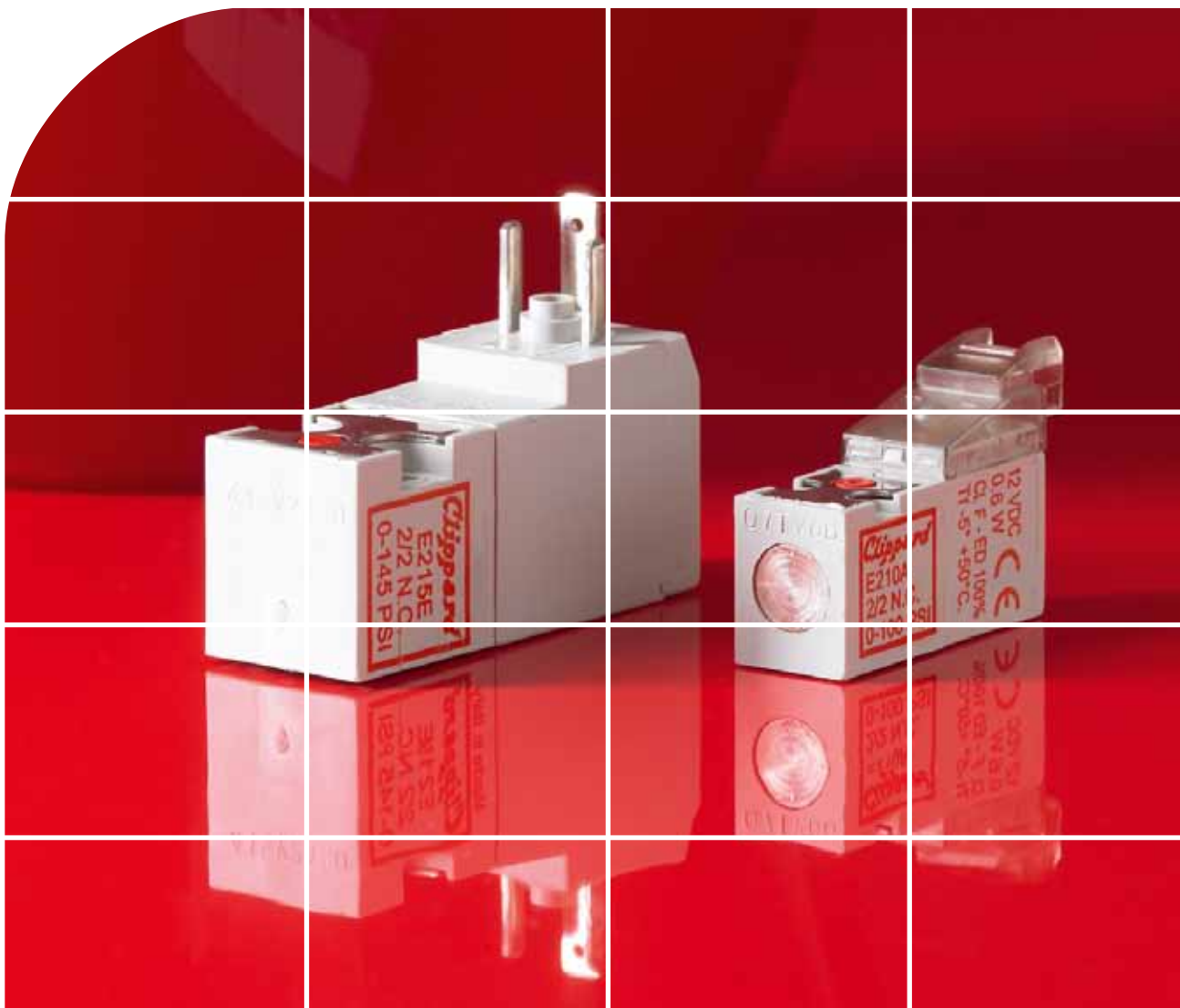




## 10 MM & 15 MM MINIATURE VALVES





## QUALITY PEOPLE - QUALITY PRODUCTS

Founded in 1941 by W. L. Clippard, Jr., the company started out manufacturing electronic test equipment. In the 1950's, Mr. Clippard recognized a need for miniature pneumatic devices in manufacturing, and began to produce a small line of component products. The appeal of these products was such that by the late 1960's, Clippard Instrument Laboratory was strictly a pneumatic manufacturer.

The company has continued to have steady growth through the years bolstered by periodic introductions of new and innovative products. These have included such products as the Modular series and the Mouse Valve series; the Electronic Proportional Valves, and Electronic Manifold Cards.

Today, the company remains family-owned and operated. Manufacturing facilities are located in Cincinnati and Fairfield, Ohio; Madison, Indiana; as well as a distribution and technical support center in Louvain-La-Neuve, Belgium.

Clippard Europe, Belgium



Cincinnati, Ohio (Headquarters)



Fairfield, Ohio



## QUALITY PEOPLE - QUALITY PRODUCTS

Clippard is in its sixth decade of supplying fluid power, motion and process control devices to the Scientific, Medical, Dental, and Analytical markets. We understand the need for precision, reliability and purity in your critical applications and are dedicated to providing expert solutions to meet and exceed your expectations. We ensure that every product meets the highest standards of quality and performance by 100% testing all products before they reach our customers.

In addition to the Scientific market segment, Clippard offers expertise in a wide variety of markets utilizing numerous types of applications. From Semiconductor to Printing, Automotive to Packaging, our products are engineered to the exact specifications you require.

Supported by a platform of over 5,000 standard products, as well as customized solutions, we have the capability to provide you with a full range of products designed to meet the unique demands of your application. For a complete description of these products, please visit our website at

[www.clippard.eu](http://www.clippard.eu)  
[www.clippard.com](http://www.clippard.com)



# 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, lightweight 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. 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.

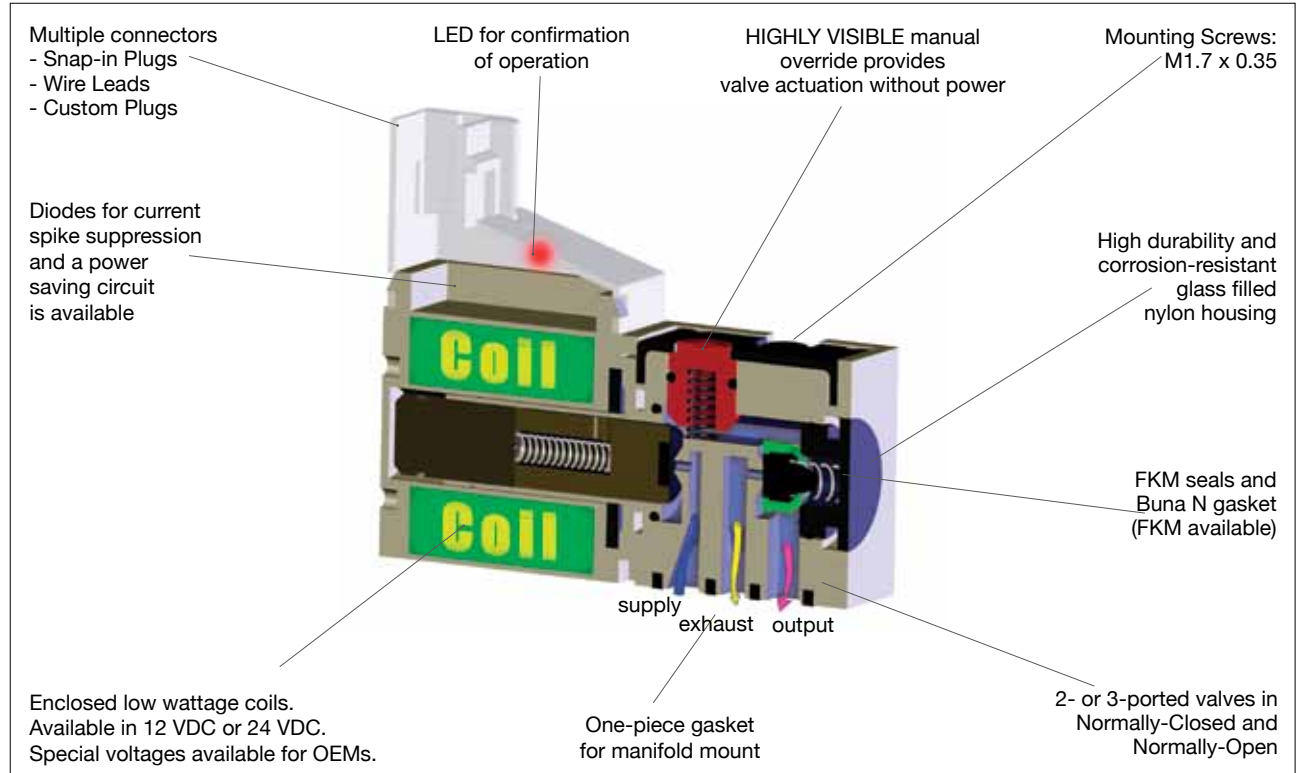
**All 10 mm and 15 mm valves are RoHS compliant.**



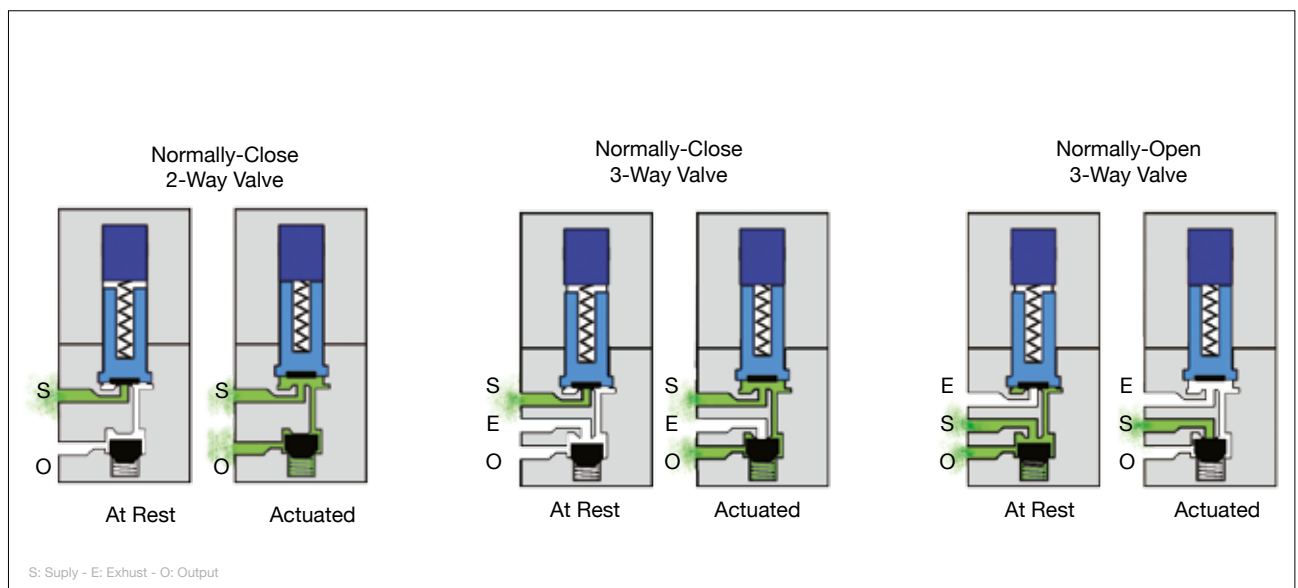
Clippard also helps you identify the valve you have by color coding the top plate. If it is **silver**, the valve is a **Normally-Closed** version - if it is **black**, the valve is **Normally-Open**.

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# 10 MM MINIATURE VALVES



## Functional Schematics





# SPECIFICATIONS 10 MM MINIATURE VALVES

## Medium

Air, Gas or other Compatible Fluids

## Working Pressure

Vacuum to 110 psig/7.6 bar max.

See Chart below

## Max. Flow Rate

Standard: 0.5 scfm (14 l/min);

High Flow: 0.8 scfm (23 l/min)

## Response Time

8 ms when energized;

10 ms when de-energized

## Electrical

12 VDC or 24 VDC

(Voltage Tolerance: -10% to 10%)

## Power Consumption

0.5 or 1.3 watts dependent on orifice size and pressure

## Temperature Range

23 to 122°F (-5 to 50°C)

## Copper Wire Insulation Class

F 311°F (155°C)

## Exhaust Flow

0.8 scfm (23 l/min)

## 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!

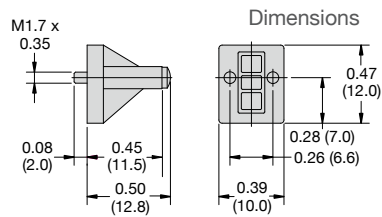
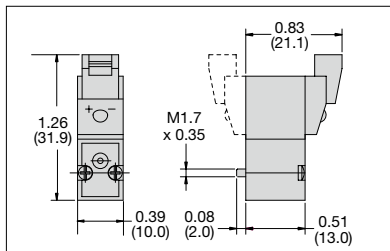
## Order Information

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
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
3/2 Normally Open  	E3010A-1E*	90° Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3010C-2E*	90° Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3010A-1L*	90° Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3010C-2L*	90° Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3010A-1F*	In-Line Connector	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3010C-2F*	In-Line Connector	0.030"	1.3	Vac - 110 psig/7.6 bar
3/2 Normally Open  	E3010A-1C*	In-Line Connector with LED	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3010C-2C*	In-Line Connector with LED	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3010A-1W*	Wire Leads, 11.8" (300 mm)	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3010C-2W*	Wire Leads, 11.8" (300 mm)	0.030"	1.3	Vac - 110 psig/7.6 bar
	E3010A-1W*	Wire Leads, 11.8" (300 mm)	0.020"	0.6	Vac - 110 psig/7.6 bar
	E3010C-2W*	Wire Leads, 11.8" (300 mm)	0.030"	1.3	Vac - 110 psig/7.6 bar

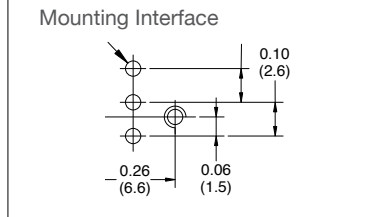
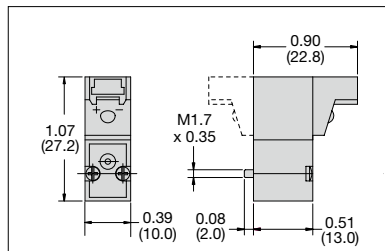
\* Add Voltage Choice to the end of each Base Part Number, Example: E210A-1C012

# 10 MM MINIATURE VALVES & ACCESSORIES

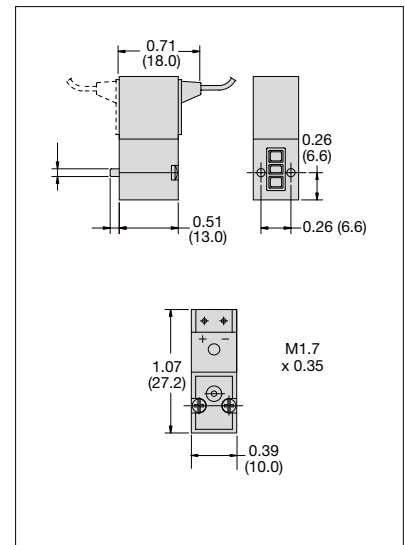
## In-Line Connector



## 90° Connector



## Wire Leads



## Cover Plate

Manifold Cover Plate includes plate, gasket and two screws.



Order No.	
E10M-CP	10 mm Cover Plate

## Connectors

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

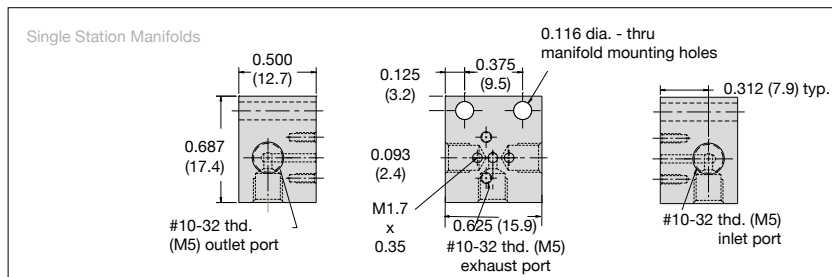


Order No.		
C2A-RB300	Connector with Cable	11.8" (300 mm)
C2A-RB500	Connector with Cable	19.69" (500 mm)
C2A-RB1000	Connector with Cable	39.37" (1,000 mm)

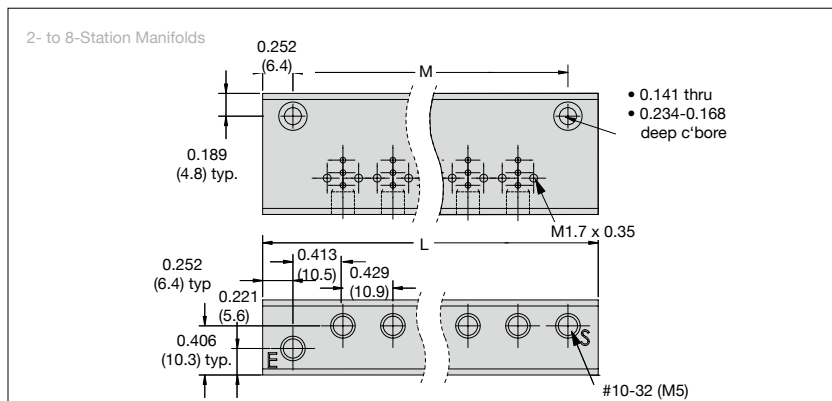
# 10 MM MINIATURE MANIFOLDS



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

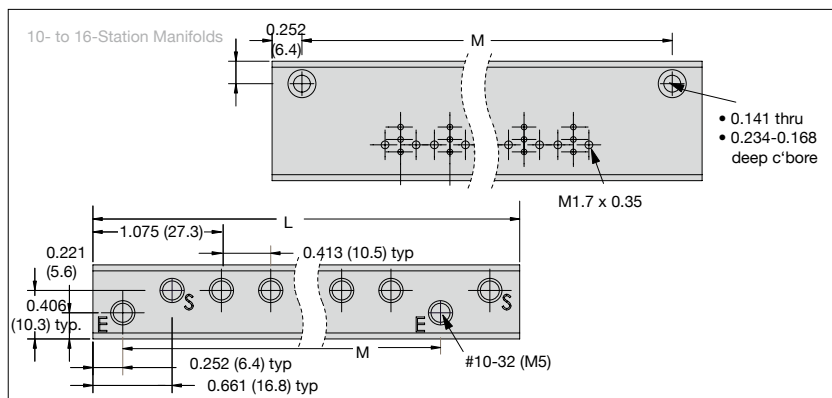


## Single-Station Manifold



## Multi-Station Manifolds

Manifolds are available for one to 16 valves, and are supplied with mounting screws and gaskets. Spare hardware and closing plates also available. Add -M5 for Metric ports.





# SUB-MINIATURE 10 MM VALVE MANIFOLDS

**Small, compact sub-miniature manifolds are designed for use with Clippard's 10 and 15 mm solenoid valve series.**

They offer the efficient grouping of valves along with fast installation. Each manifold features a common inlet, individually-ported outlets, and exhaust to atmosphere.

Units are single sided, and available with 2, 4, 6, 8, 10, 12, 14 and 16 stations.

Clippard offers a complete line of 2- and 3-way 10 mm and 15 mm valves in either Normally-Open or Normally-Closed configurations. These are perfect for small and compact areas where pneumatic controls are needed.

## Features

- Extremely small size saves space
- Dual supply ports standard on longer manifolds or higher capacity flow
- In stock for immediate delivery

## Inlet & Outlet Ports

#10-32 UNF

## Mounting

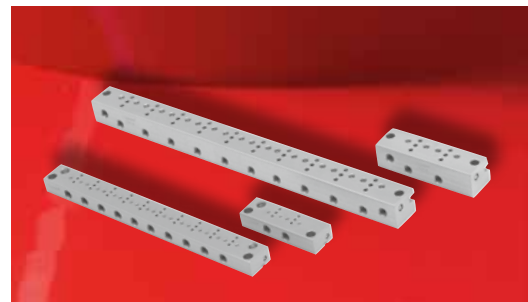
#8-32 mounting screw  
hole can be tapped #10-32)

## Material

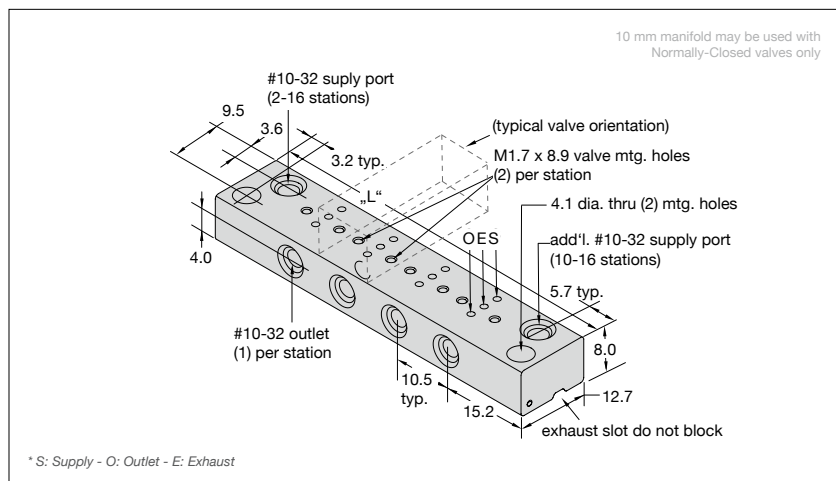
Clear Anodized Aluminum

## Order No.

E10M-CP



## 10 mm Manifold

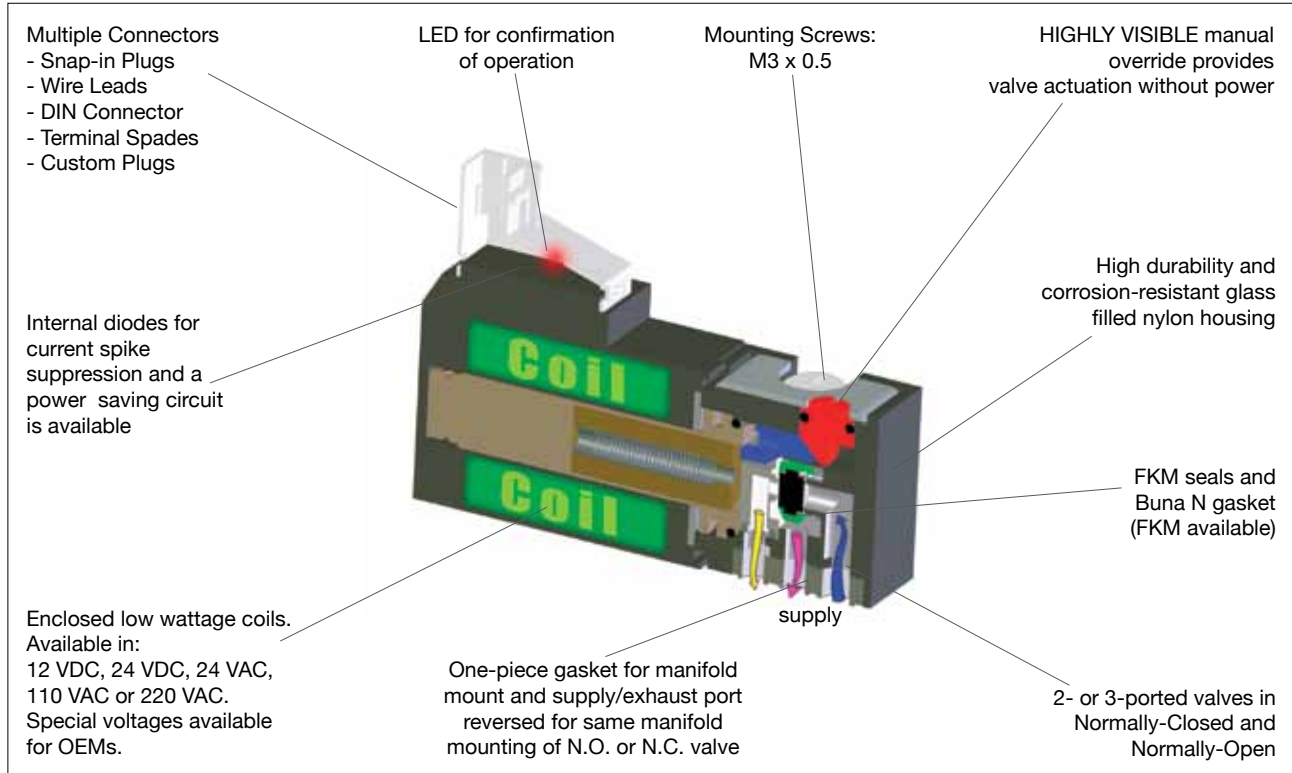


**10 mm valves**  
shown on 2-station manifolds

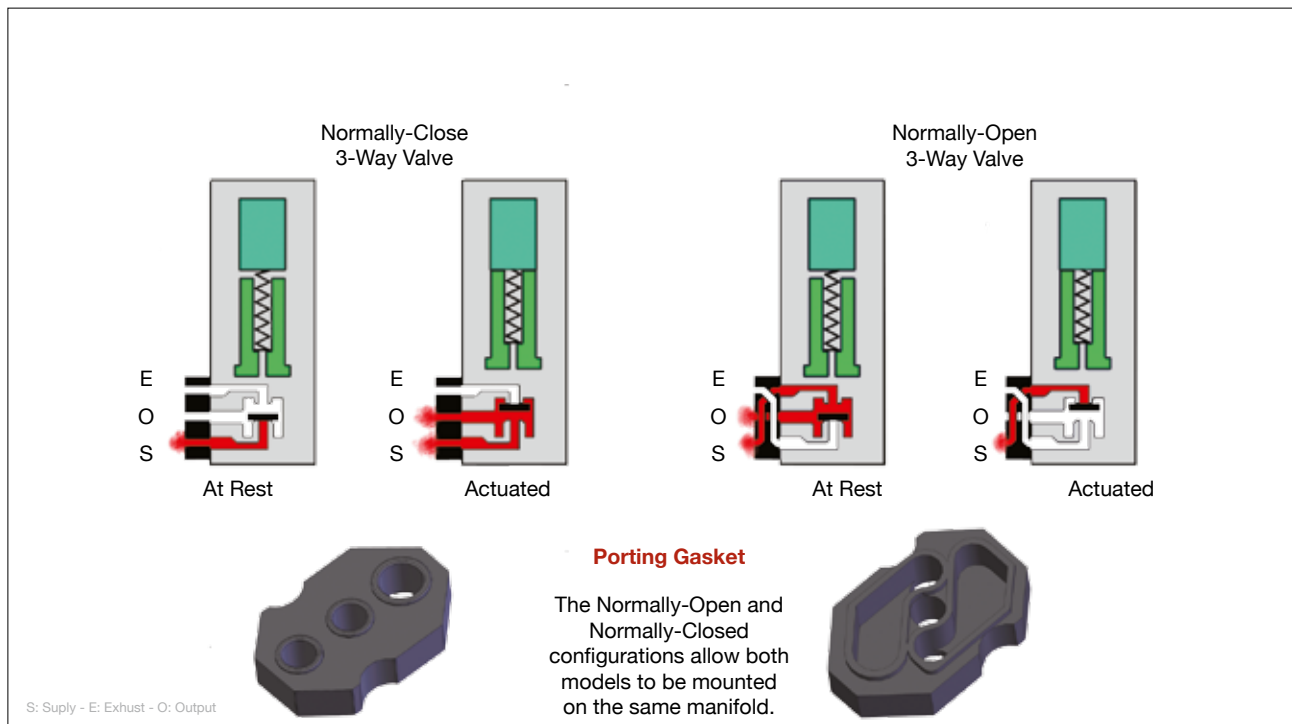


Stations	Supply Ports	10 mm Order No.	Length "L"
2	1	E10SM-02	40.9
4	1	E10SM-04	61.9
6	1	E10SM-06	82.9
8	1	E10SM-08	103.9
10	2	E10SM-10	124.8
12	2	E10SM-12	145.8
14	2	E10SM-14	166.8
16	2	E10SM-16	187.8

## 15 MM MINIATURE VALVES



### Functional Schematics



# SPECIFICATIONS 15 MM MINIATURE VALVES

## Medium

Air, Gas, or other Compatible Fluids

## Working Pressure

Vacuum to 150 psig/  
10.3 bar max.

See Chart below.

## Maximum Flow Rate

0.03" Orifice/E315D 1.6 scfm (45 l/min)

0.04" Orifice/E315E 2.1 scfm (59 l/min)

0.06" Orifice/E315F 3.0 scfm (84 l/min)

## Temperature Range

23 to 122°F (-5 to 50°C)

## Copper Wire Insulation Class

F 311°F (155°C)

## 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!

## Order information

Type	Base No.	Connector	12 VCD	24 VCD	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
	E215D-1C*	In-Line Connector with LED		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E215E-2C*	In-Line Connector with LED	•	•				0.043"	2.3	Vac - 150 psig/10.3 bar
	E215F-2C*	In-Line 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
	E315D-1C*	In-Line Connector with LED		•				0.032"	1.0	Vac - 150 psig/10.3 bar
	E315E-2C*	In-Line Connector with LED	•	•				0.063"	2.3	Vac - 150 psig/10.3 bar
	E315F-2C*	In-Line Connector with LED	•	•				0.063"	2.3	Vac - 110 psig/7.6 bar
3/2 Open (110 psig max.)	E3015E-2T*	Terminal	•	•	•			0.043"	2.3	Vac - 110 psig/7.6 bar
	E3015F-2T*	Terminal	•	•	•			0.063"	2.3	Vac - 75 psig/5.2 bar
	E3015E-2D*	DIN Connector	•	•	•	•	•	0.043"	2.3	Vac - 110 psig/7.6 bar
	E3015F-2D*	DIN Connector	•	•	•	•	•	0.063"	2.3	Vac - 75 psig/5.2 bar
	E3015E-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.043"	2.3	Vac - 110 psig/7.6 bar
	E3015F-2W*	Wire Leads, 11.8" (300 mm)	•	•	•			0.063"	2.3	Vac - 75 psig/5.2 bar
	E3015E-2L*	90° Connector with LED	•	•				0.043"	2.3	Vac - 110 psig/7.6 bar
	E3015F-2L*	90° Connector with LED	•	•				0.063"	2.3	Vac - 75 psig/5.2 bar
	E3015E-2C*	In-Line Connector with LED	•	•				0.063"	2.3	Vac - 110 psig/7.6 bar
	E3015F-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



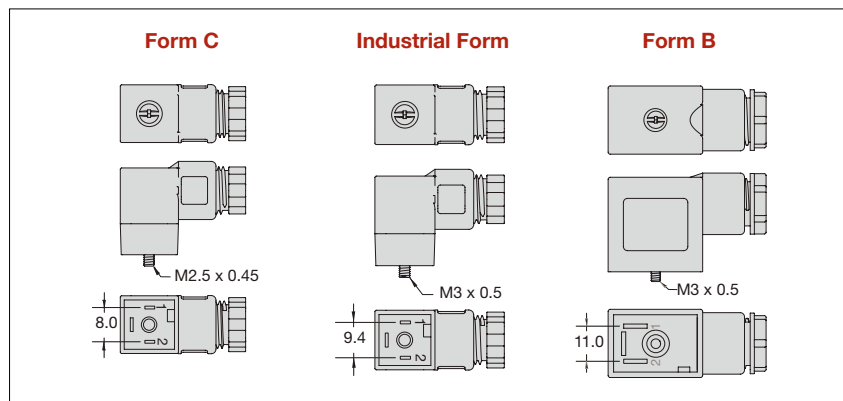
## ACCESSORIES 15 MM

### DIN Connectors



For Use with 15 mm Valves Only. DIN 43650 Form "C" connector with 8.0 mm spade center spacing is designed to connect to 15 mm DIN coils. This standard connector format allows for interchangeability across the industry. Also available with 6' or 12' PVC molded three-wire cord set.

Form C	Industrial Form	Form B			
Order No.	Order No.	Order No.	Volts	LED	Cord
CC-C	CC-I	CC-B	6-240	no	-
CC-C-P6	CC-I-P6	CC-B-P6	6-240	no	6'
CC-C-P15	CC-I-P15	CC-B-P15	6-240	no	15'
CC-CLL	CC-ILL	CC-BLL	6-24	yes	-
CC-CLL-P6	CC-ILL-P6	CC-BLL-P6	6-24	yes	6'
CC-CLL-P15	CC-ILL-P15	CC-BLL-P15	6-24	yes	15'
CC-CLM	CC-ILM	CC-BLM	48-110	yes	-
CC-CLM-P6	CC-ILM-P6	CC-BLM-P6	48-110	yes	6'
CC-CLM-P15	CC-ILM-P15	CC-BLM-P15	48-110	yes	15'
		CC-BLH	208-240	yes	-
		CC-BLH-P6	208-240	yes	6'
		CC-BLH-P15	208-240	yes	15'



### Connectors



Wire Connector must be ordered separately. Wire gauge AWG 24. Stranding 7/32.

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" (1000 mm)

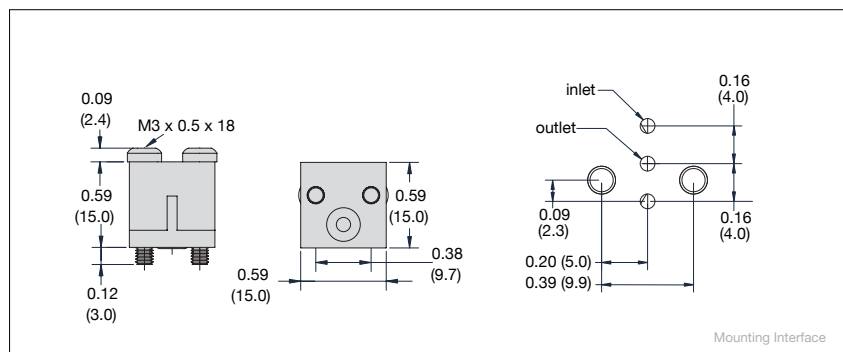
### Cover Plate



Manifold Cover Plate includes plate, gasket and two screws.

#### Order No.

E15M-CP 15 mm Cover Plate



## 15 MM MINIATURE MANIFOLDS

## Manifolds

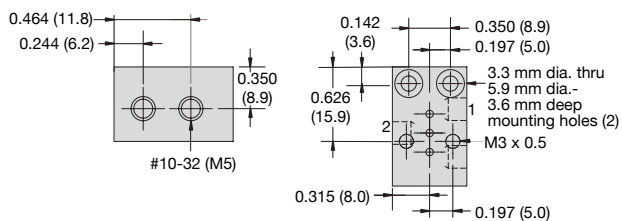
Manifolds are available for one to 16 valves, and are supplied with mounting screws and gaskets. Spare hardware and closing plates also available. Add -M5 for Metric ports.



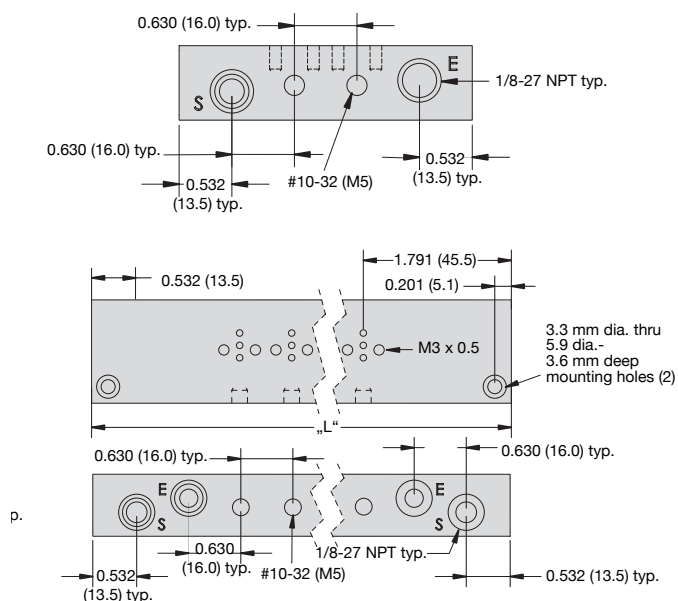
### Single-Station Manifold



**Order No.:** E15M-01



## Multi-Station Manifolds



Stations	Order No.	Length “L”
2	E15M-02	2.95” (74.2)
4	E15M-04	4.21” (106.9)
6	E15M-06	5.47” (138.9)
8	E15M-08	6.73” (170.9)
10	E15M-10	9.25” (235.0)
12	E15M-12	10.51” (277.0)
14	E15M-14	11.77” (299.0)
16	E15M-16	13.03” (331.0)



## SUB-MINIATURE 15 MM VALVE MANIFOLDS



**Small, compact sub-miniature manifolds are designed for use with Clippard's 10 and 15 mm solenoid valve series.**

They offer the efficient grouping of valves along with fast installation. Each manifold features a common inlet, individually-ported outlets, and exhaust to atmosphere.

Units are single sided, and available with 2, 4, 6, 8, 10, 12, 14 and 16 stations.

Clippard offers a complete line of 2- and 3-way 10 mm and 15 mm valves in either Normally-Open or Normally Closed configurations. These are perfect for small and compact areas where pneumatic controls are needed.

### Features

- Extremely small size saves space
- Dual supply ports standard on longer manifolds or higher capacity flow
- In stock for immediate delivery

### Inlet & Outlet Ports

#10-32 UNF

### Mounting

#8-32 mounting screw  
hole can be tapped #10-32)

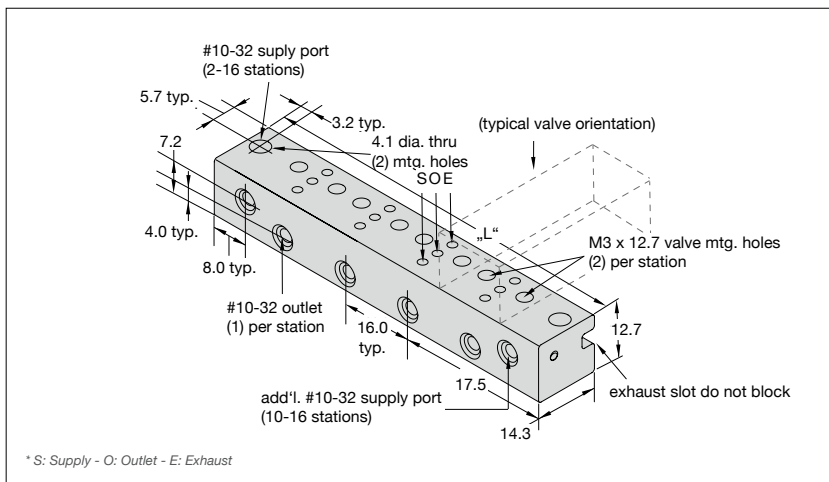
### Material

Clear Anodized Aluminum

### Order No.

E15M-CP

### 15 mm Manifold



### 15 mm valves

shown on 2-station manifolds



Stations	Supply Ports	15 mm Order No.	Length "L"
2	1	E15SM-02	50.9
4	1	E15SM-04	82.9
6	1	E15SM-06	114.9
8	1	E15SM-08	146.9
10	2	E15SM-10	178.9
12	2	E15SM-12	210.9
14	2	E15SM-14	243.0
16	2	E15SM-16	274.9

# CLIPPARD WORLDWIDE



- ★ Clippard Headquarter
- Clippard Headquarter Europe
- Clippard Distributor

Clippard Instrument Laboratory, Inc.  
 Headquarter  
 7390 Colerain Avenue  
 Cincinnati, Ohio 45239  
 513.521.4261 • 513.521.4464  
[www.clippard.com](http://www.clippard.com)  
 E-mail: [sales@clippard.com](mailto:sales@clippard.com)

Clippard Europe S. A.  
 Headquarter Europe  
 Parc Scientifique Einstein  
 Rue de Bosquet 6  
 B-1348 Louvaine-La-Neuve, Belgium  
 +32 10 45 21 34 • Fax: +32 10 45 25 26  
[www.clippard.eu](http://www.clippard.eu)  
 E-mail: [sales@clippard.be](mailto:sales@clippard.be)



Clippard Europe S.A.  
Parc Scientifique Einstein  
Rue du Bosquet, 6  
1348 Louvain-la-Neuve  
Belgium  
TEL +32 10 45.21.34

[www.clippard.eu](http://www.clippard.eu)

Clippard Instrument Laboratory, Inc.  
7390 Colerain Ave.  
Cincinnati  
Ohio 45239  
USA  
TEL +1 513.521.4261

[www.clippard.com](http://www.clippard.com)