

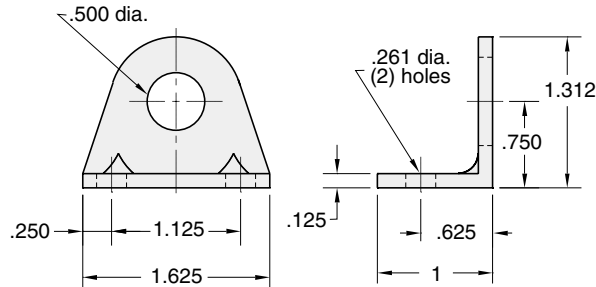


VALVE MOUNTING BRACKETS

15018-2



90° angle, heavy duty **mounting bracket** for Clippard miniature valves



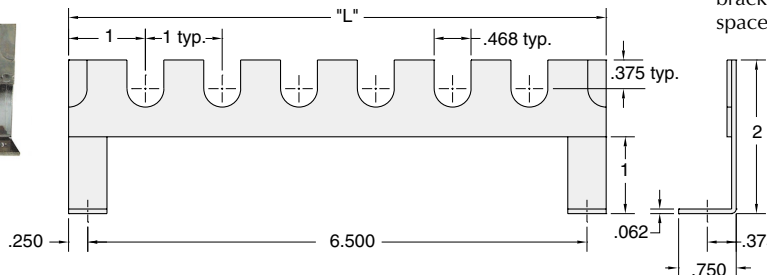
Mounting: 1/2" dia. hole for valve; two .261" dia. holes for attaching bracket

Construction: Stamped from 1/8" thick steel zinc plated

MB-□



Quick mounting, slotted drop-in type metal **mounting bracket** for Clippard miniature valves, regulators, controls, cylinders and switches. Open tops make them ideal for quick, easy assembly of compact pneumatic logic control systems inside small spaces.



Mounting: 31/64" wide slots, with bottom radius. Mounted legs have .119" dia. mounting holes in feet

Construction: Machined from 16 gauge steel; spot welded legs; zinc plated.

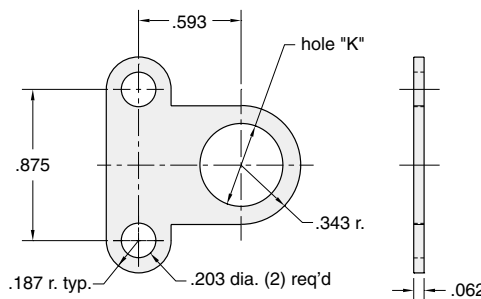
Piping Path: 1" high open area below bracket horizontal member provides space for tubing or piping paths

Part #	# of Slots	"L"
MB-4	4	5"
MB-6	6	7"
MB-8	8	9"
MB-10	10	11"

11917-1



Flat metal **bracket**, for mounting Clippard miniature valves



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

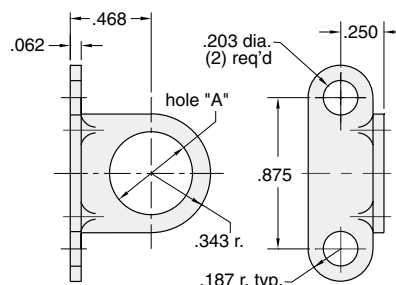
Construction: Stamped from 1/16" thick steel, zinc plated

Part #	Hole "K"
11917-1	.484
11917-2	.328

11918-1



90° angle, **footed metal mounting bracket** for Clippard miniature valves



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

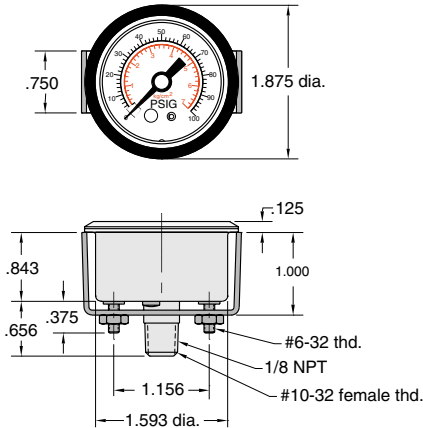
Construction: Stamped from 1/16" thick steel, zinc plated

Part #	Hole "A"
11918-1	.484
11918-2	.328

PG-100



Gauge measures pneumatic system pressure



Input Pressure: Scale reading from 0 to 100 psig and 0 to 7 Kg/cm²

Construction: Black case. Plastic face. Dial shows two ranges; PSIG in black. Kg/cm² in red. Built-in pressure snubber.

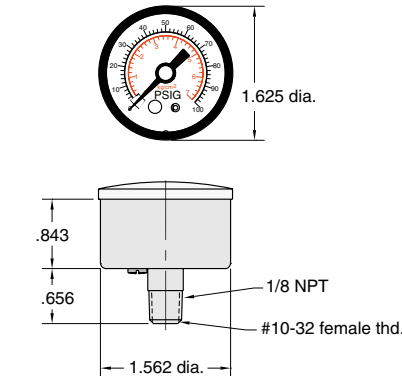
Ports: Connection located at rear is double threaded OD - male thread 1/8 NPT ID - tapped for 10-32 fitting

Mounting: With zinc plated steel bracket supplied

PG-101



Gauge measures pneumatic system pressure



Range: Scale reading from 0 to 100 psig and 0 to 7 Kg/cm²

Construction: Stainless steel case. Plastic face. Dial shows two ranges; PSIG in black. Kg/cm² in red. Built-in pressure snubber.

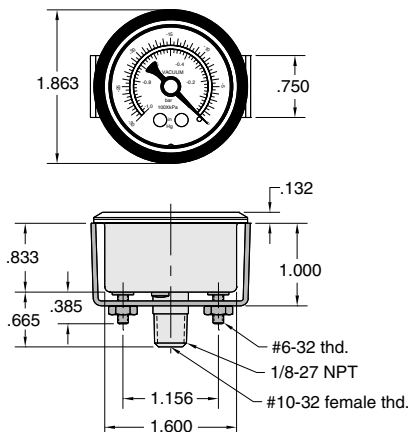
Ports: Connection located at rear is double threaded OD - male thread 1/8 NPT ID - tapped for 10-32 fitting

Mounting: Direct with 1/8 NPT

VG-30



Gauge measures pneumatic vacuum pressure



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

Construction: Black 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 OD - male thread 1/8 NPT ID - tapped for 10-32 fitting

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



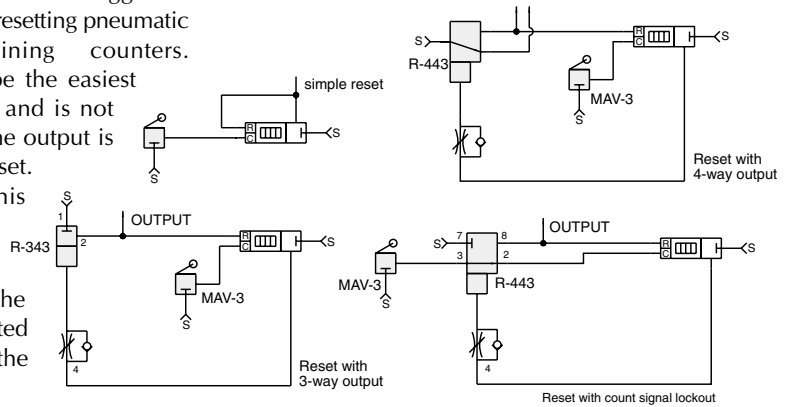
PNEUMATIC COUNTERS

PNEUMATIC COUNTERS

While the simple reset shown in Figure 1 appears to be the easiest means of resetting a counter, it has serious drawbacks and is not recommended. As soon as the counter begins to reset, the output is cut off and the counter may or may not be completely reset. If an output is taken from the reset loop (Figure 1), this further jeopardizes the completion of the reset conditions or, in fact, any reset at all.

The following circuits are suggested as means to reset the Clippard PC-3PM. All air logic circuits should be tested under actual conditions to determine their suitability for the intended application.

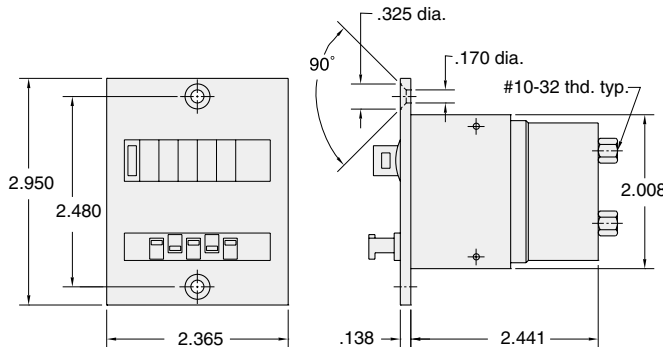
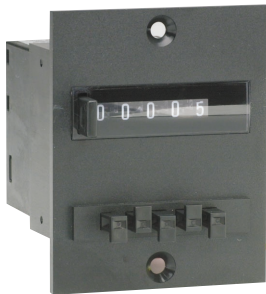
Here are some suggested means for resetting pneumatic predetermining counters.



PC-3PM

This unit is a highly versatile **Pneumatic Predetermining Counter**. It counts down from a preselected number and gives a pneumatic signal output when zero is reached. The output can then be used to actuate or initiate machine functions. The PC-3PM can be used in combination with pneumatic logic controls, limit switches, proximity switches, and similar controls.

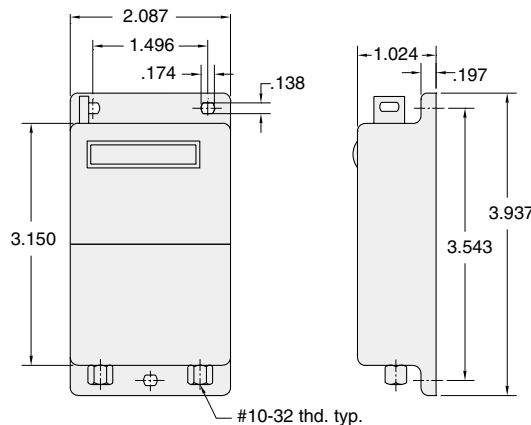
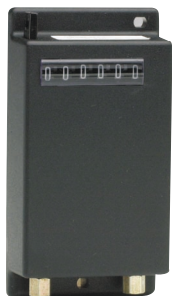
The counter is preset by depressing the reset button, and at the same time entering the desired preset figure by depressing the preset keys. It can be used to count products being packaged, count machine operations and cause a change in operation after the preset value has been reached.



- Type:** Predetermining counter
- Display:** 5 figures, numerals .100" to .160"
- Medium:** filtered compressed air containing no oil
- Connections:** Z (1) Counter impulse input
Y (2) Reset impulse
P (3) Air input
A (4) Air output signal
- Reset:** Manual push button and pneumatic spring return
- Temperature Range:** 30° F to 140° F
- Input Pressure:** 30-120 psig
- Mounting:** panel mount

PT-1SM

This model 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 may be reset manually by 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 for many other purposes. The PT-1SM is designed for surface mounting.



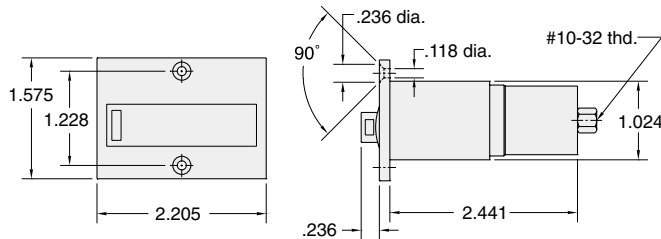
- Type:** Totalizing counter
- Display:** 6 figures, numerals .080" to .160"
- Medium:** filtered compressed air containing no oil
- Reset:** Manual push button and pneumatic spring return
- Temperature Range:** 30° F to 140° F
- Input Pressure:** 30-120 psig
- Mounting:** surface mount

PALM BUTTONS



PT-2PM

This unit is a **6-digit pneumatic totalizing counter**, designed for panel mounting. Its operation is identical to that of the PT-1SM, but in a different physical arrangement. Both units may be reset manually or by a pneumatic impulse. Operating pressure range is extremely wide (30 to 120 psig).



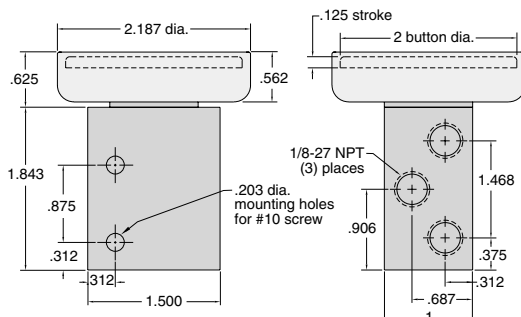
- Type:** Totalizing counter
- Display:** 6 figures, numerals .080" to .160"
- Medium:** filtered compressed air containing no oil
- Reset:** Manual push button and pneumatic spring return
- Temperature Range:** 30° F to 140° F
- Input Pressure:** 30-120 psig
- Mounting:** panel mount

PB-1-□

3-way poppet (MAV-3C) normally closed - bubble tight cartridge valve
(- replaceable)



- Medium:** air
- Stem Travel:** 1/8"
- Input Pressure:** 100 psig max.
- Air Flow:** 3.5 SCFM @150 psig
6.0 SCFM @100 psig
- Bleed:** 0.1 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



PB-1-RD Red **PB-1-GN** Green **PB-1-BK** Black

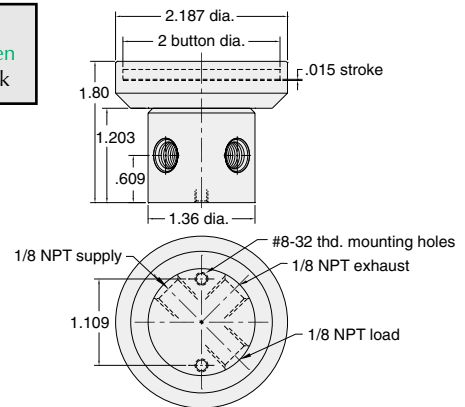
PB-2-□

3-way low force poppet valve; normally closed; depressing button blocks the sensing port causing rapid valve opening



- Medium:** Air
- Input Pressure:** 100 psig max.
- Air Flow:** 22 SCFM - @100 psig
- Bleed:** 0.8 SCFM @ 100 psig
- Force to Actuate:** 1 oz. manual
- Ports:** 1/8 NPT
- Mounting:** Mounting holes provided; optional Bracket Kit #2010-50 provides additional mounting versatility; valve available with anodized color buttons

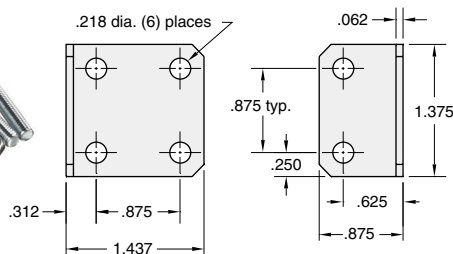
PB-2-RD Red
PB-2-GN Green
PB-2-BK Black



12959

90° angle, heavy duty versatile **mounting bracket** for Clippard palm button valves

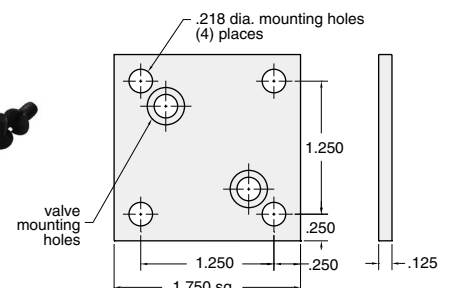
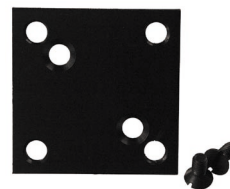
- Mounting:** Six 7/32" dia. holes on 1/8" centers for attaching valves to bracket
- Construction:** Stamped from 1/8" thick steel, zinc plated



2010-050

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

- Construction:** Black oxide finish, two mounting screws furnished



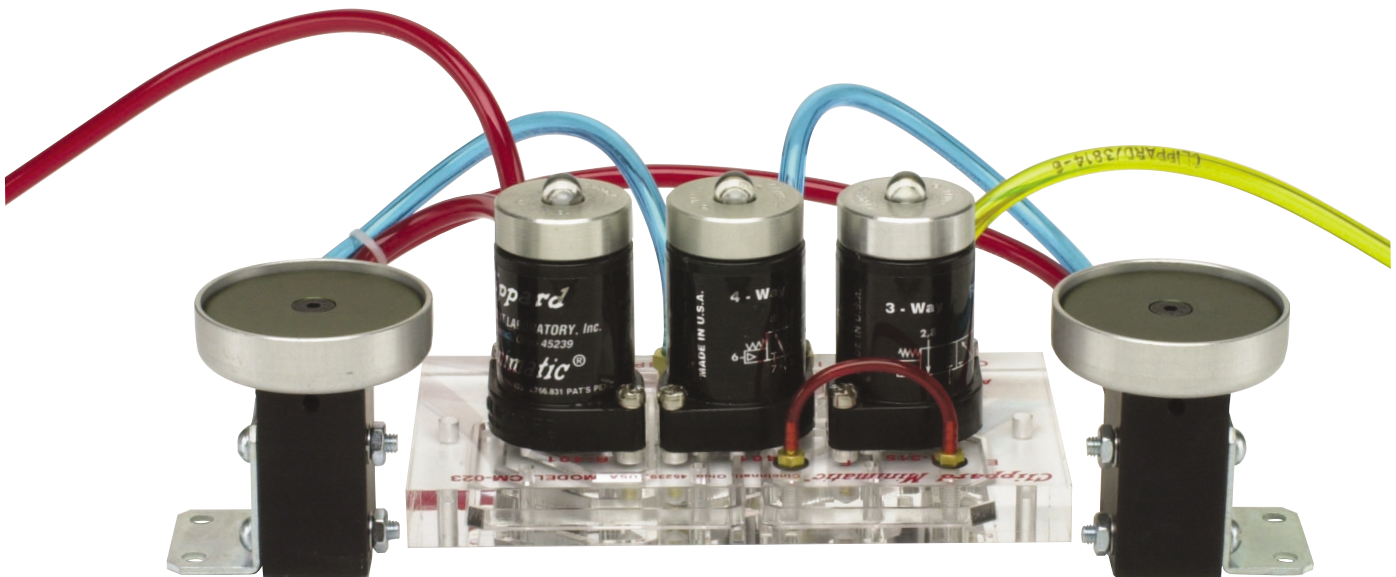


TWO HAND NO TIE DOWN APPLICATION

Typical Application

CM-023 Two Hand No Tie Down

Clippard's THNTD system has the capability of being interfaced with other subplates and valves to form a system for special manufacturing needs. A typical example of this would include the CM-034 subplate and modular valves. The CM-034 when used with the CM-023 subplate creates a back pressure clamp operation. This system is used for the operation of a clamp or collet system where two hand no tie down input is required to be held continuously until the clamp is fully engaged. The THNTD circuit is then reengaged to release the clamp mechanism.



The ongoing emphasis on employee safety and government regulations has created a tremendous need for two hand no tie down (THNTD) controls. Several types of controls have been introduced but most have been found to be somewhat restrictive or overly expensive. Many are too bulky or cumbersome which limits their effectiveness.

Clippard's THNTD control package offers ease of installation and maintenance in a compact design. This design, along with Clippard valves and the ability to interface the CM-023 with other packages, offers quality and flexibility in design at a moderate price.

Due to the variety of installations required for Clippard CM-023 THNTD circuits, parts are offered on a component basis only.

**WARNING: This device provides a THNTD function with an air output only.
All other required safety devices must be used with it.**

VALVE SPECIFICATIONS



Model	Page	Function	Type	Medium*	Maximum Recommended Pressure psig	Flow - SCFM		Nominal Force Full Stem Tr.	Port
						@ 50 psig	@ 100 psig		
FBV-3D	131	3-way	toggle, fill and bleed	A	120 max	3.0	5.0	8 oz.	10-32
FBV-3DP	131	3-way	toggle, fill and bleed	A	120 max	3.0	5.0	8 oz.	1/8 NPT
FBV-3M	131	3-way	toggle, fill and bleed	A	120 max	3.0	5.0	8 oz.	10-32
FBV-3MP	131	3-way	toggle, fill and bleed	A	120 max	3.0	5.0	8 oz.	1/8 NPT
FBV-3DM	131	3-way	toggle, fill and bleed	A	120 max	3.0	5.0	8 oz.	10-32
FBV-3DMP	131	3-way	toggle, fill and bleed	A	120 max	3.0	5.0	8 oz.	1/8 NPT
FTV-3	127	3-way	spool, 2 position toggle	AOW	150 max	6	10	-	10-32
FTV-3P	127	3-way	spool, 2 position toggle	AOW	150 max	6.5	10.5	-	1/8 NPT
FV-3	126	3-way	spool	AOW	150 max	6	10	4.5 lbs.	10-32
FV-3D	126	3-way	spool, 2 position, double plunger	AOW	150 max	6	10	1.5 lbs.	10-32
FV-3DP	126	3-way	spool, 2 position, double plunger	AOW	150 max	6.5	10.5	1.5 lbs.	1/8 NPT
FV-3P	126	3-way	spool	AOW	150 max	6.5	10.5	4.5 lbs.	1/8 NPT
FV-4	128	4-way	spool	A	150 max	6	10	4.5 lbs.	10-32
FV-4D	128	4-way	spool, 2 position, double plunger	A	150 max	6	10	1.5 lbs.	10-32
FV-4DP	128	4-way	spool, 2 position, double plunger	A	150 max	6.5	10.5	1.5 lbs.	1/8 NPT
FV-4P	128	4-way	spool	A	150 max	6.5	10.5	4.5 lbs.	1/8 NPT
FV-5	129	4-way	spool	AOW	150 max	6	10	4.5 lbs.	10-32
FV-5D	129	4-way	spool, 2 position, double plunger	AOW	150 max	6	10	1/5 lbs.	10-32
FV-5DP	129	4-way	spool, 2 position, double plunger	AOW	150 max	6.5	10.5	1.5 lbs.	1/8 NPT
FV-5P	129	4-way	spool	AOW	150 max	6.5	10.5	4.5 lbs.	1/8 NPT
FBV-3D	131	3-way							
JFC-2A, 3B	156	adj. flow control	free air flow: female to male	AOW	150 max	adjustable: 5 scfm		-	1/8 NPT
JFC-3A, 3B	156	adj. flow control	free air flow: male to female	AOW	150 max	adjustable: 5 scfm		-	1/8 NPT
JFC-3AR, 3BR	156	adj. flow control	combination needle & check valve	AOW	150 max	adjustable: 5 scfm		-	1/8 NPT
JSLV-2 series	149	2-way	sleeve	AOW	150 max	23.0	50.0	8 lbs.	1/4 NPT
JSLV-3 series	149	3-way	sleeve	A	150 max	23.0	50.0	8 lbs.	1/4 NPT
JSV-2 series	163	shuttle (double check)	ball type shuttle	AOW	300 max	30.0	50.0	-	1/4 NPT
LVA-2	170	2-way	normally CLOSED heavy duty limit	A	300 max	10.0	19.0	3 in/lbs.	1/8 NPT
LVA-3	170	3-way	normally CLOSED heavy duty limit	A	300 max	10.0	19.0	3 in/lbs.	1/8 NPT
LVAO-2	170	2-way	normally OPEN heavy duty limit	A	300 max	10.0	19.0	3 in/lbs.	1/8 NPT
LVAO-3	170	3-way	normally OPEN heavy duty limit	A	300 max	10.0	19.0	3 in/lbs.	1/8 NPT
MAR-1*	150	air regulator	piston	A	150 max	3.0	5.0	-	10-32
MAR-1C	151	n.c. pressure control	piston	A	150 max	3.0	5.0	-	10-32
MAR-1CP	151	n.c. pressure control	piston	A	150 max	3.0	5.0	-	#
MAR-1NR**	150	air regulator	piston	A	150 max	3.0	5.0	-	10-32
MAR-1P*	150	air regulator	piston	A	150 max	3.0	5.0	-	#
MAR-1PNR*	150	air regulator	piston	A	150 max	3.0	5.0	-	#
MAV-2 / -2R	106	2-way	normally CLOSED poppet	AOW	300 max	4.0	6.8	24 oz.	10-32
MAV-2C	106	2-way	normally CLOSED poppet cartridge	AOW	300 max	3.0	6.0	24 oz.	*
MAV-2P	106	2-way	normally CLOSED poppet	AOW	300 max	4.0	6.8	24 oz.	#
MAV-3 / -3R	114	3-way	normally CLOSED poppet	A	300 max	4.0	6.8	24 oz.	10-32
MAV-3C	114	3-way	normally CLOSED poppet cartridge	A	300 max	3.5	6.0	24 oz.	*

*A = Air O = Oil W = Water



VALVE SPECIFICATIONS

Model	Page	Function	Type	Medium*	Maximum Recommended Pressure psig	Flow - SCFM		Nominal Force Full Stem Tr.	Port
						@ 50 psig	@ 100 psig		
MAV-3P	114	3-way	normally CLOSED poppet	A	300 max	4.0	6.8	24 oz.	#
MAV-4	122	4-way	spool	A	150 max	5.0	8.5	38 oz.	10-32
MAV-4D	122	4-way	spool double stem	A	150 max	5.0	8.5	12 oz.	10-32
MAVO-2	107	2-way	normally OPEN spool	AOW	150 max	6.0	10.0	32 oz.	10-32
MAVO-2C	107	2-way	normally OPEN spool cartridge	AOW	150 max	6.0	10.0	32 oz.	*
MAVO-2P/-3	107/115	2-way / 3-way	normally OPEN spool	A	150 max	6.0	10.0	32 oz.	10-32
MAVO-3	115	3-way	normally OPEN spool	A	150 max	6.0	10.0	32 oz.	10-32
MAVO-3C	115	3-way	normally OPEN spool cartridge	A	150 max	6.0	10.0	32 oz.	*
MCV-1	152	check valve	poppet	AOW	300 max	6.5	11.5		10-32
MCV-2	151	check valve	"duckbill"	AOW	0-50/100 psig	1.2	-		10-32
MEV-2	164	quick exhaust valve	poppet	A	5-150	4.8	8.8		10-32
MFC-2	154	flow control valve	combination needle & check valve	AOW	300 max	4.0	7.0		10-32
MFC-3 series	155	flow control valve	combination needle & check valve	AOW	300 max	@100 psig 0-5 scfm			
MJCV-1	153	check valve	poppet	AOW		10.0	17.0		1/8 NPT
MJSV-1	163	shuttle (double check)	poppet	AOW		14.0	26.0		1/8 NPT
MJTV-3	118	3-way	poppet 2 position toggle	AOW	300 max	14.0	25.0	16 oz.	1/8 NPT
MJTV-4	123	4-way	spool, 2 position toggle	A	150 max	6.5	10.5	16 oz.	1/8 NPT
MJTV-5	124	4-way	spool, 2 position toggle	AOW	150 max	6.5	10.5	16 oz.	1/8 NPT
MJV-2	108	2-way	normally CLOSED poppet	AOW	300 max	14.0	25.0	38 oz.	1/8 NPT
MJV-2C	108	2-way	normally CLOSED poppet cartridge	AOW	300 max	14.0	25.0	38 oz.	**
MJV-3	116	3-way	normally CLOSED poppet	A	300 max	14.0	25.0	38 oz.	1/8 NPT
MJV-3C	116	3-way	normally CLOSED poppet cartridge	A	300 max	14.0	25.0	38 oz.	**
MJV-4	122	4-way	spool	A	150 max	8.0	14.0	38 oz.	1/8 NPT
MJV-4D	122	4-way	spool double stem	A	150 max	8.0	14.0	12 oz.	1/8 NPT
MJVO-2	108	2-way	normally OPEN spool	A	300 max	14.0	25.0	36 oz.	1/8 NPT
MJVO-2C	108	2-way	normally OPEN spool cartridge	A	300 max	14.0	25.0	38 oz.	**
MJVO-3	116	3-way	normally OPEN spool	A	300 max	14.0	25.0	38 oz.	1/8 NPT
MJVO-3C	116	3-way	normally OPEN spool cartridge	A	300 max	14.0	25.0	38 oz.	**
MLV-3	121	3-way	normally CLOSED 3-way poppet	A	150 max	4.0	7.0	48 oz.	10-32
MNV-1 / -1K	158	needle valve	needle	AOW	2000 max	3.3	6.0	-	10-32
MNV-1P / -1KP	159	needle valve	needle	AOW	2000 max	3.3	6.0	-	#
MNV-2 / -2K	159	needle valve	adjustable needle	AOW	300 max	1.0	2.5	-	10-32
MNV-3P / 3KP	160	needle valve	adjustable needle	AOW	2000 max	2.5	5.0	-	10-32
MNV-3 / 3K	160	needle valve	adjustable needle	AOW	2000 max	2.5	5.0	-	10-32
MNV-4 series	161	needle valve	adjustable	AOW	300 max	@100 psig 0-5 scfm		-	
MPS-2	166	pilot sensor	poppet	A	300 max	2.0	3.5	7 oz.	10-32
MPS-2P	166	pilot sensor	poppet	A	300 max	2.0	3.5	7 oz.	1/8 NPT
MSV-1	162	shuttle (double check)	poppet	AOW	250 max	5.0	9.5		10-32
MTV-2	110	2-way	poppet 2 position toggle	AOW	300 max	4.0	7.3	16 oz.	10-32
MTV-2P	110	2-way	poppet 2 position toggle, n.CLOSED	AOW	300 max	4.0	7.3	16 oz.	#
MTV-3	118	3-way	poppet 2 position toggle	AOW	300 max	4.0	7.3	16 oz.	10-32
MTV-3P	118	3-way	poppet 2 position toggle	AOW	300 max	4.0	7.3	16 oz.	#

*A = Air O = Oil W = Water

VALVE SPECIFICATIONS



Model	Page	Function	Type	Medium*	Maximum Recommended Pressure psig	Flow - SCFM		Nominal Force Full Stem Tr.	Port
						@ 50 psig	@ 100 psig		
MTV-4	123	4-way	spool, 2 position toggle	A	150 max	6.0	10.0	16 oz.	10-32
MTV-5	124	4-way	spool, 2 position toggle	AOW	150 max	6.0	10.0	16 oz.	10-32
MWV-1	167	whisker valve	poppet	A	150 max	1.0	1.5	0.25 oz.	10-32
MWV-1P	167	whisker valve	poppet	A	150 max	1.0	1.5	0.25 oz.	10-32
PAV-2 / -3	09/117	2-way / 3-way	normally CLOSED poppet	AOW	150 max	4.0	6.8	-	10-32
PAV-2P / -3P	09/117	2-way / 3-way	normally CLOSED poppet	AOW	150 max	4.0	6.8	-	#
PAVO-2 / -3	09/117	2-way / 3-way	normally OPEN poppet	AOW	150 max	4.0	6.8	-	10-32
PAVO-2P / 3P	109/117	2-way / 3-way	normally OPEN poppet	AOW	150 max	4.0	6.8	-	#
PB-1	183	3-way	normally CLOSED poppet	A	150 max	3.5	6.0	-	1/8 NPT
PB-2	183	3-way	normally CLOSED poppet	A	30-100	-	22	-	18 NPT
PV-1	166	pulse valve	poppet	A	150 max	-	-	-	***
PV-1P	166	pulse valve	poppet	A	150 max	-	-	-	***
SLV-2	148	2-way	sleeve	AOW	150 max	6.5	11.5	2.5 lb	10-32
SLV-3	148	3-way	sleeve	A	150 max	6.5	11.5	2.5 lb	10-32
SMAV-3	113	3-way	n.OPEN or n.CLOSED, spool	A	100 max	-	1.4	20 oz.	3-56
SMTV-3	113	3-way	2 position toggle, normally CLOSED	A	100 max	-	1.4	-	3-56
TV-2 series	110	2-way	spool position toggle	AOW	150 max	4.5	8.0	12 oz.	10-32
TV-3 series	119	3-way	spool, 2 position toggle	A	150 max	4.5	8.0	12 oz.	10-32
TV-4D	130	4-way poppet	3-pos., toggle actuated, detented	A	120 max	4.5	7.5	8 oz.	10-32
TV-4DM	131	4-way poppet	3-pos., toggle actuated, momentary	A	120 max	4.5	7.5	8 oz.	10-32
TV-4DMP	131	4-way poppet	3-pos., toggle actuated, momentary	A	120 max	4.5	7.5	8 oz.	1/8 NPT
TV-4DP	130	4-way poppet	3-pos., toggle actuated, detented	A	120 max	4.5	7.5	8 oz.	1/8 NPT
TV-4M	130	4-way poppet	3-pos., toggle actuated, momentary	A	120 max	4.5	7.5	8 oz.	10-32
TV-4MP	131	4-way poppet	3-pos., toggle actuated, momentary	A	120 max	4.5	7.5	8 oz.	1/8 NPT
WDV-2	167	2-way	normally CLOSED poppet w/air pilot	WL	100 max	-	-	-	10-32
WDV-2P	167	2-way	normally CLOSED poppet w/air pilot	WL	100 max	-	-	-	1/8 NPT
1022	172	proximity switch	non-contacting air limit switch	A	4-10	-	-	-	-
1030	172	gap sensor	non-contacting positive pressure sensor	A	.5-5	-	-	-	10-32
1043	173	pressure repeater	single stage	AGL	1-150	.029" orifice		-	10-32
1044	173	pressure repeater	2-stage inverter	AGL	1-150	.029" orifice		-	10-32
2010	174	3-way	n.CLOSED poppet, fluidic interface	A	30-100	-	22	-	##
2011	174	3-way	bleed pressure, limit valve	A	30-100	-	22	-	1/8 NPT
2012	175	2 or 3-way	n.CLOSED or n.OPEN poppet	A	0-100	-	22	-	1/8 NPT
2012-G	175	3-way	n.CLOSED or n.OPEN poppet	A	0-100	-	-	-	1/8 NPT
2013	203	3-way electronic	normally CLOSED poppet	A	30-100	-	22	-	1/8 NPT
2020	176	piloted 3-way	normally CLOSED, pressure pilot	A	30-100	-	22scfm	-	10-32 1/8 NPT
2021	176	piloted 3-way	normally CLOSED, pressure pilot	A	30-100	-	22scfm	-	10-32 1/8 NPT
2050	176	3-way	miniature, poppet, fluidic interface	A	30-100	-	15	-	###
3200	177	amplifying valve	pressure piloted	A	3-100	-	-	-	10-32

* Cartridge fits into 3/8 bore

** Cartridge fits into 5/8 bore

*** PV-1 has 1/8 male and 10-32 female inlet, 10-32 female outlet
PV-1P has combo, 1/8 male and 10-32 female inlet and outlet

1/8 NPT male inlet, 10-32 outlet ports

Control port 10-32 female
Load, supply, and exhaust ports 1/8 NPT female

Supply port 1/8 NPT male
Outlet port 1/16 NPT female
Control port 10-32 female

A air
O oil
W water
L liquid
G gas



NOTES

A series of horizontal lines for writing notes, starting with a thick black line at the top and followed by many thin grey lines.