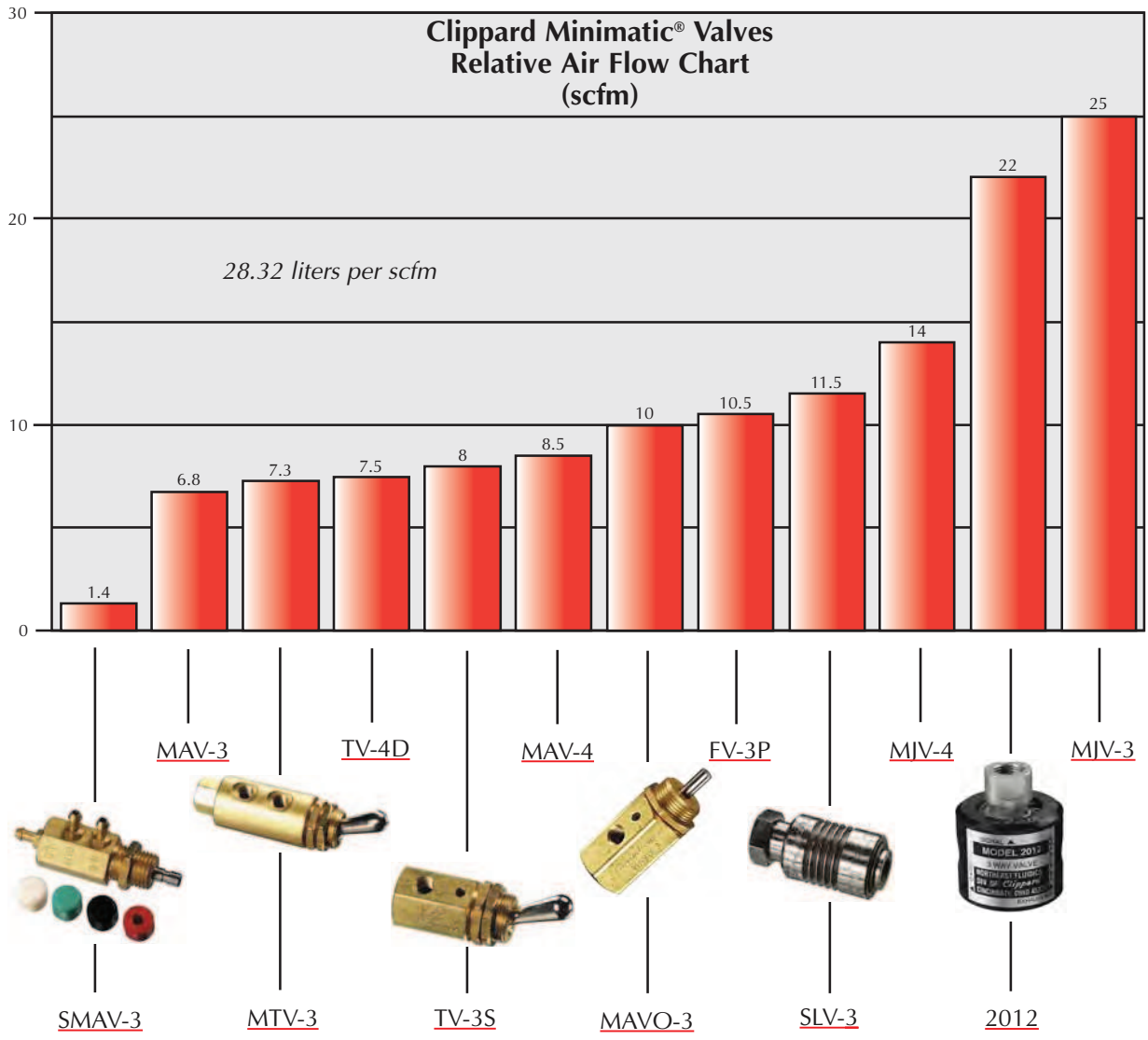
Every air system is unique . . . and Clippard has the air valve you need. Clippard control valves are available in poppet or spool design; 2-, 3-, or 4-way functions, in sizes from #3-56 and #10-32 (M5) through 1/8" NPT (G1/8) ports; and for pressures to 300 psig/21 bar. They are available with solenoid, air pilot, manual and mechanical actuators. Mounting styles include in-line, panel mount, manifold mount or clearance holes for mounting screws.

When designing a pneumatic system, choose the proper size for each component. A valve of insufficient capacity may cause an entire system to operate slower than expected. Conversely, utilizing a valve which possesses greater capacity than is actually required results in needless size and often leads to excessive speed, impact, wear, and air consumption.

The chart below shows the variety of valve flows available from Clippard. It can be used as a guide to determine the proper valve for an actual application.



2-Way Toggle, Stem & Air-Piloted Valves

	Order No.	Style	Flow (@ 100 psig/7 bar)	Ports			Normally-Open	Normally-Closed	Momentary/Detented	Metal Toggle	Plastic Toggle	Page No.
				Inlet	Outlet	Exhaust						
Toggle Valves	MTV-2	Poppet	7.3 scfm	#10-32	#10-32	-		▲	D	▲		106
	MTV-2-M5	Poppet	175 l/min	M5	M5	-		▲	D	▲		106
	MTV-2P	Poppet	7.3 scfm	1/8″ NPT	#10-32	-		▲	D	▲		106
	TV-2S	Spool	8 scfm	#10-32	#10-32	-		▲	D	▲		106
	TV-2S-M5	Spool	190 l/min	M5	M5	-		▲	D	▲		106
	TV-2SF	Spool	8 scfm	#10-32	#10-32	-		▲	D		▲	106
	TV-2SF-M5	Spool	190 l/min	M5	M5	-		▲	D		▲	106
	TV-2SP	Spool	8 scfm	1/8″ NPT	#10-32	-		▲	D	▲		106
	TV-2SFP	Spool	8 scfm	1/8″ NPT	#10-32	-		▲	D		▲	106
	TV-2M	Poppet	8 scfm	#10-32	#10-32	-		▲	M	▲		106
	TV-2M-M5	Poppet	190 l/min	M5	M5	-		▲	M	▲		106
	TV-2MF	Poppet	8 scfm	#10-32	#10-32	-		▲	M		▲	106
	TV-2MF-M5	Poppet	190 l/min	M5	M5	-		▲	M		▲	106
	TV-2MP	Poppet	6.8 scfm	1/8″ NPT	#10-32	-		▲	M	▲		107
	TV-2MFP	Poppet	6.8 scfm	1/8″ NPT	#10-32	-		▲	M		▲	107
	TVO-2M	Spool	8 scfm	#10-32	#10-32	-	▲		M	▲		107
	TVO-2M-M5	Spool	190 l/min	M5	M5	-	▲		M	▲		107
	TVO-2MF	Spool	8 scfm	#10-32	#10-32	-	▲		M		▲	107
	TVO-2MF-M5	Spool	190 l/min	M5	M5	-	▲		M		▲	107
	TVO-2MP	Spool	6.8 scfm	1/8″ NPT	#10-32	-	▲		M	▲		107
	TVO-2MFP	Spool	6.8 scfm	1/8″ NPT	#10-32	-	▲		M		▲	107
Stem Valves	MAV-2	Poppet	6.8 scfm	#10-32	#10-32	-		▲				104
	MAV-2-M5	Poppet	170 l/min	M5	M5	-		▲				104
	MAV-2P	Poppet	6.8 scfm	1/8″ NPT	#10-32	-		▲				104
	MAV-2C	Poppet	6 scfm	-	-	-		▲				104
	MJV-2C	Poppet	22 scfm	-	-	-		▲				105
	MAV-2R	Poppet	6.8 scfm	#10-32	#10-32	-		▲				104
	MAV-2R-M5	Poppet	170 l/min	M5	M5	-		▲				104
	MAVO-2	Spool	10 scfm	#10-32	#10-32	-	▲					104
	MAVO-2-M5	Spool	245 l/min	M5	M5	-	▲					104
	MAVO-2P	Spool	10 scfm	1/8″ NPT	#10-32	-	▲					105
	MAVO-2C	Spool	10 scfm	-	-	-	▲					104
	MJV-2	Poppet	25 scfm	1/8″ NPT	1/8″ NPT	-		▲				105
	MJV-2-MG	Poppet	708 l/min	G1/8	G1/8	-		▲				105
	MJVO-2	Spool	12 scfm	1/8″ NPT	1/8″ NPT	-	▲					105
	MJVO-2-MG	Spool	600 l/min	G1/8	G1/8	-	▲					105
	MJVO-2C	Spool	15 scfm	-	-	-	▲					105
Air-Piloted	PAV-2	Poppet	6.8 scfm	1/8″ NPT	#10-32	-		▲				108
	PAV-2P	Poppet	6.8 scfm	1/8″ NPT	1/8″ NPT	-		▲				108
	PAVO-2	Spool	11.6 scfm	#10-32	#10-32	-	▲					108
	PAVO-2P	Spool	11.6 scfm	#10-32	1/8″ NPT	-	▲					108

3-Way Toggle Valves

Toggle Valves

Order No.	Style	Flow (@ 100 psig/7 bar)	Ports			Normally-Open	Normally-Closed	Momentary/Detented	Metal Toggle	Plastic Toggle	Page No.
			Inlet	Outlet	Exhaust						
MTV-3	Poppet	7 scfm	#10-32	#10-32	#10-32		▲	D	▲		111
MTV-3-M5	Poppet	175 l/min	M5	M5	M5		▲	D	▲		111
MTV-3P	Poppet	7 scfm	1/8″ NPT	#10-32	#10-32		▲	D	▲		111
MJTV-3	Poppet	25 scfm	1/8″ NPT	1/8″ NPT	1/8″ NPT		▲	D	▲		112
MJTV-3-MG	Poppet	600 l/min	G1/8	G1/8	G1/8		▲	D	▲		112
FTV-3	Spool	10 scfm	#10-32	#10-32	#10-32		▲	D	▲		113
FTV-3-M5	Spool	240 l/min	M5	M5	M5		▲	D	▲		113
FTV-3F	Spool	10 scfm	#10-32	#10-32	#10-32		▲	D		▲	113
FTV-3F-M5	Spool	130 l/min	M5	M5	M5		▲	D		▲	113
FTV-3P	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	1/8″ NPT		▲	D	▲		113
FTV-3-MG	Spool	250 l/min	G1/8	G1/8	G1/8		▲	D	▲		113
FTV-3FP	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	1/8″ NPT		▲	D		▲	113
FTV-3F-MG	Spool	250 l/min	G1/8	G1/8	G1/8		▲	D		▲	113
TV-3S	Spool	8 scfm	#10-32	#10-32	hole in body		▲	D	▲		111
TV-3S-M5	Spool	190 l/min	M5	M5	hole in body		▲	D	▲		111
TV-3SF	Spool	8 scfm	#10-32	#10-32	hole in body		▲	D		▲	111
TV-3SF-M5	Spool	190 l/min	M5	M5	hole in body		▲	D		▲	111
TV-3SP	Spool	8 scfm	1/8″ NPT	#10-32	hole in body		▲	D	▲		111
TV-3SFP	Spool	8 scfm	1/8″ NPT	#10-32	hole in body		▲	D		▲	111
TV-3M	Poppet	6.8 scfm	#10-32	#10-32	hole in body		▲	M	▲		111
TV-3M-M5	Poppet	170 l/min	M5	M5	hole in body		▲	M	▲		111
TV-3MF	Poppet	6.8 scfm	#10-32	#10-32	hole in body		▲	M		▲	111
TV-3MF-M5	Poppet	170 l/min	M5	M5	hole in body		▲	M		▲	111
TV-3MP	Poppet	6.8 scfm	1/8″ NPT	#10-32	hole in body		▲	M	▲		112
TV-3MFP	Poppet	6.8 scfm	1/8″ NPT	#10-32	hole in body		▲	M		▲	112
TVO-3M	Spool	6.8 scfm	#10-32	#10-32	hole in body	▲		M	▲		112
TVO-3M-M5	Spool	170 l/min	M5	M5	hole in body	▲		M	▲		112
TVO-3MF	Spool	6.8 scfm	#10-32	#10-32	hole in body	▲		M		▲	112
TVO-3MF-M5	Spool	170 l/min	M5	M5	hole in body	▲		M		▲	112
TVO-3MP	Spool	6.8 scfm	1/8″ NPT	#10-32	hole in body	▲		M	▲		112
TVO-3MFP	Spool	6.8 scfm	1/8″ NPT	#10-32	hole in body	▲		M		▲	112
SMTV-3	Spool	1.4 scfm	#3-56*	#3-56*	hole in body	▲	▲	D	▲		113

** With hose barbs uninstalled*

3-Way Stem Valves

Stem Valves

Order No.	Style	Flow (@ 100 psig/7 bar)	Ports			Normally-Open	Normally-Closed	Momentary/Detented	Metal Toggle	Plastic Toggle	Page No.
			Inlet	Outlet	Exhaust						
FV-3	Spool	10 scfm	#10-32	#10-32	#10-32	▲	▲				110
FV-3-M5	Spool	240 l/min	M5	M5	M5	▲	▲				110
FV-3-MG	Spool	240 l/min	G1/8	G1/8	G1/8	▲	▲				110
FV-3D	Spool	10 scfm	#10-32	#10-32	#10-32	▲	▲				110
FV-3D-M5	Spool	240 l/min	M5	M5	M5	▲	▲				110
FV-3DP	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	1/8″ NPT	▲	▲				110
FV-3DP-MG	Spool	240 l/min	G1/8	G1/8	G1/8	▲	▲				110
FV-3P	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	1/8″ NPT	▲	▲				110
MAV-3	Poppet	6.8 scfm	#10-32	#10-32	through stem		▲				109
MAV-3-M5	Poppet	170 l/min	M5	M5	through stem		▲				109
MAV-3P	Poppet	6.8 scfm	1/8″ NPT	#10-32	through stem		▲				109
MAV-3C	Poppet	6 scfm	Cartridge	Cartridge	through stem		▲				109
MAV-3R	Poppet	6.8 scfm	#10-32	#10-32	through stem		▲				109
MAV-3R-M5	Poppet	193 l/min	M5	M5	through stem		▲				109
MAVO-3	Spool	10 scfm	#10-32	#10-32	holes in body	▲					109
MAVO-3-M5	Spool	245 l/min	M5	M5	holes in body	▲					109
MAVO-3P	Spool	10 scfm	#10-32	#10-32	holes in body	▲					109
MAVO-3C	Spool	10 scfm	Cartridge	Cartridge	holes in body	▲					109
MJV-3	Poppet	25 scfm	1/8″ NPT	1/8″ NPT	through stem		▲				110
MJV-3-MG	Poppet	708 l/min	G1/8	G1/8	through stem		▲				110
MJV-3C	Poppet	22 scfm	Cartridge	Cartridge	through stem		▲				110
MJVO-3	Spool	12 scfm	1/8″ NPT	1/8″ NPT	holes in body	▲					109
MJVO-3-MG	Spool	600 l/min	G1/8	G1/8	holes in body	▲					109
MJVO-3C	Spool	15 scfm	Cartridge	Cartridge	holes in body	▲					110
SMAV-3	Spool	1.4 scfm	#3-56	#3-56	#3-56	▲	▲				113
PAV-3	Poppet	6.8 scfm	#10-32	#10-32	holes in body		▲				114
PAV-3P	Poppet	6.8 scfm	#10-32	1/8″ NPT	holes in body		▲				114
PAVO-3	Spool	11.6 scfm	#10-32	#10-32	holes in body	▲					114
PAVO-3P	Spool	11.6 scfm	#10-32	1/8″ NPT	holes in body	▲					114

4-Way Toggle & Stem Valves

	Order No.	Style	Flow (@ 100 psig/7 bar)	Ports			Normally-Open	Normally-Closed	Momentary/Detented	Metal Toggle	Plastic Toggle	Page No.
				Inlet	Outlet	Exhaust						
Toggle Valves	TV-4D(M)	Spool	7.5 scfm	#10-32	#10-32	holes in body		▲	D	▲	▲	121
	TV-4D-M5	Spool	180 l/min	M5	M5	holes in body		▲	D	▲	▲	121
	TV-4M(M)	Spool	7.5 scfm	#10-32	#10-32	holes in body		▲	D	▲	▲	121
	TV-4DM(M)	Spool	7.5 scfm	#10-32	#10-32	holes in body		▲	D	▲	▲	121
	TV-4DP(M)	Spool	7.5 scfm	1/8″ NPT	1/8″ NPT	holes in body		▲	D	▲	▲	121
	TV-4MP(M)	Spool	7.5 scfm	1/8″ NPT	1/8″ NPT	holes in body		▲	D	▲	▲	121
	TV-4DMP(M)	Spool	7.5 scfm	1/8″ NPT	1/8″ NPT	holes in body		▲	D	▲	▲	121
	MTV-4	Spool	10 scfm	#10-32	#10-32	holes in body	▲	▲	D	▲		120
	MTV-4-M5	Spool	240 l/min	M5	M5	holes in body	▲	▲	D	▲		120
	MTV-4F	Spool	10 scfm	#10-32	#10-32	holes in body	▲	▲	D		▲	120
	MTV-4F-M5	Spool	240 l/min	M5	M5	holes in body	▲	▲	D		▲	120
	MJTV-4	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	holes in body	▲	▲	D	▲		120
	MJTV-4-MG	Spool	250 l/min	G1/8	G1/8	holes in body	▲	▲	D	▲		120
	MJTV-4F	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	holes in body	▲	▲	D		▲	120
	MJTV-4F-MG	Spool	250 l/min	G1/8	G1/8	holes in body	▲	▲	D		▲	120
	MTV-5	Spool	10 scfm	#10-32	#10-32	#10-32	▲	▲	D	▲		120
	MTV-5-M5	Spool	240 l/min	M5	M5	M5	▲	▲	D	▲		120
	MTV-5F	Spool	10 scfm	#10-32	#10-32	#10-32	▲	▲	D		▲	120
	MTV-5F-M5	Spool	240 l/min	M5	M5	M5	▲	▲	D		▲	120
	MJTV-5	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	1/8″ NPT	▲	▲	D	▲		120
	MJTV-5-MG	Spool	250 l/min	G1/8	G1/8	G1/8	▲	▲	D	▲		120
	MJTV-5F	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	1/8″ NPT	▲	▲	D		▲	120
	MJTV-5F-MG	Spool	250 l/min	G1/8	G1/8	G1/8	▲	▲	D		▲	120
	MAV-4	Spool	8.5 scfm	#10-32	#10-32	holes in body	▲	▲				118
	MAV-4-M5	Spool	240 l/min	M5	M5	holes in body	▲	▲				118
Stem Valves	MAV-4D	Spool	8.5 scfm	#10-32	#10-32	holes in body	▲	▲				118
	MAV-4D-M5	Spool	240 l/min	M5	M5	holes in body	▲	▲				118
	MJV-4	Spool	14 scfm	1/8″ NPT	1/8″ NPT	holes in body	▲	▲				118
	MJV-4-MG	Spool	396 l/min	G1/8	G1/8	holes in body	▲	▲				118
	MJV-4D	Spool	14 scfm	1/8″ NPT	1/8″ NPT	holes in body	▲	▲				118
	MJV-4D-MG	Spool	396 l/min	G1/8	G1/8	holes in body	▲	▲				118
	FV-4	Spool	10 scfm	#10-32	#10-32	holes in body	▲	▲				118
	FV-4-M5	Spool	240 l/min	M5	M5	holes in body	▲	▲				118
	FV-4-MG	Spool	250 l/min	G1/8	G1/8	holes in body	▲	▲				118
	FV-4P	Spool	10.5 scfm	1/8″ NPT	1/8″ NPT	holes in body	▲	▲				118
	FV-4D	Spool	10 scfm	#10-32	#10-32	holes in body	▲	▲				118
	FV-4D-M5	Spool	240 l/min	M5	M5	holes in body	▲	▲				118

4-Way Stem Valves Cont'd.

	Order No.	Style	Flow (@ 100 psig/7 bar)	Ports			Normally-Open	Normally-Closed	Momentary/Detented	Metal Toggle	Plastic Toggle	Page No.
				Inlet	Outlet	Exhaust						
Stem Valves	FV-4DP	Spool	10.5 scfm	1/8" NPT	1/8" NPT	holes in body	▲	▲				118
	FV-4D-MG	Spool	250 l/min	G1/8	G1/8	holes in body	▲	▲				118
	FV-5	Spool	10 scfm	#10-32	#10-32	#10-32	▲	▲				119
	FV-5-M5	Spool	240 l/min	M5	M5	#10-32	▲	▲				119
	FV-5P	Spool	10.5 scfm	1/8" NPT	1/8" NPT	1/8" NPT	▲	▲				119
	FV-5-MG	Spool	250 l/min	G1/8	G1/8	G1/8	▲	▲				119
	FV-5D	Spool	10 scfm	#10-32	#10-32	#10-32	▲	▲				119
	FV-5D-M5	Spool	240 l/min	M5	M5	M5	▲	▲				119
	FV-5DP	Spool	10.5 scfm	1/8" NPT	1/8" NPT	1/8" NPT	▲	▲				119
	FV-5D-MG	Spool	250 l/min	G1/8	G1/8	G1/8	▲	▲				119

Options

-ENP Electroless Nickel Plating

This option provides a low luster finish on brass parts for decorative purposes that also protects the surface from corrosion and tarnishing. It has a nominal thickness of 0.0002", and does not affect the fit or function of the part.

-V Viton

This option replaces the standard Buna-N seals with Viton seals either for high temperature (up to + 400˚F) applications or those that require Viton for chemical compatibility. Consult factory for availability.

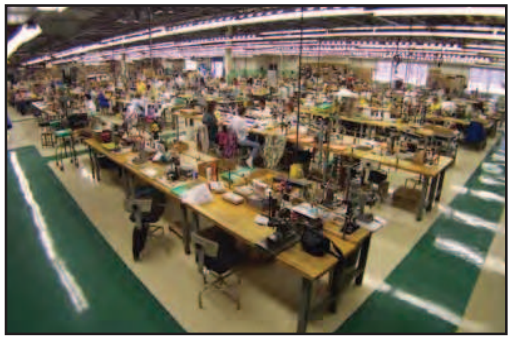
CUSTOMer solutions

If you need a product that fits your application perfectly, Clippard has the capability to design or modify one of its products to suit your exact needs. We understand that a standard catalog product may be close but not be exactly what you need. Let us know YOUR Need, and we will help to find YOUR Solution!

Temperature Range

All Control Valves in this section have a temperature range of 32 to 230°F (0 to 110°C)

Clippard miniature valves and associated products have evolved into a widely used system of fluid power control devices, known for quality, value and performance.



Over the past five decades, a diverse range of industries in the U.S. and throughout the world have come to rely on Minimatics to control machines, systems, and processes through an unlimited list of applications. Clippard quality in design, engineering, manufacturing, as well as an expansive product offering, make Minimatics the preferred choice for miniature and subminiature pneumatic applications.

Recognized as the original and most complete line of miniature fluid power components, Clippard's Minimatic line is available across the globe through a network of fully-trained, stocking distributors. Clippard and our distributors stand ready to provide expert application assistance, support, and technical answers, to help you achieve the highest level of performance in your system.

Maximatic® 3- & 4-Way Valves

3-Way Valves

Series No.	Inlet	Ports Outlet	Exhaust	Function	Cv	Flow @ 100 psig	Page
MMA-31NAS	#10-32	#10-32	#10-32	3/2	0.58	27 scfm	115
MMA-31PAS	1/8″ NPT	1/8″ NPT	1/8″ NPT	3/2	0.67	31 scfm	115
MMA-32QAS	1/4″ NPT	1/4″ NPT	1/8″ NPT	3/2	0.89	49 scfm	115
MMA-33WAS	3/8″ NPT	3/8″ NPT	1/4″ NPT	3/2	1.68	93 scfm	115
MMA-34ZAS	1/2″ NPT	1/2″ NPT	1/2″ NPT	3/2	2.79	171 scfm	115
MMA-31NAA	#10-32	#10-32	#10-32	3/2	0.58	27 scfm	115
MMA-31PAA	1/8″ NPT	1/8″ NPT	1/8″ NPT	3/2	0.67	31 scfm	115
MMA-32QAA	1/4″ NPT	1/4″ NPT	1/8″ NPT	3/2	0.89	49 scfm	115
MMA-33WAA	3/8″ NPT	3/8″ NPT	1/4″ NPT	3/2	1.68	93 scfm	115
MMA-34ZAA	1/2″ NPT	1/2″ NPT	1/2″ NPT	3/2	2.79	171 scfm	115

4-Way Valves

Series No.	Inlet	Ports Outlet	Exhaust	Function	Cv	Flow @ 100 psig	Spool Configuration Closed Center	Exhaust Center	Pressure Center
MMA-41NAS	#10-32	#10-32	#10-32	5/2	0.58	27 scfm			
MMA-41PAS	1/8″ NPT	1/8″ NPT	1/8″ NPT	5/2	0.67	31 scfm			
MMA-42QAS	1/4″ NPT	1/4″ NPT	1/8″ NPT	5/2	0.89	49 scfm			
MMA-43WAS	3/8″ NPT	3/8″ NPT	1/4″ NPT	5/2	1.68	93 scfm			
MMA-44ZAS	1/2″ NPT	1/2″ NPT	1/2″ NPT	5/2	2.79	171 scfm			
MMA-41NAA	#10-32	#10-32	#10-32	5/2	0.58	27 scfm			
MMA-41PAA	1/8″ NPT	1/8″ NPT	1/8″ NPT	5/2	0.67	31 scfm			
MMA-42QAA	1/4″ NPT	1/4″ NPT	1/8″ NPT	5/2	0.89	49 scfm			
MMA-43WAA	3/8″ NPT	3/8″ NPT	1/4″ NPT	5/2	1.68	93 scfm			
MMA-44ZAA	1/2″ NPT	1/2″ NPT	1/2″ NPT	5/2	2.79	171 scfm			
MMA-41NAAC	#10-32	#10-32	#10-32	5/3	0.50	23 scfm	•		
MMA-41PAAC	1/8″ NPT	1/8″ NPT	1/8″ NPT	5/3	0.50	23 scfm	•		
MMA-42QAAC	1/4″ NPT	1/4″ NPT	1/8″ NPT	5/3	0.89	49 scfm	•		
MMA-43WAAC	3/8″ NPT	3/8″ NPT	1/4″ NPT	5/3	1.00	72 scfm	•		
MMA-44ZAAC	1/2″ NPT	1/2″ NPT	1/2″ NPT	5/3	1.68	93 scfm	•		
MMA-41NAAP	#10-32	#10-32	#10-32	5/3	0.50	23 scfm			•
MMA-41PAAP	1/8″ NPT	1/8″ NPT	1/8″ NPT	5/3	0.50	23 scfm			•
MMA-42QAAP	1/4″ NPT	1/4″ NPT	1/8″ NPT	5/3	0.89	49 scfm			•
MMA-43WAAP	3/8″ NPT	3/8″ NPT	1/4″ NPT	5/3	1.00	72 scfm			•
MMA-44ZAAP	1/2″ NPT	1/2″ NPT	1/2″ NPT	5/3	1.68	93 scfm			•
MMA-41NAAE	#10-32	#10-32	#10-32	5/3	0.50	23 scfm		•	
MMA-41PAAE	1/8″ NPT	1/8″ NPT	1/8″ NPT	5/3	0.50	23 scfm		•	
MMA-42QAAE	1/4″ NPT	1/4″ NPT	1/8″ NPT	5/3	0.89	49 scfm		•	
MMA-43WAAE	3/8″ NPT	3/8″ NPT	1/4″ NPT	5/3	1.00	72 scfm		•	
MMA-44ZAAE	1/2″ NPT	1/2″ NPT	1/2″ NPT	5/3	1.68	93 scfm		•	

2-Way Stem Valves

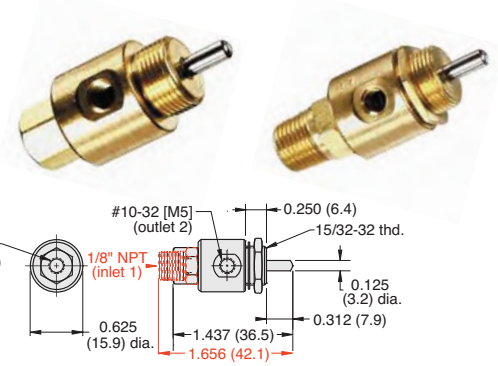
2-way valves are the simplest pneumatic component – their function is merely to turn an air supply on or off. They may be compared to a light switch; in the "ON"on position electricity flows from supply to the light, and in the "off" position the electrical current flow is stopped. 2-way stem valves may have a poppet or spool, and, by depressing the stem, a Normally-Closed (NC) valve is opened and a Normally-Open (NO) valve is closed. A variety of actuators may be attached to the valve such as roller cam followers, manual push buttons or pilot actuators; see the Valve Actuators section of this catalog.

Medium: Air, Water or Oil

Materials: Brass body, Buna-N seals, stainless steel stem and spring

Stem Travel: 1/8" (3.2)

Normally-Closed Poppet 2-Way Valves



Input Pressure: 300 psig/21 bar max.

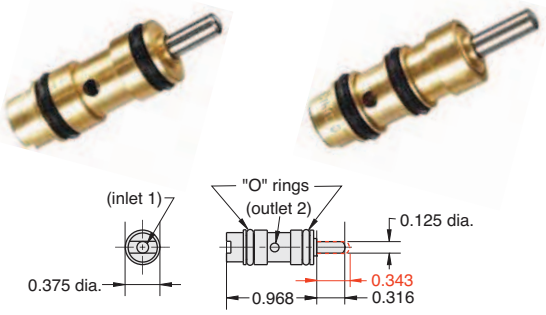
Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig; 170 l/min @ 6 bar

Force For Full Stem Travel: 24 oz. nominal

Mounting: 15/32-32 thread. Nut and lockwasher furnished.

Part No.	Description
MAV-2	2-Way Normally-Closed Valve, #10-32
MAV-2-M5	2-Way Normally-Closed Valve, M5
MAV-2P	2-Way Normally-Closed Valve, 1/8" NPT

Miniature Cartridge Valves



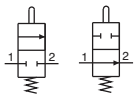
Input Pressure: 300 psig

Air Flow: 3.0 scfm @ 50 psig; 6.0 scfm @ 100 psig

Force For Full Stem Travel: 24 oz. nominal

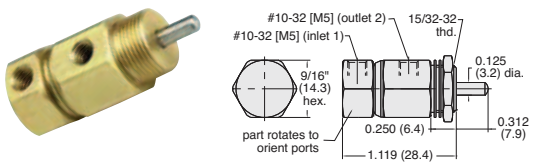
Mounting: Inserts into a 3/8" bore (0.375" ±0.001")

Note: See page 105 for mounting details



Part No.	Description
MAV-2C	2-Way Normally-Closed Cartridge Valve
MAVO-2C	2-Way Normally-Open Cartridge Valve

N.C. Poppet Valves with Rotatable Inlet

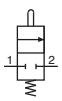


Input Pressure: 300 psig/21 bar max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig; 170 l/min @ 6 bar

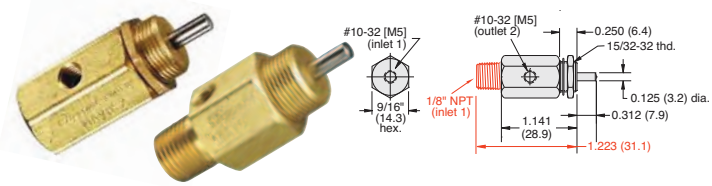
Force For Full Stem Travel: 24 oz. nominal

Mounting: 15/32-32 thread. Nut and lockwasher furnished.



Part No.	Description
MAV-2R	2-Way Poppet Valve with Rotatable Inlet, #10-32
MAV-2R-M5	2-Way Poppet Valve with Rotatable Inlet, M5

Normally-Open Spool Valves



Input Pressure: 150 psig/10 bar max.

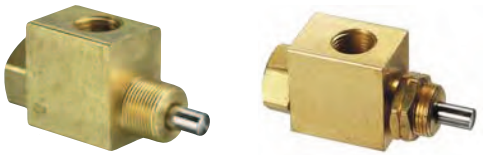
Air Flow: 6.0 scfm @ 50 psig; 10 scfm @ 100 psig; 245 l/min @ 6 bar

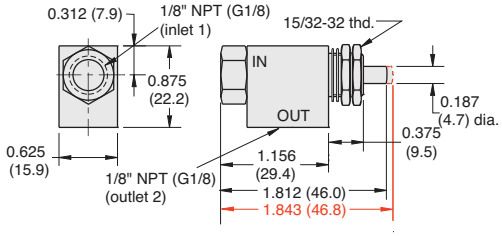
Force For Full Stem Travel: 32 oz. nominal

Mounting: 15/32-32 thread. Nut and lockwasher furnished.

Part No.	Description
MAVO-2	2-Way Normally-Open Spool Valve, #10-32
MAVO-2-M5	2-Way Normally-Open Spool Valve, M5
MAVO-2P	2-Way Normally-Open Spool Valve, 1/8" NPT

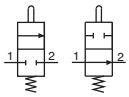
J-Series Miniature Valves





Input Pressure: MJV-2/MJV-2-MG - 300 psig/21 bar max.
MJVO-2/MJVO-2-MG - 150 psig/10 bar max.

Air Flow: MJV-2/MJV-2-MG - 14.0 scfm @ 50 psig;
25 scfm @ 100 psig; 600 l/min @ 6 bar
MJVO-2/MJVO-2-MG - 7 scfm @ 50 psig;
12 scfm @ 100 psig; 600 l/min @ 6 bar

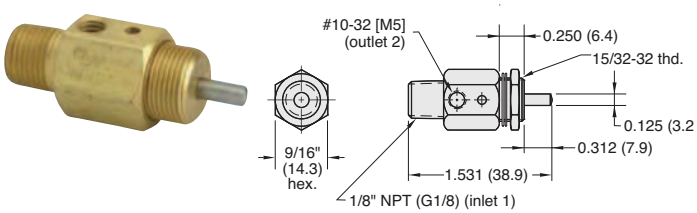


Force For Full Stem Travel: MJV-2/MJV-2-MG - 38 oz. nominal
MJVO-2/MJVO-2-MG - 36 oz. nominal

Mounting: 15/32-32 thread. Nuts and lockwashers furnished.

Part No.	Description
MJV-2	Normally-Closed Poppet Valve, 1/8" NPT
MJV-2-MG	Normally-Closed Poppet Valve, G1/8
MJVO-2	Normally-Open Spool Valve, 1/8" NPT
MJVO-2-MG	Normally-Open Spool Valve, G1/8

Normally-Open Spool Valve



Input Pressure: 150 psig max.

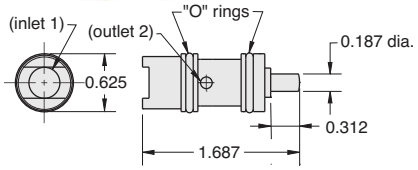
Air Flow: 6 scfm @ 50 psig; 100 scfm @ 100 psig

Force For Full Stem Travel: 32 oz. nominal

Mounting: 15/32-32 thread. Nut and lockwasher furnished.

Part No.	Description
MAVO-2P	Normally-Open Spool Valve

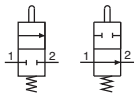
J-Series Cartridge Valves



Input Pressure: 300 psig

Air Flow: 11 scfm @ 50 psig; 22 scfm @ 100 psig

Force For Full Stem Travel: 24 oz. nominal



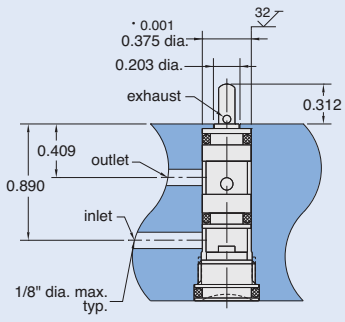
Mounting: Inserts into a 5/8" bore (0.625" ±0.001)

Note: See below for mounting details

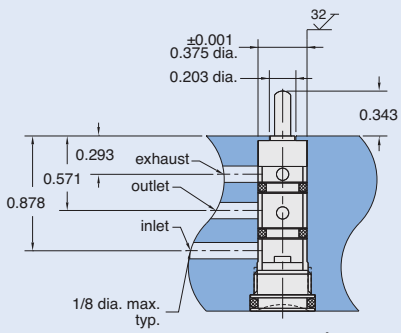
Part No.	Description
MJV-2C	Normally-Closed Cartridge Valve
MJVO-2C	Normally-Open Cartridge Valve

Cartridge Valve Mounting

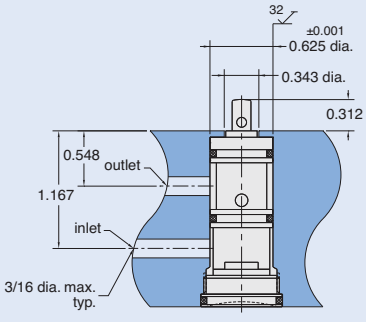
Clippard miniature cartridge valves offer the user flexibility in the application of 2-way and 3-way Normally-Open or Normally-Closed valves. Two sizes are provided: to fit either a 0.375" diameter bore or 0.625" diameter bore. They are used in Clippard heavy-duty limit switches and are suitable for pneumatic tools and manifolds or for any use where a valve needs to be built in.



MAV-2C/3C



MAVO-2C/3C



MJV-2C/3C

2-WAY TOGGLE VALVES

2-way valves are the simplest pneumatic component— their function is merely to turn an air supply on and off. They may best be compared to a water faucet; in the "on" position water flows from inlet to outlet, and in the "off" position the water flow is stopped. 2-way toggle valves may have a poppet or spool, and may be either a 2 position or have a momentary actuation.

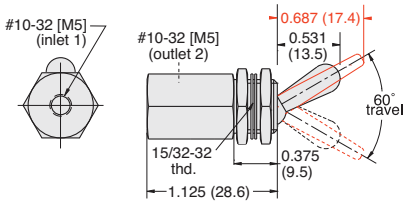
Medium: Air, Water or Oil

Materials: Brass body, Buna-N seals, stainless steel stem and spring

Force For Full Stem Travel: 12 oz. nominal

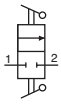
Mounting: 15/32-32 thread. Nuts and lockwashers furnished.

2 Position Spool Valves



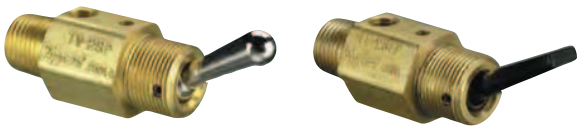
Input Pressure: 150 psig/10 bar max.

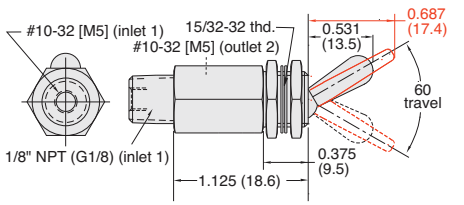
Air Flow: 4.5 scfm @ 50 psig; 8.0 scfm @ 100 psig; 190 l/min @ 6 bar



Part No.	Description
TV-2S	2 Position Spool Valve, NP Steel Toggle, #10-32
TV-2S-M5	2 Position Spool Valve, NP Steel Toggle, M5
TV-2SF	2 Position Spool Valve, Plastic Toggle, #10-32
TV-2SF-M5	2 Position Spool Valve, Plastic Toggle, M5

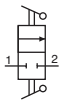
2 Pos. Spool Valves with 1/8" NPT Inlet





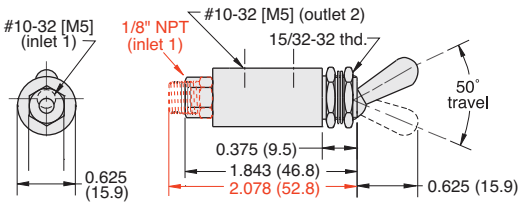
Input Pressure: 150 psig max.

Air Flow: 4.5 scfm @ 50 psig; 8.0 scfm @ 100 psig;



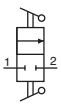
Part No.	Description
TV-2SP	2 Position Spool Valve, NP Steel Toggle, 1/8"NPT
TV-2SFP	2 Position Spool Valve, Plastic Toggle, 1/8" NPT

2 Position Poppet Valves



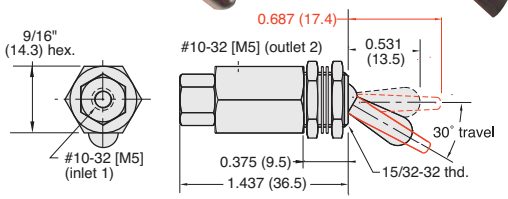
Input Pressure: 150 psig/10 bar max.

Air Flow: 4.0 scfm @ 50 psig; 7.3 scfm @ 100 psig; 175 l/min @ 6 bar



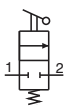
Part No.	Description
MTV-2	2 Position Poppet Valve, NP Brass Toggle, #10-32
MTV-2-M5	2 Position Poppet Valve, NP Brass Toggle, M5
MTV-2P	2 Position Poppet Valve, NP Brass Toggle, 1/8" NPT

2 Pos. N.C. Poppet with Momentary Actuation



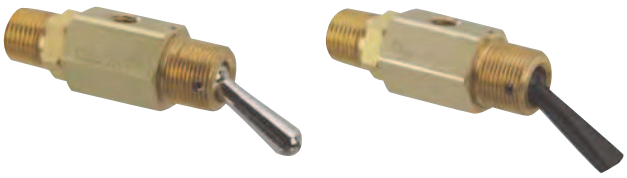
Input Pressure: 150 psig/10 bar max.

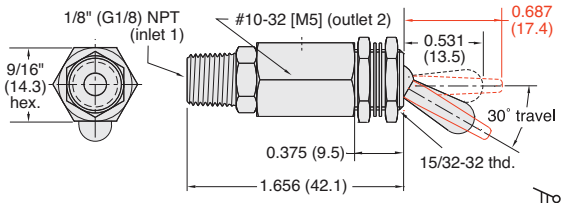
Air Flow: 4.5 scfm @ 50 psig; 8.0 scfm@ 100 psig; 175 l/min @ 6 bar



Part No.	Description
TV-2M	2 Position N.C. Poppet Valve, NP Steel Toggle, #10-32
TV-2M-M5	2 Position N.C. Poppet Valve, NP Steel Toggle, M5
TV-2MF	2 Position N.C. Poppet Valve, Plastic Toggle, #10-32
TV-2MF-M5	2 Position N.C. Poppet Valve, Plastic Toggle, M5

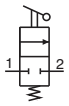
2 Pos. N.C. Poppet w/Momentary Actuation





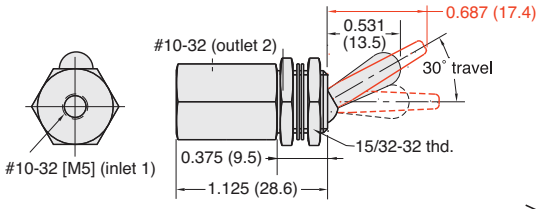
Input Pressure: 150 psig max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig



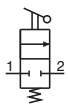
Part No.	Description
TV-2MP	2 Position Poppet Valve, NP Steel Toggle, 1/8" NPT
TV-2MFP	2 Position Poppet Valve, Plastic Toggle, 1/8" NPT

2 Pos. N.O. Spool w/Momentary Actuation



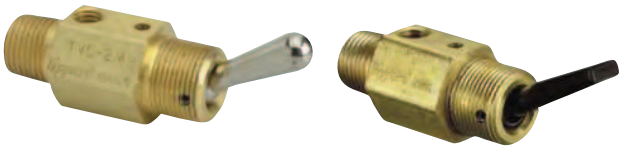
Input Pressure: 150 psig/10 bar max

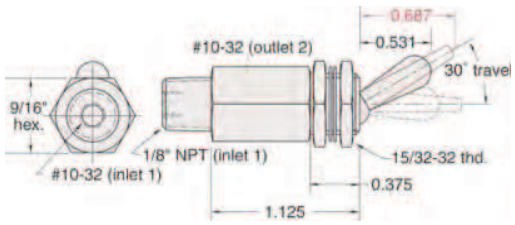
Air Flow: 4.5 scfm @ 50 psig; 8.0 scfm @ 100 psig; 190 l/min @ 6 bar



Part No.	Description
TVO-2M	2 Position N.O. Spool Valve, NP Steel Toggle, #10-32
TVO-2M-M5	2 Position N.O. Spool Valve, NP Steel Toggle, M5
TVO-2MF	2 Position N.O. Spool Valve, Plastic Toggle, #10-32
TVO-2MF-M5	2 Position N.O. Spool Valve, Plastic Toggle, M5

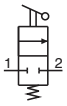
2 Pos. N.O. Spool with Momentary Actuation





Input Pressure: 150 psig max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig



Part No.	Description
TVO-2MP	2 Position Spool Spool Valve, NP Steel Toggle
TVO-2MFP	2 Position Spool Spool Valve, Plastic Toggle

CUSTOMer solutions

If you need a product that fits your application perfectly, Clippard has the capability to design or modify one of its products to suit your exact needs. We understand that a standard catalog product may be close but not be exactly what you need. Let us know YOUR Need, and we will help to find YOUR Solution!

Specials!

Clippard has been and still is a pioneer in miniature pneumatics. This cartridge 2-way valve is small and packs a lot of flow into a very tight package. If you don't see what you need in this section, just call us!

2-Way Air-Piloted Valves

2-way valves are the simplest pneumatic component – their function is merely to turn an air supply on or off. They may be compared to a beer tap, in the "on" position beer flows from the keg to the mug and in the "off" position the beer flow is stopped. 2-way air piloted valves may have a poppet or spool and when an air signal is applied to the pilot, a Normally-Closed (N.C.) valve is opened and a Normally-Open (N.O.) valve is closed. When the pilot signal is removed, the valve reverts back to its original position.

Medium: Air, Water or Oil

Materials: Brass body, Buna-N seals, stainless steel stem and spring

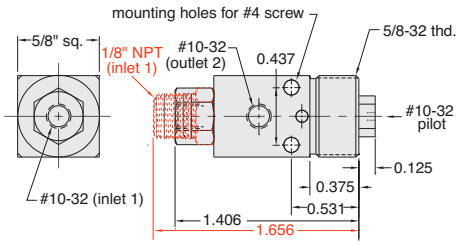
Stem Travel: 1/8" (3.2)

Mounting: 5/8-32 thread or #4 screw. Nut and lockwasher may be ordered separately. Part Number: PAV-MH

Air Pilot Pressure: 15 psig min.

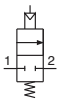
Foot Bracket: FB-1791

Air-Piloted N.C. Poppet Valves



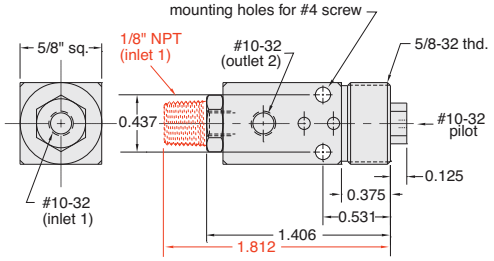
Input Pressure: 300 psig max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig



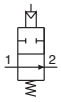
Part No.	Description
PAV-2	Normally-Closed Poppet Valve, #10-32
PAV-2P	Normally-Closed Poppet Valve, 1/8" NPT

Air-Piloted N.O. Spool Valves



Input Pressure: 150 psig max.

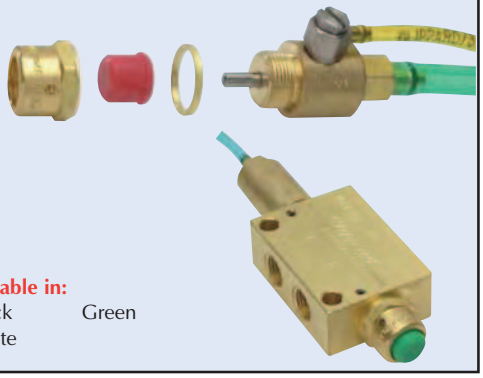
Air Flow: 6.8 scfm @ 50 psig; 11.6 scfm @ 100 psig



Part No.	Description
PAVO-2	Normally-Open Spool Valve, #10-32
PAVO-2P	Normally-Open Spool Valve, 1/8" NPT

Captivated Push Buttons

The small compact size make the 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 page 131 for more information.



Button Housing Available in:

Black Chrome	Electroless
Brass	Nickel Plated

Button Colors Available in:

Yellow	Black	Green
Red	White	

3-Way Stem Valves

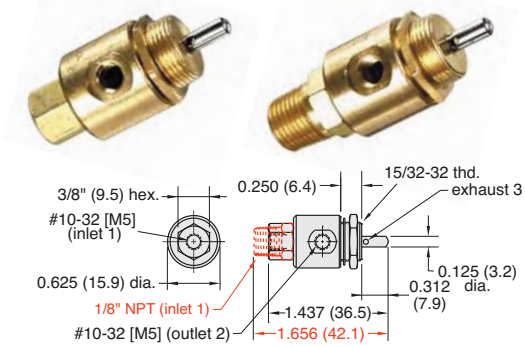
3-way valves are 2-way valves with the added function of exhausting the outlet when the valve is closed. When the stem is depressed, the valve is in the "on" position allowing air to flow from the inlet to the outlet while blocking the exhaust. Releasing the stem closes the inlet and opens the outlet to an exhaust port which vents the outlet to atmosphere. 3-way stem valves may have a poppet or spool and be Normally-Closed (N.C.) or Normally-Open (N.O.).

Medium: Air

Stem Travel: 1/8" (3.2)

Materials: Brass body, Buna-N seals, stainless steel stem and spring

Miniature 3-Way Poppet Valves



Input Pressure: 300 psig/21 bar max.

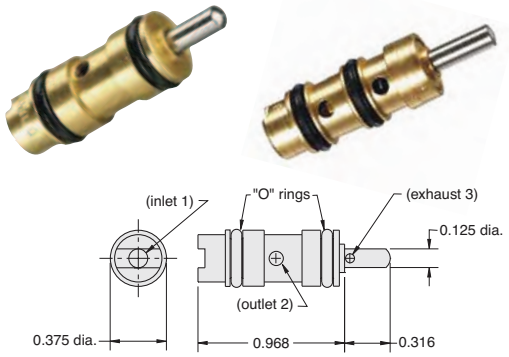
Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig; 170 l/min @ 6 bar

Force For Full Stem Travel: 24 oz. nominal

Mounting: 15/32-32 thread. Nut and lockwasher furnished.

Part No.	Description
MAV-3	Miniature Poppet Valve, #10-32
MAV-3-M5	Miniature Poppet Valve, M5
MAV-3P	Miniature Poppet Valve, 1/8" NPT

Miniature Cartridge Valves



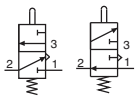
Input Pressure: 300 psig

Air Flow: 3.0 scfm @ 50 psig; 6.0 scfm @ 100 psig

Force For Full Stem Travel: 24 oz. nominal

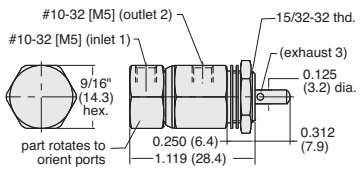
Mounting: Inserts into a 3/8" bore (0.375" 0.001")

Note: See page 105 for mounting details



Part No.	Description
MAV-3C	Normally-Closed Poppet Cartridge Valve
MAVO-3C	Normally-Open Spool Cartridge Valve

N.C. Poppet Valves with Rotatable Inlet

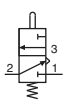


Input Pressure: 300 psig/21 bar max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig; 170 l/min @ 6 bar

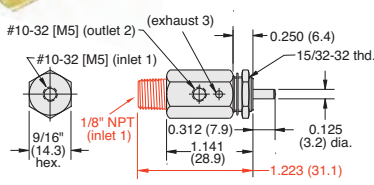
Force For Full Stem Travel: 24 oz. nominal

Mounting: 15/32-32 thread. Nut and lockwasher furnished.



Part No.	Description
MAV-3R	Normally-Closed Valve with Rotatable Inlet, #10-32
MAV-3R-M5	Normally-Closed Valve with Rotatable Inlet, M5

Normally-Open Spool Valves

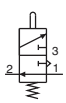


Input Pressure: 150 psig/10 bar max.

Air Flow: 6.0 scfm @ 50 psig; 10 scfm @ 100 psig; 245 l/min @ 6 bar

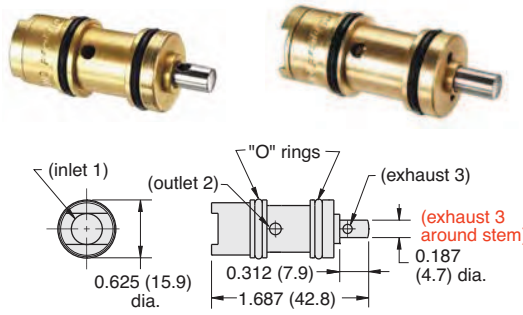
Force For Full Stem Travel: 32 oz. nominal

Mounting: 15/32-32 thread. Nut and lockwasher furnished.



Part No.	Description
MAVO-3	Normally-Open Spool Valve, #10-32
MAVO-3-M5	Normally-Open Spool Valve, M5
MAVO-3P	Normally-Open Spool Valve, 1/8" NPT

J-Series Poppet Cartridge Valves



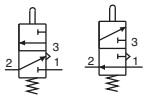
Input Pressure: 300 psig

Air Flow: 11 scfm @ 50 psig; 22 scfm @ 100 psig

Force For Full Stem Travel: 38 oz. nominal

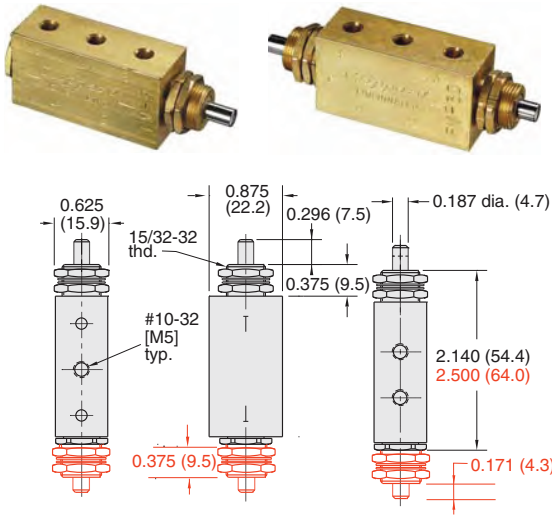
Mounting: Inserts into a 5/8" bore (0.625" ±0.001")

Note: See page 105 for mounting details



Part No.	Description
MJV-3C	3-Way Normally-Closed Poppet Cartridge Valve
MJVO-3C	3-Way Normally-Open Poppet Cartridge Valve

FV-Series 3-Way Spool Valves



Input Pressure: Vacuum to 150 psig/10 bar max.

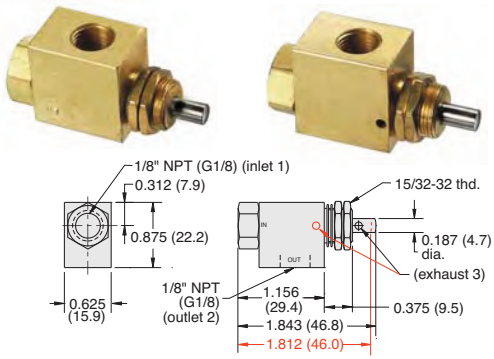
Air Flow: 6 scfm @ 50 psig; 10 scfm @ 100 psig; 240 l/min @ 6 bar

Force For Full Stem Travel: FV-3 & FV-3-M5 - 4 1/2 pounds nominal. FV-3D & FV-3D-M5 - 1 1/2 pounds nominal

Mounting: 5/32-32 thread. Nuts and lockwashers furnished.

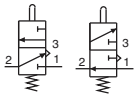
Part No.	Description
FV-3	3-Way Spool Valve, #10-32
FV-3-M5	3-Way Spool Valve, M5
FV-3D	3-Way Two Position Spool Valve, #10-32
FV-3D-M5	3-Way Two Position Spool Valve, M5

J-Series 3-Way Poppet Valves



Input Pressure: MJV-3/MJV-3-MG - 300 psig/21 bar max.
MJVO-3/MJVO-3-MG - 150 psig/10 bar max.

Air Flow: 14.0 scfm @ 50 psig; 25 scfm @ 100 psig; 600 l/min @ 6 bar

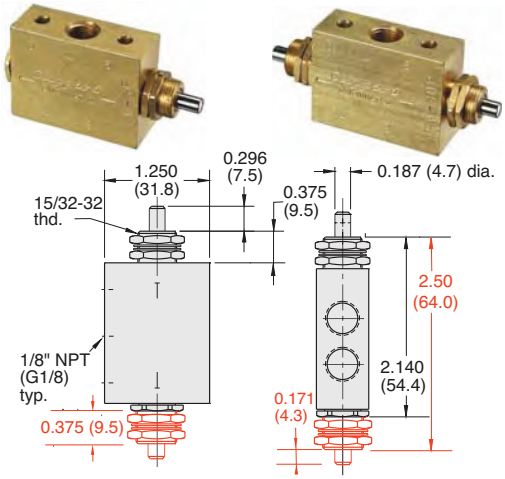


Force For Full Stem Travel: 38 oz. nominal

Mounting: 15/32-32 thread. Nuts and lockwashers furnished.

Part No.	Description
MJV-3	Normally-Closed Valve with Spring Return, 1/8" NPT
MJV-3-MG	Normally-Closed Valve with Spring Return, G1/8
MJVO-3	Normally-Open Spool Valve, 1/8" NPT
MJVO-3-MG	Normally-Open Spool Valve, G1/8

FV-Series 3-Way Spool Valves



Input Pressure: Vacuum to 150 psig/10 bar max.

Air Flow: 6.5 scfm @ 50 psig; 10.5 scfm @ 100 psig; 240 l/min @ 6 bar

Force For Full Stem Travel: FV-3P & FV-3-MG - 4 1/2 pounds nominal. FV-3DP & FV-3D-MG - 1 1/2 pounds nominal

Mounting: 5/32-32 thread. Nuts and lockwashers furnished.

Part No.	Description
FV-3P	Spool Plunger Actuated Spring Return Valve, 1/8" NPT
FV-3-MG	Spool Plunger Actuated Spring Return Valve, G1/8
FV-3DP	Spool Double Plunger 2 Position Valve, 1/8" NPT
FV-3D-MG	Spool Double Plunger 2 Position Valve, G1/8

3-Way Toggle Valves

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.

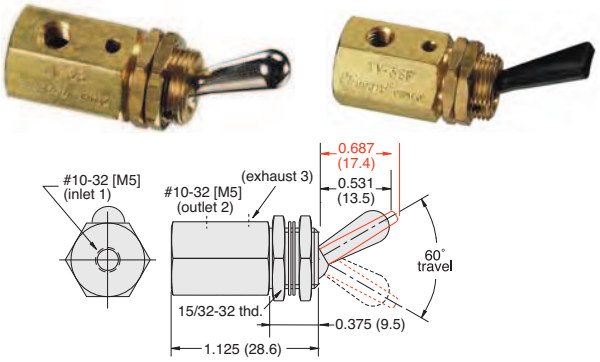
Medium: Air

Materials: Brass body, Buna-N seals, stainless steel stem and spring

Stem Travel: 1/8" (3.2)

Mounting: 15/32-32 thd. Nuts and lockwashers furnished

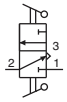
2 Position Spool Valves



Input Pressure: 150 psig/10 bar max.

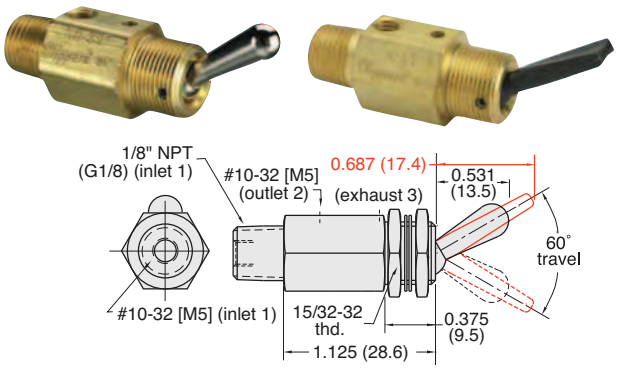
Air Flow: 4.5 scfm @ 50 psig; 8.0 scfm @ 100 psig; 190 l/min @ 6 bar

Force For Full Stem Travel: 12 oz. nominal



Part No.	Description
TV-3S	2 Position Spool Valve, NP Steel Toggle, #10-32
TV-3S-M5	2 Position Spool Valve, NP Steel Toggle, M5
TV-3SF	2 Position Spool Valve, Plastic Toggle, #10-32
TV-3SF-M5	2 Position Spool Valve, Plastic Toggle, M5

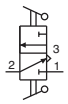
2 Pos. Spool Valve with 1/8" NPT Inlet



Input Pressure: 150 psig/10 bar max.

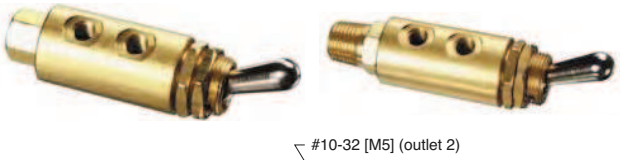
Air Flow: 4.5 scfm @ 50 psig; 8.0 scfm @ 100 psig; 190 l/min @ 6 bar

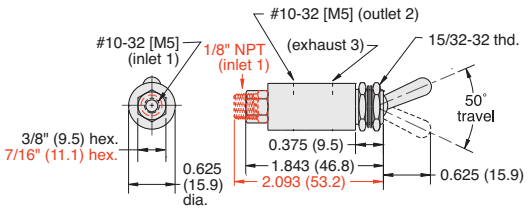
Force For Full Stem Travel: 12 oz. nominal



Part No.	Description
TV-3SP	2 Position Spool Valve, NP Steel Toggle
TV-3SFP	2 Position Spool Valve, Plastic Toggle

2 Position Poppet Valves

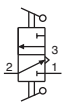




Input Pressure: 150 psig/10 bar max.

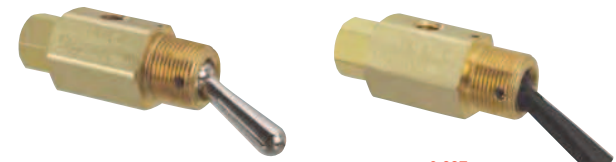
Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig; 175 l/min @ 6 bar

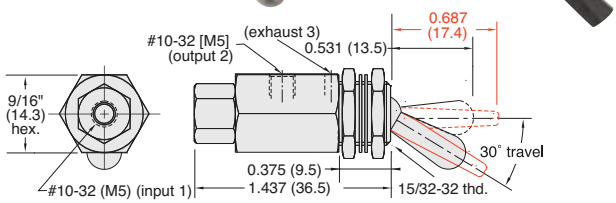
Force For Full Stem Travel: 16 oz. nominal



Part No.	Description
MTV-3	2 Position Poppet Valve, #10-32, NP Brass Toggle
MTV-3-M5	2 Position Poppet Valve, M5, NP Brass Toggle
MTV-3P	2 Position Poppet Valve, 1/8" NPT, NP Brass Toggle

2 Pos. N.C. Poppet with Momentary Actuation

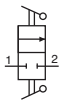




Input Pressure: 150 psig/10 bar max.

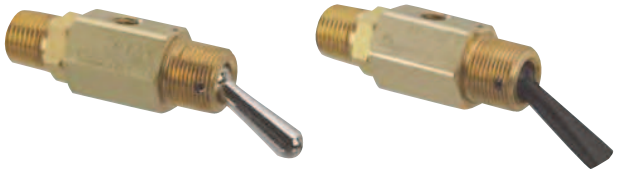
Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig; 175 l/min @ 6 bar

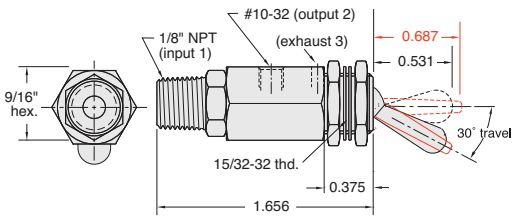
Force For Full Stem Travel: 12 oz. nominal



Part No.	Description
TV-3M	2 Position Poppet Valve, NP Steel Toggle, #10-32
TV-3M-M5	2 Position Poppet Valve, NP Steel Toggle, M5
TV-3MF	2 Position Poppet Valve, Plastic Toggle, #10-32
TV-3MF-M5	2 Position Poppet Valve, Plastic Toggle, M5

2 Pos. N.C. Poppet w/Momentary Actuation





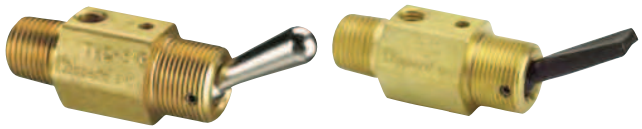
Input Pressure: 300 psig max.

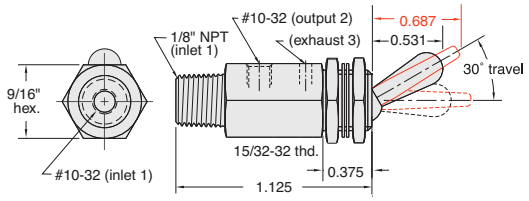
Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig

Force For Full Stem Travel: 12 oz. nominal

Part No.	Description
TV-3MP	2 Position Poppet Valve, NP Steel Toggle
TV-3MFP	2 Position Poppet Valve, Plastic Toggle

2 Pos. N.O. Poppet w/Momentary Actuation





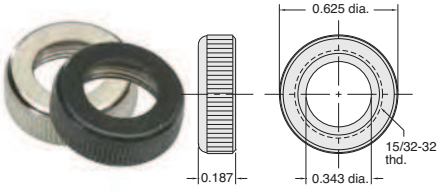
Input Pressure: 150 psig max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig

Force For Full Stem Travel: 12 oz. nominal

Order Information	
TVO-3MP	2 Position Spool Valve, NP Steel Toggle
TVO-3MFP	2 Position Spool Valve, Plastic Toggle

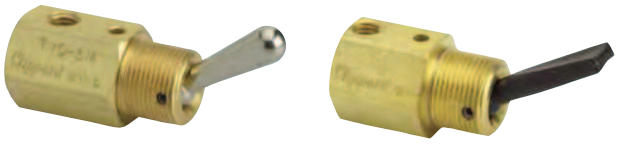
15/32 Panel Mounting Nut

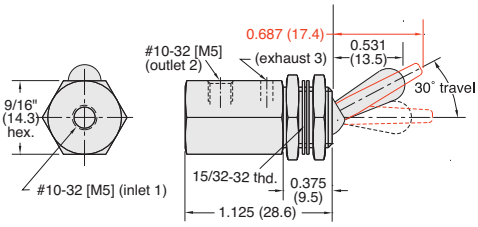


Brass with black or bright nickel finish

Part No.	
11406-1	Black
11406-2	Bright

2 Pos. N.O. Poppet w/Momentary Actuation





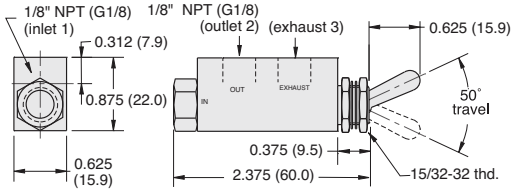
Input Pressure: 150 psig/10 bar max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig; 170 lpm @ 6 bar

Force For Full Stem Travel: 12 oz. nominal

Part No.	Description
TVO-3M	2 Position Spool Valve, NP Steel Toggle, #10-32
TVO-3M-M5	2 Position Spool Valve, NP Steel Toggle, M5
TVO-3MF	2 Position Spool Valve, Plastic Toggle, #10-32
TVO-3MF-M5	2 Position Spool Valve, Plastic Toggle, M5

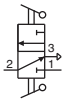
2 Position Poppet Valves



Input Pressure: 300 psig/21 bar max.

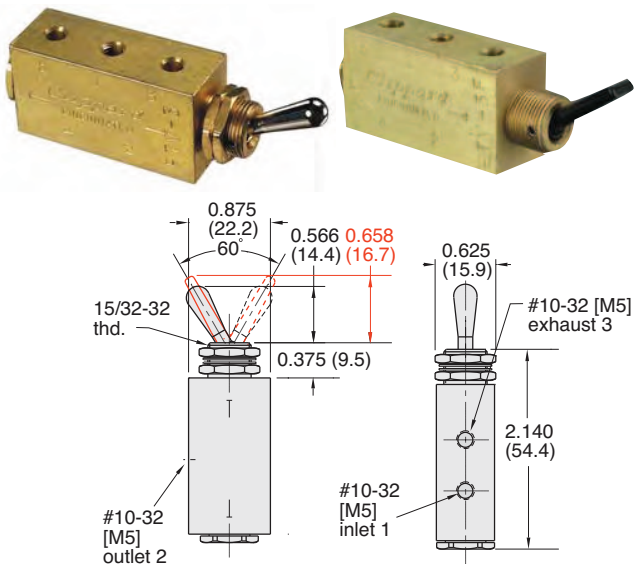
Air Flow: 14 scfm @ 50 psig; 25 scfm @ 100 psig; 600 l/min @ 6 bar

Force For Full Stem Travel: 16 oz. nominal



Part No.	Description
MJTV-3	2 Position Poppet Valve, 1/8" NPT
MJTV-3-MG	2 Position Poppet Valve, G1/8

2 Position Spool Valves

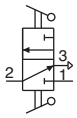


Input Pressure: 150 psig/10 bar max.

Air Flow: 6 scfm @ 50 psig; 10 scfm @ 100 psig; 280 l/min @ 6 bar

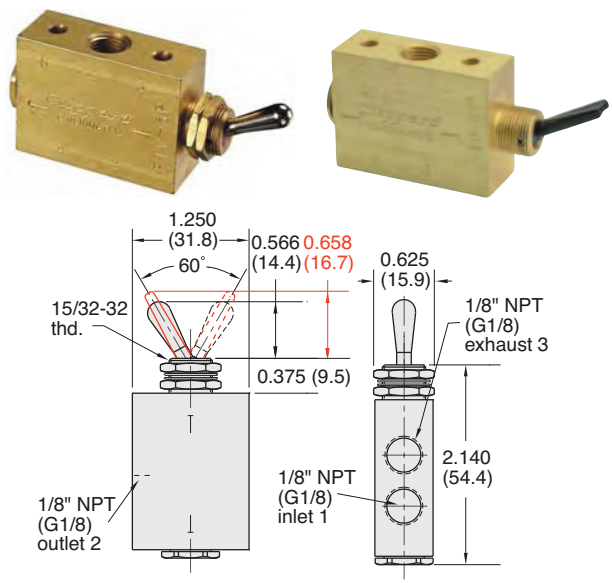
Force For Full Stem Travel: 16 oz. nominal

Mounting: 15/32-32 thread. Nuts and lockwashers furnished.



Part No.	Description
FTV-3	2 Position Spool Valve, NP Steel Toggle, #10-32
FTV-3-M5	2 Position Spool Valve, NP Steel Toggle, M5
FTV-3F	2 Position Spool Valve, Plastic Toggle, #10-32
FTV-3F-M5	2 Position Spool Valve, Plastic Toggle, M5

2 Position Spool Valves

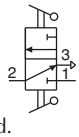


Input Pressure: Vacuum to 150 psig/10 bar max.

Air Flow: 6.5 scfm @ 50 psig; 10.5 scfm @ 100 psig; 290 l/min @ 6 bar

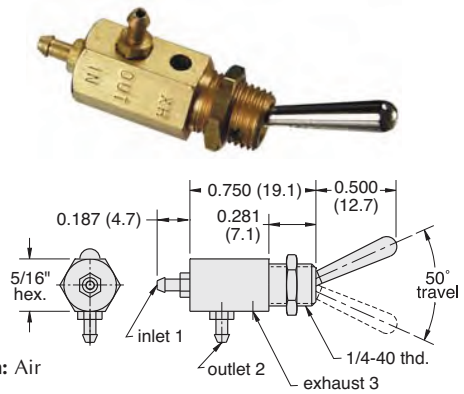
Force For Full Stem Travel: 16 oz. nominal

Mounting: 15/32-32 thread. Nuts and lockwashers furnished.



Part No.	Description
FTV-3P	2 Position Spool Valve, NP Steel Toggle, 1/8" NPT
FTV-3-MG	2 Position Spool Valve, NP Steel Toggle, G1/8
FTV-3FP	2 Position Spool Valve, Plastic Toggle, 1/8" NPT
FTV-3F-MG	2 Position Spool Valve, Plastic Toggle, G1/8

Sub-Miniature Spool Valve



Medium: Air

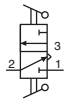
Input Pressure: 100 psig max.

Ports: 3-56 with 1/16" ID Hose Barbs

Air Flow: 1.4 scfm @ 100 psig

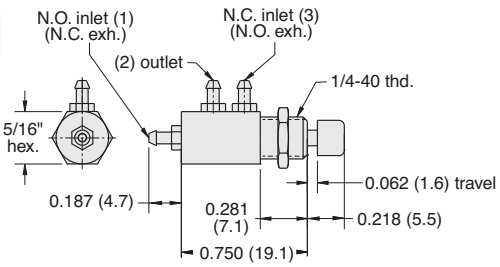
Force For Full Stem Travel: 24 oz. nominal

Spool Material: Delrin®



Part No.	Description
SMTV-3	Sub-Miniature Spool Valve

Sub-Mini. N.O. or N.C. Spool Valve



Medium: Air

Stem Travel: 1/16"

Input Pressure: 100 psig max.

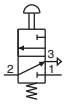
Ports: 3-56 with 1/16" ID Hose Barbs

Air Flow: 1.4 scfm @ 100 psig

Force For Full Stem Travel: 20 oz. nominal

Spool Material: Delrin®

Four colors of snap on push buttons included with each valve



Part No.	Description
SMAV-3	Sub-Miniature N.O. or N.C.

3-Way Air-Piloted Valves

3-way valves have an inlet, outlet and exhaust port. When an air signal is applied to the pilot of a Normally-Closed valve the inlet is open to the outlet and the exhaust is blocked; removing the pilot closes the inlet and the outlet is open to the exhaust port which vents to atmosphere. When an air signal is applied to the pilot of a Normally-Open valve the inlet is blocked and the outlet is vented; removing the pilot signal opens the inlet to the outlet and blocks the exhaust.

Medium: Air only

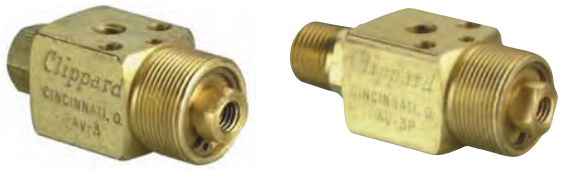
Materials: Brass body, Buna-N seals, stainless steel stem and spring

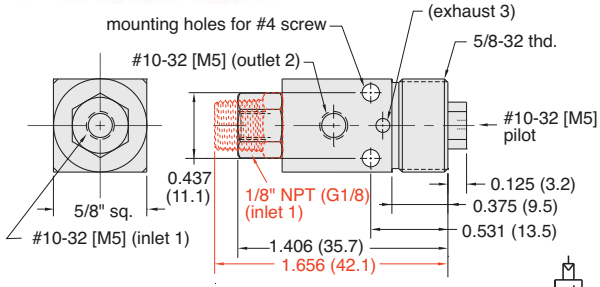
Mounting: 5/8-32 thread or #4 screw. Nut and lockwasher may be ordered separately. Part Number: PAV-MH

Air Pilot Pressure: 15 psig min.

Foot Bracket: FB-1791

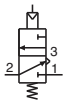
Air-Piloted N.C. Poppet Valves





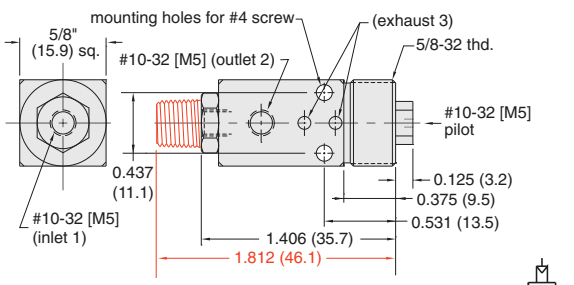
Input Pressure: 300 psig max.

Air Flow: 4.0 scfm @ 50 psig; 6.8 scfm @ 100 psig



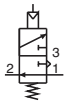
Part No.	Description
PAV-3	Normally-Closed Poppet Valve, #10-32
PAV-3P	Normally-Closed Poppet Valve, 1/8" NPT

Air-Piloted N.O. Spool Valves



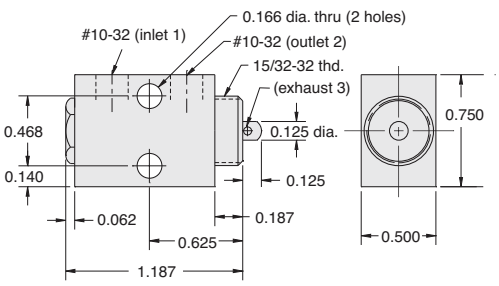
Input Pressure: 150 psig max.

Air Flow: 6.8 scfm @ 50 psig; 11.6 scfm @ 100 psig



Part No.	Description
PAVO-3	Normally-Open Spool Valve, #10-32
PAVO-3P	Normally-Open Spool Valve, 1/8" NPT

Miniature Limit Valve



Stem Travel: 1/8" (3.2)

Input Pressure: 150 psig max.

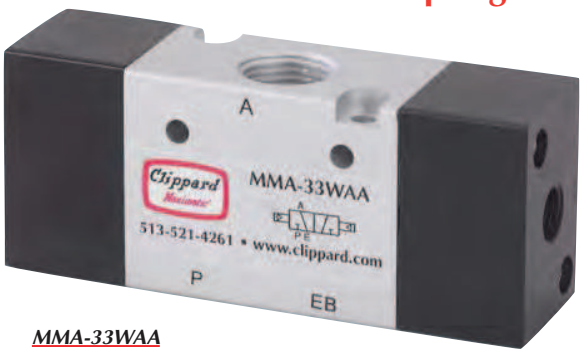
Air Flow: 4 scfm @ 50 psig; 7 scfm @ 100 psig

Force for Full Stem Travel: 48 oz. nominal

Mounting: Dual #20 holes or 15/32-32 thd. Nut and lockwasher furnished

Part No.	Description
MLV-3	Normally-Closed Miniature Limit Valve

2-Position Spring Return & Air Pilot Valves



MMA-33WAA

MMA-33WAS

Maximatic 3-way air piloted valves are either double pilot or single pilot, spring return in #10-32 thread to 1/2″ NPT port sizes. These air piloted valves have 1/8″ NPT external pilot ports.

Type: Spool

Medium: Air (40 micron filtration) or Inert Gas

Operating Range: Single Air Pilot: 20 to 125 psig; Double Air Pilot: 0 to 125 psig.

Pilot Pressure: See chart

Maximum Pressure: 125 psig

Number of Ports: 3

Materials: Aluminum, Stainless Steel, Thermoplastic

Mounting: Body Ported, Manifold Mount

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

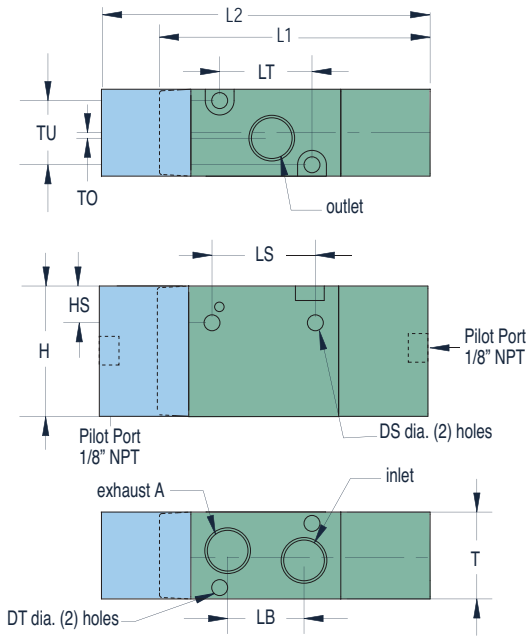
Seals: Buna-N

Minimum Pilot Pressure

	Single Pilot		Double Pilot	
Operating Pressure (psig)	20	80	20	80
Pilot Pressure (psig)	20	35	5	8

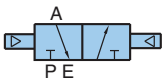
Port	Cv	Flow Rate @ 50 psig	Flow Rate @ 100 psig
#10-32	0.58	16 scfm	27 scfm
1/8″ NPT	0.67	18 scfm	31 scfm
1/4″ NPT	0.89	26 scfm	49 scfm
3/8″ NPT	1.68	51 scfm	93 scfm
1/2″ NPT	2.79	91 scfm	171 scfm

Conforms to ISO 19973-2 test standards



Dim.	MMA-31	MMA-32	MMA-33	MMA-34
DS	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)	0.22 (5.6)
DT	0.13 (3.3)	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)
H	1.07 (27.2)	1.38 (35.1)	1.58 (40.1)	1.97 (50.0)
HS	0.30 (7.6)	0.31 (7.9)	0.41 (10.4)	0.53 (13.5)
L1	2.23 (56.6)	3.06 (77.7)	3.17 (80.5)	3.80 (96.5)
L2	2.71 (68.8)	3.46 (87.9)	3.80 (96.5)	4.72 (119.9)
LB	0.63 (16.0)	0.71 (18.0)	0.94 (23.9)	1.42 (36.1)
LS	0.83 (21.1)	0.98 (24.9)	1.18 (30.0)	2.01 (51.1)
LT	0.75 (19.1)	1.30 (33.0)	1.38 (35.1)	1.73 (43.9)
T	0.71 (18.0)	0.86 (22.1)	1.06 (26.9)	1.34 (34.0)
TO	0.06 (1.5)	0.06 (1.5)	0.16 (4.1)	0.16 (4.1)
TU	0.71 (18.0)	0.65 (16.5)	1.06 (26.9)	1.34 (34.0)

Spring Return Valves	Double Air Pilot Valves	Inlet	Outlet	Exhaust	Cv/scfm*
MMA-31NAS	MMA-31NAA	#10-32	#10-32	#10-32	0.58/27
MMA-31PAS	MMA-31PAA	1/8″ NPT	1/8″ NPT	1/8″ NPT	0.67/31
MMA-32QAS	MMA-32QAA	1/4″ NPT	1/4″ NPT	1/4″ NPT	0.89/49
MMA-33WAS	MMA-33WAA	3/8″ NPT	3/8″ NPT	3/8″ NPT	1.68/93
MMA-34ZAS	MMA-34ZAA	1/2″ NPT	1/2″ NPT	1/2″ NPT	2.79/171



** scfm based on flow @ 100 psig*

Manually-Operated 3-Way Air Valves

Push/Pull Valves

Push/Pull spool valves are 3-way configurations. The Detent version maintains spool position by friction, while the Momentary spring returns to the home position.

Operating Pressure: 0 to 115 psig

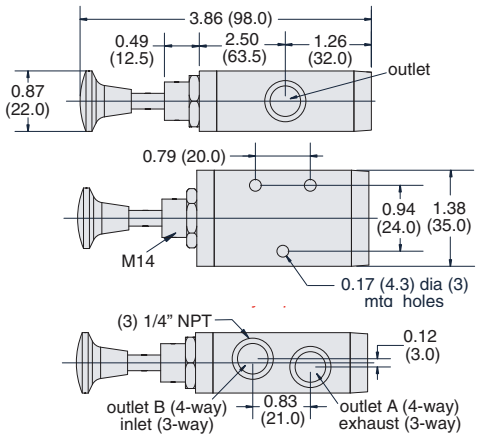
Cv: 0.89

Ports: 1/4″ NPT, 1/8″ NPT exhaust

Operating Temperature: 32 to 140°F (0 to 60°C)

Mounting: Panel or base mount

Part No.	Description
MMV-P3QD	3-Way, 3 Port Detented Push/Pull Valve



Lever Valves

Lever valves are 3-way spool valves with 1/4″ NPT ports. They have either a Detented or Momentary manual operation.

Operating Pressure: 0 to 150 psig

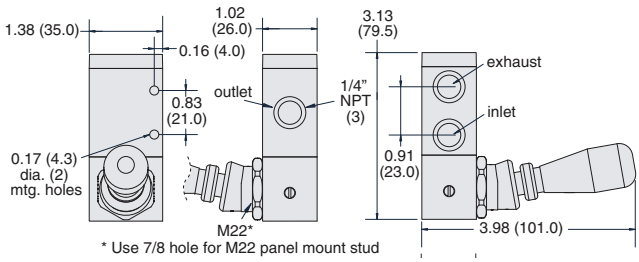
Cv: Detented: 1.0; Momentary: 0.89

Port Size: 1/4″ NPT

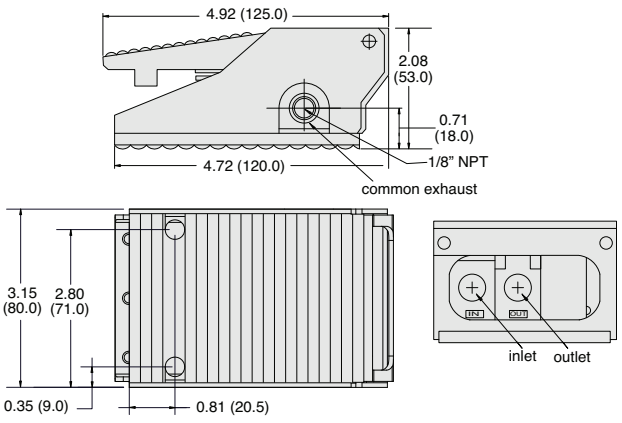
Operating Temperature: 32 to 140°F (0 to 60°C)

Mounting: Panel or base mount

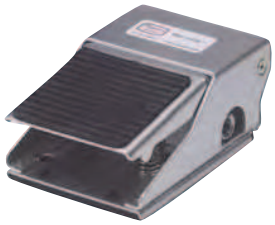
Part No.	Description
MMV-L3QD	3-Way, 2-Position Detented Valve
MMV-L3QM	3-Way, 2-Position Momentary Valve



Foot Pedal Valves



Foot Pedal Valve is a 3-way valve with 1/4″ NPT ports with a low-profile flat pedal.



Operating Pressure: 0 to 150 psig

Cv: 1.4

Ports: 1/4″ NPT

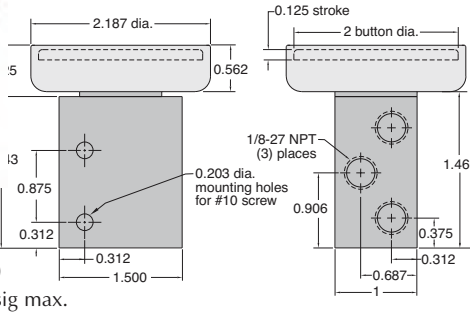
Mounting: Base mount

Operating Temperature: 32 to 140°F (0 to 60°C)

Part No.	Description
MMV-F3QM-F	3-Way Valve with Flat Pedal

3-Way Poppet Palm Button Valves

3-Way Poppet (MAV-3C) Normally-Closed - Bubble Tight Poppet Cartridge Valve (- replaceable cartridge)

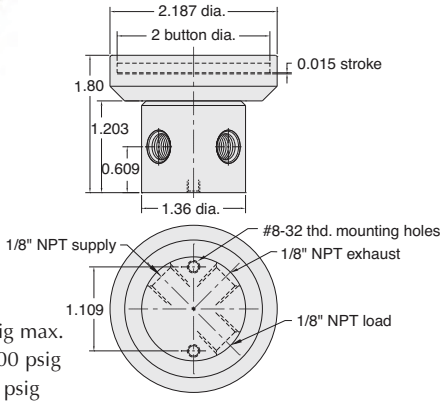


Medium: Air
Stem Travel: 1/8″ (3.2)
Input Pressure: 100 psig max.
Air Flow: 3.5 scfm @ 150 psig; 6.0 scfm @100 psig
Force to Actuate: 1.75 lb. manual
Ports: 1/8″ NPT - exhaust may be muffled or piped away but NOT restricted
Mounting: Mounting holes provided; optional Bracket Kit #12959 provides additional mounting versatility; valve available with anodized color buttons

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

Low Force 3-Way Palm Button Valves

3-way low force poppet valve; Normally-Closed; depressing button blocks the sensing port causing rapid value opening

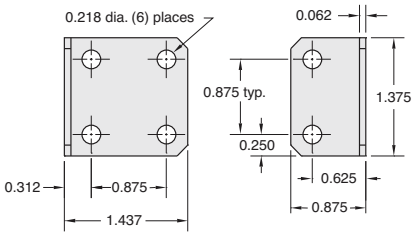


Medium: Air
Input Pressure: 100 psig max.
Air Flow: 22 scfm @ 100 psig
Bleed: 0.1 scfm @ 100 psig
Force to Actuate: 1 oz. manual
Mounting: Mounting holes provided; optional Bracket Kit #2010-50 provides additional mounting versatility; valve available with anodized color buttons

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 Kit (shown below)

90° Mounting Bracket

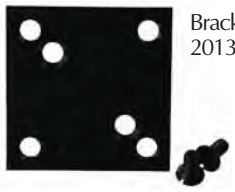
90° angle, heavy-duty versatile Mounting Bracket for Clippard palm button valves



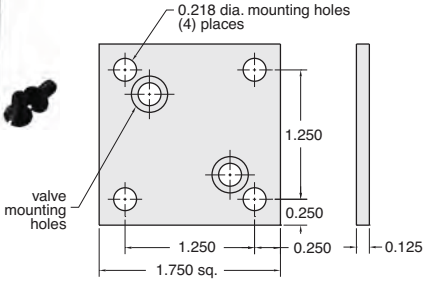
Mounting: Six 7/32″ dia. holes on 1/8″ centers for attaching valves to bracket
Construction: Stamped from 1/8″ thick steel, zinc plated

Part No.	Description
12959	90° Mounting Bracket Kit

Mounting Bracket



Bracket to mount 2010, 2011-1, 2012 and 2013 valves



Black anodized finish, two mounting screws furnished

Part No.	Description
2010-050	Mounting Bracket Kit

4-Way Stem Valves

4-way valves can supply and exhaust two different outlets, and are commonly used with double-acting cylinders. When the stem is in one position air flows from the inlet to one of the outlets. The second outlet is open to the exhaust port. Moving the stem to the opposite position opens the inlet to the second outlet while exhausting the first outlet. 4-way stem valves are spool valves that may either be spring return or double acting.

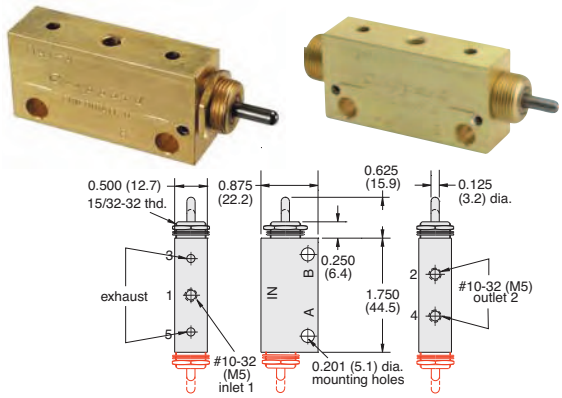
Medium: Air **Stem Travel:** 1/8″ (3.2)

Materials: Brass body, Buna-N seals, stainless steel stem and spring

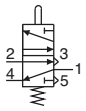
Input Pressure: 150 psig/10 bar max.

Mounting: 15/32-32 thread. Nut and lockwasher furnished.

Miniature 4-Way Spool Valves



Air Flow: 5.0 scfm @ 50 psig; 8.5 scfm @ 100 psig; 240 l/min @ 6 bar

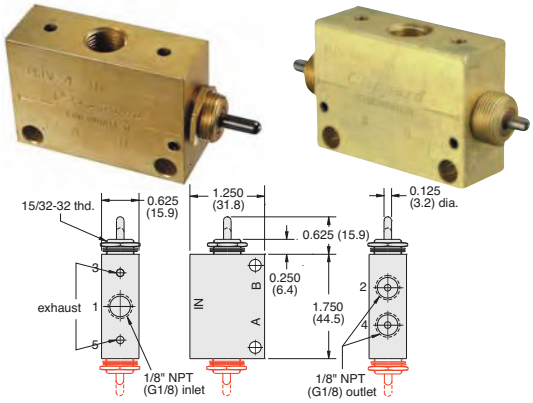


Force For Full Stem Travel: MAV-4 - 38 oz. nominal; MAV-4D - 12 oz. nominal

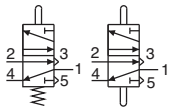
Mounting: Also two 0.201″ dia. mounting holes in valve body.

Part No.	Description
MAV-4	Spool Valve with Spring Return, #10-32
MAV-4-M5	Spool Valve with Spring Return, M5
MAV-4D	2 Position Spool Valve, #10-32
MAV-4D-M5	2 Position Spool Valve, M5

J-Series 4-Way Spool Valves



Air Flow: 8.0 scfm @ 50 psig; 14.0 scfm @ 100 psig; 390 l/min @ 6 bar

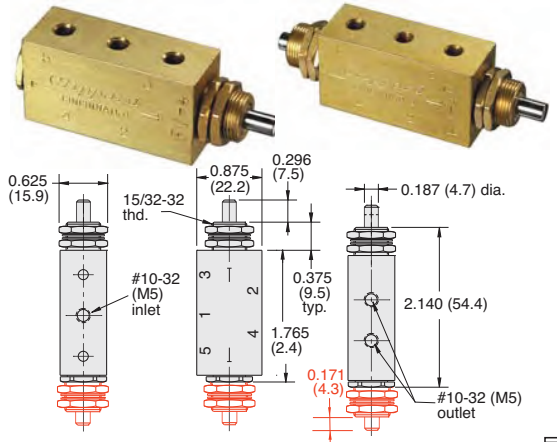


Force For Full Stem Travel: MJV-4 - 38 oz. nominal; MJV-4D - 12 oz. nominal

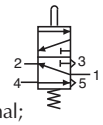
Mounting: Also two 0.201″ dia. mounting holes in valve body.

Part No.	Description
MJV-4	Spool Valve with Spring Return, 1/8″ NPT
MJV-4-MG	Spool Valve with Spring Return, G1/8
MJV-4D	2 Position Spool Valve, 1/8″ NPT
MJV-4D-MG	2 Position Spool Valve, G1/8

FV-Series 4-Way Spool Valves



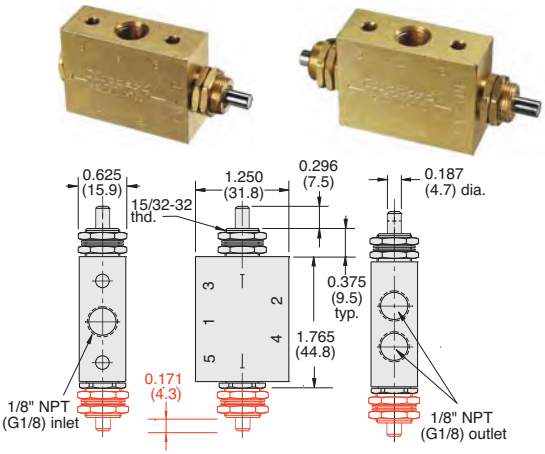
Air Flow: 6.0 scfm @ 50 psig; 10 scfm @ 100 psig; 240 l/min @ 6 bar



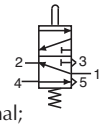
Force For Full Stem Travel: FV-4 & FV-4-M5 - 4 1/2 lb. nominal; FV-4D & FV-4D-M5 - 1 1/2 lb. nominal

Part No.	Description
FV-4	Plunger Actuated Spring Return Valve, #10-32
FV-4-M5	Plunger Actuated Spring Return Valve, M5
FV-4D	2 Position Double Plunger Valve, #10-32
FV-4D-M5	2 Position Double Plunger Valve, M5

FV-Series 4-Way Spool Valves

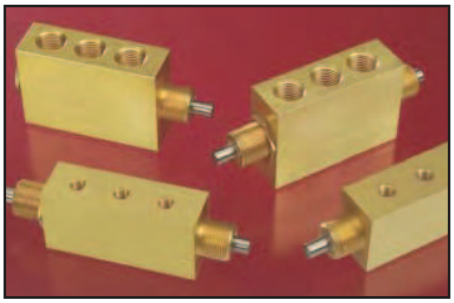


Air Flow: 6.5 scfm @ 50 psig; 10 scfm @ 100 psig; 250 l/min@ 6 bar



Force For Full Stem Travel: FV-4P & FV-4-MG - 4 1/2 lb. nominal; FV-4DP & FV-4D-MG - 1 1/2 lb. nominal

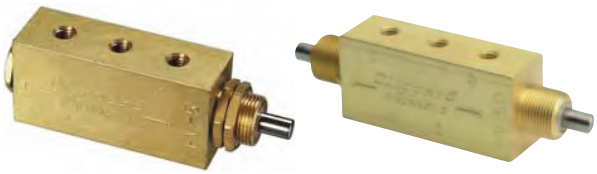
Part No.	Description
FV-4P	Plunger Actuated Spring Return Valve, 1/8″ NPT
FV-4-MG	Plunger Actuated Spring Return Valve, G1/8
FV-4DP	2 Position Double Plunger Valve, 1/8″ NPT
FV-4D-MG	2 Position Double Plunger Valve, G1/8

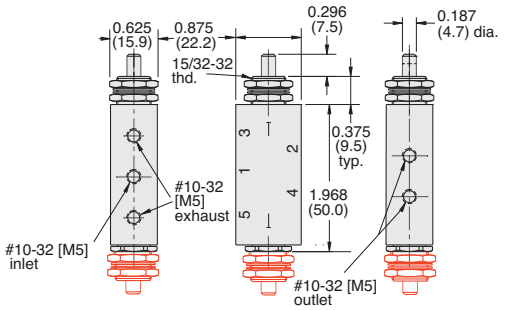


4-Way Fully-Ported Stem Valves

4-way fully-ported valves have two inlets, two outlets and one exhaust port. When the stem is in one position air flows from one inlet to its outlet while the other inlet is blocked. Moving the stem to the opposite position reverses this action. This may be defined as two 3-way valves, one Normally-Closed and one Normally-Open operating simultaneously. 4-way fully-ported stem valves may either be spring return or double acting. A double acting stem must be moved from one position to the other, a spring return stem will move to the opposite position when released.

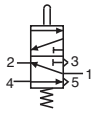
4-Way Fully-Ported Valves





Medium: Air or Oil

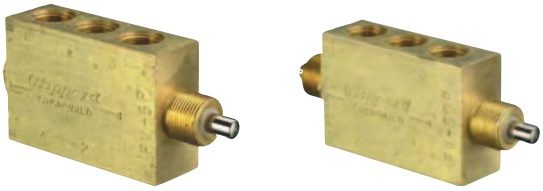
Air Flow: 6.0 scfm @ 50 psig; 10 scfm @ 100 psig; 240 l/min @ 6 bar

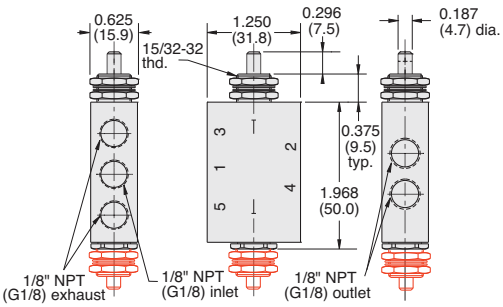


Force For Full Stem Travel: FV-5 & FV-5-M5 - 4 1/2 lb. nominal; FV-5D & FV-5D-M5 - 1 1/2 lb. nominal

Part No.	Description
FV-5	Plunger Actuated Spring Return Valve, #10-32
FV-5-M5	Plunger Actuated Spring Return Valve, M5
FV-5D	2 Position Double Plunger Valve, #10-32
FV-5D-M5	2 Position Double Plunger Valve, M5

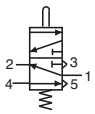
4-Way Fully-Ported Valves





Medium: Air or Oil

Air Flow: 6.5 scfm @ 50 psig; 10.5 scfm @ 100 psig; 250 l/min @ 6 bar

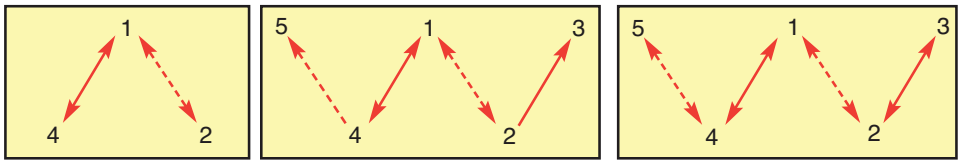


Force For Full Stem Travel: FV-5P & FV-5-MG - 4 1/2 lb. nominal; FV-5DP & FV-5D-MG - 1 1/2 lb. nominal

Part No.	Description
FV-5P	Plunger Actuated Spring Return Valve, 1/8" NPT
FV-5-MG	Plunger Actuated Spring Return Valve, G1/8
FV-5DP	2 Position Double Plunger Valve, 1/8" NPT
FV-5D-MG	2 Position Double Plunger Valve, G1/8

Flow Paths for "FTV & FV" Series

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



4-Way Toggle Valves

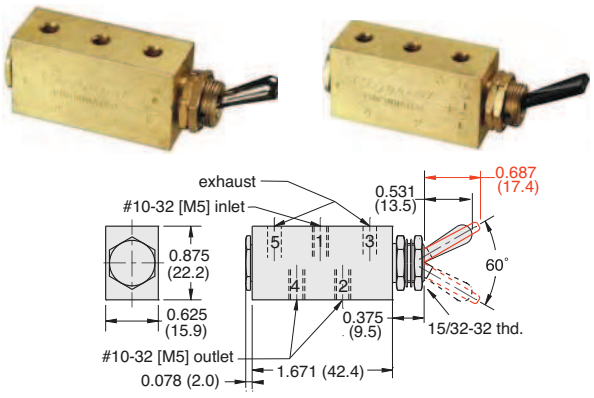
4-way valves can supply and exhaust two different outlets, and are commonly used with double-acting cylinders. When the toggle is in one position air flows from the inlet to one of the outlets. The second outlet is open to the exhaust port which is vented to atmosphere. Moving the toggle to the opposite position opens the inlet to the second outlet while exhausting the first outlet. 4-way toggle valves are spool valves that by movement of the toggle may either be 2-position or have a momentary actuation.

Medium: Air **Stem Travel:** 1/8" (3.2)

Materials: Brass body, Buna-N seals, stainless steel stem and spring

Mounting: 15/32-32 thread. Nuts and lockwashers furnished.

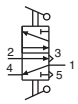
2 Position Spool Valves



Input Pressure: 150 psig/10 bar max.

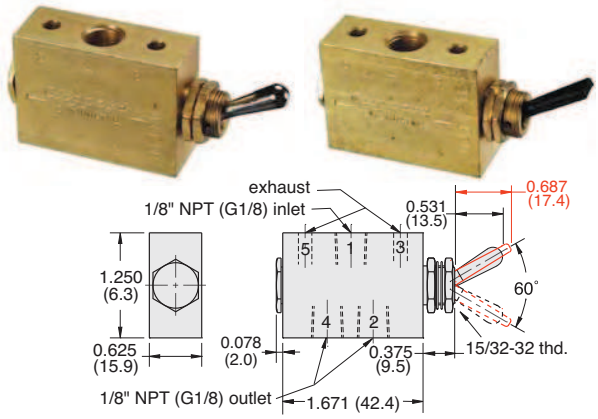
Air Flow: 6 scfm @ 50 psig; 10 scfm @ 100 psig; 240 l/min @ 6 bar

Force For Full Stem Travel: 12 oz. nominal



Part No.	Description
MTV-4	2 Position Spool Valve, NP Steel Toggle, #10-32
MTV-4-M5	2 Position Spool Valve, NP Steel Toggle, M5
MTV-4F	2 Position Spool Valve, Plastic Toggle, #10-32
MTV-4F-M5	2 Position Spool Valve, Plastic Toggle, M5

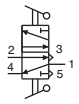
J-Series 2 Position Spool Valves



Input Pressure: 150 psig/10 bar max.

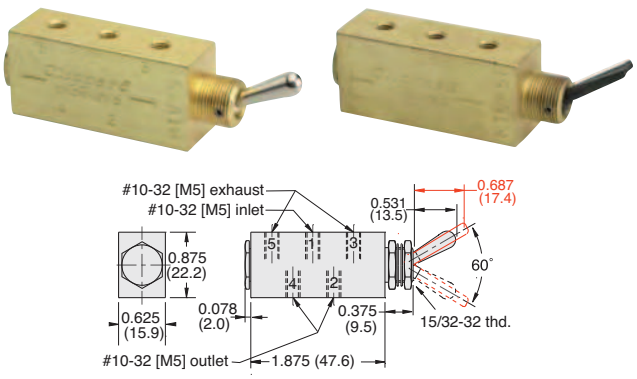
Air Flow: 6.5 scfm @ 50 psig; 10.5 scfm @ 100 psig; 250 l/min @ 6 bar

Force For Full Stem Travel: 12 oz. nominal



Part No.	Description
MJTV-4	2 Position Spool Valve, NP Steel Toggle, 1/8" NPT
MJTV-4-MG	2 Position Spool Valve, NP Steel Toggle, G1/8
MJTV-4F	2 Position Spool Valve, Plastic Toggle, 1/8" NPT
MJTV-4F-MG	2 Position Spool Valve, Plastic Toggle, G1/8

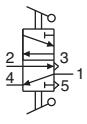
2 Position Fully-Ported Spool Valves



Input Pressure: 150 psig/10 bar max.

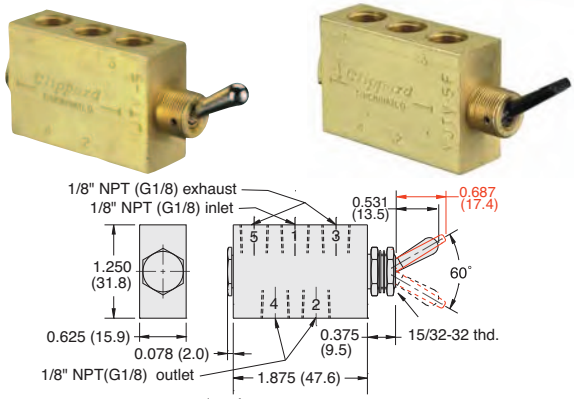
Air Flow: 6 scfm @ 50 psig; 10 scfm @ 100 psig; 240 l/min @ 6 bar

Force For Full Stem Travel: 16 oz. nominal



Part No.	Description
MTV-5	2 Position Spool Valve, NP Steel Toggle, #10-32
MTV-5-M5	2 Position Spool Valve, NP Steel Toggle, M5
MTV-5F	2 Position Spool Valve, Plastic Toggle, #10-32
MTV-5F-M5	2 Position Spool Valve, Plastic Toggle, M5

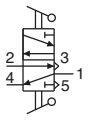
J-Series 2 Position Fully-Ported Spool



Input Pressure: 150 psig/10 bar max.

Air Flow: 6.5 scfm @ 50 psig; 10.5 scfm @ 100 psig; 250 l/min @ 6 bar

Force For Full Stem Travel: 16 oz. nominal

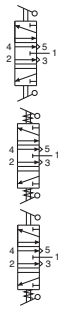


Part No.	Description
MJTV-5	2 Position Spool Valve, NP Steel Toggle, 1/8" NPT
MJTV-5-MG	2 Position Spool Valve, NP Steel Toggle, G1/8
MJTV-5F	2 Position Spool Valve, Plastic Toggle, 1/8" NPT
MJTV-5F-MG	2 Position Spool Valve, Plastic Toggle, G1/8

3 Position Toggle Valves

By choosing valves with different toggle position options the user can customize the application to best suit the needs. For example, the DM model can be used on the momentary side as a "jog" or "manual" control, and with the detented side for "automatic" or "run" mode.

Valves are made of solid brass, bright dipped finish to resist corrosion; stems and springs are of stainless steel, toggle of black acetyl plastic or ENP brass, and seals of Buna-N rubber.



Model Number				
TV-4D TV-4DP	#10-32 1/8" NPT	Detented	SPRING CENTERED supply blocked both sides exhausted	Detented
TV-4M TV-4MP	#10-32 1/8" NPT	Momentary		Momentary
TV-4DM TV-4DMP	#10-32 1/8" NPT	Detented		Momentary

Medium: Air

Materials: Brass body, Buna-N seals, stainless steel stem and spring

Input Pressure: 150 psig/10 bar max.

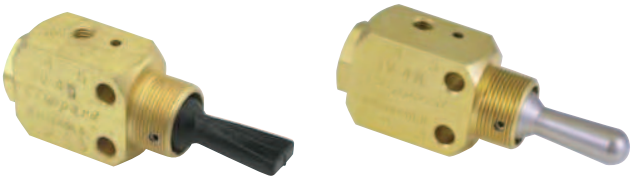
Air Flow: 4.5 scfm @ 50 psig; 7.5 scfm @ 100 psig; 180 l/min @ 6 bar

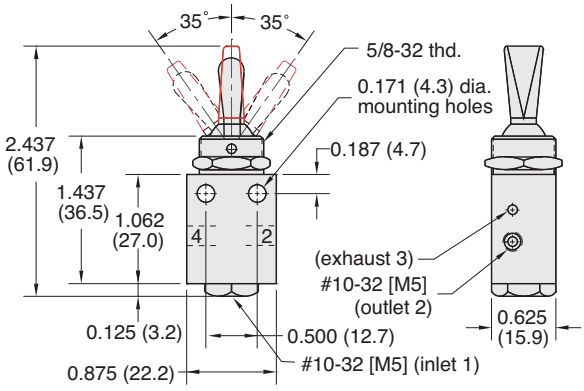
Force For Full Stem Travel: 8 oz. nominal

Toggle: Plastic or ENP Brass

Mounting: 5/8-32 thread. Nut and lockwashers furnished.

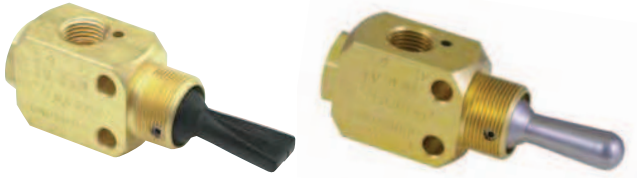
3 Position Toggle Valves, #10-32

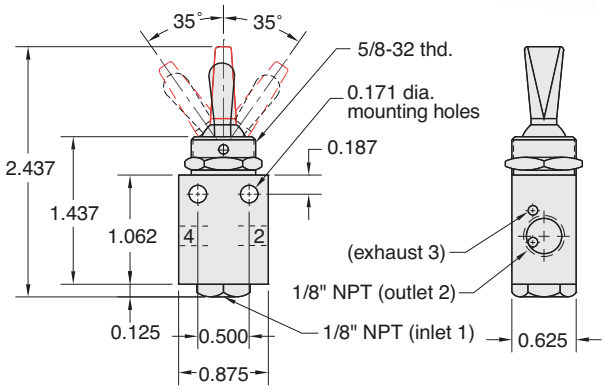




Part No.	Description
TV-4D	Plastic Toggle Valve, Detented/Detented
TV-4M	Plastic Toggle Valve, Momentary/Momentary
TV-4DM	Plastic Toggle Valve, Detented/Momentary
TV-4D-H	ENP Brass Toggle Valve, Detented/Detented
TV-4M-H	ENP Brass Toggle Valve, Momentary/Momentary
TV-4DM-H	ENP Brass Toggle Valve, Detented/Momentary

3 Position Toggle Valves, 1/8" NPT





Part No.	Description
TV-4DP	Plastic Toggle Valve, Detented/Detented
TV-4MP	Plastic Toggle Valve, Momentary/Momentary
TV-4DMP	Plastic Toggle Valve, Detented/Momentary
TV-4DP-H	ENP Brass Toggle Valve, Detented/Detented
TV-4MP-H	ENP Brass Toggle Valve, Momentary/Momentary
TV-4DMP-H	ENP Brass Toggle Valve, Detented/Momentary

Fill & Bleed Toggle Valves

Fill and Bleed Applications

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.

Model Number				
FBV-3D & FBV-3DF FBV-3DP	#10-32 1/8" NPT	Detented	SPRING CENTERED all ports blocked	Detented
FBV-3M & FBV-3MF FBV-3MP	#10-32 1/8" NPT	Momentary		Momentary
FBV-3DM & FBV-3DMF FBV-3DMP	#10-32 1/8" NPT	Detented		Momentary

Medium: Air

Materials: Brass body, Buna-N seals, stainless steel stem and spring

Input Pressure: 120 psig max.

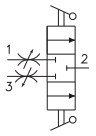
Air Flow:

Adjustable	Full-Flow (-F)
3.0 scfm @ 50 psig	4.5 scfm @ 50 psig
5.0 scfm @ 100 psig	7.5 scfm @ 100 psig

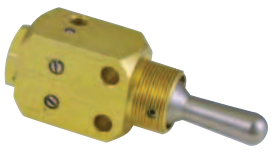
Force For Full Stem Travel: 8 oz. nominal

Toggle: Plastic or ENP Brass

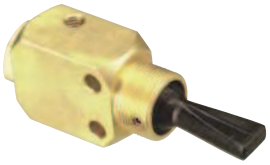
Mounting: 5/8-32 thread. Nut and lockwashers furnished. Two 0.171 mounting holes in body or may be mounted directly on a cylinder



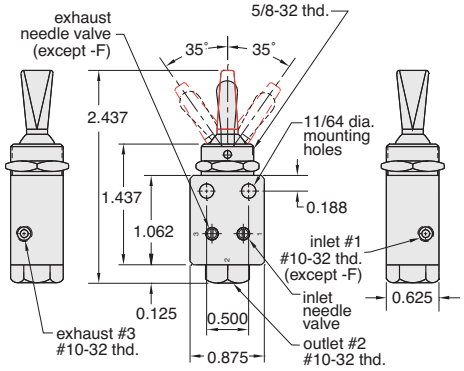
3 Position Fill & Bleed Valves, #10-32



Adjustable
(NP Brass Toggle shown)

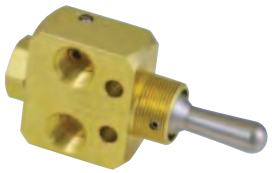


Full-Flow
(Plastic Toggle shown)



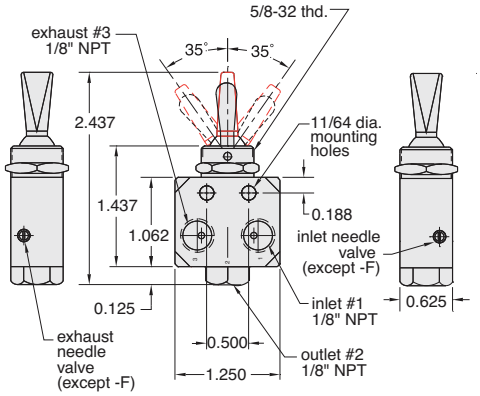
Part No.	Description
FBV-3D	Adj. Valve, Detented/Detented, Plastic Toggle
FBV-3DF	Full-Flow Valve, Detented/Detented, Plastic Toggle
FBV-3M	Adj. Valve, Momentary/Momentary, Plastic Toggle
FBV-3MF	Full-Flow Valve, Momentary/Momentary, Plastic Toggle
FBV-3DM	Adj. Valve, Detented/Momentary, Plastic Toggle
FBV-3DMF	Full-Flow Valve, Detented/Momentary, Plastic Toggle
FBV-3D-H	Adj. Valve, Detented/Detented, ENP Brass Toggle
FBV-3DF-H	Full-Flow, Detented/Detented, ENP Brass Toggle
FBV-3M-H	Adj. Valve, Momentary/Momentary, ENP Brass Toggle
FBV-3MF-H	Full-Flow, Momentary/Momentary, ENP Brass Toggle
FBV-3DM-H	Adj. Valve, Detented/Momentary, ENP Brass Toggle
FBV-3DMF-H	Full-Flow, Detented/Momentary, ENP Brass Toggle

3 Position Fill & Bleed Valves, 1/8" NPT



Adjustable
(NP Brass Toggle shown)

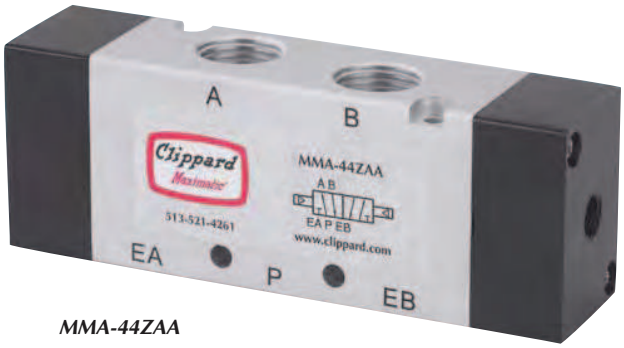
Full-Flow
(Plastic Toggle shown)



Part No.	Description
FBV-3DP	Adjustable Valve, Detented/Detented, Plastic Toggle
FBV-3DPF	Full-Flow Valve, Detented/Detented, Plastic Toggle
FBV-3MP	Adjustable Valve, Momentary/Momentary, Plastic Toggle
FBV-3MPF	Full-Flow Valve, Momentary/Momentary, Plastic Toggle
FBV-3DMP	Adjustable Valve, Detented/Momentary, Plastic Toggle
FBV-3DMPF	Full-Flow Valve, Detented/Momentary, Plastic Toggle
FBV-3DP-H	Adjustable Valve, Detented/Detented, ENP Brass Toggle
FBV-3DPF-H	Full-Flow Valve, Detented/Detented, ENP Brass Toggle
FBV-3MP-H	Adjustable Valve, Momentary/Momentary, ENP Brass Toggle
FBV-3MPF-H	Full-Flow Valve, Momentary/Momentary, ENP Brass Toggle
FBV-3DMP-H	Adjustable Valve, Detented/Momentary, ENP Brass Toggle
FBV-3DMPF-H	Full-Flow Valve, Detented/Momentary, ENP Brass Toggle

2-Position Spring Return & Air Pilot Valves

MMA-42QAS



MMA-44ZAA

Maximatic® 4-way air piloted valves are either double pilot or single pilot, spring return in #10-32 thread to 1/2″ NPT port sizes. These air piloted valves have 1/8″ NPT pilot ports.

Type: Spool

Medium: Air (40 micron filtration) or Inert Gas

Operating Range: Single Air Pilot: 20 to 125 psig, Double Air Pilot: 0 to 125 psig. Refer to Minimum Pilot Pressure Chart below.

Pilot Pressure: See chart **Maximum Pressure:** 125 psig

Number of Ports: 5 **Mounting:** Body Ported, Manifold

Materials: Aluminum, Stainless Steel, Thermoplastic

Seals: Buna-N

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

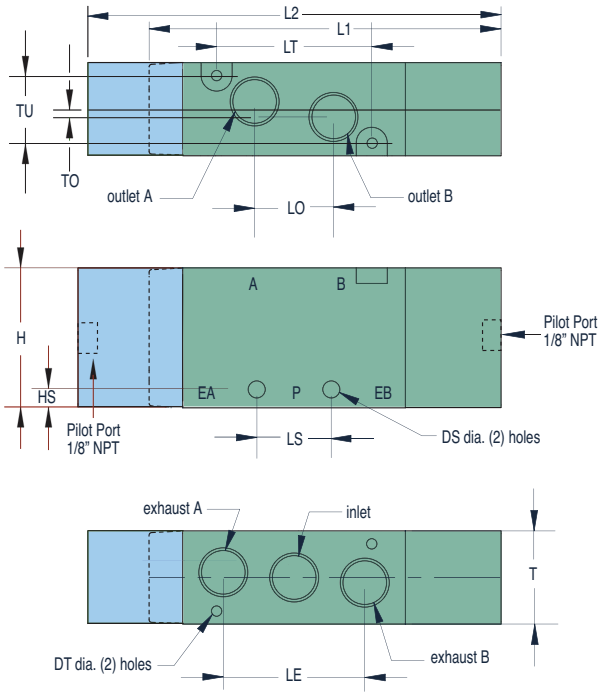
Conforms to ISO 19973-2 test standards

Minimum Pilot Pressure

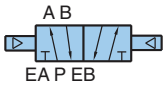
	Single Pilot	Double Pilot	Three Position
Operating Pressure (psig)	20 80	20 80	20 80
Pilot Pressure (psig)	20 35	5 8	20* 20*

** 30 on MMA-41 Series*

Dim.	MMA-41	MMA-42	MMA-43	MMA-44
DS	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)	0.21 (5.3)
DT	0.13 (3.3)	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)
H	1.07 (27.2)	1.38 (35.1)	1.58 (40.1)	1.97 (50.0)
HS	0.16 (4.1)	0.28 (7.1)	0.26 (6.6)	0.29 (7.4)
L1	2.71 (68.8)	3.06 (77.7)	3.76 (95.5)	4.87 (123.7)
L2	3.16 (80.3)	3.62 (91.9)	4.37 (111.0)	5.43 (137.9)
LE	1.09 (27.7)	1.42 (36.1)	1.77 (45.0)	2.48 (63.0)
LO	0.63 (16.0)	0.74 (18.8)	0.96 (24.4)	1.42 (36.1)
LS	0.63 (16.0)	0.98 (24.9)	0.95 (24.1)	1.11 (28.2)
LT	1.18 (30.0)	1.40 (35.6)	1.97 (50.0)	2.82 (71.6)
T	0.71 (18.0)	0.86 (21.8)	1.06 (26.9)	1.34 (34.0)
TO	0.11 (2.8)	0.13 (3.3)	0.16 (4.1)	0.19 (4.8)
TU	0.50 (12.7)	0.65 (16.5)	0.80 (20.3)	1.07 (27.2)



Spring Return Valves	Double Air Pilot Valves	Inlet	Outlet	Exhaust	Cv/scfm*
MMA-41NAS	MMA-41NAA	#10-32	#10-32	#10-32	0.58/27
MMA-41PAS	MMA-41PAA	1/8″ NPT	1/8″ NPT	1/8″ NPT	0.67/31
MMA-42QAS	MMA-42QAA	1/4″ NPT	1/4″ NPT	1/8″ NPT	0.89/49
MMA-43WAS	MMA-43WAA	3/8″ NPT	3/8″ NPT	1/4″ NPT	1.68/93
MMA-44ZAS	MMA-44ZAA	1/2″ NPT	1/2″ NPT	1/2″ NPT	2.79/171



** scfm based on flow @ 100 psig*

3-Position Spring Centered Double Air Pilot Valves

Closed Center, Pressure Center & Exhaust Center

MMA-44ZAAC

MAXIMUM Value. Performance.

Maximatic® 4-way 3-position double air pilot valves with closed center, pressure center or exhaust center spools are available in #10-32 thread to 1/2″ NPT port sizes. These air piloted valves have 1/8″ NPT external pilot ports.

Operating Range: 0 to 125 psig

Pilot Pressure: See previous page

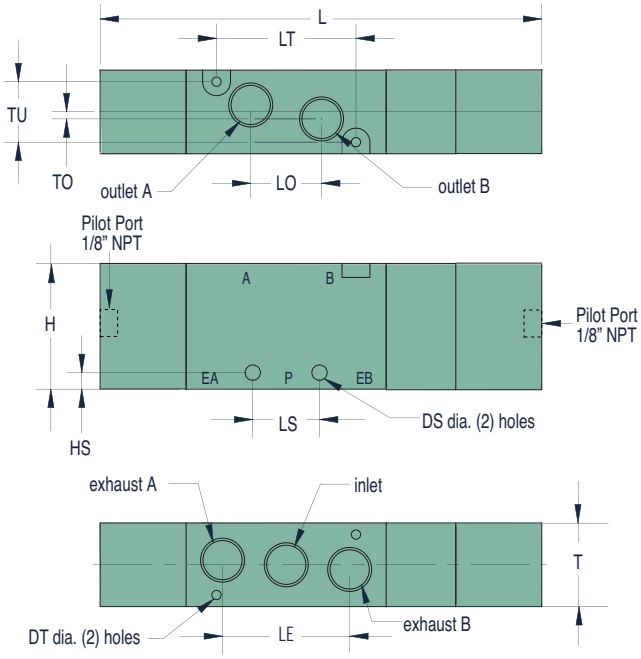
Number of Ports: 5

Mounting: Body Ported, Manifold Mount

Dim.	MMA-41	MMA-42	MMA-43	MMA-44
DS	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)	0.21 (5.3)
DT	0.13 (3.3)	0.13 (3.3)	0.17 (4.3)	0.17 (4.3)
H	1.07 (27.2)	1.38 (35.1)	1.58 (40.1)	1.97 (50.0)
HS	0.16 (4.1)	0.28 (7.1)	0.26 (6.6)	0.29 (7.4)
L	3.78 (96.0)	4.37 (111.0)	5.13 (130.3)	5.43 (137.9)
LE	1.09 (27.7)	1.42 (36.1)	1.77 (45.0)	2.48 (63.0)
LO	0.63 (16.0)	0.74 (18.8)	0.96 (24.4)	1.42 (36.1)
LS	0.56 (14.2)	0.98 (24.9)	0.95 (24.1)	1.11 (28.2)
LT	1.18 (30.0)	1.40 (35.6)	1.97 (50.00)	2.82 (71.6)
T	0.71 (18.0)	0.86 (21.8)	1.06 (26.9)	1.34 (34.0)
TO	0.11 (2.8)	0.13 (3.3)	0.16 (4.1)	0.19 (4.8)
TU	0.50 (12.7)	0.65 (16.5)	0.80 (20.3)	1.07 (27.2)

Exhaust Mufflers

For quiet system operation, see pages 164 and 312 for standard and speed control mufflers.



Closed Center	Pressure Center	Exhaust Center	Inlet	Outlet	Exhaust	Cv/scfm*
MMA-41NAAC	MMA-41NAAP	MMA-41NAAE	#10-32	#10-32	#10-32	0.50/23
MMA-41PAAC	MMA-41PAAP	MMA-41PAAE	1/8″ NPT	1/8″ NPT	1/8″ NPT	0.50/23
MMA-42QAAC	MMA-42QAAP	MMA-42QAAE	1/4″ NPT	1/4″ NPT	1/8″ NPT	0.89/49
MMA-43WAAC	MMA-43WAAP	MMA-43WAAE	3/8″ NPT	3/8″ NPT	1/4″ NPT	1.00/72
MMA-44ZAAC	MMA-44ZAAP	MMA-44ZAAE	1/2″ NPT	1/2″ NPT	1/2″ NPT	1.68/93

** scfm based on flow @ 100 psig*

Push/Pull Valves

Push/Pull spool valves 4-way configurations. The Detent version maintains spool position by friction, while the Momentary spring returns to the home position.

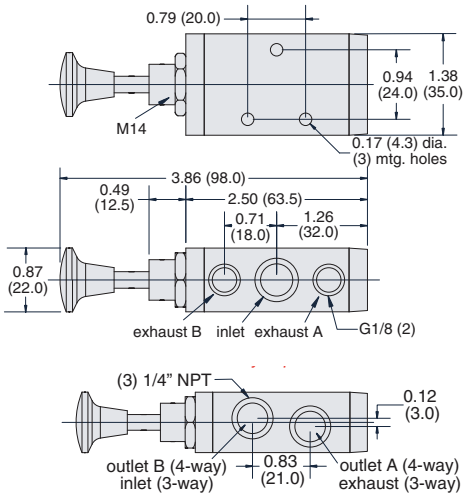
Operating Pressure: 0 to 115 psig **Cv:** 0.89

Ports: 1/4" NPT, 1/8" NPT exhaust

Operating Temperature: 32 to 140°F (0 to 60°C)

Mounting: Panel or base mount

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



Lever Valves

Lever valves are 4-way spool valves with 1/4" NPT ports. They have either a Detented or Momentary manual operation.

Operating Pressure: 0 to 150 psig

Cv: Detented: 1.0
Momentary: 0.89

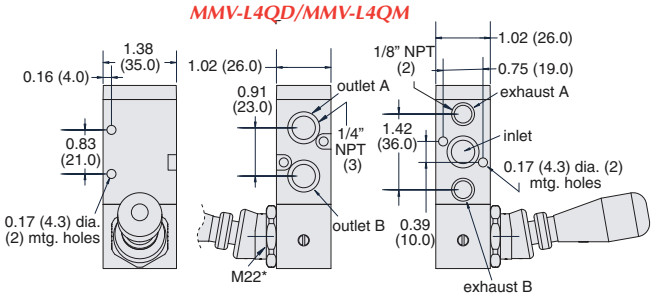
Port Size: 1/4" NPT

Operating Temperature:
32 to 140°F (0 to 60°C)

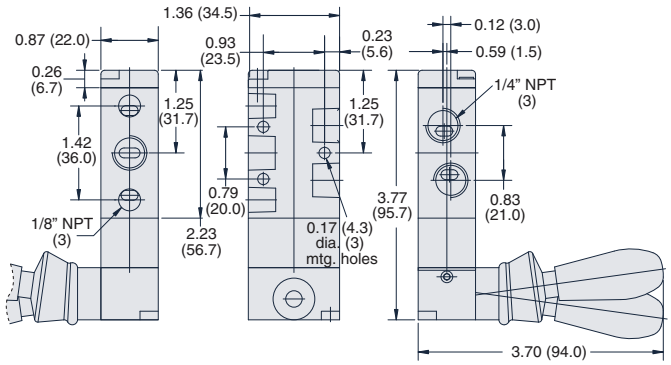
Mounting: Panel or base mount

Part No.	Description
MMV-L4QD	4-Way, 2-Position Detented Valve
MMV-L4QM	4-Way, 2-Position Momentary Valve
MMV-L4QD-C	4-Way, 3-Position Detented Valve, Closed Center

MMV-L4QD/MMV-L4QM



MMV-L4QM-C



Did you know...

Clippard Instrument Laboratory, Inc. began as a manufacturer of radio coils and test instruments in 1941.

Rotary Valves

Rotary Valves are 4-way valves with 1/4″ NPT ports. They are manually-operated 3-position closed center valves.

Operating Pressure: 0 to 150 psig

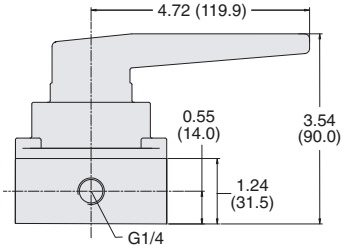
Port Size: 1/4″ NPT

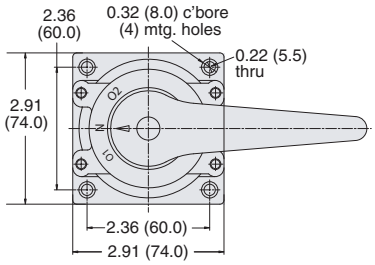
Cv: 1.68

Mounting: Base mount

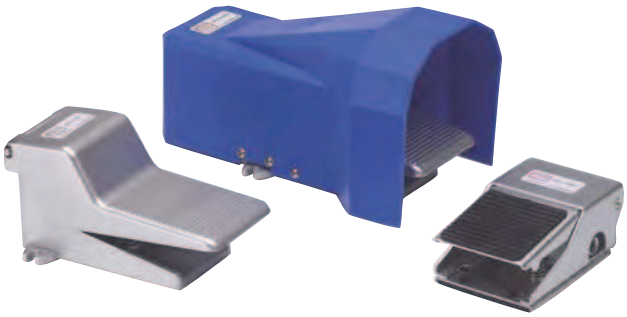
Operating Temperature: 32 to 140°F (0 to 60°C)

Part No.	Description
MMV-R4QN-C	4-Way, 3-Position Non-Detented Rotary Valve
MMV-R4QD-C	4-Way, 3-Position Detented Rotary Valve





Foot Pedal Valves



Foot Pedal Valves are 4-way valves with 1/4″ NPT ports. Two versions are offered; either a low-profile flat pedal or standard pedal with or without guard.

Operating Pressure: 0 to 150 psig

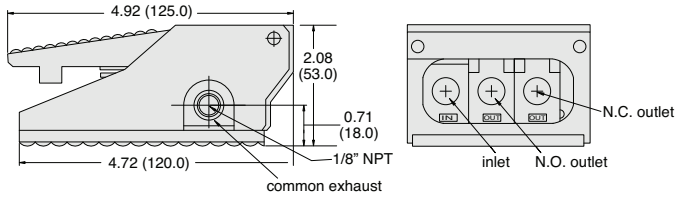
Cv: 1.4

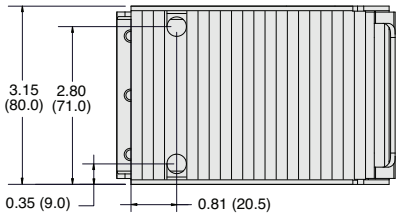
Ports: 1/4″ NPT

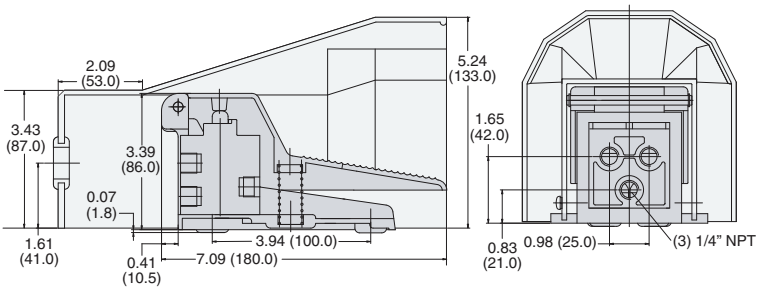
Mounting: Base mount

Operating Temperature: 32 to 140°F (0 to 60°C)

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

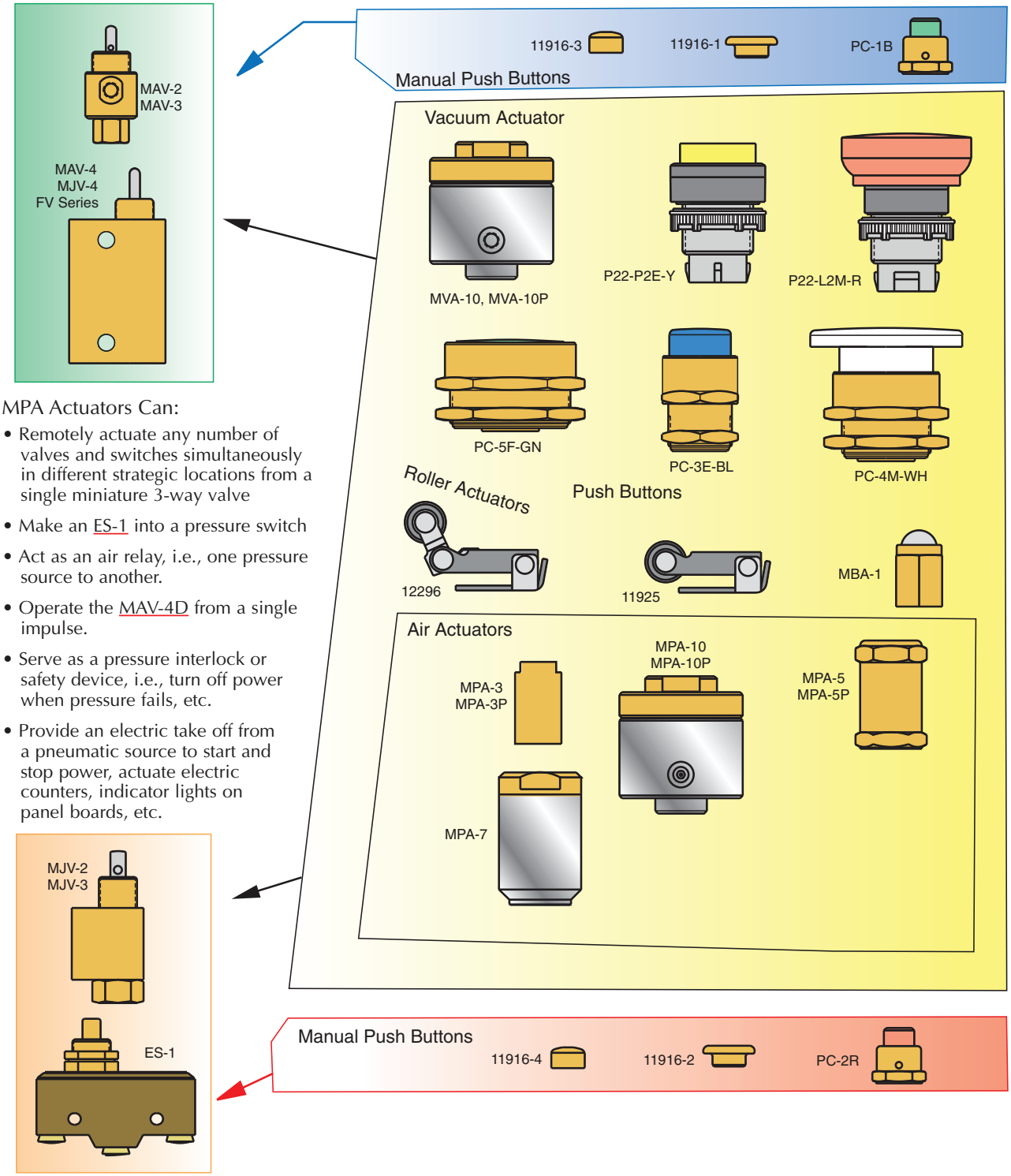






The following valve actuators are compatible with all Clippard MAV, MAVO, MJV, MJVO, ES-1, & FV series valves.

One of the most versatile items in the Clippard line. Permits wide circuit flexibility and allows many control functions to be accomplished pneumatically with less cost, hazards and complexity. Threads onto the tops of our Miniature 2-way, 3-way, and 4-way valves and ES-1 electric switch to provide fast pilot actuation from a pneumatic signal.

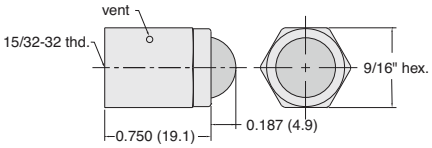


MPA Actuators Can:

- Remotely actuate any number of valves and switches simultaneously in different strategic locations from a single miniature 3-way valve
- Make an ES-1 into a pressure switch
- Act as an air relay, i.e., one pressure source to another.
- Operate the MAV-4D from a single impulse.
- Serve as a pressure interlock or safety device, i.e., turn off power when pressure fails, etc.
- Provide an electric take off from a pneumatic source to start and stop power, actuate electric counters, indicator lights on panel boards, etc.

Ball Cam Actuator

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



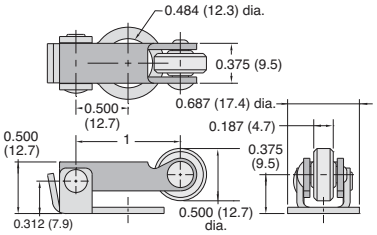
Construction: Body - brass
Ball - stainless steel
retained in housing

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

Mounting: #15/32-32 female to mount to Clippard miniature valves and electric switch

Part No.	Description
MBA-1	Ball Cam Actuator

Roller Cam Actuator



Construction: Stainless steel with nylon roller

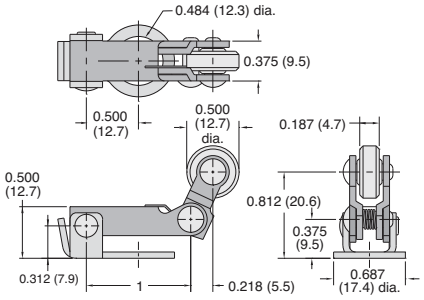
Temperature Range: 32 to 230°F

Mounting: 31/64″ dia. mounting hole fits #15/32-32 threaded mounting section of valve bodies

Operation: Mounts to valve body, actuates valve when mechanically depressed; valve spring provides return

Part No.	Description
11925	Roller Cam Follower Actuator

Double-Pivoted Actuator



Construction: Stainless steel with nylon roller

Mounting: 31/64″ dia. mounting hole fits #15/32-32 threaded mounting section of valve bodies

Operation: Mounts to valve body, actuates valve when depressed by activating cam or linear travel device in one direction only; no actuation on return travel

Part No.	Description
12296	Roller, Double-Pivoted One-Way Cam Follower Actuator

Note for MBA-1, 11925 & 12296:
When mounting on a valve, a space should be provided between the body and the actuator according to the chart to the right:

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″

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

CUSTOMer solutions

If you need a product that fits your application perfectly, Clippard has the capability to design or modify one of its products to suit your exact needs. We understand that a standard catalog product may be close but not be exactly what you need. Let us know YOUR Need, and we will help to find YOUR Solution!

A valve used in dental applications features ports located straight out of the back for ease-of-assembly in a tight space. It also incorporates a special toggle to match the customers' aesthetic requirements.

Use any combination of Clippard's electronic valves to actuate any Clippard control valve with an external supply.

In system subassemblies, manifold-mounted components are desirable for an integrator. In this design, Clippard utilizes the miniature regulator series and an air-piloted 2-way valve mounted on a manifold adjacent to our electronic valve.

For more information, visit www.clippard.com/customsolutions

MINIMUM PRESSURE REQUIRED (psig)*

Clippard Valve	Pressure (psig)				Vacuum (" Hg)	Clippard Valve	Pressure (psig)				Vacuum (" Hg)
	w/**MPA3**	w/**MPA-5**	w/**MPA-7**	w/**MPA-10**	w/**MVA-10**		w/**MPA3**	w/**MPA-5**	w/**MPA-7**	w/**MPA-10**	w/**MVA-10**
ES-1 Switch	12	4	2	n/a	n/a	FV-3	41	15	7.5	4.0	8.2
MAV-2 Valve	23	8	4	2.0	4.2	FV-3P	41	15	7.5	4.0	8.2
MAV-3 Valve	23	8	4	2.0	4.2	FV-4	41	15	7.5	4.0	8.2
MAV-4 Valve	36	11	5.5	3.5	7.2	FV-4P	41	15	7.5	4.0	8.2
MJV-4 Valve	36	11	5.5	3.5	7.2	FV-5	41	15	7.5	4.0	8.2
MAV-4D Valve	13	4	1.5	1.0	2.0	FV-5P	41	15	7.5	4.0	8.2
MJV-4D Valve	13	4	1.5	1.0	2.0	FV-3D	14	5	2.5	1.5	3.2
MJV-2 Valve	30	10	5	3.0	6.2	FV-3DP	14	5	2.5	1.5	3.2
MJV-3 Valve	30	10	5	3.0	6.2	FV-4D	14	5	2.5	1.5	3.2
MAVO-2 Valve	27	9	4.5	2.5	5.2	FV-4DP	14	5	2.5	1.5	3.2
MAVO-3 Valve	27	9	4.5	2.5	5.2	FV-5D	14	5	2.5	1.5	3.2
MJVO-2 Valve	30	10	5	3.0	6.2	FV-5DP	14	5	2.5	1.5	3.2
MJVO-3 Valve	30	10	5	3.0	6.2						

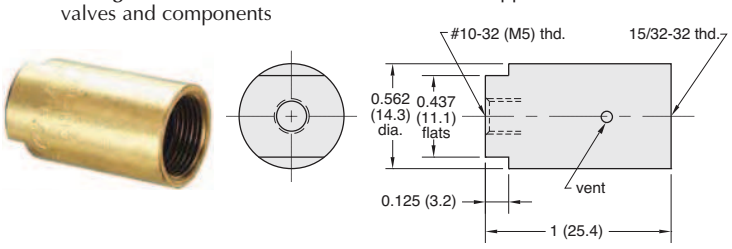
*with 100 psig to valve inlet

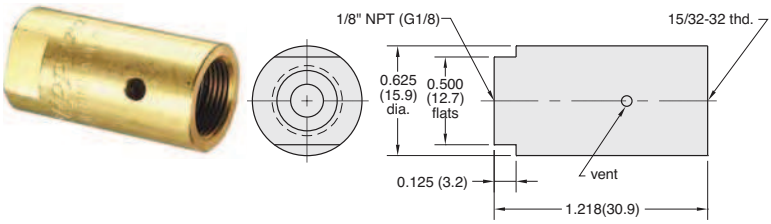
Single Acting Air Pilot Actuators

Input Pressure: 250 psig/17 bar max.

Construction: Body - brass; Springs - stainless steel; Seals - Buna-N rubber; Piston - Delrin®

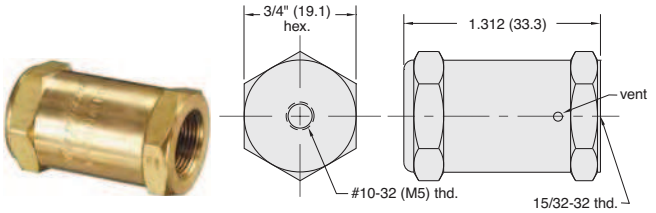
Mounting: #15/32-32 female thread to mount to Clippard miniature valves and components

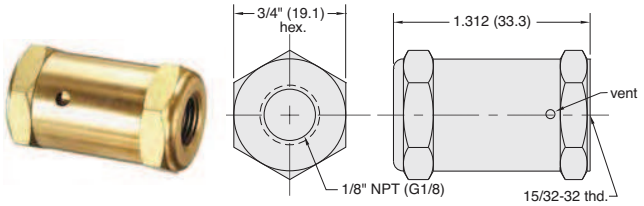




Bore Size: 0.375 (9.5) **Force Factor:** 0.1

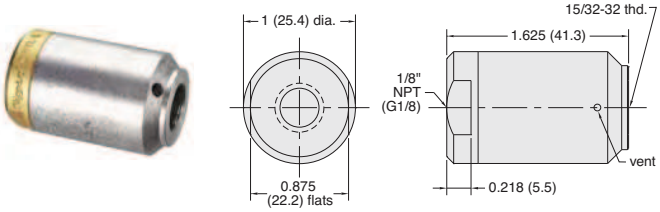
Part No.	Description
MPA-3	Single Acting, Spring Return Actuator, #10-32
MPA-3-M5	Single Acting, Spring Return Actuator, M5
MPA-3P	Single Acting, Spring Return Actuator, 1/8" NPT
MPA-3-MG	Single Acting, Spring Return Actuator, G1/8





Bore Size: 0.625 (15.9) **Force Factor:** 0.3

Part No.	Description
MPA-5	Single Acting, Spring Return Actuator, #10-32
MPA-5-M5	Single Acting, Spring Return Actuator, M5 Metric
MPA-5P	Single Acting, Spring Return Actuator, 1/8" NPT
MPA-5-MG	Single Acting, Spring Return Actuator, G1/8

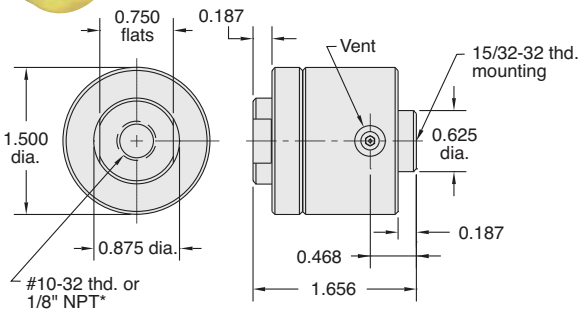


Bore Size: 0.875" (22.2) dia. **Force Factor:** 0.6

Part No.	Description
MPA-7	Single Acting, Spring Return Actuator, 1/8" NPT
MPA-7-MG	Single Acting, Spring Return Actuator, G1/8

Pilot Actuators

Single Acting Spring Return Pilot Actuator



Bore Size: 1.250″ dia.

Input Pressure: 150 psig max.

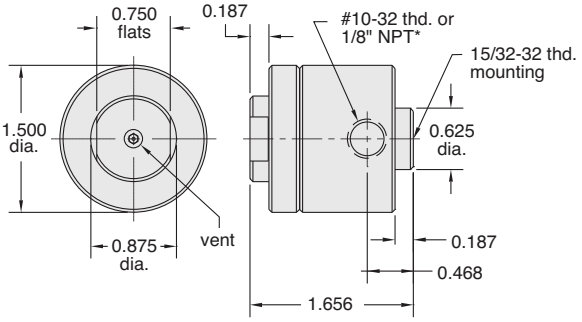
Mounting: #15/32-32 female thread to mount to Clippard Minimatic® valves and components; no spacers or washers are required when assembled to any Clippard valve; may be used with 15018-2 mounting bracket

Force Factor: 1.2

Part No.	Description
MPA-10	Single Acting, Spring Return Actuator, #10-32
MPA-10P	Single Acting, Spring Return Actuator, 1/8″ NPT

Vacuum Actuators

Single Acting Spring Return Vacuum Actuator



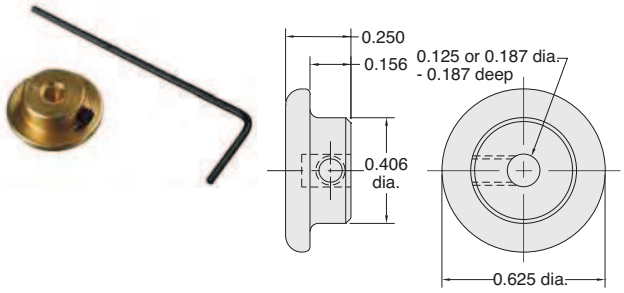
Input Pressure: 30 in. Hg

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.	Description
MVA-10	Single Acting, Spring Vacuum Actuator, #10-32
MVA-10P	Single Acting, Spring Vacuum Actuator, 1/8″ NPT

Push Button Actuators, 5/8″

Round Solid Brass 5/8″ dia. Push Button



Use: Mounts directly on valve stem for manual operation of valve; prevents over-travel of valve stem by providing a positive stop

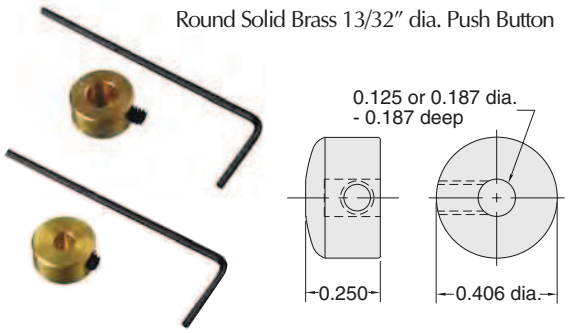
Mounting: 1/8″ or 3/16″ dia. mounting hole fits valve stems; locks in place by set screw (Allen wrench furnished)

Note: Individually packaged or bulk quantities available

Part No.	Description
11916-1	5/8″ Brass Push Button, 1/8″ Stem
11916-2	5/8″ Brass Push Button, 3/16″ Stem

Push Button Actuators, 13/32″

Round Solid Brass 13/32″ dia. Push Button



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)

Note: Individually packaged or bulk quantities available

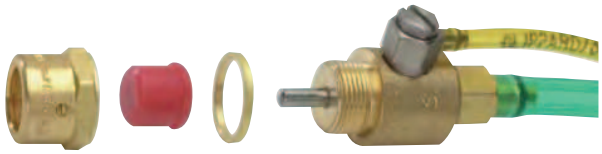
Part No.	Description
11916-3	13/32″ Brass Push Button, 1/8″ Stem
11916-4	13/32″ Brass Push Button, 3/16″ Stem

Captivated Push Buttons

Clippard also offers the captivated push button 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. The standard furnished mounting nut has a bright chromate finish. Black chrome or nickel-plated finishes are also available by adding the suffix -BC or -ENP to the part number.

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, or 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, MJV, and FV series, these push buttons integrate easily into Minimatic® systems, providing optimal quality and efficiency in Miniature pneumatic control.



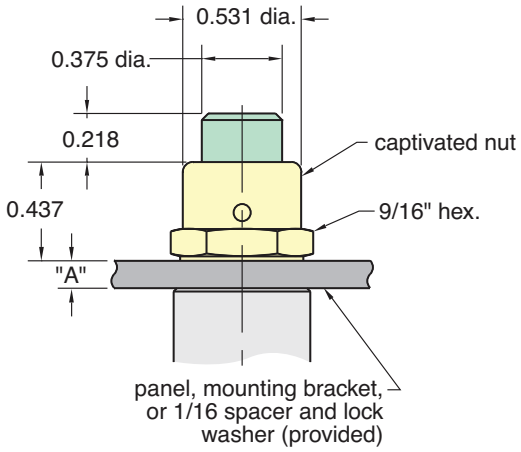
P C - ❑ ❑ (- ❑)

Push Button Captivated

Valve Stem dia.
1 1/8″ dia.
2 3/16″ dia.

Push Button Color
B - Black
G - Green
R - Red
W - White
Y - Yellow

Options
BC - Black chrome
ENP - Electroless Nickel Plated



Spacing Required for Proper Actuation of Push Button

Valve	"A" Dim.
MAV-2, MAV-3 MAVO-2, MAV0-3	3/32″
MAV-4, MAV-4D MJV-4, MJV-4D	5/32″
MJV-2, MJV-3 MJVO-2, MJVO-3 FV-3, FV-4, FV-5	7/32″

Heavy-Duty Push Button Actuators

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.

P C - ❑ ❑ - ❑ ❑

Push Button Captivated

Size Mounting Thread
- 3 - 5/8-32 thd. (16 mm)
- 4 -7/8-32 thd. (22 mm)
- 5 -1 3/16-28 thd. (30 mm)

Button Style
- **E** - Extended
- **F** - Flush
- **M** - Mushroom

Push Button color
- **BK** - Black **WH** - White **RD** - Red
- **GN** - Green **YL** - Yellow **BL** - Blue
- **OR** - Orange **GR** - Grey

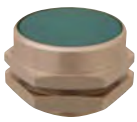
Note: Non-standard colors available; consult factory

Part No.	Description
PC-3E-(color)	5/8-32 Thd., Extended *(specify color)*

Part No.	Description
PC-4E-(color)	7/8-32 Thd., Extended *(specify color)*

Part No.	Description
PC-5E-(color)	1 3/16-28 Thd., Extended *(specify color)*

Part No.	Description
PC-3F-(color)	5/8-32 Thd., Flush *(specify color)*



Part No.	Description
PC-4F-(color)	7/8-32 Thd., Flush *(specify color)*

Part No.	Description
PC-5F-(color)	1 3/16-28 Thd., Flush *(specify color)*

Part No.	Description
PC-3M-(color)	5/8-32 Thd., Mushroom *(specify color)*

Part No.	Description
PC-4M-(color)	7/8-32 Thd., Mushroom *(specify color)*

Part No.	Description
PC-5M-(color)	1 3/16-28 Thd., Mushroom *(specify color)*

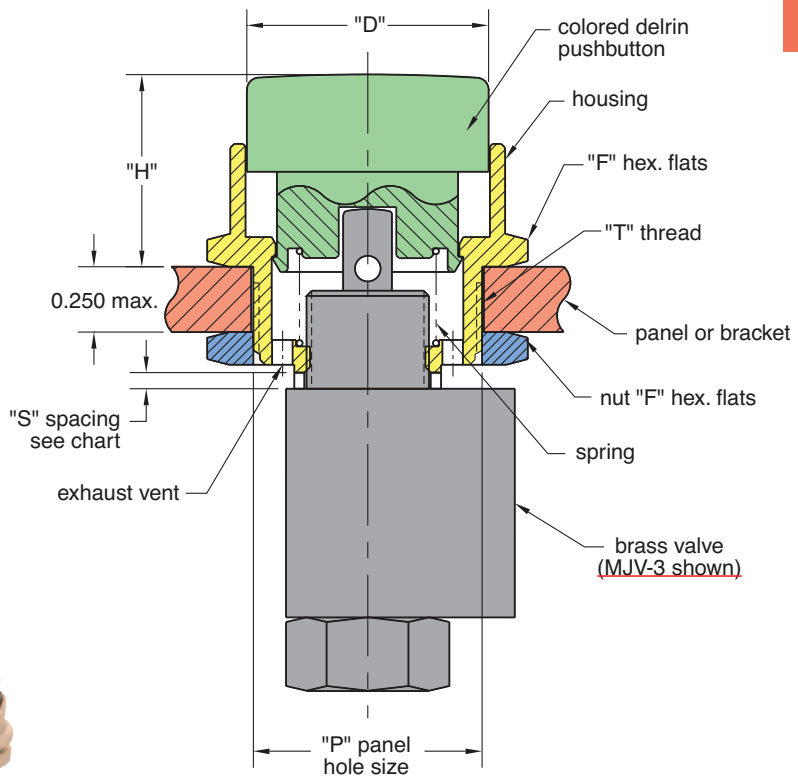
Features

- Assembles directly to the valve; no adapters required
- Ideal for mounting on panels or brackets, up to 1/4″ thick panel
- Self-contained assembly; no loose parts
- Stainless steel spring returns button to extended position with no added load to the valve stem
- Three sizes: 16 mm (5/8″ dia.), 22 mm (7/8″ dia.) and 30 mm (1-3/16″ dia.)
- Flush, extended and mushroom style buttons
- Five bright colors for visibility and operator recognition. Other colors available upon request
- Electroless nickel plated brass housing and nut, molded Delrin® button and stainless steel spring for long life and corrosion resistance
- Protects the valve from over-travel and side load

Different valve models vary in mounting thread length, stem extension and stroke. To accommodate these differences, the chart below lists the recommended spacing (“S”) to insure complete valve actuation. Provided with each button is a 1/16″ thick spacer ring that may be used in place of a panel or bracket to obtain proper spacing. The lockwasher provided may be used with no significant effect on spacing.

DIMENSIONS

SIZE	MODEL	“D” Dia.	“H” Hgt.	“T” Thd.	“P” +1/32 -0 Panel Hole	“F” Hex Flats
5/8-32 (16 mm) mtg. thd.	PC-3E-❑❑	0.625″	0.734″	5/8-32	5/8″ dia.	3/4″
	PC-3F-❑❑	0.625″	0.500″			
	PC-3M-❑❑	1.165″	0.906″			
7/8-32 (22 mm) mtg. thd.	PC-4E-❑❑	0.925″	0.734″	7/8-32	7/8″ dia.	1-1/16″
	PC-4F-❑❑	0.925″	0.500″			
	PC-4M-❑❑	1.500″	0.906″			
1 3/16-28 (30 mm) mtg. thd.	PC-5E-❑❑	1.165″	0.734″	1 3/16-28	1-3/16″ dia.	1-5/16″
	PC-5F-❑❑	1.165″	0.500″			
	PC-5M-❑❑	1.500″	0.906″			



SPACING “S” REQUIRED FOR PROPER VALVE ACTUATION			
Valve series	MAV-2 MAVO-2 MAV-3 MAVO-3	MAV-4 MAV-4D MJV-4 MJV-4D	MJV-2,-3 MJVO-2,-3 FV-3, FV-4, FV-5
• Mounting thd.	1/4″	1/4″	3/8″
• Stem extension	5/16″	3/8″	5/16″
• Valve stroke	1/8″	3/16″	1/8″
“S” Minimum	none	none	1/16″
Maximum	1/16″	1/16″	1/8″

Minimatic® Actuators

Clippard's line of 22 mm and 30 mm actuators may be coupled with a variety of Clippard control valves with a simple adapter system providing a single assembly of a panel-mounted actuator and air valve.

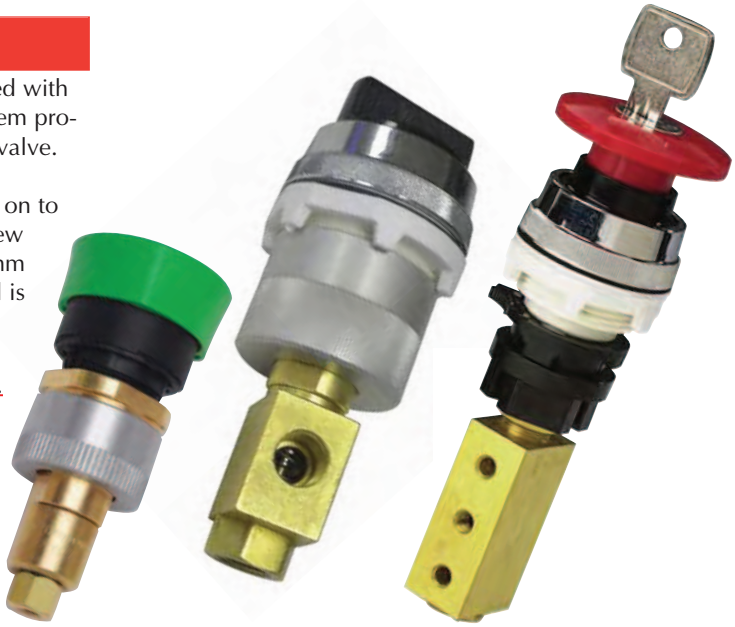
The PB-22 and PB-30 have an aluminum housing that threads on to the actuator, and integral brass sleeve. The PB-22-X fits the new 22 mm series actuators (P22-XXX), and the PB-30 fits the 30 mm series of actuators (PL-XXX). The PB-85 is made of plastic, and is compatible with 30 mm actuators only.

Step #1. Select **Actuator** on pages 135 through 136.

Step #2. Determine spacing requirements using the chart on page 135.

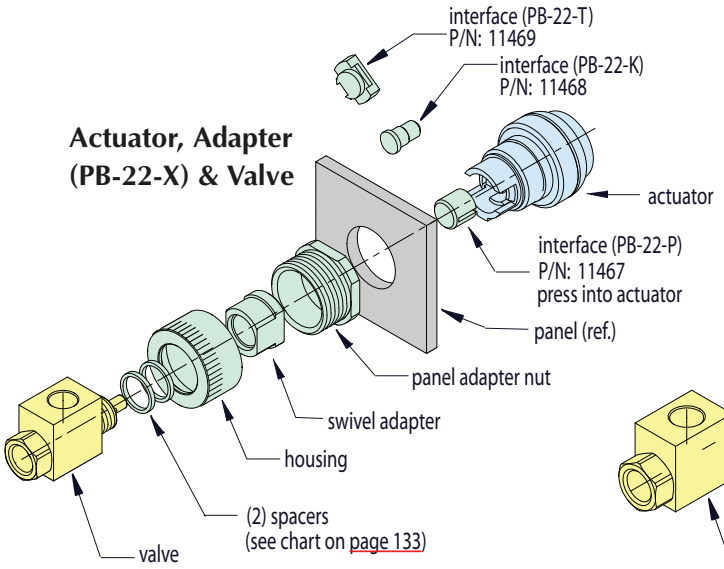
Step #3. Determine **Adapter** on pages 135 and 136.

Step #4. Add **Accessories** on page 137.

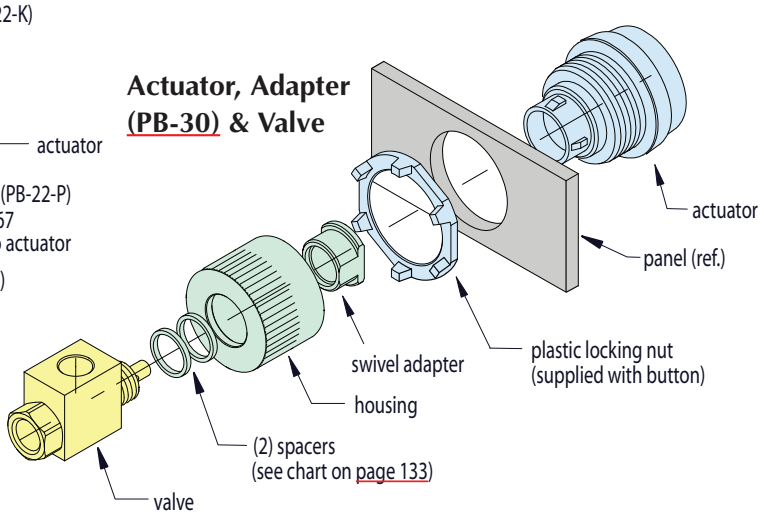


PB-22-X Adapter (22 mm) *PB-30 Adapter (30 mm)* *PB-85 Adapter (30 mm)*

Actuator, Adapter (PB-22-X) & Valve



Actuator, Adapter (PB-30) & Valve



Actuator Ordering Guide

P ❑ - ❑ ❑ ❑ - ❑

Manual Actuator

Size
22 - Small (22 mm)
L - Large (30 mm)

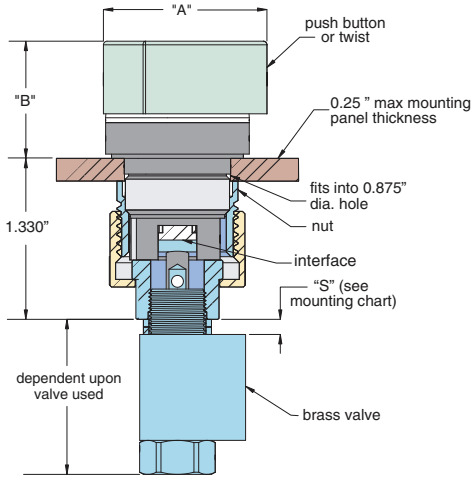
"On" Actuation
P - Push
T - Twist
K - Key
L - Latching (Push)

"Off" Actuation
4 - Key
3 - Twist
2 - Spring

Button Type
F - Flush
E - Extended
M - Mushroom
T - Twist
K - Key

Color
R - Red
G - Green
B - Black
Y - Yellow

Size 22 mm Actuators



PB-22-X Adapter			
Actuator	**Adapter**	**"A"**	**"B"**
P22-P2F-	PB-22-P	1.200″	0.450″
P22-P2E-	PB-22-P	1.200″	0.650″
P22-P2M-	PB-22-P	1,600″	0.850″
P22-L3M-	PB-22-K	1.450″	1.000″
P22-L4M-	PB-22-K	1.450″	1.200″
P22-T2T-	PB-22-T	1.200″	0.925″
P22-T3T-	PB-22-T	1.200″	0.925″
P22-T3K-	PB-22-T	1.200″	1.000″
P22-K3K-	PB-22-T	1.200″	1.000″

Mounting Chart for Clippard Valves

The following chart gives the necessary spacing required between the shoulder of the valve and the base of the adapter. Two 1/16″ spacers are furnished with each adapter.

Spacer Requirements

Valves	"S"
MAV-2, -2P, -2R, -3R, -3, -3P MAVO-2, -3	None
MJV-2, -3 MJVO-2, -3	1/8″
MAV-4, -4D MJV-4, -4D	None
ES-1	None
FV-3, -3P, -3D, -3DP FV-4, -4P, -4D, -4DP FV-5, -5P, -5D, -5DP	1/8″

Flush Push Button. Manual Push "In". Spring Return.

Part No.	Description
P22-P2F-R	Red
P22-P2F-G	Green
P22-P2F-B	Black
P22-P2F-Y	Yellow

Automatic Push/Turn Mushroom. Manual push "In" Latches "In". Turn clockwise to unlatch. Spring return.

Part No.	Description
P22-L3M-R	Red
P22-L3M-G	Green
P22-L3M-B	Black

Spring Return Twist 45°. Turn clockwise and hold for "In". Release for spring return. Black only.

Part No.	Description
P22-T2T-B	Black

Key Twist 90° Maintained.

(P22-T3K-B) Turn key clockwise to latch "In". Turn key counterclockwise to release. Key with-drawable in both positions. Black only.

P22-K3K-B same as P22-T3K-B except key is withdrawable in "Out" position only.

Part No.	Description
P22-T3K-B	Black
P22-K3K-B	Black

Extended Push Button. Manual Push "In". Spring Return.

Part No.	Description
P22-P2E-R	Red
P22-P2E-G	Green
P22-P2E-B	Black
P22-P2E-Y	Yellow

Maintained Twist 90°. Turn clockwise to latch "In". Turn counterclockwise to release. Black only.

Part No.	Description
P22-T3T-B	Black

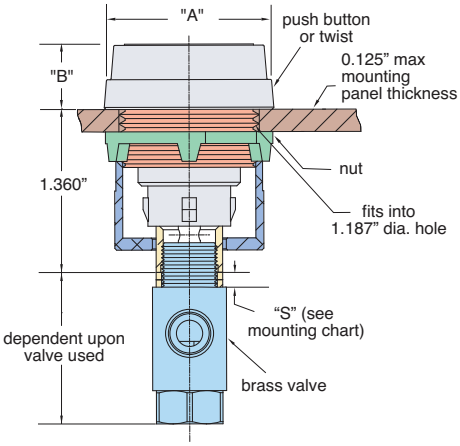
Manual Push Mushroom. Manual Push "In". Spring Return.

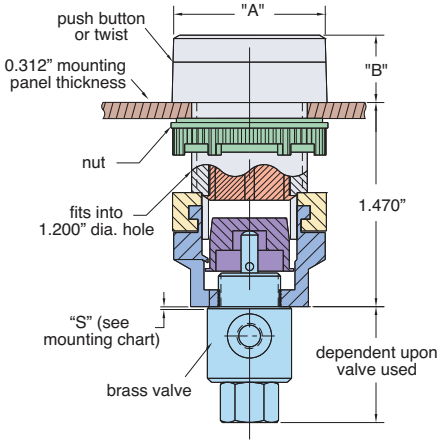
Part No.	Description
P22-P2M-R	Red
P22-P2M-G	Green
P22-P2M-B	Black

Push Key Mushroom. Manual push "In". Automatic latches "In". Turn key clockwise to release. Spring return. Key withdrawable "Out" position only. Red only.

Part No.	Description
P22-L4M-R	Red

Size 30 mm Actuators





PB-30 Aluminum Adapter		
Actuator	**"A"**	**"B"**
PL-P2F-	1.440"	0.580"
PL-P2E-	1.440"	0.880"
PL-P2M-	1.560"	1.050"
PL-L3M-	1.560"	1.050"
PL-P4K-	1.440"	1.400"
PL-L4M-	1.580"	1.300"
PL-T2T-	1.440"	1.070"
PL-T3T-	1.440"	1.070"
PL-T3K-	1.440"	1.200"
PL-K3K-	1.440"	1.200"

PB-85 Plastic Adapter		
Actuator	**"A"**	**"B"**
PL-P2F-	1.440"	0.550"
PL-P2E-	1.440"	0.960"
PL-P2M-	1.575"	1.043"
PL-L3M-	1.575"	1.043"
PL-P4K-	1.440"	2.280"
PL-L4M-	1.575"	2.280"
PL-T2T-	1.440"	1.403"
PL-T3T-	1.440"	1.043"
PL-T3K-	1.440"	2.280"
PL-K3K-	1.440"	2.280"

Part No.	Description
PB-30	Aluminum Adapter
PB-85	Plastic Adapter

Flush Push Button. Manual push "In". Spring return.

Part No.	Description
PL-P2F-R	Red
PL-P2F-G	Green
PL-P2F-B	Black
PL-P2F-Y	Yellow

Extended Push Button. Manual push "In". Spring return.

Part No.	Description
PL-P2E-R	Red
PL-P2E-G	Green
PL-P2E-B	Black
PL-P2E-Y	Yellow

Maintained Twist 90°. Turn clockwise to latch "In". Turn counterclockwise to release. Black only.

Part No.	Description
PL-T3T-B	Black

Push Key Mushroom. Manual push "In". Automatic latches "In". Turn key clockwise to release. Spring return. Key withdrawable "Out" position only.

Part No.	Description
PL-L4M-R	Red

Automatic Push/Turn Mushroom. Manual push "In". Latches "In". Turn clockwise to unlatch. Spring return.

Part No.	Description
PL-L3M-R	Red
PL-L3M-G	Green
PL-L3M-B	Black

Manual Push Mushroom. Manual push "In". Spring return.

Part No.	Description
PL-P2M-R	Red
PL-P2M-G	Green
PL-P2M-B	Black

Spring Return Twist 45°. Turn clockwise and hold for "In". Release for spring return. Black only.

Part No.	Description
PL-T2T-B	Black

Push Key Push Button. Manual push "In". Spring return. Turn key counter-clockwise to lock "Out"; clockwise to unlock. Key withdrawable locked or unlocked. Black only.

Part No.	Description
PL-P4K-B	Black

Key Twist 90° Maintained. (PL-T3K-B) Turn key clockwise to latch "In". Turn key counterclockwise to release. Key withdrawable in both positions. Black only.

PL-K3K-B same as PL-T3K-B except key is withdrawable in "Out" position only.

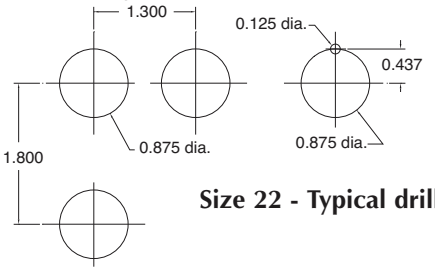
Part No.	Description
PL-T3K-B	Black
PL-K3K-B	Black

Legend Plates

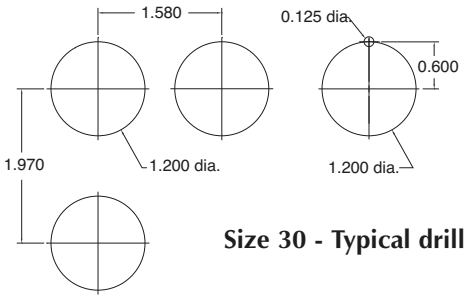
Legend Text	22 Size Part #	30 Size Part #
Blank	P22-01	PL-01
Start	P22-02	PL-02
Stop (red)	P22-03	PL-03
Forward	P22-04	PL-04
Reverse	P22-05	PL-05
Fast	P22-06	PL-06
Slow	P22-07	PL-07
On	P22-08	PL-08
Off (red)	P22-09	PL-09
Reset	P22-10	PL-10
Raise	P22-11	PL-11
Lower	P22-12	PL-12
Emergency Stop (red)	P22-13	PL-13
Run / Jog	P22-31	PL-31
Auto / Hand	P22-32	PL-32
Forward / Reverse	P22-33	PL-33
Fast / Slow	P22-34	PL-34
Open / Close	P22-35	PL-35
Up / Down	P22-36	PL-36
Off / On	P22-37	PL-37

Mounting Clippard Manual Actuators

These drill plans are for units fitted with optional anti-rotation ring



Size 22 - Typical drill plan



Size 30 - Typical drill plan

Legend Plates

Plastic legend plate, two sizes, with a black field and white inscription (red as noted). Inscription plates are interchangeable in both sizes.

Accessories for Manual Actuators

Mounting Wrench

Fits 30 mm size manual actuators.

Part No.	Description
PB-60	Mounting Wrench

Replacement Interface

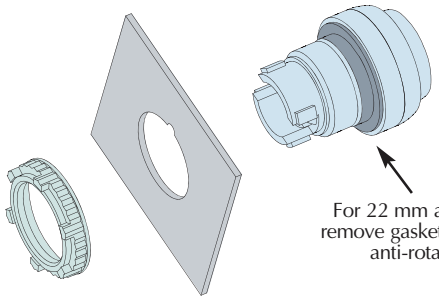
	Part No.	Description
	11468	PB-22-K Interface
	11467	PB-22-P Interface
	11469	PB-22-T Interface

Replacement 30 mm Anti-Rotation Ring

Holds 30 mm adapter in one position. Included with all 30 mm twist manual actuators.

Part No.	Description
PL-50	Anti-Rotation Ring, 30 mm

22 mm Anti-Rotation Feature

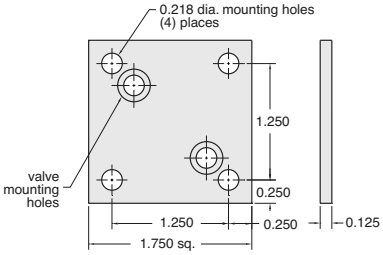


For 22 mm actuators, remove gasket to enable anti-rotation.

Valve Mounting Brackets & Accessories

Flat Bracket

Flat bracket designed to mount 2010, 2011-1, 2012 and 2013 valves

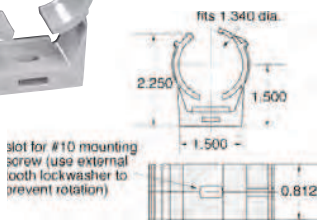


Construction: Black anodized finish, two mounting screws furnished.

Part No.	Description
2010-050	Flat Bracket

Bracket for Action Relays

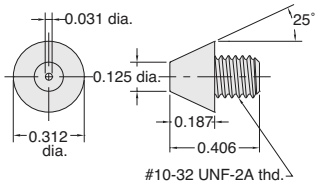
Mounting bracket for 3200-A snap action relays.



Part No.	Description
3200-006	Snap Action Relay Bracket

Rubber Nozzles

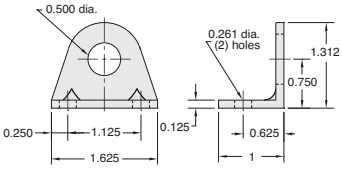
#10-32 rubber nozzles for replacement 2011-1 limit valves. #10-32 thread, five to a package



Part No.	Description
2011-012	Rubber Nozzles

Metal Foot Bracket

90° angle, metal foot bracket for Clippard miniature valves



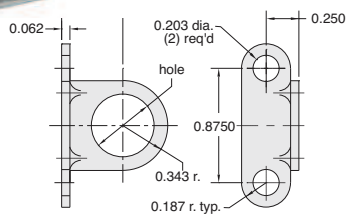
Mounting: 1/2″ dia. hole for valve; two 0.261″ dia. holes for attaching bracket

Construction: Stamped from 1/8″ thick steel, zinc plated

Part No.	Description
15018-2	Foot Mounting Bracket

Metal Foot Bracket

90° angle, metal foot bracket for Clippard miniature valves



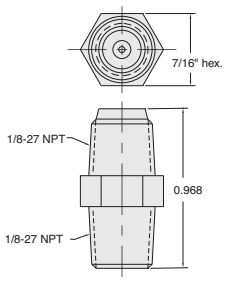
Mounting: 31/64″ dia. mounting hole for valve; two 13/64″ dia. mounting holes for attaching bracket

Construction: Stamped from 1/16″ thick steel, zinc plated

Part No.	Description
11918-1	Bracket, 0.484″ Hole
11918-2	Bracket, 0.328″ Hole

1/8″ NPT Filter

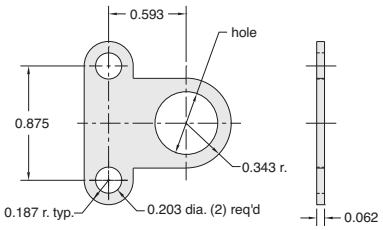
1/8″ NPT hex nipple with 40 micron filter / strainer, can be used as a muffler



Part No.	Description
9002-01	1/8″ NPT Filter

Flat Metal Bracket

Flat metal bracket, for mounting Clippard miniature valves



Mounting: 31/64″ dia. mounting hole for valve; two 13/64″ dia. mounting holes for attaching bracket

Construction: Stamped from 1/16″ thick steel, zinc plated

Part No.	Description
11917-1	Metal Bracket, 0.484 Hole
11917-2	Metal Bracket, 0.328 Hole

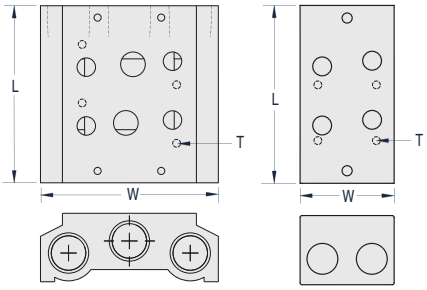
See Page 314 for a complete offering of In-Line Manifolds

CUSTOMer solutions

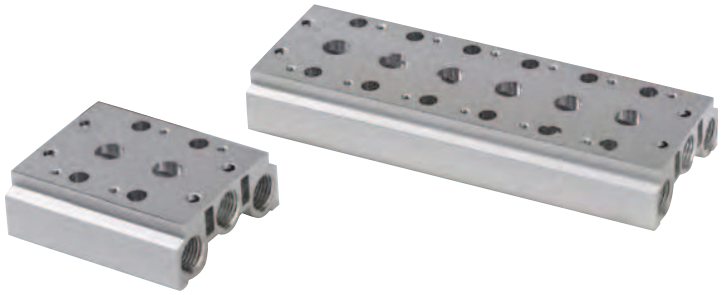
If you need a product that fits your application perfectly, Clippard has the capability to design or modify one of its products to suit your exact needs. We understand that a standard catalog product may be close but not be exactly what you need. Let us know YOUR Need, and we will help to find YOUR Solution!

For more information, visit
www.clippard.com/customsolutions

Parallel Bar Manifolds



4-Way Manifold *3-Way Manifold*



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

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

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

3-Way Spare Mounting Kit Hardware

27041-31 . . . . . Hardware Kit for MMA-31 Series Valves
27041-32 . . . . . Hardware Kit for MMA-32 Series Valves
27041-33 . . . . . .Hardware Kit for MMA-33 Series Valves
27041-34 . . . . . .Hardware Kit for MMA-34 Series Valves

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

4-Way Spare Mounting Kit Hardware

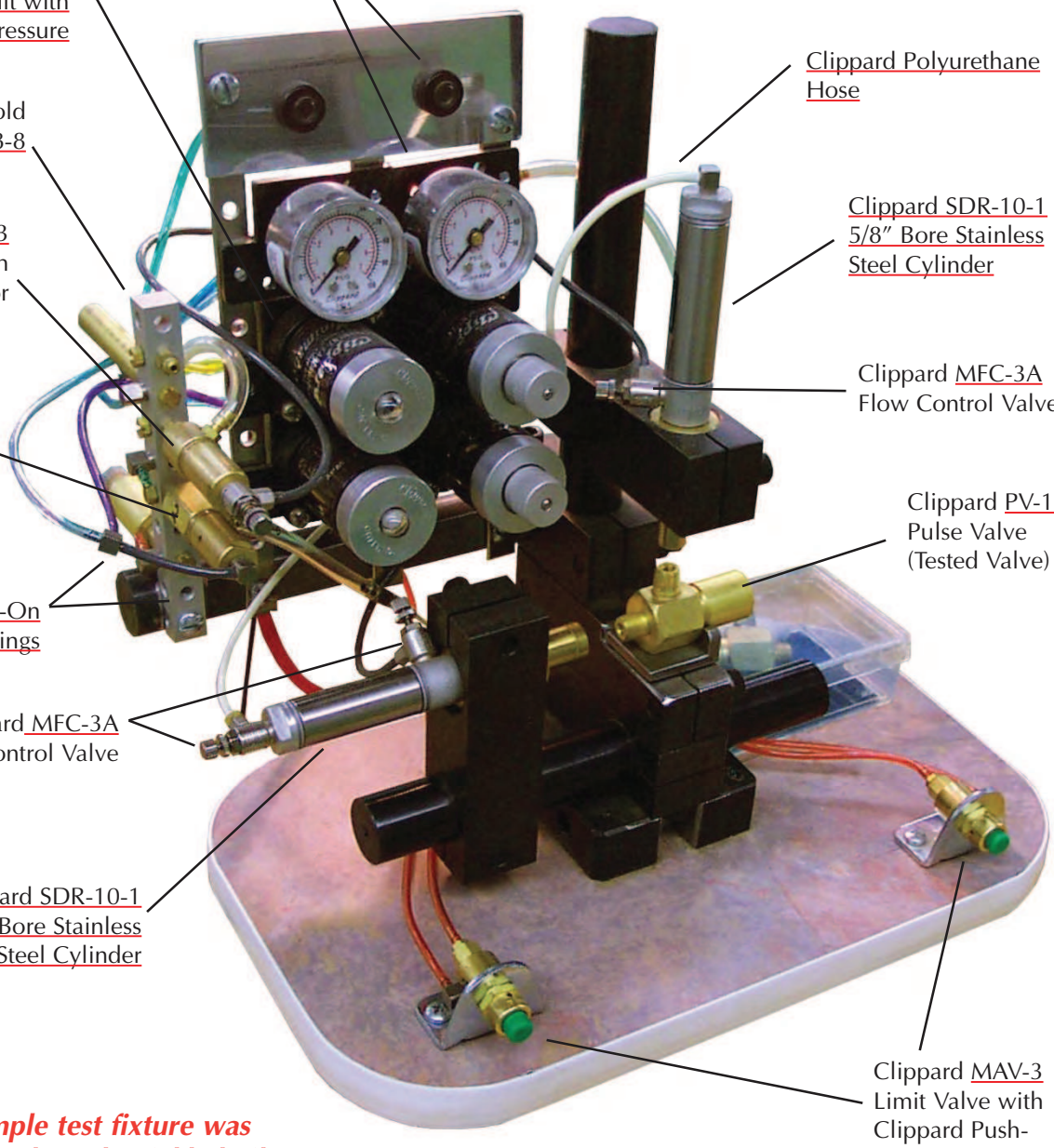
27041-41 . . . . .Hardware Kit for MMA-41 Series Valves
27041-42 . . . . .Hardware Kit for MMA-42 Series Valves
27041-43 . . . . . .Hardware Kit for MMA-43 Series Valves
27041-44 . . . . . .Hardware Kit for MMA-44 Series Valves

Rebuild Kits

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

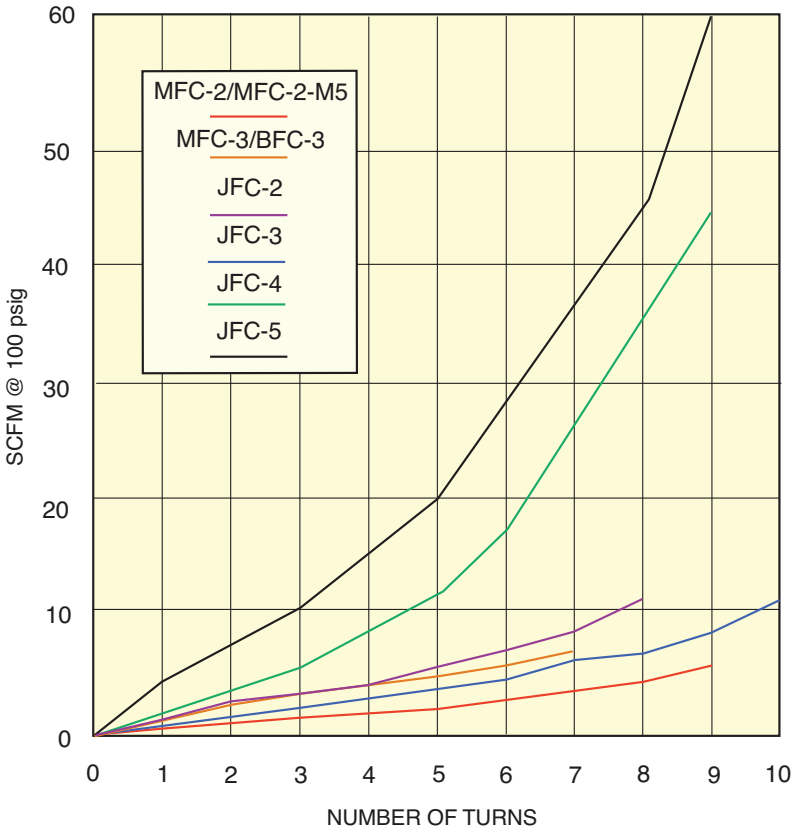
Part No.	
27040-31	3-Way Kit, MMA-31
27040-32	3-Way Kit, MMA-32
27040-33	3-Way Kit, MMA-33
27040-34	3-Way Kit, MMA-34
27040-41	4-Way 2 Pos. Kit, MMA-41
27040-42	4-Way 2 Pos. Kit, MMA-42
27040-43	4-Way 2 Pos. Kit, MMA-43
27040-44	4-Way 2 Pos. Kit, MMA-44

Pneumatic Pulse Valve Leak Tester



This simple test fixture was inexpensively and quickly built using standard Clippard products.

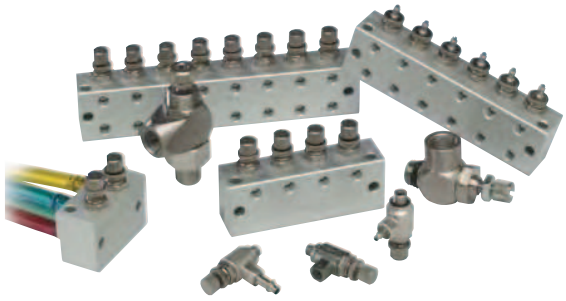
Flow Controls
Flow vs. Needle Turns



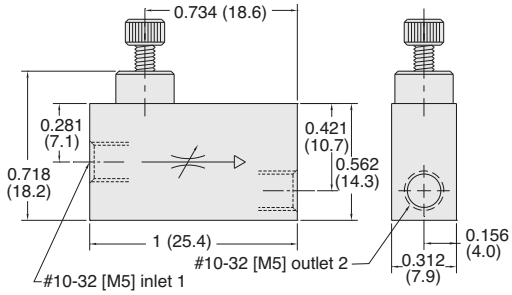
Clippard offers five models of adjustable flow controls with #10-32 through 3/8" NPT ports. They feature a combination needle and check valve that controls flow in one direction and allows free flow in the opposite direction.

They are an ideal valve for use with a cylinder, providing a slow extend stroke while allowing a fast retract stroke. The chart on this page illustrates the flow versus the number of needle adjustments turns for the MFC-2, MFC-2-M5, MFC-3, BFC-3, JFC-2, JFC-3, JFC-4 and JFC-5.

Medium: Air, Water or Oil



Adjustable Flow Control Valve



Materials: Brass body and stainless steel needle; Buna-N seals

Input Pressure: 300 psig max.

Air Flow: 4 scfm max. @ 50 psig; 7 scfm max. @ 100 psig

Pressure To Open: Cracks at approx. 2 psig

Mounting: In-line

Flow Direction: Arrow in valve body shows direction of controlled flow

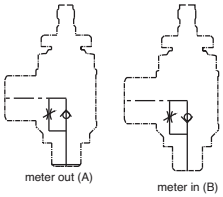
Adjustment: Knurled knob on needle shaft

Part No.	Description
MFC-2	Adjustable Flow Control Valve, #10-32
MFC-2-M5	Adjustable Flow Control Valve, M5

Input Pressure: 150 psig max.

Mounting: Directly into #10-32 port

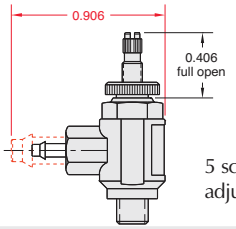
Ports: Rotating input port allows 360° positioning #10-32 port



Flow Direction: Arrow on valve body shows direction of controlled flow

Adjustment: Screwdriver slot; slotted knurled knob with lock nut on #10-80 threaded needle shaft for fine adjustment; or recessed slotted needle

#10-32 Valves, Screwdriver Slot

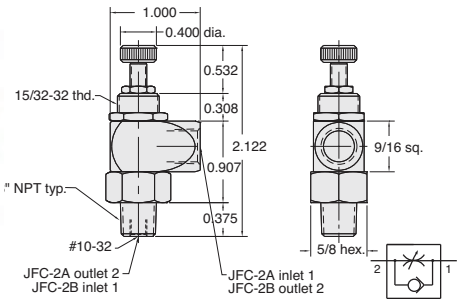


5 scfm @ 100 psig adjustable

Part No.	Description
MFC-3A	Meter Out Control Valve, #10-32 Female Side Port
MFC-3A1	Meter Out Control Valve, 1/16" Barb Side Port
MFC-3A2	Meter Out Control Valve, 1/8" Barb Side Port
MFC-3B	Meter In Control Valve, #10-32 Female Side Port
MFC-3B1	Meter In Control Valve, 1/16" Barb Side Port
MFC-3B2	Meter In Control Valve, 1/8" Barb Side Port

1/8" NPT Control Valves, Knurled Knob

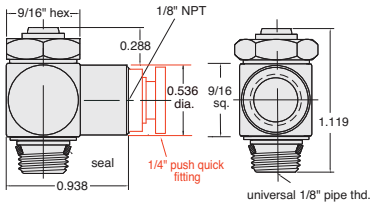
11 scfm @ 100 psig adjustable



Part No.	Description
JFC-2A	Meter Out Control Valve, 1/8" NPT
JFC-2B	Meter In Control Valve, 1/8" NPT

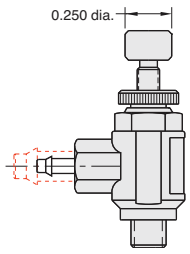
1/8" NPT Valves, Recessed Needle

11 scfm @ 100 psig adjustable



Part No.	Description
JFC-3AR	Meter Out Control Valve, 1/8" NPT
JFC-3BR	Meter In Control Valve, 1/8" NPT
JFC-3ARP08	Meter Out Control Valve, 1/4" Push-Quick Fitting
JFC-3BRP08	Meter In Control Valve, 1/4" Push-Quick Fitting

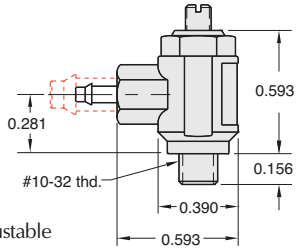
#10-32 Valves, Knurled Knob



Part No.	Description
MFC-3AK	Meter Out Control Valve, #10-32 Female Side Port
MFC-3AK1	Meter Out Control Valve, 1/16" Barb Side Port
MFC-3AK2	Meter Out Control Valve, 1/8" Barb Side Port
MFC-3BK	Meter In Control Valve, #10-32 Female Side Port
MFC-3BK1	Meter In Control Valve, 1/16" Barb Side Port
MFC-3BK2	Meter In Control Valve, 1/8" Barb Side Port

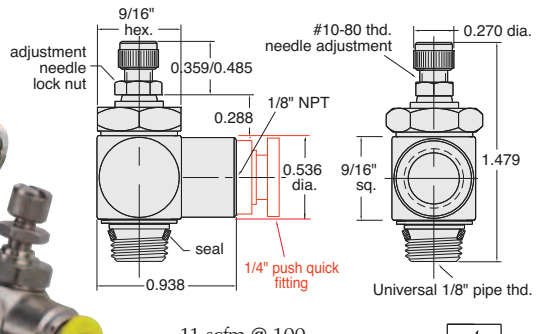
#10-32 Valves, Recessed Needle

5 scfm @ 100 psig adjustable



Part No.	Description
MFC-3AR	Meter Out Control Valve, #10-32 Female Side Port
MFC-3AR1	Meter Out Control Valve, 1/16" Barb Side Port
MFC-3AR2	Meter Out Control Valve, 1/8" Barb Side Port
MFC-3BR	Meter In Control Valve, #10-32 Female Side Port
MFC-3BR1	Meter In Control Valve, 1/16" Barb Side Port
MFC-3BR2	Meter In Control Valve, 1/8" Barb Side Port

1/8" NPT Valves, Knurled Knob



11 scfm @ 100 psig adjustable

Part No.	Description
JFC-3A	Meter Out Control Valve, 1/8" NPT
JFC-3B	Meter In Control Valve, 1/8" NPT
JFC-3AP08	Meter Out Control Valve, 1/4" Push-Quick Fitting
JFC-3BP08	Meter In Control Valve, 1/4" Push-Quick Fitting

These combination needle and check valve flow controls are typically used to control air flow from air cylinders, thereby controlling the speed at which the piston strokes, either while extending or retracting, depending on their location in the circuit.

J-Series Flow Control Valves allow free flow in one direction. In the opposite direction the flow is metered by the needle valve.

Models listed in the chart have either a 1/4″ NPT (JFC-4) or 3/8″ NPT (JFC-5) male threaded outlets, recessed screwdriver slot (R) or knurled knob (K) flow adjustment needles and female NPT or push-to-connect tubing (Push-Quick) inlets. The P08 models features a 1/4″ Push-Quick fitting, and the P12 versions have a 3/8″ Push-Quick fitting.

Medium: Air, Water or Oil

Material: Electroless nickel plated brass needle and stem, anodized aluminum body, Buna-N seals

Input Pressure: 150 psig max.

Air Flow: JFC-4: 45 scfm @ 100 psig adjustable
JFC-5: 60 scfm @ 100 psig adjustable

Mounting: Directly into cylinder. Panel or in-line.

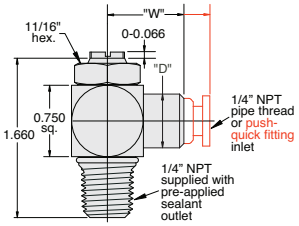
Ports: Rotating input port allows 360° positioning 1/8″ NPT

Adjustment: Recessed slotted needle or knurled knob

Part #	"D"	"W"
JFC-4K & JFC-4R	0.710″	0.875″
JFC-4K-P08 & JFC-4R-P08	0.562″	1.062″
JFC-4K-P12 & JFC-4R-P12	0.710″	1.250″
JFC-5K & JFC-5R	0.827″	1.125″
JFC-5K-P12 & JFC-5R-P12	0.750″	1.375″

1/4″ NPT Valves, Recessed Needle

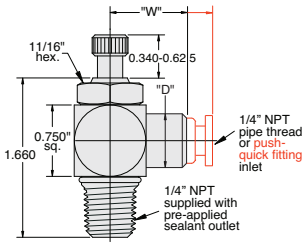
(JFC-4R shown)



Part No.	Description
JFC-4R	Meter Out Control Valve, 1/4″ NPT
JFC-4R-P08	Meter Out Control Valve, 1/4″ Push-Quick Fitting
JFC-4R-P12	Meter Out Control Valve, 3/8″ Push-Quick Fitting

1/4″ NPT Valves, Adjusting Knob

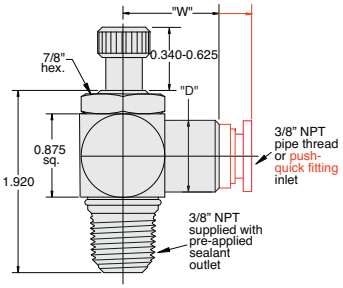
(JFC-4K shown)



Part No.	Description
JFC-4K	Meter Out Control Valve, 1/4″ NPT
JFC-4K-P08	Meter Out Control Valve, 1/4″ Push-Quick Fitting
JFC-4K-P12	Meter Out Control Valve, 3/8″ Push-Quick Fitting

3/8″ NPT Valves, Adjusting Knob

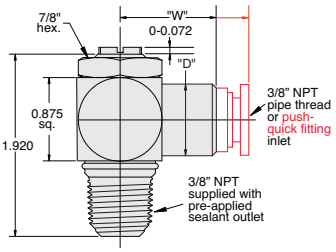
(JFC-5K-P12 shown)



Part No.	Description
JFC-5K	Meter Out Control Valve, 3/8″ NPT
JFC-5K-P12	Meter Out Control Valve, 3/8″ Push-Quick Fitting

3/8″ NPT Valves, Recessed Needle

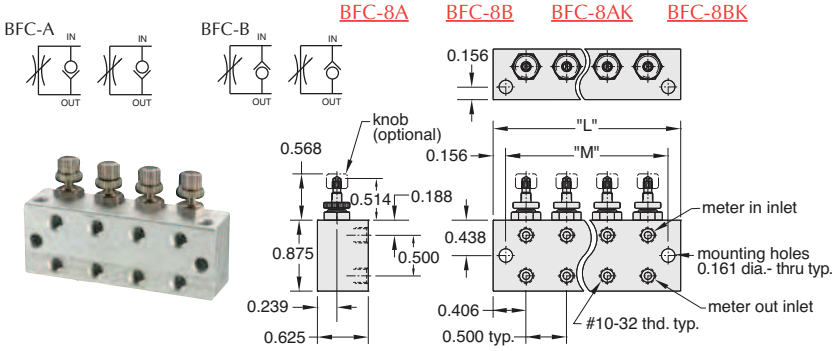
(JFC-5R-P12 shown)



Part No.	Description
JFC-5R	Meter Out Control Valve, 3/8″ NPT
JFC-5R-P12	Meter Out Control Valve, 3/8″ Push-Quick Fitting

Block Flow Controls

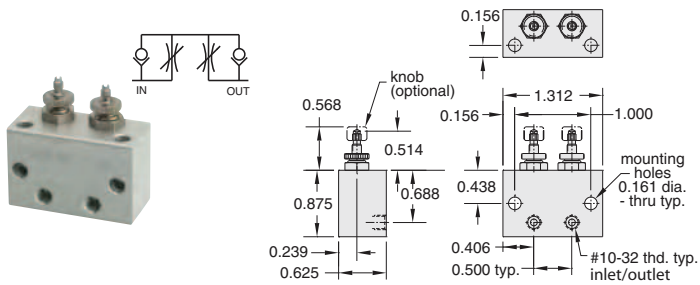
BFC-2A BFC-2B BFC-2AK BFC-2BK
BFC-4A BFC-4B BFC-4AK BFC-4BK
BFC-6A BFC-6B BFC-6AK BFC-6BK
BFC-8A BFC-8B BFC-8AK BFC-8BK



Block Flow Controls

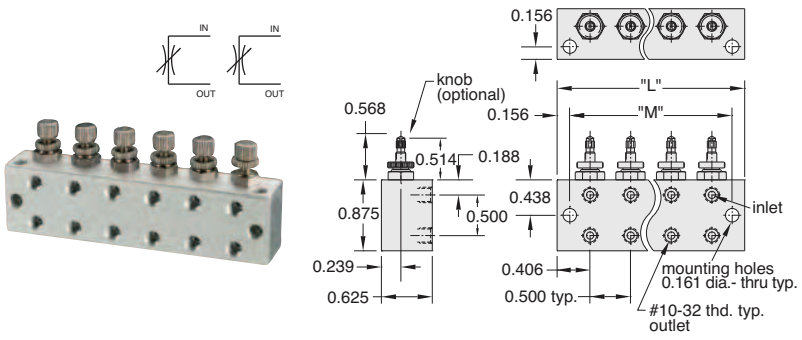
BFC-2C BFC-2CK

Two valves common meter in and meter out.



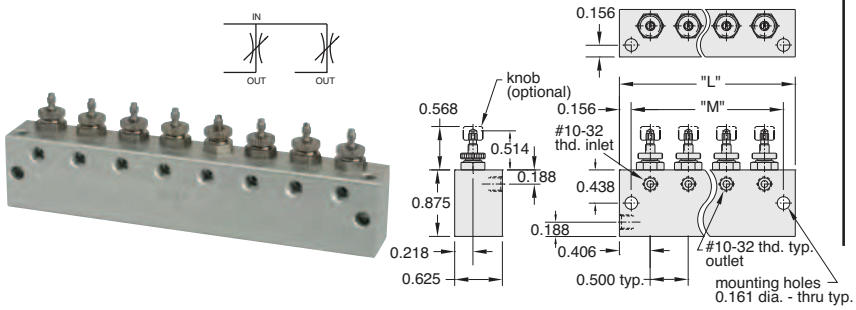
Block Needle Valves

BNV-2N BNV-4N BNV-6N BNV-8N
BNV-2NK BNV-4NK BNV-6NK BNV-8NK



Block Needle Manifolds

BNM-2N BNM-4N BNM-6N BNM-8N
BNM-2NK BNM-4NK BNM-6NK BNM-8NK



Precision flow controls and needle valves available in blocks for rigid mounting.

Specification same as MFC-3

Clippard's block flow control and needle valves have a variety of features that offer extra versatility for unique applications. These precision made valves offer high performance, low cost, reliability and ease of installation. Each valve is independent of the other (except the BFC-2C), sharing only a common body. This allows separate pressures and/or gases to be used while simplifying mounting. Each needle adjustment is smooth, exact, and includes a locking ring to prevent tampering. The valve body is machined and anodized aluminum; the compound angle needle stems are machined from 303 stainless steel; the valve sleeve is electroless nickel plated brass; and the seals are Buna-N rubber. Block flow controls and needle valves are ideal for controlling double acting cylinders.

FC - Flow Control
NV - Needle Valve
NM - Needle Manifold

B ❑ - ❑ ❑ ❑

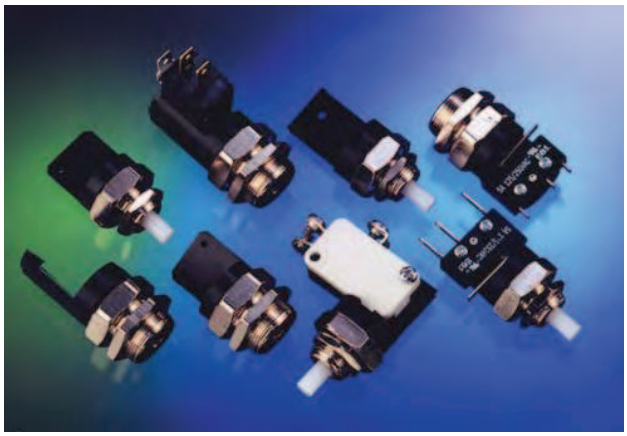
Block

Number of stations
2 - 2 Stations
4 - 4 Stations
6 - 6 Stations
8 - 8 Stations

A - Meter Out Flow
B - Meter In Flow
C - 2 Valves Common Meter In and Meter Out
N - Needle Valve

Adjustment type
Blank - Screwdriver Slot
K - Adjustment Knob

Number of Stations "X"	"L"	"M"
2	1.312″	1.000″
4	2.312″	2.000″
6	3.312″	3.000″
8	4.312″	4.000″



Medium: Air

Inlet Pressure: 5 to 150 psig; 0.3 to 10.3 bar

Pilot Port: #10-32, 1/8" NPT, M5

Mounting: External thread and nut for panel, bracket, or bulkhead mounting,
5/8 - 32 pressure actuated
#15/32-32 manually operated

Accuracy: Actuation pressures listed are nominal values only. For applications where a tight tolerance for actuation or deactuation is needed, please contact Clippard.

❑ ❑ ❑ - 1 ❑ ❑ - ❑ ❑ - ❑

SAS Sub-Miniature Air Switch
MAS Miniature Air Switch

Design Series

Switch Current Rating:
SAS
A 5A @ 125/250 VAC
3A @ 30 VDC/.1A 60 VDC
X no switch
MAS
B 3A @ 125/250 VAC
3A @ 30 VDC
C 10A @ 125/250 VAC
5A @ 50 VDC
X no switch

Switch Terminals:
SAS: 0 no switch
1 110 series Q.C.
MAS: 0 no switch
2 187 series Q.C.
3 screw terminals

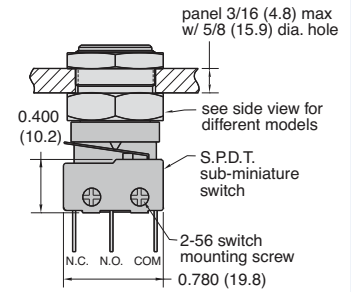
Nominal Actuation Pressure*
06 6 psig/0.4 bar
20 20 psig/1.4 bar
40 41 psig/ 2.8 bar
65 65 psig/4.5 bar
MN Manual

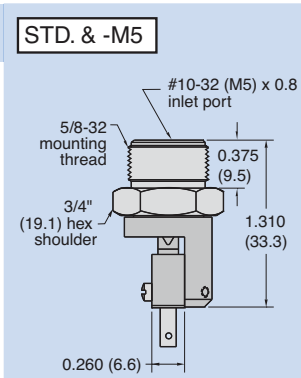
Inlet Port:
Blank #10-32 thd
F 1/8" NPT female
P 1/8" NPT male
M5 M5 x 0.8 thd

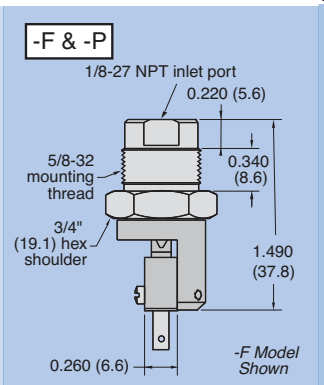
*Actuation pressure is nominal only. For applications where accuracy is critical, please contact Clippard.

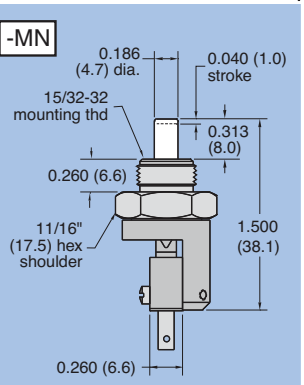
Pressure Actuated | Mechanically Actuated

SAS Model

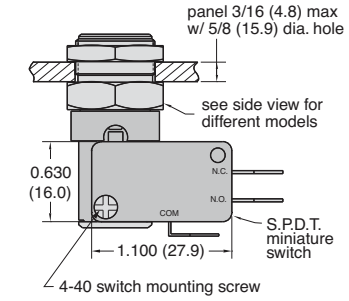


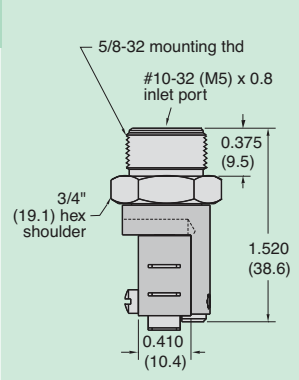


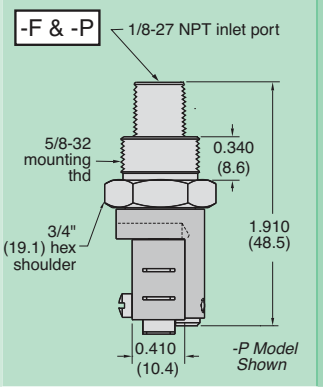


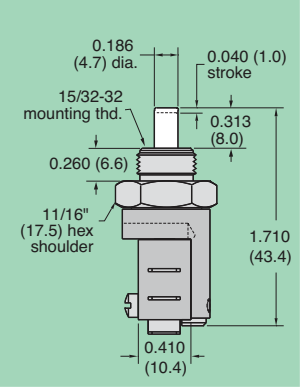


MAS Model

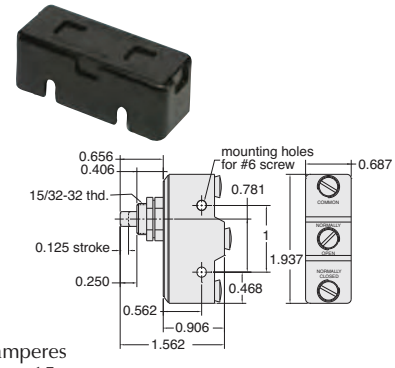








Single Pole Electrical Switch



Stem Travel: 1/8″ (3.2)

Rating A.C.: 120 volts - 15 amperes
240 volts - 15 amperes
480 volts - 15 amperes

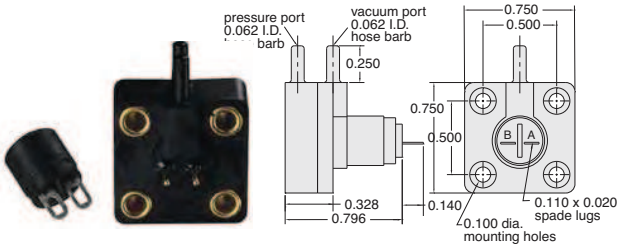
Rating D.C.: 125 volts - 0.5 amperes
250 volts - 0.25 amperes

Mounting: #15/32-32 thread; nut and lockwashers furnished, also two 0.140″ dia. mounting holes in body

Approvals: UL and CE

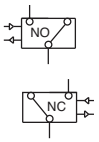
Part No.	Description
ES-1	Single Pole, Double Throw Snap-Action Electrical Switch
ES-1-GP	Single Pole, Double Throw Snap-Action Electrical Switch with Gold-Plated Contact
15601	Terminal Cover

Pneumatic Electric Switches



Electrical Rating: 60 ma. AC resistive 40 ma. DC resistive @ 120 volts

Switching Speed: 125 Hz, Normally-Open



Actuating Pressure: 3″ H_2O 10% pressure vacuum, or DP

Maximum Pressure: 8 psig (continuous)

Construction: ABS plastic case gold plated contacts natural rubber diaphragm

Use: For interfacing fluidic or other low pressure air signals with electronic circuitry dual inputs operates on pressure, vacuum, or differential pressure signals

Part No.	Description
5100-3-NO	Pneumatic Electric Switch, Normally-Open Contacts
5100-3-NC	Pneumatic Electric Switch, Normally-Closed Contacts

CUSTOMer solutions

If you need a product that fits your application perfectly, Clippard has the capability to design or modify one of its products to suit your exact needs. We understand that a standard catalog product may be close but not be exactly what you need. Let us know YOUR Need, and we will help to find YOUR Solution!

Needle valves are common in controlling the flow of fluids and gases. This special needle valve uses a "D" stem for adapting to standard panel knobs. It also incorporates a special left-handed thread to provide a more intuitive clockwise movement to increase flow of the back for ease-of-assembly in a tight space. It also incorporates a special toggle to match the customers' aesthetic requirements.

A combination assembly using a toggle or push button operator and Clippard's pressure-actuated electrical switches provides a simultaneous air and electrical output.

This air-piloted valve is designed for a water application where limited space is available.

Alternate materials, seals and/or lubrication a for specific applications are common (and welcomed) requests at Clippard. Stainless steel, aluminum, plastic or brass. All available, just ask!

For more information, visit www.clippard.com/customsolutions

Three varieties of check valves are offered by Clippard. Each permits flow in one direction only. All have bright-dipped brass bodies that provide in-line mounting, Buna-N seals and stainless steel springs as standard. The MCV-2 has #10-32 (M5) ports and a "duckbill" seal. The MCV-1 series has #10-32 (M5) ports and a brass poppet. The MJCV-1 series has 1/8" NPT (G1/8) ports and a Zytel 80G33 poppet.

Materials: Brass body, Buna-N seals, stainless steel spring

Medium: Air or Hydraulic

Input Pressure: 300 psig/21 bar max. (MJCV Series: 1,000 psig hydraulic max.)

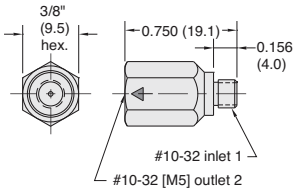
Pressure To Open: Cracks at approx. 1/2 psig

Mounting: Direct or in-line

Flow Direction: Arrow on valve body indicates direction of flow

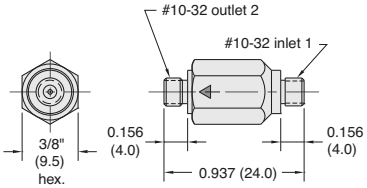
Temperature Range: 32° to 230°F

Note: Not intended for pressure relief



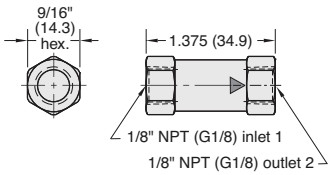
Part No.
MCV-1
MCV-1-M5

Air Flow: 6.5 scfm @ 50 psig; 11.5 scfm @ 100 psig; 280 l/min @ 6 bar



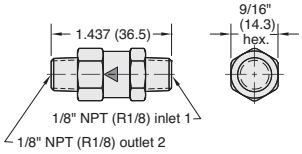
Part No.
MCV-1AA

Air Flow: 6.5 scfm @ 50 psig; 11.5 scfm @ 100 psig; 280 l/min @ 6 bar

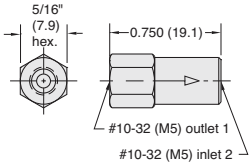


Part No.
MJCV-1
MJCV-1-MG

Air Flow: 20 scfm @ 50 psig; 36 scfm @ 100 psig; 580 l/min @ 6 bar



Part No.
MJCV-1AA
MJCV-1AA-MR



Medium: Air

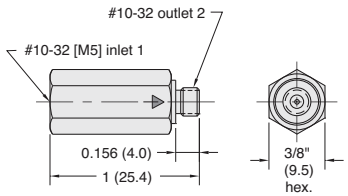
Input Pressure: 100 psig/21 bar max.

Air Flow: 1 scfm @ 50 psig; 28 l/min @ 3.5 bar

Pressure To Crack: 1 psig

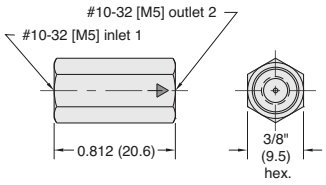
Pressure To Fully Open: 2.5

Part No.
MCV-2
MCV-2-M5



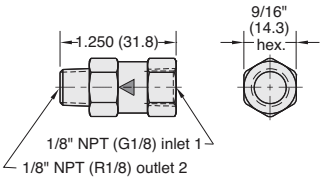
Part No.
MCV-1AB
MCV-1AB-M5

Air Flow: 6.5 scfm @ 50 psig; 11.5 scfm @ 100 psig; 280 l/min @ 6 bar



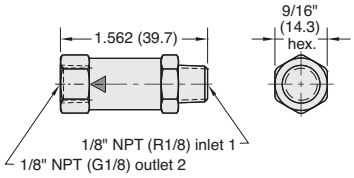
Part No.
MCV-1BB
MCV-1BB-M5

Air Flow: 6.5 scfm @ 50 psig; 11.5 scfm @ 100 psig; 280 l/min @ 6 bar



Part No.
MJCV-1AB
MJCV-1AB-MR

Air Flow: 20 scfm @ 50 psig; 36 scfm @ 100 psig; 580 l/min @ 6 bar



Part No.
MJCV-1BA
MJCV-1BA-MG

Air Flow: 20 scfm @ 50 psig; 36 scfm @ 100 psig; 580 l/min @ 6 bar

Shuttle Valves

There are three models of shuttle valves offered by Clippard. These valves feature a shuttle that allows flow from one inlet to the outlet while blocking the other inlet. They may be mounted directly to valves and cylinders or in-line using the hose barbs on the MSV models.

Poppet type shuttle (double check) valve. Brass body, and poppet, Buna-N seal

Medium: Air, Water or Oil

Input Pressure: 250 psig/17.5 bar max.

Air Flow: 5.0 scfm @ 50 psig; 9.5 scfm @ 100 psig; 230 l/min @ 6 bar

Mounting: Direct or in-line

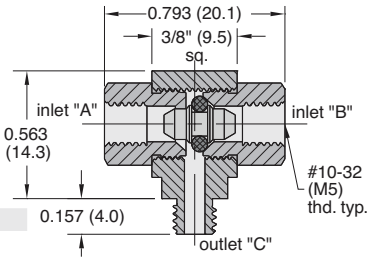
Operation: Flow from "A" to "C" or "B" to "C"

Pressure to Shift: 1/2 psig approx.

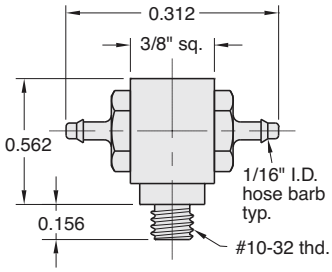
Exhaust: Through port where pressure was last applied

Note: Shuttle valves should not be used as a pressure selector

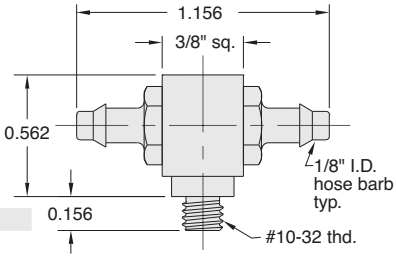
Part No.
MSV-1
MSV-1-M5



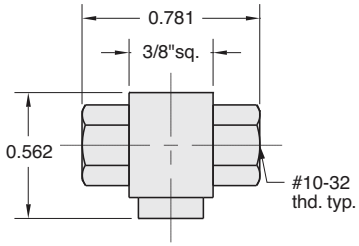
Part No.
MSV-1M22



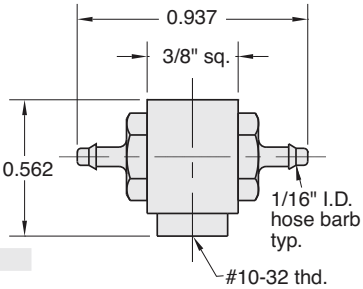
Part No.
MSV-1M44



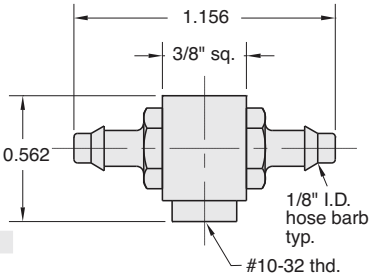
Part No.
MSV-1FFF



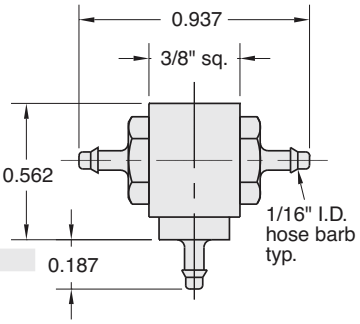
Part No.
MSV-1F22



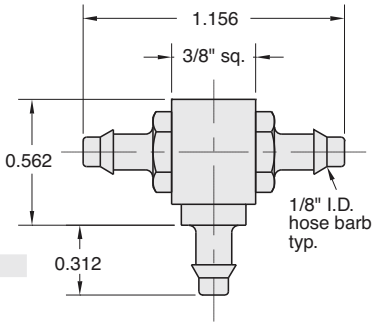
Part No.
MSV-1F44



Part No.
MSV-1222

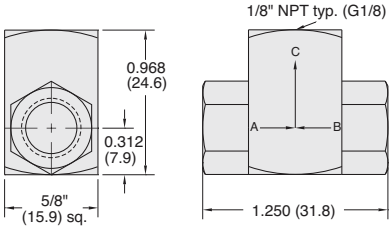


Part No.
MSV-1444



Poppet Type Shuttle Valves

Brass body, Delrin Poppet, Buna-N seal



Medium: Air, Water or Oil

Input Pressure: 300 psig/21 bar - air; 1,000 psig/70 bar - hydraulic

Air Flow: 14 scfm @ 50 psig; 26 scfm @ 100 psig; 630 l/min @ 6 bar

Mounting: Direct or in-line

Operation: Flow from "A" to "C" or "B" to "C"

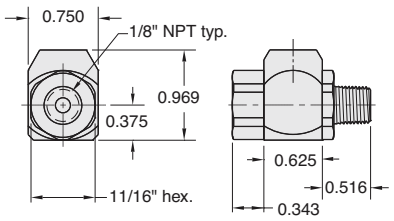
Pressure to Shift: 1/2 psig approx.

Note: Shuttle valves should not be used as a pressure selector

Part No.	Description
MJSV-1	Poppet Shuttle Valve, 1/8" NPT
MJSV-1-MG	Poppet Shuttle Valve, G1/8

J-Series Shuttle Valves

Part No.
JSV-2FPF



Poppet type shuttle (double check) valve. Brass body, stainless steel shuttle, Buna-N seal

Medium: Air, Water or Oil

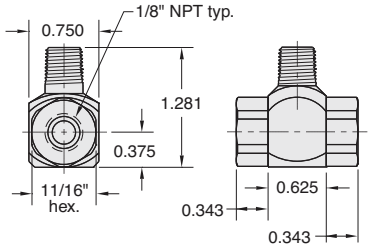
Input Pressure: 300 psig max.

Air Flow: 30 scfm @ 50 psig
50 scfm @ 100 psig

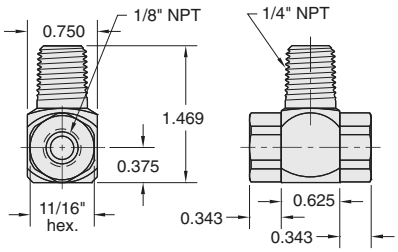
Mounting: Direct or in-line

Pressure to Shift: 1 psig approx.

Part No.
JSV-2PFF



Part No.
JSV-2WFF



Part No.
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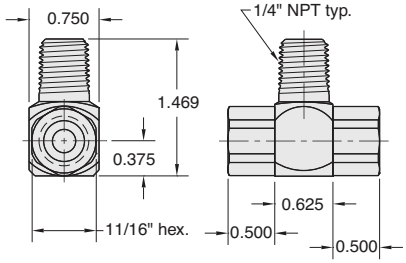

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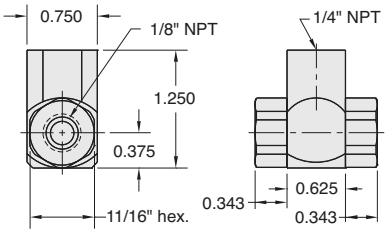

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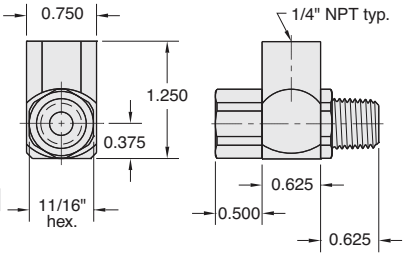

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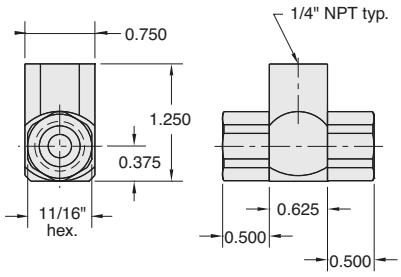


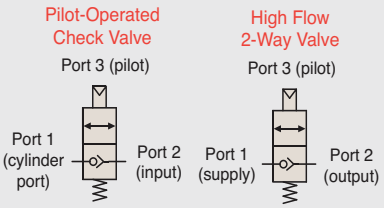
NEW! Pilot-Operated Check Valves

Medium: Air, Water or Oil
Pressure Range: 0 to 300 psig; 0 to 21 bar (see chart below)
Temperature Range: 32 to 230°F (0 to 110°C)
Materials: ENP brass, anodized aluminum, stainless steel, Buna-N seals

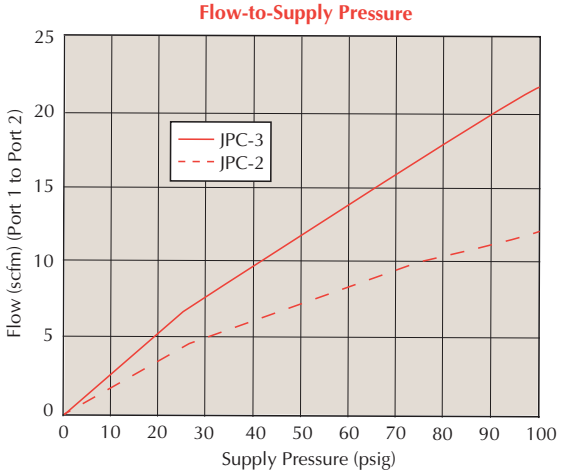
Pilot-Operated Check Valves work as standard check valves, but can be opened with an air pilot signal to permit free flow in the normally "checked" direction. The Clippard Pilot-Operated Check Valve provides the user with a reliable method to check flow in one direction, with the ability to remotely signal a free flow through the valve. Ideal for any circuit that requires this useful function—all in one valve that is easy to connect!

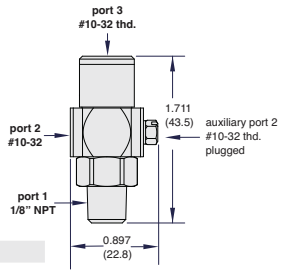
For specialty options such as various seal materials, manual override, or specific pilot to supply ratios, please consult factory.

Function/Porting Options

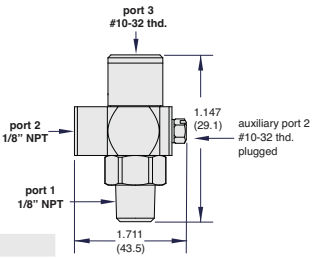


- *High flow valve means low pressure drop*
- *Uses Clippard's superior poppet design*
- *Variety of port configurations available*
- *"Auxiliary" port allows ease of plumbing*
- *Side port (port 2) rotates for ease of positioning*

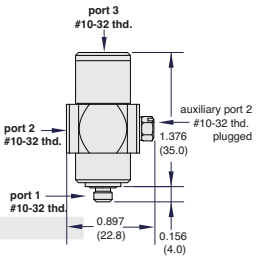




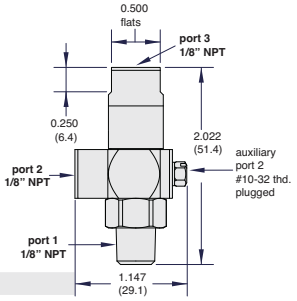
Part No.
JPC-2NPN



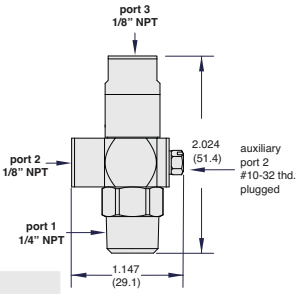
Part No.
JPC-3FPN*



Part No.
JPC-2NLN



Part No.
JPC-3FPF*



Part No.
JPC-3FQF*

** Also available in corrosion-resistant materials. Add "CR-" to the beginning of the Part No.*

Miniature Pulse Valves

A Normally-Open 3-way valve that closes shortly after being pressurized and remains closed until supply pressure is exhausted and repressurized. Widely used in control circuits.

Medium: Air

Input Pressure: 40 to 150 psig/20 bar max.

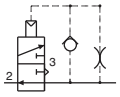
Mounting: 1/8″ NPT (G1/8) thread; nut furnished

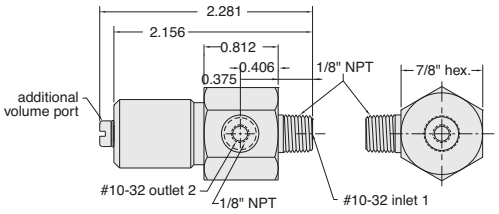
Volume Chamber: #10-32 (M5)

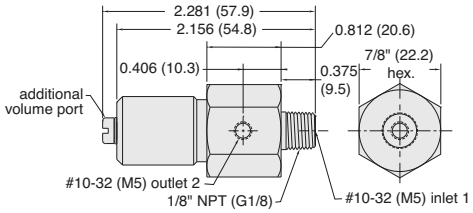
Operation: Converts a continuous supply of inlet air into a pulse of approximately 100 milliseconds

Response: 300 cycles per minute; time delay may be increased by adding standard Clippard volume chambers not to exceed 3 cu. in.

Construction: Body - ENP brass, Seals - Buna-N rubber, Spring - stainless steel, Poppet - Delrin®



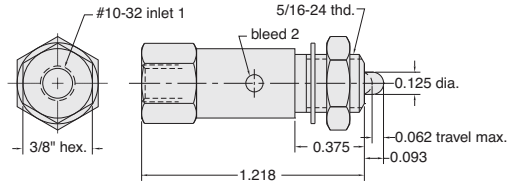


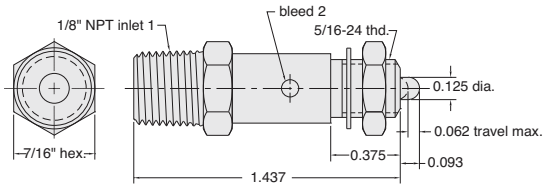


Part No.	Description
PV-1	Pulse Valve, #10-32
PV-1-M5	Pulse Valve, M5 Metric
PV-1P	Pulse Valve, 1/8″ NPT

Normally-Closed 2-Way Pilot Sensor

For use with pressure piloted control circuits, can repeatedly detect a position within 0.005″ properly mounted. In jigs or fixtures it will signal correct position and start-ok to control circuit.





Medium: Air

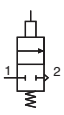
Stem Travel: 1/16″ max. (will open and close in as little as 0.005″)

Input Pressure: 300 psig max.

Air Flow: 3 scfm @ 50 psig; 6 scfm @ 100 psig

Force For Full Stem Travel: 7 oz. nominal

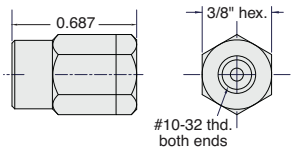
Mounting: #15/16-24 thread. Nut and lockwashers furnished



Part No.	Description
MPS-2	Poppet Valve with Pilot Sensor, #10-32
MPS-2P	Poppet Valve with Pilot Sensor, 1/8″ NPT

In-Line Fixed Orifice Air Chokes

Each choke is calibrated for precise flow



Medium: Air

Material: Brass

Working Range: 0 to 300 psig max.

Part No.	Description
MAC-A	Air Choke, 0.0135″ Hole, Yellow Disk
MAC-B	Air Choke, 0.010″ Hole, Green Disk
MAC-C	Air Choke, 0.0075″ Hole, Blue Disk
MAC-D	Air Choke, 0.006″ Hole, Red Disk

Additional Valve Specifications

Materials: Brass body, Buna-N seals, stainless steel stem and spring

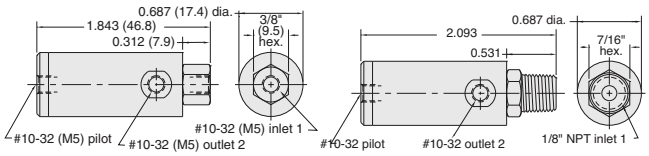
Temperature Range: 32 to 230°F (0 to 110°C)

Options: Consult the factory concerning the price and availability of the following standard options:

ENP - Electroless Nickel Plating
M5 - M5 x 0.8 threaded ports
MG - G1/8 ports
E - EPDM Seals
V - Viton Seals

Piloted Actuated Water Drawback Valves

When this Normally-Closed valve closes a spring biased internal piston draws back a small volume on outlet side (approx. 6-7″ in 1/8″ I.D. tube) thus preventing overflow or dribbles. Ideal for use in quenching or water spray applications.



Medium: Water or Other Light Liquids

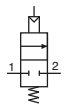
Input Pressure: 100 psig/10 bar max.

Pilot Pressure: 25 psig min.

Flow: 74 cu. in. H_2O per min. @ 80 psig

Drawback: 0.07 cu. in. (1.2 ml)

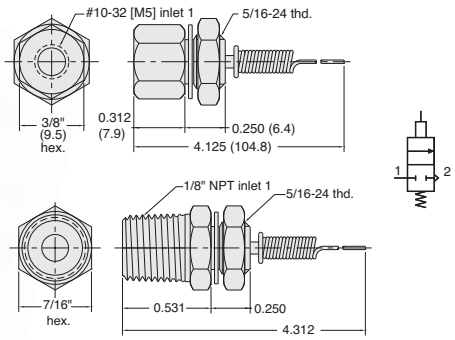
Mounting: Mounts in-line



Part No.	Description
WDV-2	Poppet Valve with Air Pilot, #10-32
WDV-2-M5	Poppet Valve with Air Pilot, M5
WDV-2P	Poppet Valve with Air Pilot, 1/8″ NPT

2-Way Normally-Closed Whisker Valve

For use with bleed pressure piloted control circuits. Coil spring stainless steel whisker is easily replaceable and can be formed to different shapes.



Medium: Air

Input Pressure: 150 psig/10 bar max.

Air Flow: 1.0 scfm @ 50 psig; 1.5 scfm @ 100 psig

Force For Full Stem Travel: 1/4 oz. approx.

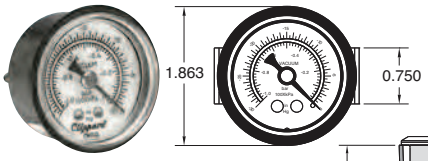
Mounting: 5/16-24 male thread. Nut and lock washers furnished

Bleed: To atmosphere around whisker stem

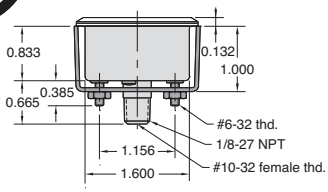
Whisker: Stainless steel, approx. 3″ (76.2) length. Replacement Part No. 12375

Part No.	Description
MWV-1	Normally-Closed Whisker Valve, #10-32
MWV-1-M5	Normally-Closed Whisker Valve, M5
MWV-1P	Normally-Closed Whisker Valve, 1/8″ NPT

Vacuum Gauge



Gauge measures pneumatic vacuum pressure. Mounting bracket included.



Range: Scale reading from 0 to 30″ Hg. and 0 to -1 bar

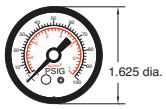
Construction: Nickel-plated steel case. Plastic face. Dial shows two ranges; Hg in black. bars in red. Built-in pressure snubber.

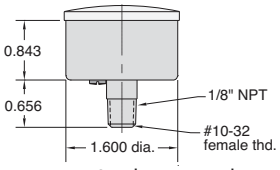
Ports: Connection located at rear is double threaded O.D. - male thread 1/8″ NPT, I.D. - tapped for #10-32 fitting

Mounting: Stud mount using 1/8″ NPT center stud or panel mount using the zinc plated steel bracket supplied.

Part No.	Description
VG-30	Vacuum Gauge

Pressure Gauges





Gauge measures pneumatic system pressure. Stud mounted.

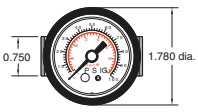
Range: Scale reading from 0 to 100 psig and 0 to 6.9 bar

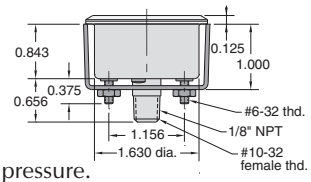
Construction: Steel case. Plastic face. Dial shows two ranges; psig in black. Bars in red. Built-in pressure snubber.

Ports: Connection located at rear is double threaded O.D. - male thread 1/8″ NPT; I.D. - tapped for #10-32 fitting

Mounting: Direct with 1/8″ NPT

Part No.	Description
PG-101-BK	Pressure Gauge, Black Case
PG-101-NP	Pressure Gauge, Nickel-Plated





Gauge measures pneumatic system pressure. Mounting bracket included.

Input Pressure: Scale reading from 0 to 100 psig and 0 to 6.9 bar

Construction: Nickel-plated steel case. Plastic face. Dial shows two ranges; psig in black. Bars in red. Built-in pressure snubber.

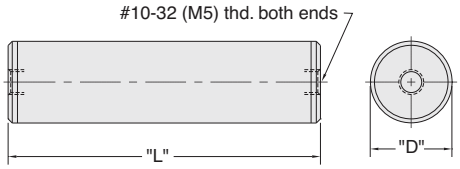
Ports: Connection located at rear is double threaded O.D. - male thread 1/8″ NPT I.D. - tapped for #10-32 fitting

Mounting: With zinc plated steel bracket supplied

Part No.	Description
PG-100	Pressure Gauge

In-Line Volume Chamber

Used for providing a time delay in pneumatic circuits



Volume CU. IN.	Volume Chamber
0.1	MAT-.1
0.25	MAT-.25
0.50	MAT-.50
1.0	MAT-1.0
1.2	R-821
2.0	MAT-2.0
2.4	R-821 (2)
3.6	R-821 (3)
4.0	MAT-4.0

The time delay of the PV-1, PV-1P and R-711 may be increased by adding standard Clippard volume chambers. The charts show total TIME versus VOLUME for these combinations.

Suffix	Bore	"L"	"D"	Cu.In
0.1	3/8"	1.265"	0.437"	0.1
0.25	3/8"	2.640"	0.437"	0.25
0.5	9/16"	2.390"	0.625"	0.5
1.0	9/16"	4.390"	0.625"	1.0
2.0	15/16"	3.328"	1"	2.0
4.0	15/16"	6.234"	1"	4.0

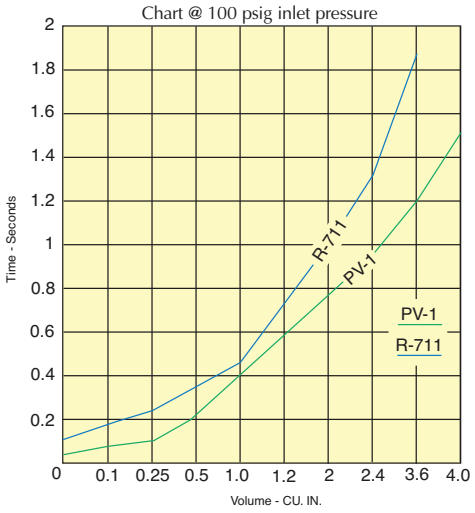
Time in Seconds Volume	PV-1	R-711
0	0.042	0.117
0.1	0.074	0.180
0.25	0.124	0.245
0.5	0.210	0.350
1.0	0.390	0.450
1.2	0.580	0.700
2.0	0.760	1.000
2.4	0.950	1.300
3.6	1.200	1.900
4.0	1.500	N.R.

R-821 volume charts are shown in the Modular Section of this catalog.

Medium: Air only **Material:** Brass

Input Pressure: 150 psig/10 bar max.

Mounting: Direct or in-line; Mounting clamp with MAT-20 and MAT-4.0

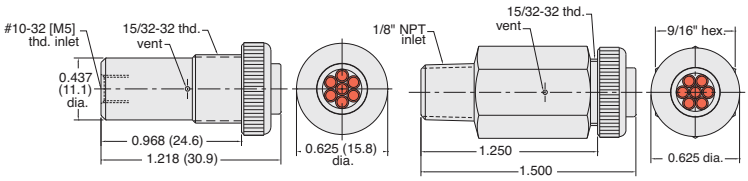


Part No.	Description
MAT-(size)	In-Line Volume Chamber, #10-32
MAT-(size)-M5	In-Line Volume Chamber, M5

Specify Size per Chart

Multi-Pin Air Indicator

Plunger type (when extended 7-pin color display signals "on")



Medium: Air Only

Input Pressure: 150 psig/1 to 10 bar max.

Minimum Actuation Pressure: 15 psig approx.

Response: Approx. 10 milliseconds @ 50 psig

Filtration: 40 micron recommended

Mounting: IND-3: Panel mount in hole. #15/32-32 nut and lockwasher provided; IND-3P: Direct mount into 1/8" NPT hole

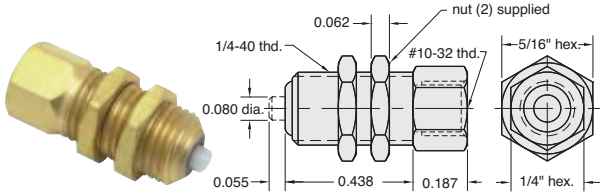
Maximum Panel Thickness: 3/16" (4.8)

Part No.	Description
IND-3-(color)	Multi-Pin Air Indicator, #10-32
IND-3-M5-(color)	Multi-Pin Air Indicator, M5
IND-3P-(color)	Multi-Pin Air Indicator, 1/8" NPT

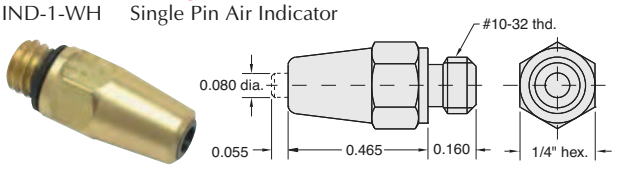
GN-Green, WH-White, RD-Red, YL-Yellow

Single Pin Air Indicator

Plunger type (when extended white pin display signals "on")



Part No.	Description
IND-1-WH	Single Pin Air Indicator



Part No.	Description
IND-1M-WH	Single Pin Air Indicator

Medium: Air Only

Input Pressure: 150 psig max.

Minimum Actuation Pressure: 12 psig approx.

Response: Approx. 10 milliseconds @ 50 psig

Filtration: 40 micron recommended

Mounting: IND-1-WH: Panel mount 1/4 dia. hole. 1/4-40 thd. nuts provided. IND-1M-WH: Direct mount into #10-32 port

Maximum Panel Thickness: 3/16"

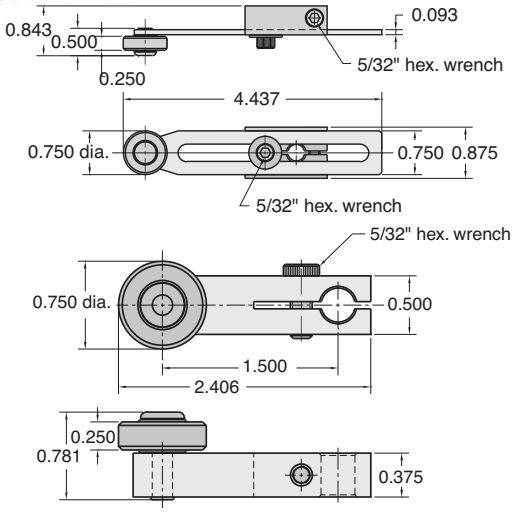
Heavy-Duty Limit Valves

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 a Clippard series cartridge valve (MJV-2C or 3C, MJVO-2C or 3C) made of brass and stainless steel with Buna-N seals. Valve cartridge is easily replaced in minutes. Three different style actuator arms are available as shown below.

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

Roller Actuator Arms

Roller Actuator Arms are ideal for Clippard heavy-duty air limit valves.



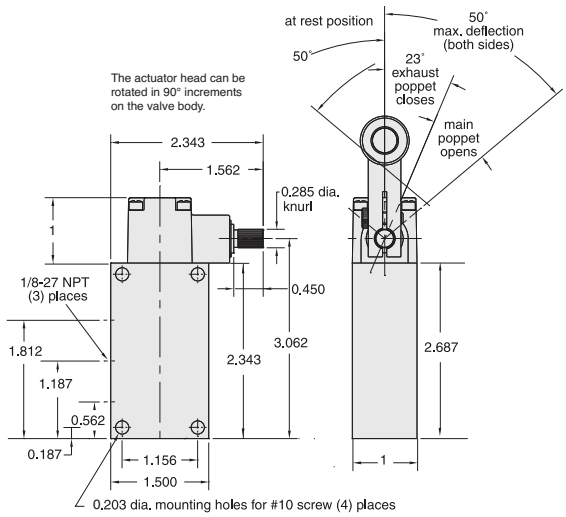
Arm: Aluminum base with steel extendable arm (AR-L only)

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 within a 360° circle.

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



Medium: Air

Stem Travel: Actuator arm may move 50° in either direction

Input Pressure: 300 psig max.

Air Flow: 10 scfm @ 50 psig; 19 scfm @ 100 psig

Torque to Actuate: 3 in./lbs.

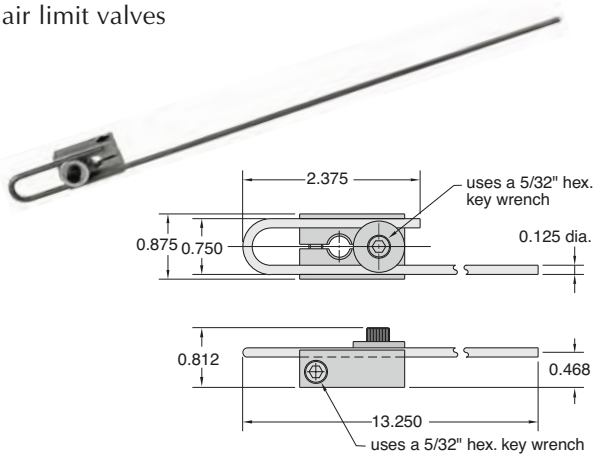
Actuation Range: 0 to 23° Off, 23 to 50° On, Maximum travel 50°

Mounting: Four 13/64″ dia. mounting holes provided in valve body for use with #10 screw, or for tapping 1/4-20 by customer

Ports: Inlet - 1/8-27″ NPT, Outlet - 1/8-27″ NPT, Exhaust - 1/8-27″ NPT for convenience in porting away exhaust air or attaching muffler; it should not be restricted; exhaust port is not used on 2-ways

Adjustable Rod Actuator Arm

Adjustable Rod Actuator Arm for Clippard heavy-duty air limit valves



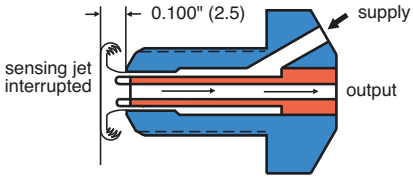
Arm: Steel 1/8″ rod 13″ long retained by screw clamp; the rod may be shortened and/or bent to desired shape

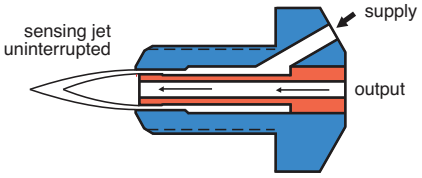
Mounting: Slotted aluminum mounting clamp may be positioned on limit valve shaft in any direction within a 360° circle

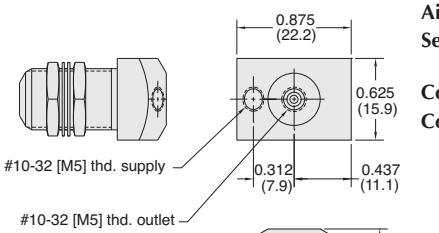
Part No.	Description
AR-M	Rod Actuator Arm

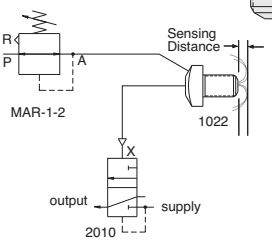
Non-Contact Air Proximity Switch

Non-Contact Air Proximity Switch with no moving parts; will sense any flat or curved object which presents a sensing surface of 1/4″ or more to the sensing nozzle

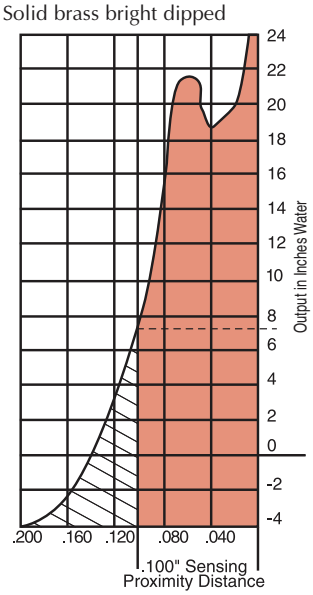








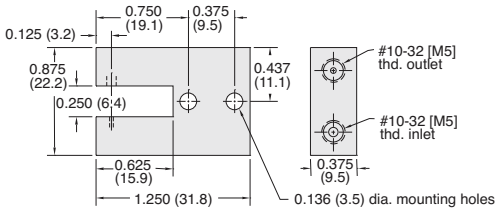
Medium: Air
Input Pressure: 4 to 10 psig/0.3 to 0.7 bar
Nominal Proximity Distance: 0.100″
Output Signal at 4 psig supply: Normal: -2″ H_2O actuated: 7 1/2″ H_2O
Frequency Response: 500 CPM
Air Consumption: 0.3 scfm
Sensing Capability: Flat or curved surfaces with 1/8″ minimum radius
Connections: #10-32 (M5) female
Construction: Solid brass bright dipped

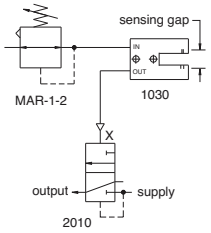


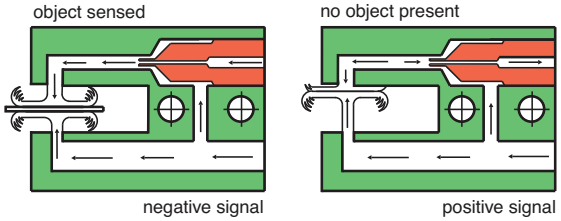
Part No.	Description
1022	Non-Contact Air Limit Switch, #10-32
1022-M5	Non-Contact Air Limit Switch, M5

Non-Contact Gap Sensor

Non-Contact Gap Sensor will sense any flat or round object with a 1/32″ minimum radius. Produces a positive signal when no object is present and a negative signal when an object interrupts its sensing system







Medium: Air

Input Pressure: 0.5 to 5 psig

Output: -3″ to 26″ H_2O @ 4 psig

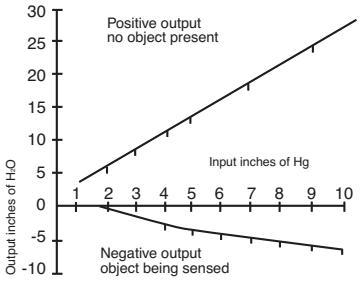
Frequency Response: 1,000 cpm

Air Consumption: 1/4 scfm @ 4 psig

Sensing Capability: Flat or curved surfaces with 1/32″ minimum radius. May be used for up to 4″ gap with an additional auxiliary jet

Connections: #10-32 (M5) female

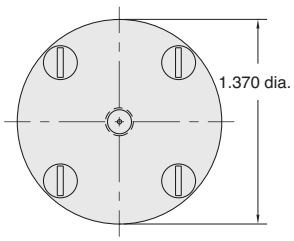
Construction: Solid brass bright dipped

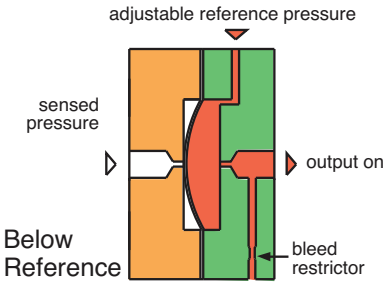


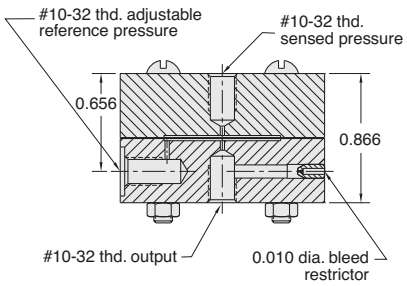
Part No.	Description
1030	Non-Contact Positive Pressure Sensor, #10-32
1030-M5	Non-Contact Positive Pressure Sensor, M5

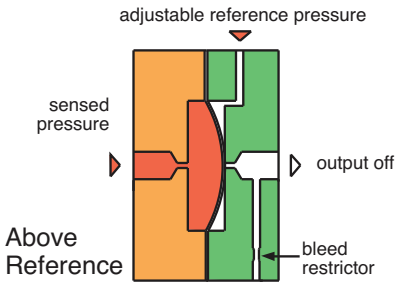
Normally-On Single Stage Pressure Repeater

Normally-On Single Stage Pressure Repeater for off-on control of an adjustable reference pressure when a sensed pressure moves above or below the reference pressure level









Medium: Reference pressure - air sensed pressure - Air, gas, or liquid

Input Pressure: 1 to 150 psig max.

Air Flow: 0.029" orifice

Response Time: 5 milliseconds

Differential Sensitivity: 2%

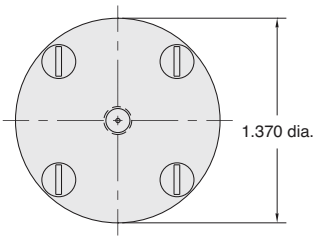
Frequency Response: 60 Hz

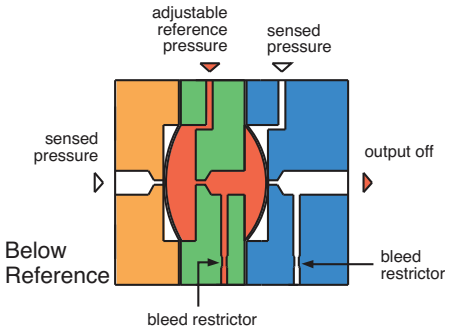
Materials: Anodized aluminum body, Buna-N diaphragms

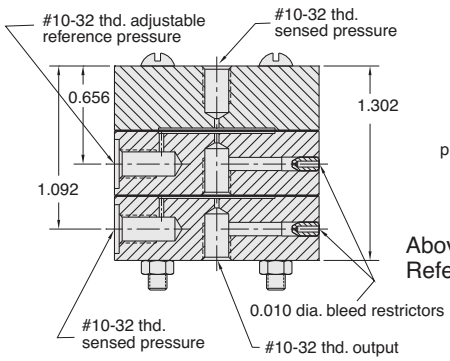
Part No.	Description
1043	Single Stage Pressure Repeater

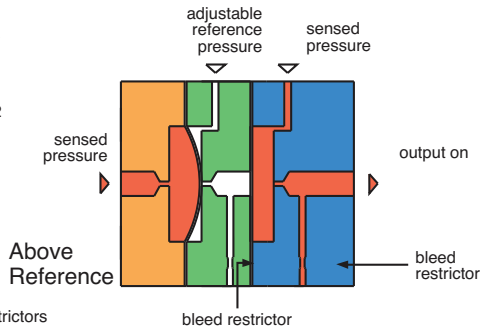
Normally-Off Two Stage Pressure Repeater

Normally Off Two Stage Pressure Repeater for off-on control of an adjustable reference pressure when a sensed pressure moves above or below the reference pressure level









Medium: Reference pressure - air sensed pressure - Air, gas, or liquid

Input Pressure: 1 to 150 psig max.

Air Flow: 0.029" orifice

Response Time: 5 milliseconds

Differential Sensitivity: 2%

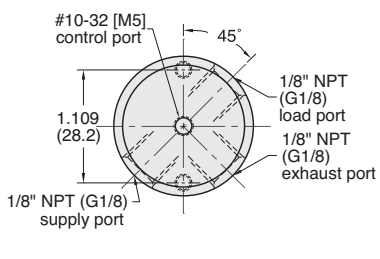
Frequency Response: 60 Hz

Materials: Anodized aluminum body, Buna-N diaphragms

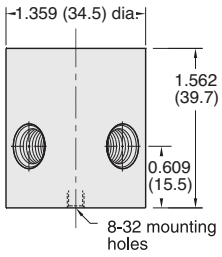
Part No.	Description
1044	Two Stage Pressure Repeater

3-Way Normally-Closed Amplifier Valves

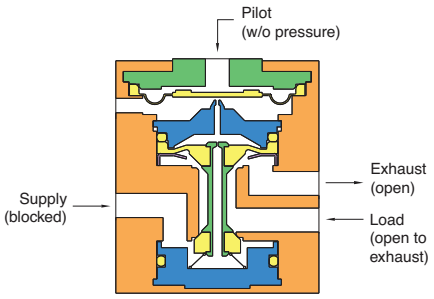
3-Way Valve Normally-Closed Interface amplifies very low pressure air-jet sensing signals to working power levels



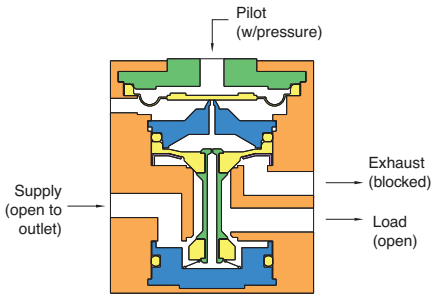
Top View



Side View



Valve Closed



Valve Open

Medium: Air

Material: Anodized aluminum body, Buna-N diaphragms

Input Pressure: 30 to 100 psig/ 2 to 7 bar max.

Air Flow: 22 scfm @ 100 psig; 530 l/min @ 6 bar

Pilot Pressure: 4″ H_2O @ 100 psig

Maximum Allowable Pilot Pressure: 5 psig

Response Time: 10 milliseconds dead headed

Operating Speed: 50 Hz

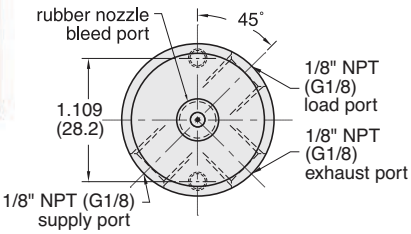
Bleed: 0.1 scfm @ 100 psig

Ports: Load - 1/8″ NPT (G1/8) female
Supply - 1/8″ NPT (G1/8) female
Exhaust - 1/8″ NPT (G1/8) female
Control - #10-32 (M5) female

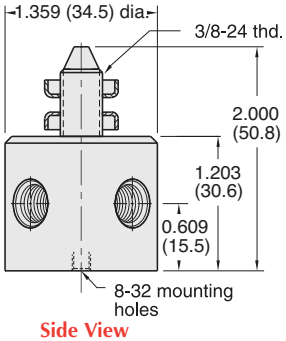
Part No.	Description
2010	Normally-Closed Interface, 1/8″ NPT
2010-MG	Normally-Closed Interface, G1/8

3-Way Bleed Pressure Piloted Limit Valves

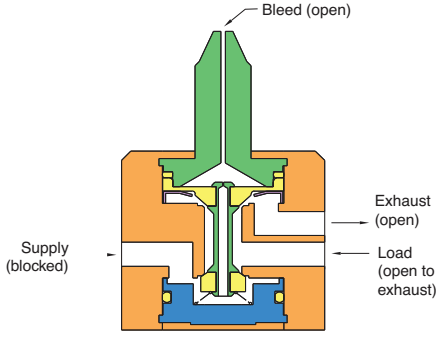
3-Way Bleed Pressure Piloted Limit Valve; blocking of the sensing port causes rapid valve opening



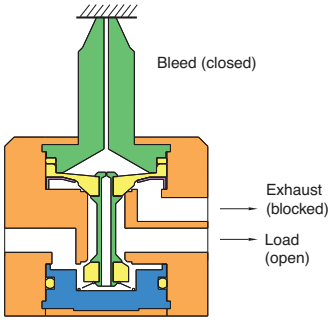
Top View



Side View



Valve Closed



Valve Open

Medium: Air

Material: Anodized aluminum body, Buna-N diaphragms

Input Pressure: 30 to 100 psig/ 2 to 7 bar max.

Air Flow: 22 scfm @ 100 psig; 530 l/min@ 6 bar

Bleed: 0.1 scfm @ 100 psig

Response Time: 15 milliseconds

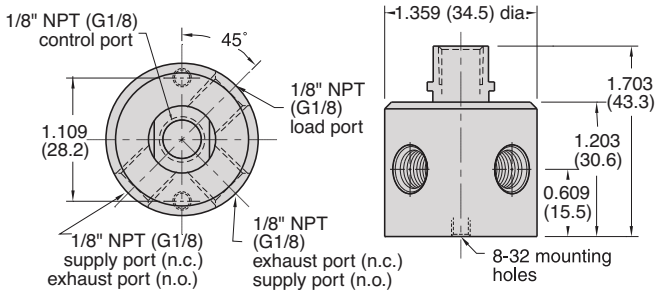
Ports: 1/8″ NPT (G1/8)

Note: Supplied with threaded bulkhead mount and integral rubber nozzle for direct actuation by mechanical closure. By removing rubber nozzle and inserting a #10-32 fitting and length of hose, 2011-1 can be converted to a remote sensing valve.

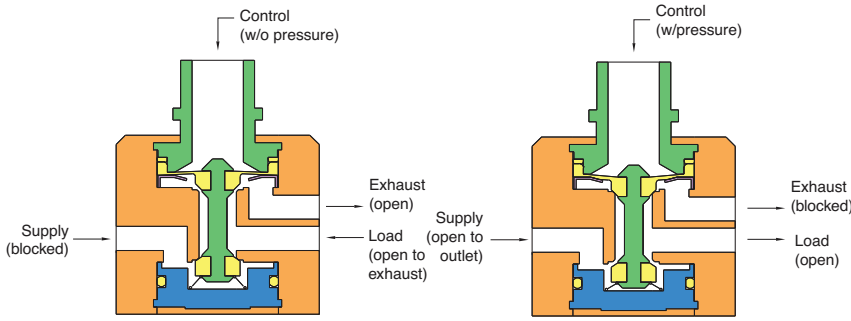
Part No.	Description
2011-1	Piloted Limit Valve, 1/8″ NPT
2011-1-MG	Piloted Limit Valve, G1/8

Special Piloted 3-Way Valves

3-Way N.O. or N.C. Air-Piloted Valves



Top View | Side View



Valve Closed | Valve Open

Medium: Air

Material: Anodized aluminum body, Buna-N diaphragms

Input Pressure: 1 to 100 psig/7 bar max.

Air Flow: 22 scfm @ 100 psig; 530 l/min @ 6 bar

Minimum Pilot Pressure:
N.O. - 90% of supply pressure
N.C. - 60% of supply pressure

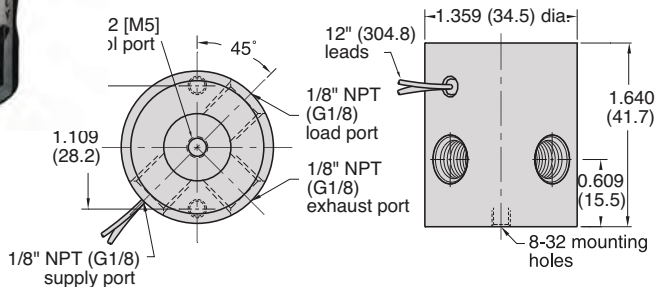
Response Time: 15 milliseconds after pilot pressure reaches switch point

Operating Speed: 1,100 CPM

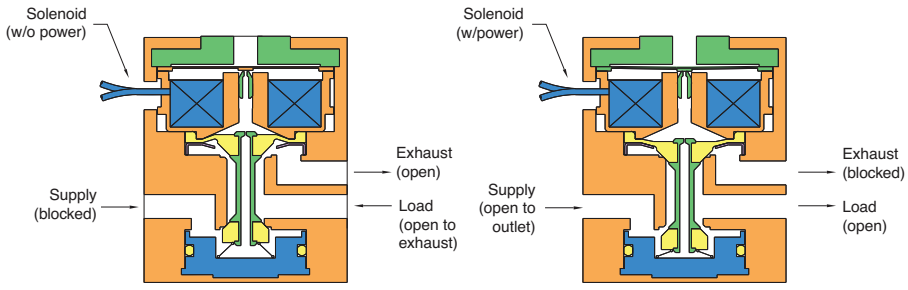
Part No.	Description
2012	Piloted Valve, 1/8" NPT
2012-MG	Piloted Valve, G1/8
2012-VAC	Valve for Vacuum Operation (requires positive pressure pilot signal)
2012-G	Valve for Liquid Adhesives (silicone diaphragm and seals), 1/8" NPT
2012-G-MG	Valve for Liquid Adhesives (silicone diaphragm and seals), G1/8

3-Way N.O. or N.C. Electronically Piloted Valves

3-Way Normally-Closed Electronic Valve with low-power DC solenoid can be directly converted to high pressure pneumatic power without electronic amplification.



Top View | Side View



Valve Closed | Valve Open

Medium: Air

Material: Anodized aluminum body, Buna-N diaphragms

Input Pressure: 30 to 100 psig/2 to 7 bar max.

Air Flow: 22 scfm @ 100 psig 530 l/min @ 6 bar

Bleed: 0.1 scfm @ 100 psig

Filtration: 10 micron

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

Switching Speed: 10 milliseconds

Leads: 28 gauge stranded PVC insulated

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

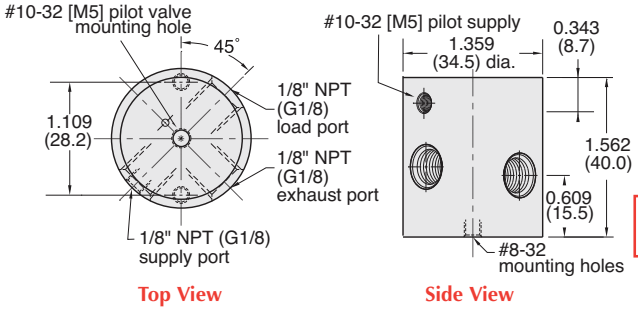
Power Consumption: less than 0.50 watts at rated voltage 80 ma. @ 6V 40 ma. @ 12V 20 ma. @ 24V

Part No.	Description
2013-6	Valve, 6 Volts DC, 1/8" NPT
2013-12	Valve, 12 Volts DC, 1/8" NPT
2013-24	Valve, 24 Volts DC, 1/8" NPT
2013-6-MG	Valve, 6 Volts DC, G1/8
2013-12-MG	Valve, 12 Volts DC, G1/8
2013-24-MG	Valve, 24 Volts DC, G1/8

3-Way Normally-Closed Pressure Piloted Valve

Designed to be piloted by a Clippard EV or ET manifold mount electronic valve. Output from the EV/ET actuates the valve to produce outputs up to 22 scfm at 100 psig. Combines low wattage, long life and cool running of the EV/ET valves with quick response and high flow of Clippard booster type valves.

The 2020 and 2021 are identical in all respects except one. The 2020 has an external #10-32 (M5) port for the pressure supply to the EV/ET electronic pilot valve. The 2021 has an internal pressure supply to the EV/ET.



2020 shown with ET Pilot Valve and external pilot supply

Medium: Air

Input Pressure: 30 to 100 psig; 2.7 to 7 bar max.

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

Pilot Pressure: 60% of supply pressure, minimum

Response Time: Approx. 20 milliseconds

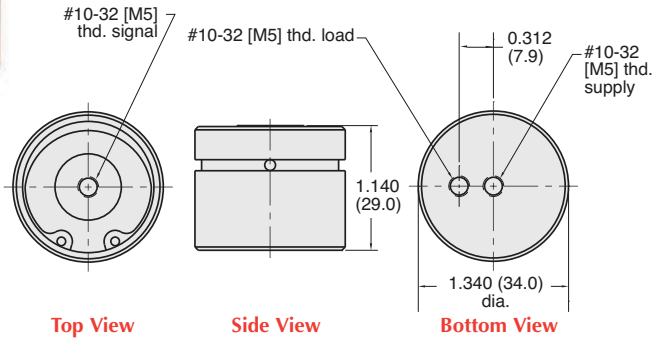
Mounting: Mounting holes provided

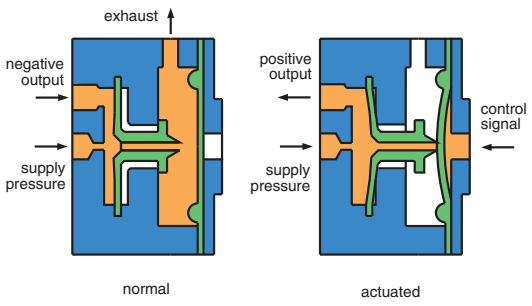
Materials: Anodized aluminum, stainless steel

Part No.	Description
2020	Piloted Valve, 1/8" NPT
2020-MG	Piloted Valve, G1/8
2021	Piloted Valve, 1/8" NPT
2021-MG	Piloted Valve, G1/8

Pressure Piloted Snap Action Amplifying Valve

Provides a sharp, clean output signal, even with slow-changing pressure input signals; output is stabilized without chatter or oscillation.





Medium: Air

Input Pressure: 3 to 100 psig; 0.2 to 7 bar max.

Minimum Pilot Pressure: 1.5" H_2O psig

Maximum Pilot Pressure: 1 psig (28" H_2O")

Air Flow: 0.18 scfm @ 100 psig; 5 l/min @ 6 bar

Bleed Orifice Diameter: 0.010"

Part No.	Description
3200-A	Amplifying Valve, #10-32
3200-A-M5	Amplifying Valve, M5

6-Digit Pneumatic Totalizing Counter

The PT-1SM is a 6-digit pneumatic totalizing counter. A pneumatic signal or impulse adds the value of 1 to the display. When the indicator reaches its maximum value, the counter starts again at zero The counter my be reset manually be depressing the reset push button, or by an air impulse. The counter is useful for event recording, piece or part counting, for indicating program steps, cycle counting, machine time logging, and many other purposes. The PT-1SM is designed for surface mounting.

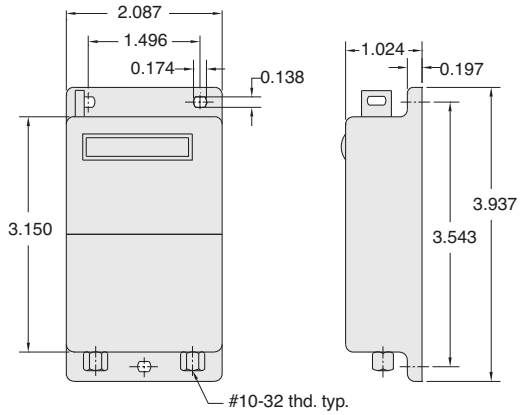
Display: 6 figures, numerals 0.080" to 0.160"

Medium: Filtered compressed air containing no oil

Reset: Manual push button and pneumatic spring return

Input Pressure: 30 to 120 psig

Mounting: Surface mount

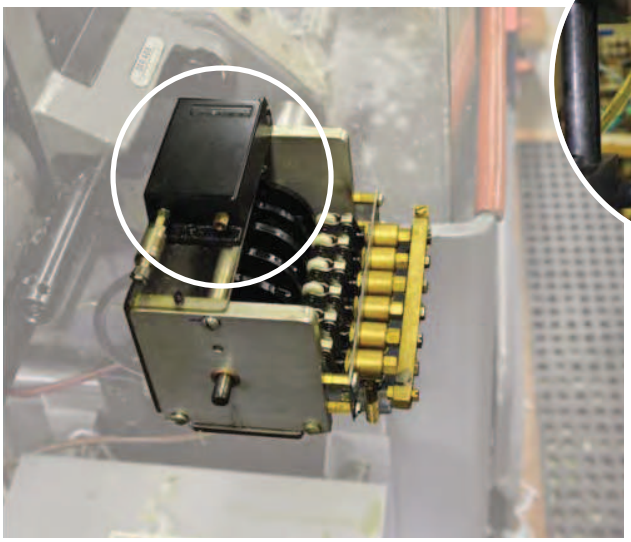


Part No.	Description
PT-1SM	6-Digit Pneumatic Totalizing Counter

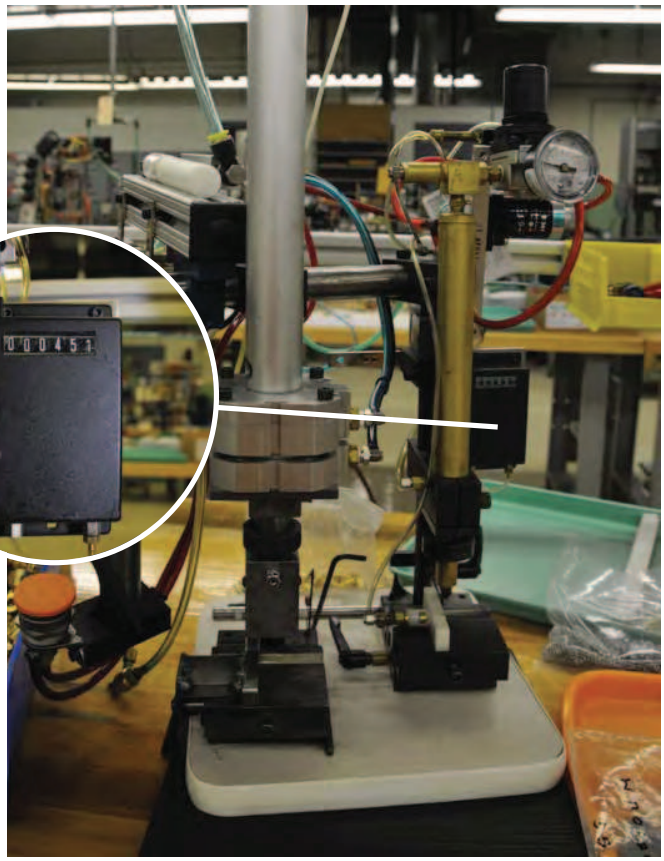
Pneumatic Counter Solutions

Pneumatic counters are used in a variety of pneumatic applications including filling machines, cut counting, stamping, multi-spindle operations and more. They count pulses generated by cylinders, push buttons, pedals, and other actuation devices.

Clippard's 6-digit totalizing counter can be found in many places throughout their manufacturing operations.



4-Spindle Turret Operation



Date Stamping Operation

Quick Exhaust Valve Application

In a typical application the exhaust valve is installed in the inlet of a spring return or double acting pneumatic cylinder.

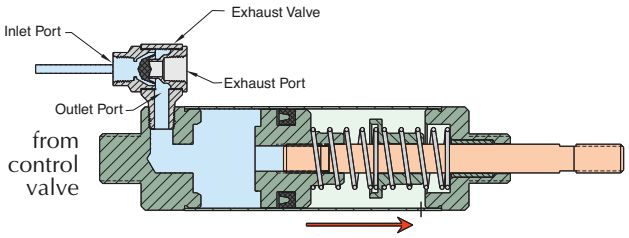
Supply air from a control valve is directed into the inlet port of the exhaust valve. The Buna-N poppet seals the exhaust port and allows air to flow from the outlet port of the valve into the cylinder.

The pressurized air pushes against the piston and extends the rod, compressing the spring, until full rod extension is achieved.

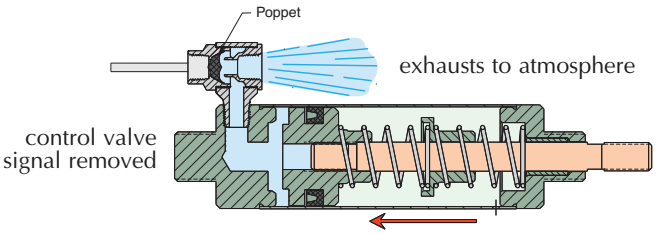
When the control valve exhausts air from the exhaust valve inlet port, the Buna-N poppet shifts to seal the inlet port and open the exhaust port to the cylinder. The pressurized air is allowed to exhaust directly through the exhaust valve to atmosphere.

Normally the air must travel back through the long air line to the control valve to exhaust. By mounting the exhaust valve directly on the cylinder, the piston retracts quickly since the distance to atmosphere is very short and unrestricted.

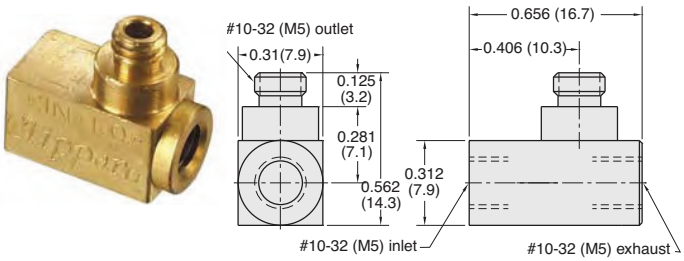
Cylinder Extends



Cylinder Retracts - *Fast!*



Poppet Quick Exhaust Valve



Part No.	Description
MEV-2	Poppet Type Quick Exhaust Valve, #10-32
MEV-2-M5	Poppet Type Quick Exhaust Valve, M5

Medium: Air

Material: Brass body, Buna-N poppet

Working Range: 15 to 150 psig/35-10 bar max.

Air Flow: 5 scfm @ 50 psig; 9 scfm @ 100 psig (exhaust rate); 220 l/min @ 6 bar

Mounting: Direct to cylinder

Pressure to Shift: @ 50 psig - opens after approx. 5 psig drop; @ 3.5 bar - opens after approx. 0.350 bar drop

Note: Not for use with cylinders larger than 7/8" dia.; moderate strokes up to 10"

Packaging Solutions

A leader in miniature pneumatics, Clippard provides the packaging industry a variety of produts and solutions. We understand the needs of this industry, and are prepared to serve you with our expanding product lines and expertise in applications.

- Conveying applications
- Case erectors
- Process solutions
- Bottle/container filling
- Palletizing
- Controls for a variety of applications

J-Series Exhaust Valves

Clippard's J-Series Exhaust Valve offers a variety of design features and provides fast response times and high flow with 1/8″ and 1/4″ NPT ports. This compact poppet type valve is constructed of brass and is 100% tested to assure the highest quality. The JEV's primary function is to increase cylinder speed. However, it also enables the use of smaller directional valves, longer control lines and can be used as a shuttle valve. 32 versions available.

Inlet Thread Size
2 - 1/8″ NPT
4 - 1/4″ NPT

Outlet Thread Type
M - Male Thread
F- Female Thread

❑ ❑ ❑ ❑ - ❑ ❑ ❑ ❑ - ❑

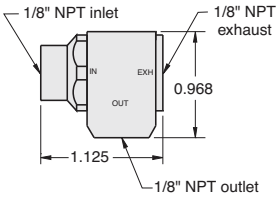
J-Series Exhaust Valve
JEV - Inlet-to-Outlet 90° Orientation
JLEV - Inlet-to-Outlet In-line Orientation

Inlet Thread Type
M - Male Thread
F- Female Thread

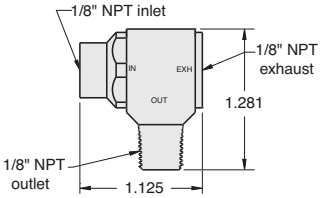
Outlet Thread Size
2 - 1/8″ NPT
4 - 1/4″ NPT

Exhaust
N - Unthreaded Exhaust

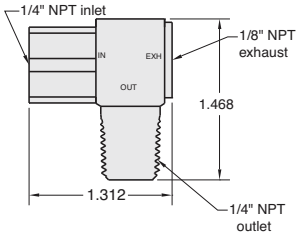
Part No.
JEV-F2F2



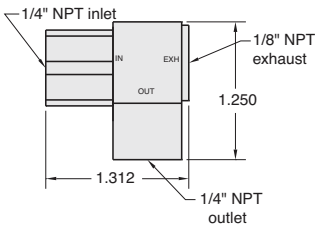
Part No.
JEV-F2M2



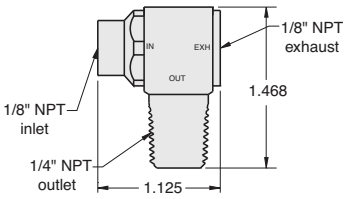
Part No.
JEV-F4M4



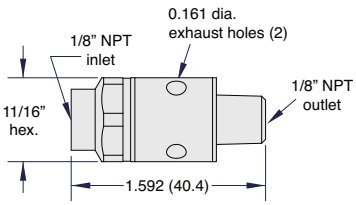
Part No.
JEV-F4F4



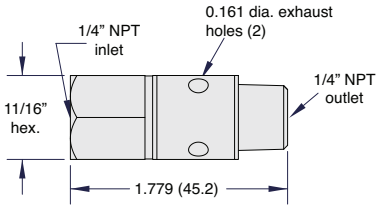
Part No.
JEV-F2M4



Part No.
JLEV-F2M2-N

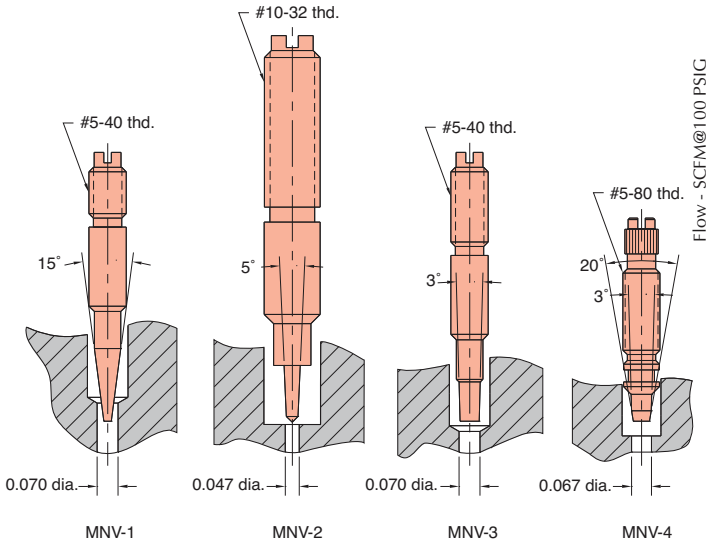


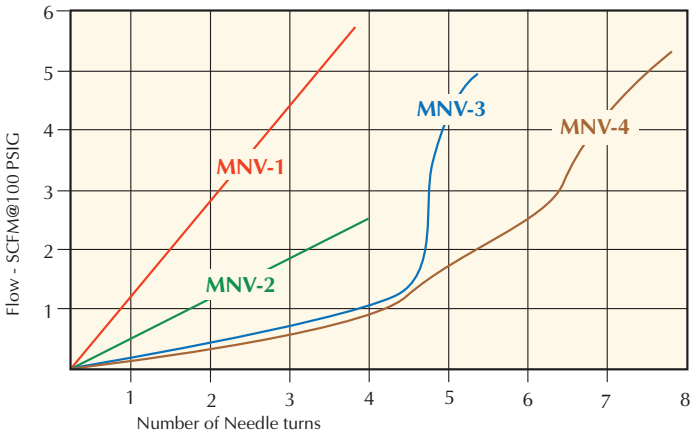
Part No.
JLEV-F4M4-N



Features

- Enables use of smaller control valves
- 15 to 150 psig maximum
- Male outlet offers direct connection to cylinder
- 36 scfm @ 50 psig and 58 scfm @ 100 psig
- Low shift ratio
- 7 standard configurations
- Custom configurations also available
- Brass construction with molded Buna-N seal





Adjustable control needle valves restrict flow in both directions. There are four models offered by Clippard, all with #10-32 ports, but with various needle configurations to provide coarse or fine flow adjustment. The diagram of needle shapes and the chart on this page show the difference between these models.

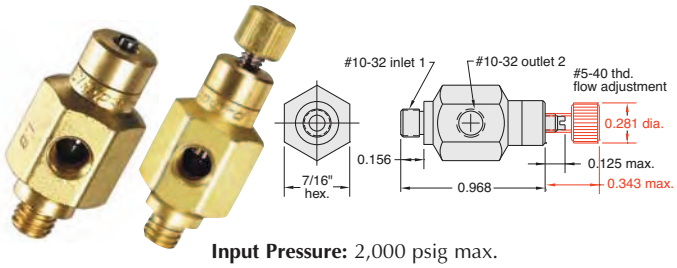
Medium: Air, Water or Oil

Materials: Brass body; stainless steel needle; Buna-N seal

Mounting: Direct, in-line or #15/32-32 thread nut and lockwashers furnished as illustrated

Adjustment: Knurled knob (clockwise adjustment provides less flow), or Screwdriver slot (clockwise adjustment provides less flow.

15° Needle Valves, #10-32

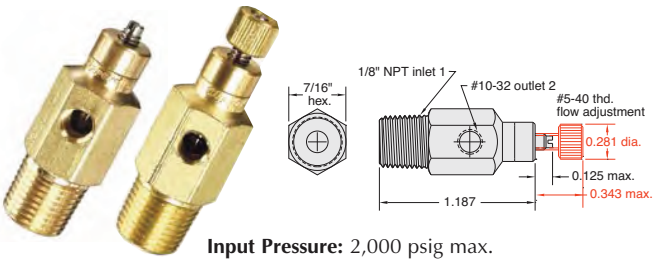


Input Pressure: 2,000 psig max.

Air Flow: 3 scfm @ 50 psig; 6 scfm @ 100 psig

Part No.	Description
MNV-1	Needle Valve, #10-32, Screwdriver Slot
MNV-1K	Needle Valve, #10-32, Knurled Knob

15° Needle Valves, 1/8" NPT

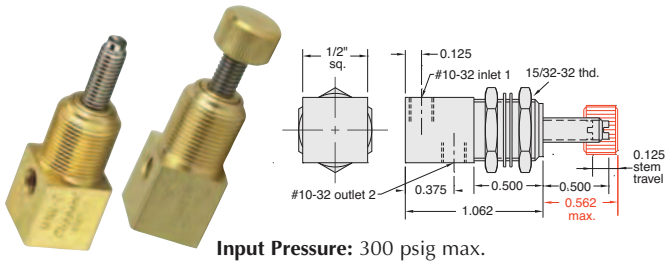


Input Pressure: 2,000 psig max.

Air Flow: 3 scfm @ 50 psig; 6 scfm @ 100 psig

Part No.	Description
MNV-1P	Needle Valve, 1/8" NPT, Screwdriver Slot
MNV-1KP	Needle Valve, 1/8" NPT, Knurled Knob

5° Needle Valves, #10-32



Input Pressure: 300 psig max.

Air Flow: 1 scfm @ 50 psig; 2.5 scfm @ 100 psig

Part No.	Description
MNV-2	Needle Valve, #10-32, Screwdriver Slot
MNV-2K	Needle Valve, #10-32, Knurled Knob

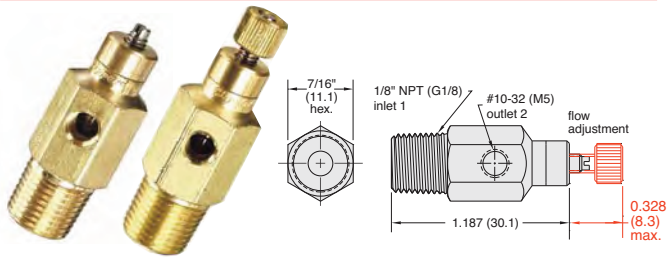
3° Needle Valves, #10-32

Input Pressure: 2,000 psig/40 bar max.

Air Flow: 2.5 scfm @ 50 psig; 5 scfm @ 100 psig; 120 l/min @ 6 bar

Part No.	Description
MNV-3	Needle Valve, #10-32, Screwdriver Slot
MNV-3-M5	Needle Valve, M5, Screwdriver Slot
MNV-3K	Needle Valve, #10-32, Knurled Knob
MNV-3K-M5	Needle Valve, M5, Knurled Knob

3° Needle Valves, 1/8" NPT

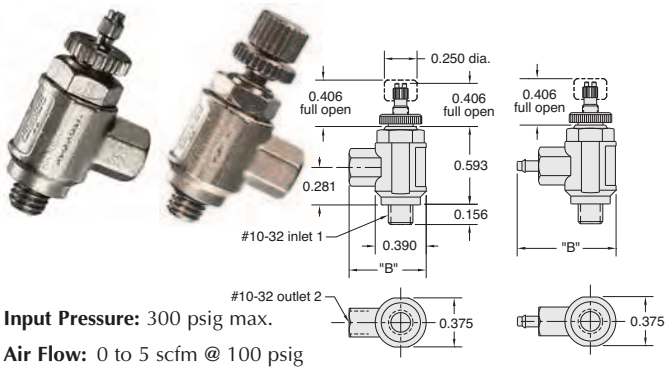


Input Pressure: 2,000 psig/40 bar max.

Air Flow: 2.5 scfm @ 50 psig; 5 scfm @ 100 psig; 120 l/min @ 6 bar

Part No.	Description
MNV-3P	Needle Valve, #10-32, Screwdriver Slot
MNV-3P-M5	Needle Valve, M5, Screwdriver Slot
MNV-3KP	Needle Valve, #10-32, Knurled Knob
MNV-3KP-M5	Needle Valve, M5, Knurled Knob

3° Needle Valves, #10-32

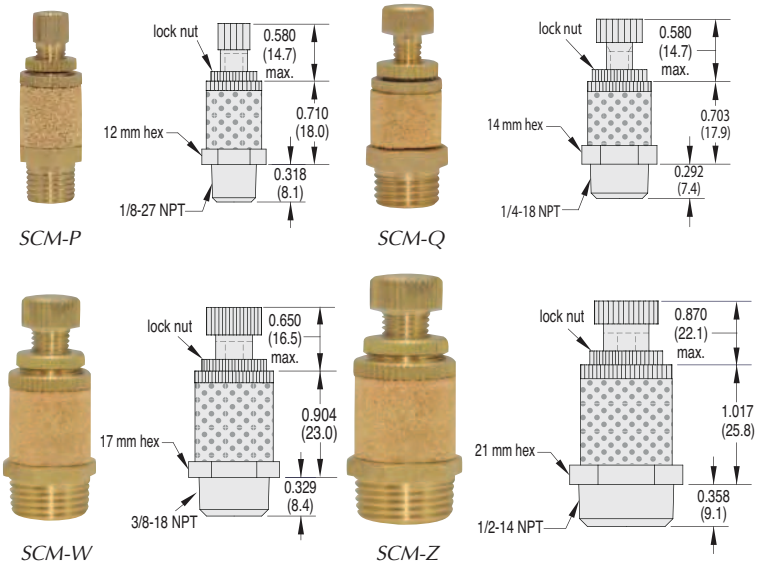


Input Pressure: 300 psig max.

Air Flow: 0 to 5 scfm @ 100 psig

Part No.	Female Part	"B"	Adjustment
MNV-4	#10-32	0.593	Knurled locking nut standard; screwdriver slot; knurled locking nut standard; clockwise adjustment of either provides less flow
MNV-41	1/16 Barb	0.750	
MNV-42	1/8 Barb	0.906	
MNV-4K	#10-32	0.593	Knurled knob; clockwise adjustment of either provides less flow
MNV-4K1	1/16 Barb	0.750	
MNV-4K2	1/8 Barb	0.906	

NEW! Speed Control Mufflers



Knurled knob length based on minimum thread engagement.

Material: Solid brass body; sintered bronze muffler (40 micron)

Part No.	Description
SCM-P	Muffler, 1/8-27 NPT
SCM-Q	Muffler, 1/4-18 NPT
SCM-W	Muffler, 3/8-18 NPT
SCM-Z	Muffler, 1/2-14 NPT

Quality remains a primary feature of every product Clippard produces. This is achieved through the excellence in manufacturing practices and craftsmanship that has continued throughout the years. The company motto—Quality People, Quality Products—emphasizes the important role every employee plays in maintaining the company's reputation.

Miniature Pressure Regulators

Regulators are offered in either relieving or non-relieving versions. The relieving design maintains a constant pressure output even when downstream conditions change.

The non-relieving regulator does not automatically compensate for changes in downstream flow or pressure. There is no vent to atmosphere, as in a relieving type regulator, and the output pressure can increase due to a downstream event.

Medium: Air

Materials: Brass body, Buna-N seals, stainless steel stem and spring

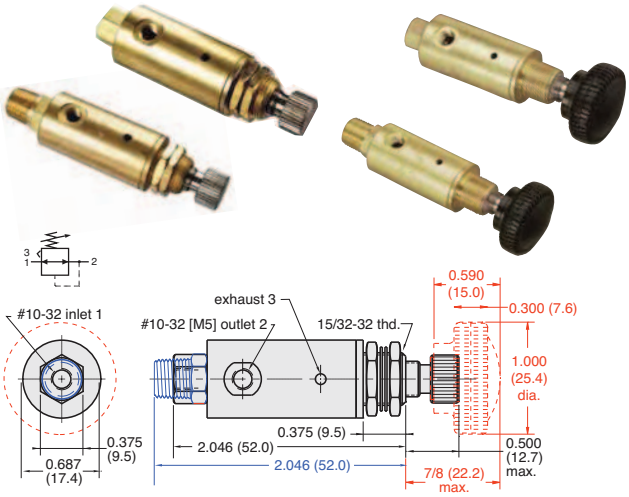
Air Flow: 3 scfm @ 50 psig; 5 scfm @ 100 psig; 120 l/min. @ 6 bar

Input Pressure: 300 psig/21 bar max.

Mounting: #15/32-32 thread. Nuts and lockwashers furnished

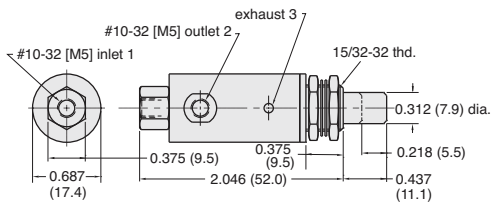
Adjustment: By means of a knob with micro-adjustment (40 pitch thd.)

Adjustable Pressure Regulators



Range (psig/bar)	#10-32	Knob	1/8" NPT	Non-Relieving	M5
0-20/1.4	MAR-1-2	MAR-1K-2	MAR-1P-2	MAR-1NR-2	MAR-1-2-M5
0-30/2.1	MAR-1-3	MAR-1K-3	MAR-1P-3	MAR-1NR-3	MAR-1-3-M5
0-40/2.8	MAR-1-4	MAR-1K-4	MAR-1P-4	MAR-1NR-4	MAR-1-4-M5
0-50/3.4	MAR-1-5	MAR-1K-5	MAR-1P-5	MAR-1NR-5	MAR-1-5-M5
0-60/4.1	MAR-1-6	MAR-1K-6	MAR-1P-6	MAR-1NR-6	MAR-1-6-M5
0-70/4.8	MAR-1-7	MAR-1K-7	MAR-1P-7	MAR-1NR-7	MAR-1-7-M5
0-100/6.9	MAR-1	MAR-1K	MAR-1P	MAR-1NR	MAR-1-M5

Plunger-Type Pressure Regulators



Plunger Travel: 7/32"

Force For Full Stem Travel: 25 lb. nominal

Operation: As plunger is depressed pressure increases proportionally to the travel; when plunger is released the input is closed and the output pressure is exhausted to atmosphere

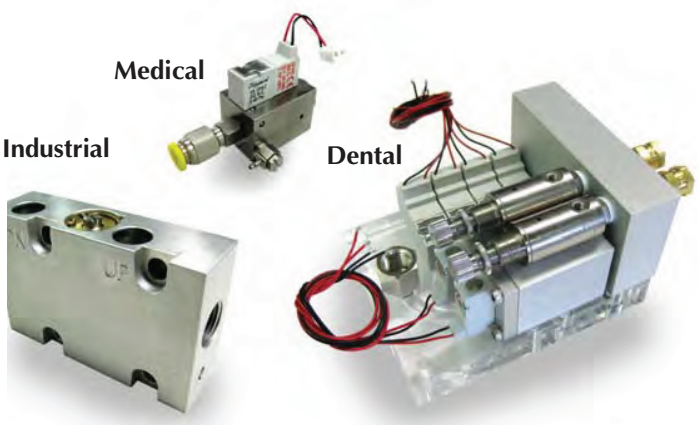
Range (psig/bar)*	#10-32	1/8" NPT	M5
0-20/1.4	MAR-1C-2	MAR-1CP-2	MAR-1C-2-M5
0-30/2.1	MAR-1C-3	MAR-1CP-3	MAR-1C-3-M5
0-40/2.8	MAR-1C-4	MAR-1CP-4	MAR-1C-4-M5
0-50/3.4	MAR-1C-5	MAR-1CP-5	MAR-1C-5-M5
0-60/4.1	MAR-1C-6	MAR-1CP-6	MAR-1C-6-M5
0-70/4.8	MAR-1C-7	MAR-1CP-7	MAR-1C-7-M5
0-100/6.9	MAR-1C	MAR-1CP	MAR-1C-M5

* Outlet pressure is based on 7/32" stem travel. If stem is depressed further, the outlet pressure will increase.

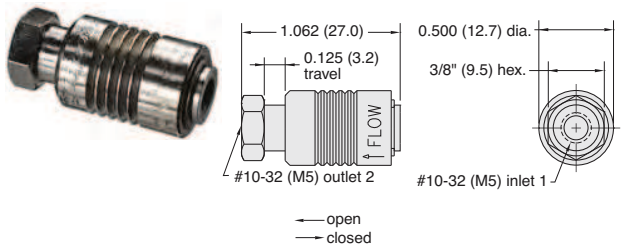
MAR Series Regulators

Special Configurations & Assemblies

- Robust
- Compact
- Reliable
- Multiple Medias
- Manifold Mount
- Cartridge Style
- Preset to Pressure
- Pre-Assembled & Tested



2 Position 2-Way or 3-Way Sleeve Valves



Medium: Air

Stem Travel: 1/8″ (3.2)

Input Pressure: 150 psig/l0 bar max.

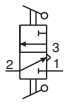
Air Flow: 6.5 scfm @ 50 psig; 11.8 scfm @ 100 psig; 280 l/min @ 6 bar

Force to Actuate: Approx. 2.5 lbs

Mounting: In-line or direct to fitting

Material: Electroless nickel plated brass

Part No.	Description
SLV-2	2 Position 2-Way Sleeve Valve, #10-32
SLV-2-M5	2 Position 2-Way Sleeve Valve, M5
SLV-3	2 Position 3-Way Sleeve Valve, #10-32
SLV-3-M5	2 Position 3-Way Sleeve Valve, M5



J-Series Sleeve Valves

Features

- Variety of inlet and outlet porting eliminates fittings
- No cross-over between inlet and exhaust ports
- Corrosion resistant electroless nickel plated brass body
- Anodized aluminum sleeve for corrosion resistance
- Smooth operation, low sliding friction
- Buna-N seals; (Fluorocarbon available)

Clippard J-Series sleeve valves with 1/8″ NPT and 1/4″ NPT ports 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.

The JSLV-2 2-way valve and the JSLV-3 3-way valve combine high flow with small size. 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.

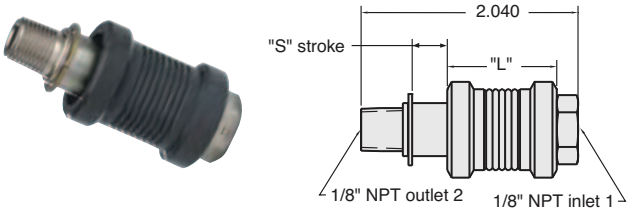
The JSLV-2 and JSLV-3 valves feature a smooth opening stroke during which inlet air is directed to the outlet. During the closing stroke, in the opposite direction of travel, the outlet is closed from the inlet and in the JSLV-3 version, the outlet is then exhausted to atmosphere without the inlet ever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

Medium: Air, Water or Oil

Input Pressure: 150 psig max.

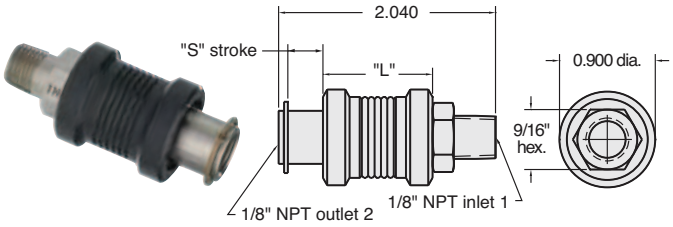
Force to Actuate: Approx. 8 lbs

Mounting: In-line or direct to fitting



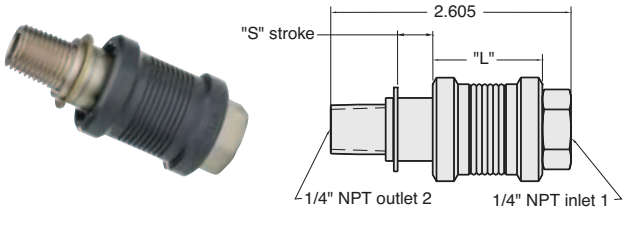
Air Flow: 1/8″ NPT: 43 scfm @ 100 psig

Order No.	Type	Inlet	"L"	"S"
JSLV-2-F2M2	2-Way	1/8 Female Pipe	1.155″	0.260″
JSLV-3-F2M2	3-Way	1/8 Female Pipe	1.030″	0.385″



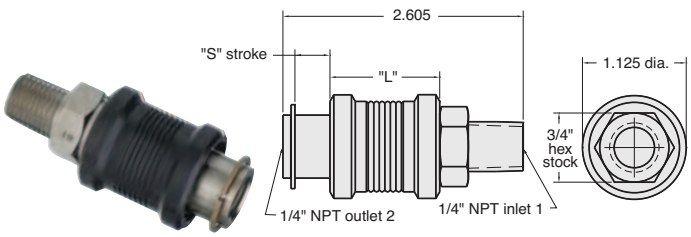
Air Flow: 1/8″ NPT: 43 scfm @ 100 psig

Order No.	Type	Inlet	"L"	"S"
JSLV-2-M2F2	2-Way	1/8 Male Pipe	1.155″	0.260″
JSLV-3-M2F2	3-Way	1/8 Male Pipe	1.030″	0.385″



Air Flow: 1/4″ NPT: 70 scfm @ 100 psig

Order No.	Type	Inlet	"L"	"S"
JSLV-2-F4M4	2-Way	1/4 Female Pipe	1.325″	0.305″
JSLV-3-F4M4	3-Way	1/4 Female Pipe	1.190″	0.460″



Air Flow: 1/4″ NPT: 70 scfm @100 psig

Order No.	Type	Inlet	"L"	"S"
JSLV-2-M4F4	2-Way	1/4 Male Pipe	1.325″	0.305″
JSLV-3-M4F4	3-Way	1/4 Male Pipe	1.190″	0.460″