



TECHNICAL DATA SHEET

GP Series Pilot Valves

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DESCRIPTION

The GP Series 3-way and 4-way pilot valves are the ideal NAMUR style operators for Geminis A500 Series pneumatic actuators.

MATERIALS OF CONSTRUCTION

BODY: Aluminium with Teflon® Impregnated Hard Anodized (PolyLube®) Surfaces

SPOOL: 18-8 Stainless Steel

SEALS: Nitrile / Viton ®

HARDWARE: 18-8 Stainless Steel

COIL / BODY: GF Nylon / GF Zytel ®

RATINGS / SPECIFICATIONS

TEMPERATURE: Standard Model -20°F to 140°F, High Temperature Model -20°F to 350°F

TUBING: For short runs up to 5 feet 5/32" I.D. is suitable, 1/4" I.D. will serve up to 30 feet. For longer runs, use 3/8" I.D. or larger.

AIR SUPPLY CONNECTION: 1/8" NPT

ELECTRICAL CONNECTION: Mini-DIN by Wire Strain Relief (DS); Conduit (DC), Automotive (Field Bus M12) (DA)

RATINGS / SPECIFICATIONS (continued)

POWER (Air & Electric):

AIR: 50 - 125 psi air. Sufficient air delivery must be available at the actuator to ensure dependable operation. The following precautions should be observed: Air supply should be clean and free of moisture. When dirty or wet air is a problem; a filter / separator should be specified; these units are most effective when installed as closely as possible to the actuator. A filter, when used, should permit a minimum flow of 4 scfm at an upstream pressure of 60 psi. Eliminate severe restrictions to air flow (tubing & fittings). The most restricted passage must have an area no smaller than .012 inches square, the area of 1/8" diameter orifice.

ELECTRIC:

Standard 120VAC Coil;

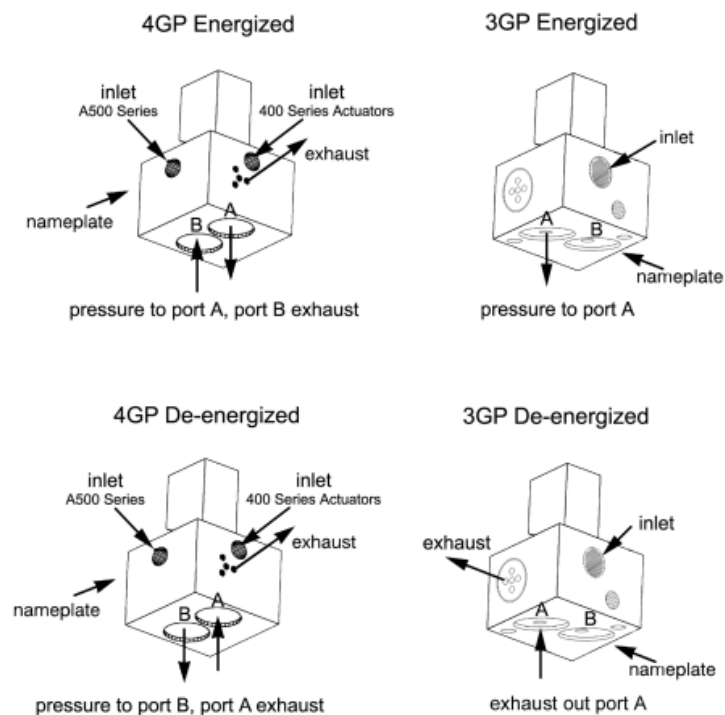
Wattage: 5

Class: F Continuous Duty

Protection: IP65 (with connector) Dust-tight, Water Resistant

FLOW CHARACTERISTICS

Flow Characteristics



MAINTENANCE

The GP Series requires no maintenance. Operating coils can be easily replaced if required.

INSTALLATION & OPERATION INSTRUCTIONS

These instructions describe the operation and installation of the 3-way (3GP) and 4-way (4GP) Gemini pilot valves. The 3GP pilot valve can be mounted to all Gemini A500 Series spring-return actuators. The 4GP pilot valve can be mounted to all Gemini A500 Series double acting actuators and 400 Series double acting actuators which have the optional NAMUR interface as designated by the suffix N in the model number confirmed by the 'N' stamped on the endcap.

3GP A500 Spring-Return Models

Installation - Normally Closed Operation (valve in closed position when coil is de-energized)

1. Remove the 1/8" exhaust filter from actuator port marked 'B'.
2. Fit the two o-ring seals into the pockets on the underside of the pilot valve body.
3. Install the orientation screw (M5X10) into the hole on the actuator mounting pad directly beneath the letter 'A' (identified as 'Normally Closed' in figure 1), leaving 1/16" - 1/8" of the screw protruding above the surface of the mounting face.
4. Position the pilot valve so that actuator orientation screw fits into the shallow drilled hole in the GP body.
5. Insert the mounting screws (M5X32) through the mounting holes in the pilot body valve and tighten until secure.
6. Connect the air supply (50 - 125 psi) to the 1/8" NPT inlet port and wire for the voltage marked on the coil.
7. GP coil is usually equipped with a 'DS' DIN x Strain or 'DC' DIN x Conduit electrical connector. To

wire the connector, remove the center mounting screw and, with a small screwdriver, pry the inner element from the body of the connector to expose the terminal blocks inside. Route the wire through the hub of the connector. For the 'DS' loosen the sealing nut and ensure the wire insulation passes through the rubber grommet inside the hub. Affix the wires to the appropriate terminal block. Retighten sealing nut to secure the wire and provide a seal.

Installation - Normally Open (valve in open position when coil is de-energized)

For Normally Open operation the purchase of a normally open actuator is suggested i.e. A512NOSR & A522NOSR. These models have the internal components assembled so that the actuator position indicator reflects the correct position of the valve. Field retrofit is not suggested and will void warranty.

For those applications where the actuator position indication is not required, remove the red position indicator and install the ball valve in the open position and mount the pilot valve as per Normally Closed Operation.

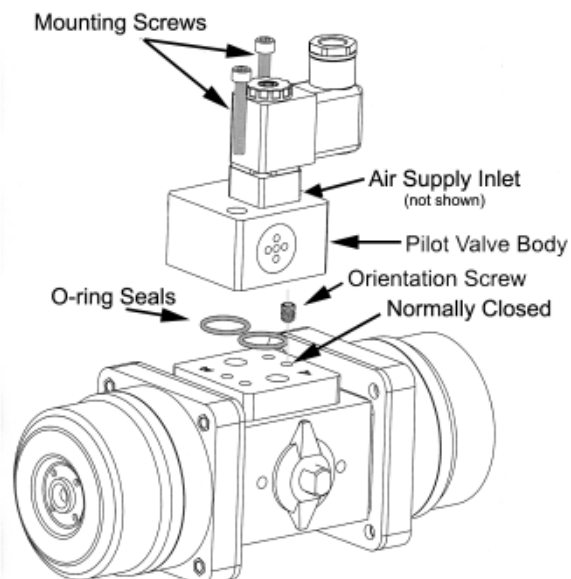


Figure 1.

INSTALLATION & OPERATION INSTRUCTIONS (continued)

4GP Double Acting Models

Installation - Normally Closed Operation (valve in closed position when coil is de-energized)

1. Select the proper air inlet port. Your 4GP pilot valve has (2) 1/8" air supply inlets to accommodate both the 400 and A500 Series double-acting pneumatic actuators. The port not being used is sealed with an 1/8" pipe plug. You may need to change the position of the pipe plug as follows. For use with the 400 Series, with the nameplate facing forward, the pipe plug should be installed in the port on the right hand side. For use with the A500 Series, the pipe plug should be on the face opposite the nameplate.
2. Fit the two o-ring seals into the pockets on the underside of the pilot valve body.

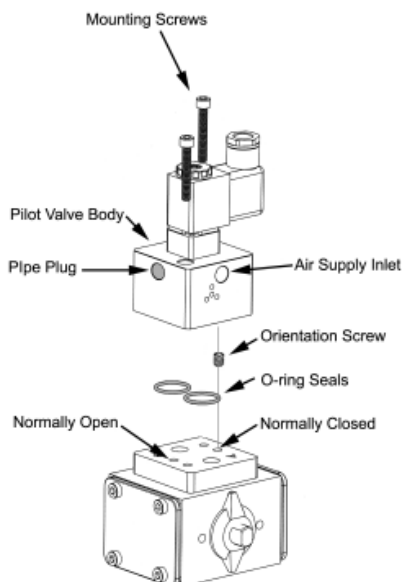


Figure 1.

3a. A500 Series.
Install the orientation screw (M5X10) into the hole on the actuator mounting pad directly beneath the letter 'A' (identified as 'Normally Closed' in figure 1), leaving 1/16" - 1/8" of the screw protruding above the surface of the mounting face.

3b. 400 Series.
install the orientation screw (M5X10) into the top, center tapped hole of the actuator end cap identified as 'Normally Closed' in figure 2, leaving 1/16" - 1/8" of the screw protruding above the surface of the actuator end cap.

4. Position the pilot valve so that actuator orientation screw fits into the shallow drilled hole in the GP body.

5. Insert the mounting screws (M5X35) through the mounting holes in the pilot body valve and tighten until secure.

6. Connect the air supply (50 - 125

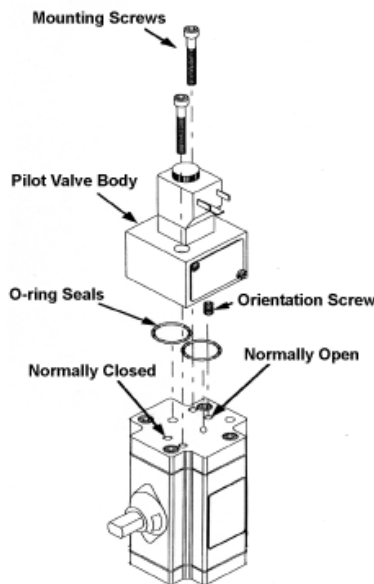


Figure 2.

psi) to the 1/8" NPT inlet port and wire for the voltage marked on the coil.

7. GP coil is usually equipped with a 'DS' DIN x Strain or 'DC' DIN x Conduit electrical connector. To wire the connector, remove the center mounting screw and, with a small screwdriver, pry the inner element from the body of the connector to expose the terminal blocks inside. Route the wire through the hub of the connector. For the 'DS' loosen the sealing nut and ensure the wire insulation passes through the rubber grommet inside the hub. Affix the wires to the appropriate terminal block. Retighten sealing nut to secure the wire and provide a seal.

Installation - Normally Open (valve in open position when coil is de-energized)

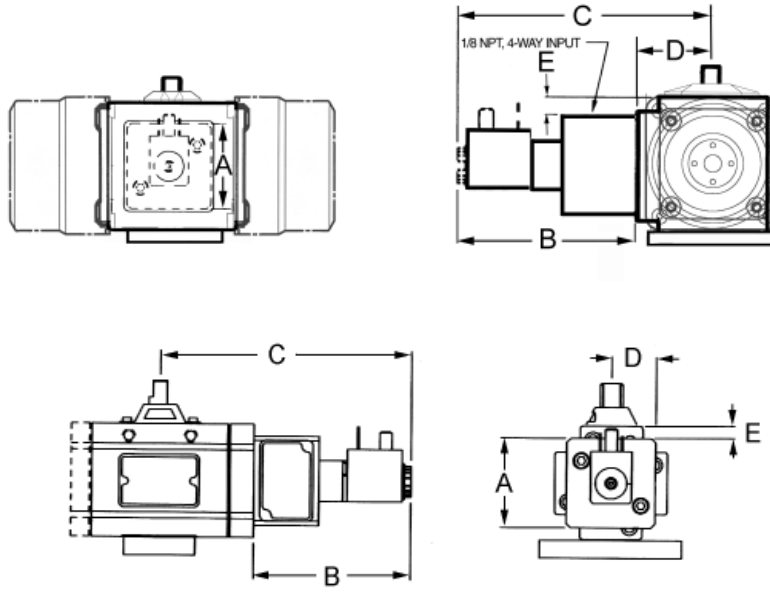
Follow the same instructions for Normally Closed substituting item 3 below;

3a. A500 Series.
Install the orientation screw (M5X10) into the actuator mounting pad directly beneath the letter 'B' hole identified as 'Normally Open' in figure 1.

3b. 400 Series.
install the orientation screw (M5X10) into the top, center tapped hole of the actuator end cap identified as 'Normally Open' in figure 2.

3c. Leave 1/16" - 1/8" of the screw protruding above the surface of the end cap.

DIMENSIONS



Series	Actuator Model	A	B	C	D	E	Cv
4GP	B411DN	1.94	3.31	5.16	.935	.25	.075
	B412DN			5.23	1.46	.32	
	A512D			6.23	.156	1.62	
	A421DN			5.64	1.87	1.10	
	A422DN			5.05	1.46	.32	
	A522D			5.46	1.87	1.10	
3GP	A512SR	3.77	3.77	5.05	1.46	.32	.10
	A522SR			5.46	1.87	1.10	