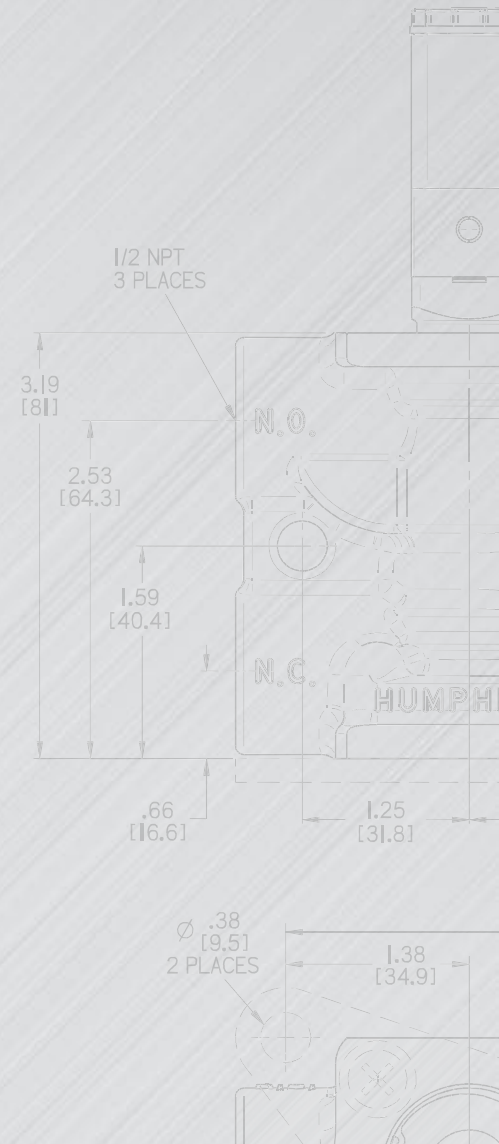


High Flow Poppet Valves

2-, 3- and 4-Way | Solenoid, Air Pilot, Detented Lever, Cartridge



Humphrey High Flow Poppet Valves: Rugged and reliable construction, streamlined porting, and large flow capacity for industrial applications.

MADE IN USA



High Flow Poppet Valves

2-, 3- and 4-Way | Solenoid, Air Pilot, Detented Lever, Cartridge

The high flow Humphrey Large Poppet Valves deliver up to 275 SCFM in the most challenging industrial environments. Rugged and dependable, and utilizing a low friction, opposing poppet construction, these 1/2 NPT valves seal tight at rest and open reliably with each cycle. The large, unrestricted 1/2" orifice opens to full flow instantaneously when actuated.

Streamlined three-way models are multipurpose and feature a variety of mounting options. Four-way models incorporate two three-way types within a single diecast body.

Select from solenoid pilot and remote air pilot models in 2-, 3- and 4-way functions, or detented lever and cartridge types in 2- and 3-way functions.



FEATURES

- Super High Flow Capacity
- Reliable
- Simple Design, Few Parts
- Multipurpose, 3-Way Model

BENEFITS

- Efficiency from a Compact Size
- Low Friction Poppet Will Not Stick
- Cost Effective, Trouble-Free
- Versatile
- Pipe as: 2- or 3-Way
Normally Closed or Open
Diverter or Selector Function

VALVE LINE-UP

Configurations: 2-Way or 3-Way, Normally Closed or Open, and 4-Way

Actuation Types: Solenoid Air Pilot, Remote Air Pilot, Detented Lever, Cartridge

Media: Compressed Air and Inert Gases to 125 PSI (8.5 bar)

HIGH FLOW POPPET VALVE: HOW IT WORKS

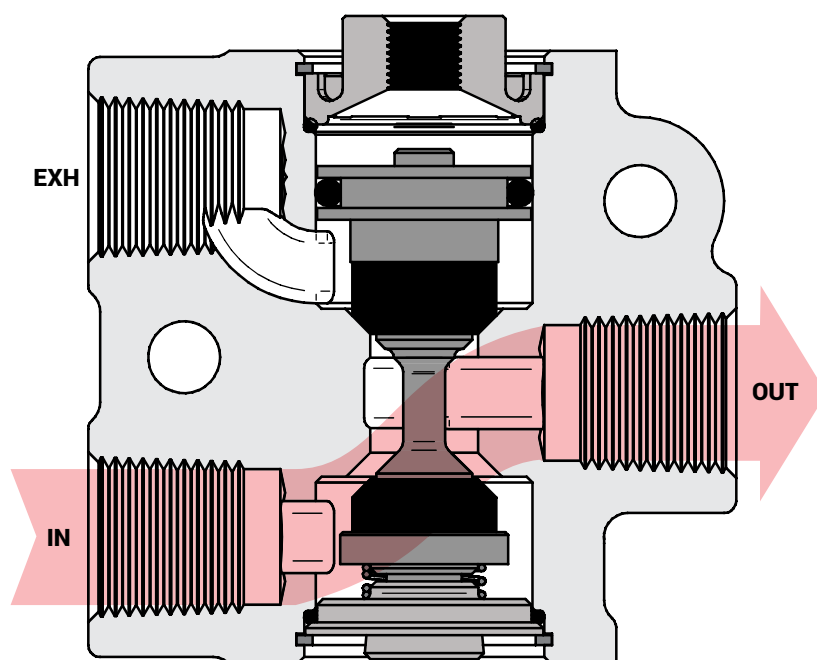
High Flow Poppet Valves feature a large, unrestricted laminar flow path through the body. At rest, design uses force of supply air to compress lower poppet into its seat and seal tight. Upon actuation (shown), valve shifts to open high flow to OUT port instantaneously.

The low friction, opposing poppet construction is simple, proven and reliable.

EXCLUSIVE HUMPHREY "AA" PRINCIPLE

These 3- and 4-way remote air piloted valves incorporate an internal orifice that opens supply air to the pilot chamber upon actuation and can accelerate valve cycling speeds.

Further, "AA" valves are used for momentary pilot, maintained position functions. Pilot "AA" valve from a momentary pulse of a 2-way valve. Valve shifts and holds actuated position reliably, regardless of pressure changes or minor pilot line leakage. A momentary pulse from a second valve dumps pilot pressure and returns "AA" valve to its closed position.



501A (Actual Size), Actuated

SOLENOID AIR PILOT



Our new and improved B Series Solenoid Operator is featured. Available normally closed or open, in 12VDC, 24VDC or 120VAC voltages and lead wire or DIN electrical entry. Additionally, the B Series mounting and piping is completely interchangeable with the field proven Humphrey original 501E1 and 5014E1 Series.

REMOTE AIR PILOT



Mount these rugged work valves near the point of use and pilot them with cost effective miniature valves remotely. Our standard 501A model is high flow and multipurpose. Exclusive "AA" models incorporate an internal compensating orifice that accelerates cycling and achieve a maintained actuated position from a momentary air pilot signal.

DETENTED LEVER



This high flow, 3-port detented lever valve is perfect as an air supply shut-off to equipment or processes. Fills and dumps downstream compressed air energy quickly. Large handle with positive detent in closed and open positions. Equipped with a variety of mounting options (panel, base, side mount). Multipurpose. Plug port for 2-way, or use as diverter or selector function.

CARTRIDGE



Insert this multipurpose, high flow capacity 3-port valve into your proprietary workpiece or equipment housing to simplify or protect air path routing and save space. Versatile. Port valve as 2- or 3-way normally closed or open function, as diverter or selector functions.

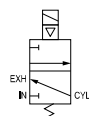
MODEL	PORT SIZE	TYPE	FUNCTION	MAX FLOW
B501E	1/2 NPT	Solenoid Air Pilot	2- or 3-Way, NC or NO	275 SCFM
B5014E1			4-Way, 2-Position, Single Solenoid - Spring Return	212 SCFM
501A(AA)	1/2 NPT (Pilot Port: 1/8 NPSF)	Remote Air Pilot	2- or 3-Way, Single Pilot, Multipurpose and NC	275 SCFM
5014A(AA)			4-Way, Single Pilot, Spring Return	212 SCFM
501V	1/2 NPT	Detented Lever	2- or 3-Way, Multipurpose	275 SCFM
Y500IN	1/2" ORIFICE	Cartridge	3-Way, Multipurpose	238 SCFM

High Flow Poppet Valves | B501E1, B5014E1, 501V

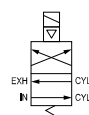
SPECIFICATIONS	B501E1	B501-4E1
TYPE OF OPERATION	Solenoid - Air Pilot Operated	
FUNCTION	NC (Normally Closed) or NO (Normally Open)	2-Position, Single Solenoid - Spring Return
PIPING TYPE	Inline, Direct Piping	
NUMBER OF PORTS	3 (Plug Exhaust Port for 2-way)	4
PORT SIZE	1/2 NPT	
MEDIA	Compressed Air, Inert Gases	
WETTED MATERIALS	Aluminum, SST, NBR	
PRESSURE RANGE - PSI (BAR)	NC: 30-125 (2-8.5) NO: 30-100 (2-7)	30-100 (2-7)
FLOW CAPACITY @ 100 PSI	220 SCFM	160 SCFM
ESEOD - IN (MM)	0.452 (11.47)	0.397 (10.07)
FLOW COEFFICIENT - Cv	3.67	2.83
RESPONSE TIME - ON/OFF (MS)	23 / 45	50 / 40
AMBIENT TEMPERATURE RANGE - °F (°C)	-30 - 125 (-34 - 51)	
LUBRICATION	Recommended	
MEDIA FILTRATION	Recommended (30 micron)	
WEIGHT (OZ)	15	
COMPLIANCE	RoHS	

ELECTRICAL SPECIFICATIONS	ALL VALVES
STANDARD VOLTAGES	12VDC, 24VDC, 120/50/60
ELECTRICAL ENTRY	19.5" Long Lead Wires, DIN (10mm DIN/B)
VOLTAGE TOLERANCE	+/- 10%
POWER CONSUMPTION	6.5w (DC), 8.5w (AC)
COIL INSULATION RATING	Class F

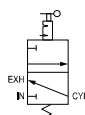
SPECIFICATIONS	501V
TYPE OF OPERATION	Detented Lever
FUNCTION	Multipurpose
PIPING TYPE	Inline, Direct Piping
NUMBER OF PORTS	3 (Plug Exhaust Port for 2-way)
PORT SIZE	1/2 NPT
MEDIA	Compressed Air, Inert Gases
WETTED MATERIALS	Aluminum, SST, NBR
PRESSURE RANGE - PSI (BAR)	0-125 (0-8.5)
FLOW CAPACITY @ 100 PSI	220 SCFM; 6229 SLPM
ESEOD - IN (MM)	0.452 (11.47)
FLOW COEFFICIENT - Cv	3.67
AMBIENT TEMPERATURE RANGE - °F (°C)	-20 - 225 (-28 - 107)
LUBRICATION	Recommended
WEIGHT (OZ)	19



B501E

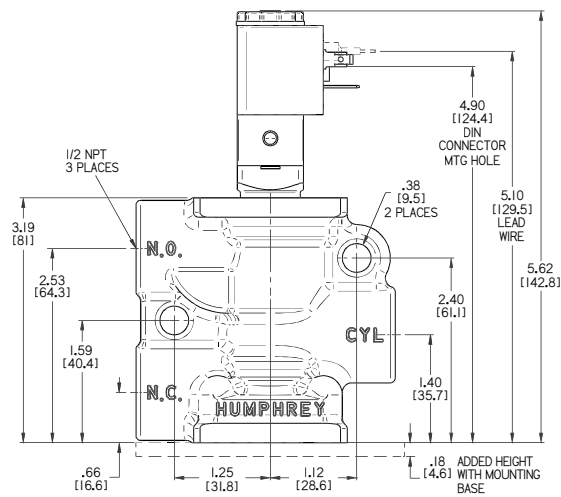


B5014E1

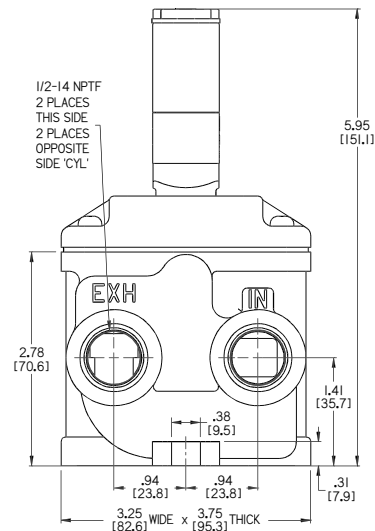


501V

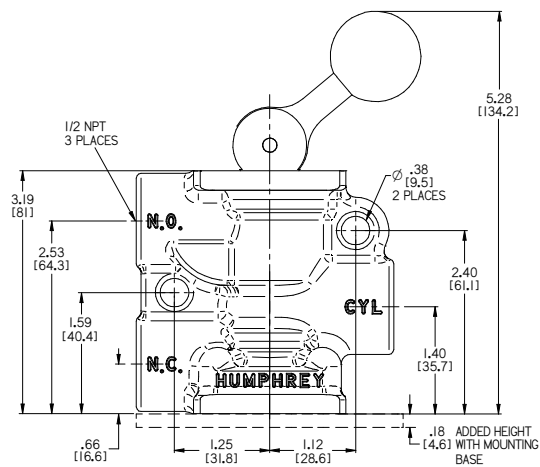
B501E



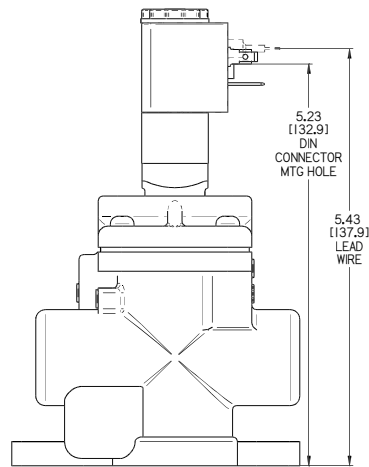
B5014E



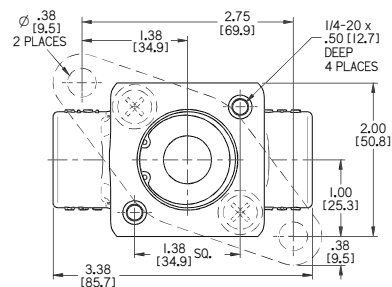
501V



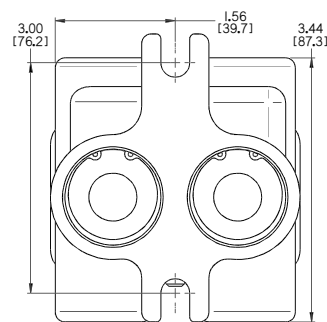
SIDE VIEW | B5014E



TOP VIEW | B501E, 501V

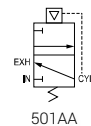
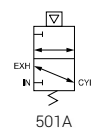


TOP VIEW | B5014E

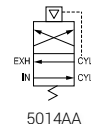
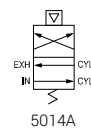


High Flow Poppet Valves | 501A(AA), 5014A(AA), Y500IN

SPECIFICATIONS	501A	501AA	5014A	5014AA
TYPE OF OPERATION	Air Pilot	Air Pilot with Bleed	Air Pilot	Air Pilot with Bleed
FUNCTION	Single Pilot, Multipurpose	Single Pilot, NC (Normally Closed)	Single Pilot, Spring Return	
PIPING TYPE	Inline, Direct Piping			
NUMBER OF PORTS	3 (Plug Exhaust Port for 2-way)		4	
PORT SIZE	1/2 NPT (Pilot Port: 1/8 NPSF)			
MEDIA	Compressed Air, Inert Gases			
WETTED MATERIALS	Aluminum, SST, Buna N			
PRESSURE RANGE - PSI (BAR)	0-125 (0-8.5)	15-125 (1-8.5)	0-125 (0-8.5)	15-125 (1-8.5)
RECOMMENDED PILOT PRESSURE (PSI)				
@ ≤ 30 PSI	29	20	30	22
@ ≤ 60 PSI	52	38	51	39
@ ≤ 90 PSI	72	54	73	54
@ ≤ 120 PSI	92	70	93	69
FLOW CAPACITY @ 100 PSI	220 SCFM; 6229 SLPM		170 SCFM; 4813 SLPM	
ESEOD - IN (MM)	0.452 (11.47)		0.397 (10.07)	
FLOW COEFFICIENT - Cv	3.67		2.83	
OPERATING SPEED (CPM)	600		360	
AMBIENT TEMPERATURE RANGE - °F (°C)	-30 - 225 (-34 - 107)			
LUBRICATION	Recommended			
WEIGHT (OZ)	19		30	
INCLUDED OPTION	—	Internal compensating orifice	—	Internal compensating orifice

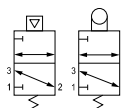


501A



5014A

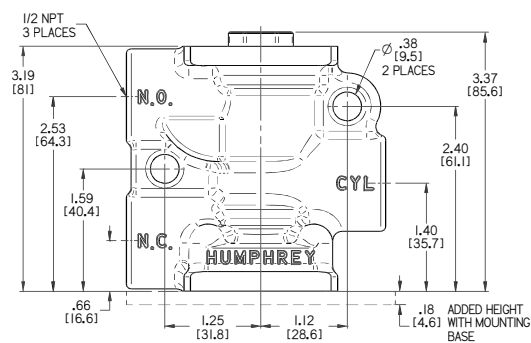
SPECIFICATIONS	Y500IN			
TYPE OF OPERATION	Plunger or Air Pilot			
FUNCTION	Multipurpose			
PIPING TYPE	Cartridge, Insert Piping			
NUMBER OF PORTS	3			
PORT SIZE	1/2" ORIFICE			
MEDIA	Compressed Air			
WETTED MATERIALS	Anodized aluminum, Buna N			
PRESSURE RANGE - PSI (BAR)	0-125 (0-8.5)			
RECOMMENDED PILOT PRESSURE (PSI)	30 (@ ≤ 30 PSI)	55 (@ ≤ 60 PSI)	80 (@ ≤ 90 PSI)	105 (@ ≤ 120 PSI)
FORCE TO ACTUATE (LBS)	15 @ 30 PSI; 50 @ 100 PSI			
FLOW CAPACITY @ 100 PSI	190 SCFM; 5380 SLPM			
ESEOD - IN (MM)	0.42 (10.66)			
FLOW COEFFICIENT - Cv	3.17			
OPERATING SPEED (CPM)	600			
AMBIENT TEMPERATURE RANGE - °F (°C)	-10 - 225 (-23 - 107)			
LUBRICATION	Recommended			
WEIGHT (OZ)	4			



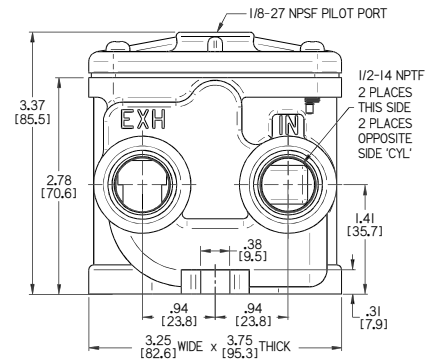
Y500IN



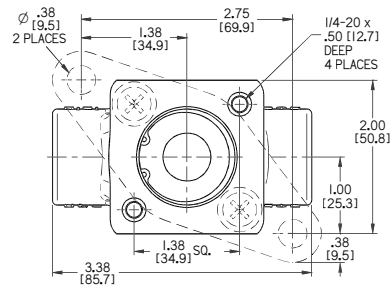
501A(AA)



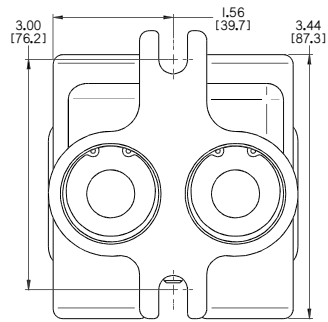
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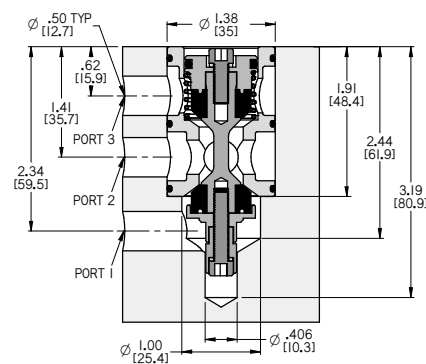
TOP VIEW | 501A(AA)



TOP VIEW | 5014A(AA)



Y500IN



High Flow Poppet Valves | How to Order

SOLENOID AIR PILOT

MODEL	FUNCTION		ELECTRICAL ENTRY		MAIN BODY SEALS		AVAILABLE VOLTAGES
	NORM CLOSED	NORM OPEN	LEAD WIRES	DIN STYLE	NBR	FKM	
B501E1	—	11	—	39	—	F	12VDC 24VDC 120/50/60
B5014E1	NA						

Order Example: B501E11139F24VDC; B5014E13924VDC

DETENTED LEVER

MODEL	PORTS		FUNCTION		MTG BASE		BODY SEALS	
	2-WAY	3-WAY	NORM CLOSED	MULTI-PURPOSE	WITHOUT	WITH	NBR	FKM
501V	2	–	–	12	–	21	–	VAI

Order Example: 501V1221VAI

REMOTE AIR PILOT

MODEL	PORTS		FUNCTION		MTG BASE		BODY SEALS	
	2-WAY	3-WAY	NORM CLOSED	MULTI-PURPOSE	WITHOUT	WITH	NBR	FKM
501A	2	—	—	12	—	21	—	VAI
501AA			—	NA				
5014A	NA		NA		NA	—		
5014AA								

Order Example: 501A221; 5014AAVAI




CARTRIDGE

MODEL	PORT	BODY SEALS	
	3-WAY	NBR	FKM
Y500IN	–	–	VAI

Order Example: Y500INVAI

Order Option Codes: NA = Not Available
 Hyphen = Std, No Option Code Required

HOW TO ORDER | ACCESSORIES

DESCRIPTION		MODEL	NOTES
	PIPE PLUG	130-20BAGOF10	• Plug EXH (Port 3) for 2-way function. • Sold in bags of 10.
	DIN CONNECTOR	HS5	• Receptacle for DIN electrical entry valves (valve option code 39).
	MOUNTING BASE	8-50A	• Screws (2) included. (3-way valves only.)