



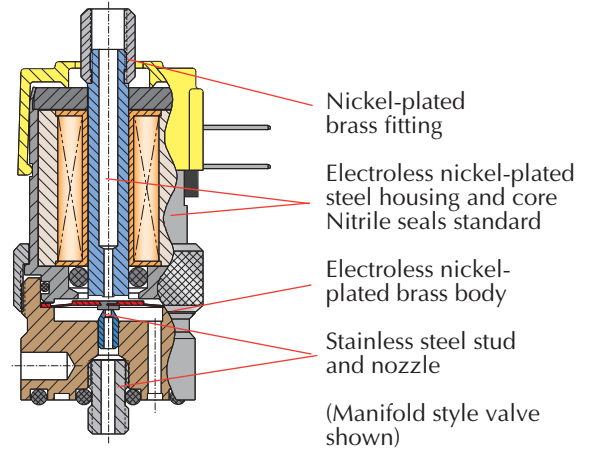
# MOUSE VALVE SERIES DESCRIPTIONS



## Standard Series

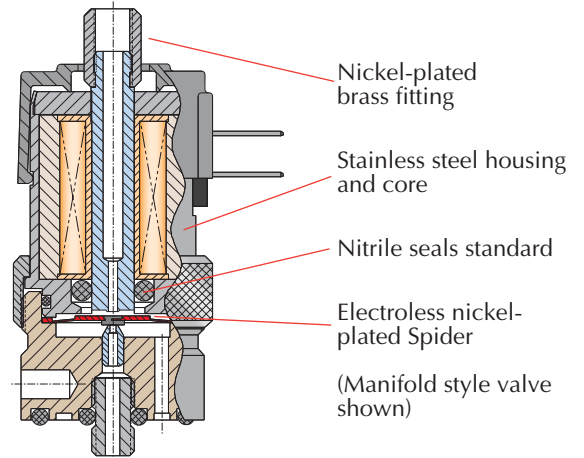
2- and 3-way manifold and in-line mounting. Normally-Closed and fully-ported versions.

**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

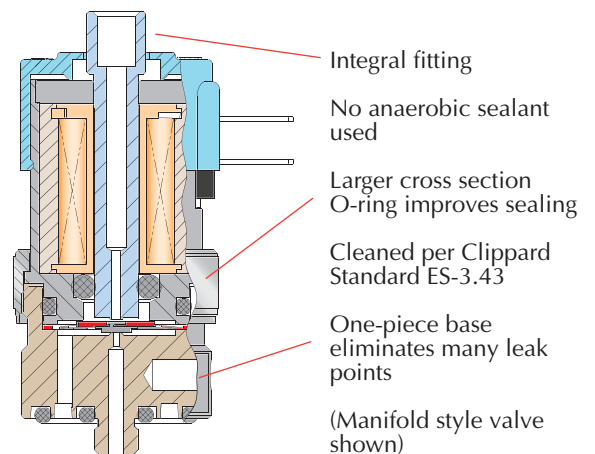
Clippard's Corrosion-Resistant Series (CR-) incorporates materials and construction that provides enhanced protection for valves used with mildly corrosive media such as moisture in air or gases. Where stainless steel is not possible, plating is incorporated to add life to wear components. A nickel-plated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

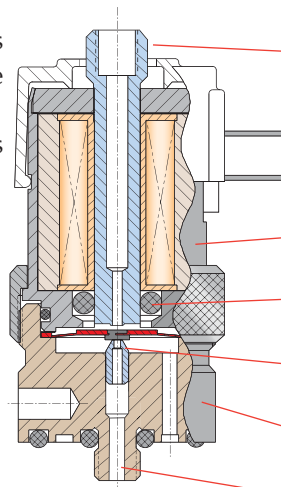




## Oxygen Clean "O-" Series

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



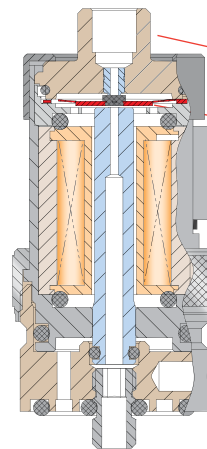
- Integral fitting  
No thread sealant
- All wetted parts  
cleaned per Clippard  
Standard ES-3.41
- Electroless nickel-plated  
steel housing and core
- FKM seals
- Stainless steel  
nozzle
- Electroless nickel-plated  
brass body
- Integral stud  
No thread sealant
- PFPE lubricant  
  
(Manifold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

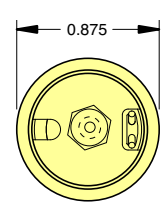
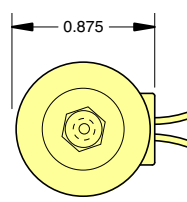
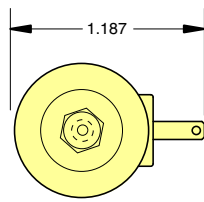
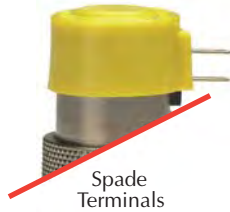
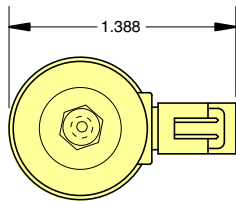


Metric line available. Visit [www.clippard.com](http://www.clippard.com)

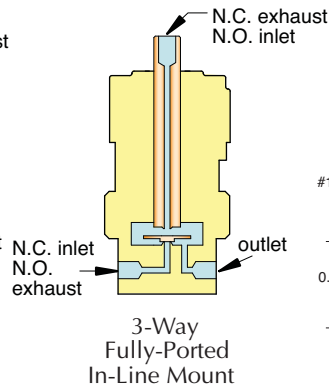
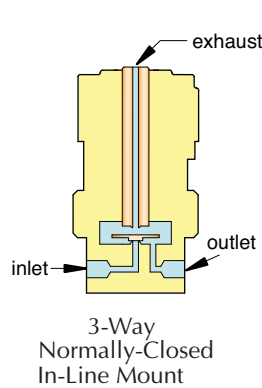
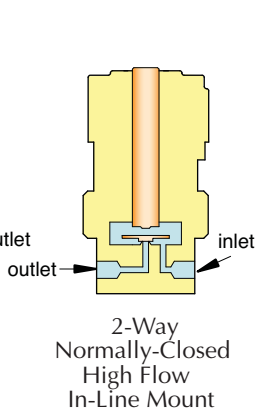
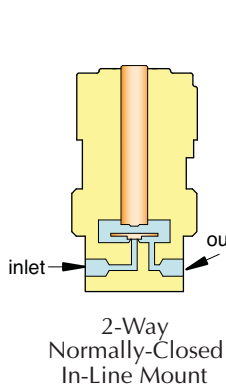


# MOUNTING OPTIONS & FLOW DIAGRAMS

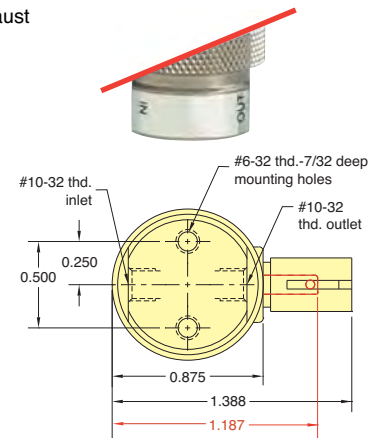
## Electrical Connection Options



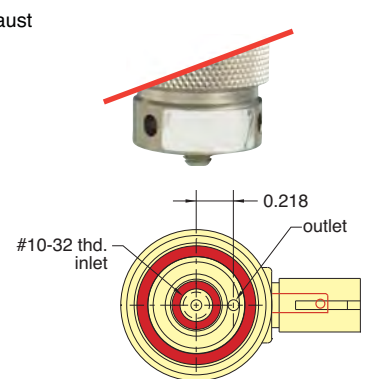
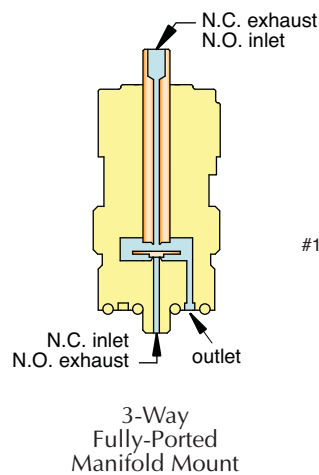
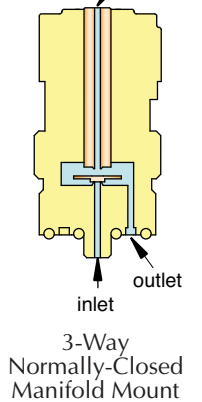
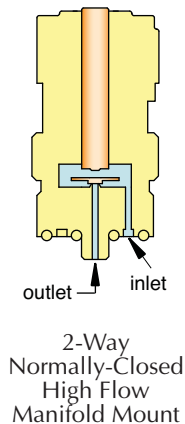
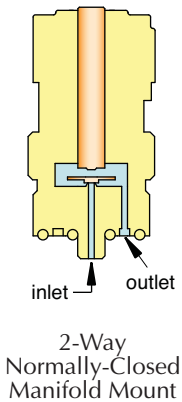
## In-Line Mount



## Mounting Options

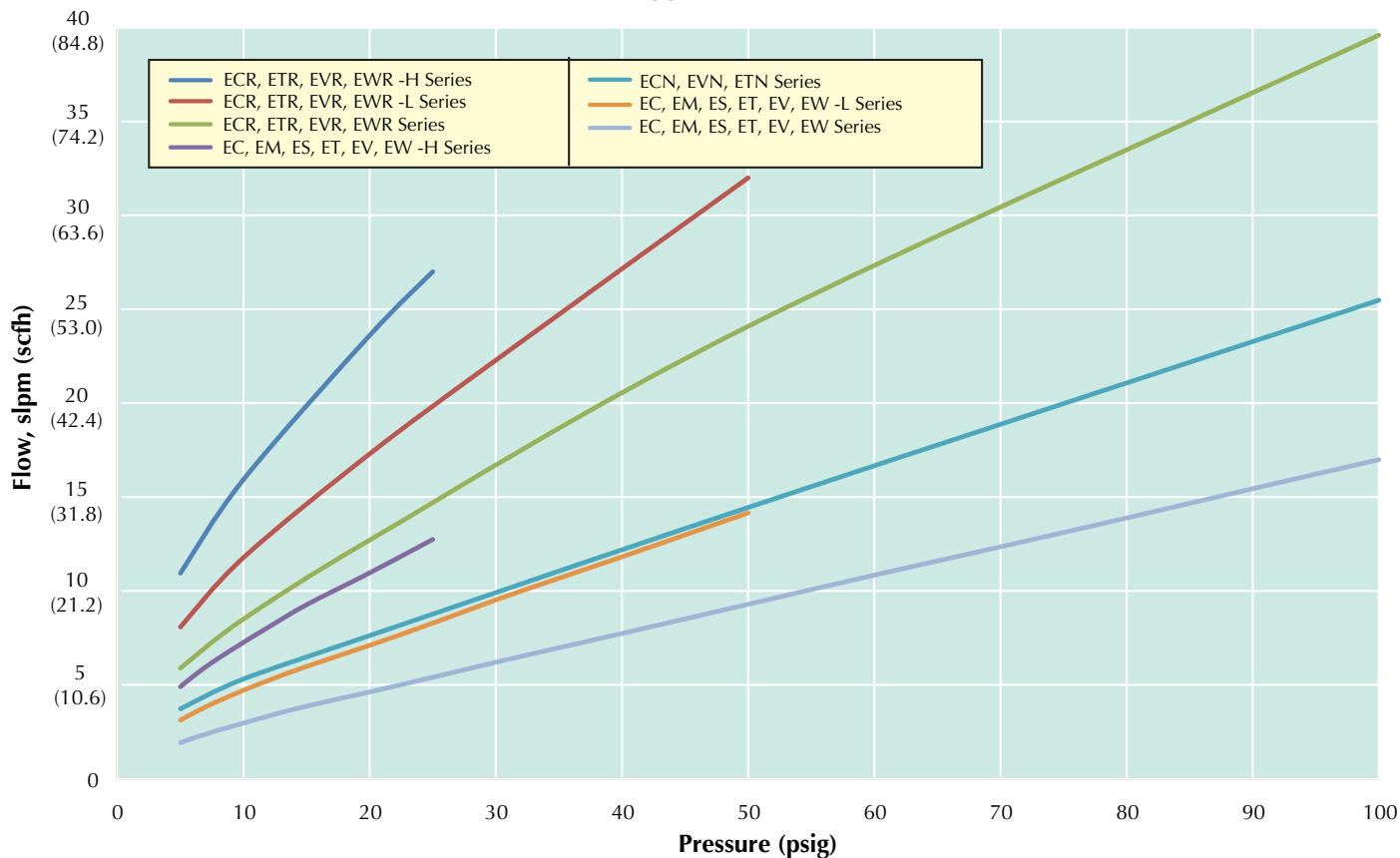


## Manifold Mount





## Typical Air Flow



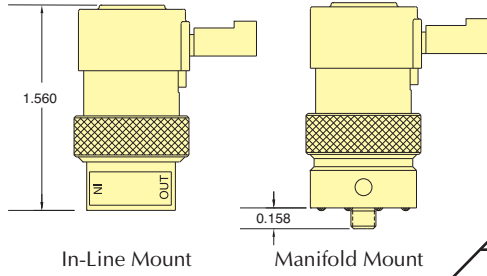
## Electrical Specifications

Series	Nominal			Power (watts)	Working Range (cont. duty)
	Voltage	Current (amps)	Resistance (ohms)		
- Standard - Oxygen Clean - Analytical	12	0.055	218	0.67	90 to 150% of rated voltage
	24	0.028	864		
- Corrosion-Resistant	12	0.098	122	1.2	90 to 110% of rated voltage
	24	0.049	486		
- EM Series - ES Series	12	0.083	144	1.0	90 to 120% 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			
	 0.025" Pin Connector	•	•	•	•	*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		
	 Spade Terminals	•	•	•	•	*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		
	 Wire Leads Side (Radial)	•	•	•	•	*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		
	 Wire Leads Top (Axial)	•	•	•	•	*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

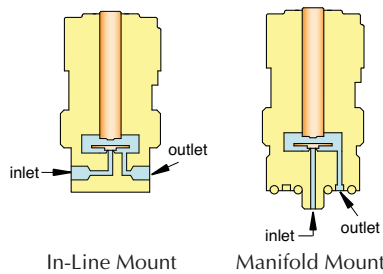


Valve Series (*)	Standard	Non-Standard
Standard	(blank)	
Oxygen Clean	O-	See Pages 179 & 180 for further information
Analytical Series**	A-	
Corrosion-Resistant (not std. on "EW")	CR-	
<b>Options (add to end of Part No.)</b>		
FKM Seals	-V	
EPR Seals		-E
Silicone Seals		-S
Diode		-D

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

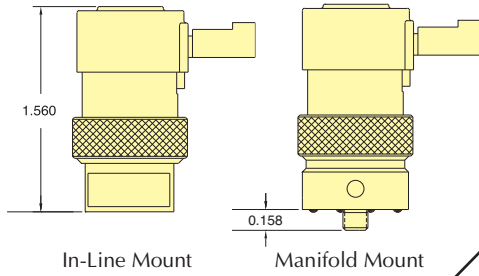
See Page 181 for mounting options

\*\* 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		
 0.025" Pin Connector		•			•		*ECR-2-12	*ECR-2M-12
		•			•		*ECR-2-24	*ECR-2M-24
 0.025" Pin Connector			•		•		*ECR-2-12-L	*ECR-2M-12-L
			•		•		*ECR-2-24-L	*ECR-2M-24-L
 Spade Terminals		•			•		*ETR-2-12	*ETR-2M-12
		•			•		*ETR-2-24	*ETR-2M-24
 Spade Terminals			•		•		*ETR-2-12-L	*ETR-2M-12-L
			•		•		*ETR-2-24-L	*ETR-2M-24-L
 Wire Leads Side (Radial)		•		•	•		*EVR-2-12	*EVR-2M-12
		•		•	•		*EVR-2-24	*EVR-2M-24
 Wire Leads Side (Radial)			•		•		*EVR-2-12-L	*EVR-2M-12-L
			•		•		*EVR-2-24-L	*EVR-2M-24-L
 Wire Leads Top (Axial)		•			•		*EWR-2-12	*EWR-2M-12
		•			•		*EWR-2-24	*EWR-2M-24
 Wire Leads Top (Axial)			•		•		*EWR-2-12-L	*EWR-2M-12-L
			•		•		*EWR-2-24-L	*EWR-2M-24-L
 Wire Leads Top (Axial)		•			•		*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

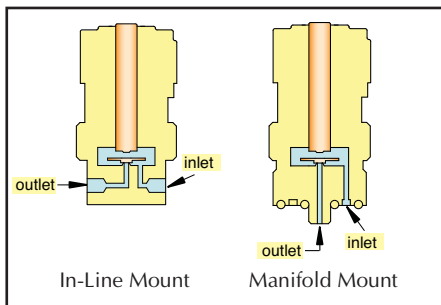
**Ports:** #10-32



Valve Series (*)	Standard	Non-Standard
Standard Analytical Series**	(blank) 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

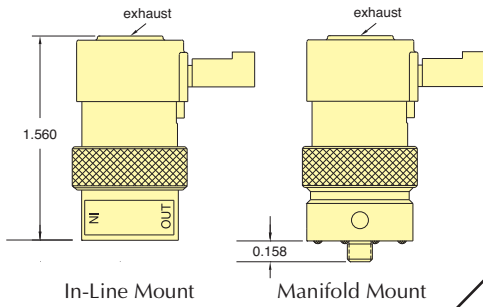


Pressure Range	Suffix	Air Flow
28" Hg Vac. to 100 psig	(blank)	1.4 scfm @ 100 psig
28" Hg Vac. to 50 psig	-L	1.1 scfm @ 50 psig
28" Hg Vac. to 25 psig	-H	0.95 scfm @ 25 psig

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		In-Line Mount	Manifold Mount
		Vac. to 25 psig		12 VDC	24 VDC		
 In-Line Mount	 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		
 Manifold Mount	 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		
 Wire Leads Side (Radial)	 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		
 Wire Leads Top (Axial)	 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



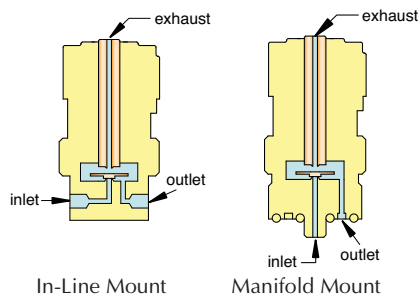
Valve Series (*)	Standard	Non-Standard
Standard	(blank)	
Oxygen Clean	O-	See Pages 179 & 180 for further information
Analytical Series**	A-	
Corrosion-Resistant (not std. on "EW")	CR-	
<b>Options (add to end of Part No.)</b>		
FKM Seals	-V	
EPR Seals		-E
Silicone Seals		-S
Diode		-D

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

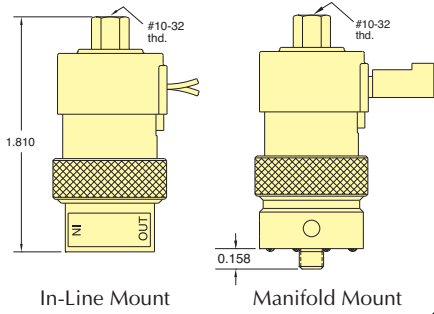
See Page 181 for mounting options

\*\* 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	
 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	
 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	
 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	
 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

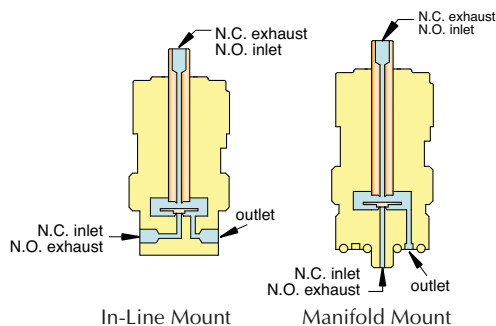


Valve Series (*)	Standard	Non-Standard
Standard	(blank)	
Oxygen Clean	O-	See Pages 179 & 180 for further information
Analytical Series**	A-	
Corrosion-Resistant	CR-	
<i>(not std. on "EWO")</i>		
Options (add to end of Part No.)		
FKM Seals	-V	
EPR Seals		-E
Silicone Seals		-S
Diode		-D

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

See Page 181 for mounting options

\*\* Available on manifold mount valves only



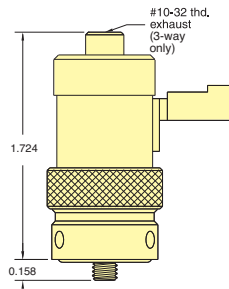
Pressure Range	Suffix	Air Flow
28" Hg Vac. to 105 psig	(blank)	0.6 scfm @ 100 psig
28" Hg Vac. to 50 psig	-L	0.5 scfm @ 50 psig
28" Hg Vac. to 25 psig	-H	0.45 scfm @ 25 psig

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
	0.025" Pin Connector	•		ECN-2M-12	ECN-3M-12
			•	ECN-2M-24	ECN-3M-24
	Spade Terminals	•		ETN-2M-12	ETN-3M-12
			•	ETN-2M-24	ETN-3M-24
	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

