

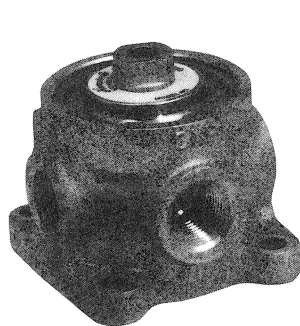
Humphrey 500-590-501 Series Air-Piloted Valves

Air-piloted valves of this series are of either double diaphragm poppet design (500 and 590) or of piston poppet design (501). 500 and 590 Series valves require no lubrication and are ideal for use with instrument air or other media which prohibit lubrication. They have no sliding seals subject to cuts, metal seals subject to scratches, or O-rings subject to damage or replacement, so they are also ideal for use with contaminated media and are unaffected by compressor varnish.

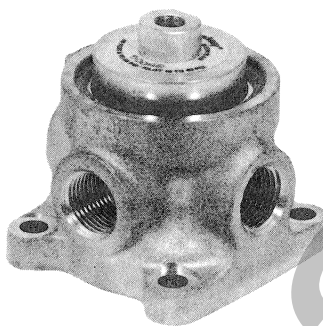
501 Series valves require lubrication and offer the convenience of straight-line plumbing. 4-way valves are also available in the 501 Series.

500 and 501 Series valves have full 0.500-inch orifices. A 590 Series valve has a full 0.625-inch orifice.

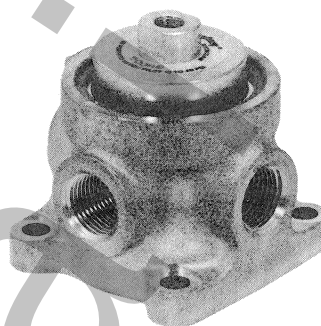
Any 500, 501, or 590 Series valve can be mounted in any position.



500A 500A-3-10
Model 500A is a 2-way or 3-way, normally closed only valve offering high flow rates (to 200 scfm at 125 psig). The 500A requires no lubrication. Pilot air is isolated from valved media for applications requiring air pilot control for air, water, oil, instrument air, and gases. The 500A may be used normally open by connecting air supply at pressures within 15-60 psig to EXH port. Valve body is brass.



500AB 500AB-3-10
Model 500AB is identical to the 500A valve but has a booster piston to reduce pilot air pressure requirements. Air-operated only. Valve body is brass.



500AG 500AG-3-10
Model 500AG is identical to the 500AB valve but has fluoroelastomer diaphragms to accommodate temperatures from -25°F (31.6°C) to 400°F (204.4°C). The 500AG is used extensively in the glass industry as a "blow valve." Valve body is brass.



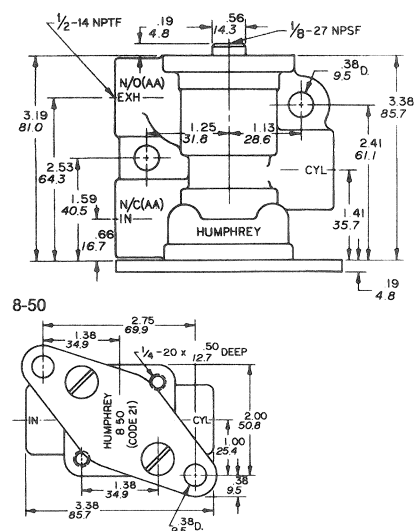
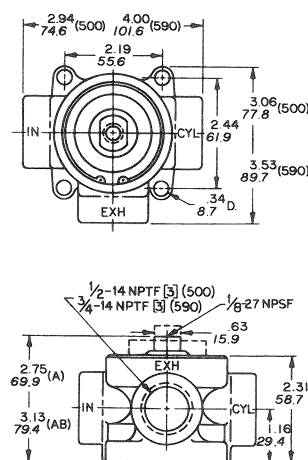
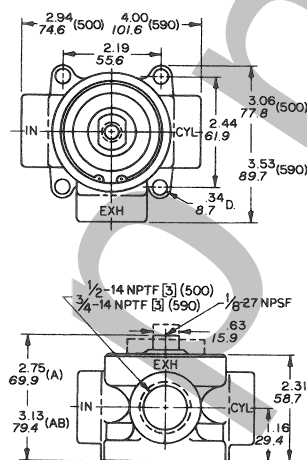
590A 590A-3-10
Model 590A is a 2-way or 3-way normally closed valve offering high flow rates (to 312 scfm at 125 psig). Available with lightweight aluminum body or with optional brass body. The 590A requires no lubrication.



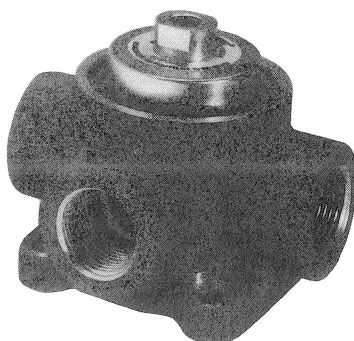
500A/AB/AG

590A/AB/AG

501A



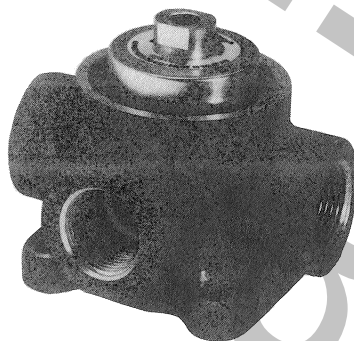
Order Information on page 204.



590AB

590AB-3-10

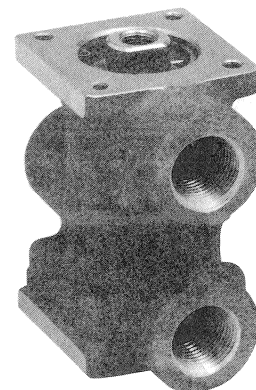
Model 590AB is identical to the 590A valve but has a booster piston to reduce pilot air pressure requirements and is air-operated only.



590AG

590AG-3-10

Model 590AG is identical to the 590AB valve but has fluoroelastomer diaphragms to accommodate temperatures from -25°F (31.6°C) to 400°F (204.4°C). The 590AG is used extensively in the glass industry as a "blow valve."



501A

501A-3-12-20

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:



Normally closed: Supply to NC port. NO port becomes exhaust port. CYL port to work.

Normally open: Supply to NO port. NC port becomes exhaust port. CYL to work.

Directional: Supply to CYL port. Pilot air shifts NC open and NO closed.

Bi-Media: Supply #1 to NO; Supply #2 to NC. CYL port is common.

Specifications

MEDIA:

Compressed Air (Consult factory for others)

PRESSURE RANGE:

500/590A: 0 to 125 psig (0 to 8.6 bars)
500/590AB, 500/590AG: 10 to 60 psig (.69 to 4.1 bars) inlet, 10 to 40 psig (.69 to 2.8 bars) pilot

501A: 0 to 125 psig (0 to 8.6 bars)
501AA: 15 to 125 psig (1.0 to 8.6 bars)

TEMPERATURE RANGE:

0 to 225°F (-17.8 to 107.2°C)
AB: -10 to 150°F (-23 to 65.5°C)
AG: -25 to 400°F (-31.6 to 204°C)
501A/AA: -30 to 225°F (-34.4 to 107.2°C)

OPERATING SPEEDS:

To 600 CPM

MATERIALS:

500/590: Cast Aluminum & Brass, Machined Brass, Stainless Steel, Machined Aluminum, Zinc Plated Steel, Buna N
501: Cast Aluminum, Zinc Plated Steel, Stainless Steel, Buna N

LUBRICATIONNot required

FILTRATIONNot required

501 Series.....Required

Air Flow to Atmosphere

MODEL	30 PSIG CFM	(2.1 BARS) LPM	120 PSIG CFM	(8.3 BARS) LPM
500A/AB	65.0	1839.5	214.0	6056.2
590A/AB	100.0	2831.0	289.0	8178.7
501A/AA	72.0	2037.6	267.0	7556.1

Weight

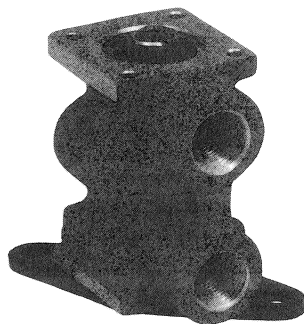
MODEL	ACTUAL LBS	KGS
500A/AB	2.7	1.2
590A/AB	1.5	0.6
501A/AA	0.9	0.4

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)	
	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)
500A	0.009	0.020	0.085	0.157	0.010	0.027	0.102	0.195
500AB	0.010	0.013	0.084	0.097	0.011	0.015	0.100	0.114
590A	0.010	0.021	0.071	0.148	0.010	0.028	0.079	0.174
590AB	0.011	0.013	0.066	0.072	0.011	0.012	0.079	0.086
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	125 psig	8.6 bars
PILOT PRESSURE						
MODEL	500A	17.0	1.2	49.5	3.4	97.8
	500AB	14.5	1.0	33.3	2.3	53.2
	590A	21.8	1.5	54.0	3.7	104.0
	590AB	15.3	1.1	34.1	2.4	41.5
	501A	19.3	1.3	43.2	3.0	71.3
	501AA	17.8	1.2	42.0	2.9	69.8

Humphrey 500-590-501 Series (Continued)



501-4A

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.



501AA

501AA-3-10-21

Model 501AA is a 3-way or "detented" 3-way, normally closed valve with an internal compensating orifice which maintains actuated position after momentary pilot signal, maintains "trapped" pilot pressure to compensate for minor leaks, and speeds the opening and closing response time. See further information in introductory material about piloted valves.



501-4AA

Model 501-4AA is a 4-way or "detented" 4-way valve with an internal compensating orifice which maintains actuated position after momentary pilot signal, maintains "trapped" pilot reserve to compensate for minor leaks, and speeds

both the opening and the closing response time.



Options for 500, 590, Series Valves

- Fluoroelastomer diaphragms for resistance to mild chemicals and for sustained temperatures to 400°F (204.4°C) and intermittent temperatures to 600°F (315.5°C). Fluoroelastomer diaphragms are standard on 500AG valves. Not available for 501 valves.
- Brass Body available for 590 valves. Brass body is standard for 500 valves.

Specifications

MEDIA:
Compressed Air (Consult factory for others)

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

TEMPERATURE RANGE:
-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 Required
FILTRATION Recommended

Air Flow to Atmosphere

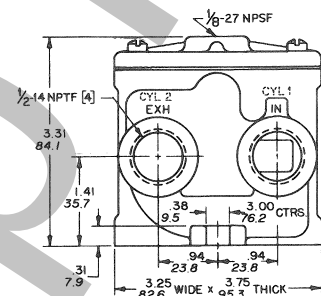
MODEL	30 PSIG CFM	(2.1 BARS) LPM	120 PSIG CFM	(8.3 BARS) LPM	ACTUAL LBS	KGS
501-4A/AA	55.0	1557.0	195.0	5521.0	1.65	0.74

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)	
	10 Cubic Inches (164cc)		100 Cubic Inches (1640cc)		10 Cubic Inches (164cc)		100 Cubic Inches (1640cc)	
	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
VALVED PRESSURE		25 psig	1.7 bars	75 psig	5.2 bars	125 psig	8.6 bars	
PILOT PRESSURE								
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	

501-4A



Order Information on page 204.

Humphrey Air Piloted Valves

Order Information

125/250/500/501/590 Series

1/8-, 1/4-, 1/2-, and 3/4-inch ports, 2-way, 3-way, 4-way

VALVES

	2 Way	3 Way	Norm. Closed	Norm. Open	Universal	w/Out Mounting Base	With Mounting Base	Panel Mounting Nuts	Booster (STD on NO)	FKM** Seals	Brass Body	Bottom Inlet (NC only)
Option Code	2	3	10	11	12	20	21	22	w/BOS	w/VAI	w/BRB	w/BIN
MODEL												
125A	SP	N/C	N/C	SP	NA	N/C	SP	SP	SP	SP	SP	SP
125AA	NA	N/C	N/C	NA	NA	N/C	SP	SP	SP	SP	SP	SP
125AH	SP	N/C	N/C	NA	NA	N/C	SP	SP	NA	NA	NA	SP
125LA	SP	N/C	N/C	NA	NA	N/C	SP	SP	NA	NA	NA	SP
250A	SP	N/C	N/C	SP	NA	N/C	SP	NA	SP	SP	SP	SP
250AA	NA	N/C	N/C	NA	NA	N/C	SP	NA	SP	SP	SP	SP
250AH	SP	N/C	N/C	NA	NA	N/C	SP	NA	NA	NA	NA	SP
250AL	SP	N/C	N/C	NA	NA	N/C	SP	NA	NA	NA	NA	SP
250-4A	NA	NA	NA	NA	NA	N/C	SP	NA	NA	SP	NA	NA
250-4AA	NA	NA	NA	NA	NA	N/C	SP	NA	NA	SP	NA	NA
500A	SP	N/C	N/C	*	NA	NA	STD	NA	NA	SP	STD	NA
500AB	SP	N/C	N/C	*	NA	NA	STD	NA	STD	SP	STD	NA
590A	SP	N/C	N/C	*	NA	NA	STD	NA	NA	SP	SP	NA
590AB	SP	N/C	N/C	*	NA	NA	STD	NA	STD	SP	SP	NA
501A	SP	N/C	*	*	N/C	N/C	SP	NA	NA	SP	NA	NA
501AA	NA	N/C	N/C	NA	NA	N/C	SP	NA	NA	SP	NA	NA
501-4A	NA	NA	NA	NA	NA	NA	STD	NA	NA	SP	NA	NA
501-4AA	NA	NA	NA	NA	NA	NA	STD	NA	NA	SP	NA	NA
SS250A	NA	STD	STD	NA	NA	STD	NA	NA	NA	STD	NA	NA

*These options can be achieved by plumbing supply to the appropriate port. See specific catalog section.

**Fluoroelastomer

HOW TO ORDER

Starting with Model Number specify options in order from left to right.

Example: To Order Model 125A-3-10-22 w/BRB

3-Way Operation	(125A-3)
Normally Closed	(125A-3-10)
Panel Mounting Nuts	(125A-3-10-22)
With Brass Body	(125A-3-10-22 w/BRB)

Remember: Option Codes marked STD and NA are not used as part of the Model Number when ordering. N/C indicates no charge but Option Code must be included in the Model Number. OS indicates that Option must be ordered separately and is not used as part of the Model Number.

N/C=No charge	STD=Standard
NA=Not available	SP=Specify, additional
OS=Order separately,	charge for this option
additional charge	
for this option	

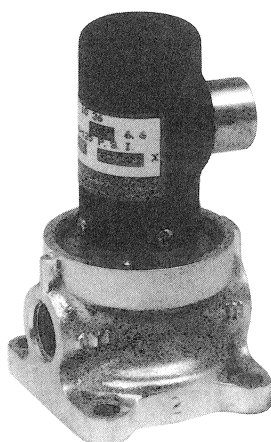
Humphrey 500 Series Electric Air Valves

Humphrey 500 Series electric air valves are of double diaphragm poppet design. Because these “no-stick” valves require no lubrication, they are ideal for use with instrument air and other media which prohibit lubrication. The use of lubrication, however, will not prevent a 500 Series valve from functioning if the lubricant is varied or removed.

500 Series electric valves have no sliding seals subject to cuts or metal seals subject to scratches, so they are ideal for use with contaminated media and are unaffected by compressor varnish.

With full 0.500-inch orifices, 500 Series valves have high flow (200 scfm at 125 psig).

500 Series valves are 2-position, 2-way or 3-way, single- or double-solenoid valves. They are designed for rugged duty and rapid cycling, and can be mounted in any position with body mounting holes. All 500 Series electric valves are furnished with brass bodies.



500E1

Model 500E1 is a single-solenoid, maintained contact, spring return, 2-way or 3-way valve available either normally closed or normally open. It can be mounted in any position with body mounting holes.



Model 500AE1 is identical to the 500E1 but has an external air pilot connection for the valving of media below 30 psig. Pilot air is isolated from valved media such as water, oil, instrument air, and gases.



Options for 500 Series valves

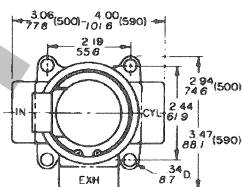
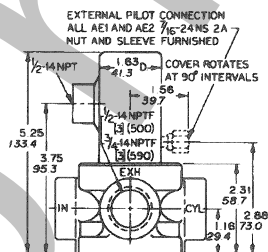
When ordering, specify desired option.

For all 500 valves:

- Fluoroelastomer diaphragms for resistance to mild chemicals and for sustained temperatures to 400°F (204.4°C) and intermittent temperatures to 600°F (315.5°C).

For E2 models only:

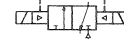
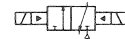
- Code CD (Continuous Duty) coils for AC voltage valves to be energized longer than 30 seconds.



500E2

Model 500E2 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.

Model 500AE2 is identical to the 500E2 but has an external air-pilot connection for the valving of media below 30 psig. Pilot air is isolated from valved media such as water, oil, instrument air, and gases.



Specifications

MEDIA:
Compressed Air (Consult factory for others)

PRESSURE RANGE:
E1/E2: 30 to 125 psig (2.1 to 8.6 bars)
AE1/AE2: 0 to 125 psig (0 to 8.6 bars)
 (body), 30 to 125 psig (2.1 to 8.6 bars)
 (pilot)

External Pilot Pressure (500AE1/AE2 only):
Equal to valved pressure 30 psig (2.1 bars)
Minimum

TEMPERATURE RANGE:
0 to 125°F (-17.8 to 51.7°C)

OPERATING SPEEDS:
To 600 CPM

MATERIALS:
Cast Brass, Machined Aluminum & Brass,
Stainless Steel, Zinc Plated Steel, Buna N

LUBRICATION	Not required
FILTRATION	Not required

Air Flow to Atmosphere

MODEL	30 PSIG CFM	(2.1 BARS) LPM	120 PSIG CFM	(8.3 BARS) LPM	ACTUAL LBS	KGS
500E1/E2 500AE1/AE2	68.6	1941.4	206.0	5829.8	3.6	1.6

Weight

Electrical Specifications

MODEL	VOLTAGE	COIL NUMBER	WATTS	AMPS	OHMS	HEAT RISE (°C)	ON TIME SECONDS	OFF TIME SECONDS
500E1	24 DC	46-8A	6.7	0.296	86	85.9	0.039	0.042
	120 AC	46-4	8.2	0.161	255	102.0	0.028	0.050
500E2	24 DC	46-8A	6.7	0.296	86	85.9	0.035	0.043
	120 AC	46-4	23.0	0.236	105	77.8	0.031	0.037

Lead Wire: # 18 AWG, 16-30 TC, 1/32, 105°C, PVC, UL & CSA.

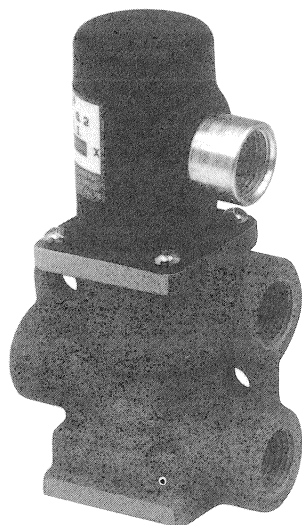
Fill/Exhaust Times (Seconds)

	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
500F1/F2	0.055	0.064	0.122	0.205	0.061	0.064	0.135	0.239

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.

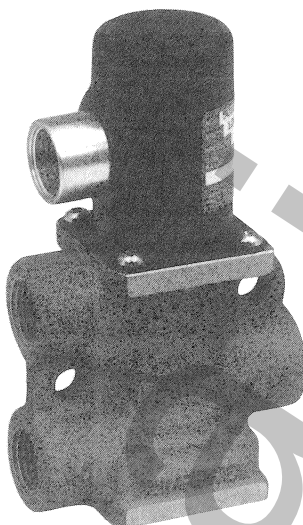
501 Series electric air valves are 2-position, 2-way, 3-way or 4-way, single- or double-solenoid valves. They offer rapid cycling, to 600 cpm. Lubrication is recommended for optimum performance. They can be mounted in any position: in-line, with mounting base Code 21; 3-way models only), with mounting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



501E1

501E1-3-10-20-36

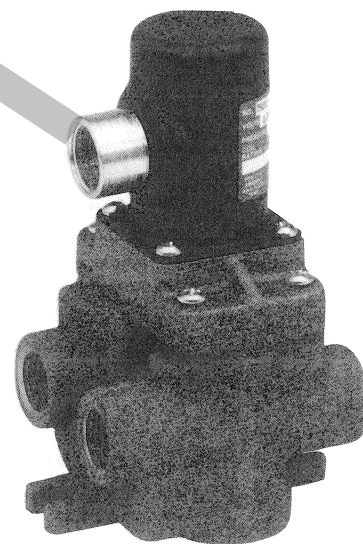
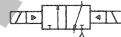
Model 501E1 is a single-solenoid, maintained-contact, spring-return, 2-way or 3-way valve available either normally closed or normally open.



501E2

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.



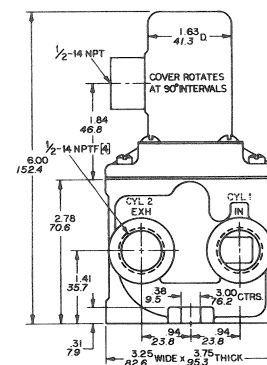
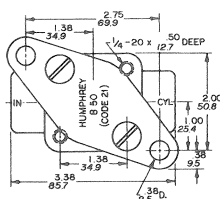
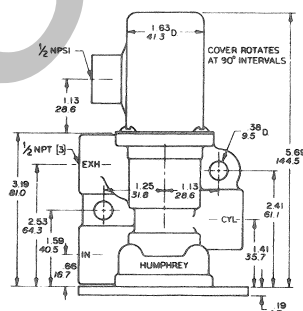
501-4E1

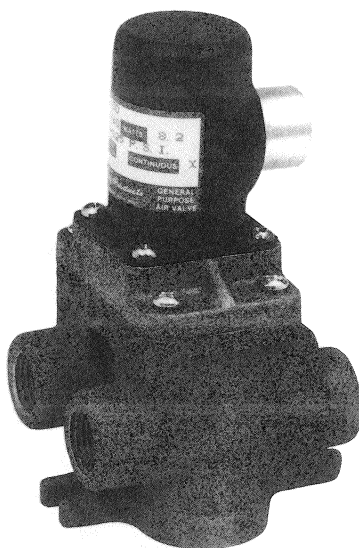
501-4E1

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.



Consult factory for air piloted vacuum options.



**501-4E2**

Model 501-4E2 is a double- solenoid, 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.



501-4E2

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 Required
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)**

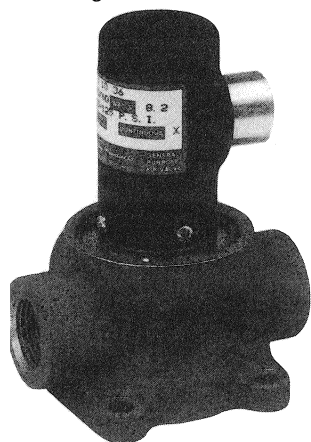
MODEL	SUPPLY PRESSURE							
	At 50 psig (3.5 bars)				At 100 psig (7.0 bars)			
	Chamber Fill 0-40 psig (0-2.8 bars)	Exhaust 50-10 psig (3.5-.7 bars)	Chamber Fill 0-80 psig (0-5.5 bars)	Exhaust 100-20 psig (7.0-1.4 bars)	Chamber Fill 0-40 psig (0-2.8 bars)	Exhaust 50-10 psig (3.5-.7 bars)	Chamber Fill 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)	10 Cubic Inches (164cc)	100 Cubic Inches (1640cc)	10 Cubic Inches (164cc)	100 Cubic Inches (1640cc)
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

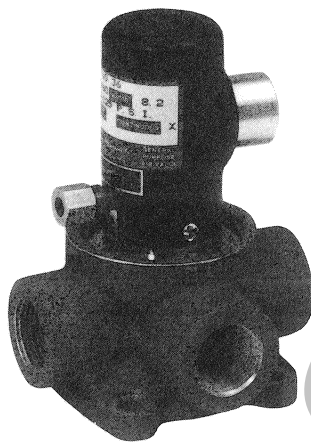
MODEL	VOLTAGE	COIL NUMBER	WATTS	AMPS	OHMS	HEAT RISE (°C)	ON TIME SECONDS	OFF TIME SECONDS
501E1	24 DC	46-8A	6.7	0.296	86	85.9	0.034	0.033
	120 AC	46-4	8.2	0.161	255	74.5	0.021	0.038
501E2	24 DC	46-8A	6.7	0.296	86	85.9	0.051	0.069
	120 AC	46-3	23.0	0.236	105	77.8	0.020	0.024
501-4E1	24 DC	46-8A	6.7	0.296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

Humphrey 590 Series electric air valves are of double diaphragm poppet design. Because these "no-stick" valves require no lubrication, they are ideal for use with instrument air and other media which prohibit lubrication. The use of lubrication, however, will not prevent a 590 Series valve from functioning if the lubricant is varied or removed.

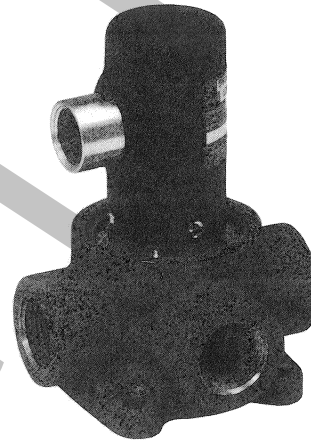
590 Series electric valves have no sliding seals subject to cuts or metal seals subject to scratches, so they are also ideal for use with contaminated media and are unaffected by compressor varnish. Constructed of lightweight anodized aluminum, these valves offer 0.625 inch orifices for high flow (312 scfm at 125 psig). 590 Series electric valves are two-position, 2-way or 3-way, single- or double-solenoid valves. They are designed for rugged duty and rapid cycling and can be mounted in any position with mounting holes.



590E1
Model 590E1 is a single-solenoid, maintained-contact, spring-return, 2-way or 3-way valve available either normally closed or normally open.



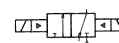
590AE1
Model 590AE1 is identical to the 590E1 but has an external air pilot connection for the valving of media below 30 psig. The valve isolates pilot air from valved media such as water, oil, instrument air, or gases.



590E2
Model 590E2 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.

590E2-3

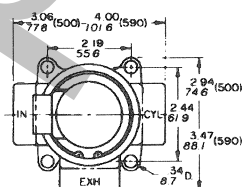
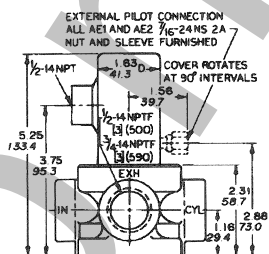
Model 590AE2 is identical to the 590E2 but has an external air pilot connection for the valving of media below 30 psig.



Options for 590 Series Electric Valves

When ordering specify desired option.

- Cover Seal (Code 61) for dirty or wet conditions.
- Continuous Duty Coils (Code CD) for double-solenoid valves.
- Fluoroelastomer diaphragms for resistance to mild chemicals and for sustained temperatures to 400°F (204.4°C) and intermittent temperatures to 600°F (315.5°C).
- Brass Body.



Specifications

MEDIA:
Compressed Air (Consult factory for others)

PRESSURE RANGE:

E1/E2: 30 to 125 psig (2.1 to 8.6 bars)

AE1/AE2: 0 to 125 psig (0 to 8.6 bars)

External pilot pressure (AE1/AE2): Equal to valved pressure 30 psig (2.1 bars) Minimum.

TEMPERATURE RANGE:
0 to 125°F (-17.8 to 51.7°C)
OPERATING SPEEDS:
To 600 CPM

MATERIALS:
Cast Aluminum & Brass, Machined Aluminum & Brass, Stainless Steel, Zinc Plated Steel, Buna N
LUBRICATION: Not required
FILTRATION: Not required

Air Flow to Atmosphere

MODEL	30 PSIG CFM	(2.1 BARS) LPM	120 PSIG CFM	(8.3 BARS) LPM	ACTUAL LBS	KGS
590E1/E2	95.0	2688.5	283.0	8008.9	2.1	0.9

Electrical Specifications

MODEL	VOLTAGE	COIL NUMBER	WATTS	AMPS	OHMS	HEAT RISE (°C)	ON TIME SECONDS	OFF TIME SECONDS
590E1	24 DC	46-8A	6.7	0.296	86	85.9	0.046	0.050
	120 AC	46-4	8.2	0.161	255	102.0	0.034	0.042
590E2	24 DC	46-8A	6.7	0.296	86	85.9	0.039	0.042
	120 AC	46-4	8.2	0.161	255	102.0	0.009	0.041

Lead Wire: # 18 AWG, 16-30 TC, 1/32, 105°C, PVC, UL & CSA.

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
590E1/E2	0.063	0.069	0.100	0.185	0.063	0.070	0.118	0.225

Humphrey Electric Air Valves

Order Information

500/501/590 Series

1/4-, 1/2-, and 3/4-inch ports, 2-way, 3-way, 4-way

VALVES

	2 Way	3 Way	Norm. Closed	Norm. Open	w/Out Mount. Base	With Mount. Base	Grom- met Leads (18")	Conduit Leads (18")	DIN Con- nector	Grom./ Conduit Leads (72")	Cover Seal	FKM* Seals	Brass Body	Bottom Inlet (NC Only)	Specify Voltage with option code				12VDC 24VDC
															120V 50/60, 240/50/60 (ID not avail- able on E1)		24V 50/60 w/"Flywheel" Rectifiers for CD		
															CD	ID	CD	ID	
Option Code	2	3	10	11	20	21	35	36	39	LL	61	w/VAI	w/BRB	w/BIN	CD	ID	CD	ID	Spec. Volt.
500AE1	SP	N/C	N/C	N/C	NA	STD	NA	STD	SP	SP	NA	SP	STD	NA	STD	NA	SP	NA	N/C
500E2	SP	N/C	NA	NA	NA	STD	NA	STD	SP	SP	SP	SP	STD	NA	SP	STD	SP	SP	N/C
500AE2	SP	N/C	NA	NA	NA	STD	NA	STD	SP	SP	NA	SP	STD	NA	SP	STD	SP	SP	N/C
590E1	SP	N/C	N/C	N/C	NA	STD	N/C	N/C	SP	SP	SP	SP	SP	NA	STD	NA	SP	NA	N/C
590AE1	SP	N/C	N/C	N/C	NA	STD	NA	STD	SP	SP	NA	SP	SP	NA	STD	NA	SP	NA	N/C
590E2	SP	N/C	NA	NA	NA	STD	NA	STD	SP	SP	SP	SP	SP	NA	SP	STD	SP	SP	N/C
590AE2	SP	N/C	NA	NA	NA	STD	NA	STD	SP	SP	NA	SP	SP	NA	SP	STD	SP	SP	N/C
501E1	SP	N/C	N/C	N/C	N/C	SP	N/C	N/C	SP	SP	SP	SP	NA	NA	STD	NA	SP	NA	N/C
501E2	SP	N/C	NA	NA	N/C	SP	NA	STD	SP	SP	SP	SP	NA	NA	SP	STD	SP	SP	N/C
501-4E1	NA	NA	NA	NA	NA	STD	N/C	N/C	SP	SP	SP	SP	NA	NA	STD	NA	SP	NA	N/C
501-4E2	NA	NA	NA	NA	NA	STD	NA	STD	SP	SP	SP	SP	NA	NA	SP	STD	SP	SP	N/C

CD = Continuous Duty; ID = Intermittent Duty.

Note: Code 39 not available on E2 models with continuous duty coils (Code CD).

*Fluoroelastomer

ACCESSORIES

Model	Description
HS4	DIN Connector for use with Code 39 Valves.
JB	— Add "JB" to model number of any solenoid valve with conduit Connection (Code 36).

HOW TO ORDER

Starting with Model Number specify options in order from left to right.

Example: To Order Model 500E1-3-10-36 12VDC

3-Way Operation, Single Solenoid (500E1-3)
Normally Closed (500E1-3-10)
Conduit Leads (18") (500E1-3-10-36)
Voltage 12VDC (500E1-3-10-36) 12VDC

Remember: Option Codes marked STD and NA are not used as part of the Model Number when ordering. N/C indicates no charge but Option Code must be included in the Model Number. OS indicates that Option must be ordered separately and is not used as part of the Model Number.

N/C = No charge
NA = Not available
OS = Order separately, additional charge for this option

STD = Standard
SP = Specify, additional charge for this option