

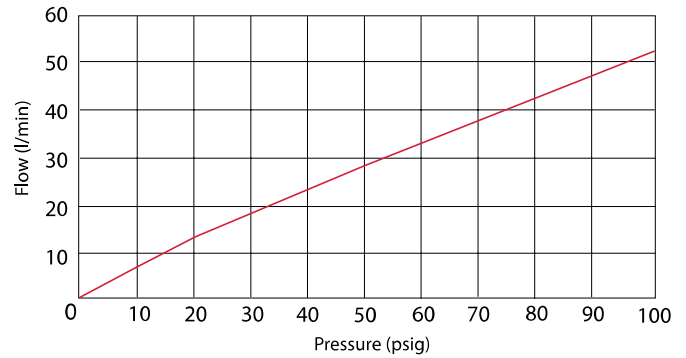
3-WAY #3-56 SUB-MINIATURE SPOOL VALVES

SMTV/SMAV SERIES

3-Way toggle and push button valves have 1/16" tube barbs. The push-button valve can be used as a Normally-Open or Normally-Closed 3-Way.

Medium	Air
Stem Travel	1/16"
Input Pressure	100 psig max.
Ports	#3-56 with 1/16" I.D. hose barbs
Air Flow	51 l/min @ 100 psig
Force to Depress Push Stem	SMAV: 20 oz. SMTV: 24 oz. nominal
Spool Material	Stainless steel

Pressure vs. Flow



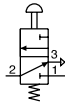
- Subminiature size spool design
- Multiple colored buttons for SMAV



Normally-Open/
Normally-Closed

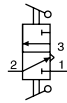
Function	Part No.
N.O.-N.C.	SMAV-3

Four colors of snap-on push buttons included with each valve

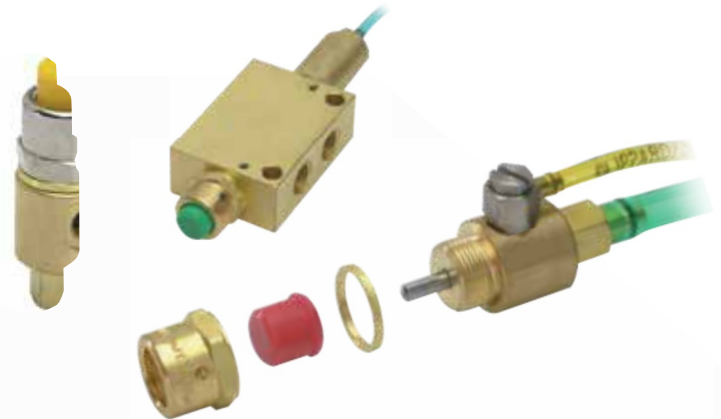


Normally-Closed

Function	Part No.
Normally-Closed	SMTV-3



Their small, compact size make push buttons adaptable to panel mounting. Unlike set screw retained buttons, the screw-on design will not allow the button to fall off. Designed to work with Clippard MAV, MJV, and FV series valves, these buttons also help protect the valve by preventing over-traveling of the stem and the potential for side-load on the valve. See p. 91 for more information.



Custom Solutions

Need a product that fits your application perfectly? Clippard can design or modify standard products to suit your *exact* needs. We understand that catalog products are sometimes close, but still not quite what your application requires.

Call **877-245-6247** today so we can discuss your application and specific requirements.



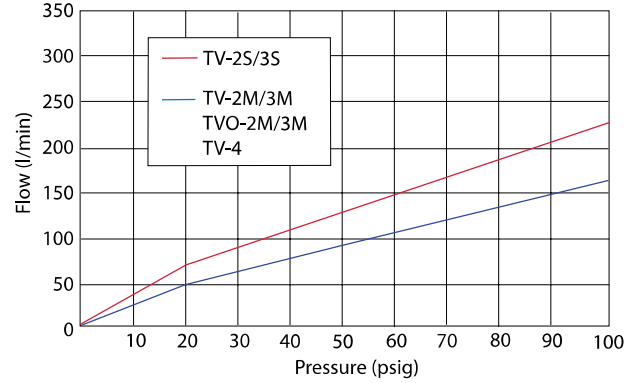
2-WAY & 3-WAY #10-32 & 1/8" NPT TOGGLE VALVES

TV/TVO SERIES

The function of a 2-Way valve is to turn an air supply on and off. In the "on" position, medium flows from inlet to outlet, and in the "off" position, the flow is blocked. 3-Way styles have an exhaust port which vents the outlet to atmosphere.

Medium	Air, water, or oil
Input Pressure	150 psig max.
Force to Rotate Toggle	12 oz. nominal
Mounting	#15/32-32 thread; nuts and lockwashers furnished
Materials	Brass body, nitrile seals, stainless steel stem and spring

Pressure vs. Flow



- Normally-Open or Normally-Closed
- NP steel or plastic toggles

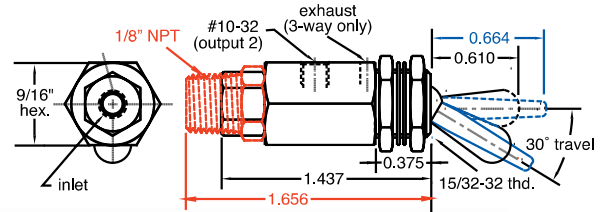
N.C. POPPET VALVES WITH MOMENTARY ACTUATION



(TV-2MF shown; closed)

Port(s)	Toggle	2-Way	3-Way
#10-32	NP Steel	TV-2M	TV-3M
#10-32	Plastic	TV-2MF	TV-3MF
1/8" NPT	NP Steel	TV-2MP	TV-3MP
1/8" NPT	Plastic	TV-2MFP	TV-3MFP

Air Flow: 95 l/min @ 50 psig; 160 l/min @ 100 psig



SPOOL VALVES WITH DETENTED ACTUATION

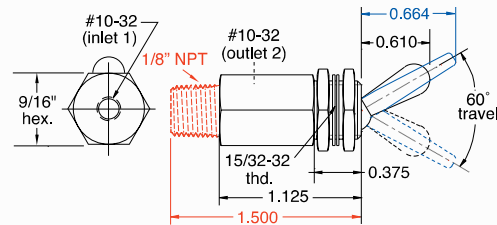


(TV-2SP shown; open)

Port(s)	Toggle	2-Way	3-Way
#10-32	NP Steel	TV-2S	TV-3S
#10-32	Plastic	TV-2SF	TV-3SF
1/8" NPT	NP Steel	TV-2SP	TV-3SP
1/8" NPT	Plastic	TV-2SFP	TV-3SFP

Air Flow, TV-3: 135 l/min @ 50 psig; 225 l/min @ 100 psig;

Air Flow, TV-2: 95 l/min @ 50 psig; 160 l/min @ 100 psig



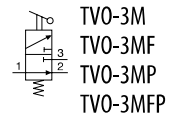
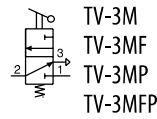
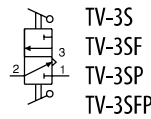
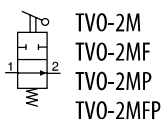
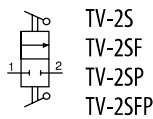
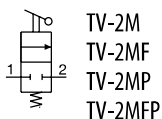
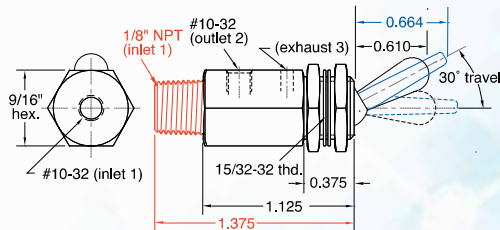
N.O. SPOOL VALVES WITH MOMENTARY ACTUATION



(TVO-3M shown; open)

Port(s)	Toggle	2-Way	3-Way
#10-32	NP Steel	TVO-2M	TVO-3M
#10-32	Plastic	TVO-2MF	TVO-3MF
1/8" NPT	NP Steel	TVO-2MP	TVO-3MP
1/8" NPT	Plastic	TVO-2MFP	TVO-3MFP

Air Flow: 95 l/min @ 50 psig; 160 l/min @ 100 psig

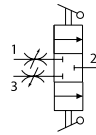
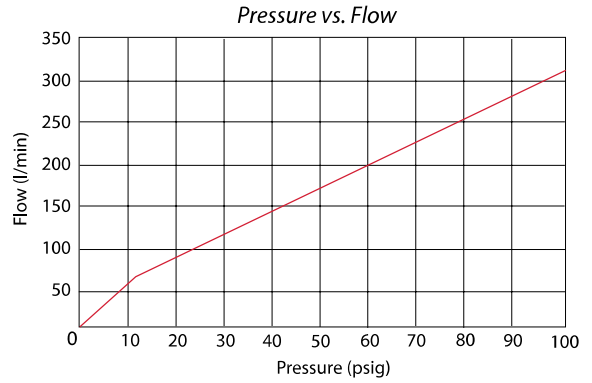


FILL & BLEED TOGGLE VALVES

FBV SERIES

The FBV-3 may be used to pressurize or “fill” a chamber or bladder by depressing the toggle in one direction and then de-pressurize or “bleed” that same chamber or bladder by depressing the toggle in the other direction. Toggling back and forth between the inlet and exhaust provides a fine adjustment of the required pressure in the chamber or bladder.

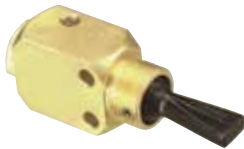
Medium	Air
Input Pressure	120 psig max.
Materials	Brass body, nitrile seals, stainless steel stem and spring
Force for Full Stem Travel	8 oz. nominal
Toggle	Plastic or ENP steel
Mounting	5/8-32 thread



Air Flow

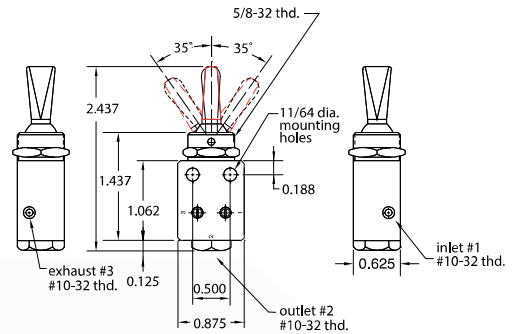
125 l/min @ 50 psig
210 l/min @ 100 psig

#10-32 Valves



Plastic toggle shown

Flow	Function	Toggle	Part No.
Full	Detented/Detented	Plastic	FBV-3DF
Full	Momentary/Momentary	Plastic	FBV-3MF
Full	Detented/Momentary	Plastic	FBV-3DMF
Full	Detented/Detented	ENP Steel	FBV-3DFH
Full	Momentary/Momentary	ENP Steel	FBV-3MFH
Full	Detented/Momentary	ENP Steel	FBV-3DMFH

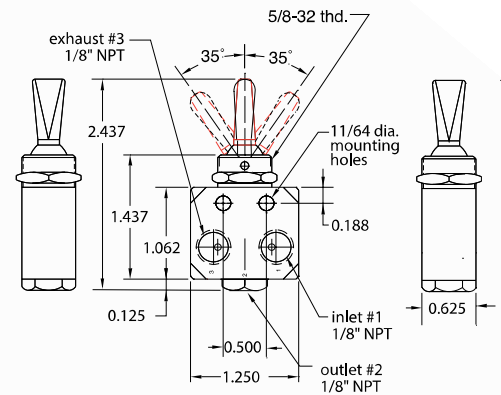


1/8" NPT Valves



ENP steel toggle shown

Flow	Function	Toggle	Part No.
Full	Detented/Detented	Plastic	FBV-3DPF
Full	Momentary/Momentary	Plastic	FBV-3MPF
Full	Detented/Momentary	Plastic	FBV-3DMPF
Full	Detented/Detented	ENP Steel	FBV-3DPFH
Full	Momentary/Momentary	ENP Steel	FBV-3MPFH
Full	Detented/Momentary	ENP Steel	FBV-3DMPFH



Model Number				
FBV-3DF	#10-32 1/8" NPT	Detented	Spring centered, all ports blocked	Detented
FBV-3MF	#10-32 1/8" NPT	Momentary		Momentary
FBV-3DMF	#10-32 1/8" NPT	Detented		Momentary

• Models may be used as pressure selectors

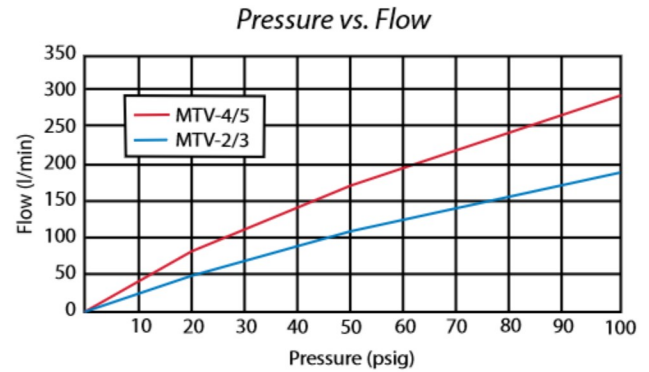
options (suffix)
ENP Plating "ENP" • FKM Seals "V"

2-WAY, 3-WAY & 4-WAY #10-32 & 1/8" NPT TOGGLE VALVES

MTV SERIES

These #10-32 ported 2-Way, 3-Way, and 4-Way valves are manually actuated with a toggle. The toggles are electroless nickel plated steel and have a detent action. The MTV-5 has threaded exhaust and can be connected in a dual inlet pressure configuration.

Medium	Air, water, or oil
Input Pressure	150 psig max.
Air Flow	MTV-2: 113 l/min @ 50 psig; 205 l/min @ 100 psig MTV-3: 113 l/min @ 50 psig; 190 l/min @ 100 psig MTV-4, MTV-5: 170 l/min @ 50 psig; 280 l/min @ 100 psig
Force to Rotate Toggle	MTV-2, MTV-4: 12 oz. MTV-3, MTV-5: 16 oz. nominal
Mounting	15/32-32 thread; nut and lockwashers furnished
Materials	Brass body, nitrile seals, stainless steel stem and spring



- MTV-2/3 are poppet valves
- MTV-4/5 are spool valves
- MTV-5 valves are fully-ported

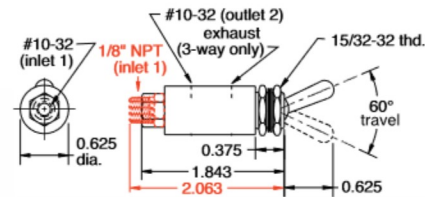
options (suffix)
ENP Plating *-ENP* - FKM Seals *-V*

POPPET VALVES



MTV-3 shown

Port(s)	Toggle	2-Way	3-Way
#10-32	ENP Steel	MTV-2	MTV-3
1/8" NPT	ENP Steel	MTV-2P	MTV-3P

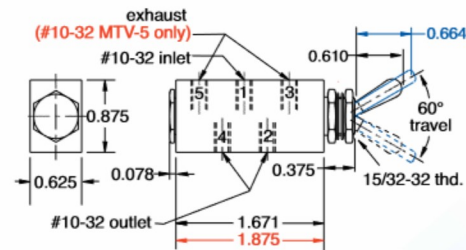


SPOOL VALVES

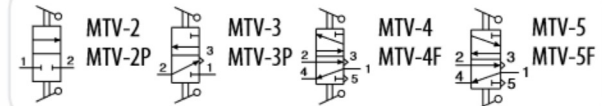


MTV-4F shown

Port(s)	Toggle	Exhaust	4-Way
#10-32	ENP Steel	To Atmosphere	MTV-4
#10-32	Plastic	To Atmosphere	MTV-4F
#10-32	ENP Steel	#10-32	MTV-5
#10-32	Plastic	#10-32	MTV-5F



For high temperature applications (up to +400°F), or those that require special seals for chemical compatibility, Clippard offers optional FKM seals.



Same-Day Shipping

Hundreds of miniature cylinders, control valves, electronic valves, fittings and other products in stock and ready to ship! Order by **2:30 p.m. EST**

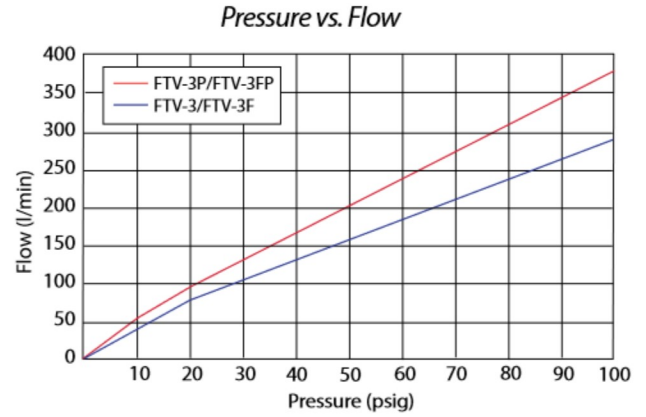
3-WAY #10-32 & 1/8" NPT TOGGLE VALVES

FTV SERIES

These 3-Way valves have a supply, outlet and exhaust port. When the toggle is in the "on" position air flows from the inlet to the outlet and the exhaust port is blocked. Moving the toggle to the "off" position closes the inlet and opens the outlet to an exhaust port which vents the outlet to atmosphere.

3-Way toggle valves may have a poppet or spool and by movement of the toggle may either be 2-position or have a momentary actuation.

Medium	Air
Force to Rotate Toggle	16 oz. nominal
Mounting	15/32-32 thread; nut and lockwashers furnished
Materials	Brass body, nitrile seals, stainless steel stem and spring



- Compact design
- Nickel-plated steel or plastic toggles



SPOOL VALVES

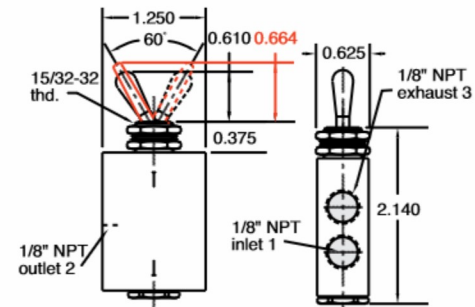
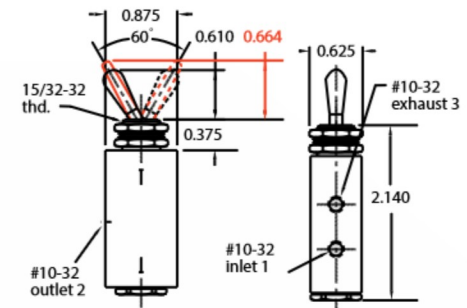


FTV-3 shown



FTV-3FP shown

Part No.	Ports	Air Flow	Toggle
FTV-3 FTV-3F	#10-32	170 l/min @ 50 psig; 280 l/min @ 100 psig	NP Steel Plastic
FTV-3P FTV-3FP	1/8" NPT	180 l/min @ 50 psig; 295 l/min @ 100 psig	NP Steel Plastic



15/32 PANEL MOUNTING NUT



Brass with black or bright nickel finish

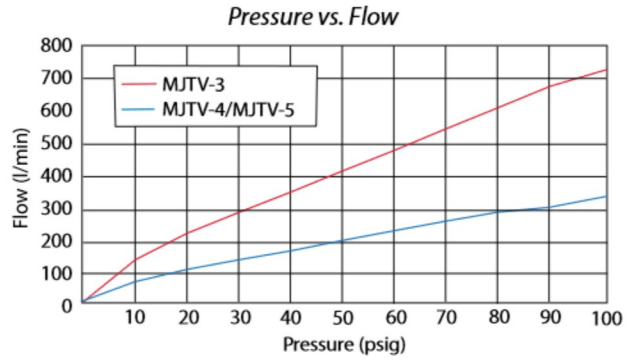
Part No.	
11406-1	Black
11406-2	Bright

3-WAY & 4-WAY 1/8" NPT TOGGLE VALVES

MJTV & HTV SERIES

3-Way valves have a supply, outlet and exhaust port. When the toggle is in the "on" position, air flows from the inlet to the outlet and the exhaust port is blocked. Moving the toggle to the "off" position closes the inlet and opens the outlet to an exhaust port which vents the outlet to atmosphere.

4-Way valves can supply and exhaust two different outlets and are commonly used with double-acting cylinders. When the toggle is in one position, air flows from the inlet to one of the outlets. The second outlet is open to the exhaust port which is vented to atmosphere. Moving the toggle to the opposite position opens the inlet to the second outlet while exhausting the first outlet. 4-Way ported valves can be plumbed in a dual pressure inlet configuration to save air consumption.



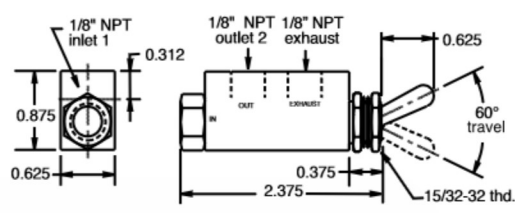
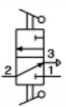
Medium	Air
Input Pressure	MJTV-3: 300 psig; MJTV-4/5: 150 psig max.
Force to Rotate Toggle	MJTV-4: 12 oz. MJTV-3, MJTV-5: 16 oz. nominal
Mounting	15/32-32 thread; nuts and lockwashers furnished
Materials	Brass body, nitrile seals, stainless steel stem and spring

MJTV N.C. 3-WAY 2-POSITION POPPET VALVE



Port(s)	Toggle	3-Way
1/8" NPT	ENP Steel	MJTV-3

Air Flow: 400 l/min @ 50 psig, 710 l/min @ 100 psig;



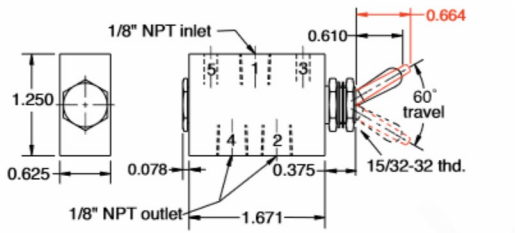
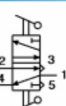
MJTV N.O./N.C. 4-WAY 2-POSITION VALVES



MJTV-4 shown

Port(s)	Toggle	4-Way
1/8" NPT	ENP Steel	MJTV-4
1/8" NPT	Plastic	MJTV-4F

Air Flow: 180 l/min @ 50 psig, 295 l/min @ 100 psig



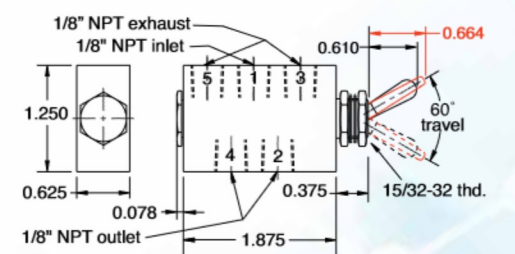
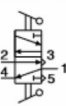
MJTV N.O./N.C. 4-WAY FULLY-PORTED SPOOL VALVES



MJTV-5F shown

Port(s)	Toggle	4-Way
1/8" NPT	ENP Steel	MJTV-5
1/8" NPT	Plastic	MJTV-5F

Air Flow: 180 l/min @ 50 psig, 295 l/min @ 100 psig



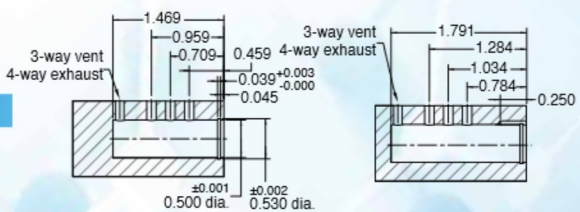
HTV TOGGLE VALVE

Minimum order quantities may apply.



Port(s)	Toggle	4-Way
Cartridge	NP Steel	HTV-4C

Air Flow: 180 l/min @ 50 psig; 330 l/min @ 100 psig

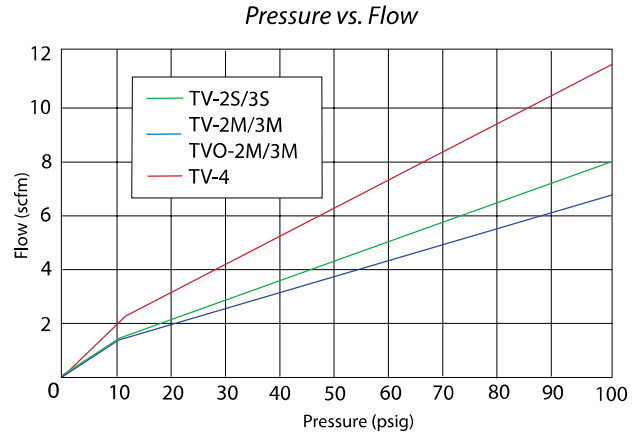


4-WAY #10-32 & 1/8" NPT TOGGLE VALVES

TV SERIES

4-Way 3-position toggle valve with outlet ports open to atmosphere in the center position. The valve can be spring centered, 3-position detent or the "DM" provides a detent on one side and spring return on the other side. The TV-DM model can be used on the momentary side as a "jog" or manual control, and with the detented side for an automatic or "run" mode.

Medium	Air
Input Pressure	150 psig max.
Materials	Brass body, nitrile seals, stainless steel spring
Air Flow	125 l/min @ 50 psig; 210 l/min @ 100 psig
Force to Rotate Toggle	8 oz. nominal
Mounting	5/8-32 thread, nut and lockwashers furnished



- Designed for use with Clippard manual, air pilot, electrical, or mechanical actuators

4-Way #10-32 Valves



TV-4D shown

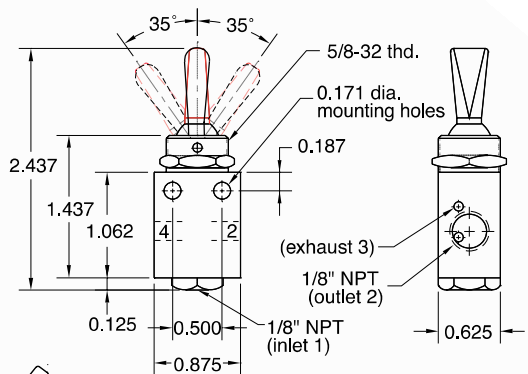
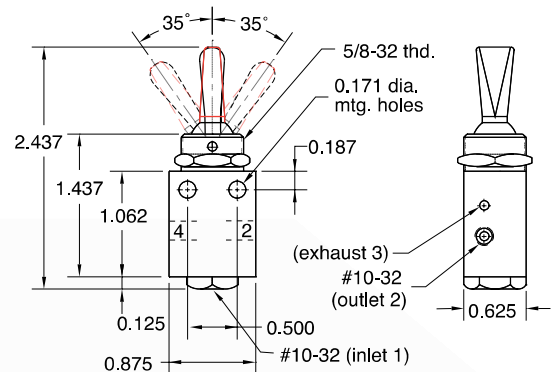
Function	Toggle	4-Way
Detented/Detented	Plastic	TV-4D
Momentary/Momentary	Plastic	TV-4M
Detented/Momentary	Plastic	TV-4DM
Detented/Detented	ENP Steel	TV-4DH
Momentary/Momentary	ENP Steel	TV-4MH
Detented/Momentary	ENP Steel	TV-4DMH

4-Way 1/8" NPT Valves



TV-4DH shown

Function	Toggle	4-Way
Detented/Detented	Plastic	TV-4DP
Momentary/Momentary	Plastic	TV-4MP
Detented/Momentary	Plastic	TV-4DMP
Detented/Detented	ENP Steel	TV-4DPH
Momentary/Momentary	ENP Steel	TV-4MPH
Detented/Momentary	ENP Steel	TV-4DMPH



Model Number			
TV-4D	#10-32	Detented	Detented
TV-4DP	1/8" NPT		Detented
TV-4M	#10-32	Momentary	Momentary
TV-4MP	1/8" NPT		Momentary
TV-4DM	#10-32	Detented	Momentary
TV-4DMP	1/8" NPT		Momentary

Spring centered supply blocked both sides exhausted

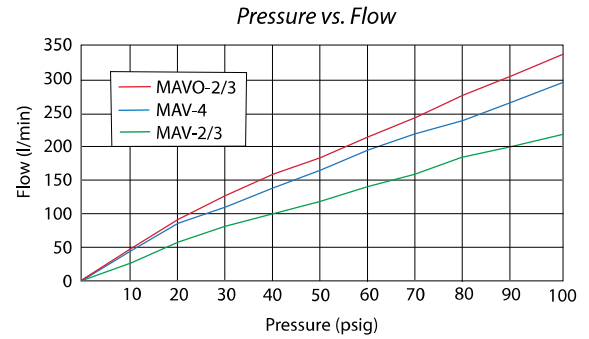


2-WAY, 3-WAY & 4-WAY #10-32 STEM & CARTRIDGE VALVES

MAV/MAVO & HV SERIES

The MAV series are #10-32 ported valves that change their flow path when the stem is depressed or released. The 2-Way and 3-Way valves are offered in both Normally-Closed (not passing) or Normally-Open (passing) versions. The 4-Way valves are typically used to control a double-acting air cylinder. Clippard offers a wide range of pneumatic and mechanical valve actuators that work with all Clippard stem valves.

Medium	Air, water, or oil
Input Pressure	MAV-2, MAV-3: 300 psig max. MAVO-2, MAVO-3, MAV-4: 150 psig max
Stem Travel	MAV-2, MAV-3: 1/8"; MAV-4: 3/16"
Force for Stem Travel	MAV-2, MAV-3: 24 oz.; MAVO-2, MAVO-3: 32 oz. MAV-4: 38 oz.; MAV-4D: 12 oz. nominal
Mounting	15/32-32 thread, nut and lockwashers furnished Cartridge inserts into 0.375" ±0.001" bore.
Materials	Brass body, nitrile seals, stainless steel stem and spring



- Miniature size with high flow poppet or spool design
- Poppet valves provide superior life; spool valves provide superior versatility
- Rotatable inlet available

options (suffix)
ENP Plating *-ENP* • FKM Seals *-V*

MAV N.C. POPPET VALVES



Inlet	Outlet	2-Way	3-Way
#10-32	#10-32	MAV-2	MAV-3
1/8" NPT	#10-32	MAV-2P	MAV-3P
Air Flow: 113 l/min @ 50 psig; 190 l/min @ 100 psig			

MAVO N.O. SPOOL VALVES



Inlet	Outlet	2-Way	3-Way
#10-32	#10-32	MAVO-2	MAVO-3
1/8" NPT	#10-32	MAVO-2P	MAVO-3P
Air Flow: 170 l/min @ 50 psig; 280 l/min @ 100 psig			

MAV 4-WAY SPOOL VALVES



Inlet	Outlet	Actuation	4-Way
#10-32	#10-32	Spring Return	MAV-4
#10-32	#10-32	2-Position	MAV-4D
Air Flow: 140 l/min @ 50 psig; 240 l/min @ 100 psig			

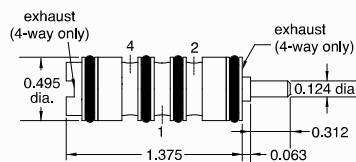
MAV & MAVO N.O. & N.C. CARTRIDGE VALVES



Function	2-Way	3-Way
Normally-Closed	MAV-2C	MAV-3C
Normally-Open	MAVO-2C	MAVO-3C
Air Flow: 85 l/min @ 50 psig; 170 l/min @ 100 psig		

HV STEM VALVE

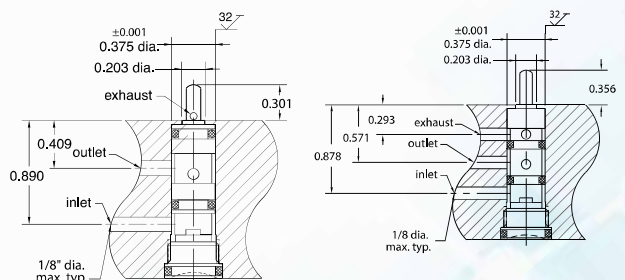
Ports	4-Way
#10-32	HV-4C



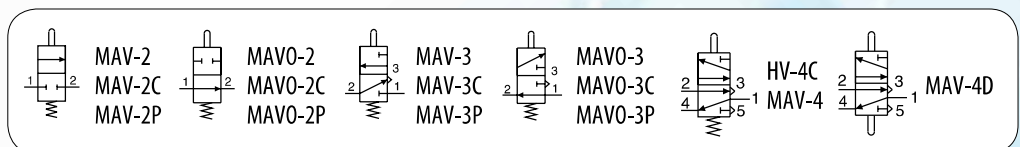
Air Flow: 180 l/min @ 50 psig; 330 l/min @ 100 psig



Minimum order quantities may apply.



Cavity Drawings—MAV-2C/3C (above, left); MAVO-2C/3C (above, right)

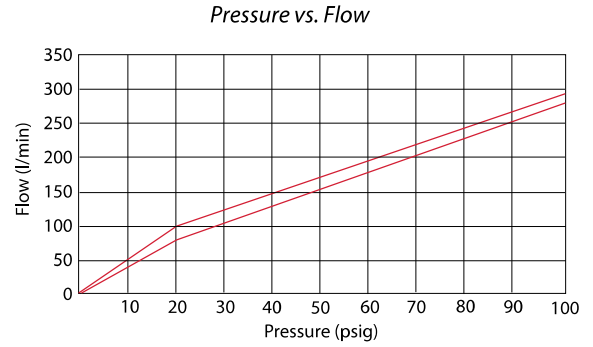


3-WAY & 4-WAY #10-32 & 1/8" NPT STEM VALVES

FV SERIES

These balanced spool valves are fully-ported, which means that all ports are usable and can handle pressure or vacuum or both. The FV-3 is a 3-Way but can be used as a 2-Way Normally-Open or Closed by plugging port 2 or 4. As a 3-Way it can be connected as a Normally-Closed, Normally-Open and as a selector or diverter. The FV-5 can be connected in a dual pressure inlet configuration.

Medium	Air, oil, or water
Input Pressure	150 psig max.
Stem Travel	1/8"
Force for Full Stem Travel	FV-3, FV-3P, FV-4, FV-4P, FV-5, FV-5P: 4.5 pounds nominal FV-3D, FV-3DP, FV-4D, FV-4DP, FV-5D, FV-5DP: 1.5 pounds nominal
Mounting	15/32-32 thread, nuts and lockwashers furnished
Materials	Brass body, nitrile seals, stainless steel stem and spring



- Designed for use with Clippard manual, air pilot, electrical, or mechanical actuators

options (suffix)
ENP Plating "ENP" • FKM Seals "V"

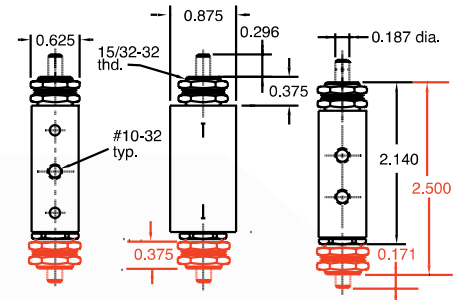
3-WAY VALVES



FV-3D shown

Port(s)	Actuation	3-Way
#10-32	Spring Return	FV-3
#10-32	2-Position	FV-3D
1/8" NPT	Spring Return	FV-3P
1/8" NPT	2-Position	FV-3DP

Air Flow: FV-3/3D: 170 l/min @ 50 psig; 280 l/min @ 100 psig;
FV-3P/3DP: 180 l/min @ 50 psig; 295 l/min @ 100 psig



4-WAY VALVES



FV-4 shown

Port(s)	Actuation	4-Way
#10-32	Spring Return	FV-4
#10-32	2-Position	FV-4D
1/8" NPT	Spring Return	FV-4P
1/8" NPT	2-Position	FV-4DP

Air Flow: FV-4/4D: 170 l/min @ 50 psig; 280 l/min @ 100 psig;
FV-4P/4DP: 180 l/min @ 50 psig; 280 l/min @ 100 psig

4-WAY FULLY-PORTED VALVES

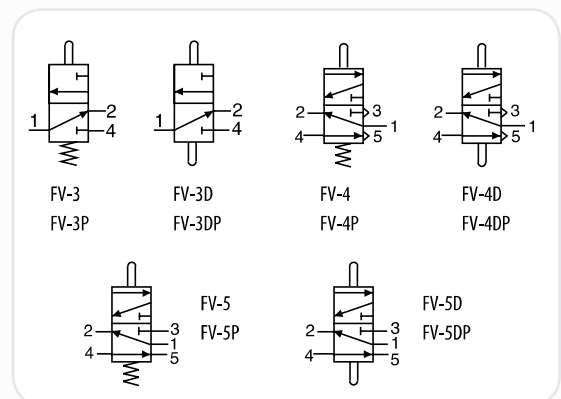
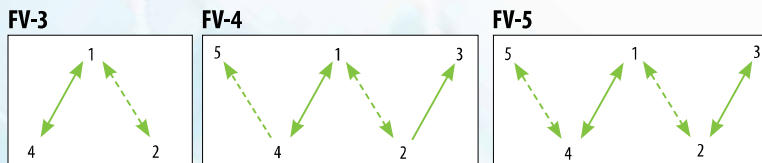


Port(s)	Actuation	Exhaust	4-Way
#10-32	Spring Return	-	FV-5
#10-32	2-Position	-	FV-5D
1/8" NPT	Spring Return	1/8" NPT	FV-5P
1/8" NPT	2-Position	1/8" NPT	FV-5DP

Air Flow: FV-5/5D: 170 l/min @ 50 psig; 280 l/min @ 100 psig;
FV-5P/5DP: 180 l/min @ 50 psig; 295 l/min @ 100 psig

FLOW PATHS FOR FTV & FV SERIES VALVES

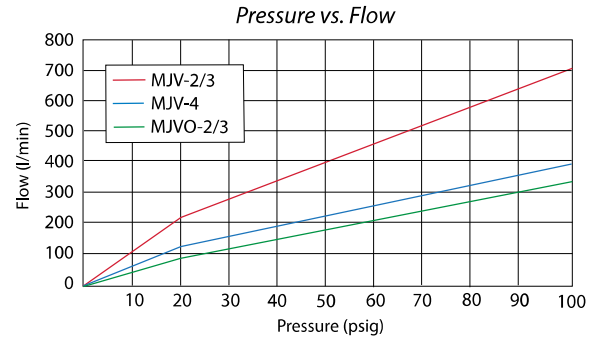
Solid lines indicate flow paths with toggle or stem in one direction. Dotted lines indicate flow paths when the toggle or stem are shifted.



2-WAY, 3-WAY & 4-WAY 1/8" NPT STEM & CARTRIDGE VALVES

MJV/MJVO SERIES

These are high flow 1/8" NPT ported 2-Way, 3-Way and 4-Way valves that change their flow path when the stem is either depressed or released (spring return). The 2-Way and 3-Way valves are offered in both Normally-Closed (not passing) or Normally-Open (passing) versions. The 4-Way valves are typically used to control a double-acting air cylinder. We offer a wide range of pneumatic and mechanical valve actuators (see pp. 90-92) that work with all Clippard stem valves.



Medium	Air, water, oil, or other compatible fluids
Input Pressure	MJVO-2, MJVO-3, MJV-4, MJV-4D: 150 psig max. MJV-2, MJV-3, MJVO-3C: 300 psig max.
Stem Travel	1/8"; MJV-4: 3/16"
Force for Full Stem Travel	MJV-4D: 12 oz.; MJV-2C, MJVO-2C: 24 oz.; MJV-2: 36 oz.; MJV-2, MJV-3, MJVO-3, MJV-4: 38 oz. nominal
Mounting	15/32-32 thread, nut and lockwashers furnished. MJV-4 and MJV-4D also have two mounting holes in body. Cartridge version inserts into a 0.625" ±0.001" bore.
Materials	Brass body, nitrile seals, stainless steel stem and spring

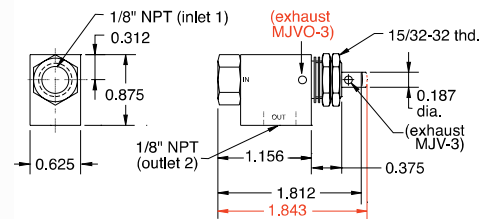
- High flow poppet or spool design
- MJV-2 or MJV-3 are Normally-Closed (no flow when not actuated)
- MJVO-2 or MJVO-3 are Normally-Open (flowing until actuated)
- Cartridge valves are designed to be installed in a custom bore

NORMALLY-OPEN/NORMALLY-CLOSED POPPET VALVES



Port(s)	Function	2-Way	3-Way
1/8" NPT	Normally-Closed	MJV-2	MJV-3
1/8" NPT	Normally-Open	MJVO-2	MJVO-3

Air Flow: MJV-2, MJV-3: 400 l/min @ 50 psig; 710 l/min @ 100 psig;
MJVO-2, MJVO-3: 200 l/min @ 50 psig; 340 l/min @ 100 psig

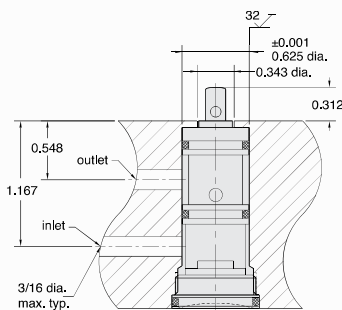


2-WAY & 3-WAY CARTRIDGE VALVES



Function	2-Way	3-Way
Normally-Closed	MJV-2C	MJV-3C
Normally-Open	MJVO-2C	MJVO-3C

Air Flow: MJV-2/3C: 10 l/min @ 50 psig; 620 l/min @ 100 psig;
MJVO-2C/3C: 225 l/min @ 50 psig; 400 l/min @ 100 psig



MJV-2C/3C, MJVO-2C/3C

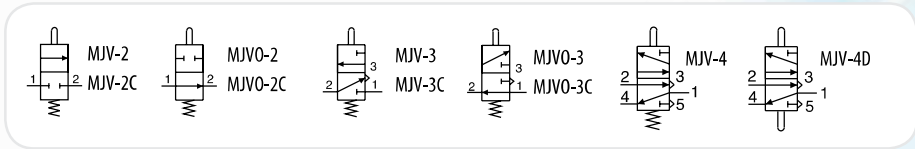
NORMALLY-OPEN SPOOL VALVES



Port(s)	Actuation	4-Way
1/8" NPT	Spring Return	MJV-4
1/8" NPT	2-Position	MJV-4D

Air Flow: 225 l/min @ 50 psig; 400 l/min @ 100 psig

MJV-4D shown



Clippard miniature cartridge valves offer the user flexibility in the application of 2-Way and 3-Way Normally-Open or Normally-Closed valves. They are used in Clippard heavy-duty limit switches and are suitable for pneumatic tools and manifolds or for any use where a valve needs to be built in.

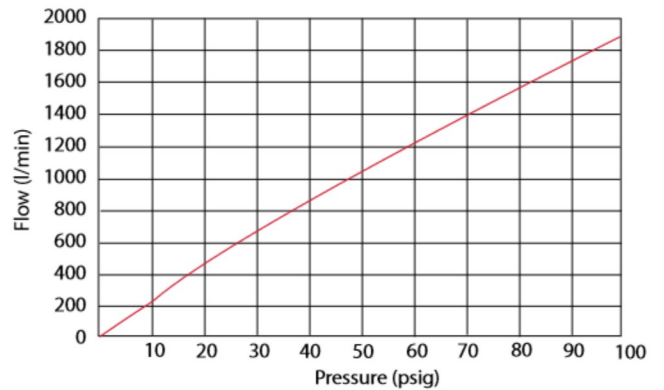
HIGH FLOW 2-WAY & 3-WAY TOGGLE, STEM & CARTRIDGE VALVES

GV SERIES

The GV series valves offer 10 times more flow than the MAV series and 2.5 times the flow of the MJV series. With Clippard's versatile 15/32-32 nose thread, a large variety of buttons and valve actuators can be used with the stem operated valves. The GTV series are toggle valves with panel mounting capabilities (5/8-32 nose thread). The outlet port on all GV valves can be easily positioned to any orientation for mounting convenience.

Medium	2-Way: Air, water, or oil 3-Way: Air
Input Pressure	150 psig max.
Air Flow	1,070 l/min @ 50 psig; 1,900 l/min @ 100 psig
Ports	1/4" NPT, 3/8" Push-Quick, Cartridge
Force for Full Stem Travel	9 lbs. nominal @ 100 psig
Mounting (Cartridge Style)	Inserts into a 0.687" bore
Materials	Stem: Stainless steel Toggle: Nickel-plated steel

Pressure vs. Flow

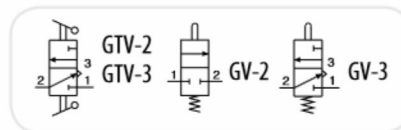
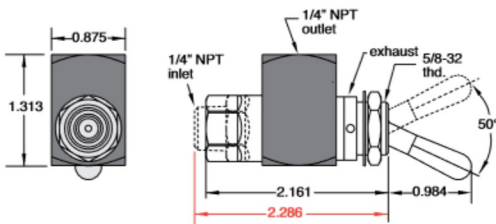


- Will accept a variety of manual, air pilot, electrical or mechanical actuators
- Design flexibility and fast response
- Corrosion-resistant series also available

options (suffix)
ENP Plating *-ENP* • FKM Seals *-V*



2-WAY & 3-WAY TOGGLE VALVES, 1/4" NPT



Inlet	Outlet	2-Way	3-Way
1/4" NPTF	1/4" NPTF	GTV-2	GTV-3
1/4" NPTM	1/4" NPTF	GTV-2Q	GTV-3Q

2-WAY & 3-WAY TOGGLE VALVES

1/4" NPT, 3/8" Push-Quick Fittings



(GTV-3Q-P12 shown)

Inlet	Outlet	2-Way	3-Way
1/4" NPTM	3/8" PQ	GTV-2Q-P12	GTV-3Q-P12
3/8" PQ	3/8" PQ	GTV-2-P12	GTV-3-P12

2-WAY & 3-WAY STEM VALVES

1/4" NPT, 3/8" Push-Quick Fittings



(GV-3-P12 shown)

Inlet	Outlet	2-Way	3-Way
1/4" NPTM	3/8" PQ	GV-2Q-P12	GV-3Q-P12
3/8" PQ	3/8" PQ	GV-2-P12	GV-3-P12

2-WAY & 3-WAY STEM VALVES, 1/4" NPT



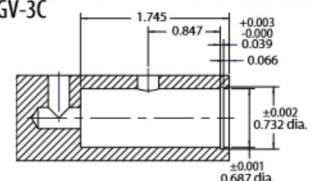
(GV-2 shown)

Inlet	Outlet	2-Way	3-Way
1/4" NPTF	1/4" NPTF	GV-2	GV-3
1/4" NPTM	1/4" NPTF	GV-2Q	GV-3Q

2-WAY & 3-WAY STEM CARTRIDGE VALVES



2-Way	3-Way
GV-2C	GV-3C





SLEEVE VALVES, LIMIT VALVES & ACTUATOR ARMS

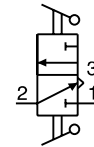
SLEEVE VALVES

Clippard J-Series sleeve valves offer large flow capability with a relatively short stroke in 2-Way and 3-Way valves, and no cross-over between inlet and exhaust on the 3-Way models. Unlike ball valves, sleeve valves require no space for a handle. They also provide flexibility in pipe connections and are available with either male or female threads or combinations of both.

The JSLV-2 valves feature a smooth opening stroke during which inlet air is directed to the outlet. During the closing stroke, in the opposite direction of travel, the outlet is closed from the inlet and in the JSLV-3 version, the outlet is then exhausted to atmosphere without the inlet ever being connected to exhaust.

Part No.	Type	Inlet	Outlet	Air Flow
 SLV-2	2-Way	#10-32 Female	#10-32 Female	330 l/min @ 100 psig
JSLV-2-F2M2		1/8" NPT Female	1/8" NPT Male	1,200 l/min @ 100 psig
JSLV-2-M2F2		1/8" NPT Male	1/8" NPT Female	1,200 l/min @ 100 psig
JSLV-2-F4M4		1/4" NPT Female	1/4" NPT Male	2,000 l/min @ 100 psig
JSLV-2-M4F4		1/4" NPT Male	1/4" NPT Female	2,000 l/min @ 100 psig
 SLV-3	3-Way	#10-32 Female	#10-32 Female	330 l/min @ 100 psig
JSLV-3-F2M2		1/8" NPT Female	1/8" NPT Male	1,200 l/min @ 100 psig
JSLV-3-M2F2		1/8" NPT Male	1/8" NPT Female	1,200 l/min @ 100 psig
JSLV-3-F4M4		1/4" NPT Female	1/4" NPT Male	2,000 l/min @ 100 psig
JSLV-3-M4F4		1/4" NPT Male	1/4" NPT Female	2,000 l/min @ 100 psig

Medium Air, water, or oil (SLV- air only)
Material Electroless nickel plated brass body
Input Pressure 150 psig
Mounting In-line or direct
Force to Actuate Approx. 2.5 lbs.
Stem Travel 1/8"



HEAVY DUTY LIMIT VALVES

These valves feature rugged construction to withstand heavy use. A zinc alloy die cast actuator head with a hardened steel shaft in a bronze bearing is mated to a solid aluminum valve body. Inside is an easy-to-replace Clippard MJV series (see p. 86) cartridge valve made of brass and stainless steel with nitrile seals.



Medium	Air
Stem Travel	Actuator arm may move 50° in either direction
Input Pressure	300 psig max.
Air Flow	280 l/min @ 50 psig; 540 l/min @ 100 psig
Torque to Actuate	3 in.-lbs.
Actuation Range	0 to 23° off; 23 to 50° on; max. travel 50°
Ports	Inlet: 1/8-27" NPT; Outlet: 1/8-27" NPT; Exhaust (3-Way Only): 1/8-27" NPT for convenience in porting away exhaust air or attaching muffler <i>Exhaust should not be restricted</i>

Part No.	Description
LVA-2	2-Way Poppet Normally-Closed Limit Valve
LVA-3	3-Way Poppet Normally-Closed Limit Valve
LVA0-2	2-Way Normally-Open Limit Valve
LVA0-3	3-Way Normally-Open Limit Valve

ROLLER ACTUATOR ARMS



Arm	Aluminum base; AR-L: Steel extendable arm
Roller	Hardened steel
Adjustment	AR-L Only: 1.0" to 3.5"
Mounting	Slotted mounting clamp tightens onto limit valve with 5/32" hex wrench, may be positioned on limit valve shaft in any direction (rotates 360°)

Part No.	Description
AR-K	Roller Actuator Arm
AR-L	Roller Actuator Arm, Adjustable

ADJUSTABLE ROD ACTUATOR ARM



Arm	Steel 1/8" rod, 13" long, retained by screw clamp; may be shortened and/or bent to desired shape
Mounting	Slotted aluminum mounting clamp may be positioned on limit valve shaft in any direction (rotates 360°)

Part No.	Description
AR-M	Rod Actuator Arm

ACTUATORS

SINGLE-ACTING AIR PILOT ACTUATORS

Construction Brass and aluminum body, stainless steel springs, nitrile seals, Delrin® piston

Mounting 15/32-32 female thread to mount to Clippard Minimatic® valves and components; no spacers or washers are required when assembled to any Clippard valve; may be used with **15018-2** mounting bracket

	Part No.	Port	Bore Size	Force Factor	Input Pressure
	MPA-3* MPA-3P*	#10-32 1/8" NPT	0.375"	0.1	250 psig
<i>*0.125" spacer required when assembled on MAV-2, MAV-3, and MAV-4</i>					
	MPA-5 MPA-5P	#10-32 1/8" NPT	0.625"	0.3	250 psig
	MPA-7	1/8" NPT	0.875"	0.6	250 psig
	MPA-10 MPA-10P	#10-32 1/8" NPT	1.250"	1.2	150 psig

MINIMUM PRESSURE REQUIRED

Clippard Valve	Pressure (psig)*			
	MPA3	MPA-5	MPA-7	MPA-10
ES-1 Switch	12	4	2	n/a
FV-3/3P/4/4P/5/5P	41	15	7.5	4.0
FV-3D/3DP/4D/FV-4DP/5D/5DP	14	5	2.5	1.5
GV-2/3	87	31	16	8.0
MAV-2/3	23	8	4	2.0
MAV-4/MJV-4	36	11	5.5	3.5
MAV-4D/MJV-4D	13	4	1.5	1.0
MJV-2 /3	30	10	5	3.0
MAVO-2/3	27	9	4.5	2.5
MJVO-2/3	30	10	5	3.0
HV-4	41	15	7.5	4.0

*With 100 psig to valve inlet

MBA-1, 11925 & 12296

When mounting on a valve, a space should be provided between the body and the actuator according to the chart shown here.

Valve Mtg. Thd.	MBA-1	11925	12296
0.250 thd. length	0.125"	0.062"	0.062"
0.373 thd. length	0.218"	0.188"	0.188"

Mounting nut (supplied with valve), mounting bracket or washers should be used to obtain required spacing.

PUSH BUTTON ACTUATORS

Construction Brass body

Use Mounts directly on valve stem for manual operation of valve; small size permits attachment to valve before valve is mounted through 15/32" dia. hole; prevents over-travel of valve stem by providing a positive stop

Mounting 1/8" or 3/16" dia. mounting hole fits valve stems; locks in place by set screw (allen wrench furnished)



Part No. Description

11916-1	5/8" Brass Push Button, 1/8" Stem
11916-2	5/8" Brass Push Button, 3/16" Stem
11916-3	13/32" Brass Push Button, 1/8" Stem
11916-4	13/32" Brass Push Button, 3/16" Stem

ROLLER CAM ACTUATORS

Construction Stainless steel with nylon roller

Use Mounts to valve body; **11925** actuates valve when mechanically depressed, valve spring provides return; **12296** actuates valve when depressed by activating cam or linear travel device in one direction only, no actuation on return travel

Mounting 31/64" dia. mounting hole fits 15/32-32 threaded mounting section of valve body



Part No. Description

11925	Roller Cam Follower
12296	Roller, Double-Pivoted 1-Way Cam Follower

BALL CAM ACTUATORS

Ball Cam Actuator permits the valves and electrical switch to be operated by mechanical movement depressing the ball from any direction.

Construction Brass body, stainless steel ball retained in housing

Operation Will actuate valve when depressed from any (360°) direction

Mounting 15/32-32 female to mount to Clippard valves and electric switches



Part No. Description

MBA-1	Ball Cam Actuator
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PUSH BUTTON ACTUATORS



Clippard offers captivated push buttons for use with a large variety of stem operated valves. Captivated push buttons are sold as kits, adaptable to either 1/8" diameter stems or 3/16" diameter stems. Each kit includes a colored acetyl push button, brass housing nut, 1/16" brass spacer, and lock washer for assembly.

Captivated push buttons can be used on individual stem operated valves or in panel mount application by omitting the 1/16" brass spacer. These push buttons are available in a variety of colors, allowing you to color code and easily differentiate between valves when designing control systems.

The design of these push buttons allows maximum actuation of the valve with no over-travel or side load to the valve stem. This assures superior performance and long life.

Captivated push buttons are commonly used as limit valves in conjunction with pneumatic cylinders, slides, and any variety of mechanical actuators. The rugged design coupled with precise actuation of stem operated valves make it perfect for applications where repetitive cycling of the valve is necessary. Designed to work with Clippard MAV (p. 85), MJV (p. 87), and FV (p. 86) series valves.

CAPTIVATED PUSH BUTTON ACTUATORS




		Valve Stem	Part No.		
	Extended Button	1/8" dia.	PC-1□*		Color Options* B - ● W - ○ R - ● G - ● Y - ●
		3/16" dia.	PC-2□*		
			<i>Enter color choice in box (Ex: PC-1R)</i>		

Heavy-duty push button actuators can be used on individual stem operated valves or in panel mounting applications. These push buttons are available in a variety of colors, allowing you to color code, or easily differentiate between valves when designing control systems. They feature a built-in spring so the button always returns to the extended position when released with no additional load on the valve.

The design of these push buttons allows complete actuation of the valve with no over-travel or side load to the valve assuring superior performance and long life.





HEAVY-DUTY ACTUATORS

		Mtg. Thread	Part No.			Mtg. Thread	Part No.
	Extended Button	5/8-32	PC-3E-□*		Mushroom Button	5/8-32	PC-3M-□*
		7/8-32	PC-4E-□*			7/8-32	PC-4M-□*
		1 3/16-28	PC-5E-□*			1 3/16-28	PC-5M-□*
	Flush Button	5/8-32	PC-3F-□*	Color Options*			
		7/8-32	PC-4F-□*	BK - ● WH - ○ RD - ● GN - ●	YL - ● BL - ● OR - ● GR - ●		
		1 3/16-28	PC-5F-□*	<i>Non-standard colors also available</i>			


ACTUATORS

CONTROL VALVE & ACTUATOR ASSEMBLIES

22 mm	Description	Function	Part No.	Color
	Flush Push Button	Manual push in, spring return	P22-P2F-R P22-P2F-G P22-P2F-B P22-P2F-Y	● ● ● ●
	Extended Push Button	Manual push in, spring return	P22-P2E-R P22-P2E-G P22-P2E-B P22-P2E-Y	● ● ● ●
	Automatic Push/Turn Mushroom	Manual push in, latches in, turn clockwise to unlock, spring return	P22-L3M-R P22-L3M-G P22-L3M-B	● ● ●
	Maintained Twist 90°	Turn clockwise to latch in, turn counter-clockwise to release	P22-T3T-B	●

22 mm	Description	Function	Part No.	Color
	Spring Return Twist 45°	Turn clockwise and hold for in, release for spring return	P22-T2T-B	●
	Manual Push Mushroom	Manual push in, spring return	P22-P2M-R P22-P2M-G P22-P2M-B	● ● ●
	Key Twist 90° Maintained (with keys)	Turn clockwise to latch in, counter-clockwise to release, key withdrawable ^{1,2}	P22-T3K-B ¹ P22-K3K-B ²	● ●
	Push Key Mushroom (with keys)	Manual push in, auto latch in, clockwise to release, key withdrawable ²	P22-L4M-R ²	●

30 mm	Description	Function	Part No.	Color
	Flush Push Button	Manual push in, spring return	PL-P2F-R PL-P2F-G PL-P2F-B PL-P2F-Y	● ● ● ●
	Extended Push Button	Manual push in, spring return	PL-P2E-R PL-P2E-G PL-P2E-B PL-P2E-Y	● ● ● ●
	Maintained Twist 90°	Clockwise to latch in, counter-clockwise to release	PL-T3T-B	●
	Manual Push Mushroom	Manual push in	PL-P2M-R PL-P2M-G PL-P2M-B	● ● ●

30 mm	Description	Function	Part No.	Color
	Push/Turn Mushroom	Manual push in, clockwise to unlatch	PL-L3M-R PL-L3M-G PL-L3M-B	● ● ●
	Spring Return Twist 45°	Clockwise and hold for in, release for return	PL-T2T-B	●
	Push Key Maintained	Manual push in, counter-clockwise to lock out, clockwise to unlock	PL-P2K-B	●
	Key Maintained Twist 90° (with keys)	Clockwise to latch in, counter-clockwise to release	PL-T3K-B	●

3-WAY & 4-WAY MANUALLY-OPERATED VALVES

PUSH/PULL SPOOL VALVES

Operating Pressure 0 to 115 psig
Cv 0.89
Ports 1/4" NPT,
 1/8" NPT exhaust
Operating Temp. 32 to 140°F
Mounting Panel or base mount



Part No.	Description
MMV-P3QD	3-Way, 3 Port Detented Push/Pull Valve
MMV-P4QD	4-Way, 5 Port Detented Push/Pull Valve
MMV-P4QM	4-Way, 5 Port Momentary Push/Pull Valve

FOOT PEDAL VALVES

Two versions available—low-profile flat pedal or standard pedal, with or without guard.

Operating Pressure 0 to 150 psig
Cv 1.4
Ports 1/4" NPT
Operating Temp. 32 to 140°F
Mounting Base mount



Part No.	Description
MMV-F3QM-F	3-Way Valve with Flat Pedal
MMV-F4QM-F	4-Way Valve with Flat Pedal
MMV-F4QM	4-Way Valve with Standard Pedal
MMV-F4QM-6	4-Way Valve with Plastic Foot Guard

3-WAY PALM BUTTON VALVES

Medium Air
Stem Travel 1/8"
Input Pressure 100 psig max.
Air Flow 99 l/min @ 50 psig
 170 l/min @ 100 psig
Force to Actuate 1.75 lbs. manual
Ports 1/8" NPT (exhaust may be muffled or piped away but not restricted)
Mounting Mounting holes provided



Part No.	Description
PB-1-RD	3-Way Poppet Valve, Red
PB-1-GN	3-Way Poppet Valve, Green
PB-1-BK	3-Way Poppet Valve, Black
12959	90° Mounting Bracket Kit

LEVER VALVES

Operating Pressure 0 to 150 psig
Cv Detented: 1.0,
 Momentary: 0.89
Ports 1/4" NPT
Operating Temp. 32 to 140°F
Mounting Panel or base mount



Part No.	Description
MMV-L3QD	3-Way, 2-Position Detented Valve
MMV-L3QM	3-Way, 2-Position Momentary Valve
MMV-L4QD	4-Way, 2-Position Detented Valve
MMV-L4QD-C	4-Way, 2-Position Detented Valve, Closed Center
MMV-L4QD-E	4-Way, 2-Position Detented Valve, Exhaust Center
MMV-L4QD-P	4-Way, 2-Position Detented Valve, Pressure Center
MMV-L4QM	4-Way, 2-Position Momentary Valve
MMV-L4QD-C	4-Way, 3-Position Detented Valve, Closed Center
MMV-L4QD-E	4-Way, 3-Position Detented Valve, Exhaust Center
MMV-L4QD-P	4-Way, 3-Position Detented Valve, Pressure Center

3-WAY LOW FORCE PALM BUTTON VALVES

Medium Air
Input Pressure 100 psig max.
Air Flow 620 l/min @ 100 psig
Bleed 2.8 l/min @ 100 psig
Force to Actuate 1.0 oz. manual
Ports 1/8" NPT (exhaust may be muffled or piped away but not restricted)
Mounting Mounting holes provided



Part No.	Description
PB-2-RD	Low Force 3-Way Poppet Valve, Red
PB-2-GN	Low Force 3-Way Poppet Valve, Green
PB-2-BK	Low Force 3-Way Poppet Valve, Black
2010-050	Mounting Bracket