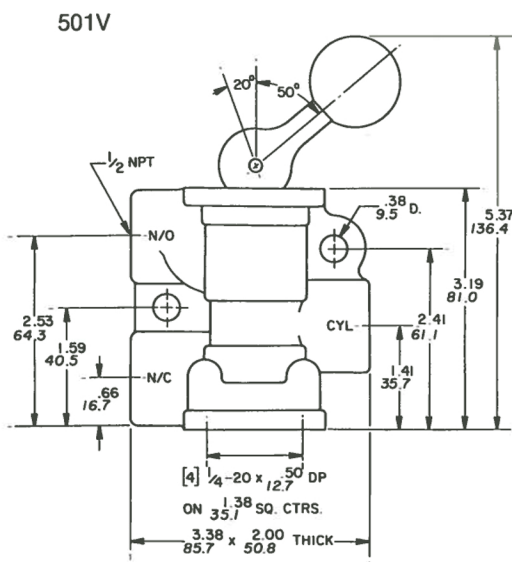


Humphrey 501 Series Manual Valves



501 V

501V-3-12-20

Model 501V is a rugged, high flow (275 scfm at 125 psig), multi-purpose toggle valve offering several functions: normally closed, normally open, bi-media, and directional. All ports are on the same vertical plane for straight-line plumbing. The 501V valve can be mounted in any position: in-line, side mounted with bolts, with tapped holes in body, or on base. Full 0.500-inch orifice.



Specifications

MEDIA:

Air, Inert

PRESSURE RANGE:

0 to 125 psig (0 to 8.6 bars)

TEMPERATURE RANGE:

–20 to 225°F (–34.4 to 107.2°C)

MATERIALS:

Aluminum, SST, Buna N

LUBRICATION Recommended

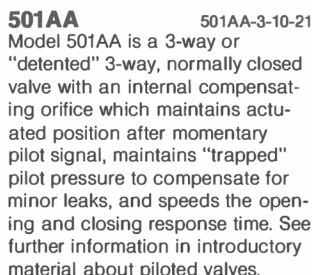
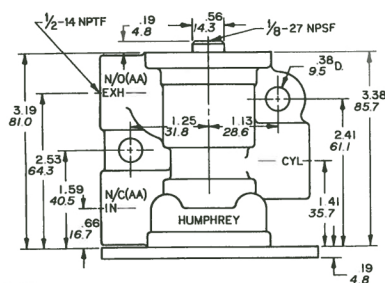
FILTRATION Not required

Weight

19 02

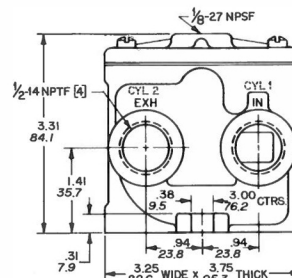
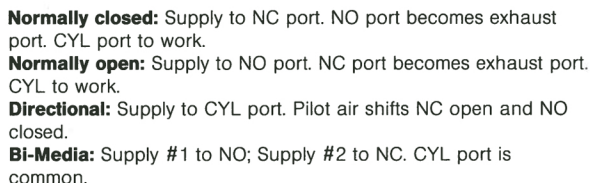
Number of Ports	2
Number of Positions	2
Valve Function	Detend
Piping Type	Inline, Direct piping
Standard Options	Mounting Base (code 21)
Type of Operation	Toggle
Flow Capacity (Cv)	3.67
Port Size	1/2 NPT

Air-piloted valves of this series are of piston poppet design that require lubrication and offer the convenience of straight-line plumbing. 4-way valves are also available in the 501 Series. 501 Series valves have full 0.500-inch orifices and can be mounted in any position.

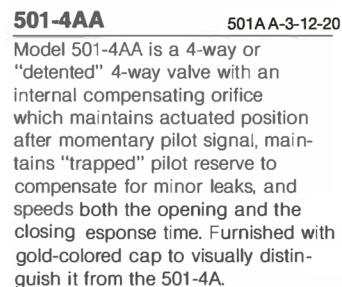


Model 501A is a multi-purpose valve offering high flow rates (to 275 scfm at 125 psig). With all ports on the same vertical plane, the 501A offers straight-line plumbing. It is constructed of

lightweight aluminum which has been hardcoated for greater resistance to wear. With the pilot pressure connected to pilot port, four functions are possible:



501-4A Model 501-4A valve offers high flow rates (to 212 scfm at 125 psig). With all ports on the same horizontal plane, it provides convenient straight-line plumbing. The 501-4A can be mounted in any position: in-line or with body mounting lugs.



Specifications

MEDIA:
Compressed Air (Consult factory for others)

PRESSURE RANGE:
501-4A: 0 to 125 psig (0 to 8.6 bars)
501A: 0 to 125 psig (0 to 8.6 bars)
501AA: 15 to 125 psig (1.0 to 8.6 bars)

TEMPERATURE RANGE:
-30 to 225°F (-34.4 to 107.2°C)
501A/AA: -30 to 225°F (-34.4 to 107.2°C)

OPERATING SPEEDS:
501-4A/AA: To 360 CPM

MATERIALS:
Cast Aluminum, Zinc Plated Steel, Stainless Steel, Buna N

LUBRICATION Recommended
 FILTRATION Recommended

Weight

MODEL	30 PSIG CFM	(2.1 BARS) LPM	120 PSIG CFM	(8.3 BARS) LPM	ACTUAL LBS	KGS
501-4A/AA	55.0	1557.0	195.0	5521.0	1.65	0.74
501A/AA	72.0	2037.6	267.0	7556.1	0.9	0.4

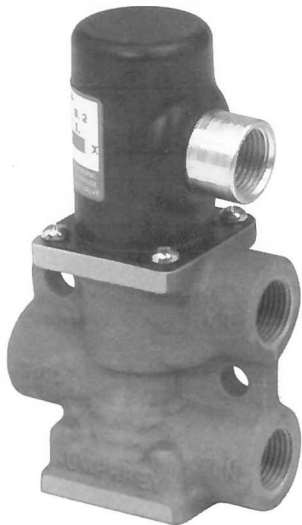
Fill/Exhaust Times (Seconds)

	SUPPLY PRESSURE								
	At 50 psig (3.5 bars)				At 100 psig (7.0 bars)				
	Chamber Fill 0-40 psig (0-2.8 bars)		Exhaust 50-10 psig (3.5-.7 bars)		Chamber Fill 0-80 psig (0-5.5 bars)		Exhaust 100-20 psig (7.0-1.4 bars)		
	10 Cubic Inches (164cc)		100 Cubic Inches (1640cc)		10 Cubic Inches (164cc)		100 Cubic Inches (1640cc)		
MODEL	FILL	EXHAUST	FILL	EXHAUST	FILL	EXHAUST	FILL	EXHAUST	
501-4A/AA	0.012	0.014	0.121	0.104	0.013	0.017	0.134	0.125	
501A/AA	0.008	0.012	0.082	0.096	0.009	0.015	0.094	0.119	
VALVED PRESSURE		25 psig		1.7 bars		75 psig		5.2 bars	
PILOT PRESSURE		125 psig		8.6 bars					
MODEL	501-4A	24.3	1.7	37.6	4.0	94.2	6.5		
	501-4AA	15.5	1.1	39.0	2.7	64.2	4.4		
	501A	19.3	1.3	43.2	3.0	71.3	4.9		
	501AA	17.8	1.2	42.0	2.9	69.8	4.8		

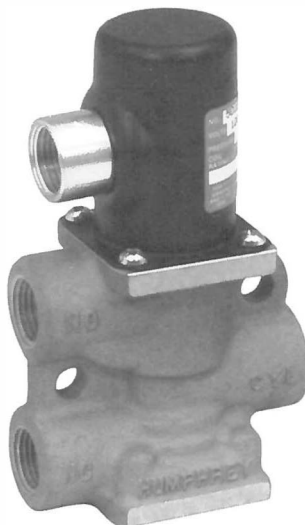
Humphrey 501 Series Electric Air Valves

Humphrey 501 Series electric air valves feature 0.500-inch orifices for high flow (275 scfm at 125 psig) and the convenience of straight-line plumbing. They are constructed of lightweight aluminum which has been hard-coated for resistance to harsh ambient conditions.

501 Series electric air valves are 2-position, 2-way, 3-way or 4-way, single- or double-solenoid valves. They offer rapid cycling, to 600 cpm. Lubrication is recommended for optimum performance. They can be mounted in any position: in-line, with mounting base (Code 21; 3-way models only), with mounting holes, or with lugs.



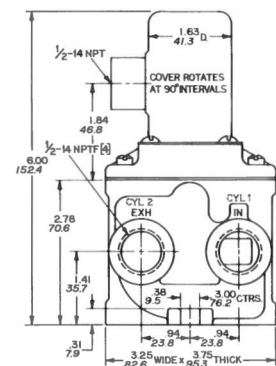
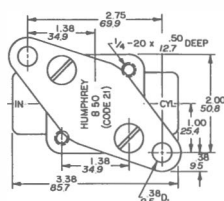
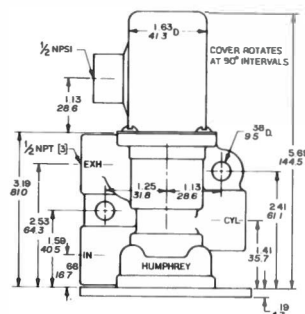
501E1 501E1-3-10-20-36
Model 501E1 is a single-solenoid, maintained-contact, spring-return, 2-way or 3-way valve available either normally closed or normally open.



501E2	501E2-3-20
Model 501E2 is a double-solenoid, momentary-contact, maintained-position, 2-way or 3-way valve. If AC coils are to be energized	longer than 30 seconds, specify Code CD (Continuous Duty) coils. All coils for DC voltages are Code CD.



501-4E1 **501-4E1**
Model 501-4E1 is a single-solenoid, maintained-contact, spring-return, 4-way, 4-port valve with common inlet and common exhaust. Cylinder port #1 is normally open; cylinder port #2 is normally closed.





501-4E2

501-4E2

Model 501-4E2 is a double- sole-noid, momentary-contact, maintained-position, 4-way, 4-port valve. If AC coils are to be ener-

gized longer than 30 seconds, specify Code CD (Continuous Duty) coils. All coils for DC voltages are Code CD.



Options for 501 Series Electric Valves

When ordering specify desired option.

- Mounting Base (Code 21; 3-way models only)
- Cover Seal (Code 61) for dirty or wet conditions.

Specifications

MEDIA:
Compressed Air (Consult factory for others)

PRESSURE RANGE:
30 to 125 psig (2.1 to 8.6 bars)

TEMPERATURE RANGE:
-30 to 125°F (-34.4 to 51.7°C)

OPERATING SPEEDS:
3 Ways: To 600 CPM, 4 Ways: To 360 CPM

MATERIALS:
Cast Aluminum, Zinc Die Cast, Zinc Plated Steel, Stainless Steel, Buna N

LUBRICATION Recommended
FILTRATION Recommended

Air Flow to Atmosphere

MODEL	30 PSIG CFM	(2.1 BARS) LPM	120 PSIG CFM	(8.3 BARS) LPM	ACTUAL LBS	KGS
501E1/E2	71.0	2009.3	242.0	6848.6	1.5	.7
501-4E1/E2	55.0	1556.5	174.0	4924.2	2.7	1.2

Weight

Fill/Exhaust Times (Seconds)

MODEL	SUPPLY PRESSURE							
	At 50 psig (3.5 bars)				At 100 psig (7.0 bars)			
	Chamber Fill 0-40 psig (0-2.8 bars)	Exhaust 50-10 psig (3.5-.7 bars)	Chamber Fill 0-80 psig (0-5.5 bars)	Exhaust 100-20 psig (7.0-1.4 bars)	Chamber Fill 0-80 psig (0-5.5 bars)	Exhaust 100-20 psig (7.0-1.4 bars)	Chamber Fill 0-80 psig (0-5.5 bars)	Exhaust 100-20 psig (7.0-1.4 bars)
	10 Cubic Inches (164cc)	100 Cubic Inches (1640cc)	10 Cubic Inches (164cc)	100 Cubic Inches (1640cc)	10 Cubic Inches (164cc)	100 Cubic Inches (1640cc)	10 Cubic Inches (164cc)	100 Cubic Inches (1640cc)
	FILL	EXHAUST	FILL	EXHAUST	FILL	EXHAUST	FILL	EXHAUST
501E1/E2	0.041	0.040	0.106	0.123	0.046	0.047	0.119	0.146
501-4E1/E2 NC	0.069	0.075	0.158	0.171	0.068	0.058	0.169	0.201
501-4E1/E2 NO	0.059	0.104	0.147	0.205	0.069	0.110	0.169	0.231

Electrical Specifications

MODEL	VOLTAGE	COIL NUMBER	WATTS	AMPS	OHMS	HEAT RISE (°C)	ON TIME SECONDS	OFF TIME SECONDS
501E1	24 DC	46-8A	6.7	0.296	86	85.9	0.034	0.033
	120 AC	46-4	8.2	0.161	255	74.5	0.021	0.038
501E2	24 DC	46-8A	6.7	0.296	86	85.9	0.051	0.069
	120 AC	46-3	23.0	0.236	105	77.8	0.020	0.024
501-4E1	24 DC	46-8A	6.7	0.296	86	85.9	0.027	0.036
	120 AC	46-4	8.2	0.161	255	102.0	0.014	0.044
501-4E2	24 DC	46-8A	6.7	0.296	86	85.9	0.022	0.024
	120 AC	46-4	8.2	0.161	255	102.0	0.009	0.010

See Electric Air Valves Introduction, Continuous Duty Coils, for additional voltages.