

Clippard

10 & 15 MM ELECTRONIC VALVES



10 & 15 MM MINIATURE VALVES

Clippard's 10 and 15 mm valves utilize reliable plunger valve technology. The most common poppet technology in the valve marketplace, this proven design is ideal for less demanding applications. Plunger-style solenoid valves can offer a great value, providing fast response times and relatively long life at a great price. These designs are commonly utilized in applications where mounting multiple valves on a manifold together reduce the number of fittings, overall package size, and total cost.

Medium	Air, gas, or other compatible fluids
Material	Stainless steel core and springs, Nylon body, FKM dynamic seals, nitrile gasket and static seals
Electrical	The coil is constructed of copper wire and insulated according to the class "F" standard. All circuitry and connections are protected from corrosion
Compliance	CE, RoHS
More Details	clippard.com/link/cilmktg7698422



CONNECTOR OPTIONS

Terminal Connector



Industrial form connector
(9.4 mm) ordered separately

DIN Connector



DIN 43650 form C connector
(8 mm) ordered separately

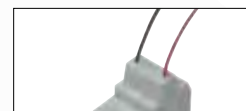
In-Line Connector with LED



90° Connector with LED



Wire Leads



ORDERING INFORMATION

Valve Type	Size	Orifice (mm)	Wattage	Connectors	Voltage
2 2-way	10 10 mm	10 mm A 0.5	10 mm 1 0.6	10 or 15 mm C In-line with LED	10 or 15 mm 012 12 VDC
3 3-way	15 15 mm	10 mm C 0.8	10 mm 2 1.3	10 or 15 mm L 90° with LED	10 or 15 mm 024 24 VDC
30 3-way NO		10 mm H 1.4*	10 mm 3 3.5	10 or 15 mm W Wire Leads (11.8")	15 mm Only 24A 24 VAC
2L 2-way latching		15 mm D 0.8	15 mm 1 1.0	15 mm Only T Terminal Industrial Connector	15 mm Only 110 110 VAC
3L 3-way latching		15 mm E 1.1	15 mm 2 2.0	15 mm Only D DIN Form C	15 mm Only 220 220 VAC
		15 mm F 1.6	15 mm 3 4.0 (High Flow)		
		15 mm H 3.0*	15 mm 4 4.0 (Latching)		

Example Part Number:

E210A-1C012

Please Note: Not all possible configurations are valid. Consult the online configurator at clippard.com.

*High flow (H) version will require a 3.5 watt or 4 watt coil (3)

Available Electrical Options:

- **LED** for confirmation of operation
- Diodes for current spike suppression
- Power saving circuit

Choose from a Variety of Connectors:

- Snap-in plugs
- Wire leads
- Spade terminals
- DIN connector
- Custom plugs



Highly visible manual override provides valve actuation without power

Mounting screws

Glass-filled nylon housing for exceptional durability and corrosion resistance

FKM seals and nitrile gasket

2-way or 3-way normally-open or normally-closed valves

One-piece gasket for manifold mount

Encapsulated Low Wattage Coils:

- 10 & 15 mm available in 12 or 24 VDC
- 15 mm also available in 24, 110, or 220 VAC

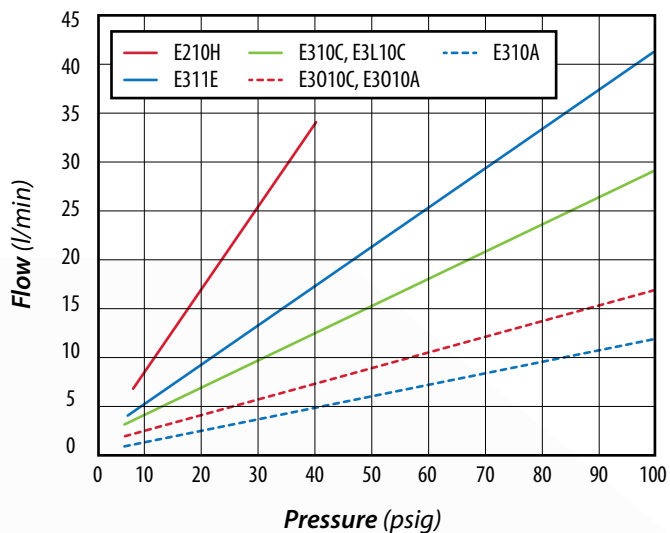
Special voltages available for OEMs

10 MM MINIATURE VALVES

Valve Type	2-way, 3-way
Medium	Air, gas, or other compatible fluids
Max. Flow Rate	0.020" Orifice: 13 l/min @ 100 psig 0.030" Orifice: 30 l/min @ 100 psig 0.043" Orifice: 42 l/min @ 100 psig 0.055" Orifice: 35 l/min @ 40 psig
Response Time	0.6 Watts: 10 ms nominal 1.3 Watts: 8 ms nominal 2.0 Watts: 10 ms nominal 3.5 Watts: 6 ms/10 ms nominal
Standard Voltages	12 or 24 VDC
Voltage Tolerance	±10%
Operating Pressure Range	0 to 100 psig <i>Consult factory for different pressures</i>
Power Consumption	0.6, 1.3, 2.0 or 3.5 watts <i>Dependent on orifice size and pressure</i>
Material	Stainless steel core and springs, nylon body, FKM dynamic seals, nitrile gasket and static seals
Coil Insulation Class	F 311°F (115°C)
Temperature Range	14 to 122°F (-10 to 50°C) <i>If below 32°F (0°C), must use clean, dry air</i>
Compliance	CE, RoHS, REACH



Typical Performance

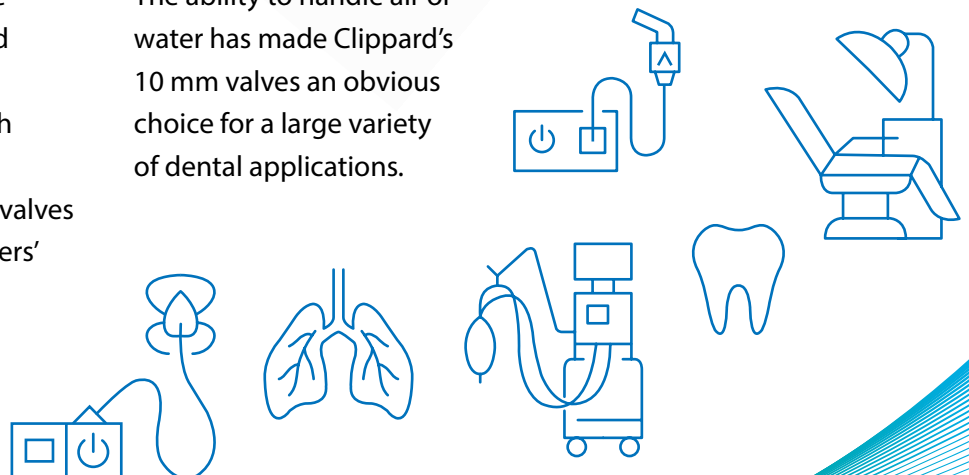


	10 mm Standard E210A / E310A	10 mm Standard E210C / E310C	10 mm Standard E3O10A / E3O10C	10 mm Latching E2L10C / E3L10C	10 mm High Flow E210H	10 mm ISO E311E
Valve Type	2-way N.C. 3-way N.C.	2-way N.C. 3-way N.C.	3-way N.O.	2-way N.C. 3-way N.C.	2-way N.C. Mono	3-way N.C.
Nominal Orifice Size (Dia.)	0.5 mm (0.020")	0.8 mm (0.030")	0.5 mm (0.020") 0.8 mm (0.030")	0.8 mm (0.030")	1.4 mm (0.055")	1.1 mm (0.043")
Working Pressure	0 to 100 psig	0 to 100 psig	0 to 100 psig	0 to 100 psig	0 to 40 psig	0 to 100 psig
Flow Rate	13 l/min @ 100 psig	30 l/min @ 100 psig	17 l/min @ 100 psig	30 l/min @ 100 psig	35 l/min @ 40 psig	42 l/min @ 100 psig
Response Time	10 ms nominal	8 ms nominal	8 ms nominal	10 ms nominal	10 ms nominal	6 ms nominal
Power Consumption	0.6 watts	1.3 watt	0.6 watt 1.3 watt	2.0 watts	3.5 watts in rush; 0.35 watts in maintenance phase	3.5 watts in rush; 0.35 watts in maintenance phase
Mount	2 M1.7 screws	2 M1.7 screws	2 M1.7 screws	2 M1.7 screws	2 M2 screws	2 M1.6 screws
In-Line Connector with LED	Available	Available	Available	Not Standard	Available	Available
90° Connector with LED	Available	Available	Available	Not Standard	Available	Available
Wire Leads	Available	Available	Available	Available	Not Standard	Not Standard
Manifold (see pp. 18-19)	Standard	Standard	Standard	Standard	High Flow (E10HM-01)	ISO (E10LM-01)

Did You Know?

When COVID-19 shut the economy down, Clippard ramped up production to provide the world with 10 mm valves which are commonly used as pilot valves inside many manufacturers' ventilators.

The ability to handle air or water has made Clippard's 10 mm valves an obvious choice for a large variety of dental applications.

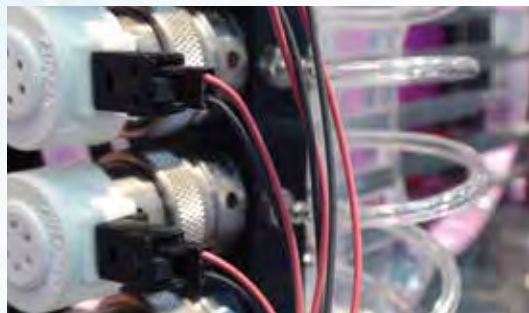
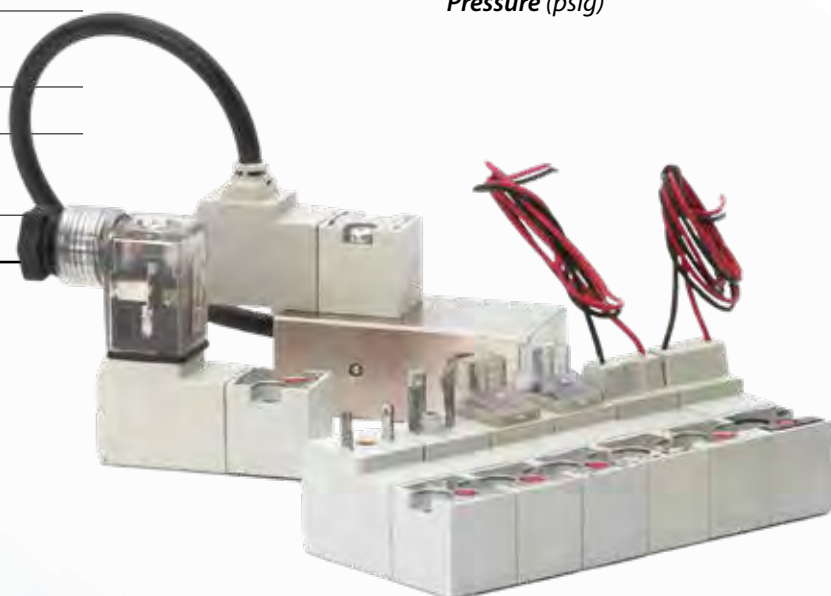
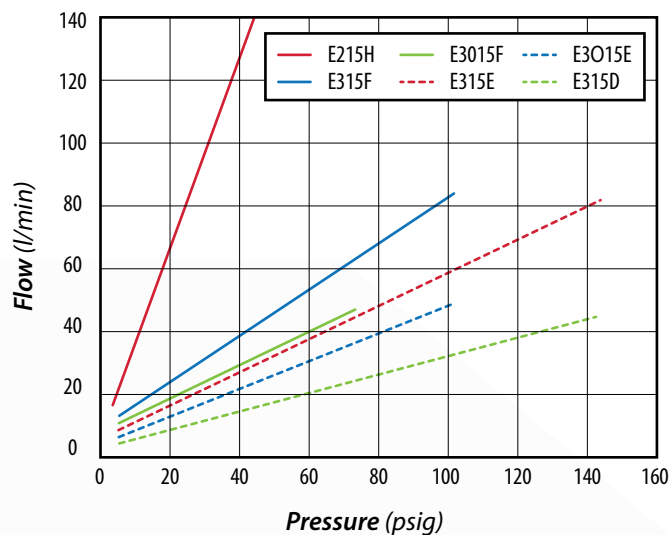


15 MM MINIATURE VALVES

Valve Type	2-way, 3-way
Medium	Air, gas, or other compatible fluids
Max. Flow Rate	0.118" Orifice: 140 l/min @ 50 psig 0.032" Orifice: 44 l/min @ 145 psig 0.043" Orifice: 84 l/min @ 145 psig 0.063" Orifice: 85 l/min @ 100 psig
Response Time	1.0 Watt: 8 ms nominal 2.0 Watts: 6 ms nominal 2.5 Watts: 6 ms nominal 4.0 Watts: 10 ms nominal
Standard Voltages	12 or 24 VDC; 24, 110, or 220 VAC
Voltage Tolerance	±10%
Operating Pressure Range	0 to 145 psig <i>Consult factory for different pressures</i>
Power Consumption	1.0, 2.0, 2.5 or 4.0 watts <i>Dependent on orifice size and pressure</i>
Material	Stainless steel core and springs, nylon body, FKM seals, nitrile gasket
Coil Insulation Class	H 356°F (180°C) / F 311°F (155°C)
Temperature Range	23 to 122°F (-5 to 50°C) <i>If below 32°F (0°C), must use clean, dry air</i>
Compliance	CE, RoHS, REACH



Typical Performance



	15 mm Standard E215D / E315D	15 mm Standard E215E / E315E	15 mm Standard E3O15E / E3O15F	15 mm Standard E215F / E315F	15 mm Latching E2L15E / E3L15E E2L15F / E3L15F	15 mm High Flow E215H
Valve Type	2-way N.C. 3-way N.C.	2-way N.C. 3-way N.C.	3-way N.O.	2-way N.C. 3-way N.C.	2-way N.C. 3-way N.C.	2-way N.C. Mono
Nominal Orifice Size (Dia.)	0.8 mm (0.032")	1.1 mm (0.043")	1.1 mm (0.043") 1.6 mm (0.063")	1.6 mm (0.063")	1.1 mm (0.043") 1.6 mm (0.063")	3.0 mm (0.118")
Working Pressure	0 to 145 psig	0 to 145 psig	0 to 100 psig 0 to 72 psig	0 to 100 psig	0 to 145 psig 0 to 100 psig	0 to 50 psig
Flow Rate	44 l/min @ 145 psig	84 l/min @ 145 psig	50 l/min @ 100 psig 45 l/min @ 72 psig	85 l/min @ 100 psig	84 l/min @ 145 psig 73 l/min @ 100 psig	140 l/min @ 50 psig
Response Time	8 ms nominal	6 ms nominal	6 ms nominal	6 ms nominal	10 ms nominal	10 ms nominal
Power Consumption	1 watt	2 watts / 2.5 watts	2 watts / 2.5 watts	2.5 watts	4 watts	4 watts
Mount	2 M3 screws	2 M3 screws	2 M3 screws	2 M3 screws	2 M3 screws	2 M3 screws
Terminal Connector	Available	Available	Available	Available	Not Standard	Not Standard
DIN Connector	Available	Available	Available	Available	Not Standard	Not Standard
In-Line Connector with LED	Available	Available	Available	Available	Not Standard	Available
90° Connector with LED	Available	Available	Available	Available	Not Standard	Available
Wire Leads	Available	Available	Available	Available	Available	Not Standard
Manifold (see pp. 18-19)	Standard	Standard	Standard	Standard	Standard	High Flow (E15HM-01)

Did You Know?

Clippard's 3-way 15 mm valves are ideal for most pilot applications due to their reliability and low cost.



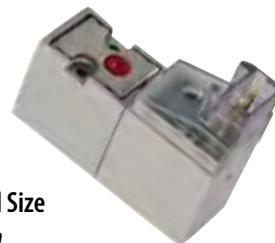
Thanks to their compact size, light weight, low power, and high flow rate capabilities, Clippard's 15 mm valves are particularly well-suited for O2 concentrators.



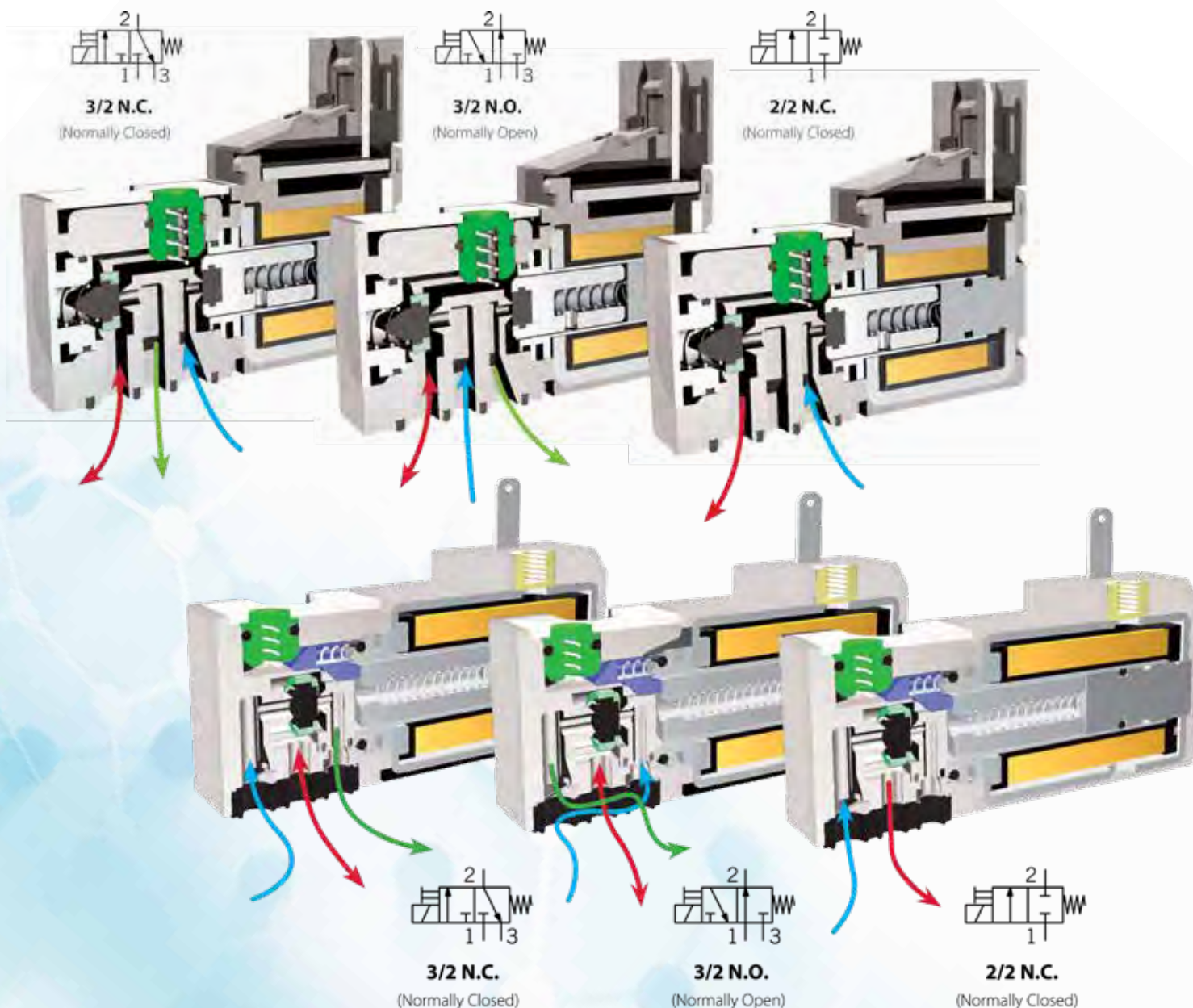
STANDARD SERIES

Clippard's line of 10 and 15 mm valves are perfect for applications where compact, electronically-controlled pneumatics are needed. Available in normally-open or normally-closed versions, these 2-way and 3-way valves feature a high strength, lightweight glass-filled nylon body and are suitable for a broad range of uses. With exceptional cycle life and reliability, this versatile miniature valve is a smart choice for applications across many different industries.

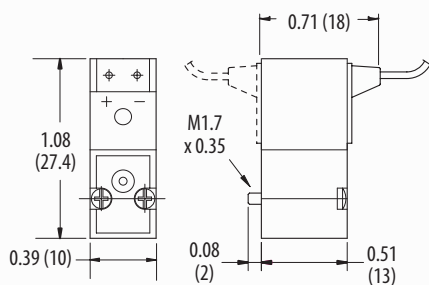
Actual Size
10 mm
with 90° connector



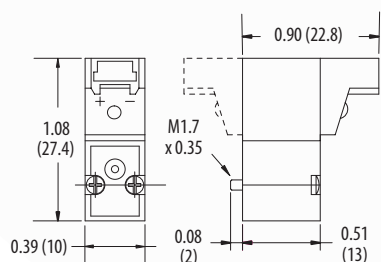
Actual Size
15 mm
with DIN connector



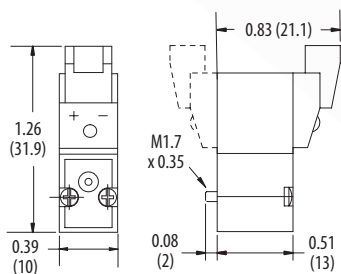
10 mm | Wire Leads



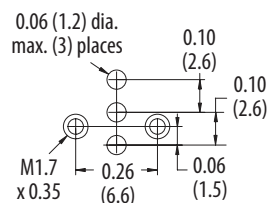
10 mm | 90° Connector with LED



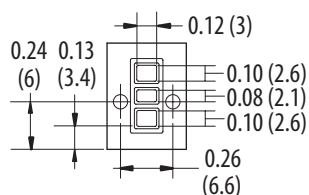
10 mm | In-Line Connector with LED



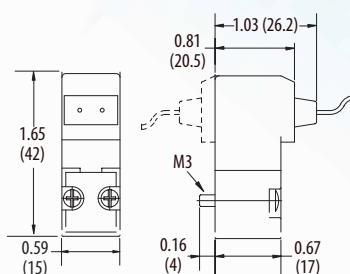
10 mm | Suggested Manifold Dimension



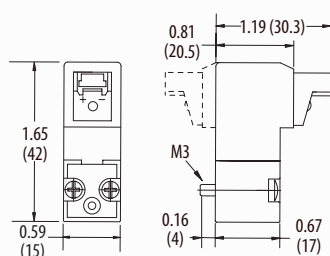
10 mm | Pneumatic Interface



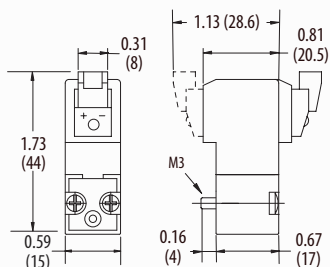
15 mm | Wire Leads



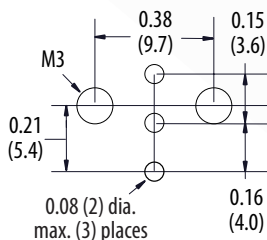
15 mm | 90° Connector with LED



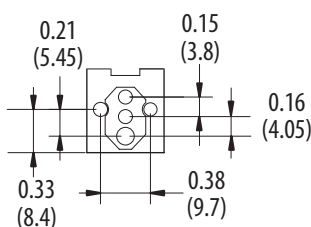
15 mm | In-Line Connector with LED



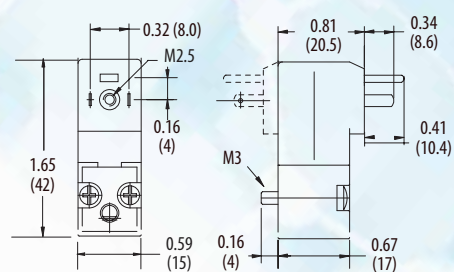
15 mm | Suggested Manifold Dimension



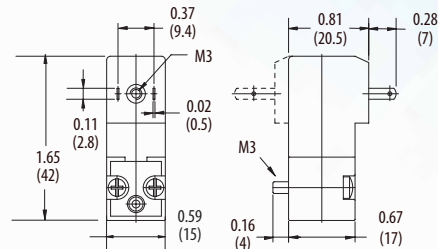
15 mm | Pneumatic Interface



15 mm | DIN Connector 43650 Form C



15 mm | Terminal Connector (Ind. Form)



CUSTOMIZATION OPTIONS

- Voltage
- Power
- Electrical Connectors
- IP Protection
- Pressures
- Manifold Assemblies
- Selector / Diverter
- Custom Seals

Contact Clippard for more details about how the 10 and 15 mm series valves can be customized to better meet the needs of your specific application.



Scan the QR code or visit clippard.com/link/cilmktg7698422 to easily configure your valve on our website.

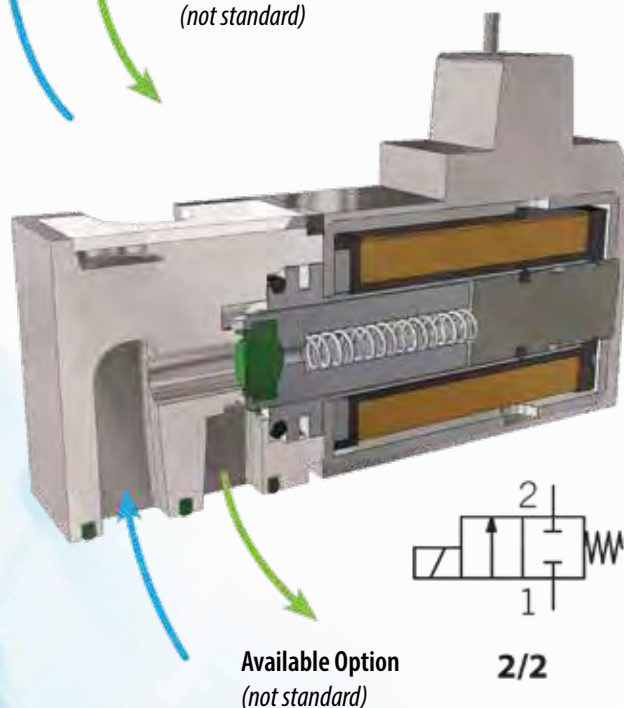
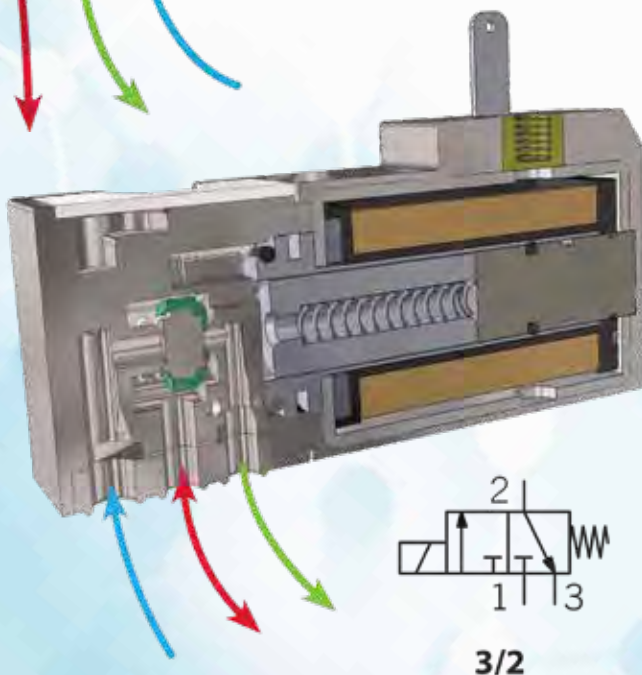
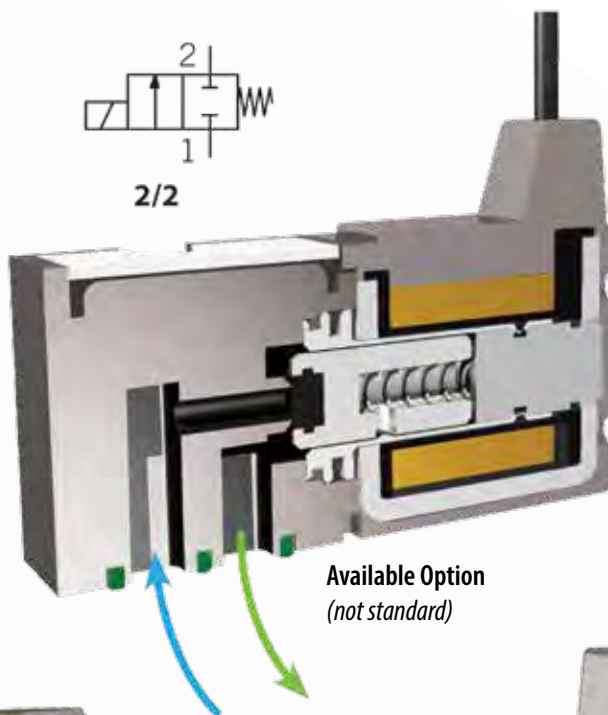
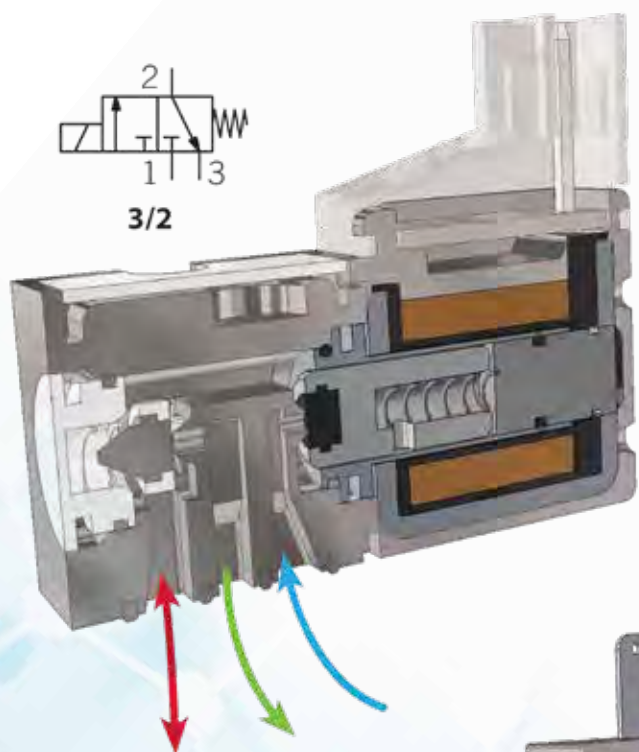
LATCHING SERIES

Latching valves consume less energy and produce less heat than standard solenoid valves when used in extended duty cycle applications, since the coil is energized for only a small fraction of the total duty cycle. 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.

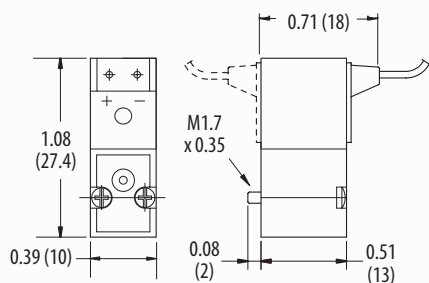
Actual Size
15 mm
with wire lead



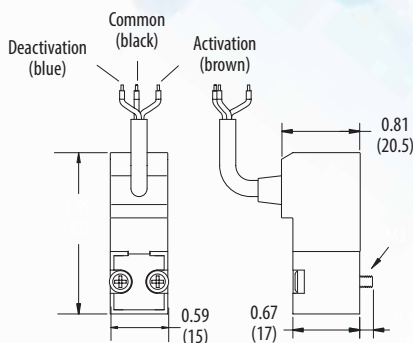
Actual Size
10 mm
with wire leads



10 mm | Wire Leads



15 mm | Wire Leads



CUSTOMIZATION OPTIONS

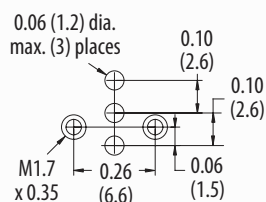
- Voltage
- Power
- Electrical Connectors
- IP Protection
- Pressures
- Manifold Assemblies
- Selector / Diverter
- Custom Seals

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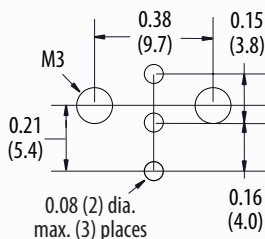


Scan the QR code or visit clippard.com/link/cilmktg7698422 to easily configure your valve on our website.

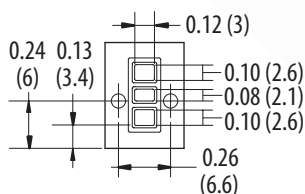
10 mm | Suggested Manifold Dimension



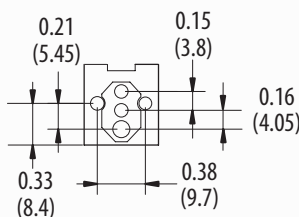
15 mm | Suggested Manifold Dimension



10 mm | Pneumatic Interface



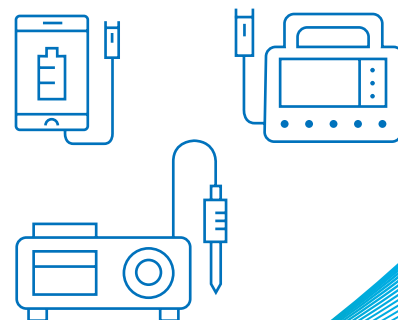
15 mm | Pneumatic Interface



Did You Know?

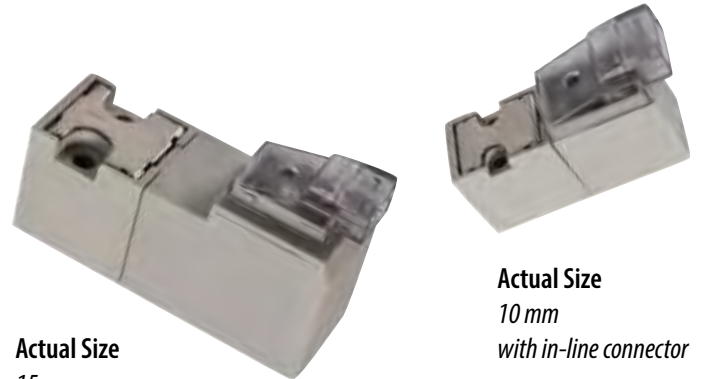
In a portable sampling device, power consumption is of utmost importance. The more power that a device requires, the larger its battery requirement, which increases the total cost of the device. Clippard latching valves allow for a momentary pulse of

power to change valve state which can result in minimal overall power consumption. In a portable sampling application, this can result in a device which is not only less expensive, but also lighter—and therefore, more portable.



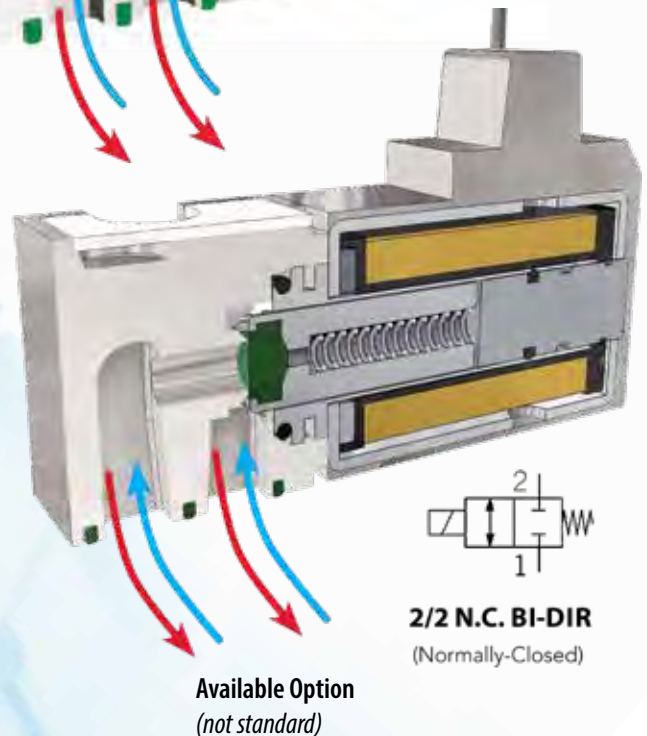
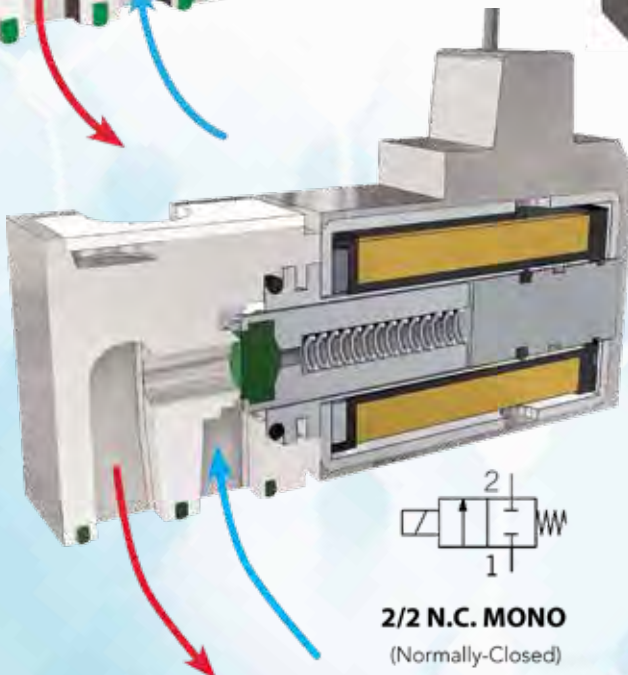
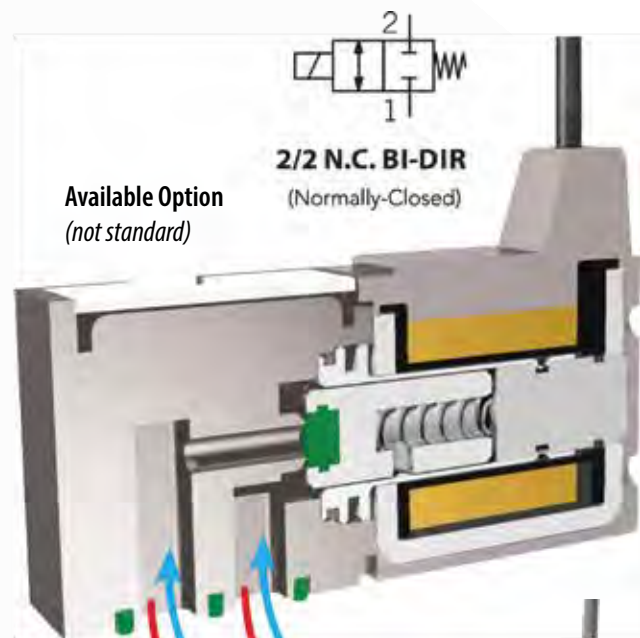
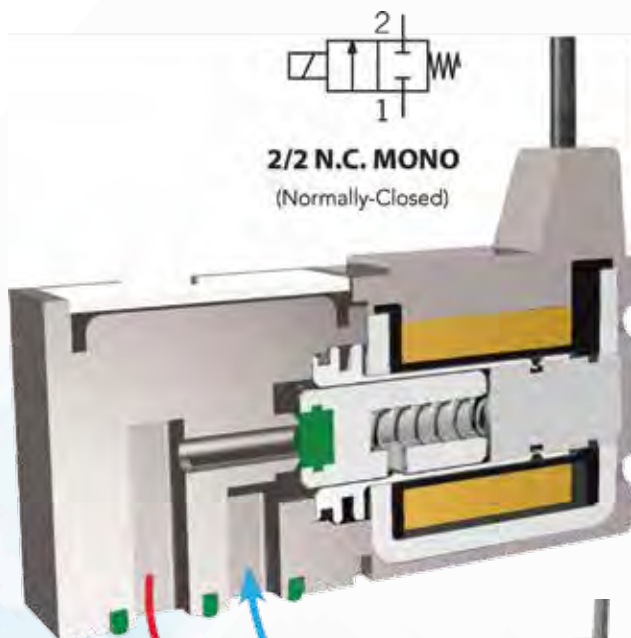
HIGH FLOW SERIES

Clippard's High Flow Series valves are designed for high flow, low pressure applications. Available in normally-closed versions, these 2-way valves feature a high strength, lightweight glass-filled nylon body and are suitable for a broad range of uses. With exceptional cycle life and reliability, this versatile miniature valve is a smart choice for applications in many industries.

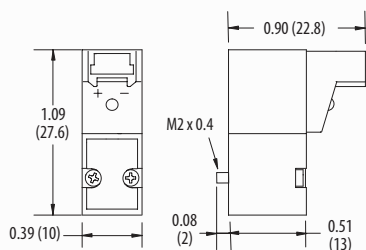


Actual Size
15 mm
with in-line connector

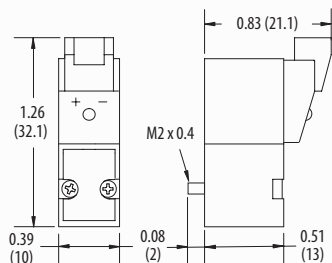
Actual Size
10 mm
with in-line connector



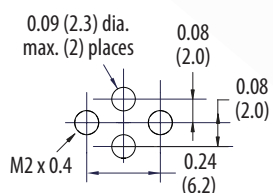
10 mm | 90° Connector with LED



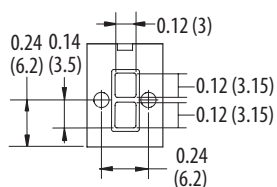
10 mm | In-Line Connector with LED



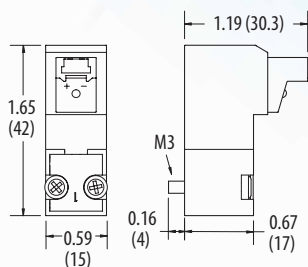
10 mm | Suggested Manifold Dimension



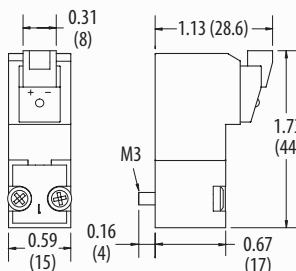
10 mm | Pneumatic Interface



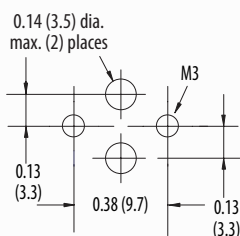
15 mm | 90° Connector with LED



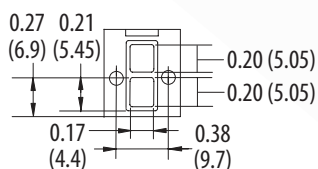
15 mm | In-Line Connector with LED



15 mm | Suggested Manifold Dimension



15 mm | Pneumatic Interface



CUSTOMIZATION OPTIONS

- Voltage
- Power
- Electrical Connectors
- IP Protection
- Pressures
- Manifold Assemblies
- Selector / Diverter
- Custom Seals

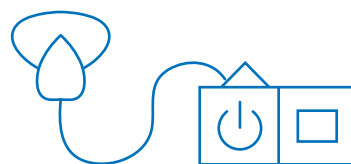
Contact Clippard for more details about how the 10 and 15 mm series valves can be customized to better meet the needs of your specific application.



Scan the QR code or visit clippard.com/link/cilmktg7698422 to easily configure your valve on our website.

Did You Know?

Clippard's high flow series valves are ideal for ventilator applications where high flow rates at low pressures are required in order to provide patients with air/oxygen.

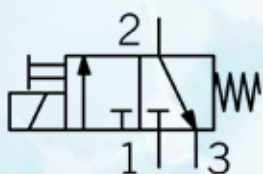
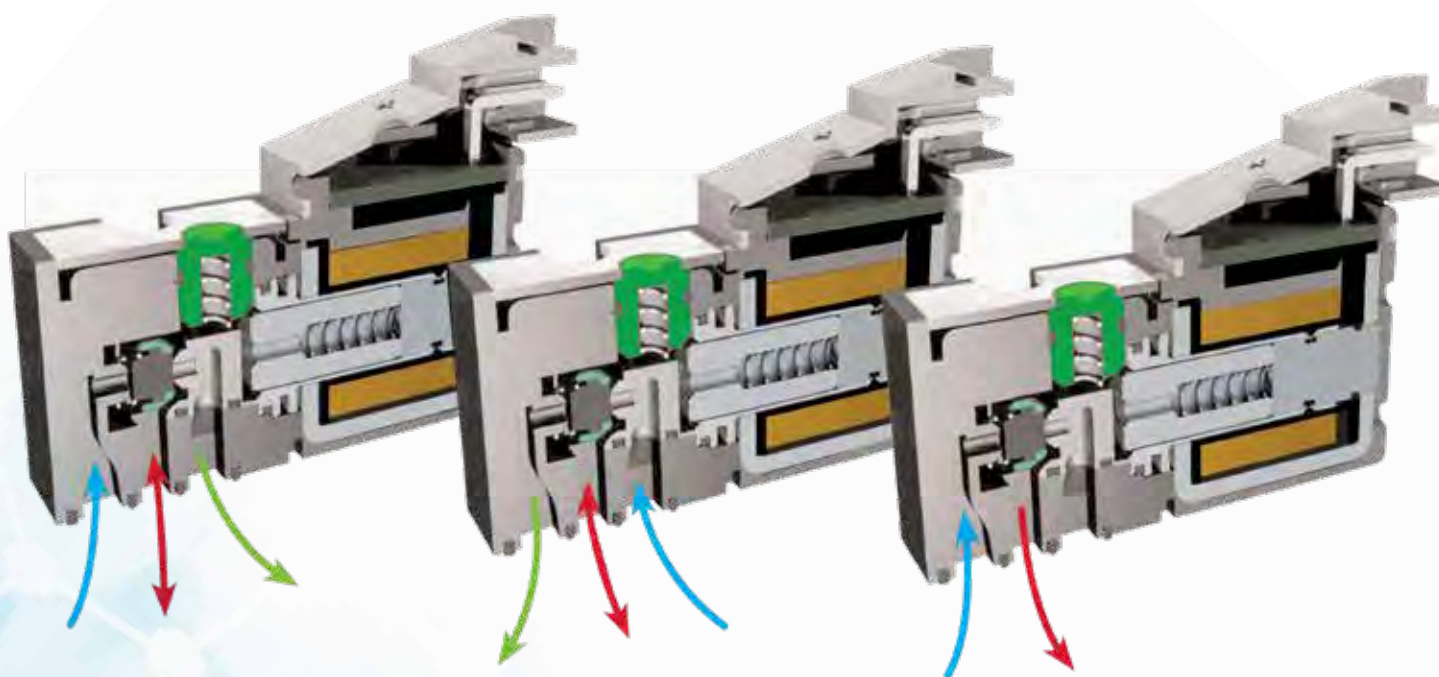


ISO SERIES

Clippard's ISO Series valves are designed to conform to the ISO 15218 standard for mounting and port locations. This series also comes with a built-in hit and hold circuit which allows for a higher flow rate and lower holding power consumption than any of the other 10 mm valve series. With exceptional cycle life and reliability, the ISO Series is a smart choice for high performance applications.

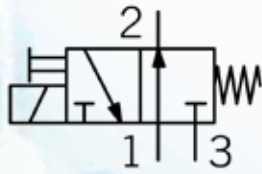


Actual Size
10 mm with 90° connector



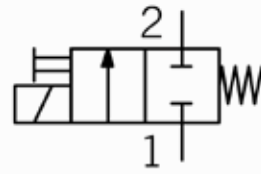
3/2 N.C.

(Normally-Closed)



3/2 N.O.

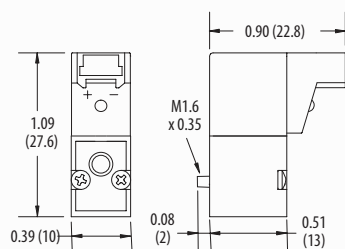
(Normally-Open)



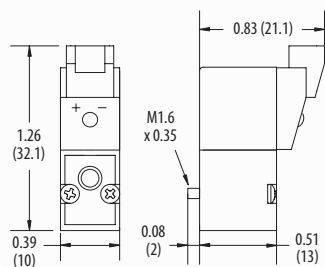
2/2 N.C.

(Normally-Closed)

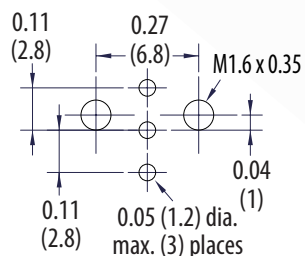
10 mm | 90° Connector with LED



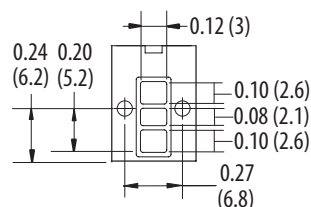
10 mm | In-Line Connector with LED



10 mm | Suggested Manifold Dimension



10 mm | Pneumatic Interface



HISTORY | Since 1941

Clippard is a third-generation family-owned and operated company. We have been proudly manufacturing in the United States of America for more than 75 years. Although many things have changed since our founder Leonard Clippard first began making coils out of his home in 1941, the fundamental principles he instilled in his company have endured. Our motto “Quality People, Quality Products” emphasizes the importance we place on relationships. Putting people over products was important to Leonard and it’s a philosophy that remains deeply embedded in our company culture. This extends not just to our employees but to our customers, our distributors, our suppliers, and our community.

It is this unique culture that has allowed us to rise above our competition—a culture rooted deeply in our company’s rich history, strengthened by our values, and cultivated by the efforts of many dedicated people over the years. Though it may be difficult to describe, it is unmistakably felt. Let us show you what it means to work with Clippard.



To learn more about
Clippard's history, visit:
clippard.com/link/history

Did You Know?

The principle of the ISO standard was to harmonize the orifice, port locations, and mounting so that the OEM and end customer could easily be supported by any valve manufacturer in an emergency. Clippard has a stock of ISO valves in the U.S. and also in Europe.

INNOVATIVE SOLUTIONS



Value-added sub-assembly with custom acrylic manifold

"I have always thought of pneumatics as an art rather than a science. It's both, certainly, because it involves precision in the production. But all the creativity comes in the application."

WILLIAM L. CLIPPARD, III

You & Your Team



Application



Specifications



Expertise

Clippard

SUPERIOR SUPPORT

BEST IN CLASS PRODUCTS



Experience



Support



Value



Quality



Reliability



Leak Rate



Testing



Value-added assembly with specially calibrated valves and custom manifold

CUSTOMIZATION OPTIONS

- Manifold materials
- Seal materials
- Flow & pressure ranges
- Voltage/power requirements
- Electrical connections & wire harness PCBs
- Ports/connectors
- Mounting configurations
- Oxygen clean services
- Pressure decay & helium leak testing
- Easy-to-install compact assemblies
- Assembly of other components—including customer-specified products, fittings, connectors, labeling, etc.

CAPABILITIES

- Expert in-house machining
- Vast network of outside vendors
- High capacity production & assembly
- Oxygen & analytical cleaning
- Pneumatic assemblies & sub-systems
- Custom manifold designs
- Manifold manufacturing & assemblies
- Pneumatic circuit design
- IPC-A-620 certified ISO quality systems
- Fitting & tubing harness assemblies
- Component kitting
- Specialized testing
- KanBan services
- Private labeling

Connecting Engineers with Engineers

Our sales team and distributors are invaluable in their own right, but our engineers don't like having to relay information through other people any more than yours do. Whenever possible, we prefer to get your technical people speaking directly to ours. This enables more efficient communication and has proven to be one of the best ways to shorten project timelines and ensure mutual success.

Application Engineering

We love a good challenge and take great pride in helping customers like you design better products. Smaller, faster, lighter—what are you trying to accomplish? We can help with anything from modified standard products to special manifolds to completely custom products designed for specific, unique applications. Together, we ensure that products are designed for robust performance and manufacturability to keep your project moving along quickly and efficiently.



ACCESSORIES

MANIFOLDS




Clippard manifolds provide efficient grouping of 10 or 15 mm valves and enable quick, easy installation. Choose from standard or miniature styles, available for one to sixteen valves with ported exhaust. Spare hardware and cover plates are also available. Each manifold features a common inlet, individually ported outlets, and exhaust to atmosphere.



Scan QR code or visit clippard.com/link/cilmktg7698422 to select manifolds and accessories, configure valves, view specs, download 3D files and more.



ORDERING INFO

Valve	Manifold
E   - 	Number of Stations
10 10 mm	01 Single-Station Manifold
10H 10 mm High Flow	02 2-Station Manifold
10L 10 mm ISO 15218	04 4-Station Manifold
15 15 mm	06 6-Station Manifold
15H 15 mm High Flow	08 8-Station Manifold
	10 10-Station Manifold
	12 12-Station Manifold
	14 14-Station Manifold
	16 16-Station Manifold

Number of Stations

01	Single-Station Manifold
02	2-Station Manifold
04	4-Station Manifold
06	6-Station Manifold
08	8-Station Manifold
10	10-Station Manifold
12	12-Station Manifold
14	14-Station Manifold
16	16-Station Manifold

Example Part Number:

E10M-01

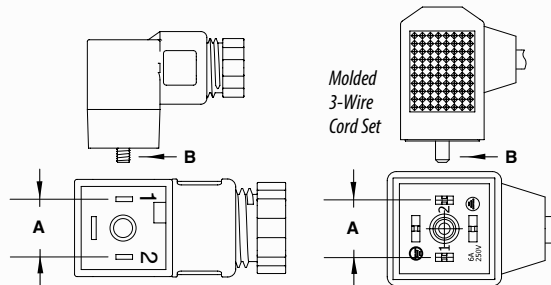
Please Note: Not all possible configurations are valid. Consult Clippard or your local distributor for more information.

When using these multi-station manifolds with normally-open valve configurations, they cannot be used with normally-closed valves on the same manifold.

DIN CONNECTORS

For use with 15 mm valves only







DIN 43650 Form C connectors with 8 mm spade center spacing mate with the 15 mm DIN connector coil. Industrial Form connectors with 9.4 mm spade center spacing are designed to connect to 15 mm terminal coils. Both are available with or without surge suppression, and PVC molded three-wire cord set.



DIN 43650 Form C
A: 8 mm, B: M2.5 x 0.45

Industrial Form
A: 9.4 mm, B: M3 x 0.5

ORDERING INFO

Form Part No.	Options
C   - 	Cord
I   - 	Blank None
	-P6 6' cord
	-P15 15' cord

Cord

Blank	None
-P6	6' cord
-P15	15' cord

Example Part Number:

CC-CLL-P6



CONNECTORS

Wire connector must be ordered separately. 24 AWG, stranding 7/32. Molex #50212-8000, #28139 plug.

Part No.	Description
C2A-RB300	Connector with Cable, 11.8"
C2A-RB500	Connector with Cable, 19.7"
C2A-RB1000	Connector with Cable, 39.4"



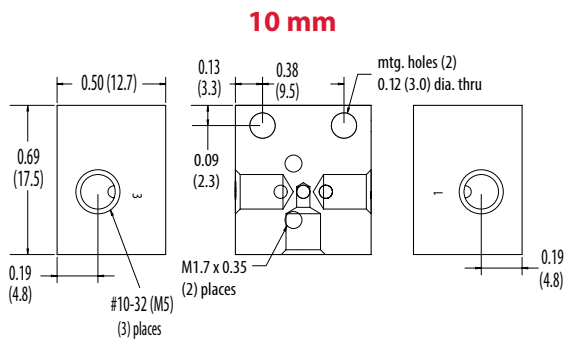
COVER PLATES

Includes plate, gasket and two screws.

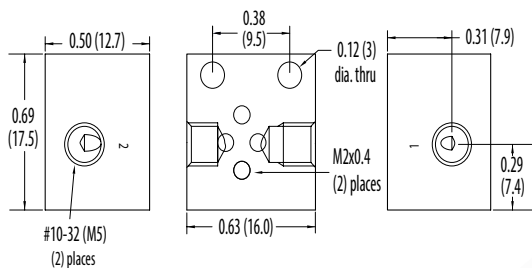
Part No.	Description
E10M-CP	10 mm Cover Plate
E15M-CP	15 mm Cover Plate



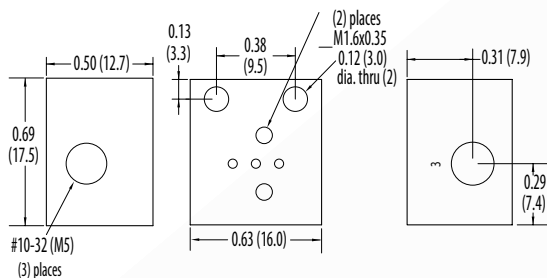
Standard Single-Station Manifolds



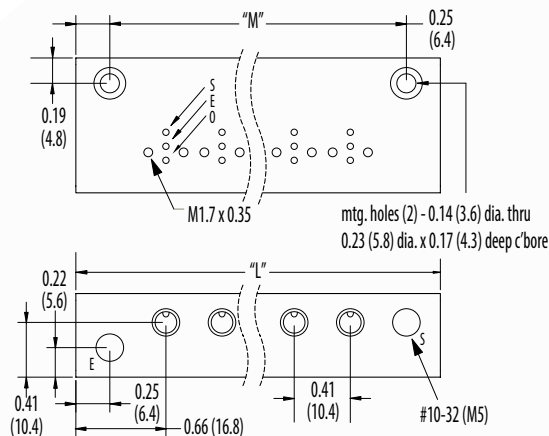
High Flow Single-Station Manifolds



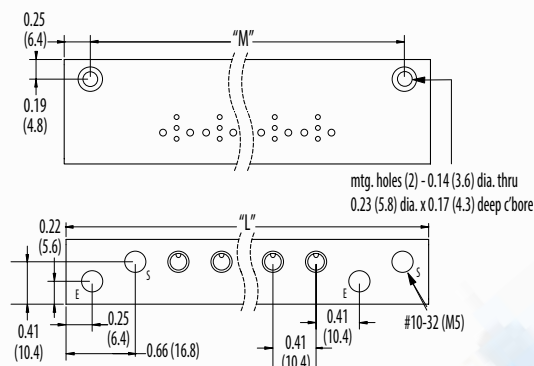
ISO 15218 Single-Station Manifold



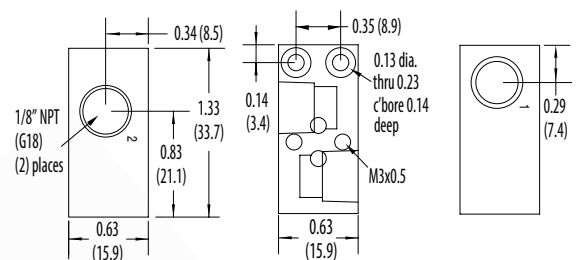
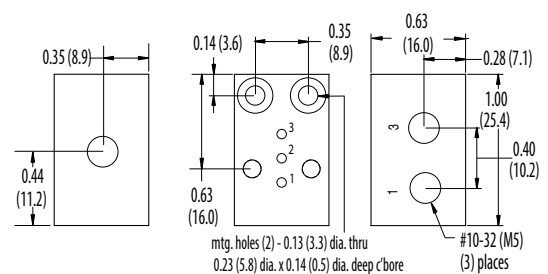
2- to 8-Station Manifolds



10- to 16-Station Manifolds



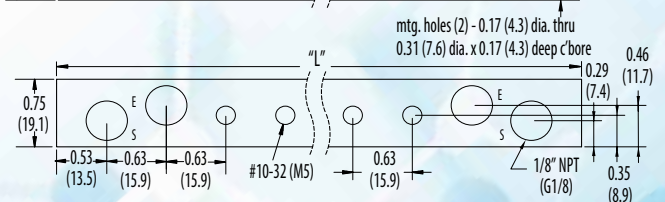
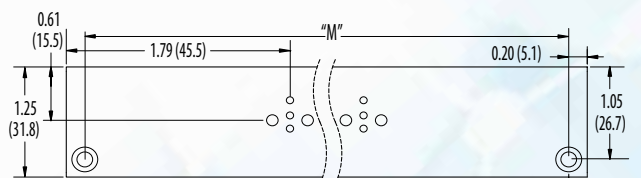
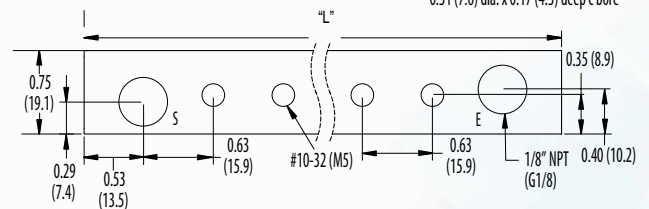
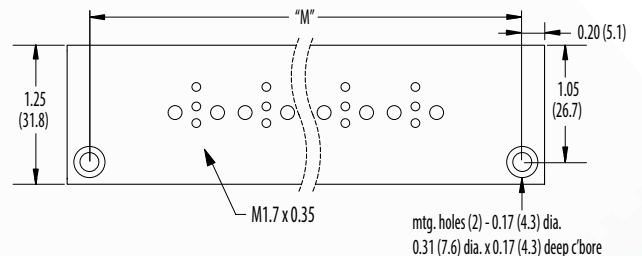
15 mm



10 mm

15 mm

Stations	L	M	L	M
2	1.74 (44.2)	1.24 (31.5)	2.95 (74.9)	2.55 (64.8)
4	2.57 (65.3)	2.07 (52.6)	4.21 (106.7)	3.81 (96.8)
6	3.39 (86.1)	2.89 (73.4)	5.47 (137.2)	5.07 (128.8)
8	4.22 (107.2)	3.72 (94.5)	6.73 (170.9)	6.33 (160.8)
10	5.87 (149.1)	5.37 (136.4)	9.25 (235.0)	8.85 (224.8)
12	6.70 (170.2)	6.20 (157.5)	10.51 (267.0)	10.1 (256.5)
14	7.52 (191.0)	7.02 (178.3)	11.77 (297.2)	11.4 (289.6)
16	8.35 (212.1)	7.85 (199.4)	13.03 (331.0)	12.6 (320.0)



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