

Air Pilot Valves



LOW PRESSURE AIR PILOT VALVES

- N.O. or N.C. air pilot valves
- Amplifier valves
- Bleed pressure piloted limit valves
- Electronically piloted valves

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BRASS AIR PILOT VALVES

- PAV/PAVO Series
- Normally-Open or Normally-Closed
- 2-Way and 3-Way configurations

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MAXIMATIC® AIR PILOT VALVES

- Spool type valves with single or double air pilots
- Maximum flow, maximum value
- 3-Way and 4-Way configurations

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MODULAR VALVES

- Available in an unlimited variety of directional, low pressure, and special control valves
- The supreme "plug-and-play" devices for pneumatic applications

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PROBLEM

Sometimes, it's all about the timing. In this case, a retrofit to an old machine was needed—fast! The OEM sought a partner who could help modify an existing design and meet a tight deadline.

SOLUTION

In these types of situations, the Clippard modular valve works wonders. These valves mount and link together with a special piping system which eases assembly and plumbing, provides reduced labor costs, minimizes errors in installation, and eliminates potential leak points. Clippard modular valves have been uniquely designed to enable multiple valve elements to be contained within a single valve body. This provides incredible flexibility and variety, allowing Clippard modular valves to accomplish a myriad of control challenges.

In this case, Clippard modular valves were specially configured to meet the requirements of this particular application and mounted on a special acrylic subplate, thereby greatly simplifying redundant circuitry. The OEM's new circuit improved the performance and maintenance of their system and shipped in time to meet their deadline.

WHAT CAN CLIPPARD DO FOR YOU?

877-245-6247



LOW PRESSURE AIR PILOT VALVES

3-WAY N.C. AMPLIFIER VALVES



Amplifies very low pressure air-jet sensing signals to working power levels

Part No.	Description
2010	Normally-Closed Interface, 1/8" NPT
2010-050	Flat Mounting Bracket

Medium	Air
Material	Anodized aluminum body, nitrile diaphragms
Input Pressure	30 to 100 psig
Air Flow	620 l/min @ 100 psig
Pilot Pressure	4" H ₂ O @ 100 psig
Max. Pilot Pressure	5 psig
Filtration	10 micron
Response Time	10 ms dead headed
Operating Speed	50 Hz
Bleed	2.8 l/min @ 100 psig
Ports	Load, Supply & Exhaust: 1/8" NPT female Control: #10-32 female

3-WAY BLEED PRESSURE PILOTED LIMIT VALVES



Blocking of the sensing port causes rapid valve opening

Part No.	Description
2011	Piloted Limit Valve, 1/8" NPT
2011-012	Replacement #10-32 rubber nozzles
2010-050	Flat Mounting Bracket

Medium	Air
Material	Anodized aluminum body, nitrile diaphragms
Input Pressure	30 to 100 psig max.
Air Flow	620 l/min @ 100 psig
Filtration	10 micron
Bleed	2.8 l/min @ 100 psig
Response Time	15 ms
Ports	1/8" NPT

3-WAY N.O. OR N.C. AIR PILOT VALVES



Blocking of the sensing port causes rapid valve opening

Part No.	Description
2012	Piloted Valve, 1/8" NPT
2012-VAC	Valve for Vacuum Operation <i>Requires positive pressure pilot signal</i>
2012-G	Valve for Liquid Adhesives <i>Silicone diaphragm and seals, 1/8" NPT</i>
2010-050	Flat Mounting Bracket

Medium	Air
Material	Anodized aluminum body, nitrile diaphragms
Input Pressure	1 to 100 psig max.
Air Flow	620 l/min @ 100 psig
Pilot Pressure	20 psig min. or N.O. 90% of Supply, N.C. 60% of Supply (<i>whichever is greater</i>)
Response Time	15 ms after pilot pressure reaches switch point
Operating Speed	1,100 CPM

LOW PRESSURE AIR PILOT VALVES

3-WAY N.O. OR N.C. ELECTRONICALLY PILOTED VALVES



Low-power DC solenoid can be directly converted to high pressure pneumatic power without electronic amplification.

Part No.	Description
2013-6	Valve, 6 VDC, 1/8" NPT
2013-12	Valve, 12 VDC, 1/8" NPT
2013-24	Valve, 24 VDC, 1/8" NPT
2010-050	Flat Mounting Bracket

Medium	Air
Material	Anodized aluminum body, nitrile diaphragms
Input Pressure	30 to 100 psig max.
Air Flow	620 l/min @ 100 psig
Bleed	2.8 l/min @ 100 psig
Filtration	10 micron
Frequency Response	50 Hz @ 100 psig; 70 Hz @ 30 psig
Switching Speed	10 ms
Leads	28 gauge stranded PVC insulated
Continuous Overload	350% @ 25°C; 250% @ 50°C (ambient)
Power Consumption	< 0.50 W at rated voltage 80 ma. @ 6V, 40 ma. @ 12V, 20 ma. @ 24V

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.

Part No.	Description
3200-A	Amplifying Valve, #10-32
3200-006	Mounting Bracket

Medium	Air
Input Pressure	3 to 100 psig max.
Min. Pilot Pressure	1.5" H ₂ O
Max. Pilot Pressure	1 psig (28" H ₂ O)
Air Flow	5.1 l/min @ 100 psig;
Bleed Orifice	0.010" diameter

3-WAY N.C. PRESSURE PILOTED VALVES



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 620 l/min 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.

Part No.	Description
2020	Piloted Valve, External Port
2021	Piloted Valve, Internal Port
2010-050	Flat Mounting Bracket

Medium	Air
Input Pressure	30 to 100 psig max.
Air Flow	620 l/min @ 100 psig
Pilot Pressure	60% of supply pressure, minimum
Response Time	Approx. 20 milliseconds
Mounting	Mounting holes provided
Materials	Anodized aluminum, stainless steel

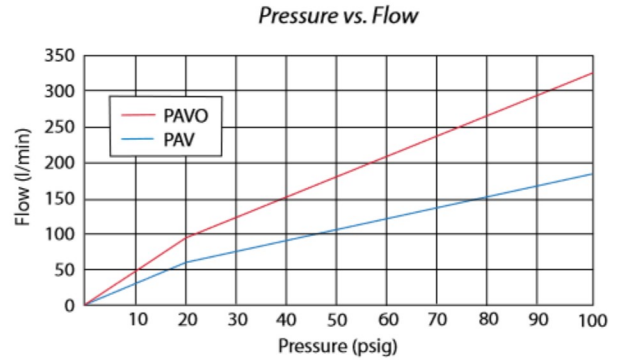
The 2020 has an external #10-32 port for the pressure supply to the EV/ET electronic pilot valve. The 2021 has an internal pressure supply to the EV/ET.

2-WAY & 3-WAY AIR PILOT VALVES

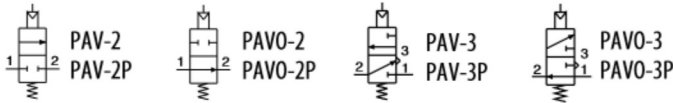
PAV/PAVO SERIES

These Normally-Open or Normally-Closed 2-Way and 3-Way valves incorporate an integral pilot actuator that provides a compact assembly and simple installation. The internal valving is identical to the MAV-2/3 or MAVO-2/3.

Medium	Air, water, or oil
Input Pressure	PAV-2/3: 300 psig PAVO-2/3: 150 psig max.
Air Pilot Pressure	15 psig min.
Air Flow	PAV-2/3: 113 l/min @ 50 psig; 190 l/min @ 100 psig PAVO-2/3: 190 l/min @ 50 psig; 330 l/min @ 100 psig
Mounting	5/8-32 thread or #4 screw
Materials	Brass body, nitrile seals, stainless steel stem and spring
Accessories	Foot Bracket: FB-1791 Nut and Lockwasher: PAV-MH



Air pilot valves are ideal for remote and miniature applications which require higher air flow and/or lower power

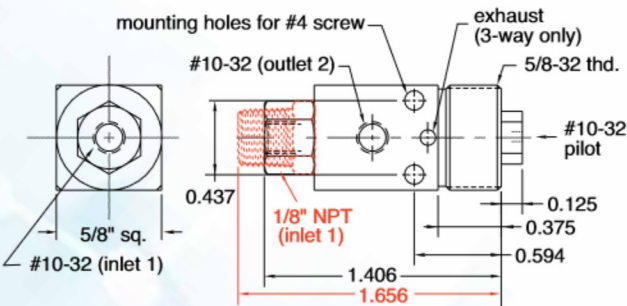


NORMALLY-CLOSED POPPET VALVES

Port(s)	2-Way	3-Way
#10-32 1/8" NPT	PAV-2 PAV-2P	PAV-3 PAV-3P



PAV-2P shown

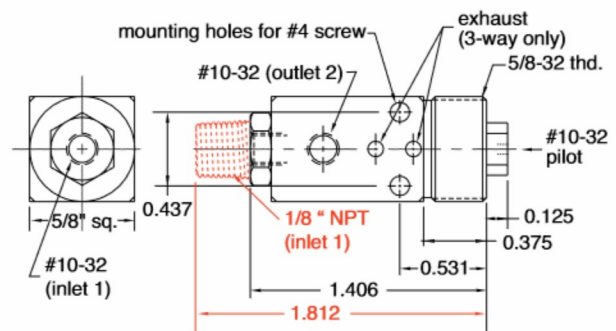


NORMALLY-OPEN SPPOOL VALVES

Port(s)	2-Way	3-Way
#10-32 1/8" NPT	PAVO-2 PAVO-2P	PAVO-3 PAVO-3P



PAVO-2 shown



MAXIMATIC® SERIES AIR PILOT VALVES

ORDERING GUIDE



3-WAY VALVES

Series No.	Inlet	Outlet	Exhaust	Ports/Position	Cv	Flow @ 100 psig	Page
MMA-31NAS	#10-32	#10-32	#10-32	3/2	0.58	760 l/min	100
MMA-31PAS	1/8" NPT	1/8" NPT	1/8" NPT	3/2	0.67	880 l/min	100
MMA-32QAS	1/4" NPT	1/4" NPT	1/8" NPT	3/2	0.89	1,400 l/min	100
MMA-33WAS	3/8" NPT	3/8" NPT	1/4" NPT	3/2	1.68	2,600 l/min	100
MMA-34ZAS	1/2" NPT	1/2" NPT	1/2" NPT	3/2	2.79	4,800 l/min	100
MMA-31NAA	#10-32	#10-32	#10-32	3/2	0.58	760 l/min	100
MMA-31PAA	1/8" NPT	1/8" NPT	1/8" NPT	3/2	0.67	880 l/min	100
MMA-32QAA	1/4" NPT	1/4" NPT	1/8" NPT	3/2	0.89	1,400 l/min	100
MMA-33WAA	3/8" NPT	3/8" NPT	1/4" NPT	3/2	1.68	2,600 l/min	100
MMA-34ZAA	1/2" NPT	1/2" NPT	1/2" NPT	3/2	2.79	4,800 l/min	100

4-WAY VALVES

Series No.	Inlet	Outlet	Exhaust	Ports/Position	Cv	Spool Configuration			
						Flow @ 100 psig	Closed Center	Exhaust Center	Pressure Center
MMA-41NAS	#10-32	#10-32	#10-32	5/2	0.58	760 l/min			
MMA-41PAS	1/8" NPT	1/8" NPT	1/8" NPT	5/2	0.67	880 l/min			
MMA-42QAS	1/4" NPT	1/4" NPT	1/8" NPT	5/2	0.89	1,400 l/min			
MMA-43WAS	3/8" NPT	3/8" NPT	1/4" NPT	5/2	1.68	2,600 l/min			
MMA-44ZAS	1/2" NPT	1/2" NPT	1/2" NPT	5/2	2.79	4,800 l/min			
MMA-41NAA	#10-32	#10-32	#10-32	5/2	0.58	760 l/min			
MMA-41PAA	1/8" NPT	1/8" NPT	1/8" NPT	5/2	0.67	880 l/min			
MMA-42QAA	1/4" NPT	1/4" NPT	1/8" NPT	5/2	0.89	1,400 l/min			
MMA-43WAA	3/8" NPT	3/8" NPT	1/4" NPT	5/2	1.68	2,600 l/min			
MMA-44ZAA	1/2" NPT	1/2" NPT	1/2" NPT	5/2	2.79	4,800 l/min			
MMA-41NAAC	#10-32	#10-32	#10-32	5/3	0.50	650 l/min	•		
MMA-41PAAC	1/8" NPT	1/8" NPT	1/8" NPT	5/3	0.50	650 l/min	•		
MMA-42QAAC	1/4" NPT	1/4" NPT	1/8" NPT	5/3	0.89	1,400 l/min	•		
MMA-43WAAC	3/8" NPT	3/8" NPT	1/4" NPT	5/3	1.00	2,000 l/min	•		
MMA-44ZAAC	1/2" NPT	1/2" NPT	1/2" NPT	5/3	1.68	2,600 l/min	•		
MMA-41NAAP	#10-32	#10-32	#10-32	5/3	0.50	650 l/min			•
MMA-41PAAP	1/8" NPT	1/8" NPT	1/8" NPT	5/3	0.50	650 l/min			•
MMA-42QAAP	1/4" NPT	1/4" NPT	1/8" NPT	5/3	0.89	1,400 l/min			•
MMA-43WAAP	3/8" NPT	3/8" NPT	1/4" NPT	5/3	1.00	2,000 l/min			•
MMA-44ZAAP	1/2" NPT	1/2" NPT	1/2" NPT	5/3	1.68	2,600 l/min			•
MMA-41NAAE	#10-32	#10-32	#10-32	5/3	0.50	650 l/min		•	
MMA-41PAAE	1/8" NPT	1/8" NPT	1/8" NPT	5/3	0.50	650 l/min		•	
MMA-42QAAE	1/4" NPT	1/4" NPT	1/8" NPT	5/3	0.89	1,400 l/min		•	
MMA-43WAAE	3/8" NPT	3/8" NPT	1/4" NPT	5/3	1.00	2,000 l/min		•	
MMA-44ZAAE	1/2" NPT	1/2" NPT	1/2" NPT	5/3	1.68	2,600 l/min		•	

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MAXIMATIC® SERIES AIR PILOT VALVES

3-WAY & 4-WAY VALVES



Maximatic 3-Way and 4-Way air pilot valves are either double pilot or single pilot, spring return in #10-32 thread to 1/2" NPT port sizes. These air pilot valves have 1/8" NPT pilot ports.

Type	Spool (not bidirectional)
Medium	Air (40 micron filtration) or inert gas
Operating Range	Single Air Pilot: 20 to 125 psig Double Air Pilot: 0 to 125 psig <i>Refer to Minimum Pilot Pressure chart (left)</i>
Pilot Pressure	See chart
Maximum Pressure	125 psig
Mounting	Body Ported, Manifold
Materials	Aluminum, Stainless Steel, Thermoplastic
Seals	Nitrile

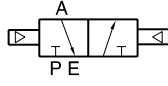
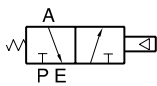
MINIMUM PILOT PRESSURE

	Single Pilot		Double Pilot		3-Position	
Operating Pressure (psig)	20	80	20	80	20	80
Pilot Pressure (psig)	20	35	5	8	20**	20**

**30 on MMA-41 Series

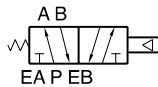
2-POSITION 3-WAY SPRING RETURN & AIR PILOT VALVES

Spring Return Valves	Double Air Pilot Valves	Inlet	Outlet	Exhaust	l/min*
MMA-31NAS	MMA-31NAA	#10-32	#10-32	#10-32	760
MMA-31PAS	MMA-31PAA	1/8" NPT	1/8" NPT	1/8" NPT	880
MMA-32QAS	MMA-32QAA	1/4" NPT	1/4" NPT	1/8" NPT	1,400
MMA-33WAS	MMA-33WAA	3/8" NPT	3/8" NPT	1/4" NPT	2,600
MMA-34ZAS	MMA-34ZAA	1/2" NPT	1/2" NPT	1/2" NPT	4,800



2-POSITION 4-WAY SPRING RETURN & AIR PILOT VALVES

Spring Return Valves	Double Air Pilot Valves	Inlet	Outlet	Exhaust	l/min*
MMA-41NAS	MMA-41NAA	#10-32	#10-32	#10-32	760
MMA-41PAS	MMA-41PAA	1/8" NPT	1/8" NPT	1/8" NPT	880
MMA-42QAS	MMA-42QAA	1/4" NPT	1/4" NPT	1/8" NPT	1,400
MMA-43WAS	MMA-43WAA	3/8" NPT	3/8" NPT	1/4" NPT	2,600
MMA-44ZAS	MMA-44ZAA	1/2" NPT	1/2" NPT	1/2" NPT	4,800



3-POSITION 4-WAY SPRING CENTERED DOUBLE AIR PILOT VALVES

Closed Center, Pressure Center & Exhaust Center



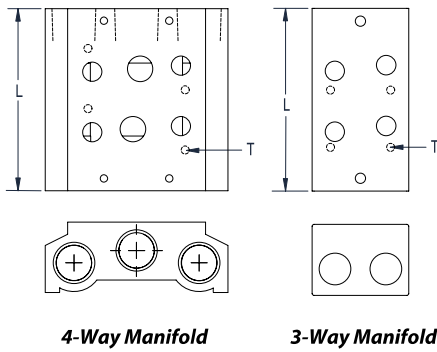
Closed Center	Pressure Center	Exhaust Center	Inlet	Outlet	Exhaust	l/min*
MMA-41NAAC	MMA-41NAAP	MMA-41NAAE	#10-32	#10-32	#10-32	650
MMA-41PAAC	MMA-41PAAP	MMA-41PAAE	1/8" NPT	1/8" NPT	1/8" NPT	650
MMA-42QAAC	MMA-42QAAP	MMA-42QAAE	1/4" NPT	1/4" NPT	1/8" NPT	1,400
MMA-43WAAC	MMA-43WAAP	MMA-43WAAE	3/8" NPT	3/8" NPT	1/4" NPT	2,000
MMA-44ZAAC	MMA-44ZAAP	MMA-44ZAAE	1/2" NPT	1/2" NPT	1/2" NPT	2,600

Conforms to ISO 19973-2 test standards

*Based on flow @ 100 psig

MAXIMATIC® SERIES AIR PILOT VALVE MANIFOLDS

PARALLEL BAR MANIFOLDS & MOUNTING KITS



AIR PILOT VALVES

Valve Series	2-Station (L)	4-Station (L)	6-Station (L)	8-Station (L)	16-Station (L)	Thread (T)
MMA-31/41	2.24	3.73	5.25	6.75	12.69	M4
MMA-32/42	2.71	4.50	6.33	8.13	15.38	M4
MMA-33/43	3.22	5.42	7.62	9.82	18.63	M5
MMA-34/44	3.85	6.56	9.38	12.10	23.11	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/		2-Station	4-Station	6-Station	8-Station	16-Station
	Exhaust	Blank Plate					
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	27041-33	Hardware Kit for MMA-33 Series Valves
27041-32	Hardware Kit for MMA-32 Series Valves	27041-34	Hardware Kit for MMA-34 Series Valves

Valve Series	Manifold Inlet/		2-Station	4-Station	6-Station	8-Station	16-Station
	Exhaust	Blank Plate					
4-Way Valve Manifolds							
MMA-41	1/8"	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	27041-43	Hardware Kit for MMA-43 Series Valves
27041-42	Hardware Kit for MMA-42 Series Valves	27041-44	Hardware Kit for MMA-44 Series Valves