



PVA Automatic Process Valves



Installation / Service Manual For:

- **Air Actuators**
- **Shut Off Valves**
- **Divert Valves**
- **Tank Bottom Valves**

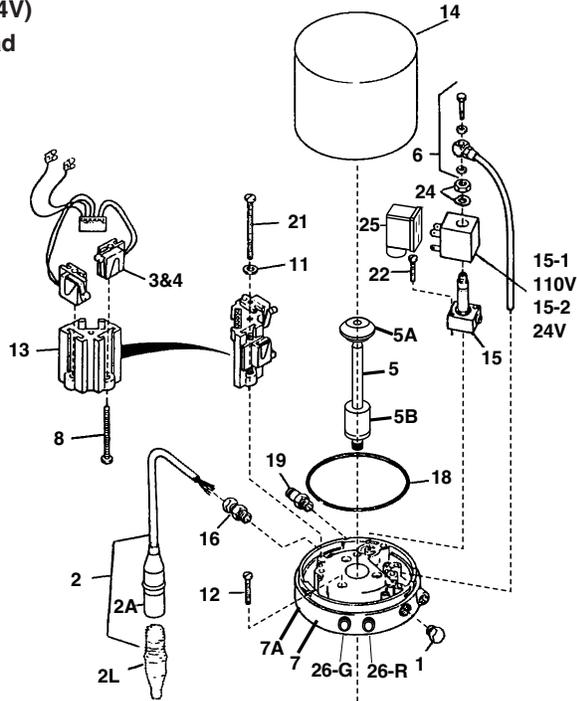


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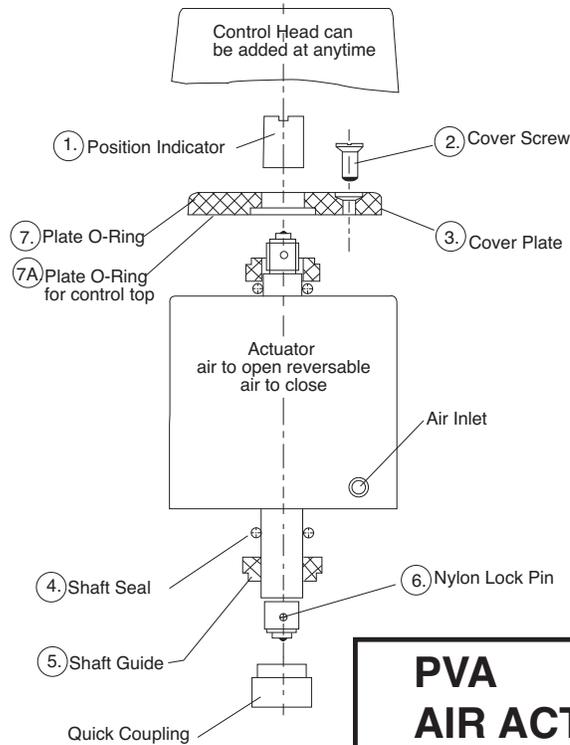
Installation / Service Manual

AIR ACTUATOR CONTROL HEAD

PVAP-ACTUC-110V (24V)
Complete Control Head



AIR ACTUATOR



PVA AIR ACTUATOR



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Installation / Service Manual

PVA AIR ACTUATOR CONTROL TOP - REPLACEMENT PARTS

Item #	Part Number	Description
1	PVAP-ACTUC-1	Stainless Plug
2	PVAP-ACTUC-2	Electronic Adapter (Complete)
2A	PVAP-ACTUC-2A	Electronic Adapter (Actuator Side)
2L	PVAP-ACTUC-2L	Electronic Adapter (Line Side)
3&4	PVAP-ACTUC-3&4	Micro Switches with Harness and Terminal Strip (Complete)
5	PVAP-ACTUC-5	Micro Switch Actuator Stem
5A	PVAP-ACTUC-5A	Micro Switch Actuator Head
5B	PVAP-ACTUC-5B	Stem Guide
6	PVAP-ACTUC-6	Air Vent Tube Assembly
7	PVAP-ACTUC-7	Plastic Molded Base
7A	PVAP-ACTUC-7A	Molded Base Complete With Electronics
8	PVAP-ACTUC-8	Adj. Screws for Micro Switch (2 Required)
10	PVAP-ACTUC-10	Actuator Tube
11	PVAP-ACTUC-11	Washer for Block
12	PVAP-ACTUC-12	Base Screws (3 Required)
13	PVAP-ACTUC-13	Switch Block
14	PVAP-ACTUC-14	Cover
15	PVAP-ACTUC-15	Solenoid Valve
15-1	PVAP-ACTUC-15-1	110V Coil Only
15-2	PVAP-ACTUC-15-2	24V Coil Only
16	PVAP-ACTUC-16	Cable Adapter Fitting
18	PVAP-ACTUC-18	Cover O-Ring
19	PVAP-ACTUC-19	Air Inlet Fitting (Upper)
20	PVAP-ACTUC-20	90° Air Fitting (Upper)
21	PVAP-ACTUC-21	Screw for Block
22	PVAP-ACTUC-22	Screws for Solenoid (2 Required)
24	PVAP-ACTUC-24	Nut and Washer for Coil-Solenoid
25	PVAP-ACTUC-25	Plug Connection to Solenoid
26G	PVAP-ACTUC-26G	Indicating Light (Green)
26R	PVAP-ACTUC-26R	Indicating Light (Red)

PVA AIR ACTUATOR - REPLACEMENT PARTS

Item #	Part Number	Description
1.	PVAP-ACT-1	Position Indicator
2.	PVAP-ACT-2	Cover Screw (2 pcs. required)
3.	PVAP-ACT-3	Cover Plate
	PVAP-ACT-3A	Plate for Control Top (2 O-Rings Required 7 and 7A)
4.	PVAP-ACT-4	Shaft Seal
5.	PVAP-ACT-5	Shaft Guide
6.	PVAP-ACT-6	Nylon Lock Pin
7.	PVAP-ACT-7	Plate O-Ring (For Control Top Only)
7A.	PVAP-ACT-7A	Plate O-Ring (For Control Top Only)



Installation / Service Manual

Air Actuator:

- ⊙ The pneumatic actuator is built as a sealed unit and therefore does not need regular servicing.
- ⊙ Even though it is a sealed unit, allowances have been made for easy access to the shaft seals and the shaft guides.
- ⊙ There is a shaft seal and a shaft guide on each side of the actuator.

Disassembly of the Shaft Seal and Shaft Guide:

- ⊙ Unscrew the quick coupling the cover plate and the position indicator.
- ⊙ Remove the seal and guide by introducing air into the system through the air inlet in a controlled manner i.e. by using an air pressure regulator. This action will increase the pressure and force out the seal and guide.
- ⊙ To force out the seal and guide from the other side introduce air through the breather hole which is situated on the side of the air actuator body.

Re-Assembly of the Shaft Seals and Guide Seals:

- ⊙ Grease the shaft seal.
- ⊙ Press the shaft seal into its position with the aid of the shaft guide.
- ⊙ Tighten the seal and guide into their place with the aid of the valve yoke (on the one side) or the cover plate (on the other side). Check that the seals are in position before tightening.

Changing the Actuator Function:

To achieve a change in the actuator function from **air to close** to **air to open** and vice versa:

- ⊙ Disassemble the actuator from the valve by releasing the quick coupling from the stem.
- ⊙ Unscrew the quick coupling.
- ⊙ Unscrew the position indicator.
- ⊙ Remove the actuator cover plate.
- ⊙ Re-assemble the cover plate, the position indicator and the quick coupling on the opposite side of the actuator from which they were removed.
- ⊙ ***Note** install the new quick coupling safety locking pin before screwing on the quick coupling.

Quick Coupling Safety Locking Pin:

- ⊙ Each time that the quick coupling is assembled or re-assembled, it is necessary to replace the nylon safety locking pin.
- ⊙ The nylon safety locking pin prevents the quick coupling from loosening due to vibrations. It is therefore recommended not to re-use the old nylon safety locking pin.
- ⊙ **Note** during each assembly and re-assembly it is necessary to apply grease to all the seals. Only grease approved by the Food and Drug Administration (FDA) may be used (e.g. Molycote 111).

**PVA
AIR ACTUATOR**



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Installation / Service Manual

PVA SHUT OFF VALVE

EGPVA-7-NC(NO)-SIZE

*If control head is required add 110V or 24V to part number.

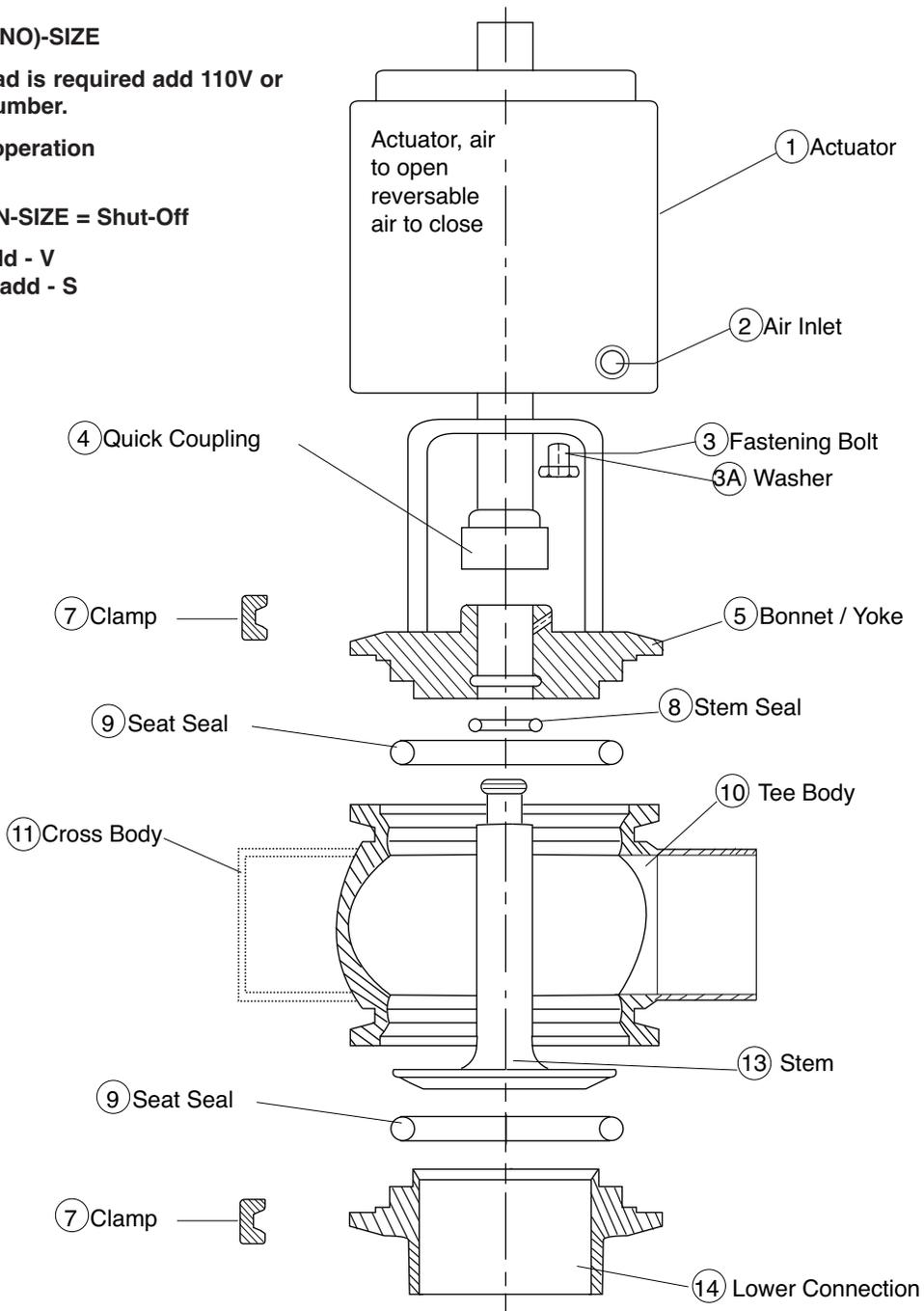
*For Manual operation

Part Number:

EGPVA-7-MAN-SIZE = Shut-Off

*For Viton® add - V

*For Silicone add - S



TYPE OF PART NUMBER FOR THE COMPLETE VALVE

EPVAP = Bevel

EPVAI = E-line

EGPVA = Clamp

EPVA = Weld

PVA SHUT OFF VALVE



VNE

Installation / Service Manual

SHUT OFF VALVE

REPLACEMENT PARTS

Item #	Part Number	Description
1.	PVAP-1-NC-(NO)-1.5 & 2.0	4" Actuator is reversible for normally open or normally closed
	PVAP-1-NC-(NO)-2.5 & 3.0	5" Actuator is reversible for normally open or normally closed
2.	PVAP-2-ALL	Air Inlet
3.	PVAP-3-ALL	Fastening Bolt 2 required for 1 1/2" & 2" Valves 4 Fastening bolts required for 2 1/2" & 3" Valves
3A.	PVAP-3A-ALL	Washer for fastening bolt
4.	PVAP-4-ALL	Quick Disconnect Coupling
5.	PVAP-5-1.5	Bonnet & Yoke for 1 1/2"
	PVAP-5-2.0	Bonnet & Yoke for 2"
	PVAP-5-2.5	Bonnet & Yoke for 2 1/2"
	PVAP-5-3.0	Bonnet & Yoke for 3"
7.	13MHHMD-3.0	Heavy Duty Clamp 3" (For 1 1/2" & 2" Valves)
	13MHHMD-4.0	Heavy Duty Clamp 4" (For 2 1/2" & 3" Valves)
8.	PVAP-8-1.5-2.0 (S)(V)	EPDM, Silicone, or Viton® Stem O-Ring (For 1 1/2" & 2" Valves)
	PVAP-8-2.5-3.0 (S)(V)	EPDM, Silicone, or Viton® Stem O-Ring (For 2 1/2" & 3" Valves)
9.	PVAP-9-1.5 (S)(V)	EPDM, Silicone, or Viton® Seat Seal for 1 1/2"
	PVAP-9-2.0 (S)(V)	EPDM Silicone, or Viton® Seat Seal for 2"
	PVAP-9-2.5 (S)(V)	EPDM, Silicone, or Viton® Seat Seal for 2 1/2"
	PVAP-9-3.0 (S)(V)	EPDM, Silicone, or Viton® Seat Seal for 3"
		EPDM is Standard. For Viton® add V and Silicone add S to the end of the part number. (2 required for Shut-off / 4 required for Divert)
*10.	PVAP-7-10C-1.5	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-7-10C-2.0	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-7-10C-2.5	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-7-10C-3.0	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
*11.	PVAP-9-11C-1.5	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-9-11C-2.0	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-9-11C-2.5	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-9-11C-3.0	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
12.	PVAP-12-1.5	Seal Base Adapter 1 1/2" (For Divert Valve Only)
	PVAP-12-2.0	Seal Base Adapter 2" (For Divert Valve Only)
	PVAP-12-2.5	Seal Base Adapter 2 1/2" (For Divert Valve Only)
	PVAP-12-3.0	Seal Base Adapter 3" (For Divert Valve Only)
13.	PVAP-7-13-1.5	Stem for 1 1/2" Shut off
	PVAP-7-13-2.0	Stem for 2" Shut off
	PVAP-7-13-2.5	Stem for 2 1/2" Shut off
	PVAP-7-13-3.0	Stem for 3" Shut off
	PVAP-77-13-1.5	Stem for 1 1/2" Divert Valve
	PVAP-77-13-2.0	Stem for 2" Divert Valve
	PVAP-77-13-2.5	Stem for 2 1/2" Divert Valve
	PVAP-77-13-3.0	Stem for 3" Divert Valve
*14.	PVAP-14C-1.5	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-14C-2.0	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-14C-2.5	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-14C-3.0	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)

***TYPE OF CONNECTIONS: C = Clamp W = Butt-Weld B = Bevel Seat Thread E = E-Line Female**



VNE

Installation / Service Manual

General Information:

⊙ Safety:

- ⊙ Do not work on the pipe line until it is empty.
- ⊙ **Safety first.** Ensure that all electrical connections have been marked and disconnected.
- ⊙ Pressure is **always** released from both the spring and the air pressure when disassembling the actuator from the valve. Adhere to all necessary safety precautions when proceeding with the disassembly.

⊙ Cleaning:

- ⊙ The valve is designed for cleaning in place (CIP).
- ⊙ The EPDM, Silicone or Viton® seals meet the standards for concentrated cleaning detergents and temperature gradients as set out in the **3A standards Class 1.**

⊙ Routine Inspection:

- ⊙ Under normal working conditions routine inspection should be carried out on the valve parts i.e. seals, all connections, and stem shaft, **at least once a year.**
- ⊙ Should crystal compounds or liquid with a higher viscosity rating pass through the valve it is recommended to increase the inspection periods.

⊙ Air Pressure:

- ⊙ The air pressure used must not exceed 108 PSI.
- ⊙ The air pressure must not be less than 72 PSI.
- ⊙ Air inlet: 1/8" BSP.

⊙ Materials:

- ⊙ Actuator: stainless steel 304.
- ⊙ Valve: stainless steel 316L.
- ⊙ Gaskets: EPDM, Silicone or Viton®
- ⊙ Surfaces: meet **3A** standards.

⊙ Valve Availability:

- ⊙ VNE PVA valves are available with the options of **clamp, weld, E-line, bevel seat and other connections are available upon request.**

**PVA
SHUT OFF VALVE**



VNE

Installation / Service Manual

General Pre-Assembly Information:

- ⊙ During installation leave a minimum space of 4" above the valve and actuator to ensure easy accessibility during servicing.
- ⊙ When welding the valve into position allowance must be made for future access to the seals.
- ⊙ During each assembly and re-assembly it is necessary to apply grease. Only grease approved by the Food and Drug Administration (FDA) may be used.

Shut Off Valve Assembly:

- ⊙ Grease the seat seal using Molycote 111.
- ⊙ Grease the stem seal using Omega 58 or VG 02 Molycote.
- ⊙ Insert the stem seal into its position in the bonnet (use your fingers and **not** a sharp object to avoid damage to the seal).
- ⊙ Place the seat seals onto the bonnet and onto the lower connection.
- ⊙ Press the bonnet onto the main valve body, check the seal position, and tighten with the clamp.
- ⊙ Insert the valve stem from the bottom into the main valve body and continue until it extends through the bonnet.
- ⊙ Air Actuator must be open before lower body can be clamped.
- ⊙ Put the lower connection onto the valve body, and when in position, tighten with the clamp.

***Note** before tightening the clamps make sure that the seals are properly mounted.

Actuator To Valve Assembly:

- ⊙ Insert the actuator shaft through the yoke until the quick coupling connects to the valve stem.
- ⊙ Line up the actuator body holes with the fastening bolt holes in the yoke.
- ⊙ Insert the actuator fastening bolts and tightening gradually by hand.
- ⊙ With a 13mm wrench tighten each bolt partially in a clockwise direction, alternating the bolts to maintain an even pressure. Repeat until each bolt is fully tightened.

Shut Off Valve Disassembly:

- ⊙ Pressure is released when disassembling the actuator from the valve. Adhere to all necessary safety precautions when proceeding with disassembly.
- ⊙ Remove the actuator fastening bolts.
- ⊙ Reverse the assembly sequence to disassemble the shut off valve.

***Note** always re-grease the valve seals before re-installation to avoid damage to the seals.

**PVA
SHUT OFF VALVE**



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Installation / Service Manual

EGPVA-77-NC(NO)SIZE

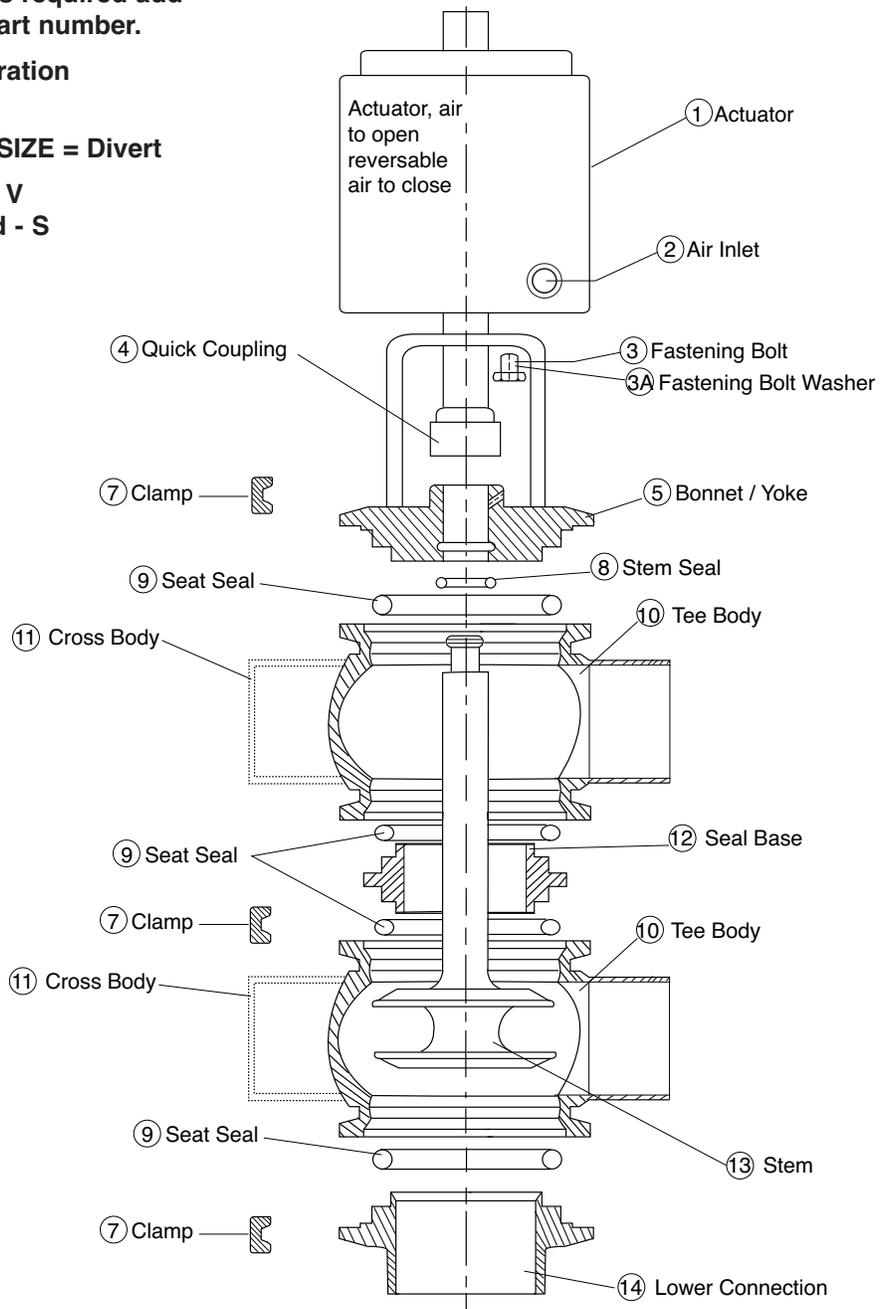
*If control head is required add
110V or 24V to part number.

*For Manual operation

Part Number:
EGPVA-77-MAN-SIZE = Divert

*For Viton® add - V

*For Silicone add - S



**PVA
DIVERT VALVE**



VNE

Installation / Service Manual

PVA DIVERT VALVE

REPLACEMENT PARTS

Item #	Part Number	Description
1.	PVAP-1-NC-(NO)-1.5 & 2.0	4" Actuator is reversible for normally open or normally closed
	PVAP-1-NC-(NO)-2.5 & 3.0	5" Actuator is reversible for normally open or normally closed
2.	PVAP-2-ALL	Air Inlet
3.	PVAP-3-ALL	Fastening Bolt 2 required for 1 1/2" & 2" Valves 4 Fastening bolts required for 2 1/2" & 3" Valves
3A.	PVAP-3A-ALL	Washer for fastening bolt
4.	PVAP-4-ALL	Quick Disconnect Coupling
5.	PVAP-5-1.5	Bonnet & Yoke for 1 1/2"
	PVAP-5-2.0	Bonnet & Yoke for 2"
	PVAP-5-2.5	Bonnet & Yoke for 2 1/2"
	PVAP-5-3.0	Bonnet & Yoke for 3"
7.	13MHHMD-3.0	Heavy Duty Clamp 3" (For 1 1/2" & 2" Valves)
	13MHHMD-4.0	Heavy Duty Clamp 4" (For 2 1/2" & 3" Valves)
8.	PVAP-8-1.5-2.0 (S)(V)	EPDM, Silicone, or Viton® Stem O-Ring (For 1 1/2" & 2" Valves)
	PVAP-8-2.5-3.0 (S)(V)	EPDM, Silicone, or Viton® Stem O-Ring (For 2 1/2" & 3" Valves)
9.	PVAP-9-1.5 (S)(V)	EPDM, Silicone, or Viton® Seat Seal for 1 1/2"
	PVAP-9-2.0 (S)(V)	EPDM, Silicone, or Viton® Seat Seal for 2"
	PVAP-9-2.5 (S)(V)	EPDM, Silicone, or Viton® Seat Seal for 2 1/2"
	PVAP-9-3.0 (S)(V)	EPDM, Silicone, or Viton® Seat Seal for 3"
		EPDM is Standard. For Viton® add V and Silicone add S to the end of the part number. (2 required for Shut-off / 4 required for Divert)
*10.	PVAP-7-10C-1.5	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-7-10C-2.0	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-7-10C-2.5	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-7-10C-3.0	Tee Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
*11.	PVAP-9-11C-1.5	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-9-11C-2.0	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-9-11C-2.5	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-9-11C-3.0	Cross Body (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
12.	PVAP-12-1.5	Seal Base Adapter 1 1/2" (For Divert Valve Only)
	PVAP-12-2.0	Seal Base Adapter 2" (For Divert Valve Only)
	PVAP-12-2.5	Seal Base Adapter 2 1/2" (For Divert Valve Only)
	PVAP-12-3.0	Seal Base Adapter 3" (For Divert Valve Only)
13.	PVAP-7-13-1.5	Stem for 1 1/2" Shut off
	PVAP-7-13-2.0	Stem for 2" Shut off
	PVAP-7-13-2.5	Stem for 2 1/2" Shut off
	PVAP-7-13-3.0	Stem for 3" Shut off
	PVAP-77-13-1.5	Stem for 1 1/2" Divert Valve
	PVAP-77-13-2.0	Stem for 2" Divert Valve
	PVAP-77-13-2.5	Stem for 2 1/2" Divert Valve
	PVAP-77-13-3.0	Stem for 3" Divert Valve
*14.	PVAP-14C-1.5	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-14C-2.0	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-14C-2.5	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)
	PVAP-14C-3.0	Lower Connection (C=Clamp, W=Butt-Weld, B=Bevel Seat,E=E-Line)

***TYPE OF CONNECTIONS: C = Clamp W = Butt-Weld B = Bevel Seat Thread E = E-Line Female**



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Installation / Service Manual

General Pre-Assembly Information:

- ⊙ During installation leave a minimum space of 4" above the valve and actuator to ensure easy accessibility during servicing.
- ⊙ When welding the valve into position allowance must be made for future access to the seals.
- ⊙ During each assembly and re-assembly it is necessary to apply grease. Only grease approved by the Food and Drug Administration (FDA) may be used.

Divert Valve Assembly:

- ⊙ Grease the seat seals using Molycote 111.
- ⊙ Grease the stem seal using Omega 58 or VG 02 Molycote.
- ⊙ Insert the stem seal into its position in the bonnet (use your fingers and not a sharp object to avoid damage to the seal).
- ⊙ Place the seat seal onto the bonnet.
- ⊙ Place the seat seal onto the lower connection.
- ⊙ Place the seat seal onto the seal base (from both sides).
- ⊙ Insert the seal base between the two valve bodies, check the seal positions, and tighten with the clamp.
- ⊙ Press the bonnet onto the upper valve body, check the seal positions, and tighten with the clamp.
- ⊙ Insert the valve stem from the bottom into the lower valve body, and continue through the seal vase and upper body, until it extends through the bonnet.
- ⊙ Put the lower connection onto the lower valve body, check the seal position, and tighten with the clamp.

***Note** before tightening the clamps make sure that the seals are properly mounted.

**PVA
DIVERT VALVE**



VNE

Installation / Service Manual

General Information:

⊙ Safety:

- ⊙ Do not work on the pipe line until it is empty.
- ⊙ **Safety first.** Ensure that all electrical connections have been marked and disconnected.
- ⊙ Pressure is **always** released from both the spring and the air pressure when disassembling the actuator from the valve. Adhere to all necessary safety precautions when proceeding with the disassembly.

⊙ Cleaning:

- ⊙ The valve is designed for cleaning in place (CIP).
- ⊙ The EPDM, Silicone & Viton® seals meet the standards for concentrated cleaning detergents and temperature gradients as set out in the **3A** standards **Class 1**.

⊙ Routine Inspection:

- ⊙ Under normal working conditions routine inspection should be carried out on the valve parts i.e. seals, all connections, and stem shaft, **at least once a year**.
- ⊙ Should crystal compounds or liquid with a higher viscosity rating pass through the valve it is recommended to increase the inspection periods.

⊙ Air Pressure:

- ⊙ The air pressure used must not exceed 108 PSI.
- ⊙ The air pressure must not be less than 72 PSI.
- ⊙ Air inlet: 1/8" BSP.

⊙ Materials:

- ⊙ Actuator: stainless steel 304.
- ⊙ Valve: stainless steel 316L.
- ⊙ Gaskets: EPDM, Silicone or Viton®.
- ⊙ Surfaces: meet **3A** sanitary standards.

⊙ Valve Availability:

- ⊙ VNE PVA valves are available with the options of **clamp, weld, E-line, bevel seat and other connections are available upon request.**



**PVA
DIVERT VALVE**



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Installation / Service Manual

Actuator To Valve Assembly:

- ⊙ Insert the actuator shaft through the yoke until the quick coupling connects to the valve stem.
- ⊙ Line up to actuator body holes with fastening bolt holes in the yoke.
- ⊙ Insert the actuator fastening bolts and tighten gradually by hand.
- ⊙ With a 13mm wrench tighten each bolt partially in a clockwise direction, alternating the bolts to maintain an even pressure. Repeat until each bolt is fully tightened.

Divert Valve Disassembly:

- ⊙ Pressure is released when disassembling the actuator from the valve. Adhere to all necessary safety precautions when proceeding with the disassembly.
- ⊙ Remove the actuator fastening bolts.
- ⊙ Reverse the assembly sequence to disassemble the divert valve.
- ⊙ ***Note** always re-grease the valve seals before re-installation to avoid damage to the seals.

**PVA
DIVERT VALVE**



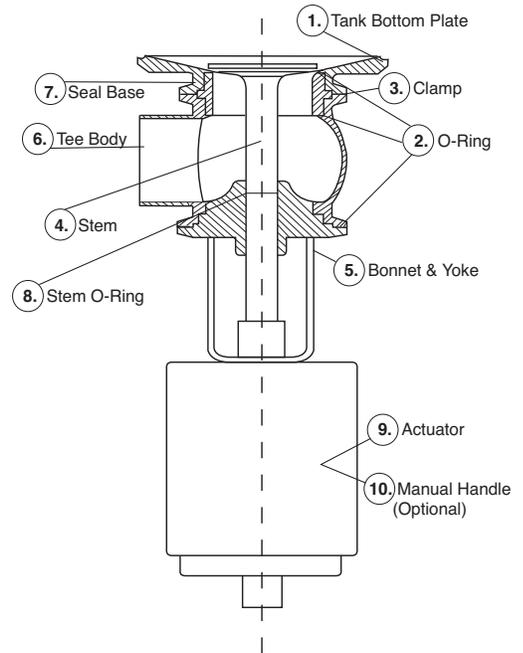
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Installation / Service Manual

TANK-BOTTOM VALVE

EGPVA-7-TANK-SIZE

Item #	Part Number	Description
1	PVAP-TANK-1.5	Tank Bottom Plate for 1 1/2"
	PVAP-TANK-2.0	Tank Bottom Plate for 2"
	PVAP-TANK-2.5	Tank Bottom Plate for 2 1/2"
	PVAP-TANK-3.0	Tank Bottom Plate for 3"
2.	PVAP-9-1.5 (S)(V)	Seat Seal, EPDM Standard, Silicone, and Viton® option (3 seals required)
	PVAP-9-2.0 (S)(V)	Seat Seal, EPDM Standard, Silicone, and Viton® option (3 seals required)
	PVAP-9-2.5 (S)(V)	Seat Seal, EPDM Standard, Silicone, and Viton® option (3 seals required)
	PVAP-9-3.0 (S)(V)	Seat Seal, EPDM Standard, Silicone, and Viton® option (3 seals required)
3.	13MHHMD-3.0	Clamp for 1 1/2" & 2"
	13MHHMD-4.0	Clamp for 2 1/2" & 3"
4.	PVAP-TANK-4-1.5	Stem
	PVAP-TANK-4-2.0	Stem
	PVAP-TANK-4-2.5	Stem
	PVAP-TANK-4-3.0	Stem
5.	PVAP-TANK-5-1.5	Bonnet & Yoke
	PVAP-TANK-5-2.0	Bonnet & Yoke
	PVAP-TANK-5-2.5	Bonnet & Yoke
	PVAP-TANK-5-3.0	Bonnet & Yoke
6.	PVAP-7-10C-1.5	Tee Body (C = Clamp, W = Weld, B = Bevel Seat, E = E-Line)
	PVAP-7-10C-2.0	Tee Body (C = Clamp, W = Weld, B = Bevel Seat, E = E-Line)
	PVAP-7-10C-2.5	Tee Body (C = Clamp, W = Weld, B = Bevel Seat, E = E-Line)
	PVAP-7-10C-3.0	Tee Body (C = Clamp, W = Weld, B = Bevel Seat, E = E-Line)
7.	PVAP-12-1.5	Seal Base Adapter
	PVAP-12-2.0	Seal Base Adapter
	PVAP-12-2.5	Seal Base Adapter
	PVAP-12-3.0	Seal Base Adapter
8.	PVAP-8-1.5-2.0 (V)	Stem O-Ring EPDM Standard, Viton® option
	PVAP-8-2.5-3.0 (V)	Stem O-Ring EPDM Standard, Viton® option
9.	PVAP-1-NC(NO)-1.5 & 2.0	4" Actuator Regulates 1 1/2" - 3" Valves
10.	PVAP-MANUAL-ALL	Manual Handle is Optional (Fits All Sizes)

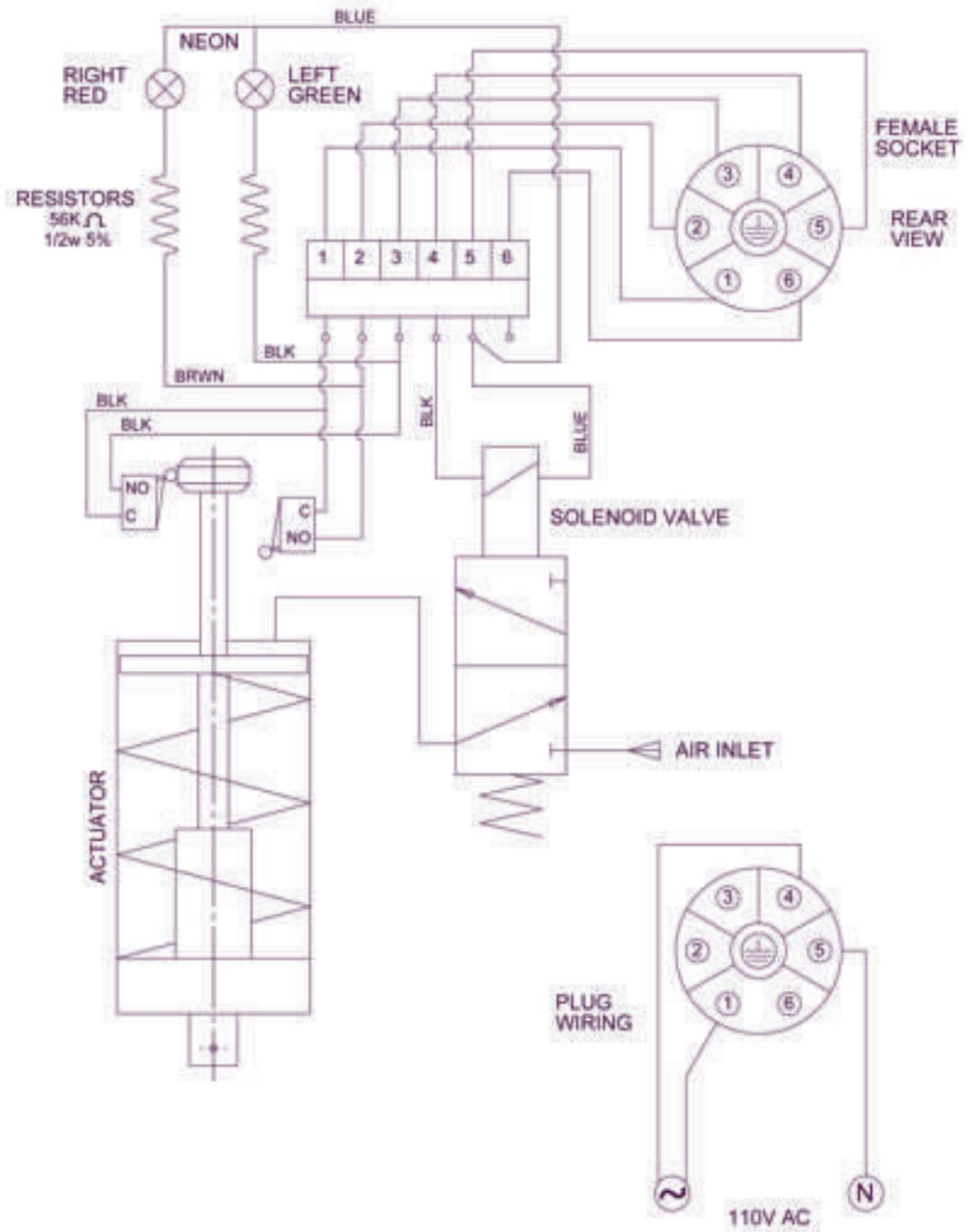




VNE

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CONTROL HEAD WIRING DIAGRAM

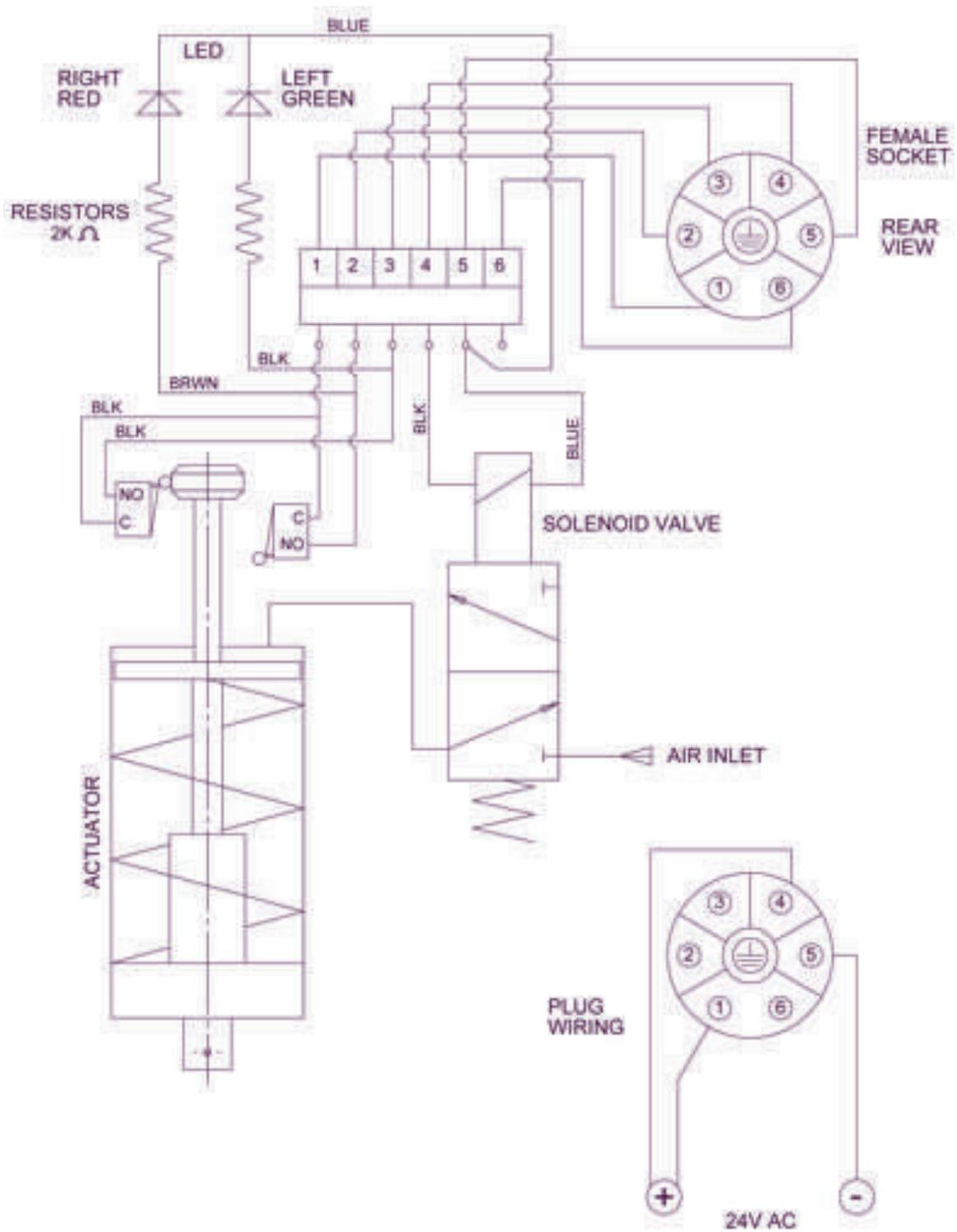




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CONTROL HEAD WIRING DIAGRAM



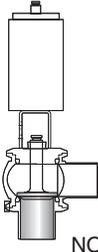
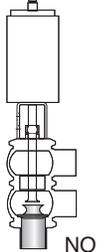
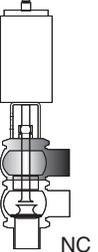


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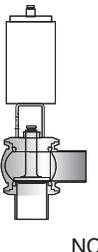
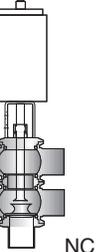
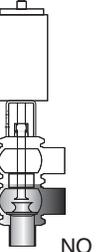
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PVA PNEUMATIC LINE PRESSURE DATA

Actuator closes (Line pressure opens) maximum line pressure (PSI) without leakage at valve seat.

Actuator / Valve Body Combination	Closes	Air Pressure (PSI)	Actuator PVA			
			4" Stroke: 1"		5" Stroke: 1 5/8"	
			Valve Size			
			1 1/2"	2"	2 1/2"	3"
NC NC NO	Spring	0	165	91	96	71
 NO	Air	73	110	65	76	65
 NO		67	172	106	125	99
 NC						

Actuator

Actuator / Valve Body Combination	Opens	Air Pressure (PSI)	Actuator PVA			
			4" Stroke: 1"		5" Stroke: 1 5/8"	
			Valve Size			
			1 1/2"	2"	2 1/2"	3"
NO NO NC	Spring	0	245	135	142	94
 NC	Air	73	182	102	103	74
 NC		67	254	143	146	102
 NO						