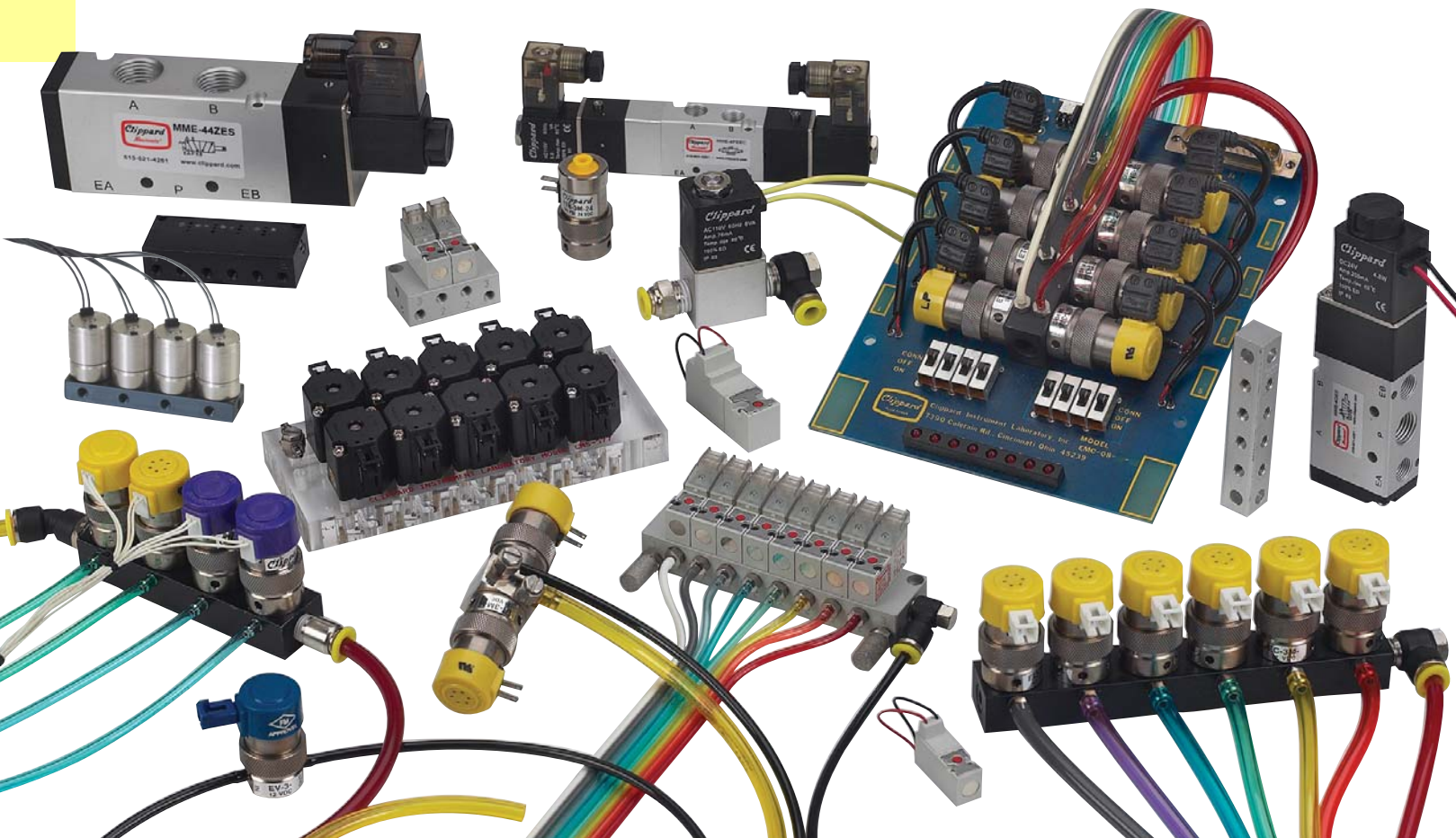
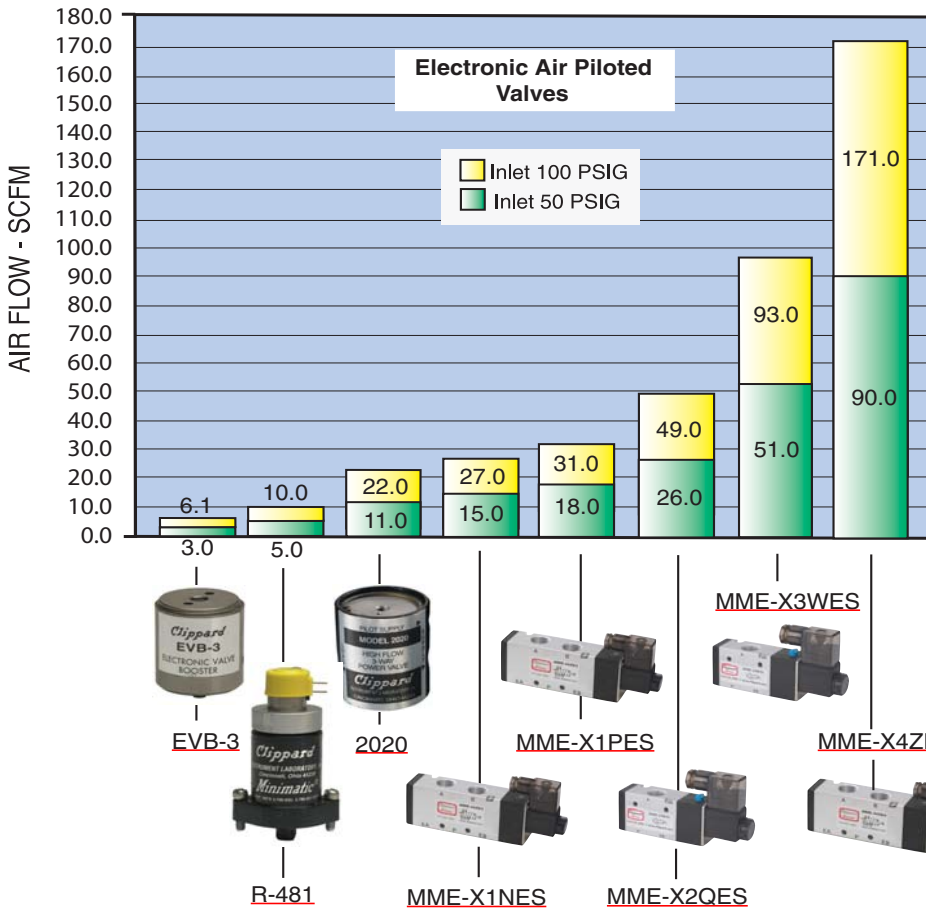




ELECTRONIC VALVES

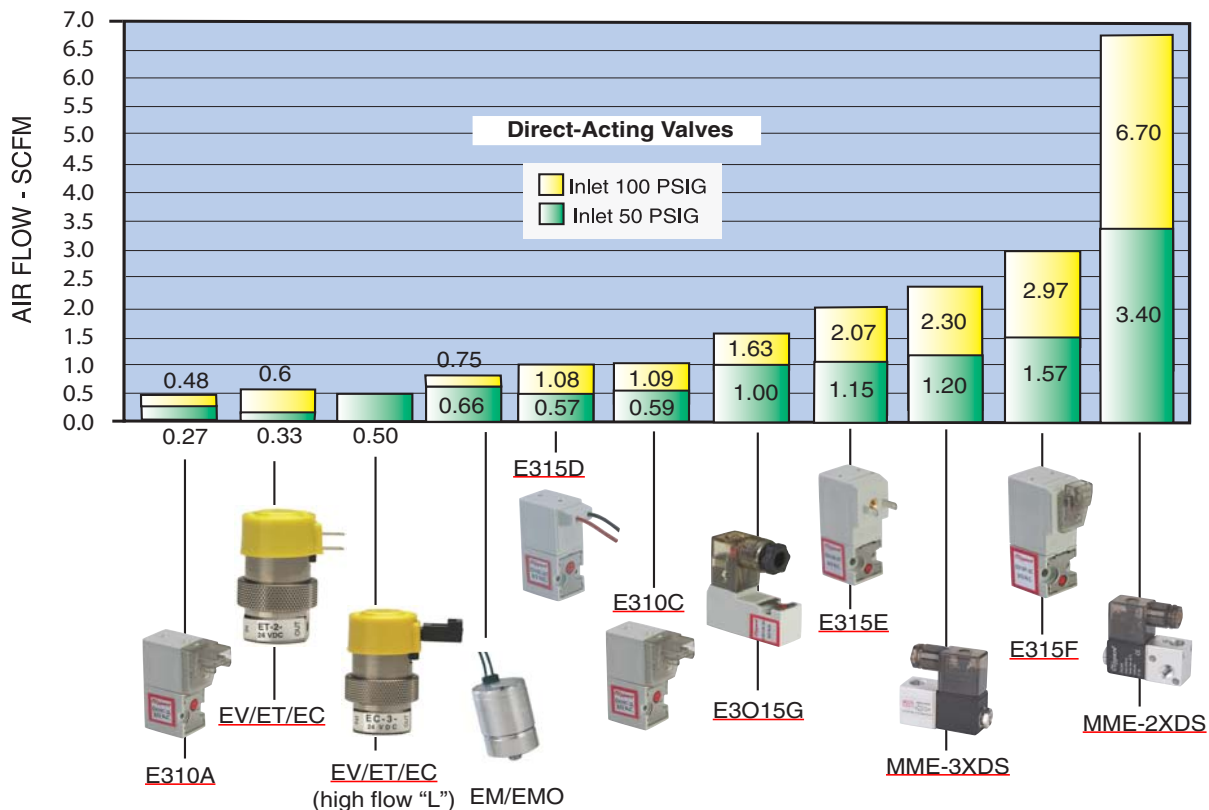
<u>THE MOUSE VALVE (EV, ET, EC SERIES VALVES)</u>	180 - 187
<u>OXYGEN CLEAN SERIES ELECTRONIC VALVES</u>	188 - 192
<u>LATCHING VALVES</u>	193 - 195
<u>EM SERIES STUD MOUNTED VALVES</u>	196
<u>INTRINSICALLY SAFE EI & EIO VALVES</u>	197 - 200
<u>ELECTRONIC VALVE ACCESSORIES</u>	201- 204
<u>EVP SERIES PROPORTIONAL CONTROL VALVES</u>	205 - 208
<u>MAXIMATIC® SOLENOID VALVES</u>	209 - 218
<u>ES, ESO SERIES COMPACT VALVES</u>	219 - 224
<u>10 MM & 15 MM SUB-MINIATURE VALVES</u>	225 - 235
<u>ELECTRONIC MANIFOLD CARDS</u>	236 - 238





Typical Air Flow

The EV, ET, EC, ES, EI, E3, MME, etc. are electronic valves offered by Clippard. Combined with a series of Clippard manifolds, they provide a complete system for efficient interface with electric and electronic circuits. The charts show typical air flow values to help select the right valve for the application.





THE MOUSE VALVE SERIES

EV, ET, EC SERIES VALVES

Like a mouse, this valve is quiet and quick! Valves accept low voltage, low current signals, convert them into high pressure (100 psig) pneumatic outputs. Optional low pressure/medium flow and low pressure/high flow are available. (The air supply should be reasonably clean and dry for optimum performance. Recommended filtration is 40 micron.)

Valve caps are of molded Hytrel®. Depending upon valve type, cap is:

- plain top on 2-way models
- with exhaust holes in cap on certain 3-way models
- with fitting, as shown, for 3-way N.O. styles for N.C. exhaust (inlet when N.O.)

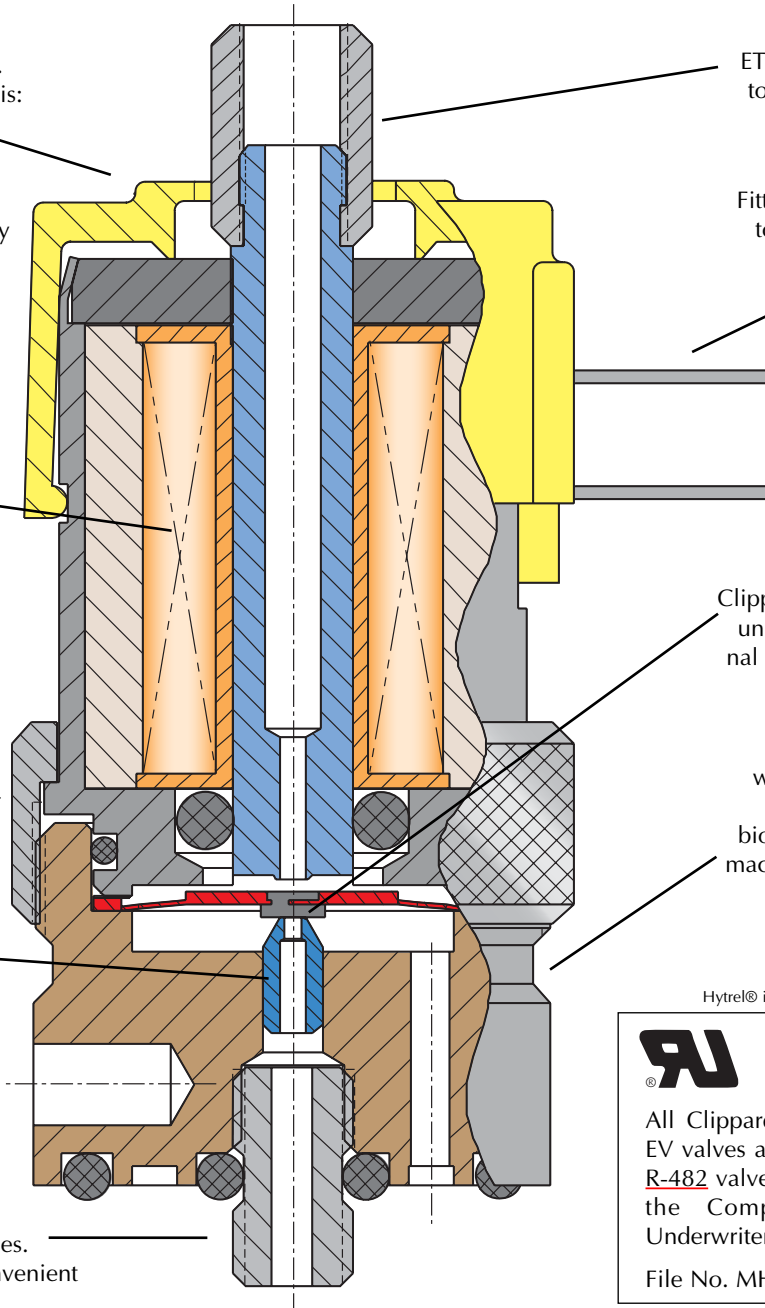
Low power coil uses only 0.67 watts at the rated voltage. Standard voltages include 6, 12 and 24. Other voltages are available.

Adjusting ring may be loosened for positioning to orient connections.

DO NOT REMOVE.
Parts orientation will be lost and warranty voided.

Standard orifice is 0.025. Also available are:
L - 0.040" orifice
H - 0.060" orifice

Manifold mount base shown permits fast, secure mounting of electronic valves to manifolds for grouping in compact assemblies. Alternate standard model has convenient mounting holes.



ETO and similar styles have top #10-32 threaded fitting for N.C. exhaust or N.O. inlet.

Fittings should be tightened to a maximum of 9 in.-lb.

Quick-connect spade lugs are of tinned brass and furnished on all ET models. EV models are available with 18" wire leads for popular voltages. EC models are furnished with 0.025" square pin connector.

Clippard Electronic Valves are unique, with only one internal moving part that travels a mere 0.007".

Valves are small in size with a variety of mounting options. Ideal for use in biomedical, test equipment, machines, computer-directed industrial systems, and in portable devices.

Hytrel® is a registered trademark of DuPont



All Clippard standard ET, EC and EV valves and Clippard R-481 and R-482 valves are recognized under the Component Program of Underwriters Laboratories, Inc.

File No. MH 13573

Clippard Minimatic electronic valves are precision-built 2-way or 3-way control valves, utilizing a unique, patented, valving principle. There are no sliding parts. Complete poppet travel is a mere 0.007". As a result, low power consumption and exceptionally long life are major benefits of this design.

The valves are very quiet in operation and also very cool. No flow is needed for cooling. The valves' small size makes them well suited to a wide range of applications in biomedical, EDP, environmental test equipment, textile machines, packaging machinery, computerized industrial automation, and portable systems.

THE MOUSE VALVE SERIES EV, ET, EC SERIES VALVES



FEATURES

Clippard Functional Simplicity



- The design of Clippard electronic valves is a deceptively simple arrangement with a minimum of operating parts, and remarkably straight forward low power operation.
- The Clippard “spider” is the only moving part and its motion to operate the valve is a mere 0.007” travel.
- Low voltage D.C. inputs, signals from simple manual switching up to computer directed systems, move the spider in extremely fast response time . . . 5 to 10 milliseconds.
- The unit uses extremely low power (0.67 watts at the rated voltage) and is cool running. The valves are light in weight, compact in physical size and mount easily in space-saving packages.

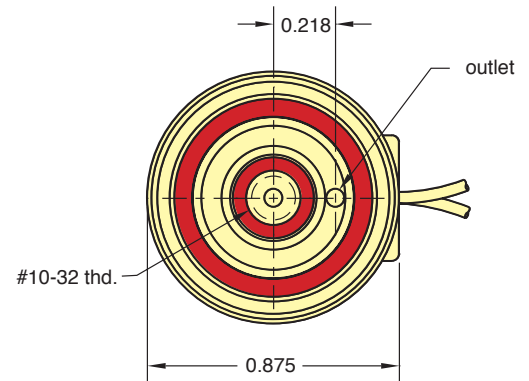
Quick Connect

Clippard ET valves feature spade lugs for simple, quick secure low voltage connections. Wire crimp-on spade lug connectors are available separately to adapt electronic wiring where necessary. Clippard original EV type valves are available in popular voltages with 18” wire leads. The EC model utilizes a 0.025” square pin connector.



Easy Mounting

The complete line of EC, EV, and ET electronic valves are available with two mounting options. Standard base models have two 6-32 threaded, 7/32” deep mounting holes. Manifold models are equipped with a bottom stud, 5/32” long with #10-32 thread, which fits Clippard standard and special manifolds, accessory valves and subplates. Spanner holes in the valve body permit tightening.



NOMINAL			Power (watts)	Working Range (cont. duty)
Voltage	Current (amps)	Resistance (ohms)		
6	0.11	54	0.67	90% to 150% of rated voltage
12	0.055	218	0.67	
24	0.028	864	0.67	



THE MOUSE VALVE SERIES

EV, ET, EC SERIES VALVES

ACCESSORIES



EVB-2 & EVB-3 Booster

Clippard EVB-2 & EVB-3 booster valves mate with manifold mount EC, EV, and ET valves and manifolds to provide increased flow. Direct piloting from a Clippard EC, EV and ET valve provides a flow of up to 6.1 scfm at 100 psig.

2020/2021 High Flow Valves

Model 2020 and 2021 high flow valves are piloted 3-way valves that work with the Clippard EC, EV, and ET 3-way manifold valves. Output from the EC, EV, or ET will actuate the valve and produce output up to 22 scfm at 100 psig. Piloted 4-way valves are also available as R-481 and R-482.

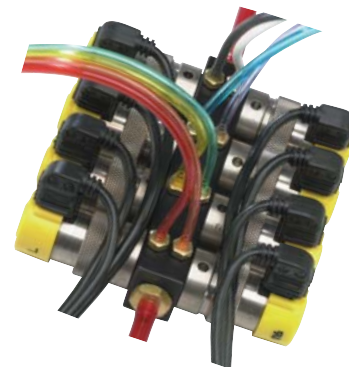


Dual Supply Manifold

Shown is the 15490-3 Clippard Dual Supply Manifold with two ET-3M electronic/pneumatic interface valves. 1/8" NPT inlet is seen at the left of the manifold with the dual #10-32 port outlets at the right.

Multi-Valve Manifolds

Multi-valve manifolds are available in two lengths with either single or double (top or top and bottom) rows of outputs for versatility in application. Input to all valves mounted on this manifold is through the manifold end. Outputs are individual #10-32 ports for hose barb fittings and vinyl or urethane hose.



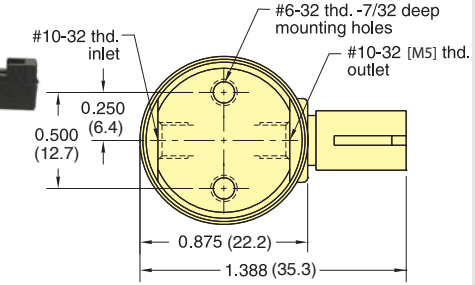
Pilot Manifold

Here a Clippard ET valve is mounted to the 15491-1 Clippard Pilot manifold, making it possible for the ET-3M valve controlled by an electronic signal to actuate a larger air-piloted valve or an air cylinder.

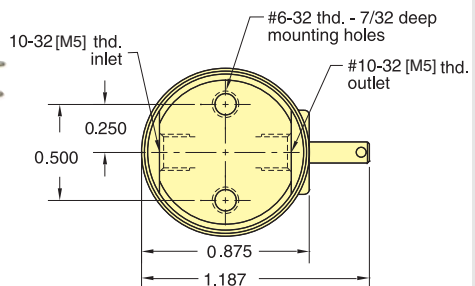
EV, ET, EC SERIES 2- & 3-WAY NORMALLY-CLOSED VALVES IN-LINE MOUNT



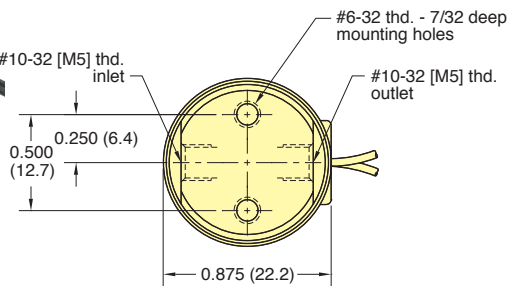
EC - EC - EC - EC - EC



ET - ET - ET - ET - ET



EV - EV - EV - EV - EV



Type: Normally-Closed 2- or 3-Way
Medium: Air (40 micron filtration)
Temperature Range: 30 to 180°F
Power Consumption: 0.67 watt
Response: 5 to 10 milliseconds
Mounting: In-line
Ports: #10-32 [M5]
Operating Range: 90% to 150% of rated voltage
Air Flow: 0.6 scfm @ 100 psig; 17 l/min @ 7 bar
 "L" option - 0.5 scfm @ 50 psig; 14 l/min @ 3.5 bar
 "H" option - 0.45 scfm @ 25 psig; 13 l/min @ 1.8 bar
Pressure Range: 28" Hg Vac. to 105 psig; 0 to 7 bar max
 "L" option: 28" Hg Vac. to 50 psig; 0 to 3.5 bar max
 "H" option: 28" Hg Vac. to 25 psig; 0 to 1.8 bar max



For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM

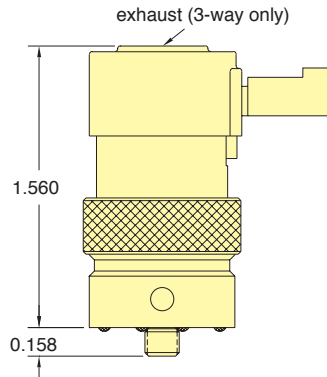
Blank - Buna-N Seals & Silicone Lube	C - Connector	2 - 2-Way	Voltages: * 6 - 6 VDC 12 - 12 VDC 24 - 24 VDC	Blank - Standard orifice 0.025"	* Consult factory for availability of non-standard voltages and other options
S - FKM Seals & PFPE Lube	T - Terminal Spades	3 - 3-Way		L - 0.040" orifice	
	V - Wire Leads			H - 0.060" orifice	
				V - Fluorocarbon seals	
				Non-Standard Options:	
				E - EPR seals	
				S - Silicone seals	
				D - Diode	

- M5 - Metric

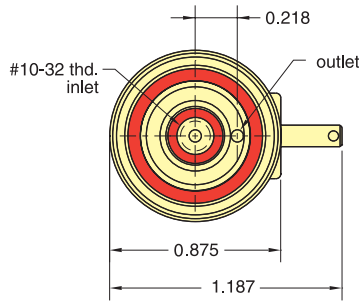


EV, ET, EC SERIES 2- & 3-WAY NORMALLY-CLOSED VALVES MANIFOLD MOUNT

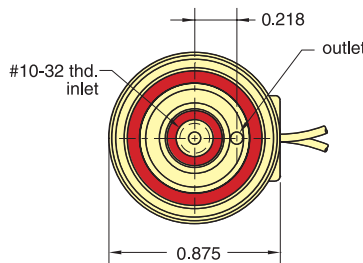
EC - M



ET - M



EV - M



Type: Normally-Closed 2- or 3-Way

Medium: Air (40 micron filtration)

Temperature Range: 30 to 180°F

Power Consumption: 0.67 watt

Response: 5 to 10 milliseconds

Mounting: Manifold

Ports: Manifold mounted with #10-32 stud

Operating Range: 90% to 150% of rated voltage

Air Flow: 0.6 scfm @ 100 psig;

17 l/min @ 7 bar

"L" option: 0.5 scfm @ 50 psig;

14 l/min @ 3.5 bar

"H" option: 0.45 scfm @ 25 psig;

13 l/min @ 1.8 bar

Pressure Range:

28" Hg Vac. to 105 psig

"L" option:

28" Hg Vac. to 50 psig

"H" option:

28" Hg Vac. to 25 psig



For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM

Blank - E - M -

Blank - Buna-N Seals & Silicone Lube
S - FKM Seals & PFPE Lube

C - Connector
T - Terminal Spades
V - Wire Leads

2 - 2-Way
3 - 3-Way

Voltages: *
6 - 6 VDC
12 - 12 VDC
24 - 24 VDC

Standard Options:

Blank - Standard orifice 0.025"
L - 0.040" orifice (50 psig max)
H - 0.060" orifice (25 psig max)
V - Fluorocarbon seals

Non-Standard Options:

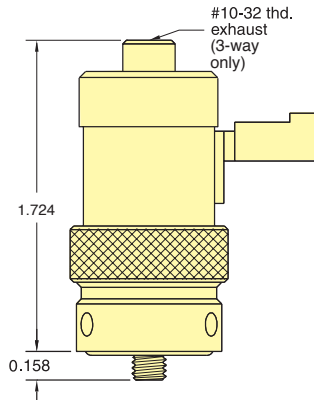
D - Diode
E - EPR seals
S - Silicone seals

* Consult factory for availability of non-standard voltages and other options

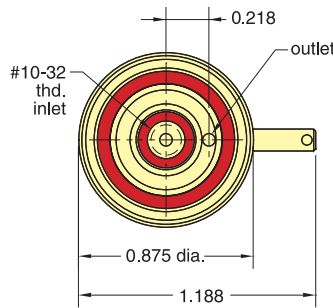
EV, ET, EC SERIES 2- & 3-WAY NORMALLY-OPEN VALVES MANIFOLD MOUNT



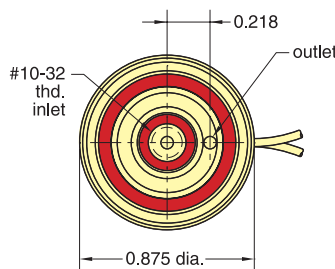
□ - ECN - □ M - □ - □



□ - ETN - □ M - □ - □



□ - EVN - □ M - □ - □



Type: Normally-Open 2- or 3-Way

Medium: Air (40 micron filtration)

Temperature Range: 30 to 180°F

Power Consumption: 0.67 watt

Response: <15 milliseconds

Mounting: Manifold

Ports: Manifold mounted with #10-32 stud

Operating Range: 90% to 150% of rated voltage

Air Flow: 0.9 scfm @ 100 psig;
25 lpm @ 7 bar

Pressure Range: 28" Hg Vac. to 105 psig; 7 bar max

ECN, ETN & EVN series valves are 2- & 3-way N.O. solenoid valves. The Normally-Open inlet is through the center mounting stud, so the valves can be supplied directly from the manifold without external tubing.



For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM



Blank - Buna-N Seals & Silicone Lube
S - FKM Seals & PFPE Lube

C - Connector
T - Terminal Spades
V - Wire Leads

2 - 2-Way
3 - 3-Way

Voltages: *
6 - 6 VDC
12 - 12 VDC
24 - 24 VDC

Standard Options:
V - Fluorocarbon seals
Non-Standard Options:
D - Diode
E - EPR seals

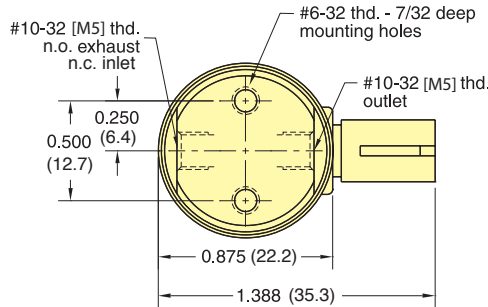
* Consult factory for availability of non-standard voltages and other options



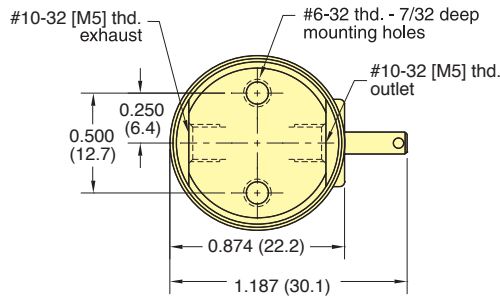
EV, ET, EC SERIES 3-WAY FULLY PORTED VALVES

IN-LINE MOUNT

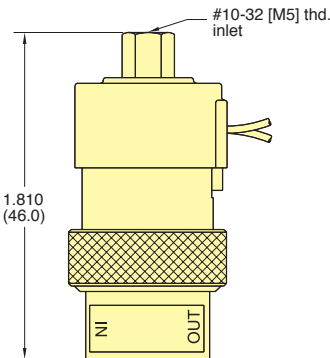
ECO-3



ETO-3



EVO-3



Type: Fully Ported 3-Way

Medium: Air (40 micron filtration)

Temperature Range: 30 to 180°F

Power Consumption: 0.67 watt

Response: 5 to 10 milliseconds

Mounting: In-line or Manifold

Ports: #10-32 [M5]

Operating Range: 90% to 150% of rated voltage

Air Flow: 0.6 scfm @ 100 psig*;
17 l/min @ 7 bar

"L" option: 0.5 scfm @ 50 psig;
14 l/min @ 3.5 bar

"H" option: 0.45 scfm @ 25 psig;
13 l/min @ 1.8 bar

* When air supply is connected to the top port to operate valve Normally-Open, main flow is 0.8 scfm and exhaust flow is 0.6 scfm at 100 psig.

Pressure Range:

28" Hg Vac. to 105 psig;
7 bar max

"L" option:
28" Hg Vac. to 50 psig;
3.5 bar max

"H" option:
28" Hg Vac. to 25 psig;
1.8 bar max

For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM

Blank - E - O - 3 - **Blank** - **Blank** - **Blank** - **Blank** - **Blank** - **M5** - Metric

Blank - Buna-N Seals & Silicone Lube
S - FKM Seals & PFPE Lube

C - Connector
T - Terminal Spades
V - Wire Leads

Voltages: *
6 - 6 VDC
12 - 12 VDC
24 - 24 VDC

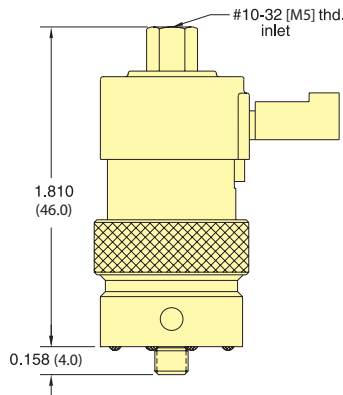
Standard Options:
Blank - Standard orifice 0.025"
L - 0.040" orifice
H - 0.060" orifice
V - Fluorocarbon seals
Non-Standard Options:
E - EPR seals
S - Silicone seals
D - Diode

* Consult factory for availability of non-standard voltages and other options

EV, ET, EC SERIES 3-WAY FULLY PORTED VALVES MANIFOLD MOUNT



ECO-3M



Type: Fully Ported 3-Way

Medium: Air

Temperature Range: 30 to 180°F

Power Consumption: 0.67 watt

Response: 5 to 10 milliseconds

Mounting: Manifold

Ports: Manifold mounted with #10-32 [M5] stud

Operating Range: 90% to 150% of rated voltage

Air Flow: 0.6 scfm @ 100 psig*;
17 l/min @ 7 bar

"L" option: 0.5 scfm @ 50 psig;
14 l/min @ 3.5 bar;

"H" option: 0.45 scfm @ 25 psig;
13 l/min @ 1.8 bar;

* When air supply is connected to the top port to operate valve Normally-Open, main flow is 0.8 scfm and exhaust flow is 0.6 scfm at 100 psig.

Pressure Range:

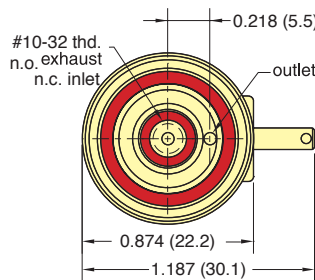
28" Hg Vac. to 105 psig;
7 bar max

"L" option:
28" Hg Vac. to 50 psig;
3.5 bar max

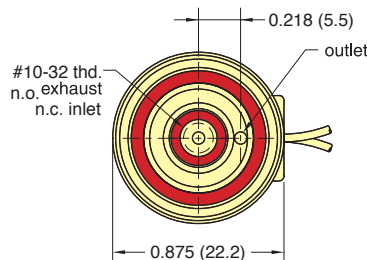
"H" option:
28" Hg Vac. to 25 psig;
1.8 bar max

For Cable and Connectors, see [Page 201](#).

ETO-3M



EVO-3M



NUMBERING SYSTEM

□ - E □ O - 3 M - □ = □ = □ - M5 - Metric

Blank - Buna-N Seals & Silicone Lube
S - FKM Seals & PFPE Lube

C - Connector
T - Terminal Spades
V - Wire Leads

Voltages: *
6 - 6 VDC
12 - 12 VDC
24 - 24 VDC

Standard Options:

Blank - Standard orifice 0.025"
L - 0.040" orifice
H - 0.060" orifice
V - Fluorocarbon seals

Non-Standard Options:

E - EPR seals
V - Viton seals
D - Diode

* Consult factory for availability of non-standard voltages and other options



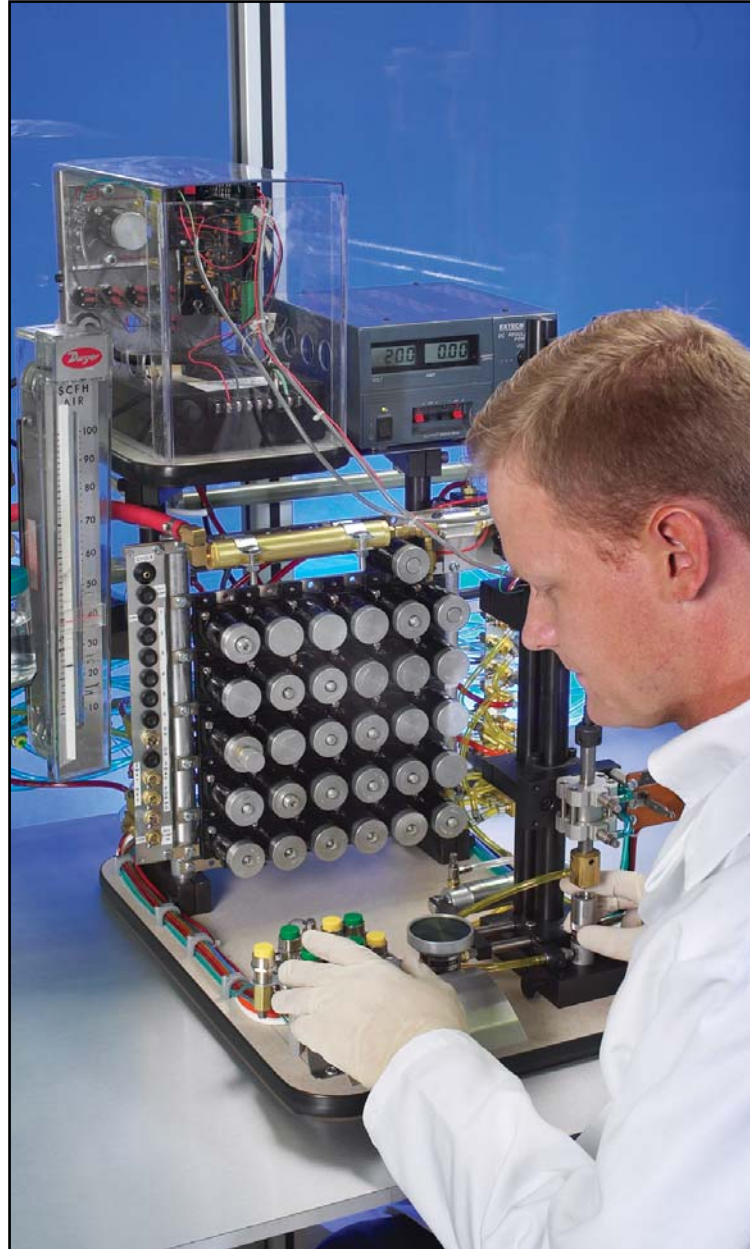
CLEANED FOR OXYGEN SERVICE

Clippard's Oxygen Clean Series

All EV, ET and EC 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
- Feature FKM (fluorocarbon) seals
- 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 ultraviolet light

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

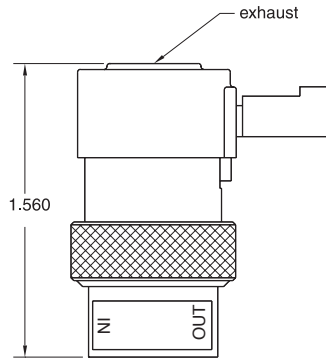


OXYGEN SERIES EV, ET, EC 2- & 3-WAY N-C VALVES

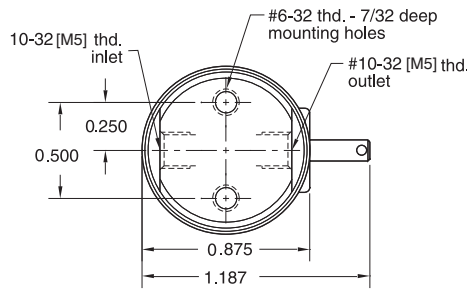
IN-LINE MOUNT



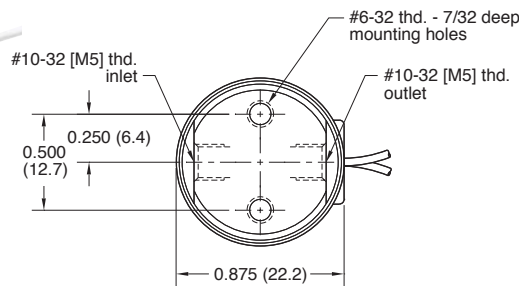
O-EC - □ - □ - □



O-ET - □ - □ - □



O-EV - □ - □ - □



Type: Normally-Closed 2- or 3-Way
Medium: Air (40 micron filtration)
Temperature Range: 32 to 180°F
Power Consumption: 0.67 watt
Response: 5 to 10 milliseconds
Mounting: In-line
Ports: #10-32 [M5]
Operating Range: 90% to 150% of rated voltage
Air Flow: 0.6 scfm @ 100 psig; 17 l/min @ 7 bar
 "L" option: 0.5 scfm @ 50 psig; 14 l/min @ 3.5 bar
 "H" option: 0.45 scfm @ 25 psig; 13 l/min @ 1.8 bar
Pressure Range: 28" Hg Vac. to 105 psig; 0 to 7 bar max
 "L" option: 28" Hg Vac. to 50 psig; 0 to 3.5 bar max
 "H" option: 28" Hg Vac. to 25 psig; 0 to 1.8 bar max
Seals: FKM



For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM

O - E □ = □ = □ = □ = □ - M5 - Metric

C - Connector
 T - Terminal Spades
 V - Wire Leads

2 - 2-Way
 3 - 3-Way

Voltages: *
 6 - 6 VDC
 12 - 12 VDC
 24 - 24 VDC

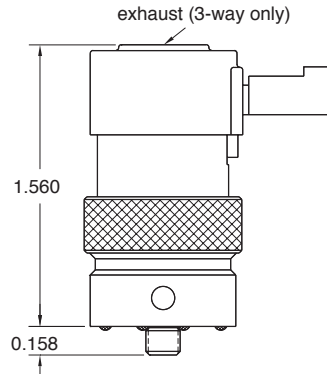
Standard Options:
 Blank - Standard orifice 0.025"
 L - 0.040" orifice
 H - 0.060" orifice
Non-Standard Options:
 D - Diode

* Consult factory for availability of non-standard voltages and other options

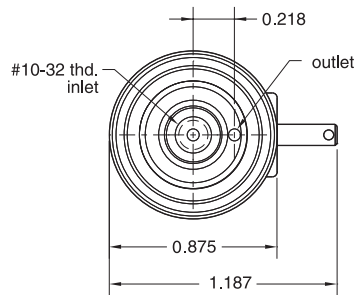


OXYGEN CLEAN EV, ET, EC 2- & 3-WAY N-C VALVES MANIFOLD MOUNT

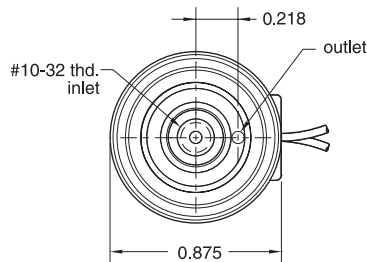
O-EC - □ M - □ - □



O-ET - □ M - □ - □



O-EV - □ M - □ - □



Type: Normally-Closed 2- or 3-Way

Medium: Air (40 micron filtration)

Temperature Range: 32 to 180°F

Power Consumption: 0.67 watt

Response: 5 to 10 milliseconds

Mounting: Manifold

Ports: Manifold mounted with #10-32 stud

Operating Range: 90% to 150% of rated voltage

Air Flow: 0.6 scfm @ 100 psig;
17 l/min @ 7 bar

"L" option: 0.5 scfm @ 50 psig;
14 l/min @ 3.5 bar

"H" option: 0.45 scfm @ 25 psig;
13 l/min @ 1.8 bar

Pressure Range:

28" Hg Vac. to 105 psig

"L" option:

28" Hg Vac. to 50 psig

"H" option:

28" Hg Vac. to 25 psig

Seals: FKM



For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM

O - E □ - □ M - □ - □

C - Connector
T - Terminal Spades
V - Wire Leads

2 - 2-Way
3 - 3-Way

Voltagess: *
6 - 6 VDC
12 - 12 VDC
24 - 24 VDC

Standard Options:

Blank - Standard orifice 0.025"

L - 0.040" orifice (50 psig max)

H - 0.060" orifice (25 psig max)

Non-Standard Options:

D - Diode

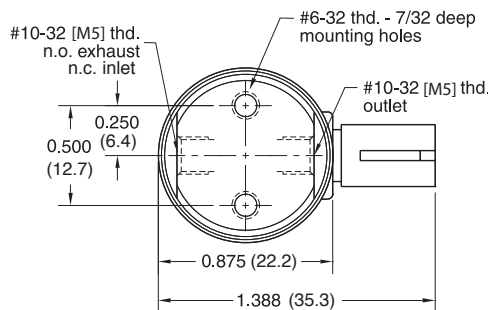
* Consult factory for availability of non-standard voltages and other options

OXYGEN CLEAN EV, ET, EC 3-WAY FULLY PORTED VALVES

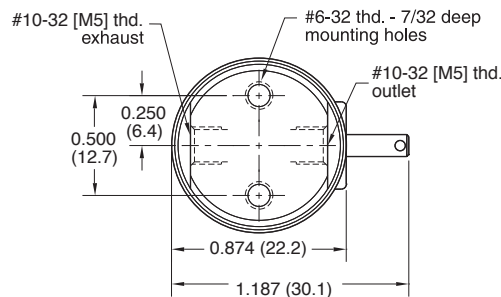
IN-LINE MOUNT



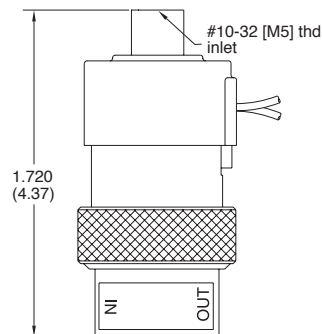
O-ECO - 3 - □ - □



O-ETO - 3 - □ - □



O-EVO - 3 - □ - □



Type: Fully Ported 3-Way
Medium: Air (40 micron filtration)
Temperature Range: 32 to 180°F
Power Consumption: 0.67 watt
Response: 5 to 10 milliseconds
Mounting: In-line or Manifold
Ports: #10-32 [M5]

Operating Range: 90% to 150% of rated voltage

Air Flow: 0.6 scfm @ 100 psig*;
 17 l/min @ 7 bar
 "L" option: 0.5 scfm @ 50 psig;
 14 l/min @ 3.5 bar
 "H" option: 0.45 scfm @ 25 psig;
 13 l/min @ 3.8 bar

* When air supply is connected to the top port to operate valve Normally-Open, main flow is 0.8 scfm and exhaust flow is 0.6 scfm at 100 psig.

Pressure Range: 28" Hg Vac. to 105 psig;
 7 bar max
 "L" option: 28" Hg Vac. to 50 psig;
 3.5 bar max
 "H" option: 28" Hg Vac. to 25 psig;
 1.8 bar max

Seals: FKM

For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM

O - E □ **O - 3** - □ - □ - □ — M5 - Metric

C - Connector
T - Terminal Spades
V - Wire Leads

Voltages: *
 6 - 6 VDC
 12 - 12 VDC
 24 - 24 VDC

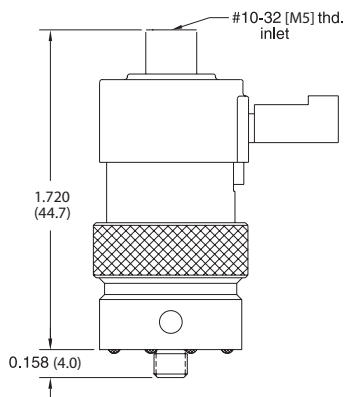
Standard Options:
 Blank - Standard orifice 0.025"
L - 0.040" orifice
H - 0.060" orifice
Non-Standard Options:
D - Diode

* Consult factory for availability of non-standard voltages and other options

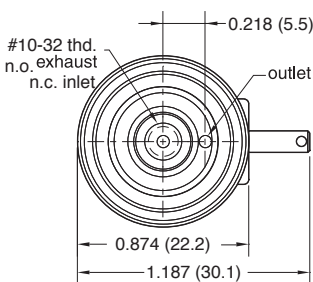


OXYGEN CLEAN EV, ET, EC 3-WAY FULLY PORTED VALVES MANIFOLD MOUNT

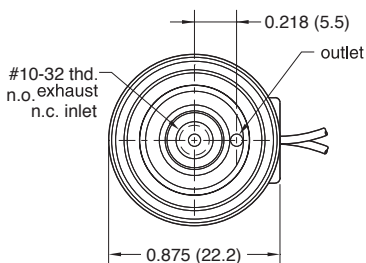
O-ECO - 3M - □ - □



O-ETO - 3M - □ - □



O-EVO - 3M - □ - □



Type: Fully Ported 3-Way

Medium: Air

Temperature Range: 32 to 180°F

Power Consumption: 0.67 watt

Response: 5 to 10 milliseconds

Mounting: Manifold

Ports: Manifold mounted with #10-32 [M5] stud

Operating Range: 90% to 150% of rated voltage

Air Flow: 0.6 scfm @ 100 psig*;
17 l/min @ 7 bar

"L" option: 0.5 scfm @ 50 psig;
14 l/min @ 3.5 bar;

"H" option: 0.45 scfm @ 25 psig;
13 l/min @ 1.8 bar;

* When air supply is connected to the top port to operate valve Normally-Open, main flow is 0.8 scfm and exhaust flow is 0.6 scfm at 100 psig.

Pressure Range:

28" Hg Vac. to 105 psig;
7 bar max

"L" option:
28" Hg Vac. to 50 psig;
3.5 bar max

"H" option:
28" Hg Vac. to 25 psig;
1.8 bar max

Seals: FKM

For Cable and Connectors, see [Page 201](#).

NUMBERING SYSTEM

O - E □ O - 3 M - □ = □ = □ — M5 - Metric

C - Connector
T - Terminal Spades
V - Wire Leads

Voltages: *
6 - 6 VDC
12 - 12 VDC
24 - 24 VDC

Standard Options:
Blank - Standard orifice 0.025"
L - 0.040" orifice
H - 0.060" orifice
Non-Standard Options:
D - Diode

* Consult factory for availability of non-standard voltages and other options



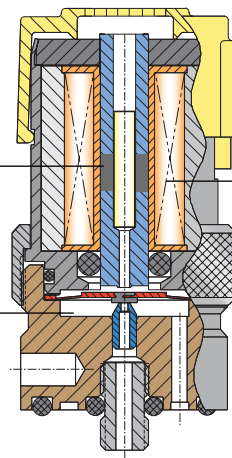
- Low Energy Consumption
- No Power Required to Hold Valve Open (no heat generation)
- Small Size & Quiet Operation
- Single Moving Part—Low Friction & Wear

Versions include 2-Way and 3-Way, and 3-Way with Ported Exhaust (If used as a selector, the pressure at the exhaust port must be lower than the pressure at the inlet)

A short forward or reverse current pulse latches the valve "on" or "off" through the use of a permanent magnet.

Standard Orifice is 0.025".
0.040" and 0.060" also available.

Clippard's Electronic Latching Valve has many of the same features as the popular EV valve line including small, compact design, quiet operation, a single moving element and more. A careful balance of forces—through the precise placement of a permanent magnet in the valve core— produces a bi-stable valve. A short pulse of current opens the valve, which "latches" open indefinitely after the current stops. A subsequent pulse of current in the opposite direction closes the valve. The valve consumes less energy and produces less heat than a standard solenoid valve when used in extended duty cycle applications, since the coil is energized for only a small fraction of the total duty cycle.

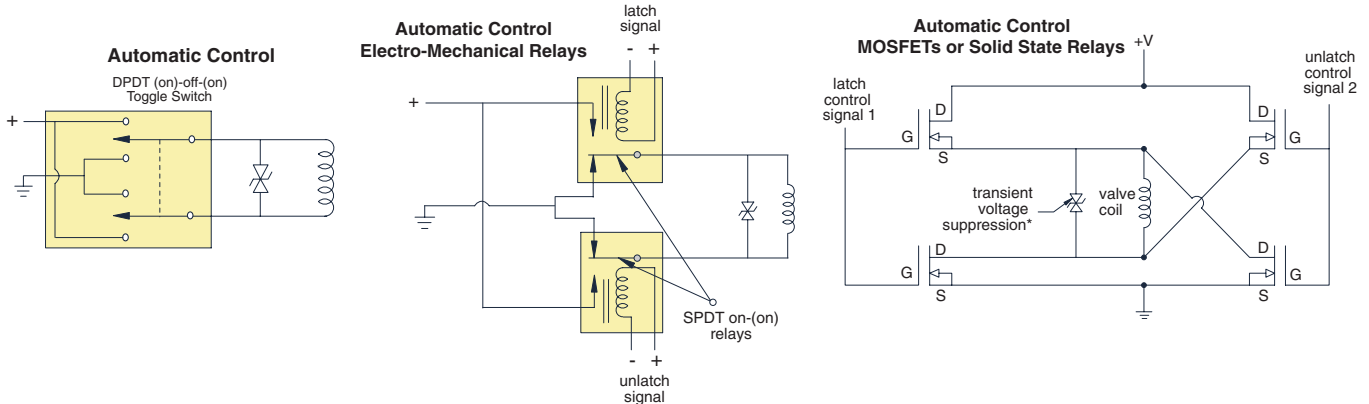


"+" and "-" molded on coil to indicate polarity to open the valve. Reverse polarity to close the valve.

Requires only short pulse of power to actuate. No power required to hold valve open.

Manifold mount permits fast, secure mounting of valves to manifolds. In-line version available.

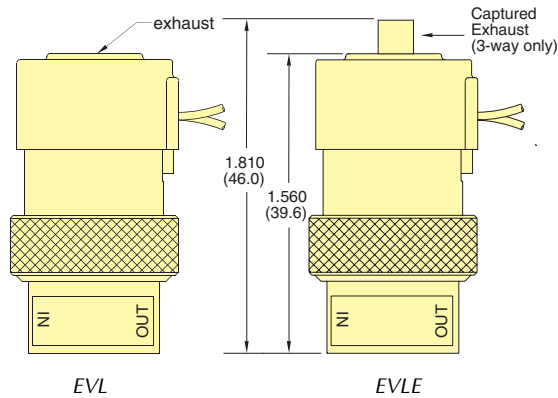
Switching Arrangement Examples





2-WAY & 3-WAY ELECTRONIC LATCHING VALVES IN-LINE MOUNT

EVL □-□-□-□



Type: 2-Way & 3-Way Direct-Acting Latching Solenoid Valve

Minimum Pulse Length for Operation: 20 milliseconds (use momentary pulse only)

Air Flow:
 Standard: 0.6 scfm @ 100 psig (17 l/min @ 7 bar)
 "L" Option: 0.5 scfm @ 50 psig (14 l/min @ 3.5 bar)
 "H" Option: 0.45 scfm @ 25 psig (13 l/min @ 1.8 bar)

Pressure Range:
 Standard: 28" Hg Vac. to 105 psig (-0.95 to 7 bar max)
 "L" Option: 28" Hg Vac. to 50 psig (-0.95 to 3.5 bar max)
 "H" Option: 28" Hg Vac. to 25 psig (-0.95 to 1.8 bar max)

Mounting Options: In-Line or Manifold

Power Consumption: 10 Watts (during pulse)

Ports: In-Line: #10-32 [M5] Female Inlet and Outlet
 Manifold: Mounted with #10-32 Stud

Max. Current Pulse Duration: 2 Seconds

Max. Power Duty Cycle: 5%

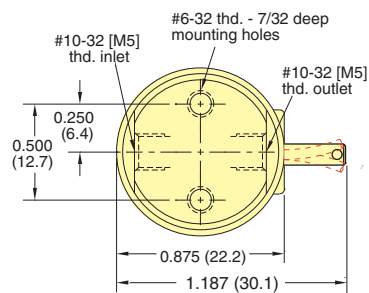
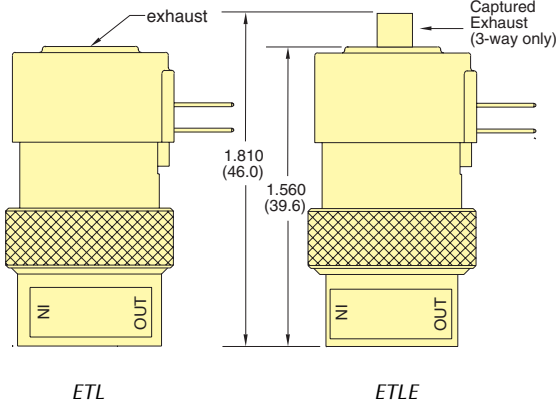
Max. Operating Temperature: 32 to 122°F (0 to 50°C)

Wetted Materials: Electroless Nickel-Plated Brass, Nickel Steel, Nickel-Plated Steel, Stainless Steel and Brass

Seal Material: Buna-N Standard; FKM (Viton®), EPDM and others available

Voltage: 12-Volt DC or 24-Volt DC

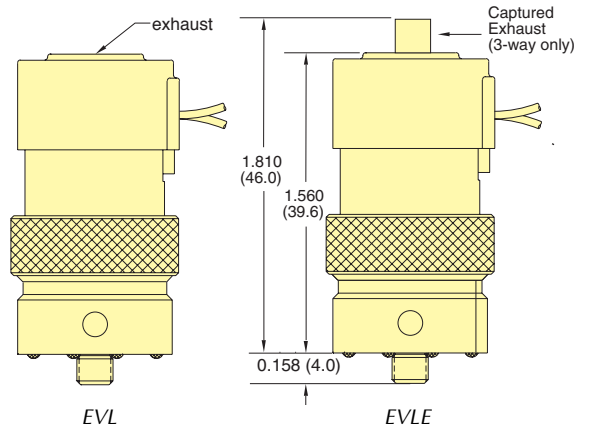
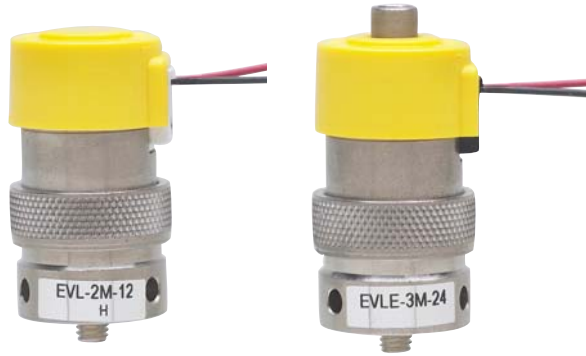
ETL □-□-□-□



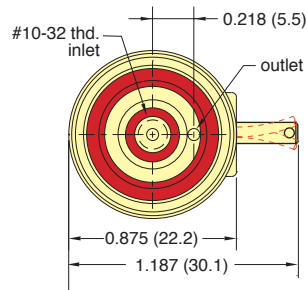
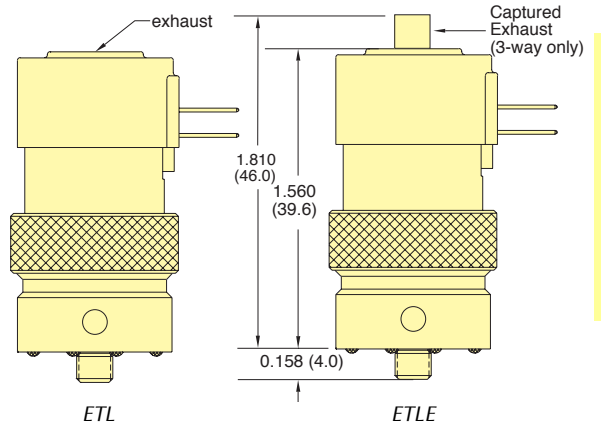
2-WAY & 3-WAY ELECTRONIC LATCHING VALVES MANIFOLD MOUNT



EVL □ - □ **M** - □ - □



ETL □ - □ **M** - □ - □



Electrical Connection	Top Port		Type		Mounting		Voltage		Orifice		Options		
	Order No.	Order No.	Order No.	Order No.	Order No.	Order No.	Order No.	Order No.	Order No.	Order No.	Order No.		
Wire Leads	V	None	(blank)	2-Way	2	In-Line	(blank)	12-Volt DC	12	0.025"	(blank)	Buna-N Seals	(blank)
Terminal Spades	T	#10-32 Captured Exhaust (3-Way only)	E	3-Way	3	Manifold	M	24-Volt DC	24	0.040"	L	FKM Seals	V
										0.060"	H	EPDM Seals	E
Part No.	E	L		-				-		-			

Example: EVLE-3M-12-L

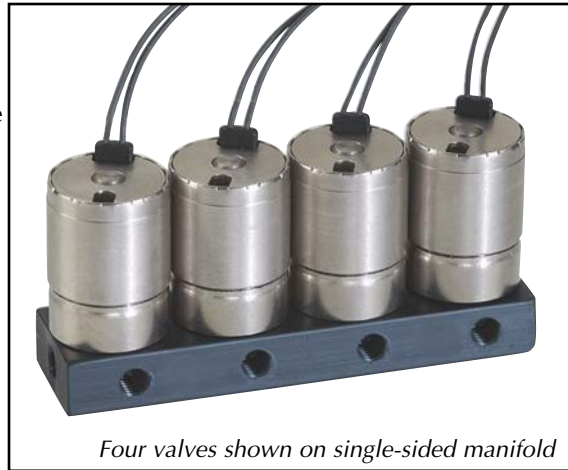


EM STUD MOUNT 2- & 3-WAY ELECTRONIC VALVES

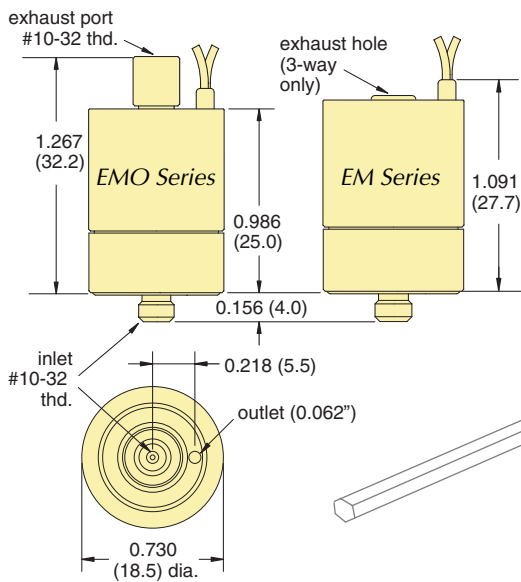
Introducing a smaller Mouse valve! When space is critical, the EM Series Valve provides the best solution.

At just over an inch tall, and less than 3/4" in diameter, the EM Valve uses Clippard's special "spider" design. This reliable and proven design for long life is housed in a miniature body, and incorporates wire leads out the top, allowing body rotation for close-center mounting. In addition, the valve features higher flow; combining fast shifting speed, extremely high cycle life with the design flexibility to make this valve a "small wonder" for demanding applications.

This valve is perfect for air and/or gas control, pilot control, and any application where space is limited, but desired performance is not.



Four valves shown on single-sided manifold



Simply tighten valves onto the manifold using a standard 1/8" Allen hex wrench. (4-10 in-lbs. Do not over-tighten)



Valve Type: 2-Way & 3-Way Electronic Valves, Normally-Closed and Normally-Closed/Normally-Open

Medium: Air or Inert Gases

Ports: #10-32 Exhaust (M5 optional)

Pressure Range:
 28" Hg Vacuum to 105 psig;
 -0.95 to 7 bar
 "L" Option: 28" Hg Vacuum to 50 psig; -0.95 to 3.5 bar
 "H" Option: 28" Hg Vacuum to 25 psig; -0.95 to 1.8 bar

Air Flow (Normally-Closed):
 0.75 scfm @ 100 psig; 21 lpm @ 7 bar
 "L" Option: 0.65 scfm @ 50 psig; 18 lpm @ 3.5 bar
 "H" Option: 0.55 scfm @ 25 psig; 15 lpm @ 1.8 bar

Response Time: 10 milliseconds at nominal voltage (15 ms N-O)

Temperature Range: 32 to 180°F (0 to 82°C)

Mounting: Manifold (#10-32 stud). See Page 204.

Voltage: 12-Volt DC or 24-Volt DC (custom voltage options available)

Power Consumption: 1 Watt

Seal Material: Buna-N Standard, FKM and EPDM optional (others on request)

Operation		Type		Voltage		Orifice		Options	
	Order Code		Order Code		Order Code		Order Code		Order Code
Normally-Closed	(blank)	2-Way	2	12-Volt DC	12	0.025"	(blank)	Buna-N Seals	(blank)
						0.040"	L	FKM Seals	V
Normally-Closed/ Normally-Open	O	3-Way	3	24-Volt DC	24	0.060"	H	EPDM Seals	E
								Metric Ports	M5

Example: EMO-3-12-L



Definitions

C_a : Maximum Allowed Capacitance

C_i : Maximum Internal Capacitance

I_{max} : Maximum Input Current

I_{sc} : Maximum Output Current

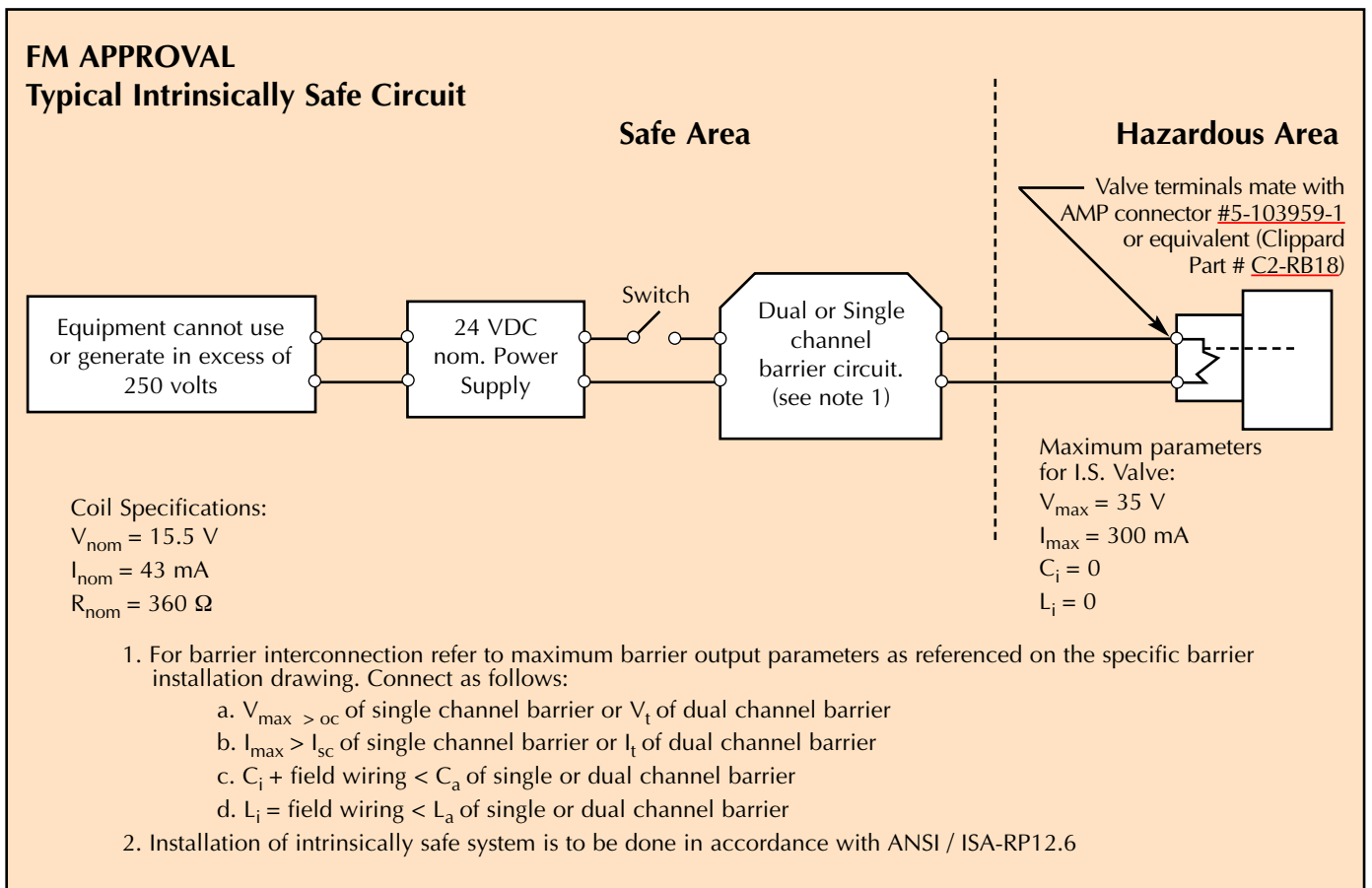
L_a : Maximum Allowed Inductance

L_i : Maximum Internal Inductance

V_{oc} : Maximum Output Voltage

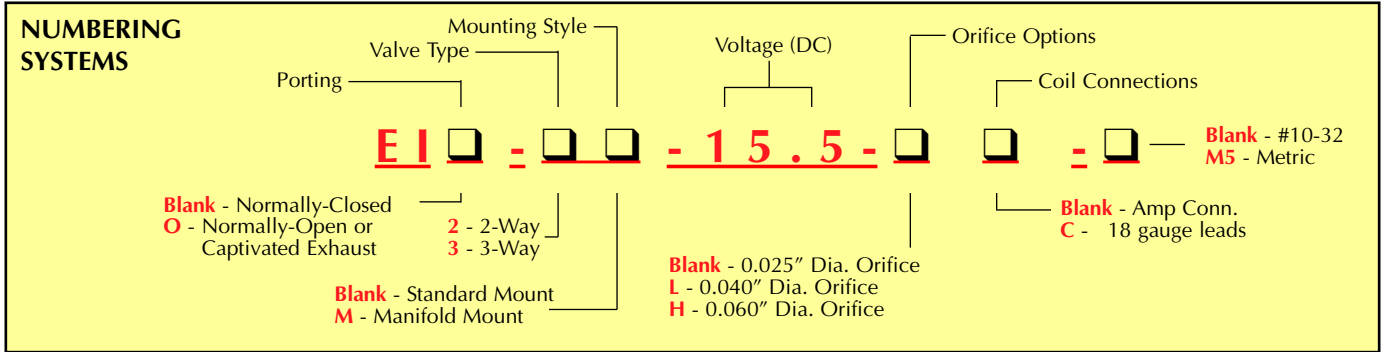
V_{max} : Maximum Input Voltage

V_t : Voltage Total





EI, EIO INTRINSICALLY SAFE VALVES



Increase Flow

High Flow Valves Models 2020 and 2021 high flow valves are piloted 3-way valves that work with EI/EIO intrinsically safe valves as well as EV/ET 3-way valves. They are designed to be mounted on EI/EIO manifold valves. Outputs from the EI/EIO will actuate the valve and produce outputs up to 22 scfm at 100 psig. Piloted 3-way valves are also available as [R-481](#) and [R-482](#).

EVB Booster Valve Clippard EVB-3 booster valve mates with manifold mounted EI/EIO valves and manifolds to provide increased flow. Direct piloting from Clippard EI/EIO valves provides a flow of up to 6.1 scfm at 100 psig.

What is Intrinsic Safety?

An intrinsically safe system is one in which all electrical devices and their associated circuits are designed such that they can neither arc nor spark with sufficient energy to ignite the hazardous substances around which they are being used. Put another way, the energy stored from the inductance of the circuit components must be unable to generate a spark or arc at the circuits open point during current circulation that is capable of igniting the hazardous materials present when they are in a fuel/air mixture that is most favorable for ignition.

What is Entity approval?

According to INTRINSIC SAFETY standards, there is no requirement for authorized laboratory certification of system-wide intrinsic safety if the designer can determine, with certainty, that the physical and electrical parameters of every system component has been met sufficient to ensure that system-wide intrinsic safety has been maintained.

An "Entity Approval" is documentation stating that a device is intrinsically safe in specified hazardous atmospheres if the stated physical and electrical conditions contained in the approval are met. By meeting the requirements of "Entity Approvals" on all components of a system, the designer can more easily document that system-wide intrinsic safety has been maintained.

The Clippard EI-EIO series valves hold the Entity Approvals listed and supporting documentation is available to our customers.

EI INTRINSICALLY SAFE NORMALLY-CLOSED VALVES



E I - □ □ - 15.5 - □

Standard Mount

Manifold Mount



E I - □ □ - 15.5 - □ C

Standard Mount

Manifold Mount



For Cable and Connectors, see [Page 201](#).

Type: 2-Way or 3-Way Poppet, Normally-Closed

Medium: Air (40 micron filtration)

Temperature Range: 30 to 180°F

Input Pressure: 28 Hg. Vac to 105 psig; 0 to 7 bar
 28 Hg. Vac to 50 psig (L); 0 to 3.5 bar
 28 Hg. Vac to 25 psig (H); 0 to 1.8 bar

Air Flow: 0.6 scfm @ 100 psig; 17 l/min @ 7 bar
 0.5 scfm @ 50 psig (L); 14 l/min @ 3.5 bar
 0.45 scfm @ 25 psig (H); 13 l/min @ 1.8 bar

Voltages: 15.5 VDC

Power Consumption: 0.67 watt at rated voltage (0.66 watt on top three products)

Response: 5 to 10 milliseconds @ 100 psig

Ports: Inlet - #10-32 [M5], Outlet - #10-32 [M5] - on std.

Metric: Add -M5 to Part Number (standard mount only)



EIO INTRINSICALLY SAFE FULLY PORTED VALVES

EIO - □ □ - 15.5 - □

Standard Mount



Manifold Mount



EIO - □ □ - 15.5 - □ C

Standard Mount



Manifold Mount



Type: 2-Way or 3-Way Poppet, Fully Ported

Medium: Air (40 micron filtration)

Temperature Range: 30 to 180°F

Input Pressure: 28 Hg. Vac to 105 psig; 0 to 7 bar
28 Hg. Vac to 50 psig (L); 0 to 3.5 bar
28 Hg. Vac to 25 psig (H); 0 to 1.8 bar

Air Flow: 0.6 scfm @ 100 psig; 15 l/min @ 7 bar
0.5 scfm @ 50 psig (L); 15 l/min @ 3.5 bar
0.45 scfm @ 25 psig (H); 14 l/min @ 1.8 bar

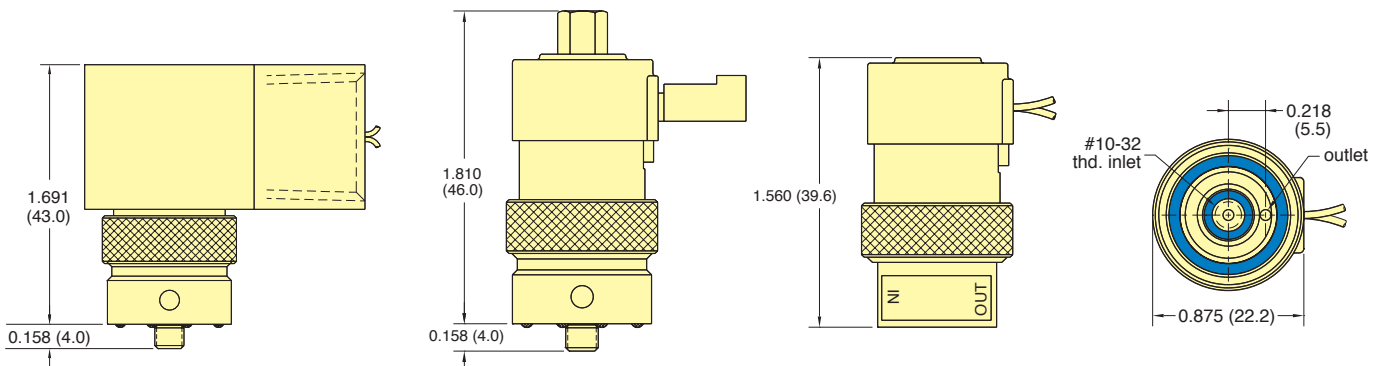
Voltages: 15.5 VDC

Power Consumption: 0.67 watt at rated voltage

Response: 5 to 10 milliseconds @ 100 psig

Ports: Inlet - #10-32 [M5], Outlet - #10-32 [M5] - on std.

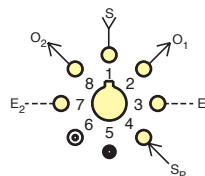
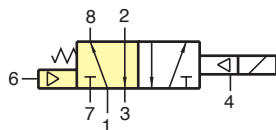
Metric: Add -M5 to Part Number



For Cable and Connectors, see [Page 201](#).



R-481-□



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

Type: 4-way combination electronic and modular spool type interface valve. Fully ported ET-3 & R401 hybrid

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

Input Pressure: Pilot - 40 psig minimum
Working - 0 to 150 psig

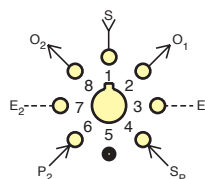
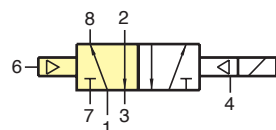
Air Flow: Valve - 9 scfm @ 100 psig

Voltages: R-481-6 6 VDC
R-481-12 12 VDC
R-481-24 24 VDC

Mounting: Uses Octoport base and two captivated screws

Ports: Valve has patented Octoport system

R-482-□



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

Type: 4-way combination electronic and modular spool type interface valve. Fully ported ET-3 & R402 hybrid

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

Input Pressure: Pilot - 40 psig minimum
Working - 0 to 150 psig

Air Flow: Valve - 9 scfm @ 100 psig

Voltages: R-482-6 6 VDC
R-482-12 12 VDC
R-482-24 24 VDC

Mounting: Uses Octoport base and two captivated screws

Ports: Valve has patented Octoport system

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

ET-C48 ET-C120

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

ET Valve Connectors



3831

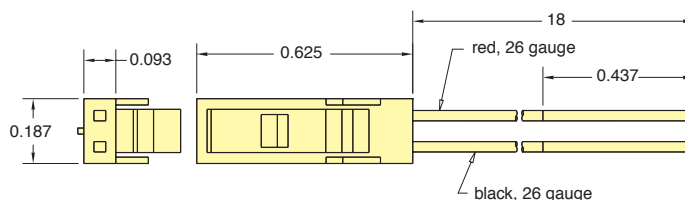
Insulated crimp-on spade lug connectors are available for wiring up leads to connect electronic circuit to ET style valves. Accepts #22, #24, or #26 wire.



C2-RB18 C2-RB120

AMP connector #5-103959-1 with 18" or 120" wire leads for EC/ECO and EI/EIO valves

EC & EI Valve Connectors





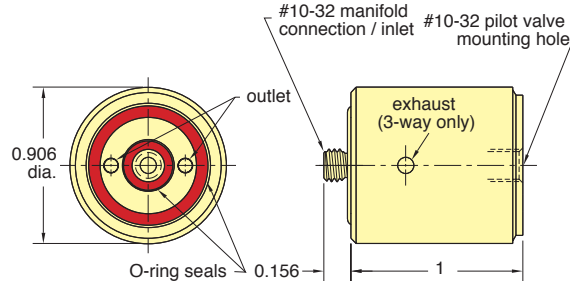
EV, ET, EC SERIES ACCESSORIES

EVB-2 EVB-3



EC, EV and ET Piloted 2-Way & 3-Way Valve, Manifold Mount

Electronic Valve Booster Amplifies the flow capacity of EC, EV and ET type valves by over eight times. Manifold style electronic valves mount onto booster body, which, in turn, mounts on Clippard manifolds.



Type: 2-Way (EVB-2) or 3-Way (EVB-3)
Normally-Closed, Pressure Piloted Valve

Medium: Air

Input Pressure: 20 to 150 psig

Air Flow: 6.1 scfm @ 100 psig

Response: 20 milliseconds at 20 psig
13 milliseconds at 100 psig

Mounting: Mounts to manifold

Ports: Inlet and outlet through manifold

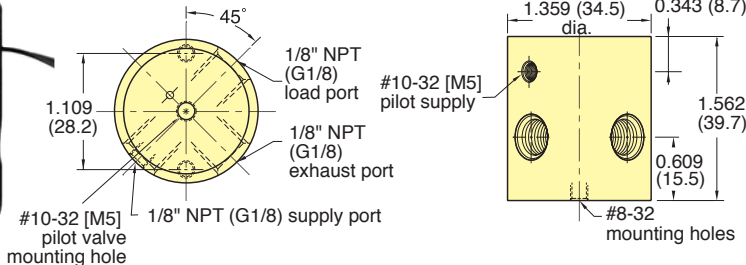
Materials: Nickel plated brass, acetyl, stainless steel and Buna-N

Additional Note Use only Normally-Closed 3-way pilot valves in conjunction with EVB-2/EVB-3

2013 - □

Electronic Fluidamp

Low-power DC solenoid solid state output signals can be directly converted to high pressure pneumatic power without amplification



Type: 3-Way Normally-Closed, Electronic Valve

Medium: Air

Input Pressure: 30 to 100 psig

Air Flow: 22 scfm @ 100 psig

Bleed Flow: 0.10 scfm @ 100 psig

Filtration: 10 micron

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

Ports: 1/8" NPT female

Switching Speed: 10 milliseconds

Electrical Data

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

Power Consumption: Less than .50 watts at
rated voltage (80 ma. @ 6V, 40 ma. @
12 V, 20 ma. @ 24V)

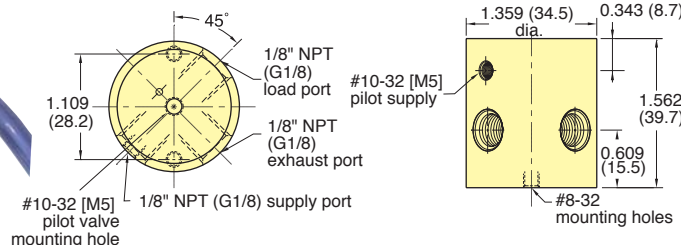
Leads: 28 gauge stranded P.V.C. insulated

Standard Options: 2013-6 6 volts DC
2013-12 12 volts DC
2013-24 24 volts DC

2020/2021

High Flow EC, EV and ET Piloted 3-Way Valves

Designed to be piloted by a Clippard EC, EV and ET manifold mount electronic valve. 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 port for the pressure supply to the EC, EV, and ET electronic pilot valve.



Type: 3-Way Normally-Closed, Pressure Piloted Valve

Medium: Air

Input Pressure: 30 to 100 psig; 2.1 to 6.9 bar

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

Air Flow: 22 scfm at 100 psig/620 l/min @
6 bar

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 Buna-N

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

Option: Add -MG for metric version



Specialized Manifolds



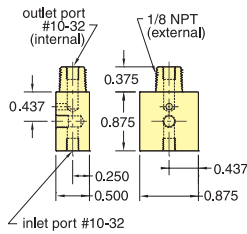
Material: ENP brass

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

Option: Add -MR for metric version

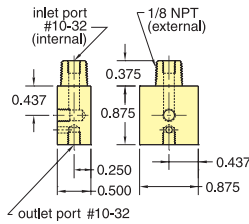
15490-1 and O-15490-1 (Oxygen Clean).

#10-32 [M5] Inlet
1/8" NPT (R1/8) Outlet



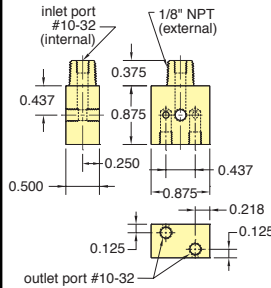
15490-2 and O-15490-2 (Oxygen Clean).

1/8" NPT (R1/8) Inlet
#10-32 [M5] Outlet



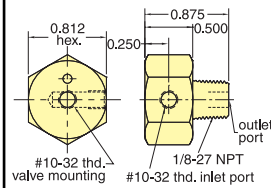
15490-3 and O-15490-3 (Oxygen Clean) Dual Outlet.

1/8" NPT (R1/8) Inlet
#10-32 [M5] Outlet



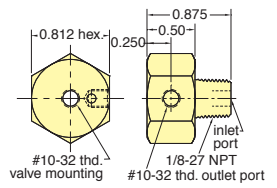
15491-1 and O-15491-1 (Oxygen Clean).

#10-32 [M5] Inlet
1/8" NPT (R1/8) Outlet



15491-2 and O-15491-2 (Oxygen Clean).

1/8" NPT (R1/8) Inlet
#10-32 [M5] 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.

Medium: Air or Liquid

Input Ports: In-line 1/8" NPT (G1/8 optional)

Outlet Ports: #10-32 (M5 optional)

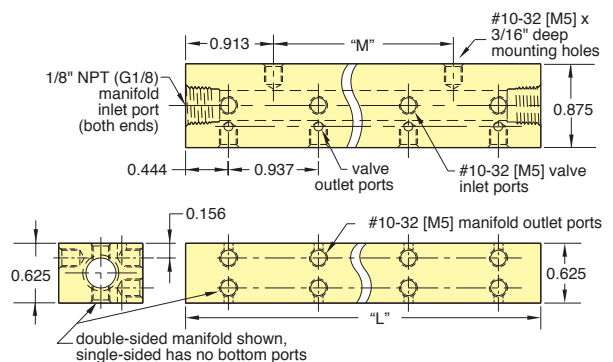
Mounting: #10-32 tapped holes [M5 optional]

Materials: ENP Brass

Option: Add -M5 for Metric version

Single-Sided		Double-Sided		Length "L"	Mtg. "M"
Part No.	Stations	Part No.	Stations		
O-15581-2*	2	O-15582-6*	6	1.826	0.937
O-15581-3*	3	O-15582-8*	8	2.762	0.937
O-15581-4*	4	O-15582-10*	10	3.702	1.875
O-15581-5*	5	O-15582-12*	12	4.639	2.812
O-15581-6*	6			5.577	3.750

* Add -M5 for metric version (G1/8 inlet)





EV, ET, EC, EM SERIES MANIFOLDS

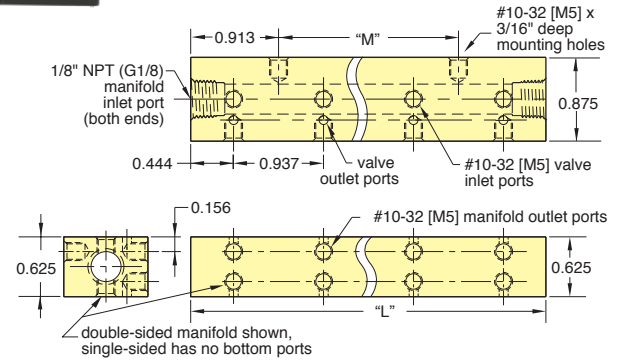
Multi-Valve Manifolds

Construction: Black anodized aluminum

Option: Add -M5 for Metric version



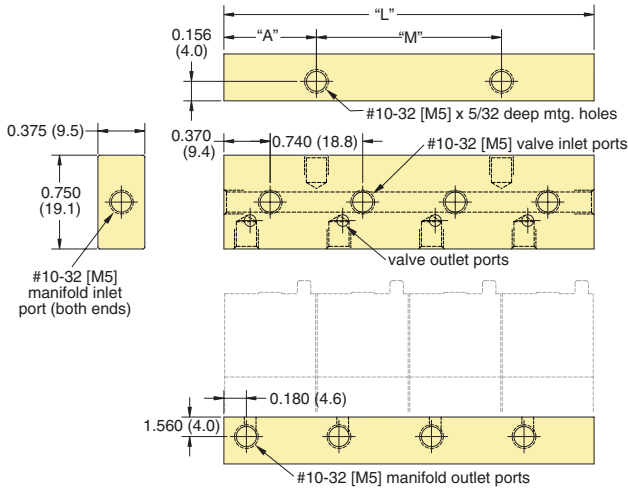
Single-Sided		Double-Sided		Length "L"	Mtg. "M"
Part No.	Stations	Part No.	Stations		
15481-2	2			1.826	0.937
15481-4	4	15482-8	8	3.702	1.875
15481-6	6	15482-12	12	5.577	3.750



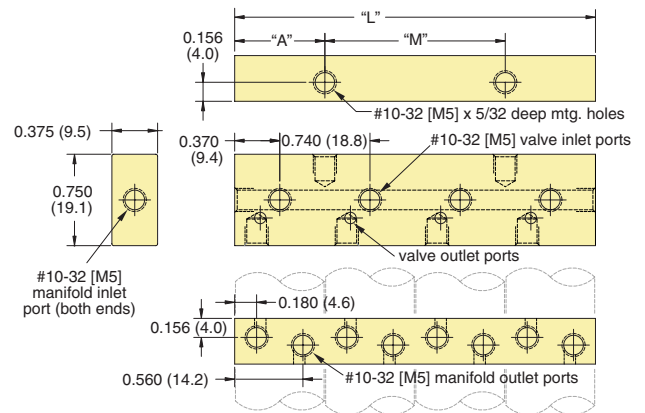
EM Series Manifolds

Construction: Black anodized aluminum

Option: Add -M5 for Metric version



Single-Sided



Double-Sided

Part No.	Stations	Part No.	Stations	Length "L"	Mtg. "M"	"A"
Single-Sided		Double-Sided				
15681-2	2	15682-4	4	1.480"	0.740"	0.370"
15681-4	4	15682-8	8	2.960"	1.480"	0.740"
15681-6	6	15682-12	12	4.440"	2.960"	0.740"
15681-8	8	15682-16	16	5.920"	4.440"	0.740"

EVP SERIES PROPORTIONAL CONTROL VALVES



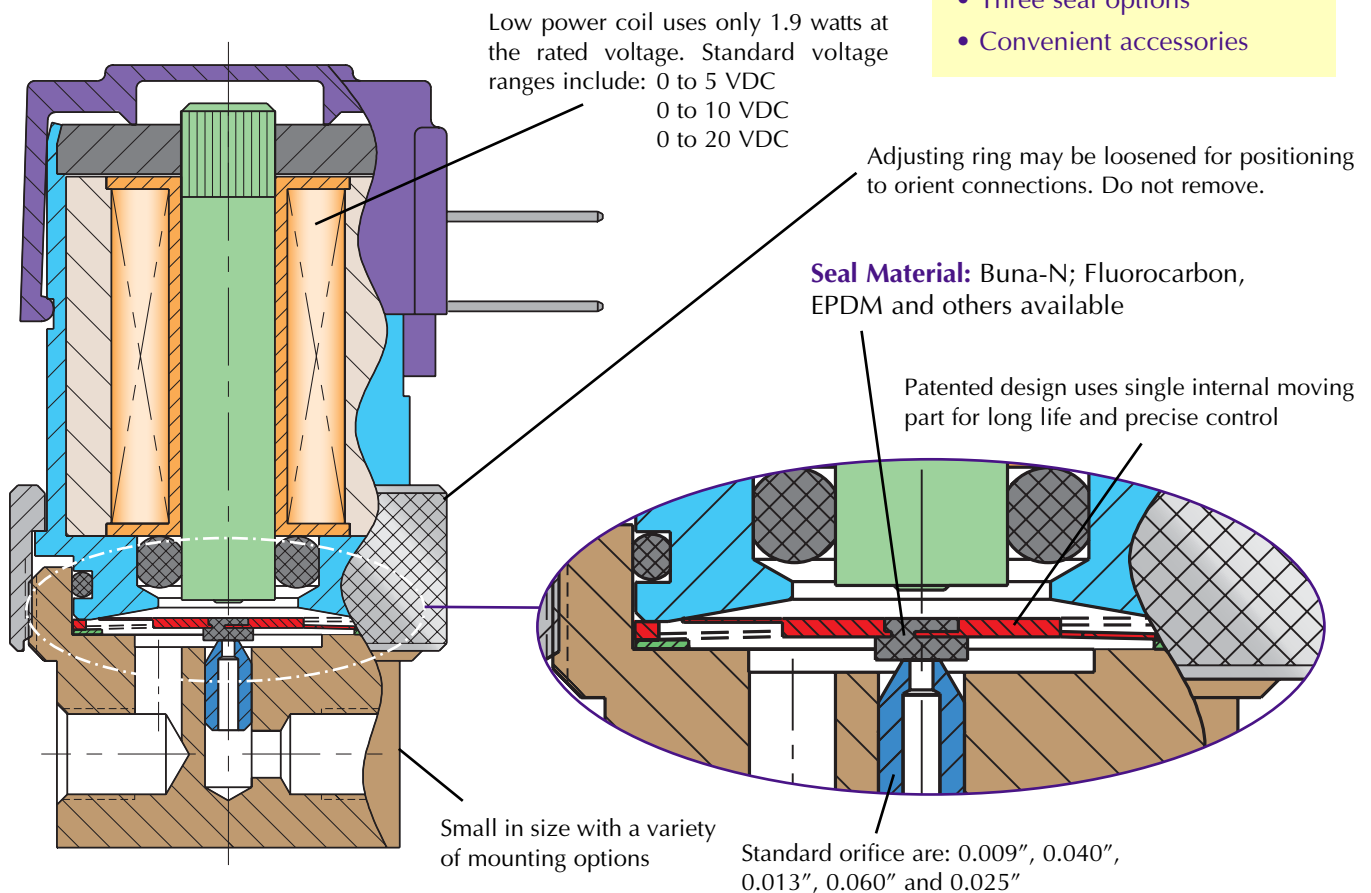
The EVP series Proportional Control Valves combine the features of the existing EV series valve - long life, low power, and Clippard's reputation for high quality components - with the additional capability for proportional control.

The EVP series valve provides air or gas flow control, and varies the output flow based on the current input to the solenoid. The consistent gain (see chart) of this valve provides a high degree of control for many applications.

Controllability and overall value are the main features of the EVP Proportional Valve series. The valve may be controlled using DC current, open or closed-loop control, and even PWM (pulse width modulation) to cover a broad range of applications.

Features

- Fast response
- Long life
- Small package
- Single moving part
- low friction and wear
- Five orifice sizes
- Three voltage ranges
- Three connection styles
- Two mounting types
- Three seal options
- Convenient accessories



Designed For:

- Analytical Instruments
- Blood pressure monitoring
- Precise pressure control
- Dialysis
- Automotive
- Gas Controllers
- Mass Flow Control
- Patient Simulators
- Gas Chromatography
- Respirators / Ventilators
- Semiconductor - CMP and many more...



EVP SERIES PROPORTIONAL CONTROL VALVES



Based on Clippard's original spider design from 1973, the EVP's armature is the heart of the valve which provides precise flow control.



An introductory CD is available which highlights the features and specifications of the award-winning EVP Proportional Control Valves. Call and request one today!

Type: 2-Way, Proportional

Medium: Air, Inert Gases

Temperature Range: 32 to 120°F (0 to 50°C)

Power Consumption: 1.9 watts at 23°C 2.3 watts max.

Mounting: In-line or Manifold

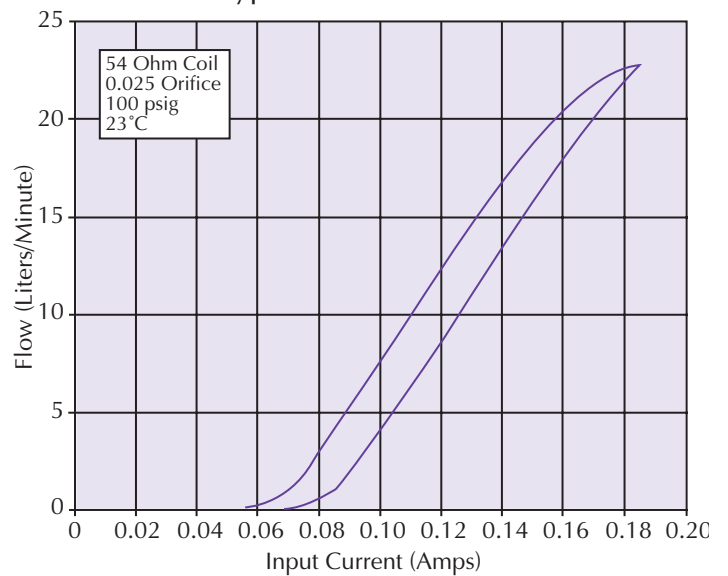
Ports: #10-32 Female (In-line)
#10-32 Male Stud (Manifold)

Seal Material: Buna-N; Fluorocarbon and EPDM.
Others available.

Maximum Hysteresis: 10% of full current



Typical Performance

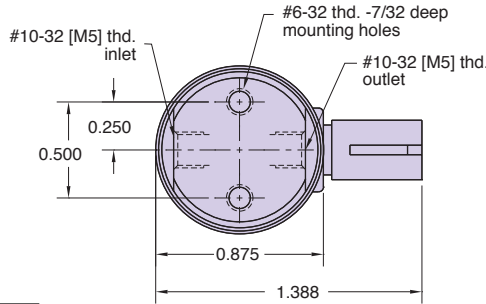


Orifice Diameter	Rated Pressure	Flow at Max. Current (±10%)
0.009"	100 psig	2.7 slpm / 5.7 scfh
0.013"	100 psig	6.7 slpm / 14.2 scfh
0.025"	100 psig	23.5 slpm / 50.0 scfh
0.040"	50 psig	19.0 slpm / 40.0 scfh
0.060"	25 psig	14.0 slpm / 30.0 scfh

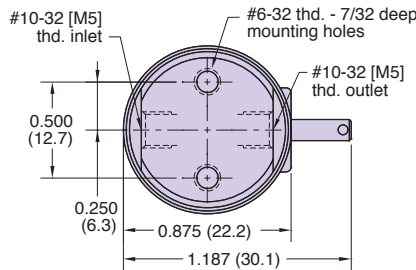
EVP SERIES PROPORTIONAL CONTROL VALVES IN-LINE MOUNT



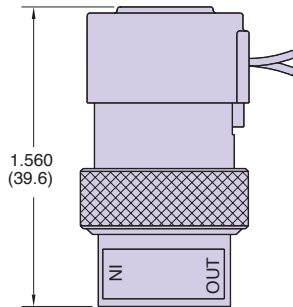
EC - P - □ - □ □ - □



ET - P - □ - □ □ - □



EV - P - □ - □ □ - □



Type: 2-Way, Proportional

Medium: Air or Inert Gases

Temperature Range: 32 to 120°F

Power Consumption: 1.9 watts at 23°C 2.3 watts max.

Mounting: In-line

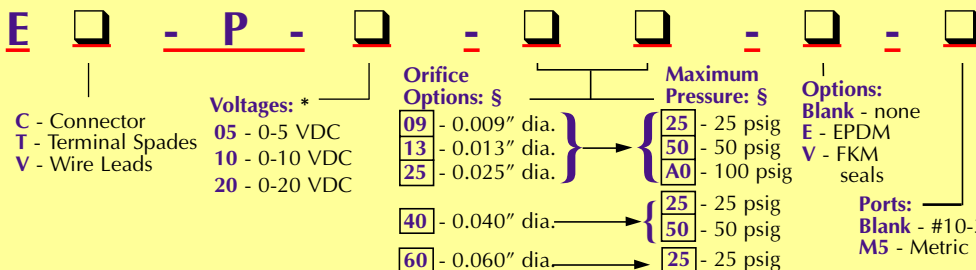
Ports: #10-32 [M5] Female

Orifice Diameter (in.)	Rated Pressure (psig)	Flow at Max. Current (scfh)
0.009"	100	5.7±10%
0.013"	100	14.2±10%
0.025"	100	50.0±10%
0.040"	50	40.0±10%
0.060"	25	30.0±10%

Nominal Voltage Range at 23°C (vdc)	Input Current Range (amps)	Coil Resistance at 23°C (ohms)	Max. Voltage Required (vdc)
0 - 5	0 - 0.370	13.5	6.2
0 - 10	0 - 0.185	54	12.4
0 - 20	0 - 0.092	218	24.8

The EVP Proportional Valve can be calibrated for pressures less than the maximum shown here. Lower pressures may be substituted, and will be used for calibration. The pressures shown above are standard options. For pressures less than 10 psig, please consult factory.

NUMBERING SYSTEM



* Consult factory for availability of non-standard voltages and other options

§ Standard Orifice Configurations
09A0 13A0 25A0
4050 6025

Sample part number:
EC-P-10-25A0

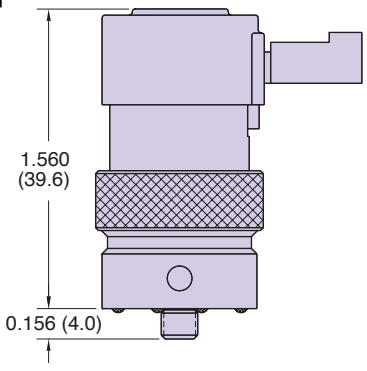
For Cable and Connectors, see [Page 201](#).



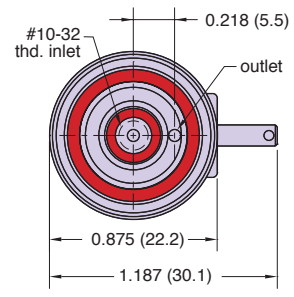
EVP SERIES PROPORTIONAL CONTROL VALVES

MANIFOLD MOUNT

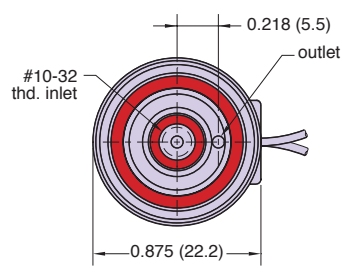
EC - PM - □ - □ □ - □



ET - PM - □ - □ □ □ - □



EV - PM - □ - □ □ □ - □



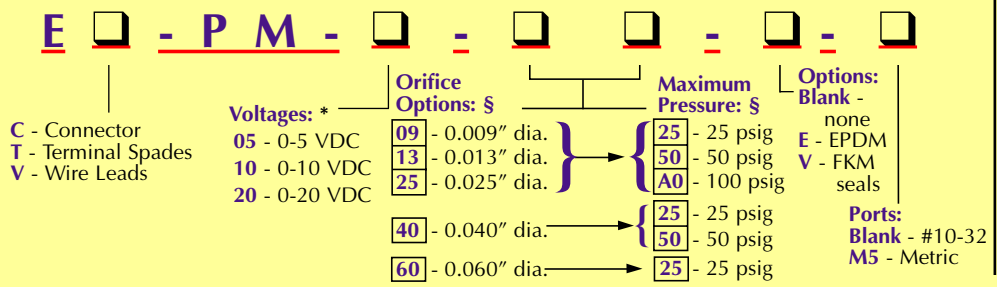
Type: 2-Way, Proportional
Medium: Air or Inert Gases
Temperature Range: 32 to 120°F
Power Consumption: 1.9 watts at 23°C 2.3 watts max.
Mounting: Manifold
Ports: #10-32 male stud

Orifice Diameter (in.)	Rated Pressure (psig)	Flow at Max. Current (scfh)
0.009"	100	5.7±10%
0.013"	100	14.2±10%
0.025"	100	50.0±10%
0.040"	50	40.0±10%
0.060"	25	30.0±10%

Nominal Voltage Range at 23°C (vdc)	Input Current Range (amps)	Coil Resistance at 23°C (ohms)	Max. Voltage Required (vdc)
0 - 5	0 - 0.370	13.5	6.2
0 - 10	0 - 0.185	54	12.4
0 - 20	0 - 0.092	218	24.8

The EVP Proportional Valve can be calibrated for pressures less than the maximum shown here. Lower pressures may be substituted, and will be used for calibration. The pressures shown above are standard options. For pressures less than 10 psig, please consult factory.

NUMBERING SYSTEM



* Consult factory for availability of non-standard voltages and other options

§ Standard Orifice Configurations
 09A0 13A0 25A0
 4050 6025

Sample part number:
EC-PM-10-25A0

For Cable and Connectors, see [Page 201](#).



Maximatic®



MAXIMATIC SOLENOID VALVES

Clippard's Maximatic Solenoid valves are available in 2-way, 3-way and 4-way configurations in port sizes from #10-32 to 1/2" NPT. Select either a direct-acting poppet or solenoid-controlled pilot operated balanced spool design. Spool valves are body ported but can be bolted to a parallel circuit manifold.

These electronic valves offer high flow in a small package, and are constructed of aluminum, stainless steel and thermoplastic materials. The 4-way valves are also available in 3 position versions with either pressure center, closed center or exhaust center spool options.

Materials: Aluminum, Stainless Steel, Thermoplastic

Maximum Pressure: Vacuum to 150 psig (direct-acting only); 30 to 125 on MME-41 Series, 20 to 125 psig on all others (spool valves)

Response Time: Less than 20 milliseconds

Mounting: Manifold standard. Actuator (1/4" only) or NAMUR (3/8" NPT only) available on Page 216.

Manual Override: Locking or non-locking

Electrical Connection: DIN terminal with LED indicator, or 18" Wire Leads

DIN Connector: Plug-in electrical connector with LED. MME-31/41 models are DIN Industrial Form "C" (9.4 mm centers) 3 mm screw. All others are DIN 43650 Form "B" 3 mm screw. LED will not "light" if polarity is reversed.

Wire Leads: Not polarity sensitive

Temperature Range: 32 to 150°F (0 to 65°C)

Seals: Buna-N

Conforms to ISO 19973-2 test standards.

3- & 4-Way Valves

Port	Cv	Flow Rate	
		@ 50 psig	@ 100 psig
#10-32	0.58	16 scfm	27 scfm
1/8" NPT	0.67	18 scfm	31 scfm
1/4" NPT	0.89	26 scfm	49 scfm
3/8" NPT	1.68	51 scfm	93 scfm
1/2" NPT	2.79	91 scfm	171 scfm



MAXIMATIC® SOLENOID VALVES

Maximum Value. Maximum Performance.

Choose either DIN connector with LED indicator or 18" Wire Lead connection. Both are rotatable and interchangeable.

2-, 3- & 4-Way Designs

For side ported manifold mount, the Maximatic line of valves offers both 1/4" actuator mount and 3/8" NAMUR mount

Easily accessible locking or non-locking manual override switch

Port sizes from #10-32 to 1/2" NPT

Buna-N Seals

Sturdy aluminum body withstands rough environments

Closed Center, Pressure Center and Exhaust Center Models Available

Operating ranges to 125 psig

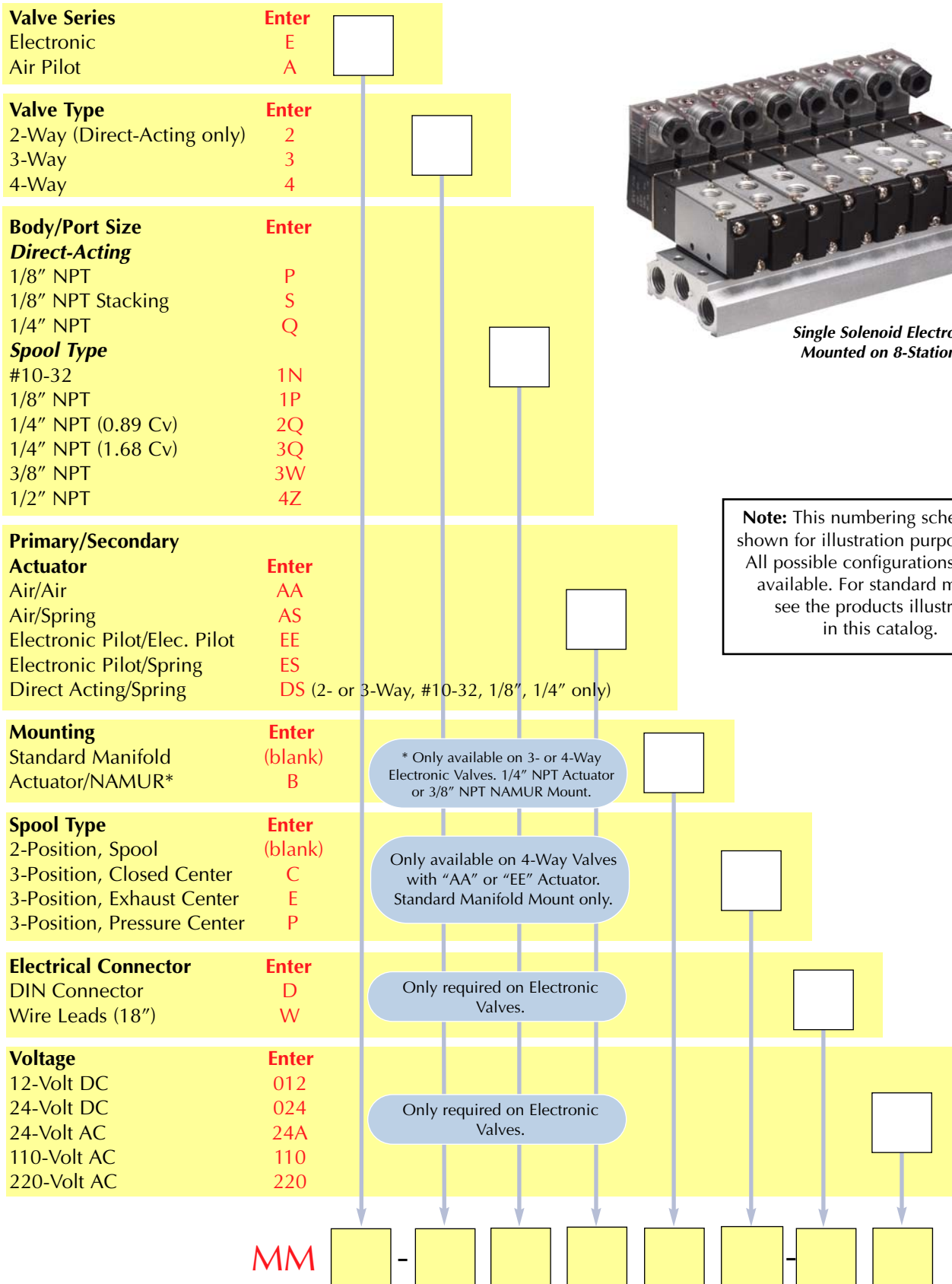
Small size makes valves ideal for use in compact applications

Maximatic® Valves are available as body ported, manifold mount, NAMUR (3/8" NPT only), and Actuator (1/4" NPT only) mounting. Standard models include a base that permits fast, secure mounting of electronic valves to a manifold for grouping in compact assemblies.

A wide variety of voltage options are available including 12 VDC, 24 VDC, 24 VAC, 110 VAC and 220 VAC. Consult factory for other voltages.

All Maximatic® Solenoid Valves are IP 65 CE Rating

MAXIMATIC® SOLENOID VALVES



Single Solenoid Electronic Valves Mounted on 8-Station Manifold

Note: This numbering schematic is shown for illustration purposes only. All possible configurations are not available. For standard models, see the products illustrated in this catalog.

MM

Example: MME-42QES-D110



MAXIMATIC® SOLENOID VALVES

2-Way Valves							
Series No.	Style	Inlet	Ports Outlet	Exhaust	Function	Cv	Flow @ 100 psig
MME-2PDS	Poppet	1/8" NPT	1/8" NPT	1/8" NPT	2/2	0.12	6.7 scfm
MME-2QDS	Poppet	1/4" NPT	1/4" NPT	1/4" NPT	2/2	0.12	6.7 scfm
MME-2SDS	Poppet	1/8" NPT	1/8" NPT	1/8" NPT	2/2	0.05	2.3 scfm

3-Way Valves							
Series No.	Style	Inlet	Ports Outlet	Exhaust	Function	Cv	Flow @ 100 psig
MME-3PDS	Poppet	1/8" NPT	1/8" NPT	1/8" NPT	3/2	0.12	6.7 scfm
MME-3QDS	Poppet	1/4" NPT	1/4" NPT	1/4" NPT	3/2	0.12	6.7 scfm
MME-3SDS	Poppet	1/8" NPT	1/8" NPT	1/8" NPT	3/2	0.05	2.3 scfm
MME-31NES	Spool	#10-32	#10-32	#10-32	3/2 NC	0.58	27 scfm
MME-31PES	Spool	1/8" NPT	1/8" NPT	1/8" NPT	3/2 NC	0.67	31 scfm
MME-32QES	Spool	1/4" NPT	1/4" NPT	1/8" NPT	3/2 NC	0.89	49 scfm
MME-33WES	Spool	3/8" NPT	3/8" NPT	1/4" NPT	3/2 NC	1.68	93 scfm
MME-34ZES	Spool	1/2" NPT	1/2" NPT	1/2" NPT	3/2 NC	2.79	171 scfm
MME-31NEE	Spool	#10-32	#10-32	#10-32	3/2	0.58	27 scfm
MME-31PEE	Spool	1/8" NPT	1/8" NPT	1/8" NPT	3/2	0.67	31 scfm
MME-32QEE	Spool	1/4" NPT	1/4" NPT	1/8" NPT	3/2	0.89	49 scfm
MME-33WEE	Spool	3/8" NPT	3/8" NPT	1/4" NPT	3/2	1.68	93 scfm
MME-34ZEE	Spool	1/2" NPT	1/2" NPT	1/2" NPT	3/2	2.79	171 scfm

4-Way Valves								Spool Configuration		
Series No.	Style	Inlet	Ports Outlet	Exhaust	Function	Cv	Flow @ 100 psig	Closed Center	Exhaust Center	Pressure Center
MME-41NES	Spool	#10-32	#10-32	#10-32	5/2	0.58	27 scfm			
MME-41PES	Spool	1/8" NPT	1/8" NPT	1/8" NPT	5/2	0.67	31 scfm			
MME-42QES	Spool	1/4" NPT	1/4" NPT	1/8" NPT	5/2	0.89	49 scfm			
MME-43WES	Spool	3/8" NPT	3/8" NPT	1/4" NPT	5/2	1.68	93 scfm			
MME-44ZES	Spool	1/2" NPT	1/2" NPT	1/2" NPT	5/2	2.79	171 scfm			
MME-41NEE	Spool	#10-32	#10-32	#10-32	5/2	0.58	27 scfm			
MME-41PEE	Spool	1/8" NPT	1/8" NPT	1/8" NPT	5/2	0.67	31 scfm			
MME-42QEE	Spool	1/4" NPT	1/4" NPT	1/8" NPT	5/2	0.89	49 scfm			
MME-43WEE	Spool	3/8" NPT	3/8" NPT	1/4" NPT	5/2	1.68	93 scfm			
MME-44ZEE	Spool	1/2" NPT	1/2" NPT	1/2" NPT	5/2	2.79	171 scfm			
MME-41NEEC	Spool	#10-32	#10-32	#10-32	5/3	0.50	23 scfm		•	
MME-41PEEC	Spool	1/8" NPT	1/8" NPT	1/8" NPT	5/3	0.50	23 scfm		•	
MME-42QEEC	Spool	1/4" NPT	1/4" NPT	1/8" NPT	5/3	0.67	49 scfm		•	
MME-43WEEC	Spool	3/8" NPT	3/8" NPT	1/4" NPT	5/3	1.00	72 scfm		•	
MME-44ZEEC	Spool	1/2" NPT	1/2" NPT	1/2" NPT	5/3	1.68	93 scfm		•	
MME-41NEEP	Spool	#10-32	#10-32	#10-32	5/3	0.50	23 scfm			•
MME-41PEEP	Spool	1/8" NPT	1/8" NPT	1/8" NPT	5/3	0.50	23 scfm			•
MME-42QEEP	Spool	1/4" NPT	1/4" NPT	1/8" NPT	5/3	0.89	49 scfm			•
MME-43WEEP	Spool	3/8" NPT	3/8" NPT	1/4" NPT	5/3	1.00	72 scfm			•
MME-44ZEEP	Spool	1/2" NPT	1/2" NPT	1/2" NPT	5/3	1.68	93 scfm			•
MME-41NEEE	Spool	#10-32	#10-32	#10-32	5/3	0.50	23 scfm		•	
MME-41PEEE	Spool	1/8" NPT	1/8" NPT	1/8" NPT	5/3	0.50	23 scfm		•	
MME-42QEEE	Spool	1/4" NPT	1/4" NPT	1/8" NPT	5/3	0.89	49 scfm		•	
MME-43WEEE	Spool	3/8" NPT	3/8" NPT	1/4" NPT	5/3	1.00	72 scfm		•	
MME-44ZEEE	Spool	1/2" NPT	1/2" NPT	1/2" NPT	5/3	1.68	93 scfm		•	

Direct-Acting 2-Position Solenoid Valves



MME-2SDS-D024



MME-3PDS-D110

Maximatic® Direct-Acting Valves are single solenoid spring return poppet type valves available as either 2-way or 3-way configurations in ports sizes 1/8" NPT and 1/4" NPT. Hardware to stack multiple valves included with each stacking valve (MME-3SDS and MME-2SDS). Includes one long screw, one short screw, one gasket, and one nut.

Flow: 2.3 scfm @ 100 psig
Electrical Connection: DIN connector with LED indicator ("D"), or 18" Wire Lead ("W")
Voltage: 12-volt DC ("-012"), 24-volt DC ("-024"), 24-volt AC ("-24A"), 110-volt AC ("-110"), or 220-volt AC ("-220")
Power Consumption: 6.5 Watt
Number of Ports: 2 or 3
Mounting: Body Ported or Stacking

Medium: Air (40 micron filtration), Inert Gas or Liquid
Operating Range: Vacuum to 150 psig

2-Way & 3-Way Valves (Stacking)

2-Way & 3-Way Valves (non-Stacking)

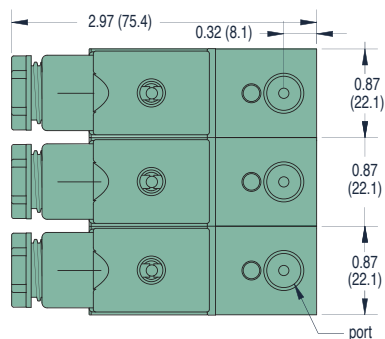
Replacement Stacking Kit

Replacement Stacking Kits are available which include two long screws, two short screws, one gasket and two nuts.

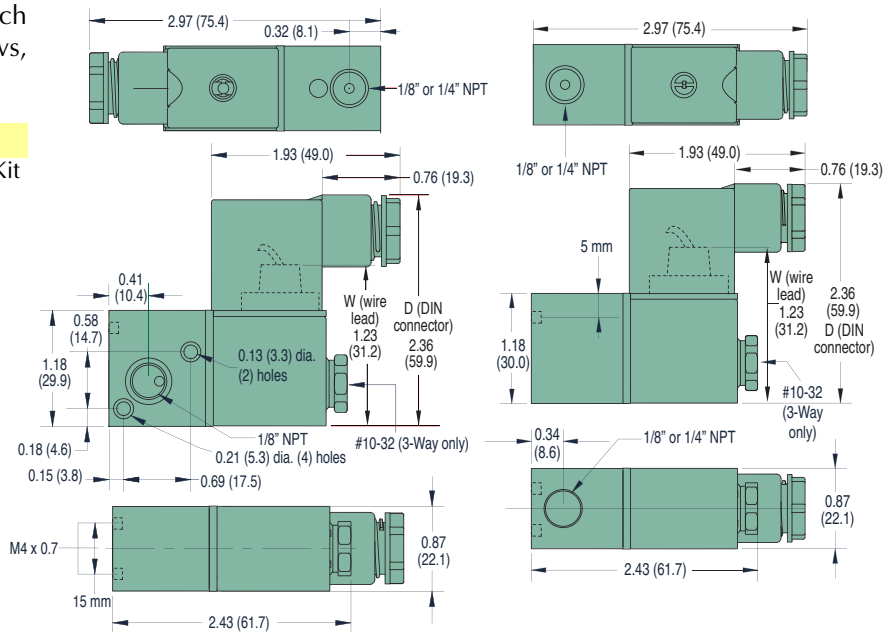
Part No.

27048

Replacement Stacking Kit



3-Station Configuration



2-Way Valves	Cv/scfm*	3-Way Valves	Inlet	Outlet	Exhaust	Cv/scfm*
MME-2PDS- A	0.12/6.7	MME-3PDS- A	1/8" NPT	1/8" NPT	#10-32	0.05/2.3
MME-2SDS- P	0.12/6.7	MME-3SDS- P E	1/8" NPT	1/8" NPT	#10-32	0.05/2.3
MME-2QDS- P	0.12/6.7	MME-3QDS- P E	1/4" NPT	1/4" NPT	#10-32	0.05/2.3

** Stacking Valve

* scfm based on flow @ 100 psig

Add Electrical Connection and Voltage Choices to the end of each Base Part Number - Example: **MME-2QDS-W220**



MAXIMATIC® 3-WAY VALVES

2-Position Single & Double Solenoid Valves



MME-33WES-D110



MME-32QEE-D110

Maximatic® 3-way electronic valves are either N.C. single solenoid spring return or double solenoid spool valves in #10-32 to 1/2" NPT port sizes.

Medium: Air (40 micron filtration) or Inert Gas

Operating Range: 20 to 125 psig

Electrical Connection: DIN connector with LED indicator ("D"), or 18" Wire Lead ("W")

Voltage: 12-volt DC ("-012"), 24-volt DC ("-024"), 24-volt AC ("-24A"), 110-volt AC ("-110"), or 220-volt AC ("-220")

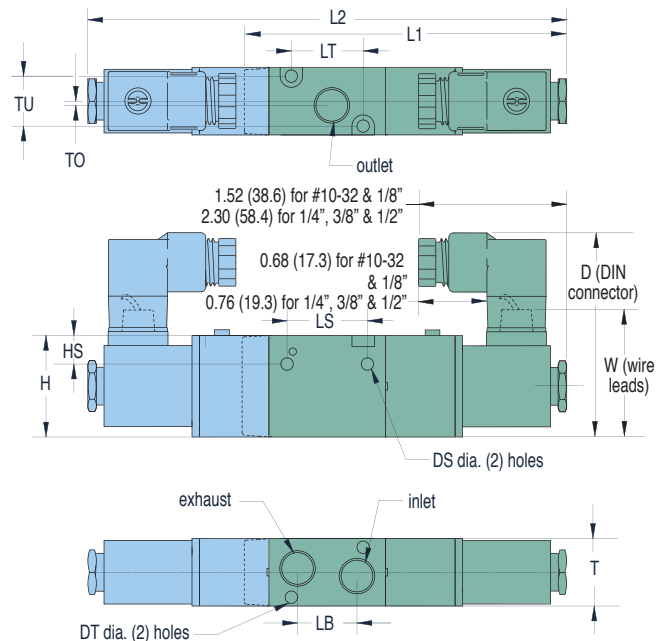
Number of Ports: 3

Mounting: Body Ported, Manifold Mount, Actuator (1/4" NPT only) or NAMUR (3/8" NPT only) available. See Page 216.

Manual Override: Non-locking on MME-31 series. Locking on all other models.

Power Consumption: 2.5 Watts on MME-31 series; 3 Watts for all others.

MAXIMUM
Value. →
→ Performance.



Dim.	MME-31	MME-32	MME-33	MME-34
D	2.14 (54.4)	2.65 (67.3)	2.71 (68.8)	2.94 (74.7)
DS	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)	0.22 (5.6)
DT	0.13 (3.3)	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)
H	1.07 (27.2)	1.38 (35.1)	1.58 (40.1)	1.97 (50.0)
HS	0.30 (7.6)	0.31 (7.9)	0.41 (10.4)	0.53 (13.5)
L1	3.38 (85.9)	4.39 (111.5)	4.70 (119.4)	5.39 (136.9)
L2	5.02 (127.5)	6.49 (164.8)	6.76 (171.7)	7.55 (191.8)
LB	0.63 (16.0)	0.71 (18.0)	0.94 (23.9)	1.42 (36.1)
LS	0.83 (21.1)	0.98 (24.9)	1.18 (30.0)	2.01 (51.1)
LT	0.75 (19.1)	1.30 (33.0)	1.37 (34.8)	1.61 (40.9)
T	0.71 (18.0)	0.87 (22.1)	0.78 (19.8)	1.34 (34.0)
TO	0.06 (1.5)	0.06 (1.5)	0.16 (4.1)	0.16 (4.1)
TU	0.50 (12.7)	0.65 (16.5)	0.80 (20.3)	1.07 (27.2)
W	1.32 (33.5)	1.51 (38.4)	1.54 (39.1)	1.73 (43.9)

Single Solenoid Valves		Double Solenoid Valves		Inlet	Outlet	Exhaust	Cv/scfm*
MME-31NES-		MME-31NEE-		#10-32	#10-32	#10-32	0.58/27
MME-31PES-		MME-31PEE-		1/8" NPT	1/8" NPT	1/8" NPT	0.67/31
MME-32QES-		MME-32QEE-		1/4" NPT	1/4" NPT	1/4" NPT	0.89/49
MME-33WES-		MME-33WEE-		3/8" NPT	3/8" NPT	3/8" NPT	1.68/93
MME-34ZES-		MME-34ZEE-		1/2" NPT	1/2" NPT	1/2" NPT	2.79/171

* scfm based on flow @ 100 psig

Add Electrical Connection and Voltage Choices to the end of each Base Part Number - Example: **MME-34ZEE-W024**

2-Position Single & Double Solenoid Valves



Maximatic® 4-way solenoid controlled pilot operated valves are either single solenoid spring return or double solenoid spool valves in #10-32 thread to 1/2" NPT port sizes.

Medium: Air (40 micron filtration) or Inert Gas

Operating Range: 20 to 125 psig

Electrical Connection: DIN connector with LED indicator ("-D"), or 18" Wire Lead ("-W")

Voltage: 12-volt DC ("-012"), 24-volt DC ("-024"), 24-volt AC ("-24A"), 110-volt AC ("-110"), or 220-volt AC ("-220")

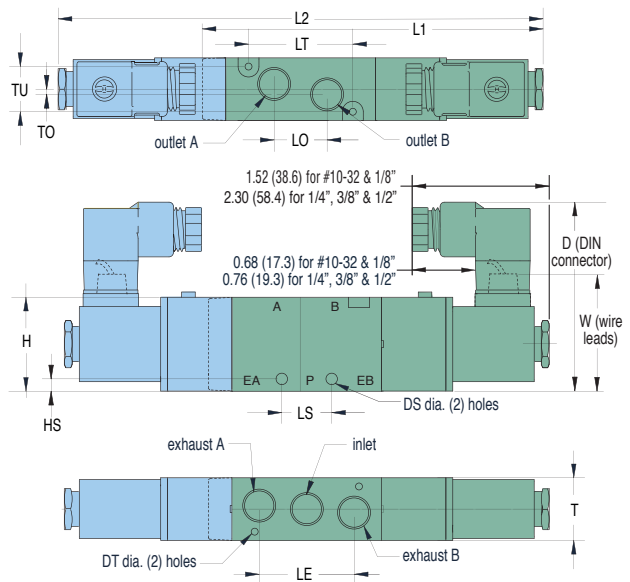
Number of Ports: 5

Mounting: Body Ported, Manifold Mount

Manual Override: Non-locking on MME-41 models. Locking on all other models.

Power Consumption: 2.5 Watts on MME-41 models; 3 Watts for all others.

Dim.	MME-41	MME-42	MME-43	MME-44
D	2.14 (54.4)	2.65 (67.3)	2.71 (68.8)	2.94 (74.7)
DS	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)	0.21 (5.3)
DT	0.13 (3.3)	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)
H	1.07 (27.2)	1.38 (35.1)	1.58 (40.1)	1.97 (50.0)
HS	0.16 (4.1)	0.28 (7.1)	0.26 (6.6)	0.29 (7.4)
L1	3.81 (96.8)	4.49 (114.0)	5.19 (131.8)	6.39 (162.3)
L2	5.54 (140.7)	6.49 (164.8)	7.24 (183.9)	8.48 (215.4)
LE	1.09 (27.7)	1.42 (36.1)	1.77 (45.0)	2.48 (63.0)
LO	0.63 (16.0)	0.74 (13.9)	0.96 (24.4)	1.42 (36.1)
LS	0.56 (14.2)	0.98 (24.9)	0.95 (24.1)	1.11 (28.2)
LT	1.18 (30.0)	1.40 (35.6)	1.97 (50.0)	2.82 (71.6)
T	0.71 (18.0)	0.86 (21.8)	1.06 (26.1)	1.34 (34.0)
TO	0.11 (2.8)	0.13 (3.3)	0.16 (4.1)	0.19 (4.8)
TU	0.50 (12.7)	0.65 (16.5)	0.80 (20.3)	1.07 (27.2)
W	1.32 (33.5)	1.51 (38.4)	1.54 (39.1)	1.73 (43.9)



Single Solenoid Valves		Double Solenoid Valves		Inlet	Outlet	Exhaust	Cv/scfm*
<u>MME-41NES-</u>		<u>MME-41NEE-</u>		#10-32	#10-32	#10-32	0.58/27
<u>MME-41PES-</u>		<u>MME-41PEE-</u>		1/8" NPT	1/8" NPT	1/8" NPT	0.67/31
<u>MME-42QES-</u>		<u>MME-42QEE-</u>		1/4" NPT	1/4" NPT	1/8" NPT	0.89/49
<u>MME-43WES-</u>		<u>MME-43WEE-</u>		3/8" NPT	3/8" NPT	1/4" NPT	1.68/93
<u>MME-44ZES-</u>		<u>MME-44ZEE-</u>		1/2" NPT	1/2" NPT	1/2" NPT	2.79/171

* scfm based on flow @ 100 psig

Add Electrical Connection and Voltage Choices to the end of each Base Part Number - Example: **MME-43WEE-D110**



MAXIMATIC® 3- & 4-WAY VALVES

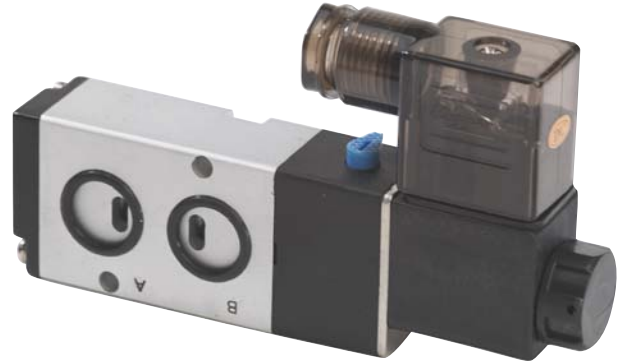


2-Position Single Solenoid Valves

1/4" & 3/8" NAMUR Style



MME-33WESB-D012



MME-32QESB-D220

Maximatic® 3-way and 4-way single solenoid spring return spool valves are also available in 1/4" NPT actuator mount or 3/8" NAMUR mount.

Medium: Air (40 micron filtration) or Inert Gas

Operating Range: 20 to 125 psig

Electrical Connection: DIN terminal with LED indicator ("-D"), or Grommet with 18" Wire Lead ("-W")

Voltage: 12-volt DC ("-012"), 24-volt DC ("-024"), 24-volt AC ("-24A"), 110-volt AC ("-110"), or 220-volt AC ("-220")

Number of Ports: 3 or 5

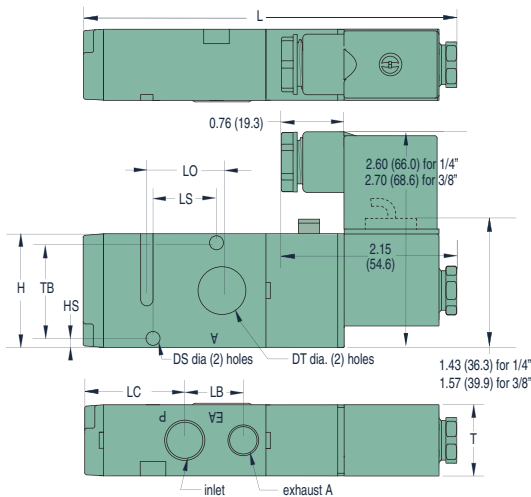
Mounting: Actuator (1/4" NPT only) or NAMUR (3/8" NPT only).

Manual Override: Locking

Power Consumption: 3 Watts

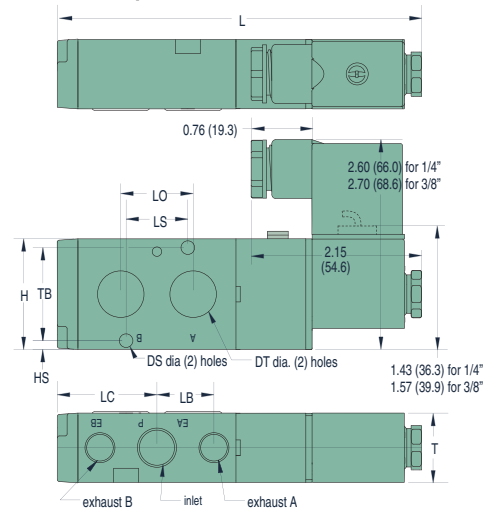
NAMUR/Actuator mount available on other 3- and 4-way Electronic and Air Pilot valves—
Call for specifications.

3-Way Solenoid Valves



Dim.	1/4" NPT	3/8" NPT
DS	0.17 (4.3)	0.22 (5.6)
DT	0.72 (18.3)	0.78 (19.8)
H	1.38 (35.1)	1.58 (40.1)
HS	0.09 (2.3)	0.15 (3.8)
L	4.49 (114.0)	5.19 (131.8)
LC	1.21 (30.7)	1.57 (39.9)
LB	0.71 (18.0)	0.94 (23.9)
LO	0.91 (23.1)	0.94 (23.9)
LS	0.79 (20.1)	0.94 (23.9)
T	0.86 (21.8)	1.06 (26.9)
TB	1.14 (29.0)	1.26 (32.0)

4-Way Solenoid Valves



3-Way Single Solenoid Valves

MME-32QESB-
MME-33WESB-



Supply Port

Outlet

Exhaust

Cv/scfm*

1/4" NPT

0.72"

1/4" NPT

0.89/49

3/8" NPT

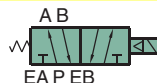
0.78"

1/4" NPT

1.68/93

4-Way Single Solenoid Valves

MME-42QESB-
MME-43WESB-



Supply Port

Outlet

Exhaust

Cv/scfm*

1/4" NPT

0.72"

1/4" NPT

0.89/49

3/8" NPT

0.78"

1/4" NPT

1.68/93

* scfm based on flow @ 100 psig

Add Electrical Connection and Voltage Choices to the end of each Base Part Number - Example: **MME-42QESB-D110**

3-Position Spring Centered Double Solenoid Valves



MME-44ZEED-024

Maximatic® 4-way double solenoid spring centered valves with closed center, pressure center or exhaust center spools are available from #10-32 thread to 1/2" NPT port sizes.

Medium: Air (40 micron filtration) or Inert Gas

Operating Range: 30 to 125 psig on MME-41 series, 20 to 125 psig on all others

Electrical Connection: DIN terminal with LED indicator ("-D"), or 18" Wire Lead ("-W")

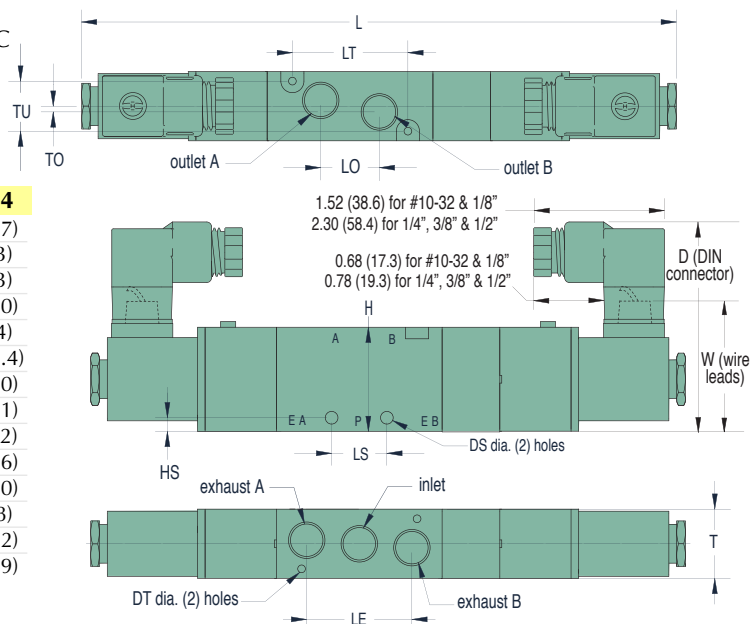
Voltage: 12-volt DC ("-012"), 24-volt DC ("-024"), 24-volt AC ("-24A"), 110-volt AC ("-110"), or 220-volt AC ("-220")

Number of Ports: 5

Mounting: Body Ported, Manifold Mount

Manual Override: Non-locking on MME-41 Series. Locking on all other models.

Power Consumption: 2.5 Watts on MME-41 models; 3 Watts for all others.



Dim.	MME-41	MME-42	MME-43	MME-44
D	2.14 (54.4)	2.65 (67.3)	2.71 (68.8)	2.94 (74.7)
DS	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)	0.21 (5.3)
DT	0.13 (3.3)	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)
H	1.07 (27.2)	1.38 (35.1)	1.58 (40.1)	1.97 (50.0)
HS	0.16 (4.1)	0.28 (7.1)	0.26 (6.6)	0.29 (7.4)
L	6.13 (155.7)	7.24 (183.9)	7.98 (202.7)	8.48 (215.4)
LE	1.09 (27.7)	1.42 (36.1)	1.77 (45.0)	2.48 (63.0)
LO	0.63 (16.0)	0.74 (18.8)	0.96 (24.4)	1.42 (36.1)
LS	0.56 (14.2)	0.98 (24.9)	0.95 (24.1)	1.11 (28.2)
LT	1.18 (30.0)	1.40 (35.6)	1.97 (50.0)	2.82 (71.6)
T	0.71 (18.0)	0.86 (21.8)	1.06 (26.9)	1.34 (34.0)
TO	0.11 (2.8)	0.13 (3.3)	0.16 (4.1)	0.19 (4.8)
TU	0.50 (12.7)	0.65 (16.5)	0.80 (20.3)	1.07 (27.2)
W	1.32 (33.5)	1.51 (38.4)	1.54 (39.1)	1.73 (43.9)



Closed Center	Pressure Center	Exhaust Center	Inlet	Outlet	Exhaust	Cv/scfm*
<u>MME-41NEEC-</u>	<u>MME-41NEEP-</u>	<u>MME-41NEEE-</u>	#10-32	#10-32	#10-32	0.50/23
<u>MME-41PEEC-</u>	<u>MME-41PEEP-</u>	<u>MME-41PEEE-</u>	1/8" NPT	1/8" NPT	1/8" NPT	0.50/23
<u>MME-42QEEC-</u>	<u>MME-42QEEP-</u>	<u>MME-42QEEE-</u>	1/4" NPT	1/4" NPT	1/8" NPT	0.89/49
<u>MME-43WEEC-</u>	<u>MME-43WEEP-</u>	<u>MME-43WEEE-</u>	3/8" NPT	3/8" NPT	1/4" NPT	1.00/72
<u>MME-44ZEED-</u>	<u>MME-44ZEED-</u>	<u>MME-44ZEED-</u>	1/2" NPT	1/2" NPT	1/2" NPT	1.68/93

* scfm based on flow @ 100 psig

Add Electrical Connection and Voltage Choices to the end of each Base Part Number - Example: **MME-41PEEP-W024**



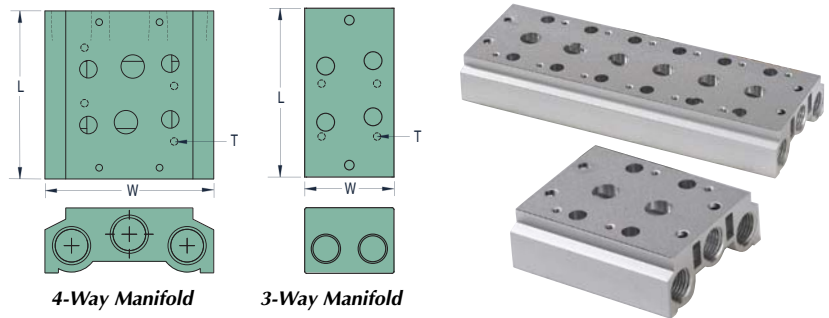
MAXIMATIC® VALVE ACCESSORIES

Rebuild Kits. Convenient rebuild kits are available which contain common maintenance items that may be needed during the life of the valve. Each contains a spool, diamond seal, two pilot seals, two pistons with seals, and spring. Consult factory for 3-position kits.

Part No.

27040-31	3-Way Kit, MME-31
27040-32	3-Way Kit, MME-32
27040-33	3-Way Kit, MME-33
27040-34	3-Way Kit, MME-34
27040-41	4-Way 2 Pos. Kit, MME-41
27040-42	4-Way 2 Pos. Kit, MME-42
27040-43	4-Way 2 Pos. Kit, MME-43
27040-44	4-Way 2 Pos. Kit, MME-44

Parallel Bar Manifolds



Valve Series	"L" Dimension					"T" Mtg. Thd.
	2-Station	4-Station	6-Station	8-Station	16-Station	
MME-31/41	2.24 (56.9)	3.73 (94.7)	5.25 (133.4)	6.75 (171.5)	12.69 (322.3)	M4
MME-32/42	2.71 (68.8)	4.50 (114.3)	6.33 (160.8)	8.13 (206.5)	15.38 (390.7)	M4
MME-33/43	3.22 (81.8)	5.42 (137.7)	7.62 (193.5)	9.82 (249.4)	18.63 (473.2)	M5
MME-34/44	3.85 (97.8)	6.56 (166.6)	9.38 (238.3)	12.10 (307.3)	23.11 (587.0)	M5

Parallel circuit manifold bars are available for all sizes of MME 3- and 4-way valves. Manifolds are made in increments of two stations from 2 to 16, and are supplied with mounting screws and gaskets. Spare kits are also available which include two screws and a gasket. Blank plate supplied with one gasket, two screws and metal plate.

Valve Series	Manifold Inlet/						
	Exhaust	Blank Plate	2-Station	4-Station	6-Station	8-Station	16-Station
3-Way Valve Manifolds							
MME-31	1/8"	MMM-31-B	MMM-31-02	MMM-31-04	MMM-31-06	MMM-31-08	MMM-31-16
MME-32	1/4"	MMM-32-B	MMM-32-02	MMM-32-04	MMM-32-06	MMM-32-08	MMM-32-16
MME-33	3/8"	MMM-33-B	MMM-33-02	MMM-33-04	MMM-33-06	MMM-33-08	MMM-33-16
MME-34	1/2"	MMM-34-B	MMM-34-02	MMM-34-04	MMM-34-06	MMM-34-08	MMM-34-16

3-Way Spare Mounting Kit Hardware

27041-31 Hardware Kit for MME-31 Series Valves	27041-33 Hardware Kit for MME-33 Series Valves
27041-32 Hardware Kit for MME-32 Series Valves	27041-34 Hardware Kit for MME-34 Series Valves

Valve Series	Manifold Inlet/						
	Exhaust	Blank Plate	2-Station	4-Station	6-Station	8-Station	16-Station
4-Way Valve Manifolds							
MME-41	1/4"	MMM-41-B	MMM-41-02	MMM-41-04	MMM-41-06	MMM-41-08	MMM-41-16
MME-42	1/4"	MMM-42-B	MMM-42-02	MMM-42-04	MMM-42-06	MMM-42-08	MMM-42-16
MME-43	3/8"	MMM-43-B	MMM-43-02	MMM-43-04	MMM-43-06	MMM-43-08	MMM-43-16
MME-44	1/2"	MMM-44-B	MMM-44-02	MMM-44-04	MMM-44-06	MMM-44-08	MMM-44-16

4-Way Spare Mounting Kit Hardware

27041-41 Hardware Kit for MME-41 Series Valves	27041-43 Hardware Kit for MME-43 Series Valves
27041-42 Hardware Kit for MME-42 Series Valves	27041-44 Hardware Kit for MME-44 Series Valves

Replacement Coils



Description	2.5 Watt	3.0 Watt	6.5 Watt
	#10-32 & 1/8"	1/4", 3/8" & 1/2"	Direct-Acting
DIN Connectors			
12-Volt DC	27001-D012	27065-D012	27002-D012
24-Volt DC	27001-D024	27065-D024	27002-D024
110-Volt AC	27001-D110	27065-D110	27002-D110
220-Volt AC	27001-D220	27065-D220	27002-D220
24-Volt AC	27001-D24A	27065-D24A	27002-D24A
Wire Leads			
12-Volt DC	27001-W012	27065-W012	27002-W012
24-Volt DC	27001-W024	27065-W024	27002-W024
110-Volt AC	27001-W110	27065-W110	27002-W110
220-Volt AC	27001-W220	27065-W220	27002-W220
24-Volt AC	27001-W24A	27065-W24A	27002-W24A

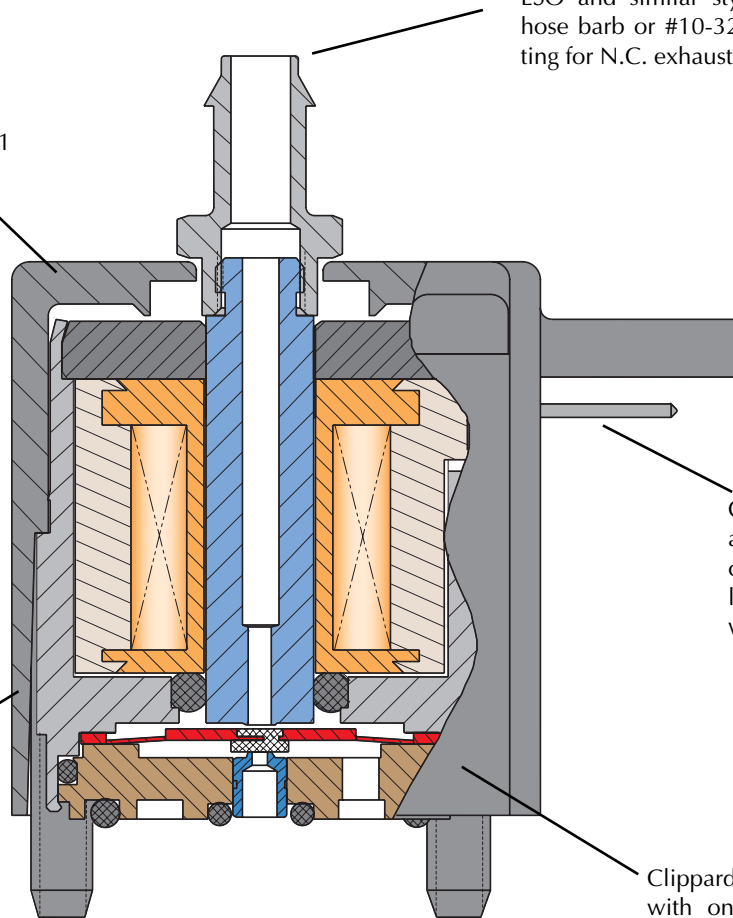
Replacement coils for solenoid valves are available in voltages from 12 VDC to 220 VAC with either DIN connector or 18" wire leads. Refer to DIN Connectors on [Page 235](#).

ES, ESO SERIES COMPACT VALVES

Valves are small in size with a variety of coil voltages and flow options. Mounting is as close as 7/8" on center.

Housing is molded Zytel® ST 801 for toughness and rigidity.

ESO and similar styles have top hose barb or #10-32 threaded fitting for N.C. exhaust or N.O. inlet.



Valves feature low power, cool running, quiet operation and fast response time. They convert low voltage, low current signals into high pressure pneumatic outputs.

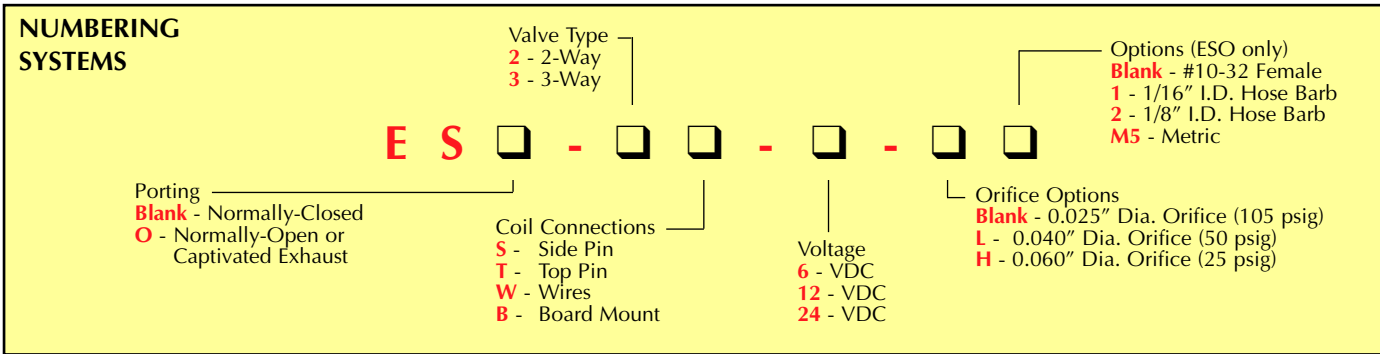
Coils are available with an AMP# 103959-2 pin connection or 18" wire leads which utilize #26 wire.

Clippard ES valves are unique, with only one internal moving part that travels a mere 0.007 inches.

Zytel® is a registered trademark of E.I. DuPont



ES, ESO SERIES VALVES



Quality Design

The compact ES valve, like Clippard EV and ET valves, converts low voltage, low current signals into high pressure (0 to 105 psig) pneumatic outputs, utilizing a unique, patented, valving principle. Since there are no sliding parts, and complete poppet travel is only 0.007", low power consumption and exceptionally long life are assured with this design. No flow is required for cooling because the compact ES is cool, as well as quiet, in operation.

The compact nature of design makes this valve well suited to a wide range of applications in biomedical, environmental test equipment, textile machines, packaging machinery, computerized industrial automation, and portable systems.



Features

- Temperature Range: 30 to 180°F
- Medium: Air (40 micron filtration)
- Low power consumption - 1 watt at rated voltage
- Close mounting - 7/8" on center
- Voltage Options: 6, 12 or 24 VDC
- Overall height less than 1"
- Easy to mount on manifold with two #4-40 screws
- Response: 5 to 10 milliseconds at max rated pressure
- Geometric design
- Polymer housing - Zytel ST 801® super tough
- Pin connectors - AMP # [103959-2](#) or 18" wire leads: #26 wire
- Flow up to 0.6 scfm/15 l/min

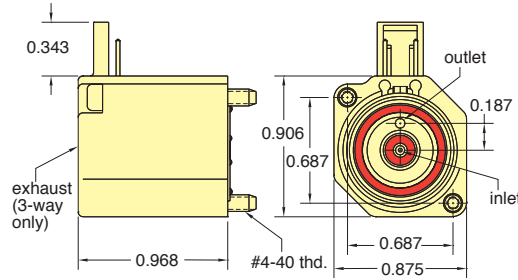
Zytel ST 801® super tough is a registered trademark of DuPont

NOMINAL			Power (watts)	Working Range (cont. duty)
Voltage	Current (amps)	Resistance (ohms)		
6	0.17	36	1.0	90% to 150% of rated voltage
12	0.083	144	1.0	
24	0.042	576	1.0	

ES SERIES 2- & 3-WAY VALVES



Normally-Closed 2 & 3-Way Electronic Poppet Valves with Side Pin Connector



Input Pressure: 28" Hg Vac. to 105 psig
28" Hg Vac. to 50 psig (L)
25" Hg Vac. to 50 psig (H)

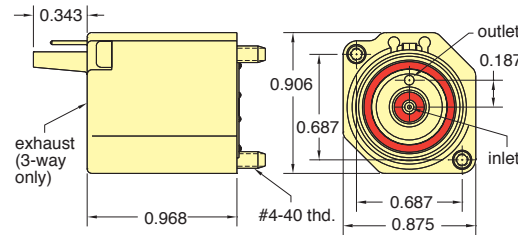
Air Flow: 0.6 scfm @ 100 psig
0.5 scfm @ 50 psig (L)
0.45 scfm @ 25 psig (H)

Ports: Inlet and outlet through manifold;
3-way exhaust through top of valve (3-way only)

Order No.

- ES-2S** 2-Way Electronic Poppet Valve
- ES-3S** 3-Way Electronic Poppet Valve

Normally-Closed 2- & 3-Way Electronic Poppet Valves with Top Pin Connector



Input Pressure: 28" Hg Vac. to 105 psig
28" Hg Vac. to 50 psig (L)
25" Hg Vac. to 50 psig (H)

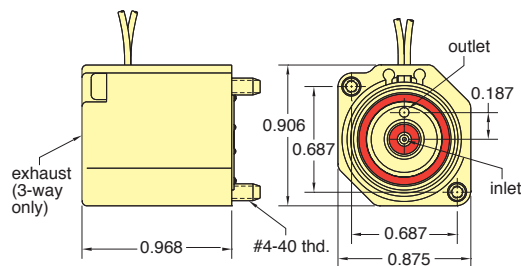
Air Flow: 0.6 scfm @ 100 psig
0.5 scfm @ 50 psig (L)
0.45 scfm @ 25 psig (H)

Ports: Inlet and outlet through manifold;
3-way exhaust through top of valve (3-way only)

Order No.

- ES-2T** 2-Way Electronic Poppet Valve
- ES-3T** 3-Way Electronic Poppet Valve

Normally-Closed 2- & 3-Way Electronic Poppet Valves with Wire Leads



Input Pressure: 28" Hg Vac. to 105 psig
28" Hg Vac. to 50 psig (L)
25" Hg Vac. to 50 psig (H)

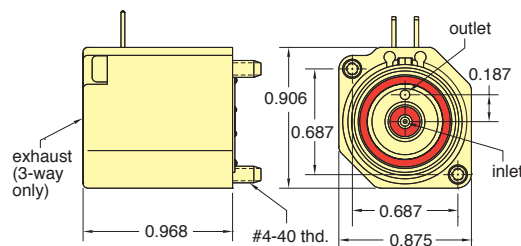
Air Flow: 0.6 scfm @ 100 psig
0.5 scfm @ 50 psig (L)
0.45 scfm @ 25 psig (H)

Ports: Inlet and outlet through manifold;
3-way exhaust through top of valve (3-way only)

Order No.

- ES-2W** 2-Way Electronic Poppet Valve
- ES-3W** 3-Way Electronic Poppet Valve

Normally-Closed 2- & 3-Way Electronic Poppet Valves with Board Mount



Input Pressure: 28" Hg Vac. to 105 psig
28" Hg Vac. to 50 psig (L)
25" Hg Vac. to 50 psig (H)

Air Flow: 0.6 scfm @ 100 psig
0.5 scfm @ 50 psig (L)
0.45 scfm @ 25 psig (H)

Ports: Inlet and outlet through manifold;
3-way exhaust through top of valve (3-way only)

Order No.

- ES-2B** 2-Way Electronic Poppet Valve
- ES-3B** 3-Way Electronic Poppet Valve

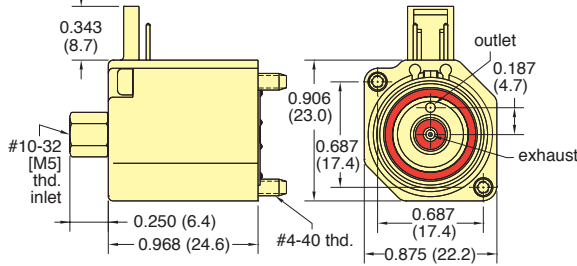
For Cable and Connectors, see [Page 224](#).



ESO SERIES 3-WAY VALVES

ESO-3S- □

Fully Ported 3-Way Electronic Poppet Valve with Side Pin Connector



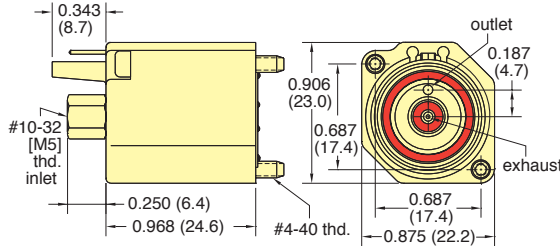
Input Pressure: 28" Hg Vac. to 105 psig;
 0 to 7 bar
 28" Hg Vac. to 50 psig (L);
 0 to 3.5 bar
 25" Hg Vac. to 50 psig (H);
 0 to 1.8 bar

Air Flow: 0.6 scfm @ 100 psig;
 15 l/min @ 7 bar
 0.5 scfm @ 50 psig (L);
 15 l/min @ 3.5 bar
 0.45 scfm @ 25 psig (H);
 14 l/min @ 1.8 bar

Ports: Exhaust and outlet through manifold;
 3-way supply (#10-32/M5) through top of valve
Metric: Add -M5 to Part Number

ESO-3T- □

Fully Ported 3-Way Electronic Poppet Valve with Top Pin Connector



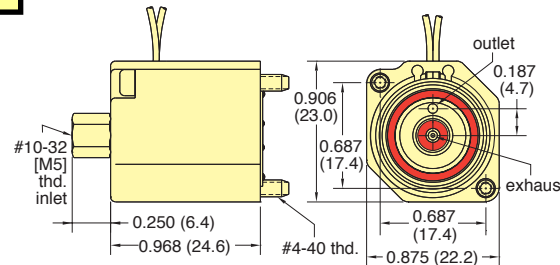
Input Pressure: 28" Hg Vac. to 105 psig;
 0 to 7 bar
 28" Hg Vac. to 50 psig (L);
 0 to 3.5 bar
 25" Hg Vac. to 50 psig (H);
 0 to 1.8 bar

Air Flow: 0.6 scfm @ 100 psig;
 15 l/min @ 7 bar
 0.5 scfm @ 50 psig (L);
 15 l/min @ 3.5 bar
 0.45 scfm @ 25 psig (H);
 14 l/min @ 1.8 bar

Ports: Exhaust and outlet through manifold;
 3-way supply (#10-32/M5) through top of valve
Metric: Add -M5 to Part Number

ESO-3W- □

Fully Ported 3-Way Electronic Poppet Valve with Wire Leads



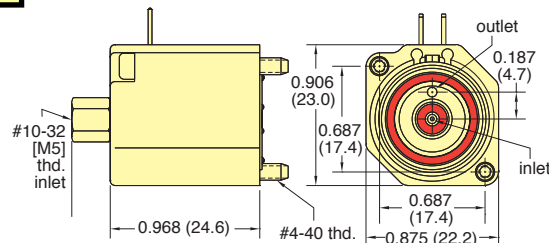
Input Pressure: 28" Hg Vac. to 105 psig;
 0 to 7 bar
 28" Hg Vac. to 50 psig (L);
 0 to 3.5 bar
 25" Hg Vac. to 50 psig (H);
 0 to 1.8 bar

Air Flow: 0.6 scfm @ 100 psig;
 15 l/min @ 7 bar
 0.5 scfm @ 50 psig (L);
 15 l/min @ 3.5 bar
 0.45 scfm @ 25 psig (H);
 14 l/min @ 1.8 bar

Ports: Exhaust and outlet through manifold;
 3-way supply (#10-32/M5) through top of valve
Metric: Add -M5 to Part Number

ESO-3B- □

Fully Ported 3-Way Electronic Poppet Valve with Board Mount



Input Pressure: 28" Hg Vac. to 105 psig;
 0 to 7 bar
 28" Hg Vac. to 50 psig (L);
 0 to 3.5 bar
 25" Hg Vac. to 50 psig (H);
 0 to 1.8 bar

Air Flow: 0.6 scfm @ 100 psig;
 15 l/min @ 7 bar
 0.5 scfm @ 50 psig (L);
 15 l/min @ 3.5 bar
 0.45 scfm @ 25 psig (H);
 14 l/min @ 1.8 bar

Ports: Exhaust and outlet through manifold;
 3-way supply (#10-32/M5) through top of valve
Metric: Add -M5 to Part Number

For Cable and Connectors, see [Page 224](#).

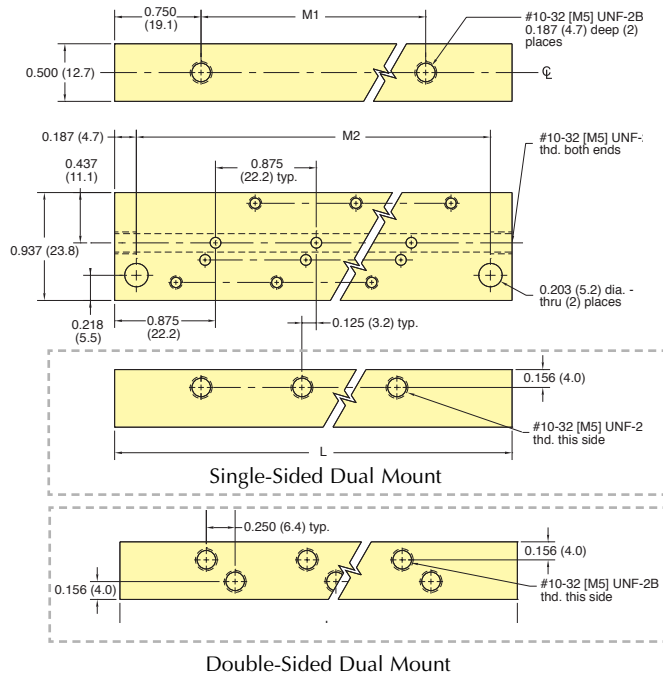


26081-□

Single-Sided Dual Mount



Suffix	Valves	L	M1	M2
-4	4	4.375"	2.875"	4.000"
-4-M5	4	111.1 mm	73.0 mm	101.6 mm
-6	6	6.125"	4.625"	5.750"
-6-M5	6	155.6 mm	117.5 mm	146.1 mm
-8	8	7.875"	6.375"	7.500"
-8-M5	8	200.0 mm	161.9 mm	190.5 mm



26082-□

Double-Sided Dual Mount

Suffix	Valves	L	M1	M2
-8	8	4.375"	2.875"	4.000"
-8-M5	8	111.1 mm	73.0 mm	101.6 mm
-12	12	6.125"	4.625"	5.750"
-12-M5	12	155.6 mm	117.5 mm	146.1 mm
-16	16	7.875"	6.375"	7.500"
-16-M5	16	200.0 mm	161.9 mm	190.5 mm

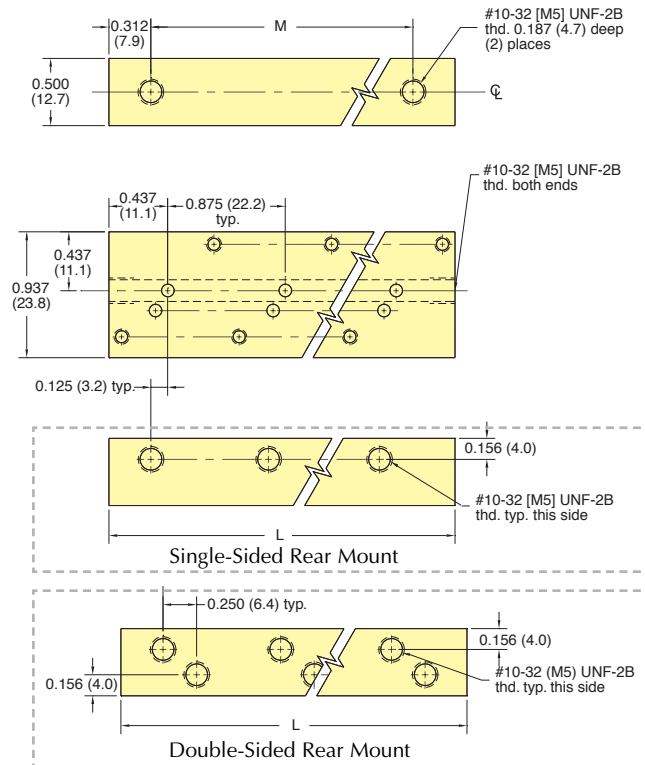
* ESM-CP plate is to cover individual unused manifold station.

26083-□

Single-Sided Rear Mount



Suffix	Valves	L	M
-4	4	3.500"	2.875"
		88.9 mm	73.0 mm
-6	6	5.250"	4.625"
		133.4 mm	117.5 mm
-8	8	7.000"	6.375"
		177.8 mm	161.9 mm



26084-□

Double-Sided Rear Mount

Suffix	Valves	L	M
-8	8	3.500"	2.875"
-8-M5	8	88.9 mm	73.0 mm
-12	12	5.250"	4.625"
-12-M5	12	133.4 mm	117.5 mm
-16	16	7.000"	6.375"
-16-M5	16	177.8 mm	161.9 mm

* ESM-CP cover plate is available for one manifold station.

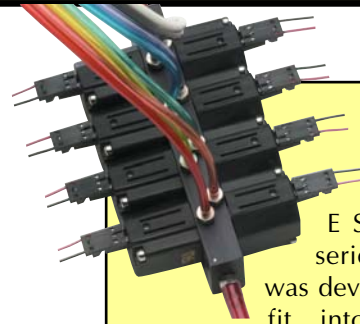
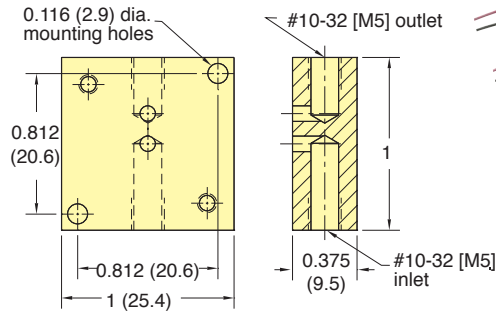


ES, ESO SERIES VALVES SINGLE MANIFOLDS

26090-1



Single Station Side Port Manifold

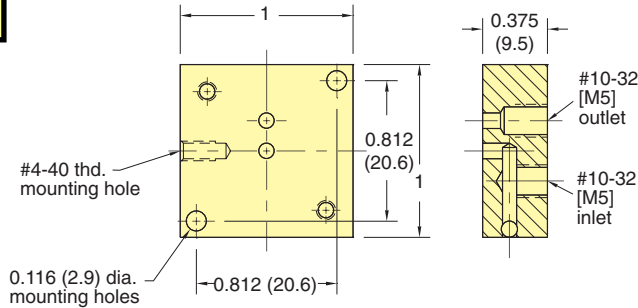


The ES/ESO series valve was developed to fit into tighter physical envelopes. By reducing the size of the base as well as the size of the coil, a considerable volume savings was achieved.

26090-2



Single Station Bottom Port Manifold

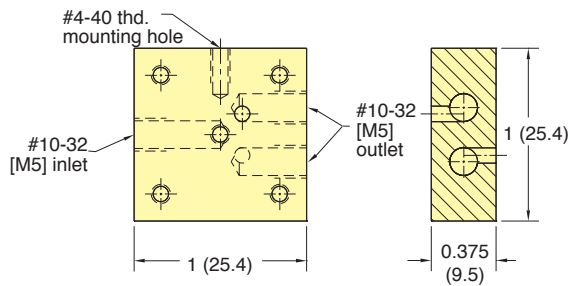


As in the case of the EV/EVO product, the ES/ESO uses the single moving part design proven many times in the EV/ET/EC series valves. Of course, given the reduced size of the coil the power to operate increases to 1 watt.

26090-3



Dual Station Manifold

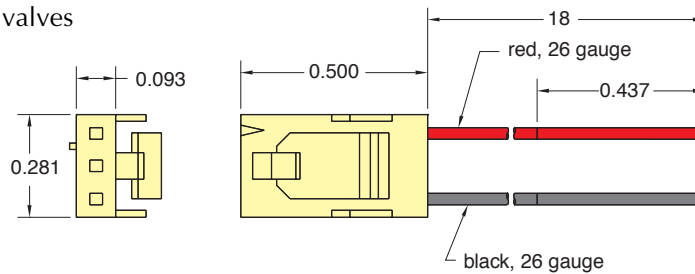


Because of its reliability, the ES/ESO series valve is found in many of the same applications and industries as its predecessor, the EV/ET/EC. However, the smaller size finds it used more commonly in portable or mobile equipment. This makes the valve particularly applicable in home healthcare applications.

C3-RXB18



AMP Connector #103960-2 with 18" wire leads for ES/ESO valves

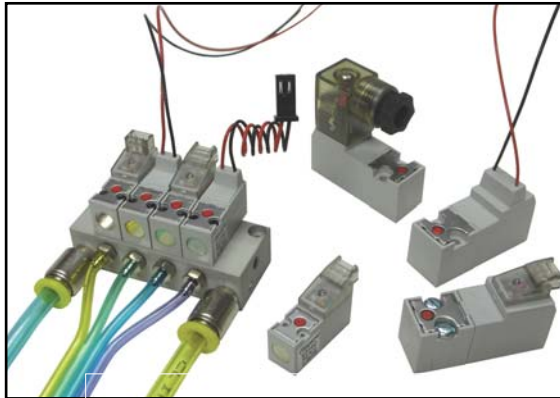


Lead Set Chart For ES Valve						
Part No.	Used On	Wire Colors			Lead Length	Wire Gage
		Pin 1	Pin 2	Pin 3		
C3-RXB18	ES	red	~	black	18"	#26

10 mm & 15 mm MINIATURE VALVES



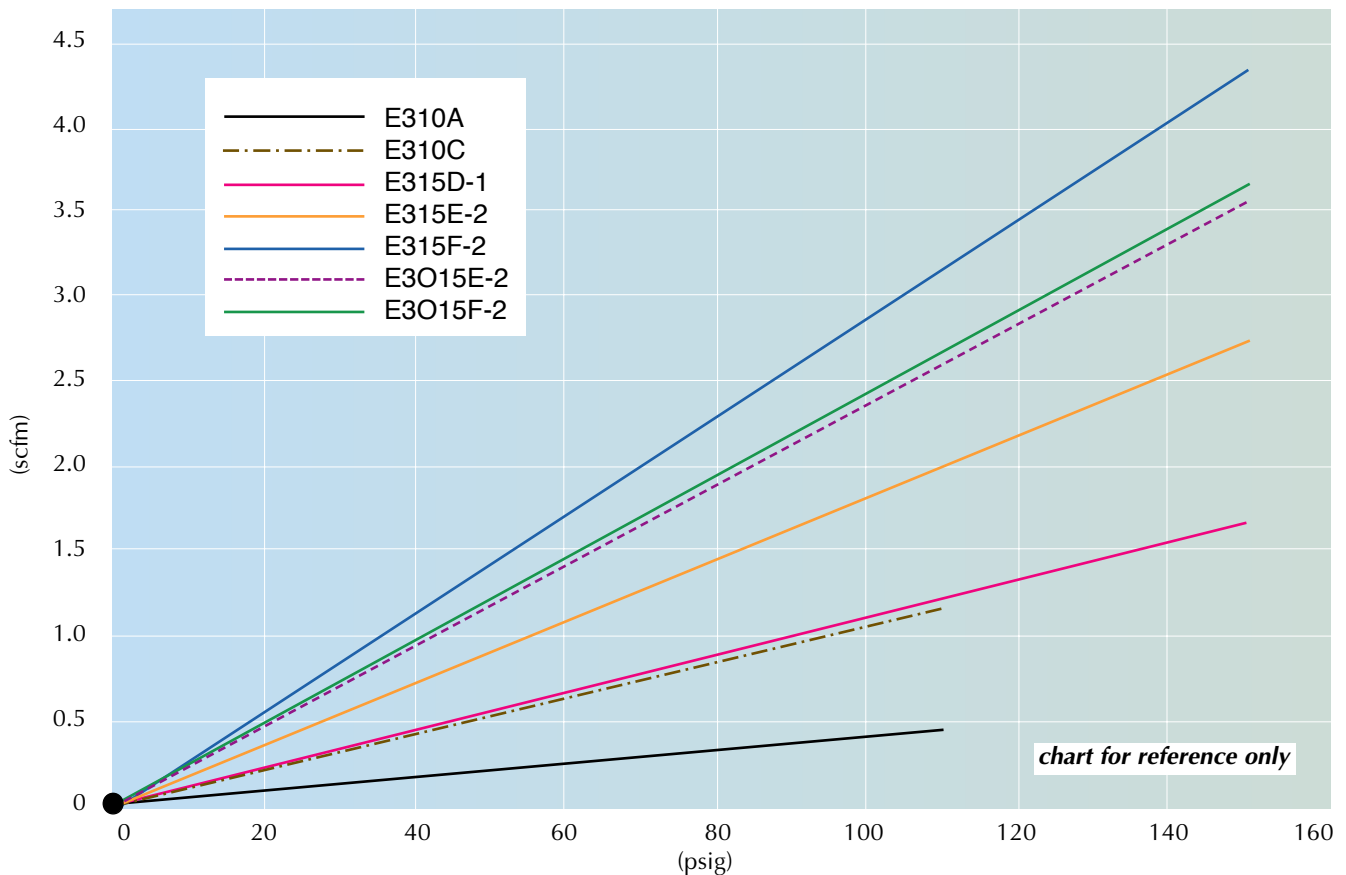
All of the benefits of Clippard quality and reliability are now available in these 10 mm and 15 mm valves. Offered in both Normally-Open or Normally-Closed models, these 2-way and 3-way valves are perfect for small and compact areas where pneumatic controls are needed.



This series has a high strength, light-weight engineered glass filled nylon body, along with stainless steel, copper and Buna-N, making it suitable for a broad range of applications. With exceptional life and reliability this is the perfect sub-miniature valve for tomorrow's needs in a wide variety of industries.

All 10 mm and 15 mm valves are RoHS compliant.

Typical Air Flow



Valve Material: Glass filled Nylon, Stainless Steel, Buna-N or Fluorocarbon Elastomer

Electrical: The coil is constructed of copper wire and is isolated according to the class "F" standard. All circuitry and connections are protected from corrosion.

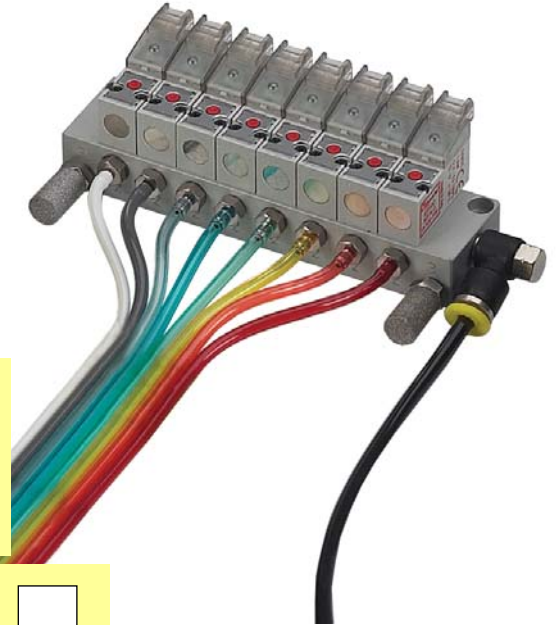
Weight: Weighing in at a mere 0.4 ounces is the 10 mm valve, and in the other corner the 15 mm checks in at 1.3 ounces!



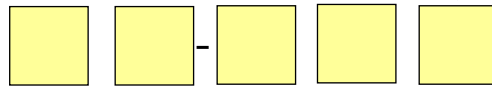
10 MM MINIATURE VALVES

Part Numbering System

Valve Type	Choose	<input type="text"/>
2-Way Normally-Closed	E210	<input type="text"/>
3-Way Normally-Closed	E310	
3-Way Normally-Open	E3O10	
Orifice Size	Choose	<input type="text"/>
0.020" (0.5 mm)	A	<input type="text"/>
0.030" (0.75 mm)	C	
Power	Choose	<input type="text"/>
0.6 Watts	1	<input type="text"/>
1.3 Watts	2	
Electrical Connector	Choose	<input type="text"/>
In-Line Connector	F	<input type="text"/>
In-Line Connector with LED	C	
90° Connector	E	
90° Connector with LED	L	
Wire Leads, 11.8" (300 mm)	W	
Voltage	Choose	<input type="text"/>
12-Volt DC	012	<input type="text"/>
24-Volt DC	024	



This numbering schematic is shown for illustration purposes only. All possible configurations are not available. For standard models, see the products illustrated in this catalog.



Example: **E210A - 1C012**



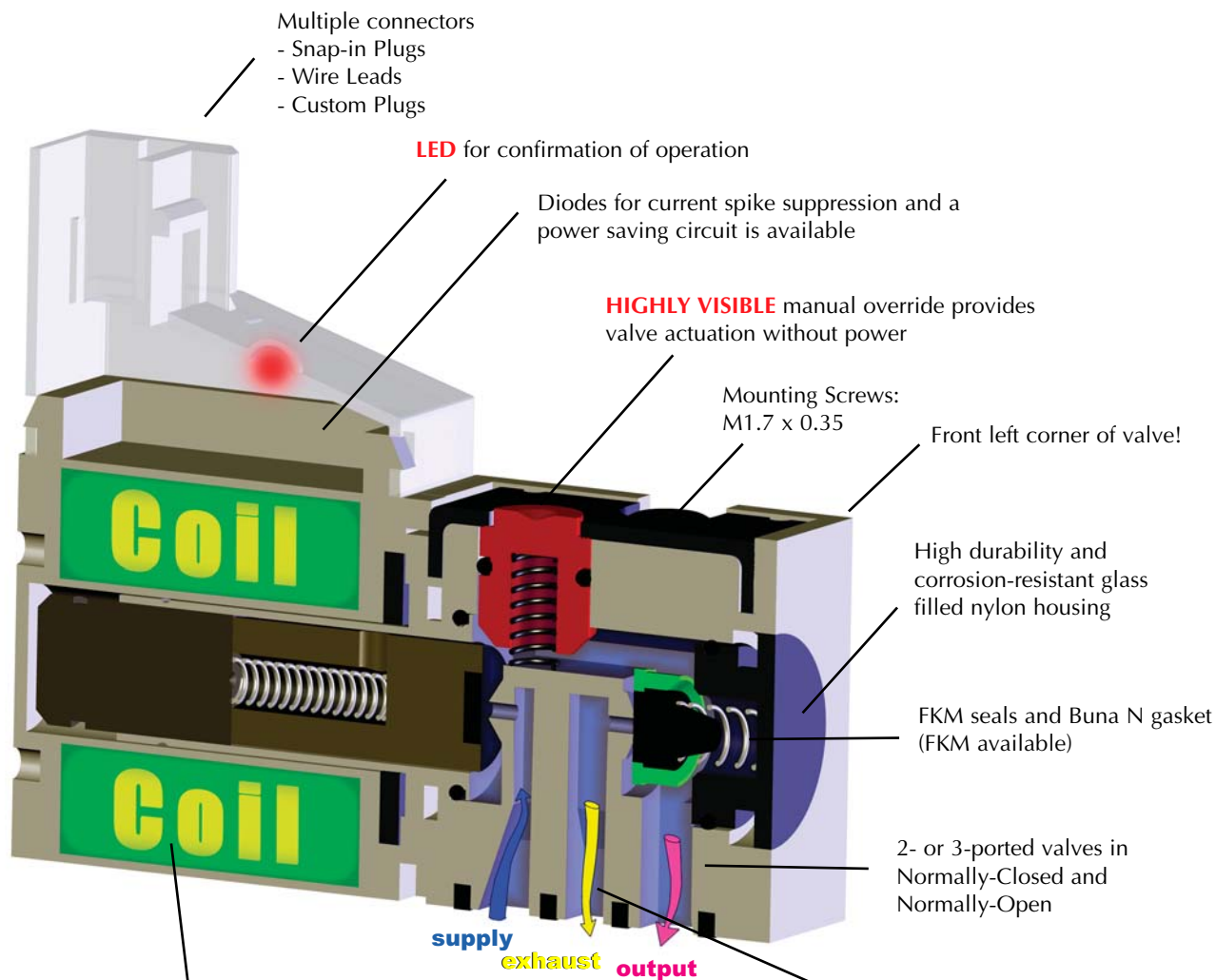
Another feature of the Clippard 10 mm valve is the ability to detach the coil and connector from the valve body. This can be useful for the purpose of orientating the coil by 180°, or exchanging connector types or voltages.

Normally-Closed	Silver
Normally-Open	Black

Clippard also helps you identify the valve you have by color coding the top plate. If it is silver, the valve is a Normally-Closed version—if it is black, the valve is Normally-Open.

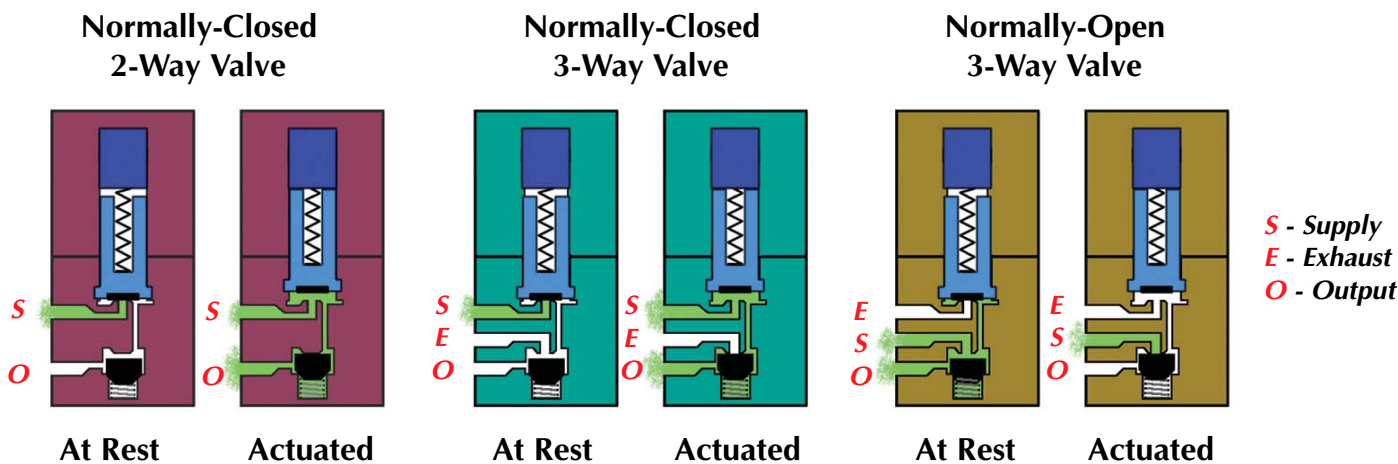


10 MM MINIATURE VALVES



Enclosed low wattage coils. Available in 12 VDC or 24 VDC. Special voltages available for OEMs.

Functional Schematics





10 MM MINIATURE VALVES

Specifications

Medium: Air, Gas or other Compatible Fluids

Electrical: 12 VDC or 24 VDC

Working Pressure: Vacuum to 110 psig/7.6 bar max.
See Chart below

Power Consumption: 0.5 or 1.3 watts dependent on orifice size and pressure

Max. Flow Rate: 0.020" Orifice: 0.5 scfm (14 l/min);
0.030" Orifice: 0.8 scfm (23 l/min)

Material: Stainless steel core and springs, springs, nylon body, FKM seals, and Buna-N gasket. FKM gasket available, consult factory

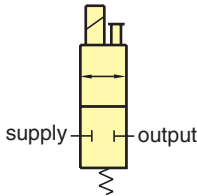
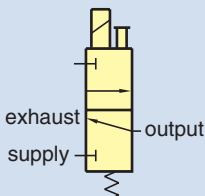
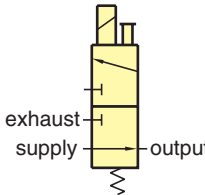
Exhaust Flow: 0.8 scfm (23 l/min)

Response Time: 8 ms when energized; 10 ms when de-energized

Temperature Range: 23 to 122°F (-5 to 50°C)

tested to over
100 million
cycles!

Order Information

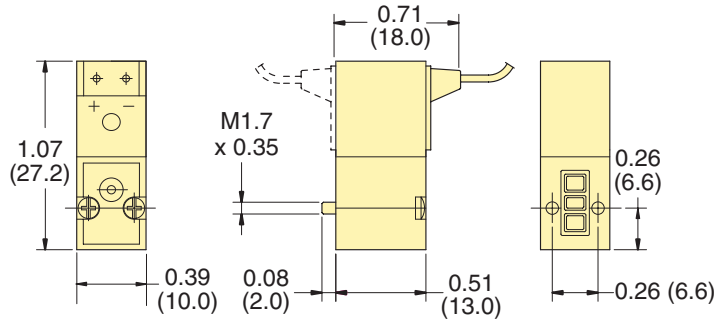
Type	Base No.	Connector	Orifice	Wattage	Working Pressure
2/2 Normally Closed 	E210A-1E*	90° Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E210C-2E*	90° Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
	E210A-1L*	90° Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E210C-2L*	90° Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
	E210A-1F*	In-Line Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E210C-2F*	In-Line Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
	E210A-1C*	In-Line Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E210C-2C*	In-Line Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
3/2 Normally Closed 	E310A-1E*	90° Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E310C-2E*	90° Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
	E310A-1L*	90° Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E310C-2L*	90° Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
	E310A-1F*	In-Line Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E310C-2F*	In-Line Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
	E310A-1C*	In-Line Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E310C-2C*	In-Line Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
3/2 Normally Open 	E3O10A-1E*	90° Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3O10C-2E*	90° Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3O10A-1L*	90° Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3O10C-2L*	90° Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3O10A-1F*	In-Line Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3O10C-2F*	In-Line Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3O10A-1C*	In-Line Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3O10C-2C*	In-Line Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3O10A-1W*	Wire Leads, 11.8" (300 mm)	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3O10C-2W*	Wire Leads, 11.8" (300 mm)	0.030"	1.3	Vac - 110 psig/7.6 bar

*Add Voltage Choice to the end of each Base Part Number. Example: [E210A-1C012](#)

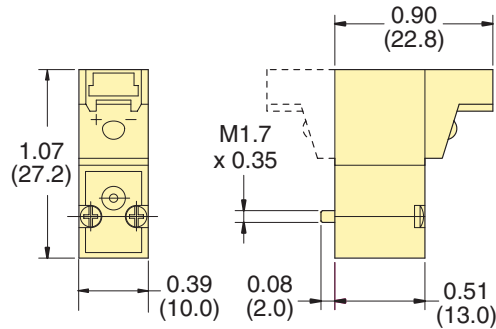
10 MM MINIATURE VALVES



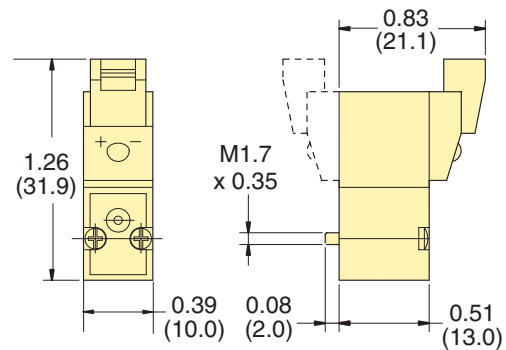
Wire Leads



90° Connector



In-Line Connector



Electrical Specifications

Power (Wattage)	Voltage	Voltage Tolerance	Response Time (Energized)	Response Time (De-Energized)	Copper Wire Insulation Class
0.5	12 VDC 24 VDC	-10% to 10%	8 ms	10 ms	F 311°F (155°C)
1.3	12 VDC 24 VDC	-10% to 10%	8 ms	10 ms	F 311°F (155°C)



10 MM MINIATURE VALVE ACCESSORIES

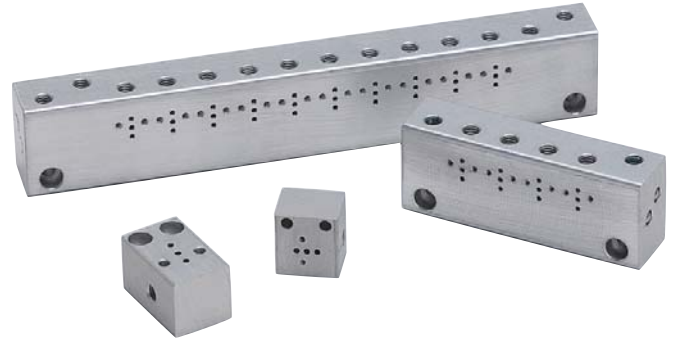
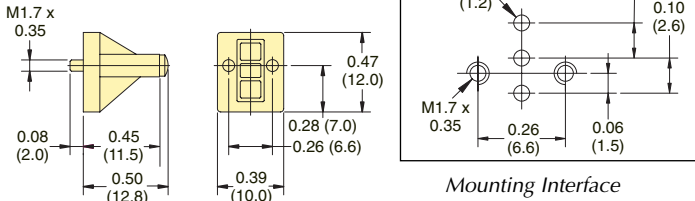


Cover Plate

Manifold Cover Plate includes plate, gasket and two screws.

Order No.
E10M-CP

10 mm Cover Plate



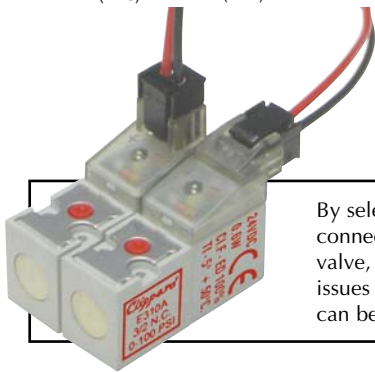
Manifolds

Manifolds are available for one to 12 valves, and are supplied with mounting screws and gaskets. Spare hardware and closing plates also available. Add -M5 for Metric ports.

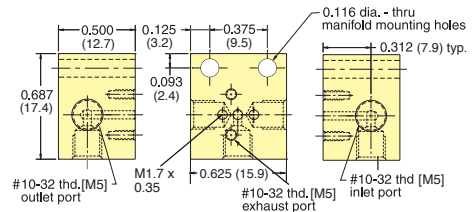
Order No.

E10M-01

Single Station Manifold



By selecting the appropriate connector type for your 10 mm valve, tight spaces, orientation issues and electrical requirements can be accommodated easily.



Connectors

Wire Connector must be ordered separately.

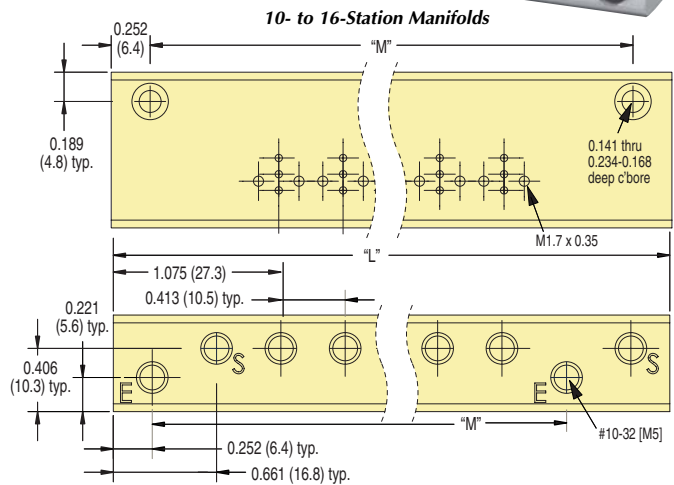
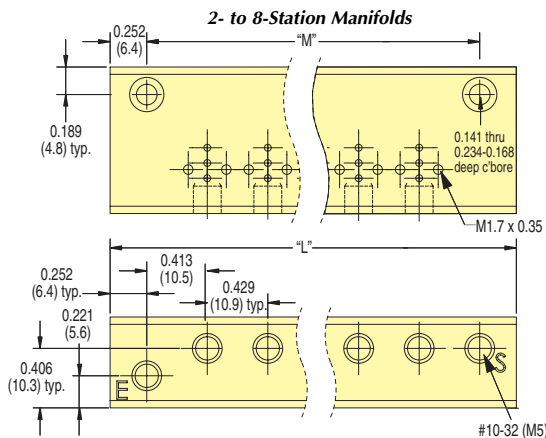


Order No.

- C2A-RB300** Connector with Cable, 11.8" (300 mm)
- C2A-RB500** Connector with Cable, 19.69" (500 mm)
- C2A-RB1000** Connector with Cable, 39.37" (1,000 mm)

Molex connector #050013-80000.

Multi-Station Manifolds

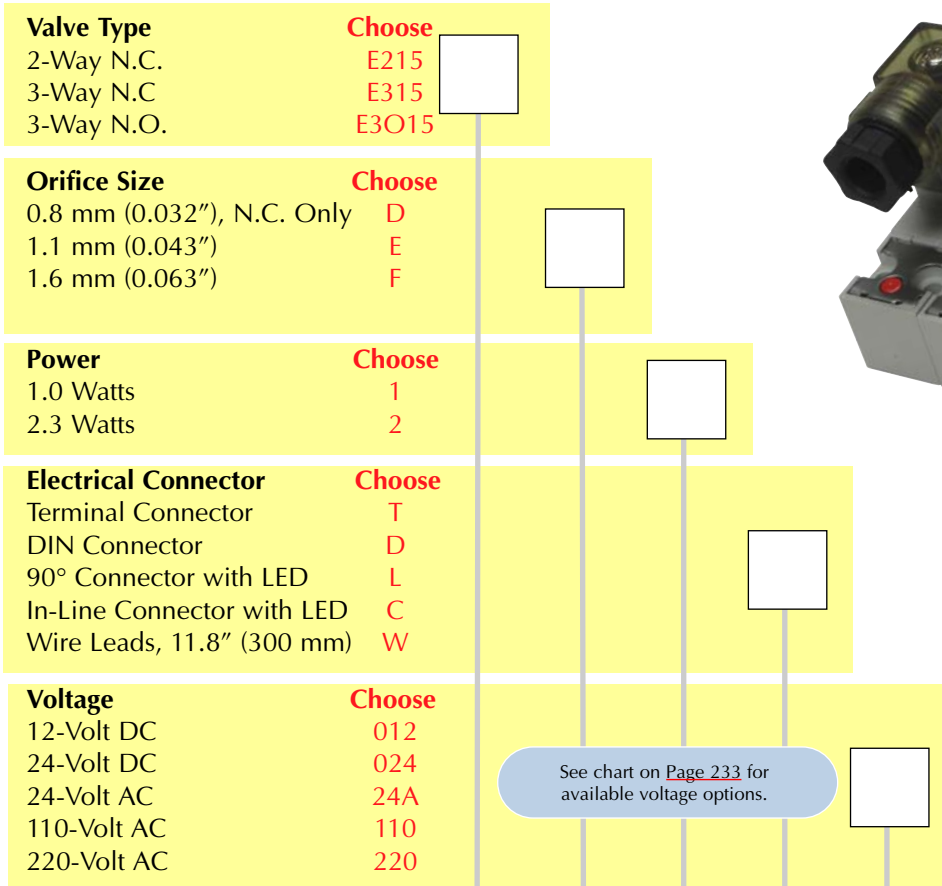


Part No.	Stations	"L"	"M"	Part No.	Stations	"L"	"M"	Part No.	Stations	"L"	"M"
E10M-01	1			E10M-06	6	3.39 (86.1)	2.90 (73.7)	E10M-12	12	6.70 (170.2)	6.20 (157.5)
E10M-02	2	1.74 (44.2)	1.24 (31.5)	E10M-08	8	4.22 (107.2)	3.72 (94.5)	E10M-14	14	7.52 (191.0)	7.02 (178.3)
E10M-04	4	2.57 (65.3)	2.07 (52.6)	E10M-10	10	5.87 (149.1)	5.37 (136.4)	E10M-16	16	8.35 (212.1)	7.85 (199.4)

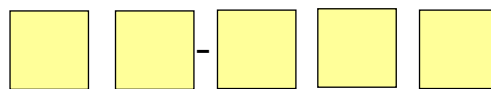
Add "-M5" for metric threads. Consult factory for custom manifolds.



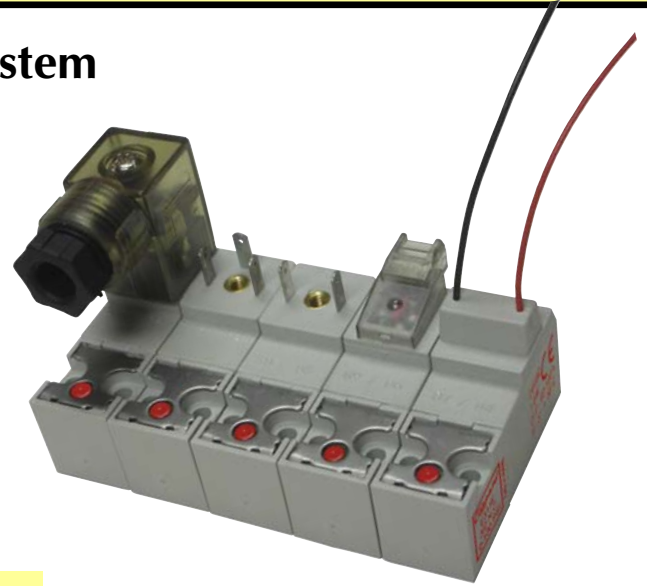
Part Numbering System



This numbering schematic is shown for illustration purposes only. All possible configurations are not available. For standard models, see the products illustrated in this catalog.



Example: **E315F-1C24A**



Custom plugs, wire lengths, connectors and flavors are available for your specific requirements. Call for details.

Electrical Specifications

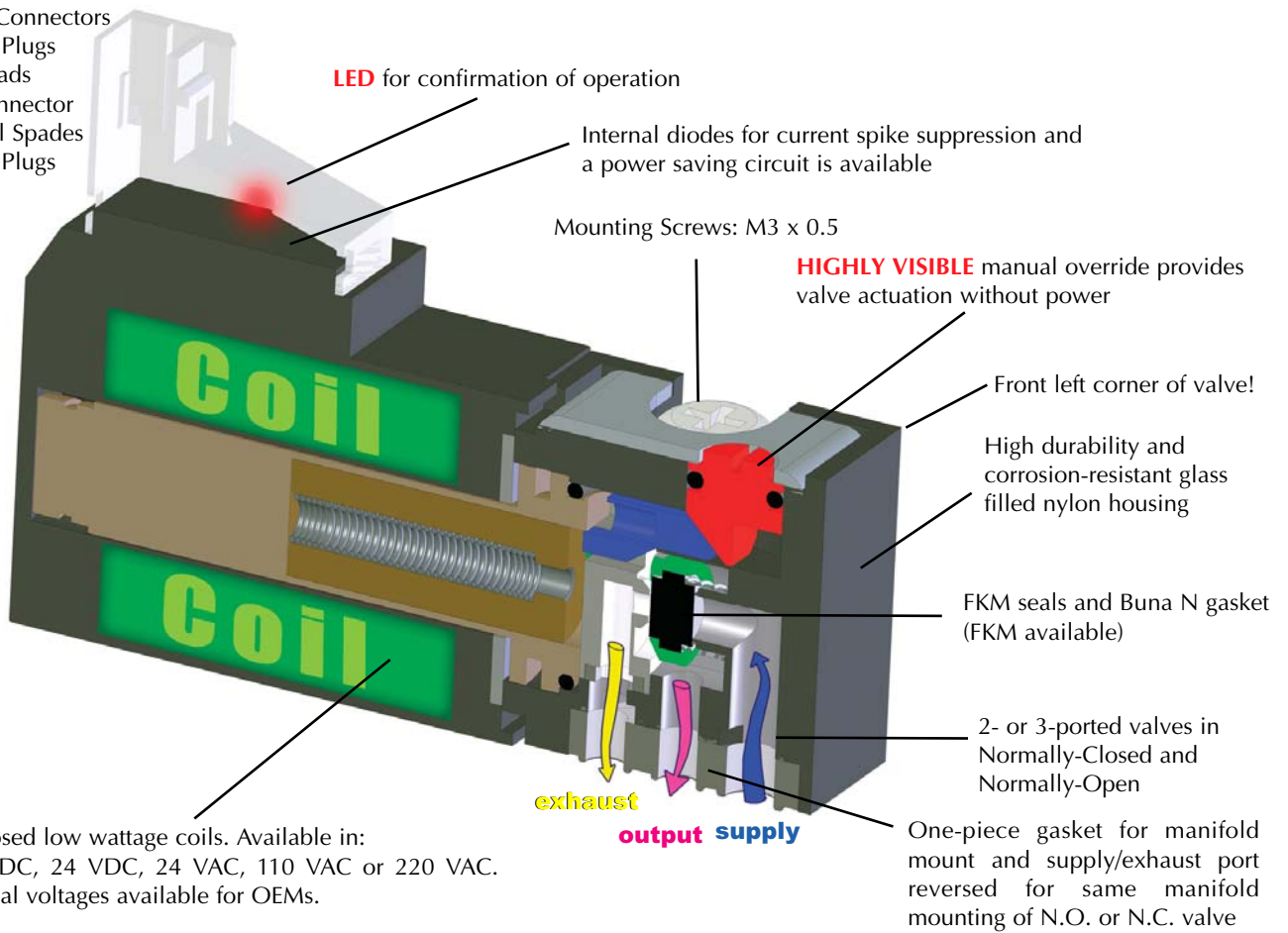
Power (Wattage)	Voltage	Voltage Tolerance	Response Time (Energized)	Response Time (De-Energized)	Copper Wire Insulation Class
1.0	24 VDC	-10% to 10%	10 milliseconds	12 milliseconds	F 311°F (155°C)
2.3	12 VDC 24 VDC 24 VAC 110 VAC 220 VAC	-10% to 10%	10 milliseconds	12 milliseconds	F 311°F (155°C)



15 MM MINIATURE VALVES

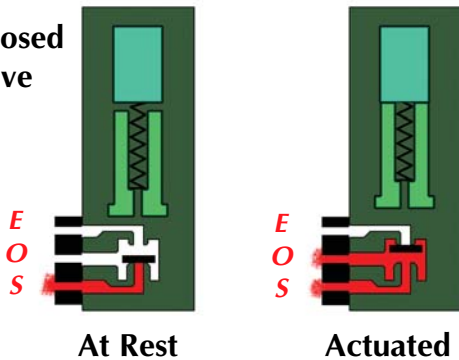
Multiple Connectors

- Snap-in Plugs
- Wire Leads
- DIN Connector
- Terminal Spades
- Custom Plugs

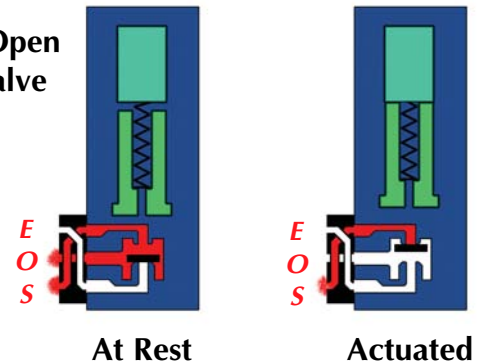


Functional Schematics

Normally-Closed 3-Way Valve



Normally-Open 3-Way Valve



Porting Gasket
 The Normally-Open and Normally-Closed configurations allow both models to be mounted on the same manifold.



15 MM MINIATURE VALVES



Specifications

Medium: Air, Gas, or other Compatible Fluids

Working Pressure: Vacuum to 150 psig/ 10.3 bar max. See Chart below.

Maximum Flow Rate:
 0.032" Orifice 1.6 scfm (45 l/min)
 0.043" Orifice 2.1 scfm (59 l/min)
 0.063" Orifice 3.0 scfm (84 l/min)



Response Time: 10 ms when energized; 12 ms when de-energized

Material: Stainless steel core and springs, springs, nylon body, FKM seals, and Buna-N gasket. FKM gasket available, consult factory

Voltage: 12-volt DC, 24-volt DC or 24-volt AC. 110-volt AC and 220-volt AC only available with DIN Connectors.

Power Consumption: 1.0 or 2.3 watts dependent on orifice size and pressure

Temperature Range: 23 to 122°F (-5 to 50°C)

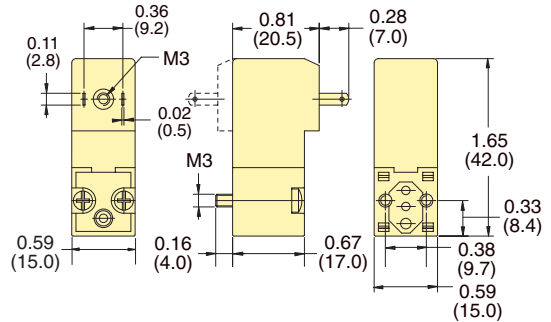
Order Information

Type	Base No.	Connector	12 VDC	24 VDC	24 VAC	110 VAC	220 VAC	Orifice	Wattage	Working Pressure
2/2 Normally Closed 	E215D-1T*	Terminal		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E215E-2T*	Terminal	•	•	•			0.043"	2.3	Vac - 150 psig/10.3 bar
	E215F-2T*	Terminal	•	•	•			0.063"	2.3	Vac - 110 psig/7.6 bar
	E215D-1D*	DIN Connector		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E215E-2D*	DIN Connector	•	•	•	•	•	0.043"	2.3	Vac - 150 psig/10.3 bar
	E215F-2D*	DIN Connector	•	•	•	•	•	0.063"	2.3	Vac - 110 psig/7.6 bar
	E215D-1W*	Wire Leads, 11.8" (300 mm)		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E215E-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.043"	2.3	Vac - 150 psig/10.3 bar
	E215F-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.063"	2.3	Vac - 110 psig/7.6 bar
	E215D-1L*	90° Connector with LED		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E215E-2L*	90° Connector with LED	•	•				0.043"	2.3	Vac - 150 psig/10.3 bar
	E215F-2L*	90° Connector with LED	•	•				0.063"	2.3	Vac - 110 psig/7.6 bar
3/2 Normally Closed 	E315D-1T*	Terminal		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E315E-2T*	Terminal	•	•	•			0.043"	2.3	Vac - 150 psig/10.3 bar
	E315F-2T*	Terminal	•	•	•			0.063"	2.3	Vac - 110 psig/7.6 bar
	E315D-1D*	DIN Connector		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E315E-2D*	DIN Connector	•	•	•	•	•	0.043"	2.3	Vac - 150 psig/10.3 bar
	E315F-2D*	DIN Connector	•	•	•	•	•	0.063"	2.3	Vac - 110 psig/7.6 bar
	E315D-1W*	Wire Leads, 11.8" (300 mm)		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E315E-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.043"	2.3	Vac - 150 psig/10.3 bar
	E315F-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.063"	2.3	Vac - 110 psig/7.6 bar
	E315D-1L*	90° Connector with LED		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E315E-2L*	90° Connector with LED	•	•				0.043"	2.3	Vac - 150 psig/10.3 bar
	E315F-2L*	90° Connector with LED	•	•				0.063"	2.3	Vac - 110 psig/7.6 bar
3/2 Open (110 psig max.) 	E3O15E-2T*	Terminal	•	•	•			0.043"	2.3	Vac - 110 psig/7.6 bar
	E3O15F-2T*	Terminal	•	•	•			0.063"	2.3	Vac - 75 psig/5.2 bar
	E3O15E-2D*	DIN Connector	•	•	•	•	•	0.043"	2.3	Vac - 110 psig/7.6 bar
	E3O15F-2D*	DIN Connector	•	•	•	•	•	0.063"	2.3	Vac - 75 psig/5.2 bar
	E3O15E-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.043"	2.3	Vac - 110 psig/7.6 bar
	E3O15F-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.063"	2.3	Vac - 75 psig/5.2 bar
	E3O15E-2L*	90° Connector with LED	•	•				0.043"	2.3	Vac - 110 psig/7.6 bar
	E3O15F-2L*	90° Connector with LED	•	•				0.063"	2.3	Vac - 75 psig/5.2 bar
	E3O15E-2C*	In-Line Connector with LED	•	•				0.063"	2.3	Vac - 110 psig/7.6 bar
	E3O15F-2C*	In-Line Connector with LED	•	•				0.063"	2.3	Vac - 75 psig/5.2 bar

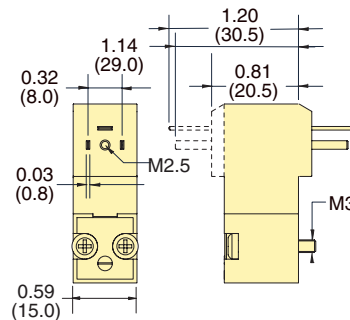
• Indicates valves in stock

* Add Voltage Choice to the end of each Base Part Number. Example: [E210A-1C012](#)

Terminal Connector

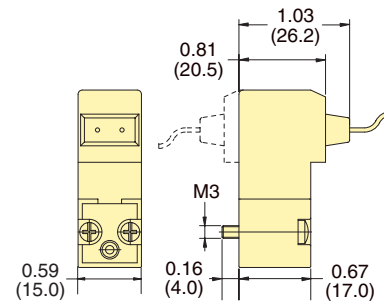


DIN Connector

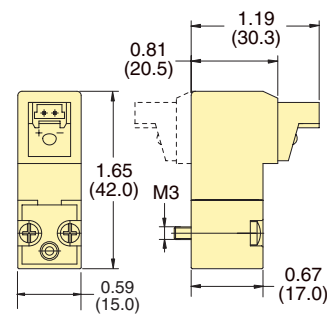


DIN Connector ordered separately on Page 235.

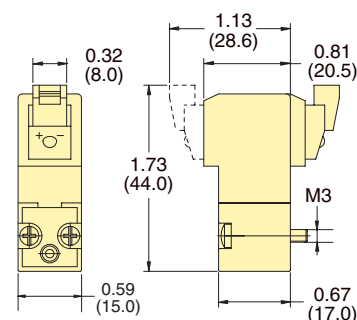
Wire Leads



90° Connector with LED

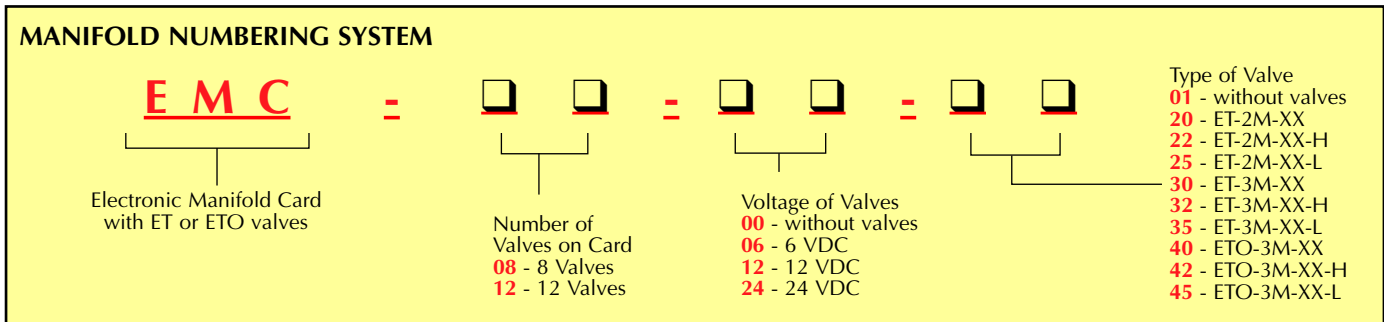


In-Line Connector with LED





EMC CARDS



EMC-08-00-01 and EMC-12-00-01 are part numbers for cards without any valves, and without manifold. Manifold mounting hardware is included. Manifolds may be ordered separately, if desired.

Part numbers are: [15482-8](#) and [15482-12](#)

Convenience in interfacing electronics and pneumatics... fast mounting, completely assembled, manifolded valve cards.

Clippard Electronic Manifold Cards

Now you can direct low-voltage DC signals from controllers, systems, computers or other sources to operate powerful pneumatic valves with a minimum of piping and hook-up.

Self-contained card includes:

- 8 or 12 Clippard ET interface valves
- Manifold mount for single air supply
- Circuit board fully wired
- Instant plug-in with 25-pin connector
- Resistor, diode, LED and switch for each valve
- Auxiliary power supply connection

Ready to operate quickly. Just mount the card and make external connection.

And each valve may be individually removed and replaced without any need for desoldering!

Features

- Fast, easy to mount
- Pre-assembled; all valves mounted
- 8 or 12 valve sizes
- 6, 12 or 24 volts DC
- Low power requirements (0.67 watt per valve)
- Choice of valve types
- Each valve switchable
- Shut-off spike protection
- 25-pin connector
- No expensive card rack required

Auxiliary Power Input

Power to operate the valves may be provided through two sources: ONE, through the 25-pin connector if your signal source also has sufficient power to operate the bank of valves, or TWO, through a separate auxiliary power input connection built into the board. To isolate power from the 25-pin connector, use the power source selector switch.

NOTE: In applying power on a temporary basis, use care to observe proper circuit polarity.

Power Selector Switch

Two-position selector switch enables choice of power input source (25-pin connector or auxiliary).

25-Pin Connector

Clippard Electronic Valves

Reverse Polarity Protection

Circuit using diodes and capacitor provides input voltage protection against reverse polarity.

Resistor-Diode-LED Circuit

Individual circuit to each valve provides protection against shut-off spikes. LED is illuminated when valve is actuated.

Valve Connection Cords

Cord and plug leads are terminated with solder connections on the board, and connect by molded plug to the valves. All connections are completed at the factory.

Clippard Valve Manifold

Compact, efficient mounting of the valves is by Clippard multi-valve manifolds.

Valve Identification

Valve numbers are silk-screened on each panel.

Mounting Holes

Four (EMC-08) and six (EMC-12) mounting holes 0.191" dia. are built into each board.

Printed Circuit Board

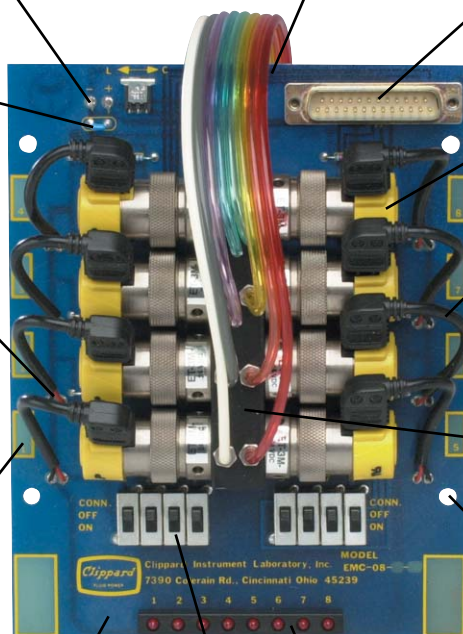
Durable laminated fiberglass

LED Bank

Illuminated LED signals that the valve is actuated.

3-Position Detented Switches

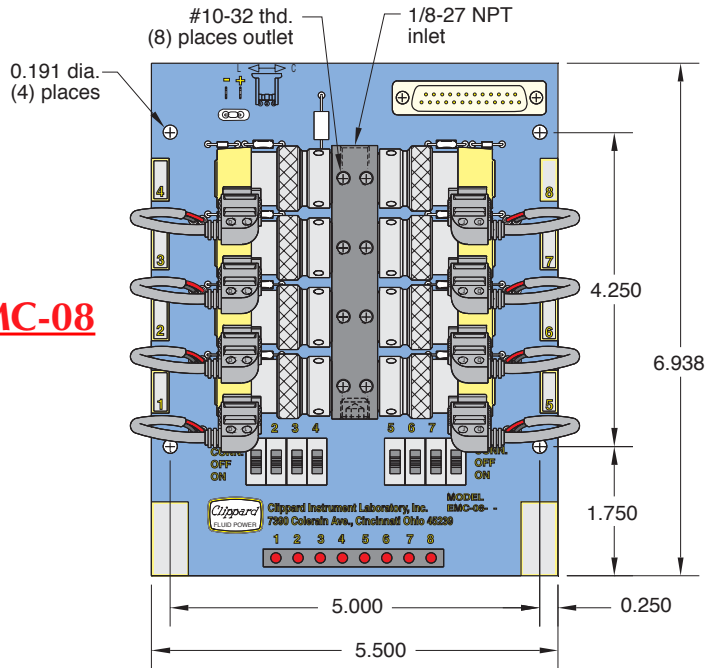
Three position slide switch provides for:
 ON - Power "ON"; valve is activated
 OFF - Power "OFF"; valve not connected
 CONN - Valve connected to 25-pin connector, and will be controlled through it.



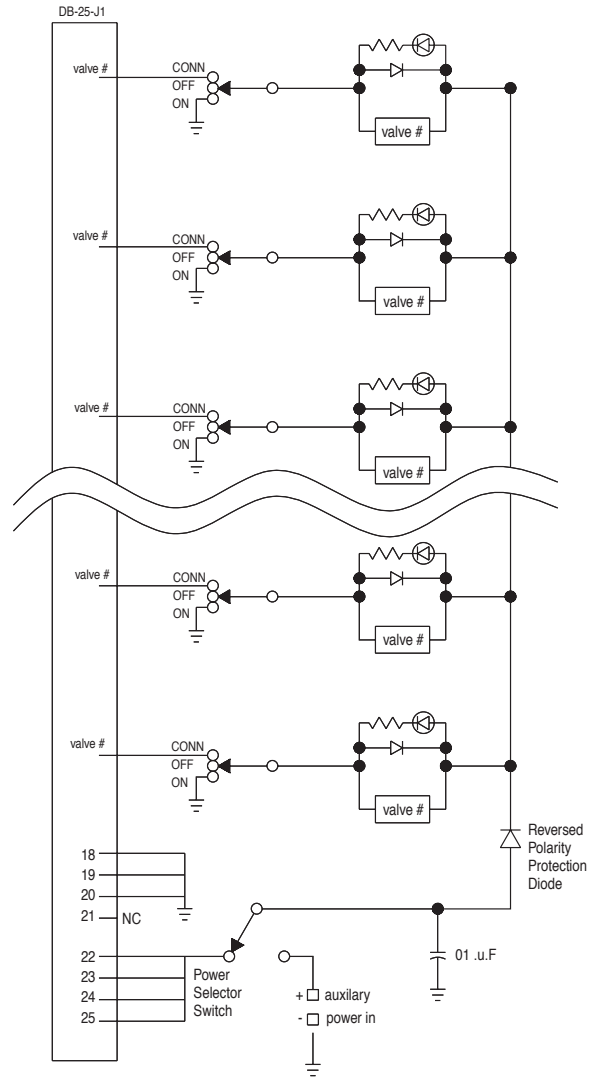
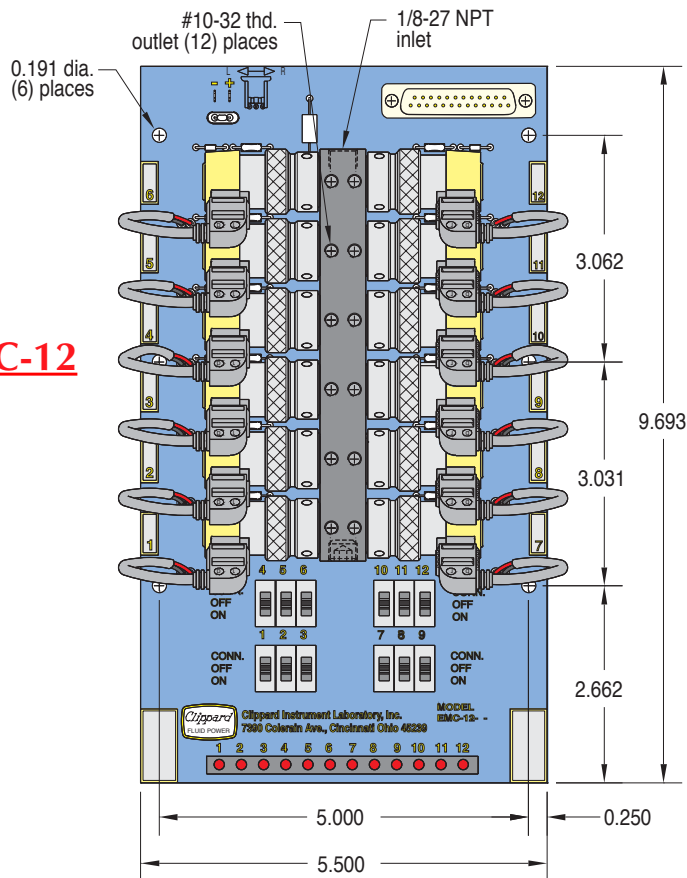


ET VALVES & ELECTRONIC MANIFOLD CARDS

EMC-08



EMC-12



Wiring Diagram

Note: Manifold mounted valves are Normally-Closed. Use ETO models if exhaust must be ported. ETO models cannot be used "Normally-Open" without special piping.