

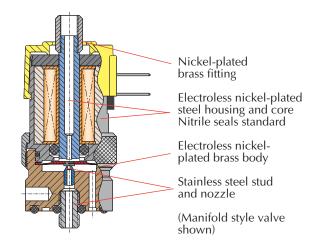
Mouse Valve Series Descriptions



Standard Series

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

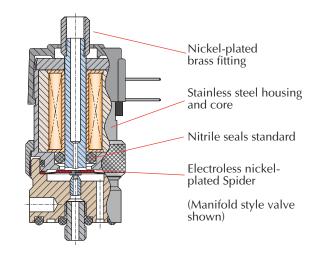
Higher Flow 2-Way Version. The standard series also includes an option that provides higher flow for 2-way, Normally-Closed applications. Although manifold mounting is accomplished in the same fashion, the inlet is the annular port, and the outlet becomes the center port, through the convenient stud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

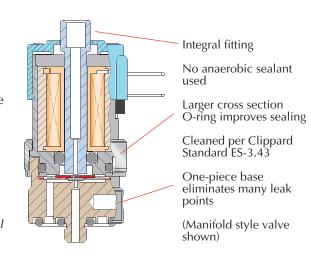




Analytical "A-" Series

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



Mouse Valve Series Descriptions

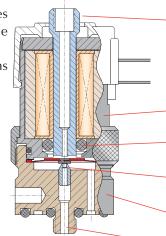




Oxygen Clean "O-" Series

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-theart 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 Oxygencompatible 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 nickelplated brass body

Integral stud No thread sealant

PFPE lubricant

(Manifold style valve shown)

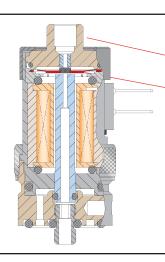


For more information on the process, visit www.clippard.com/oxygen



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 sideby-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.



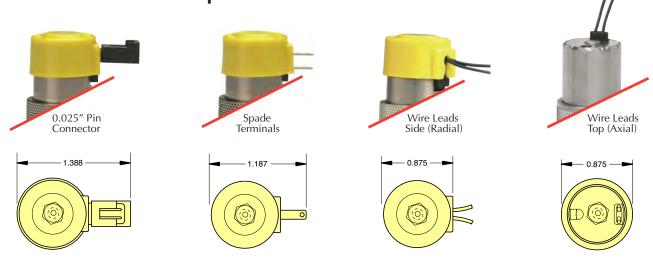






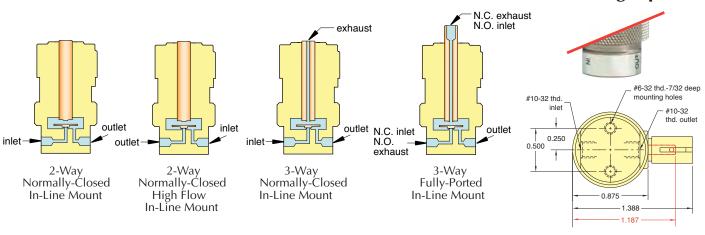
MOUNTING OPTIONS & FLOW DIAGRAMS

Electrical Connection Options

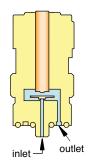




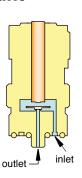
Mounting Options



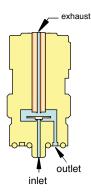




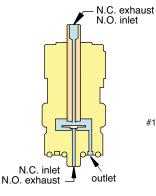
2-Way Normally-Closed Manifold Mount



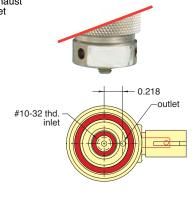
2-Way Normally-Closed High Flow Manifold Mount



3-Way Normally-Closed Manifold Mount



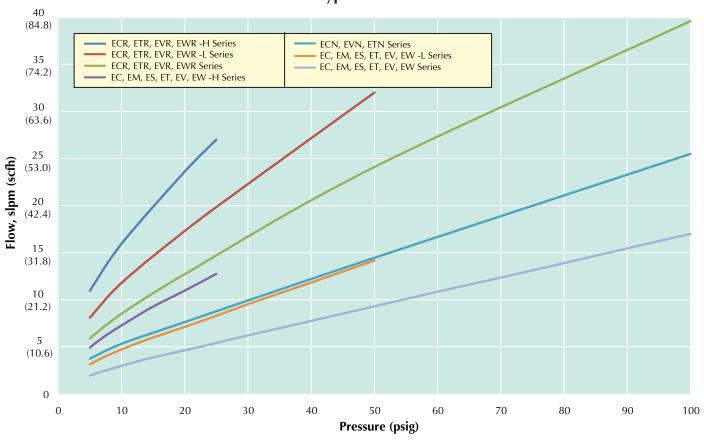
3-Way Fully-Ported Manifold Mount



GAS FLOW & ELECTRICAL SPECIFICATIONS





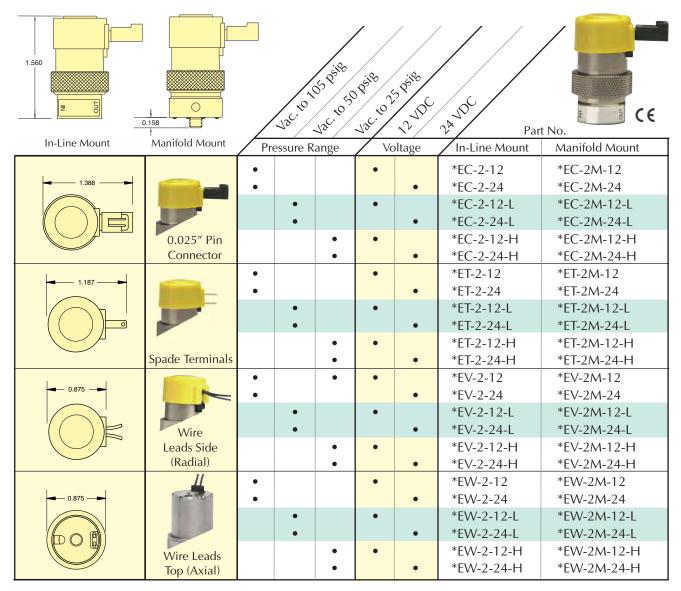


Electrical Specifications

	Nominal				Working Range
Series	Voltage	Current (amps)	Resistance (ohms)	Power (watts)	(cont. duty)
- Standard - Oxygen Clean	12	0.055	218	0.67	90 to 150%
- Analytical	24	0.028	864	0.07	of rated voltage
- Corrosion-	12	0.098	122	1.2	90 to 110%
Resistant	24	0.049	486	1.2	of rated voltage
- EM Series	12	0.083	144	1.0	90 to 120%
- ES Series	24	0.042	576	1.0	of rated voltage



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



Medium: Clean, dry air (40 micron filter)

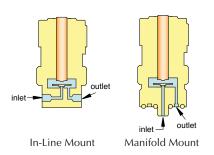
Power Consumption: 0.67 watt (CR Series: 1.2 watt)

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 &
Analytical Series**	A-	180 for further
Corrosion-Resistant	CR-	information
(not std. on "EW")		
Options (add to end of Par	t No.)	
FKM Seals	-V	
EPR Seals		-E
Silicone Seals		-S
Diode		-D

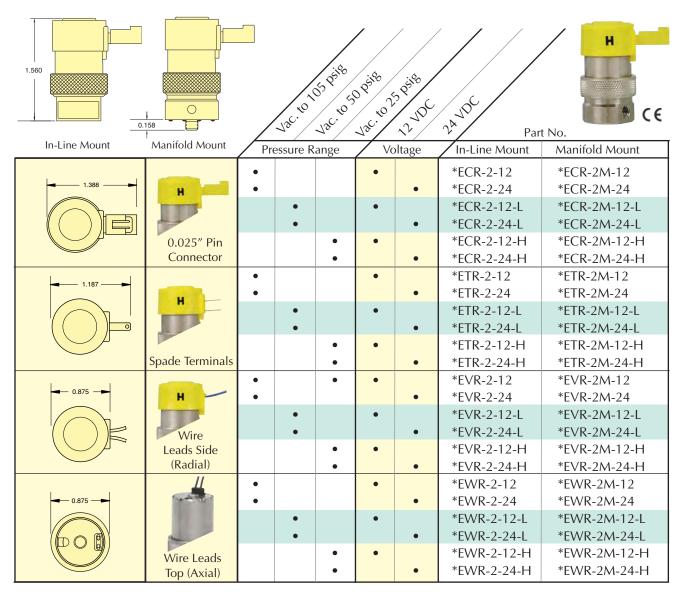
Pressure Range	Suffix	Air Flow
28" Hg Vac. to 105 psig	(blank)	0.6 scfm @ 100 psig
28" Hg Vac. to 50 psig	-L	0.5 scfm @ 50 psig
28" Hg Vac. to 25 psig	-H	0.45 scfm @ 25 psig

Example Part No's: ET-2M-12-V CR-ET-2-12 See Page 181 for mounting options

** Available on manifold mount valves only

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





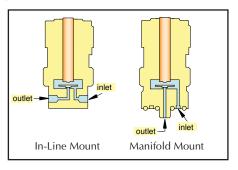
Medium: Clean, dry air (40 micron filter)

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	(blank)	See Pages 179 &
Analytical Series**	A-	180 for further
Options (add to end of Par	t No.)	information
FKM Seals	-V	
EPR Seals		-E
Silicone Seals		-S
Diode		-D

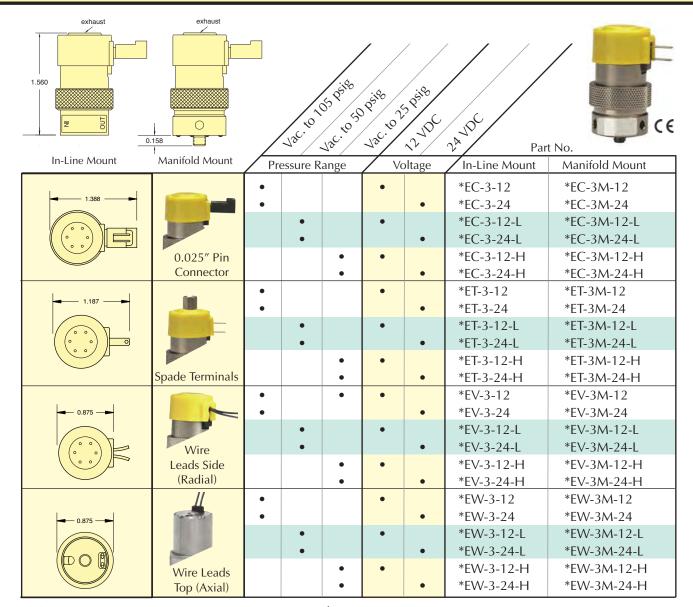
Pressure Range	Suffix	Air Flow
28" Hg Vac. to 100 psig	(blank)	1.4 scfm @ 100 psig
28" Hg Vac. to 50 psig	-L	1.1 scfm @ 50 psig
28" Hg Vac. to 25 psig	-H	0.95 scfm @ 25 psig

See Page 181 for mounting options

** Available on manifold mount valves only



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



RŏHS

Medium: Clean, dry air (40 micron filter)

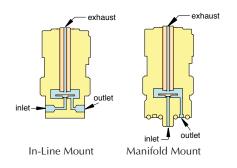
Power Consumption: 0.67 watt (CR Series: 1.2 watt)

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 &
Analytical Series**	A-	180 for further
Corrosion-Resistant	CR-	information
(not std. on "EW")		
Options (add to end of Par	t No.)	
FKM Seals	-V	
EPR Seals		-E
Silicone Seals		-S
Diode		-D

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

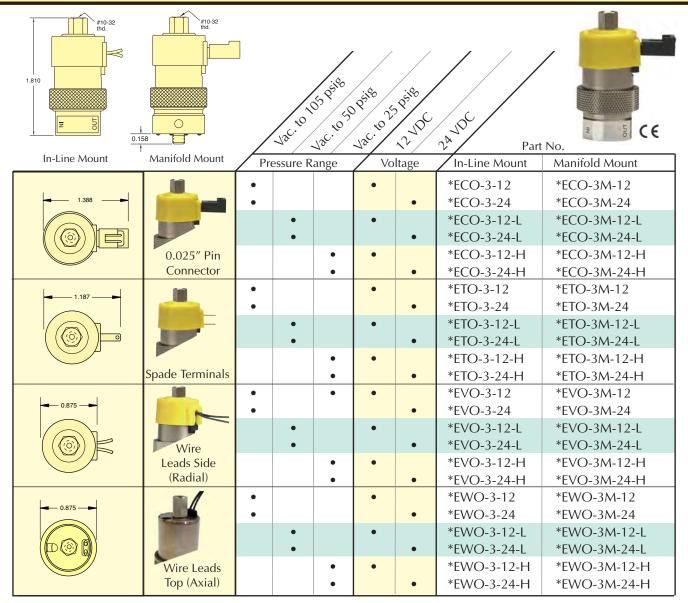
Example Part No's: ET-3-12-S O-EW-3-24

See Page 181 for mounting options

** Available on manifold mount valves only

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





RŏHS

Medium: Clean, dry air (40 micron filter)

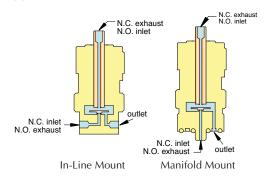
Power Consumption: 0.67 watt (CR Series: 1.2 watt)

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: $\pm 10\%$)

Ports: #10-32



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

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

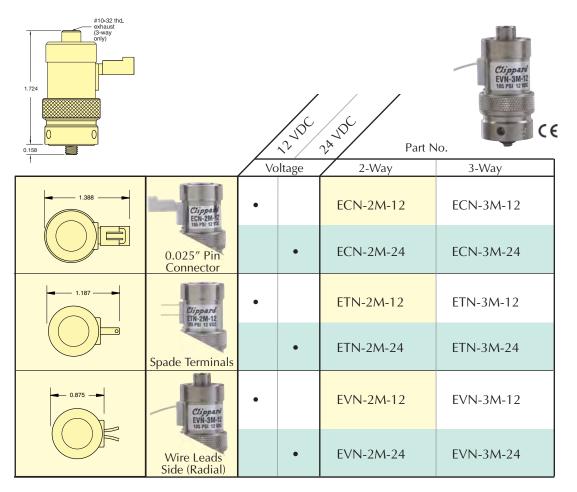
Example Part No's: ETO-3M-24-D CR-EVO-3-12

See Page 181 for mounting options

** Available on manifold mount valves only



2-Way & 3-Way Normally-Open Valves, Manifold



Medium: Clean, dry air (40 micron filter)

Power Consumption: 0.67 watt

Temperature Range: 32 to 180°F

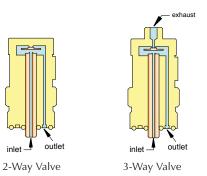
Response: 5 to 10 milliseconds (nominal)

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)	
Options (add to end of Par	t No.)	
FKM Seals	-V	
EPR Seals		-E
Silicone Seals		-S
Diode		-D

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

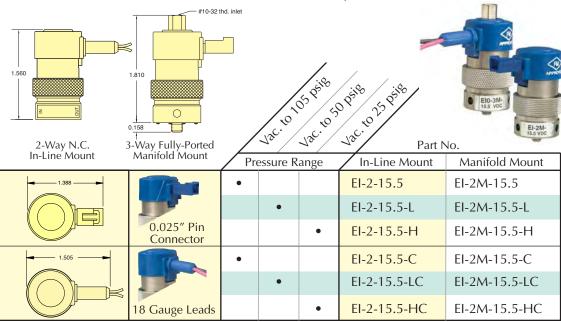
Example Part No's: EVN-2M-12-V ETN-3M-24

See Page 181 for mounting options

2- & 3-WAY INTRINSICALLY SAFE VALVES



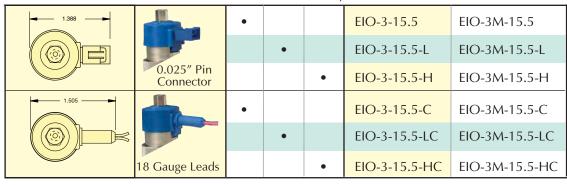
2-WAY INTRINSICALLY SAFE NORMALLY-CLOSED VALVES, IN-LINE & MANIFOLD MOUNT





1.388		•			El-3-15.5	EI-3M-15.5
	0.035# Pin		•		EI-3-15.5-L	EI-3M-15.5-L
	0.025" Pin Connector			•	El-3-15.5-H	EI-3M-15.5-H
1.505	10	•			EI-3-15.5-C	EI-3M-15.5-C
			•		EI-3-15.5-LC	EI-3M-15.5-LC
	18 Gauge Leads			•	EI-3-15.5-HC	EI-3M-15.5-HC

3-WAY INTRINSICALLY SAFE FULLY-PORTED VALVES, IN-LINE & MANIFOLD MOUNT



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

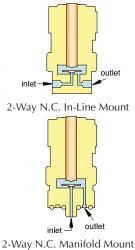
Ports: #10-32 and manifold mount

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

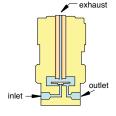
See Page 181 for mounting options

Other seal materials optional

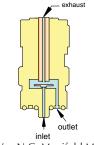
See www.clippard.com for more information



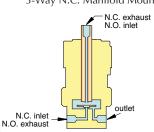
2-Way N.C. Manifold Mour



3-Way N.C. In-Line Mount



3-Way N.C. Manifold Mount



3-Way In-Line Mount
N.C. exhaust
N.O. inlet
N.C. inlet
N.O. exhaust
Outlet
3-Way Manifold Mount

RŏHS

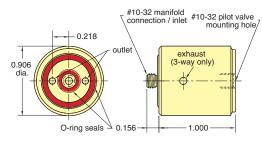


EV, ET, EC, EW Series Higher Flow Valves

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

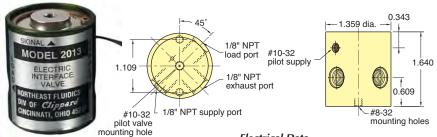
Part No.

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

Pilot valves in conjunction with EVB-2/EVB-3

ELECTRONIC INTERFACE 3-WAY NORMALLY-CLOSED VALVE



Electrical Data

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

Medium: Air

Filtration: 10 micron

Ports: 1/8" NPT female

Switching Speed: 10 milliseconds

Bleed Flow: 0.10 scfm @ 100 psig

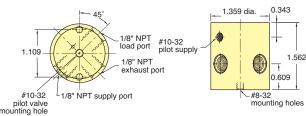
Frequency Response: 50 Hz @ 100 psig;

70 Hz @ 30 psig

Input Pressure	Air Flow
30 to 100 psig	22 scfm @ 100 psig
call for special configurations	

3-WAY NORMALLY-CLOSED, PRESSURE PILOTED VALVES





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.

Air Flow

22 scfm @ 100 psig

Part No.		Input Pressure	
2020	External Piloted Valve with #10-32 Port	30 to 100 psig call for special configurations	าร
2021	Internal Piloted Valve		

Medium: Air

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

Response: Approximately 20 milliseconds

Mounting: Mounting holes provided

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

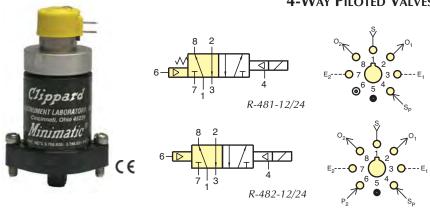
Materials: Anodized Aluminum, Stainless Steel and Nitrile

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

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)

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	FT-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.

Part No.

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



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



Part No.

Spade Lug Connector 3831

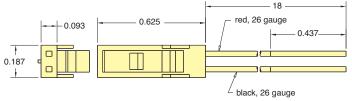
EC & EI VALVE CONNECTORS

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

Part No.

18" Connector C2-RB18 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.