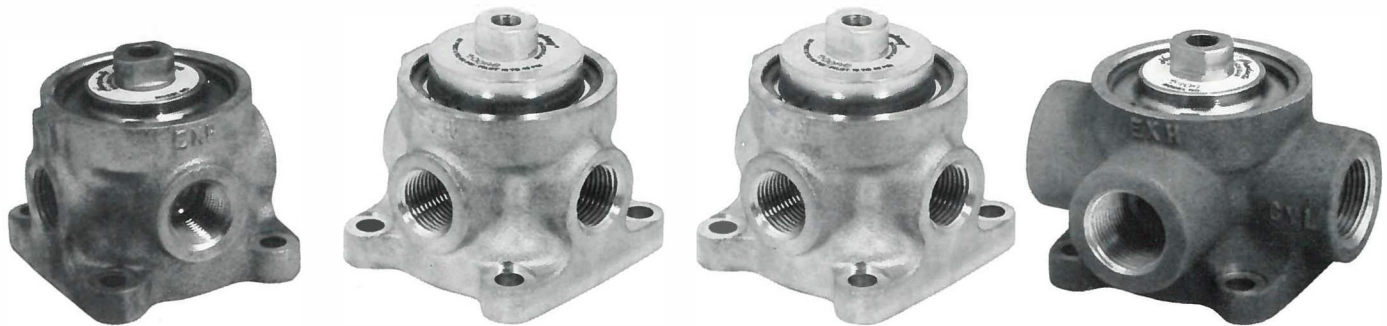


Humphrey 500-590 Series Air-Piloted Valves

Air-piloted valves of this series are of double diaphragm poppet design. 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.

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

Any 500 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.

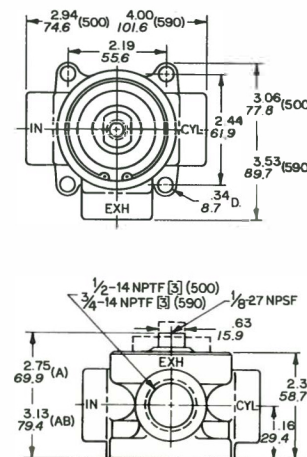
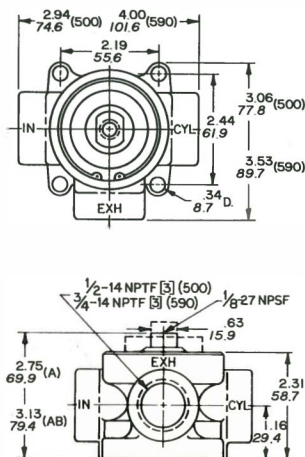
500AG 500AG-3-10
Model 500AG is identical to the 500AB valve but has Viton A diaphragms to accommodate temperatures from -25°F (31.6°C) to 400°F (204.4°C). The 500AG is used extensively in the glass industry as a "blow valve." Valve body is brass.

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





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 Viton A 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."



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

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)

OPERATING SPEEDS:
 To 600 CPM

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

LUBRICATION Not required
FILTRATION Not required

Air Flow to Atmosphere

MODEL	Weight				ACTUAL LBS	KGS
	30 PSIG CFM	(2.1 BARS) LPM	120 PSIG CFM	(8.3 BARS) LPM		
500A/AB	65.0	1839.5	214.0	6056.2	2.7	1.2
590A/AB	100.0	2831.0	289.0	8178.7	1.5	0.6

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

MODEL	VALVED PRESSURE						
	25 psig	1.7 bars	75 psig	5.2 bars	125 psig	8.6 bars	
500A	17.0	1.2	49.5	3.4	97.8	6.7	
500AB	14.5	1.0	33.3	2.3	53.2	3.7	
590A	21.8	1.5	54.0	3.7	104.0	7.2	
590AB	15.3	1.1	34.1	2.4	41.5	2.9	

Options for 500, 590, Series Valves

- Viton A diaphragms for resistance to mild chemicals and for steady temperatures to 400°F (204.4°C) and intermittent temperatures to 600°F (315°C). Viton A Diaphragms are standard on 500AG and 590AG valves. Not available for 501 valves.
- Brass Body. Available for 590 valves. Brass body is standard for 500 valves.