](http://www.clippard.com) for more information



# EV, ET, EC, EW SERIES HIGHER FLOW VALVES

## EC, EV, ET & EW PILOTED 2-WAY & 3-WAY NORMALLY-CLOSED, PRESSURE PILOTED VALVES, MANIFOLD MOUNT



**Medium:** Air

**Materials:** Nickel-plated brass, acetal, stainless steel and Nitrile

**Response:** 20 milliseconds @ 20 psig;  
13 milliseconds @ 100 psig nominal

**Ports:** Inlet and outlet through manifold

**Material:** Nickel-plated brass, acetal, stainless steel and Nitrile

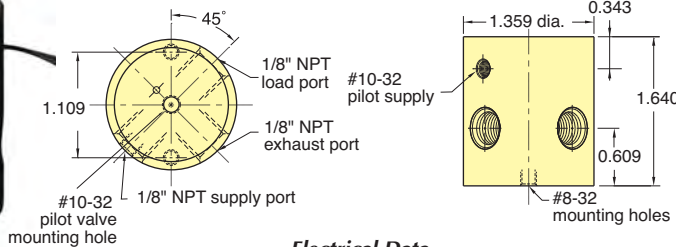
**Note:** Use only Normally-Closed 3-Way Pilot valves in conjunction with EVB-2/EVB-3

**Part No.**

- EVB-2 2-Way Valve Booster
- EVB-3 3-Way Valve Booster

| Input Pressure | Air Flow            |
|----------------|---------------------|
| 20 to 150 psig | 6.1 scfm @ 100 psig |

## ELECTRONIC INTERFACE 3-WAY NORMALLY-CLOSED VALVE



**Medium:** Air

**Filtration:** 10 micron

**Ports:** 1/8" NPT female

**Switching Speed:** 10 milliseconds

**Bleed Flow:** 0.10 scfm @ 100 psig

**Frequency Response:** 50 Hz @ 100 psig;  
70 Hz @ 30 psig

**Part No.**

- 2013-6 Interface Valve, 6 VDC
- 2013-12 Interface Valve, 12 VDC
- 2013-24 Interface Valve, 24 VDC

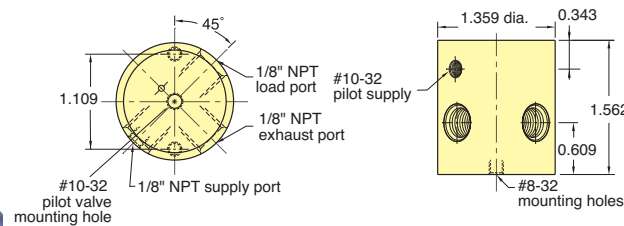
**Continuous Overload:** 350% @ 25°C ambient; 250% @ 50°C ambient

**Power Consumption:** Less than 0.50 watts @ rated voltage (80 ma. @ 6 VDC, 40 ma. @ 12 VDC 20 ma. @ 24VDC)

**Leads:** 28 gauge stranded PVC insulated

| Input Pressure                                           | Air Flow           |
|----------------------------------------------------------|--------------------|
| 30 to 100 psig<br><i>call for special configurations</i> | 22 scfm @ 100 psig |

## 3-WAY NORMALLY-CLOSED, PRESSURE PILOTED VALVES



**Medium:** Air

**Pilot Pressure:** (2020) 60% of supply pressure, minimum

**Response:** Approximately 20 milliseconds

**Mounting:** Mounting holes provided

**Ports:** Inlet and outlet, exhaust 1/8" NPT Pilot supply on 2020 is #10-32 female

**Materials:** Anodized Aluminum, Stainless Steel and Nitrile

**Additional Note:** Use only Normally-Closed 3-way pilot valves in conjunction with 2020/2021

Designed to be piloted by a Clippard EC, EV and ET manifold mount electronic valve (not included). Output from the EC, EV and ET actuates the valve to produce outputs up to 22 scfm at 100 psig. Combines low wattage, long life and cool running of the EC, EV and ET valves with quick response and high flow of Clippard "Fluidamp" type valves. The 2020 and 2021 are identical in all respects except one. The 2020 has an external #10-32 pilot port.

**Part No.**

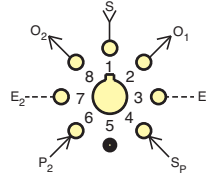
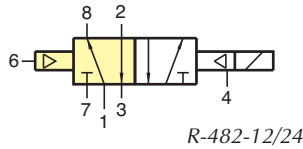
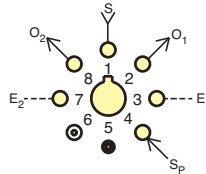
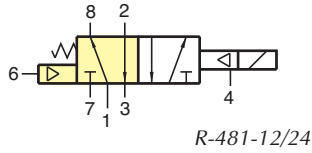
- 2020 External Piloted Valve with #10-32 Port
- 2021 Internal Piloted Valve

| Input Pressure                                           | Air Flow           |
|----------------------------------------------------------|--------------------|
| 30 to 100 psig<br><i>call for special configurations</i> | 22 scfm @ 100 psig |

# ET PILOTED 4-WAY VALVES & CONNECTORS



## 4-WAY PILOTED VALVES



**Type:** 4-way combination electronic and modular spool type interface valve. Fully-ported ET-3 & R-401 (R-481)/R-402 (R-482) hybrid

**Medium:** Air, water, or oil; pilot - air only

**Mounting:** Uses Octoport base and two captivated screws

**Ports:** Valve has patented Octoport system

**Note:** Supply pressure must be applied to both ports 1 and 4. Minimum pressure on port 4 should be 40 psig.

### Part No.

|          |                    |
|----------|--------------------|
| R-481-12 | ET-3/R-401, 12 VDC |
| R-481-24 | ET-3/R-401, 24 VDC |
| R-482-12 | ET-3/R-402, 12 VDC |
| R-482-24 | ET-3/R-402, 24 VDC |

| Input Pressure         | Air Flow          |
|------------------------|-------------------|
| Pilot: 40 psig min.    | 9 scfm @ 100 psig |
| Working: 0 to 150 psig |                   |

For more information please see Page 270 in the Modular Valve section of this catalog.

## ET VALVE CONNECTORS

Black molded lug connectors are available for easy push-on connection ET-C48 is 48" in length, ET-C120 is 120" in length.



Insulated crimp-on spade lug connectors are available for wiring up leads to connect an electronic circuit to ET style valves. Accepts #22, #24, or #26 wire.



### Part No.

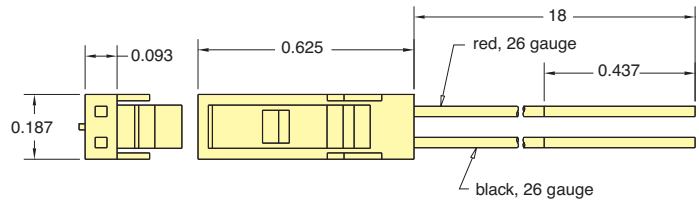
|         |                |
|---------|----------------|
| ET-C48  | 48" Connector  |
| ET-C120 | 120" Connector |

### Part No.

|      |                     |
|------|---------------------|
| 3831 | Spade Lug Connector |
|------|---------------------|

## EC & EI VALVE CONNECTORS

TE Connectivity #5-103956-1 with 18" or 120" wire leads for EC/ECO and EI/EIO valves.



### Part No.

|          |                |
|----------|----------------|
| C2-RB18  | 18" Connector  |
| C2-RB120 | 120" Connector |



## CUSTOM PORTS & CONNECTORS

If you need a product that fits your application perfectly, Clippard has the capability to design or modify one of its products to suit your exact needs.

This application requires a special connection to a MAPP gas canister. The valve is tested for response time and flow rate, which delivers a consistent amount of gas each cycle.

**CUSTOM**er solutions

Metric line available. Visit [www.clippard.com](http://www.clippard.com)



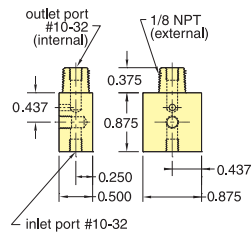
# EV, ET, EC, EW SERIES ACCESSORIES

## Specialized Manifolds

Material: ENP brass Option: Oxygen Clean version (add O-)

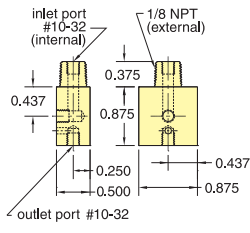
### 15490-1

#10-32 Inlet  
1/8" NPT Outlet



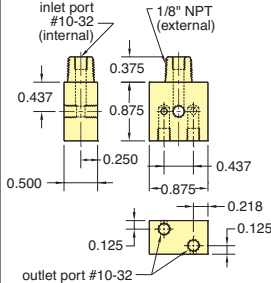
### 15490-2

1/8" NPT Inlet  
#10-32 Outlet



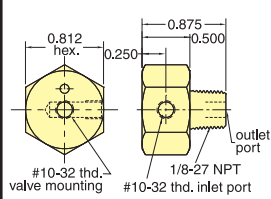
### 15490-3 Dual Outlet

1/8" NPT Inlet  
#10-32 Outlet



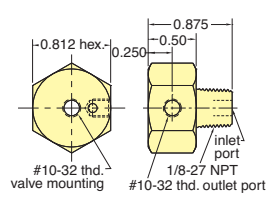
### 15491-1

#10-32 Inlet  
1/8" NPT Outlet

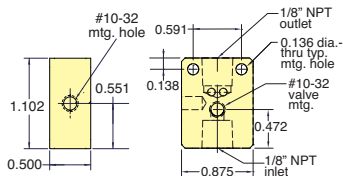


### 15491-2

1/8" NPT (R1/8) Inlet  
#10-32 Outlet



Use: Mount EV, ET, EC, and EW valves to any 1/8" NPT supply port



### 15490-5

1/8" NPT Inlet  
1/8" NPT Outlet

## Oxygen Clean Manifolds

Multi-station manifolds are available for use with Clippard's Oxygen Clean series electronic valves. These manifolds offer either single-sided or double-side mounting in Oxygen-compatible ENP brass material.

The Oxygen series products are manufactured and assembled for applications in Oxygen-enriched environments which are extremely sensitive to contamination. Each manifold is cleaned according to Clippard Specification #ES-3.41, and double bagged in heat-sealed polyethylene bags.



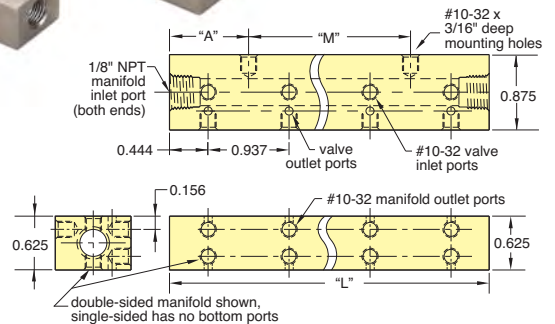
Input Ports: In-line 1/8" NPT

Outlet Ports: #10-32

Mounting: #10-32 tapped holes

Materials: ENP Brass

| Single-Sided |          | Double-Sided |          | Length<br>"A" | Mtg.<br>"L" | "M"   |
|--------------|----------|--------------|----------|---------------|-------------|-------|
| Part No.     | Stations | Part No.     | Stations |               |             |       |
| O-15581-2*   | 2        |              |          | 0.444         | 1.826       | 0.937 |
| O-15581-4*   | 4        | O-15582-8*   | 8        | 0.913         | 3.702       | 1.875 |
| O-15581-6*   | 6        | O-15582-12*  | 12       | 0.913         | 5.577       | 3.750 |



## Multi-Valve Manifolds

Construction: Black anodized aluminum



| Single-Sided |          | Double-Sided |          | Length<br>"A" | Mtg.<br>"L" | "M"   |
|--------------|----------|--------------|----------|---------------|-------------|-------|
| Part No.     | Stations | Part No.     | Stations |               |             |       |
| 15481-2      | 2        |              |          | 0.444         | 1.826       | 0.937 |
| 15481-4      | 4        | 15482-8      | 8        | 0.913         | 3.702       | 1.875 |
| 15481-6      | 6        | 15482-12     | 12       | 0.913         | 5.577       | 3.750 |

