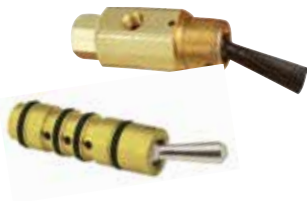


Directional Control Valves



TOGGLE VALVES

- Momentary or detented
- Metal or plastic toggles
- Variety of seal and lubricant options

pp. 78-84



STEM VALVES

- Flow path changes when stem is depressed or released
- Can be used with a variety of different actuators

pp. 85-88



SLEEVE VALVES

- Smooth, low friction operation
- Variety of inlet and outlet porting reduces need for fittings

p. 89



LIMIT VALVES

- Heavy duty lever-actuated series with multiple lever arm styles
- Miniature 3-Way

p. 89



ACTUATORS

- Ball, roller, and double-pivoted cam actuators
- Single-acting, spring return pilot and vacuum actuators
- Push button actuators

pp. 89-92



MANUAL VALVES

- Manually actuated by hand or foot
- Push/pull and lever styles
- Palm button valves
- Foot pedal valves

p. 93

Many items also available with metric ports.
For more information, visit clippard.com/link/metric

SELECTION GUIDE

2-Way Toggle Valves

Part No.	Style	Flow @ 100 psig	Comparison of Flow	Inlet	Outlet	Exhaust	N.O.	N.C.	Toggle	Page
									Action	
GTV-2	Poppet	1,900 l/min	██████████	1/4" NPT	1/4" NPT	-		•	Detented	88
GTV-2Q	Poppet	1,900 l/min	██████████	1/4" NPT	1/4" NPT	-		•	Detented	88
GTV-2-P12	Poppet	1,900 l/min	██████████	3/8" PQ	3/8" PQ	-		•	Detented	88
GTV-2Q-P12	Poppet	1,900 l/min	██████████	1/4" NPT	3/8" PQ	-		•	Detented	88
MTV-2	Poppet	190 l/min	██	#10-32	#10-32	-		•	Detented	81
MTV-2P	Poppet	190 l/min	██	1/8" NPT	#10-32	-		•	Detented	81
TV-2S	Spool	225 l/min	██	#10-32	#10-32	-		•	Detented	79
TV-2SF	Spool	225 l/min	██	#10-32	#10-32	-		•	Detented	79
TV-2SP	Spool	225 l/min	██	1/8" NPT	#10-32	-		•	Detented	79
TV-2SFP	Spool	225 l/min	██	1/8" NPT	#10-32	-		•	Detented	79
TV-2M	Poppet	190 l/min	██	#10-32	#10-32	-		•	Momentary	79
TV-2MF	Poppet	190 l/min	██	#10-32	#10-32	-		•	Momentary	79
TV-2MP	Poppet	190 l/min	██	1/8" NPT	#10-32	-		•	Momentary	79
TV-2MFP	Poppet	190 l/min	██	1/8" NPT	#10-32	-		•	Momentary	79
TVO-2M	Spool	225 l/min	██	#10-32	#10-32	-	•		Momentary	79
TVO-2MF	Spool	225 l/min	██	#10-32	#10-32	-	•		Momentary	79
TVO-2MP	Spool	225 l/min	██	1/8" NPT	#10-32	-	•		Momentary	79
TVO-2MFP	Spool	225 l/min	██	1/8" NPT	#10-32	-	•		Momentary	79

2-Way Stem Valves

Part No.	Style	Flow @ 100 psig	Comparison of Flow	Inlet	Outlet	Exhaust	N.O.	N.C.		Page
GV-2	Poppet	1,900 l/min	██████████	1/4" NPT	1/4" NPT	-		•		88
GV-2Q	Poppet	1,900 l/min	██████████	1/4" NPT	1/4" NPT	-		•		88
GV-2Q-P12	Poppet	1,900 l/min	██████████	1/4" NPT	3/8" PQ	-		•		88
GV-2-P12	Poppet	1,900 l/min	██████████	3/8" PQ	3/8" PQ	-		•		88
GV-2C	Poppet	1,900 l/min	██████████	Cartridge	Cartridge	-		•		88
MAV-2	Poppet	190 l/min	██	#10-32	#10-32	-		•		85
MAV-2P	Poppet	190 l/min	██	1/8" NPT	#10-32	-		•		85
MAV-2C	Poppet	170 l/min	██	Cartridge	Cartridge	-		•		85
MAVO-2	Spool	280 l/min	██	#10-32	#10-32	-	•			85
MAVO-2P	Spool	280 l/min	██	1/8" NPT	#10-32	-	•			85
MAVO-2C	Spool	280 l/min	██	Cartridge	Cartridge	-	•			85
MJV-2	Poppet	710 l/min	██████	1/8" NPT	1/8" NPT	-		•		87
MJV-2C	Poppet	620 l/min	██████	Cartridge	Cartridge	-		•		87
MJVO-2	Spool	340 l/min	██	1/8" NPT	1/8" NPT	-	•			87
MJVO-2C	Spool	400 l/min	██	Cartridge	Cartridge	-	•			87

SELECTION GUIDE

3-Way Toggle Valves

Part No.	Style	Flow @ 100 psig	Comparison of Flow	Inlet	Outlet	Exhaust	N.O.	N.C.	Toggle	Page
									Action	
FTV-3	Spool	280 l/min	■	#10-32	#10-32	#10-32		•	Detented	82
FTV-3F	Spool	280 l/min	■	#10-32	#10-32	#10-32		•	Detented	82
FTV-3P	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT		•	Detented	82
FTV-3FP	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT		•	Detented	82
GTV-3	Poppet	1,900 l/min	■■■■	1/4" NPT	1/4" NPT	hole in body		•	Detented	88
GTV-3Q	Poppet	1,900 l/min	■■■■	1/4" NPT	1/4" NPT	hole in body		•	Detented	88
GTV-3-P12	Poppet	1,900 l/min	■■■■	3/8" PQ	3/8" PQ	hole in body		•	Detented	88
GTV-3Q-P12	Poppet	1,900 l/min	■■■■	1/4" NPT	3/8" PQ	hole in body		•	Detented	88
MTV-3	Poppet	190 l/min	■	#10-32	#10-32	#10-32		•	Detented	81
MTV-3P	Poppet	190 l/min	■	1/8" NPT	#10-32	#10-32		•	Detented	81
MJTV-3	Poppet	710 l/min	■■■	1/8" NPT	1/8" NPT	1/8" NPT		•	Detented	83
TV-3S	Spool	225 l/min	■	#10-32	#10-32	hole in body		•	Detented	79
TV-3SF	Spool	225 l/min	■	#10-32	#10-32	hole in body		•	Detented	79
TV-3SP	Spool	225 l/min	■	1/8" NPT	#10-32	hole in body		•	Detented	79
TV-3SFP	Spool	225 l/min	■	1/8" NPT	#10-32	hole in body		•	Detented	79
TV-3M	Poppet	190 l/min	■	#10-32	#10-32	hole in body		•	Momentary	79
TV-3MF	Poppet	190 l/min	■	#10-32	#10-32	hole in body		•	Momentary	79
TV-3MP	Poppet	190 l/min	■	1/8" NPT	#10-32	hole in body		•	Momentary	79
TV-3MFP	Poppet	190 l/min	■	1/8" NPT	#10-32	hole in body		•	Momentary	79
TVO-3M	Spool	225 l/min	■	#10-32	#10-32	hole in body	•		Momentary	79
TVO-3MF	Spool	225 l/min	■	#10-32	#10-32	hole in body	•		Momentary	79
TVO-3MP	Spool	225 l/min	■	1/8" NPT	#10-32	hole in body	•		Momentary	79
TVO-3MFP	Spool	225 l/min	■	1/8" NPT	#10-32	hole in body	•		Momentary	79
SMTV-3	Spool	51 l/min	■	#3-56*	#3-56*	hole in body	•	•	Detented	78

*With hose barbs uninstalled

Temperature Range

All directional control valves in this section have a temperature range of 32 to 230°F.



DIRECTIONAL CONTROL VALVES

SELECTION GUIDE

3-Way Stem Valves

Part No.	Style	Flow @ 100 psig	Comparison of Flow	Inlet	Outlet	Exhaust	N.O.	N.C.	Page
FV-3	Spool	280 l/min	■	#10-32	#10-32	#10-32	•	•	86
FV-3D	Spool	280 l/min	■	#10-32	#10-32	#10-32	•	•	86
FV-3DP	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT	•	•	86
FV-3P	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT	•	•	86
GV-3	Poppet	1,900 l/min	■■■■	1/4" NPT	1/4" NPT	hole in stem		•	88
GV-3Q	Poppet	1,900 l/min	■■■■	1/4" NPT	1/4" NPT	hole in stem		•	88
GV-3-P12	Poppet	1,900 l/min	■■■■	3/8" PQ	3/8" PQ	hole in stem		•	88
GV-3Q-P12	Poppet	1,900 l/min	■■■■	1/4" NPT	3/8" PQ	hole in stem		•	88
GV-3C	Poppet	1,900 l/min	■■■■	Cartridge	Cartridge	hole in stem		•	88
MAV-3	Poppet	190 l/min	■	#10-32	#10-32	through stem		•	85
MAV-3P	Poppet	190 l/min	■	1/8" NPT	#10-32	through stem		•	85
MAV-3C	Poppet	170 l/min	■	Cartridge	Cartridge	through stem		•	85
MAVO-3	Spool	280 l/min	■	#10-32	#10-32	holes in body	•		85
MAVO-3P	Spool	280 l/min	■	1/8" NPT	#10-32	holes in body	•		85
MAVO-3C	Spool	280 l/min	■	Cartridge	Cartridge	holes in body	•		85
MJV-3	Poppet	710 l/min	■■■■	1/8" NPT	1/8" NPT	through stem		•	87
MJV-3C	Poppet	620 l/min	■■■■	Cartridge	Cartridge	through stem		•	87
MJVO-3	Spool	340 l/min	■	1/8" NPT	1/8" NPT	holes in body	•		87
MJVO-3C	Spool	400 l/min	■	Cartridge	Cartridge	holes in body	•		87
SMAV-3	Spool	51 l/min	■	#3-56	#3-56	#3-56	•	•	78

Temperature Range

All directional control valves in this section have a temperature range of 32 to 230°F.



SELECTION GUIDE

4-Way Toggle Valves

Part No.	Style	Flow @ 100 psig	Comparison of Flow	Inlet	Outlet	Exhaust	N.O.	N.C.	Toggle	Page
									Action	
MJTV-4	Spool	295 l/min	■	1/8" NPT	1/8" NPT	holes in body	•	•	Detented	83
MJTV-4F	Spool	295 l/min	■	1/8" NPT	1/8" NPT	holes in body	•	•	Detented	83
MJTV-5	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT	•	•	Detented	83
MJTV-5F	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT	•	•	Detented	83
MTV-4	Spool	280 l/min	■	#10-32	#10-32	holes in body	•	•	Detented	81
MTV-4F	Spool	280 l/min	■	#10-32	#10-32	holes in body	•	•	Detented	81
MTV-5	Spool	280 l/min	■	#10-32	#10-32	#10-32	•	•	Detented	81
MTV-5F	Spool	280 l/min	■	#10-32	#10-32	#10-32	•	•	Detented	81
86 TV-4D	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Detented	84
TV-4M	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Momentary	84
TV-4DM	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Det./Moment.	84
TV-4DP	Spool	210 l/min	■	1/8" NPT	1/8" NPT	holes in body		•	Detented	84
TV-4MP	Spool	210 l/min	■	1/8" NPT	1/8" NPT	holes in body		•	Momentary	84
TV-4DMP	Spool	210 l/min	■	1/8" NPT	1/8" NPT	holes in body		•	Det./Moment.	84
TV-4DH	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Detented	84
TV-4MH	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Momentary	84
TV-4DMH	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Detented	84
TV-4DPH	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Momentary	84
TV-4MPH	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Detented	84
TV-4DMPH	Spool	210 l/min	■	#10-32	#10-32	holes in body		•	Det./Moment.	84

4-Way Stem Valves

Part No.	Style	Flow @ 100 psig	Comparison of Flow	Inlet	Outlet	Exhaust	N.O.	N.C.		Page
FV-4	Spool	280 l/min	■	#10-32	#10-32	holes in body	•	•		86
FV-4P	Spool	295 l/min	■	1/8" NPT	1/8" NPT	holes in body	•	•		86
FV-4D	Spool	280 l/min	■	#10-32	#10-32	holes in body	•	•		86
FV-4DP	Spool	295 l/min	■	1/8" NPT	1/8" NPT	holes in body	•	•		86
FV-5	Spool	280 l/min	■	#10-32	#10-32	#10-32	•	•		86
FV-5P	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT	•	•		86
FV-5D	Spool	280 l/min	■	#10-32	#10-32	#10-32	•	•		86
FV-5DP	Spool	295 l/min	■	1/8" NPT	1/8" NPT	1/8" NPT	•	•		86
MAV-4	Spool	240 l/min	■	#10-32	#10-32	holes in body	•	•		85
MAV-4D	Spool	240 l/min	■	#10-32	#10-32	holes in body	•	•		85
MJV-4	Spool	400 l/min	■	1/8" NPT	1/8" NPT	holes in body	•	•		87
MJV-4D	Spool	400 l/min	■	1/8" NPT	1/8" NPT	holes in body	•	•		87

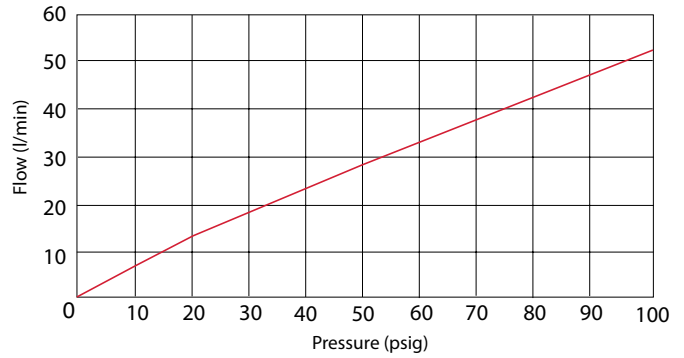
3-WAY #3-56 SUB-MINIATURE SPOOL VALVES

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



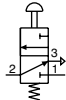
- Subminiature size spool design
- Multiple colored buttons for SMAV



Normally-Open/
Normally-Closed

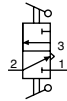
Function	Part No.
N.O.-N.C.	SMAV-3

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

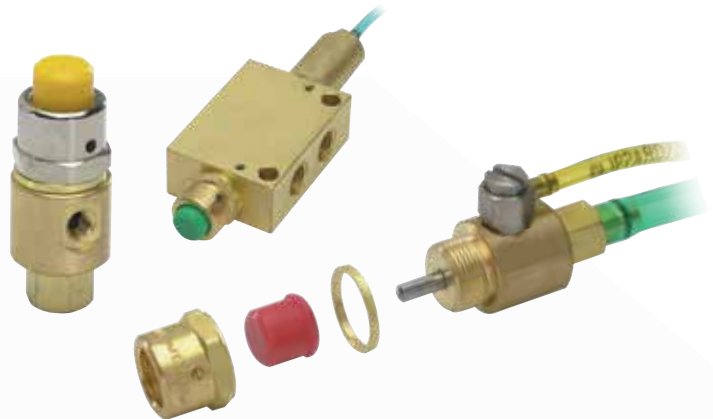


Normally-Closed

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.



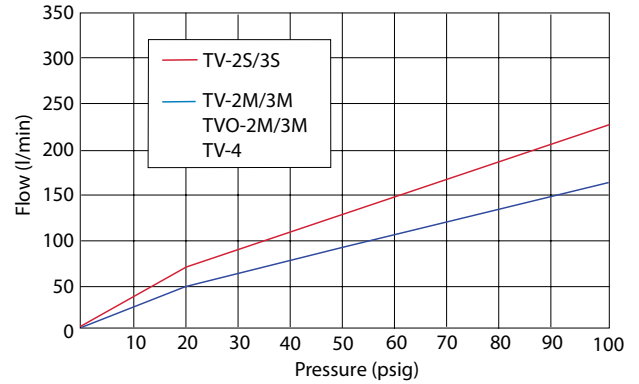
2-WAY & 3-WAY #10-32 & 1/8" NPT TOGGLE VALVES

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

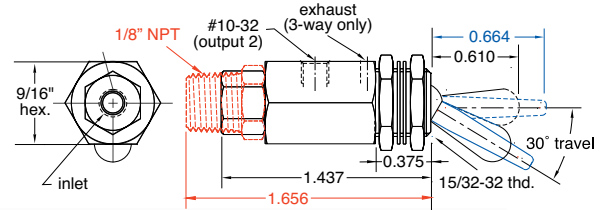
N.C. POPPET VALVES WITH MOMENTARY ACTUATION



(TV-2MF shown)

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



N.C. SPOOL VALVES WITH DETENTED ACTUATION

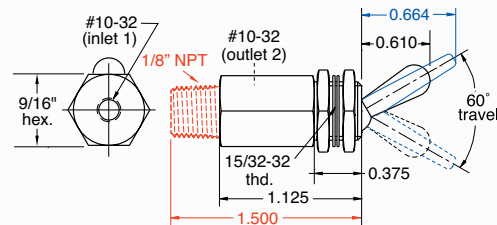


(TV-2SP shown)

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



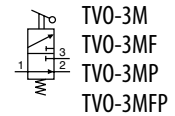
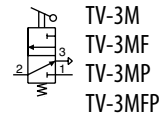
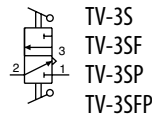
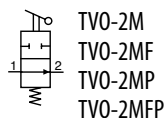
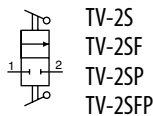
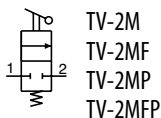
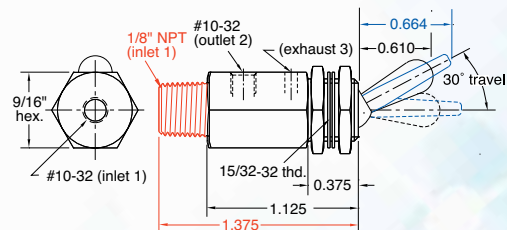
N.O. SPOOL VALVES WITH MOMENTARY ACTUATION



(TVO-3M shown)

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

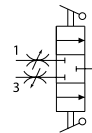
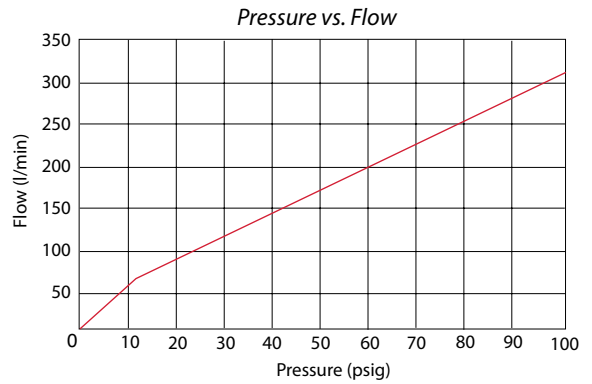


FILL & BLEED TOGGLE VALVES

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

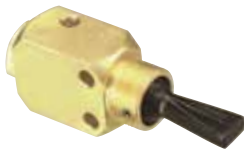


Air Flow

125 l/min @ 50 psig

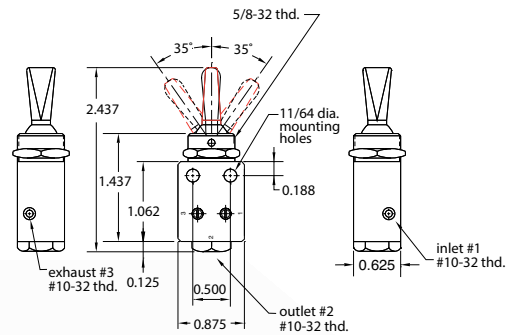
210 l/min @ 100 psig

#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

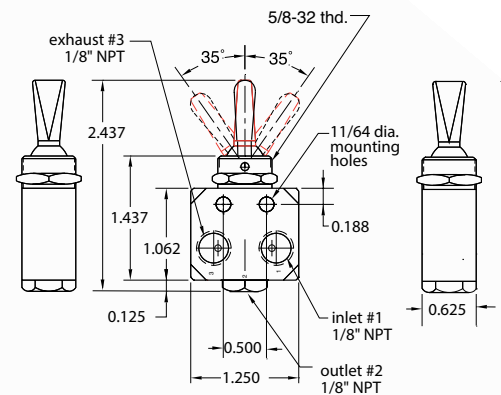


1/8" NPT Valves



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

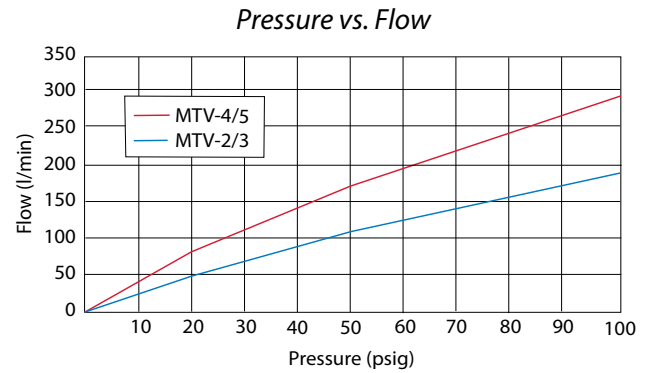
options (suffix)
ENP Plating "-ENP" • FKM Seals "-V"

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

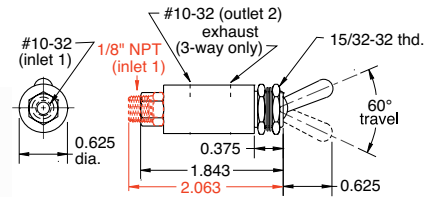
options (suffix)
ENP Plating "ENP" • FKM Seals "V"

N.C. POPPET VALVES



MTV-3 shown

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

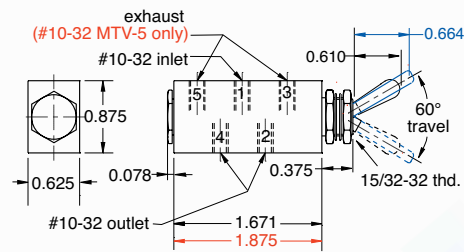


N.O. SPOOL VALVES

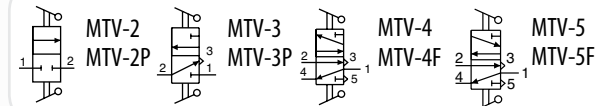


MTV-4F shown

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**

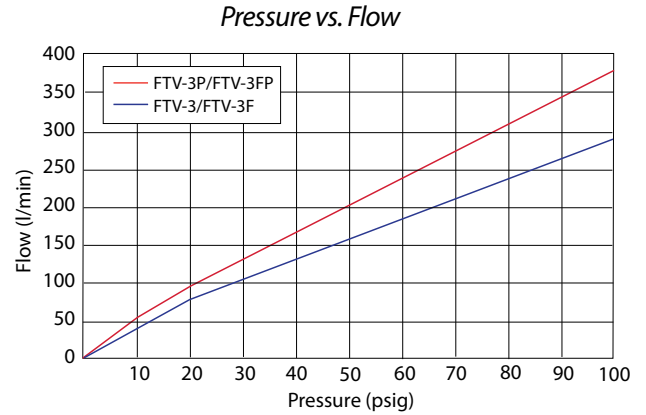
3-WAY #10-32 & 1/8" NPT TOGGLE VALVES

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



N.C. POPPET VALVES

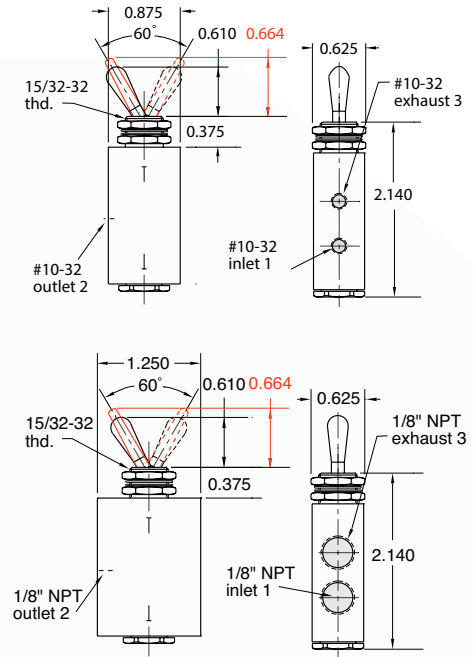


FTV-3 shown



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

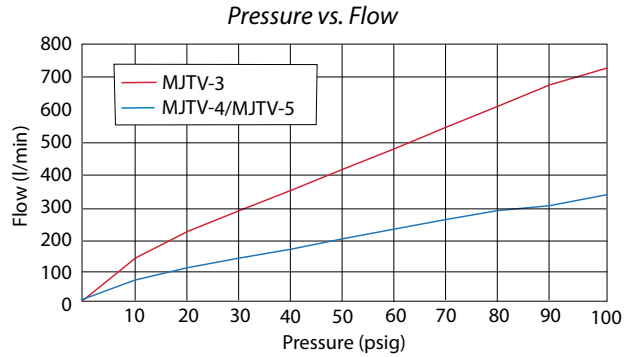
Part No.	
11406-1	Black
11406-2	Bright

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.



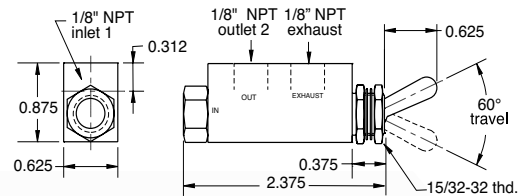
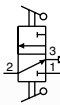
Medium	Air
Input Pressure	MJTV-3: 300 psig; MJTV-4/5: 150 psig max.
Force to Rotate Toggle	MJTV-4: 12 oz. MJTV-3, MJTV-5: 16 oz. nominal
Mounting	15/32-32 thread; nuts and lockwashers furnished
Materials	Brass body, nitrile seals, stainless steel stem and spring

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;



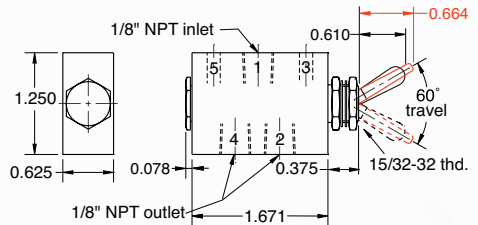
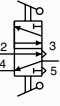
MJTV N.O./N.C. 4-WAY 2-POSITION VALVES



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



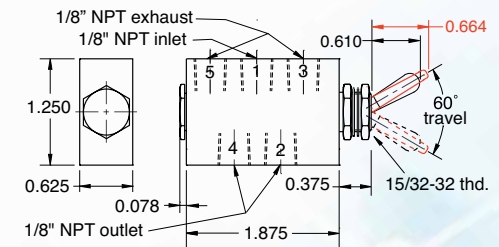
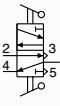
MJTV N.O./N.C. 4-WAY FULLY-PORTED SPOOL VALVES



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



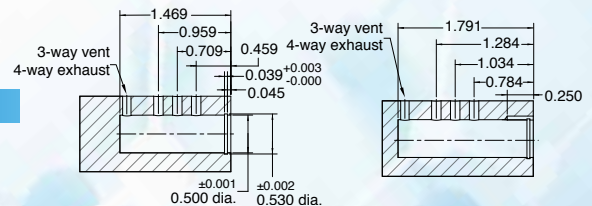
HTV TOGGLE VALVE

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



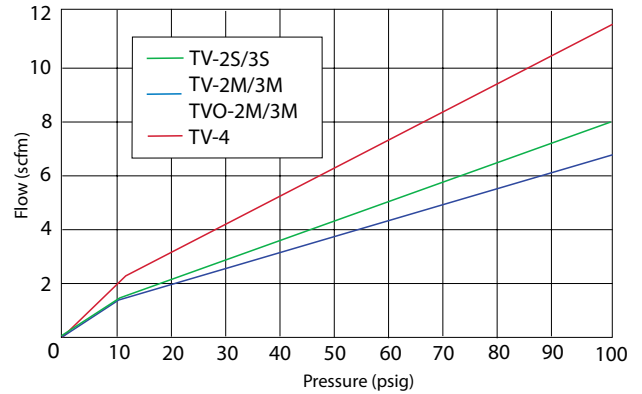
4-WAY #10-32 & 1/8" NPT TOGGLE VALVES

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

Pressure vs. Flow



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

4-Way #10-32 Valves



TV-4D shown

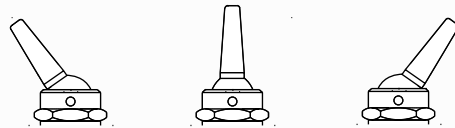
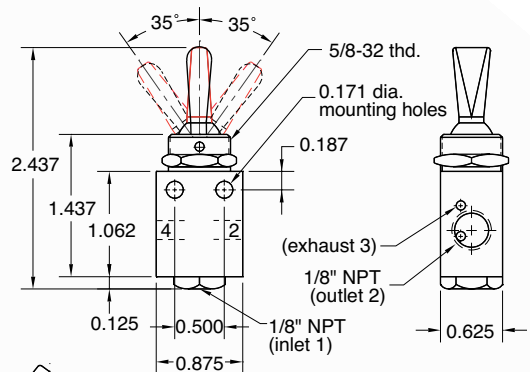
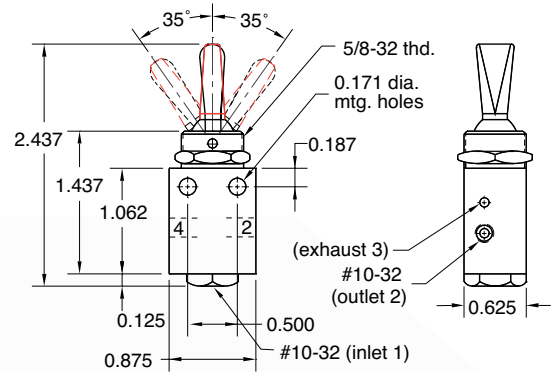
Function	Toggle	4-Way
Detented/Detented	Plastic	TV-4D
Momentary/Momentary	Plastic	TV-4M
Detented/Momentary	Plastic	TV-4DM
Detented/Detented	ENP Steel	TV-4DH
Momentary/Momentary	ENP Steel	TV-4MH
Detented/Momentary	ENP Steel	TV-4DMPH

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	Function	Toggle	4-Way
TV-4D	#10-32	Detented	Detented
TV-4DP	1/8" NPT	Detented	Detented
TV-4M	#10-32	Momentary	Momentary
TV-4MP	1/8" NPT	Momentary	Momentary
TV-4DM	#10-32	Detented	Momentary
TV-4DMP	1/8" NPT	Detented	Momentary

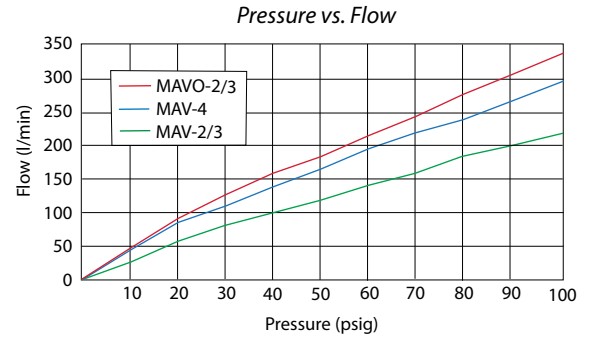


2-WAY, 3-WAY & 4-WAY #10-32 STEM & CARTRIDGE VALVES

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



MAV-3P shown

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



MAVO-2P shown

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



MAV-4 shown

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

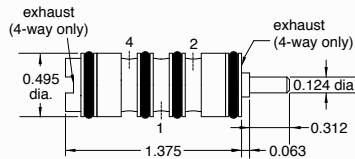


Function	2-Way	3-Way
Normally-Closed	MAV-2C	MAV-3C
Normally-Open	MAVO-2C	MAVO-3C

Air Flow: 85 l/min @ 50 psig; 170 l/min @ 100 psig

HV STEM VALVE

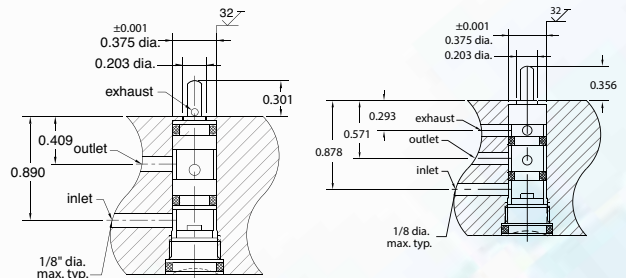
Ports	4-Way
#10-32	HV-4C



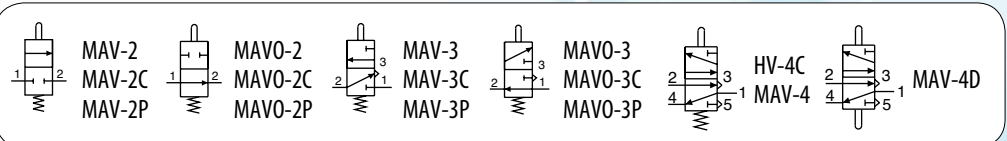
Air Flow: 180 l/min @ 50 psig; 330 l/min @ 100 psig



Minimum order quantities may apply.



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



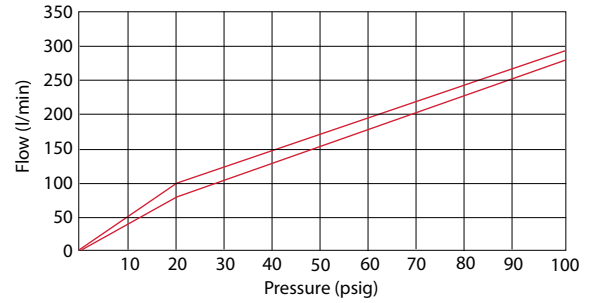
3-WAY & 4-WAY #10-32 & 1/8" NPT STEM VALVES

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

Pressure vs. Flow



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

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

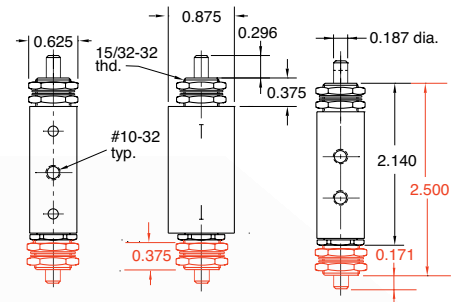
3-WAY VALVES



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

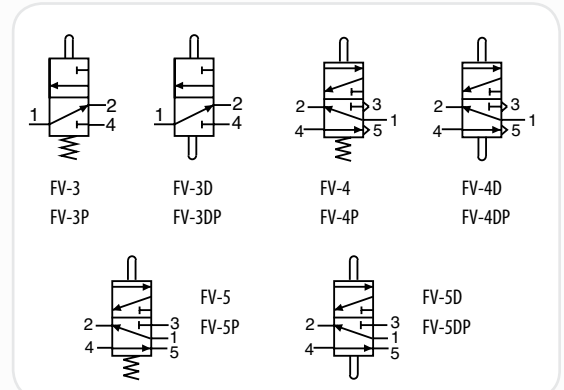
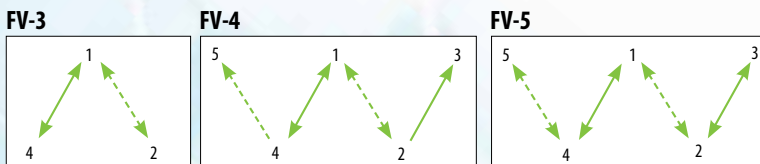


Port(s)	Actuation	Exhaust	4-Way
#10-32	Spring Return	-	FV-5
#10-32	2-Position	-	FV-5D
1/8" NPT	Spring Return	1/8" NPT	FV-5P
1/8" NPT	2-Position	1/8" NPT	FV-5DP

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.

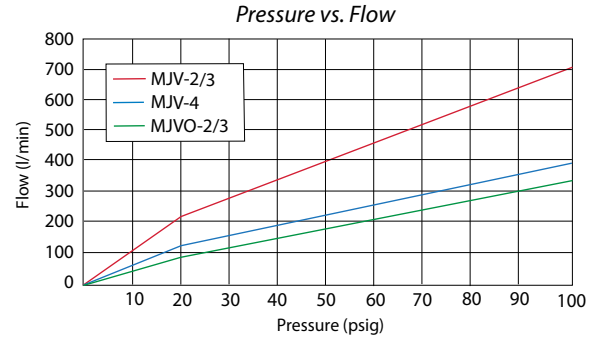


2-WAY, 3-WAY & 4-WAY 1/8" NPT STEM & CARTRIDGE VALVES

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

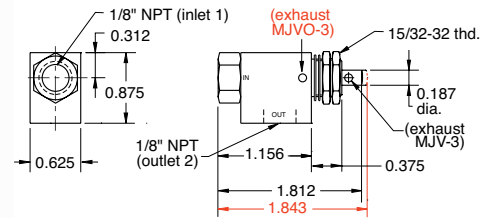
NORMALLY-OPEN/NORMALLY-CLOSED POPPET VALVES



MJV-2 shown

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



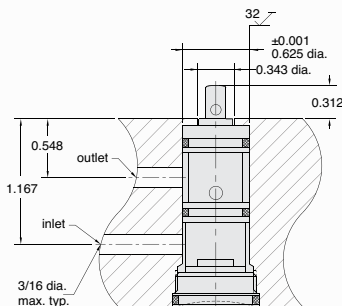
2-WAY & 3-WAY CARTRIDGE VALVES



MJV-2C shown

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

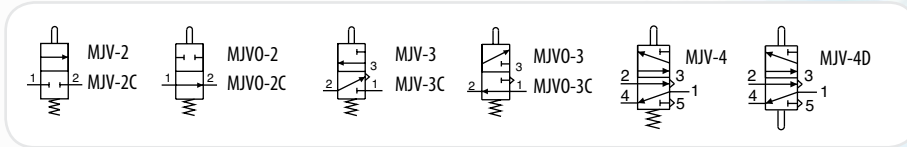
NORMALLY-OPEN SPOOL VALVES



MJV-4D shown

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



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.

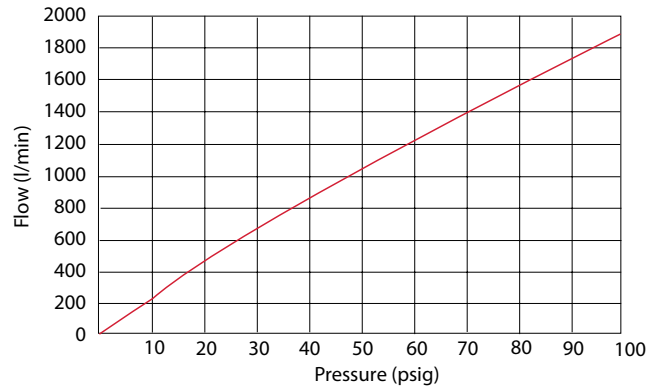
HIGH FLOW 2-WAY & 3-WAY TOGGLE, STEM & CARTRIDGE VALVES

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

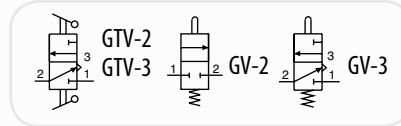
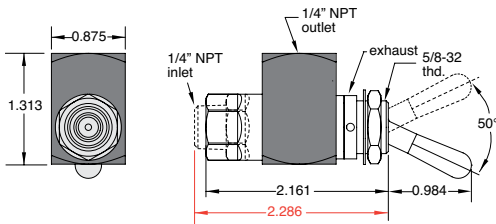


- Will accept a variety of manual, air pilot, electrical or mechanical actuators
- Design flexibility and fast response
- Corrosion-resistant series also available

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



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

(GTV-3Q-P12 shown)

2-WAY & 3-WAY STEM VALVES

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



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

(GV-3-P12 shown)

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



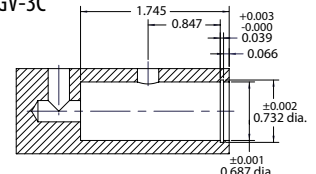
Inlet	Outlet	2-Way	3-Way
1/4" NPTF	1/4" NPTF	GV-2	GV-3
1/4" NPTM	1/4" NPTF	GV-2Q	GV-3Q

(GV-2 shown)

2-WAY & 3-WAY STEM CARTRIDGE VALVES



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





SLEEVE VALVES, LIMIT VALVES & ACTUATOR ARMS

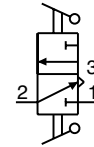
SLEEVE VALVES

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


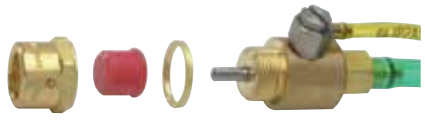
Clippard offers captivated push buttons for use with a large variety of stem operated valves. Captivated push buttons are sold as kits, adaptable to either 1/8" diameter stems or 3/16" diameter stems. Each kit includes a colored acetyl push button, brass housing nut, 1/16" brass spacer, and lock washer 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 - ●
		1 3/16-28	PC-5F-□*	YL - ●	BL - ●	OR - ●	GR - ●
<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

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CA PROPOSITION 65

All products shipped to or sold to consumers in California include Proposition 65 documentation with the shipment and reference our website. There are over nine hundred (900) chemicals on the Proposition 65 list, some of which are used in Clippard materials and/or processes. Although not all products contain chemicals within the list, Clippard is being cautious and diligent in complying with the California Law.

As of August 30, 2018, chemicals we are aware of that are listed within Proposition 65 are detailed online at clippard.com/link/prop65, or for additional information please contact tech@clippard.com.