



PVE

MAXCLEAN SINGLE SEAT VALVE FOR SANITARY APPLICATIONS

INSTALLATION AND MAINTENANCE MANUAL



Semiconductor



Bio-Pharm



Hygienic



NEUMO | VNE | EGMO

NEUMO Ehrenberg Group

Installation and Maintenance Manual:

- PVE - SHUT-OFF VALVE
- PVE - DIVERT VALVE
- PVE - DIVERT CLOSED OUTLET VALVE
- PVE - PRESSURE RELIEF VALVE (OVERFLOW VALVE)
- PVE - TANK BOTTOM VALVE
- PVE AIR ACTUATOR

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1. PVE Product Range

1.1. PVE Product Range And Configurations

PVE Valves are available in three operating modules: Air Actuated; Air Actuated with an electronic control top and manually operated.

PVE valves popular applications are the following: Shut-off Valve, Divert Valve, Tank Outlet and Pressure Relief Valve. Connections consist of Clamp and Weld.

EGMO's PVE Valves are made of AISI 316L Stainless steel which meet all 3A requirements and are offered in 3/4" through 4" sizes. Unique patent pending sealing system.

Valve Series



Shut-Off Valve



Divert Valve



Pressure Relief Valve



Tank bottom Valve



Divert Closed Outlet Valve



Change Over Closed Outlet Valve

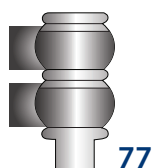
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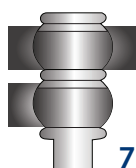
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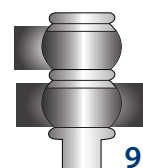
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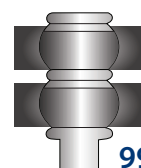
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PVE Pneumatically operated - available in 3/4" to 4"

PVE Manually operated - available in 1.5" through 3"

1.2. Options

- O-rings: EPDM, Viton
- Control top for operation with solenoid valve and proximity switch, by customer

* Closed outlet upon request such as divert closed outlet and change over as seen above shutdown of the solenoid valves independently.

2. General Information

2.1. Safety

- ! It is mandatory to wear protective goggles and safety footwear prior to commencing any work involving the valve. Compliance with this requirement is essential to ensure personal safety.
- ! Do not work on the production line until it is depressurized.
- ! **Safety first.** Ensure that all electrical connections have been marked and disconnected.
- ! Pressure must be released from both the spring and the air pressure when disassembling the actuator from the valve. Adhere to all necessary safety precautions proceeding with the disassembly.

This manual highlights critical safety practices and essential operational information.

It is imperative to read this manual thoroughly before operating the valve.

WARNING

Indicates that failure to follow specified procedures may result in serious personal injury.

CAUTION

Indicates that failure to follow specified procedures may cause damage to the valve.

NOTE

Provides key information intended to clarify or simplify procedures.

Warnings

General warning

Caustic agents

Risk of Injury:

Do not attempt to disassemble or cut open the actuator.

The actuator contains a preloaded spring that may release forcefully, causing serious injury. Only qualified personnel should handle actuator service procedures.

GENERAL SAFETY INSTRUCTIONS

- Ensure all personnel involved have experience in lifting operations.
 - Lifting Eye Nut M14x1.5 Female for valves size 1.5"-3.0", by customer.
 - Lifting Eye Bolt M14x2 Male for valve size 4.0", by customer.
- Confirm that the lifting point is aligned with the center of gravity. Adjust if necessary.
- Maintain visual control of the load and remain clear during lifting.
- Verify that lifting equipment is suitable for the specific product.
- Use appropriate lifting devices for heavy components. Refer to lifting logs when available.

INSTALLATION

- Thoroughly review the technical specifications (refer to General Disassembly / assembly Information in page 7).
- Always release compressed air from the system before installation or service.
- Do not touch moving parts when the actuator is pressurized.
- Do not touch the valve or piping when processing hot liquids or during sterilization.
- Never disassemble the valve while the system is under pressure or at elevated temperatures.

OPERATION

- Never disassemble the valve while under pressure or at high temperature.
- Always consult the technical specifications before operation (refer to General Disassembly / assembly Information in page 7).
- Ensure compressed air is released after use.
- Avoid contact with the valve or pipelines when hot fluids are being processed or during sterilization.
- Avoid contact with moving parts if the actuator is pressurized.
- After cleaning, rinse thoroughly with clean water.
- **Handle caustic and acidic agents with appropriate care and protection.**

Note: Always follow the safety data sheets (SDS) provided by suppliers of cleaning agents, detergents, lubricants, and other chemicals.

MAINTENANCE

- Consult the technical data prior to any maintenance work.
- Release compressed air from the system before starting service.
- Do not service the valve while hot or under pressure.
- Never insert fingers into valve ports if the actuator is pressurized.
- Avoid contact with moving actuator components under pressure.
- Always use original Egmo spare parts for maintenance and replacement.
- **Do not disassemble or open the actuator due to risk from the spring under load.**

BEFORE TRANSPORTATION

- Ensure compressed air is fully released.
- Disconnect all process connections prior to removal.
- Drain all liquids from the valve before transport.
- Use designated lifting points when specified.
- Secure the valve adequately for transport. If special packaging is provided, it must be used.

2.2. Cleaning:

! The valve is designed for cleaning in place (CIP).

! The EPDM or Viton® seals meet the standards for concentrated cleaning detergents and temperature gradients as set out in the 3A standards Class 1 or 2.

! Cleaning method:

Step 1: Before any handling, make sure system is depressurized and in ambient temperature .

Step 2: Always handle lye and acid with great care .

Always use rubber gloves!

Always use protective goggles!

Step 3: Never touch the valve or the pipelines when sterilizing due to high temperature!

Step 4: Clean the plug and the seats correctly.

Pay special attention to the warnings!

Lift and lower valve plug few cycles!

For further details contact technical support .

Step 5: Use clean water, free from chlorides.

Step 6: Avoid excessive concentration of the cleaning agent.

Adjust the cleaning flow to the process.

Always rinse well with clean water after the cleaning.

Step 7: The cleaning agents must be stored/disposed of in accordance with current rules/directives.

2.3. 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.
- ! Seals replacement intervals: 12 months depending on working conditions.
- ! Maintenance after leakage: Replace seals.

2.4. Air Pressure

- ! The air pressure used must not exceed 108.7 PSI (7.5 Bar).
- ! The air pressure must not be less than 72.5 PSI (5 Bar).
- ! Air connectors For PVE sizes 3/4" to 3.0": 1/8" BSPP (G).
- ! Air connectors For PVE size 4.0": 1/4" BSPP (G).

2.5. Materials

- ! Actuator: stainless steel 304L.
- ! Valve: stainless steel 316L.
- ! Gaskets: EPDM or Viton®
- ! Surface finishing: meet 3A  standards.

2.6. Valve Availability

- ! EGMO PVE valves are available with the options of clamp or weld, other connections are available upon request.

3. General Disassembly / assembly Information:

- ! Always drain media out of the valve before disassembly / assembly

Use caution to avoid injury to your hands and fingers during installation and disassembly.

- ! Do not work on the production line until it is depressurized.
- ! **For NC actuator, insert air pressure in lower air inlet before disassembly.**
- ! During installation leave a minimum Length "L" above the actuator to ensure **easy accessibility during servicing.**



Size	L, Min. Length required for maintenance
3/4" to 1"	23.5" [596.9 mm]
1 1/2" to 2"	33" [838.2 mm]
2 1/2" to 3"	34" [863.6 mm]
4"	35.5" [901.7 mm]

- ! Apply grease during each assembly and re-assembly. Only grease approved by the Food and Drug Administration (FDA) may be used. For Stem Seal #8 use KLUBER PARALIQ GTE 703. For Seat Seal #9 use MOLYKOTE 111, see page 8 for components.

3.1. NC PVE valve with clamp Ends:

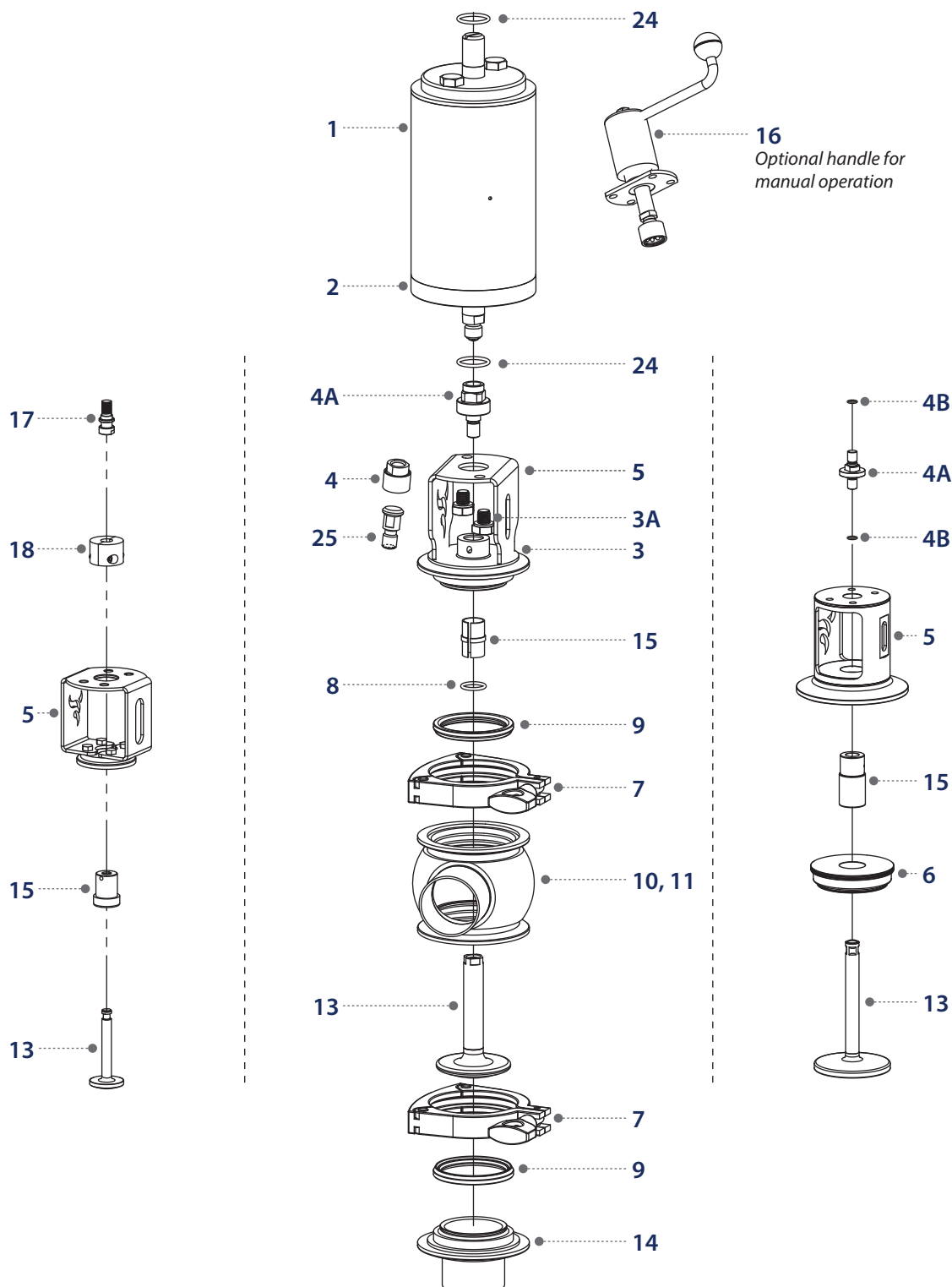
Do not work on the production line until it is depressurized.

Shut-off valve with weld Ends (Shut-off & Divert)

Size ¾" to 1"

Size 1½" to 3"

Size 4"



Disassembly / assembly instructions:

- 1.1. Insert air pressure (5-7.5 Bar or 72.5 -108.7 Psi) to air inlet #2
Stem #13 moves to open position
- 1.2. Open and remove clamps #7 from bottom to top
- 1.3. Disassemble Lower Connection #14
- 1.4. Unscrew/ Disassemble Stem #13, see table below for details
- 1.5. Disassemble Tee Body #10 #11 and Seat seals #9
- 1.6. Weld Lower Connection #14 to tube
- 1.7. Weld Tee Body #10 #11 to tube
- 1.8. Depressurize actuator
- 1.9. Reassemble Seat seals #9 and Tee Body #10 #11
- 1.10. Screw/assemble Stem #13, see table below for details
- 1.11. Reassemble Lower Connection #14
- 1.12. Insert air pressure (5-7.5 Bar or 72.5 -108.7 Psi) to air inlet #2
- 1.13. Close clamps #7
- 1.14. Redepressurize actuator

Disassemble / assemble Stem #13

Size	Stem #13 Connection Part	Manual Tool **	
¾" to 1"	Split Connection #18	Allen key size 3 mm	
1½" to 3"	Quick disconnect coupling #4	Hand- disassemble by pushing up	
1½" to 3"	Stem coupling #4A	Open Wrench 14mm and 17mm*	
4"	Stem coupling #4A	Open Wrench 2x17mm*	

* The stem coupling #4A must be held at the designated areas to allow tightening or loosening.



** Tighten and loosen by hand only; use only the

Parts List:

SHUT OFF VALVE: PART LIST For PVE sizes 3/4" (0.75") to 4"

Item #	Part Number	Description
1.	PVEP-1-NC-(NO)-¾ & 1.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-1.5 & 2.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-2.5 & 3.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-4.0	Actuator is reversible for normally open or normally closed
2.	PVEP-2-ALL	Air Inlet
3.	PVEP-3-¾ & 1.0	Fastening Bolts
	PVEP-3-1.5÷3.0	Fastening Bolts
	PVEP-3-4.0	Fastening Bolts
3A.	PVEP-3A-¾ & 1.0	Washer for fastening bolt
	PVEP-3A-1.5÷3.0	Washer for fastening bolt
	PVEP-3A-4.0	Washer for fastening bolt
4.	PVEP-4-ALL	Quick Disconnect Coupling (Optional)
4A.	PVEP-4-1.5÷3.0	Stem Coupling
	PVEP-4-4.0	Stem Coupling
4B.	PVEP-4B-4.0	Stem Coupling O-Ring
5.	PVEP-5-¾ & 1.0	Bonnet & Yoke for ¾" & 1"
	PVEP-5-1.5	Bonnet & Yoke for 1½"
	PVEP-5-2.0	Bonnet & Yoke for 2"
	PVEP-5-2.5	Bonnet & Yoke for 2½"
	PVEP-5-3.0	Bonnet & Yoke for 3"
	PVEP-5-4.0	Bonnet & Yoke for 4"
6.	PVEP-6-4.0	Upper ring seal
7.	Clamp-¾&1.0" 2pc	Clamp (For¾&1.0" Valves)
	13MHHS Clamp-3" 3pc	Heavy Duty Clamp 3" 3 Piece clamp (For 1½" & 2" Valves)
	13MHHS Clamp-4" 3pc	Heavy Duty Clamp 4" 3 Piece clamp (For 2½" & 3" Valves)
	13MHHS Clamp-6" 3pc	Heavy Duty Clamp 6" 3 Piece clamp (For 4" Valves)
8.	PVEP-8-¾-1.0 V	Viton® Stem O-Ring (For ¾" & 1" Valves)
	PVEP-8-1.5-2.0 (V)	EPDM, or Viton® Stem O-Ring (For 1½" & 2" Valves)
	PVEP-8-2.5-3.0 (V)	EPDM or Viton® Stem O-Ring (For 2½" & 3" Valves)
	PVEP-8-4.0 (V)	EPDM or Viton® Stem O-Ring (For 4" Valves)
9.	PVEP-9-¾&1.0" (V)	EPDM or Viton® Seat Seal for¾&1.0"
	PVEP-9-1.5 (V)	EPDM or Viton® Seat Seal for 1½"
	PVEP-9-2.0 (V)	EPDM or Viton® Seat Seal for 2"
	PVEP-9-2.5 (V)	EPDM or Viton® Seat Seal for 2½"
	PVEP-9-3.0 (V)	EPDM or Viton® Seat Seal for 3"
	PVEP-9-4.0 (V)	EPDM or Viton® Seat Seal for 4"
10.	PVEP-7-10C-¾	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-1.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-1.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-3.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-4.0	Tee Body (C=Clamp, W=Butt-Weld)

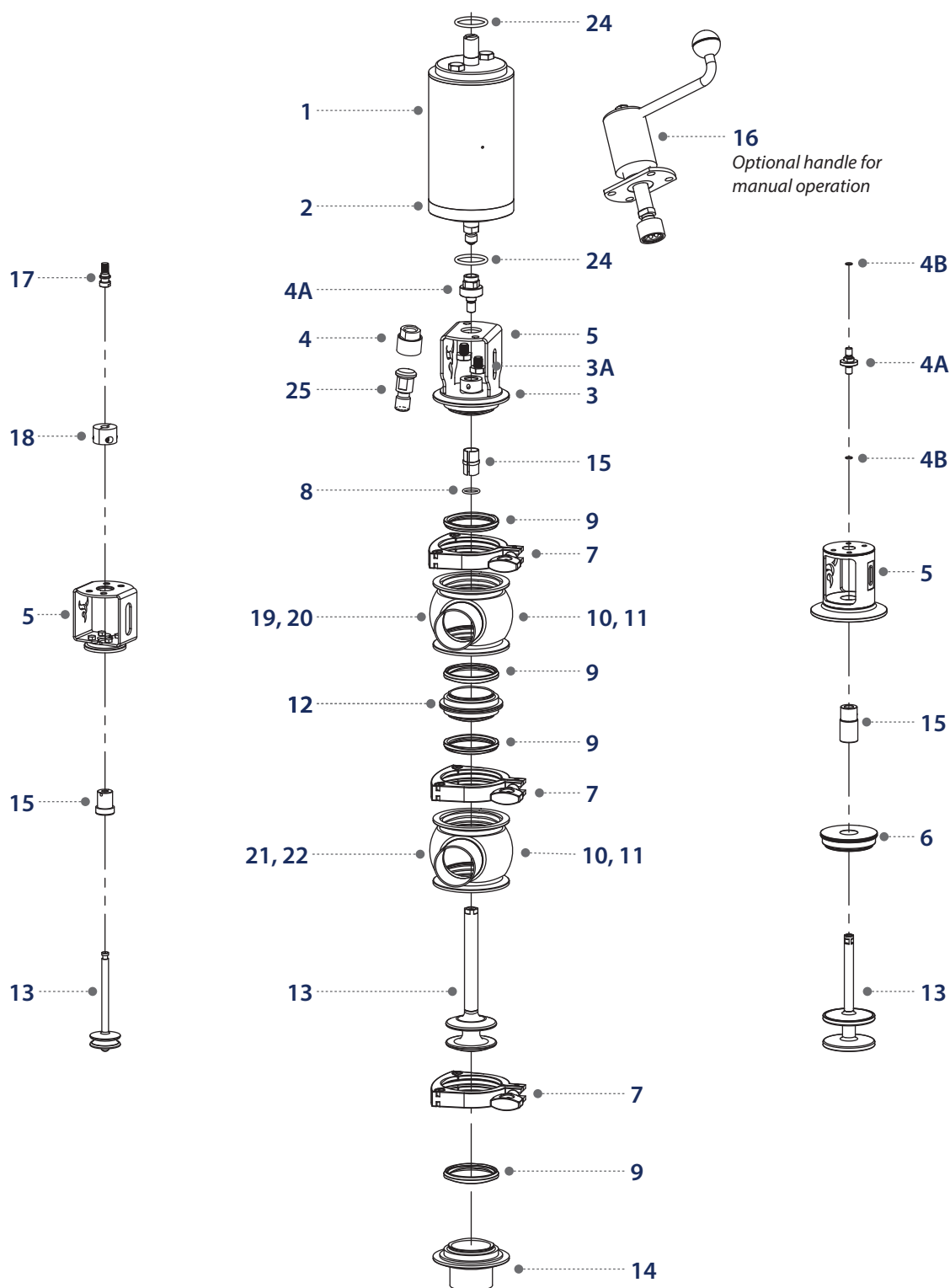
Item #	Part Number	Description
11.	PVEP-9-11C-¾	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-1.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-1.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-3.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-4.0	Cross Body (C=Clamp, W=Butt-Weld)
13.	PVEP-7-13-¾	Stem for ¾" Shut off
	PVEP-7-13-1.0	Stem for 1" Shut off
	PVEP-7-13-1.5	Stem for 1½" Shut off
	PVEP-7-13-2.0	Stem for 2" Shut off
	PVEP-7-13-2.5	Stem for 2½" Shut off
	PVEP-7-13-3.0	Stem for 3" Shut off
	PVEP-7-13-4.0	Stem for 4" Shut off
14.	PVEP-14C-¾	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-1.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-1.5	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-2.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-2.5	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-3.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-4.0	Lower Connection (C=Clamp, W=Butt-Weld)
15.	PVEP-15-¾ & 1.0	Stem guide
	PVEP-15-1.5÷3.0	Stem guide
	PVEP-15-4.0	Stem guide
16.	PVEP-MANUAL-1.5÷3.0	Manual Handle (Optional .Fits 1.5÷3.0 Sizes)*
17.	PVEP- 17-¾ & 1.0	Rod piston head (For¾" & 1" Valves)
18.	PVEP- 18-¾ & 1.0	Split connection (For¾" & 1" Valves)
24.	PVEP-24-¾÷1.0	Actuator O-Ring
	PVEP-24-1.5÷3.0	Actuator O-Ring
	PVEP-24-4.0	Actuator O-Ring
25.	PVEP-25-1.5÷3.0	Knob for Quick Disconnect Coupling

3.2. NC PVE Divert valve with weld Ends: Divert valve with weld Ends

Size ¾" to 1"

Size 1½" to 3"

Size 4"



Disassembly / assembly instructions:

- 1.1. Insert air pressure (5-7.5 Bar or 72.5 -108.7 Psi) to air inlet #2
Stem #13 moves to open position
- 1.2. Open and remove lower clamp #7
- 1.3. Disassemble Lower Connection #14
- 1.4. Depressurize actuator
- 1.5. Open and remove middle clamp #7
- 1.6. Disassemble lower Tee Body #10 #11
- 1.7. Unscrew / Disassemble Stem #13, see table on page 9 for details
- 1.8. Disassemble upper Tee Body #10 #11 and Seal Base Adapter #12
- 1.9. Disassemble Seat seals #9
- 1.10. Weld Lower Connection #14 to tube
- 1.11. Weld Tee Bodies #10 #11 to tubes
- 1.12. Reassemble Seat seals #9 and upper Tee Body #10 #11
- 1.13. Reassemble Seal Base Adapter #12 and lower Tee Body #10 #11
- 1.14. Screw/assemble Stem #13, see table on page 9 for details
- 1.15. Insert air pressure (5-7.5 Bar or 72.5 -108.7 Psi) to air inlet #2 .
- 1.16. Reassemble Lower Connection #14
- 1.17. Close clamps #7
- 1.18. Redepressurize actuator

Parts List:

DIVERT VALVE: PART LIST For PVE sizes 3/4" (0.75") to 4"

Item #	Part Number	Description
1.	PVEP-1-NC-(NO)-¾ & 1.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-1.5 & 2.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-2.5 & 3.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-4.0	Actuator is reversible for normally open or normally closed
2.	PVEP-2-ALL	Air Inlet
3.	PVEP-3-¾ & 1.0	Fastening Bolts
	PVEP-3-1.5÷3.0	Fastening Bolts
	PVEP-3-4.0	Fastening Bolts
3A.	PVEP-3A-¾ & 1.0	Washer for fastening bolt
	PVEP-3A-1.5÷3.0	Washer for fastening bolt
	PVEP-3A-4.0	Washer for fastening bolt
4.	PVEP-4-ALL	Quick Disconnect Coupling (Optional)
4A.	PVEP-4-1.5÷3.0	Stem Coupling
	PVEP-4-4.0	Stem Coupling
5.	PVEP-5-¾ & 1.0	Bonnet & Yoke for ¾" & 1"
	PVEP-5-1.5	Bonnet & Yoke for 1½"
	PVEP-5-2.0	Bonnet & Yoke for 2"
	PVEP-5-2.5	Bonnet & Yoke for 2½"
	PVEP-5-3.0	Bonnet & Yoke for 3"
	PVEP-5-4.0	Bonnet & Yoke for 4"
6.	PVEP-6-4.0	Upper ring seal
7.	Clamp-¾&1.0" 2pc	Clamp (For¾&1.0" Valves)
	13MHHS Clamp-3" 3pc	Heavy Duty Clamp 3" 3 Piece clamp (For 1½" & 2" Valves)
	13MHHS Clamp-4" 3pc	Heavy Duty Clamp 4" 3 Piece clamp (For 2½" & 3" Valves)
	13MHHS Clamp-6" 3pc	Heavy Duty Clamp 6" 3 Piece clamp (For 4" Valve)

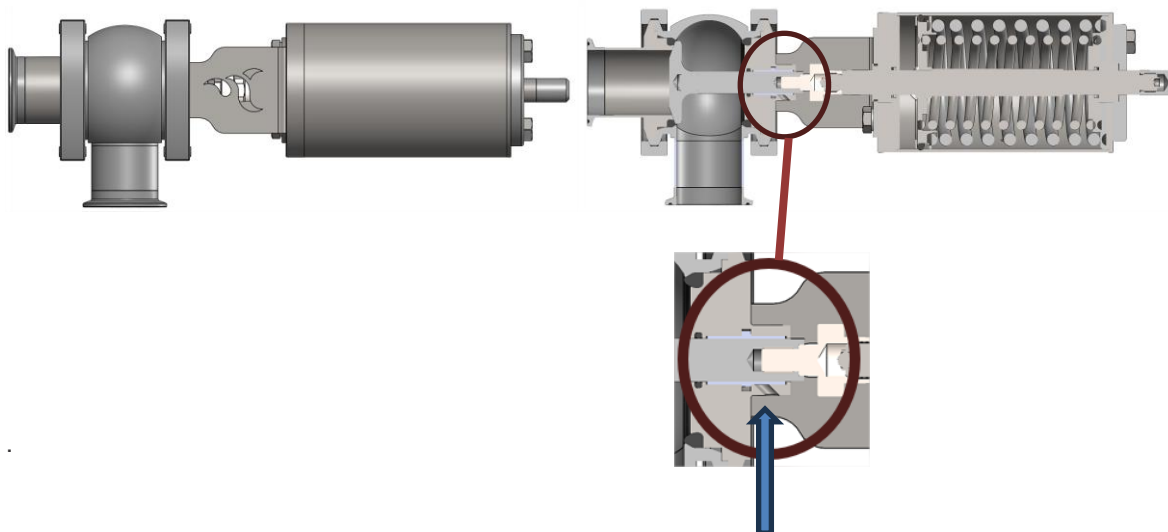
PVE MAXCLEAN SINGLE SEAT VALVE FOR SANITARY APPLICATIONS

Item #	Part Number	Description
8.	PVEP-8-¾-1.0V	Viton® Stem O-Ring (For¾" & 1" Valves)
	PVEP-8-1.5-2.0 (V)	EPDM, or Viton® Stem O-Ring (For 1½" & 2" Valves)
	PVEP-8-2.5-3.0 (V)	EPDM or Viton® Stem O-Ring (For 2½" & 3" Valves)
	PVEP-8-4.0 (V)	EPDM or Viton® Stem O-Ring (For 4" Valve)
9.	PVEP-9-¾&1.0" (V)	EPDM or Viton® Seat Seal for¾" & 1"
	PVEP-9-1.5 (V)	EPDM or Viton® Seat Seal for 1½"
	PVEP-9-2.0 (V)	EPDM or Viton® Seat Seal for 2"
	PVEP-9-2.5 (V)	EPDM or Viton® Seat Seal for 2½"
	PVEP-9-3.0 (V)	EPDM or Viton® Seat Seal for 3"
	PVEP-9-4.0 (V)	EPDM or Viton® Seat Seal for 4"
10.	PVEP-7-10C-1.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-3.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-4.0	Tee Body (C=Clamp, W=Butt-Weld)
11.	PVEP-9-11C-1.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-3.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-4.0	Cross Body (C=Clamp, W=Butt-Weld)
12.	PVEP-12-1.0	Seal Base Adapter 1"
	PVEP-12-1.5	Seal Base Adapter 1½"
	PVEP-12-2.0	Seal Base Adapter 2"
	PVEP-12-2.5	Seal Base Adapter 2½"
	PVEP-12-3.0	Seal Base Adapter 3"
	PVEP-12-4.0	Seal Base Adapter 4"
13.	PVEP-77-13-¾	Stem for¾" Divert Valve
	PVEP-77-13-1.0	Stem for 1" Divert Valve
	PVEP-77-13-1.5	Stem for 1½" Divert Valve
	PVEP-77-13-2.0	Stem for 2" Divert Valve
	PVEP-77-13-2.5	Stem for 2½" Divert Valve
	PVEP-77-13-3.0	Stem for 3" Divert Valve
	PVEP-77-13-4.0	Stem for 4" Divert Valve
14.	PVEP-14C-¾	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-1.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-1.5	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-2.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-2.5	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-3.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-4.0	Lower Connection (C=Clamp, W=Butt-Weld)
15.	PVEP-15-¾ & 1.0	Stem guide
	PVEP-15-1.5÷3.0	Stem guide
	PVEP-15-4.0	Stem guide
16.	PVEP-MANUAL-1.5÷3.0	Manual Handle (Optional .Fits 1.5÷3.0 Sizes)*
17.	PVEP- 17-3 & 1.0	Rod piston head (For¾" & 1" Valves)
18.	PVEP- 18-3 & 1.0	Split connection (For¾" & 1" Valves)
19.	PVEP-7-19C-¾	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-19C-1.0	Tee Body (C=Clamp, W=Butt-Weld)

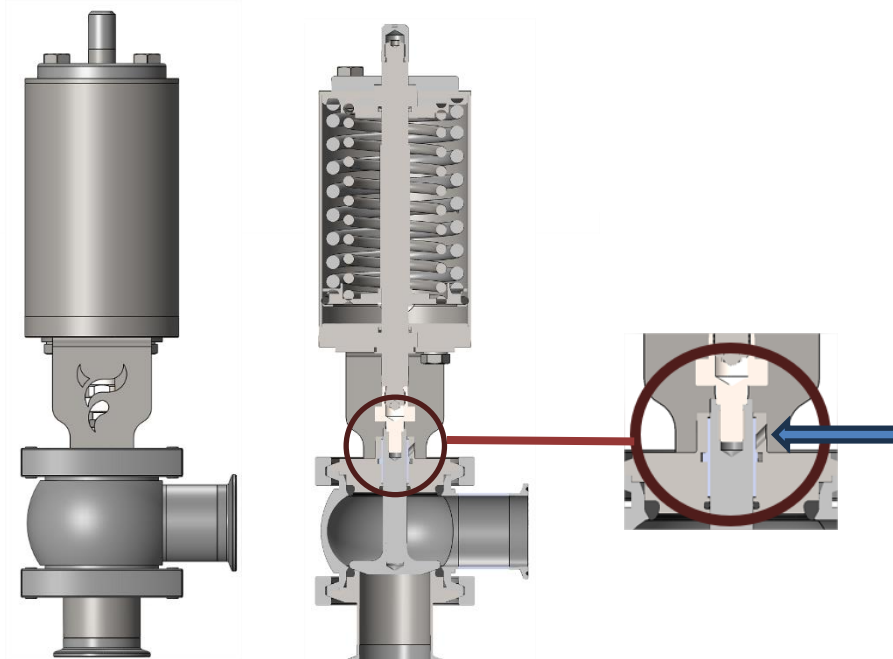
Item #	Part Number	Description
20.	PVEP-9-20C-¾	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-20C-1.0	Cross Body (C=Clamp, W=Butt-Weld)
21.	PVEP-7-21C-¾	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-21C-1.0	Tee Body (C=Clamp, W=Butt-Weld)
22.	PVEP-9-22C-¾	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-22C-1.0	Cross Body (C=Clamp, W=Butt-Weld)
24.	PVEP-24-¾÷1.0	Actuator O-Ring
	PVEP-24-1.5÷3.0	Actuator O-Ring
	PVEP-24-4.0	Actuator O-Ring
25.	PVEP-25-1.5÷3.0	Knob for Quick Disconnect Coupling

3.3. Horizontal and vertical installation

! For horizontal installation, ensure that the leakage detection port is oriented downward toward the floor.



! For vertical installation, position the leakage detection port so that it remains visible and accessible, avoiding orientation toward a wall or other obstructed area.



4. 3A PVE Control Top

4.1. FlowStar Control Top

The FlowStar Control Top has been specifically developed for seat valves as a custom-fit solution for our in-house single seat valves, providing enhanced efficiency and precision. It incorporates a proven contact-free position measurement system using a proximity switch.

Available models include 24 VDC and AS-i bus options.

4.2. Features

- ✓ Linear position measurement
- ✓ Contact-free sensing
- ✓ AS-i and direct I/O connection options
- ✓ Pneumatic 3/2 solenoid valve (manual operation available)
- ✓ Up to three configurable positions
- ✓ Fast and easy calibration
- ✓ Visual and electrical position feedback
- ✓ Circuit boards coated for corrosion resistance
- ✓ Safety device to protect against overpressure in the base housing
- ✓ Sealed connection for durability
- ✓ Quick and easy installation
- ✓ Compatible with all types and sizes of PVE valves
- ✓ Automatic control top color indication:
Green = Closed position, Amber = Open position

N/C or N/O operation
mode in one actuator



4.3. Control Top - Versions

Valve size	Part Number	
	24V	ASIBUS
0.75"-1.0"	618-01002	618-01003
1.5"-3.0"	618-00992	618-00993
4.0"	618-00997	618-00998

* Includes all connection accessories

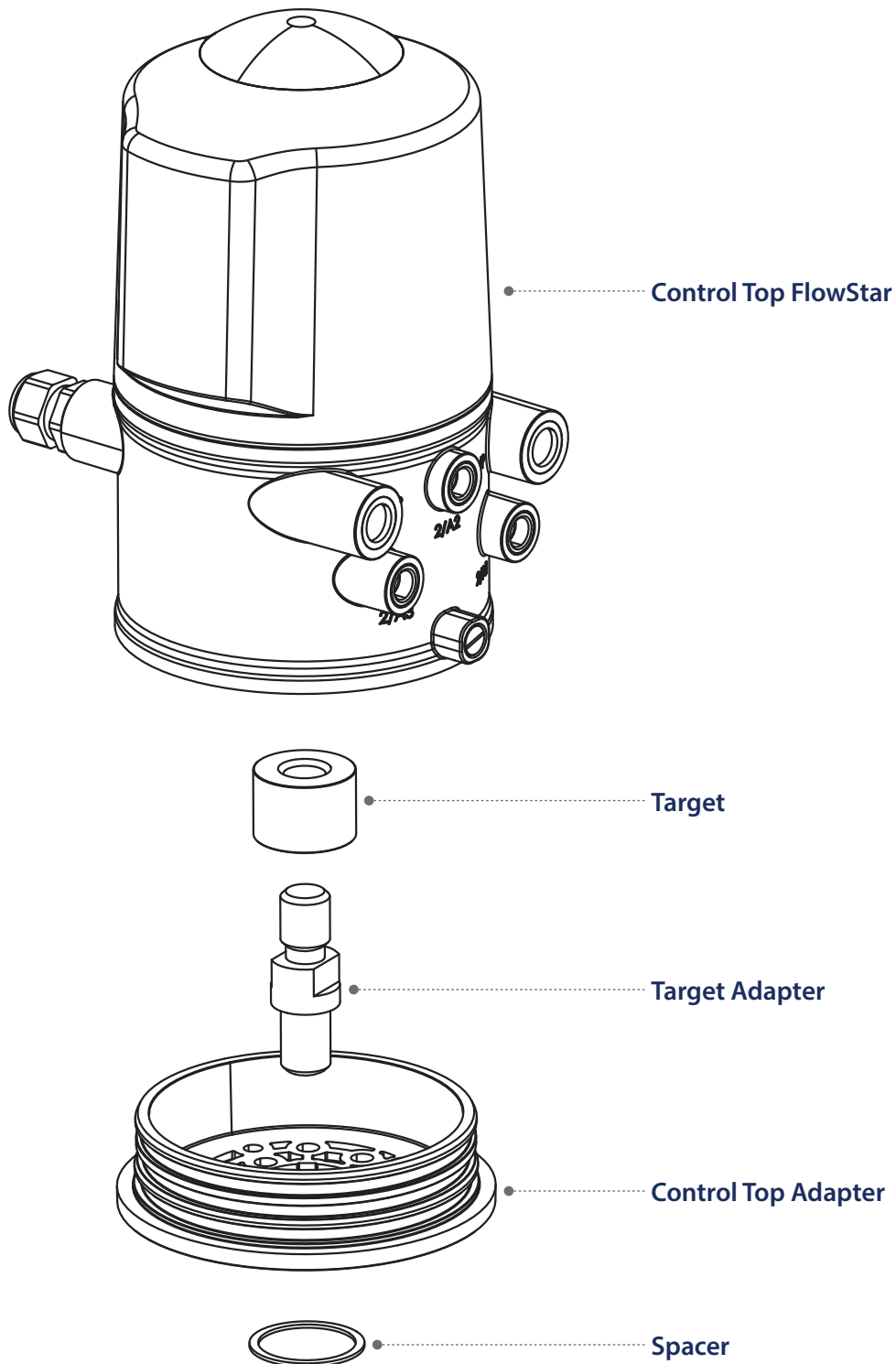
4.4. How To Order

To fully specify your part, begin with the product description and then select the additional options as outlined below:

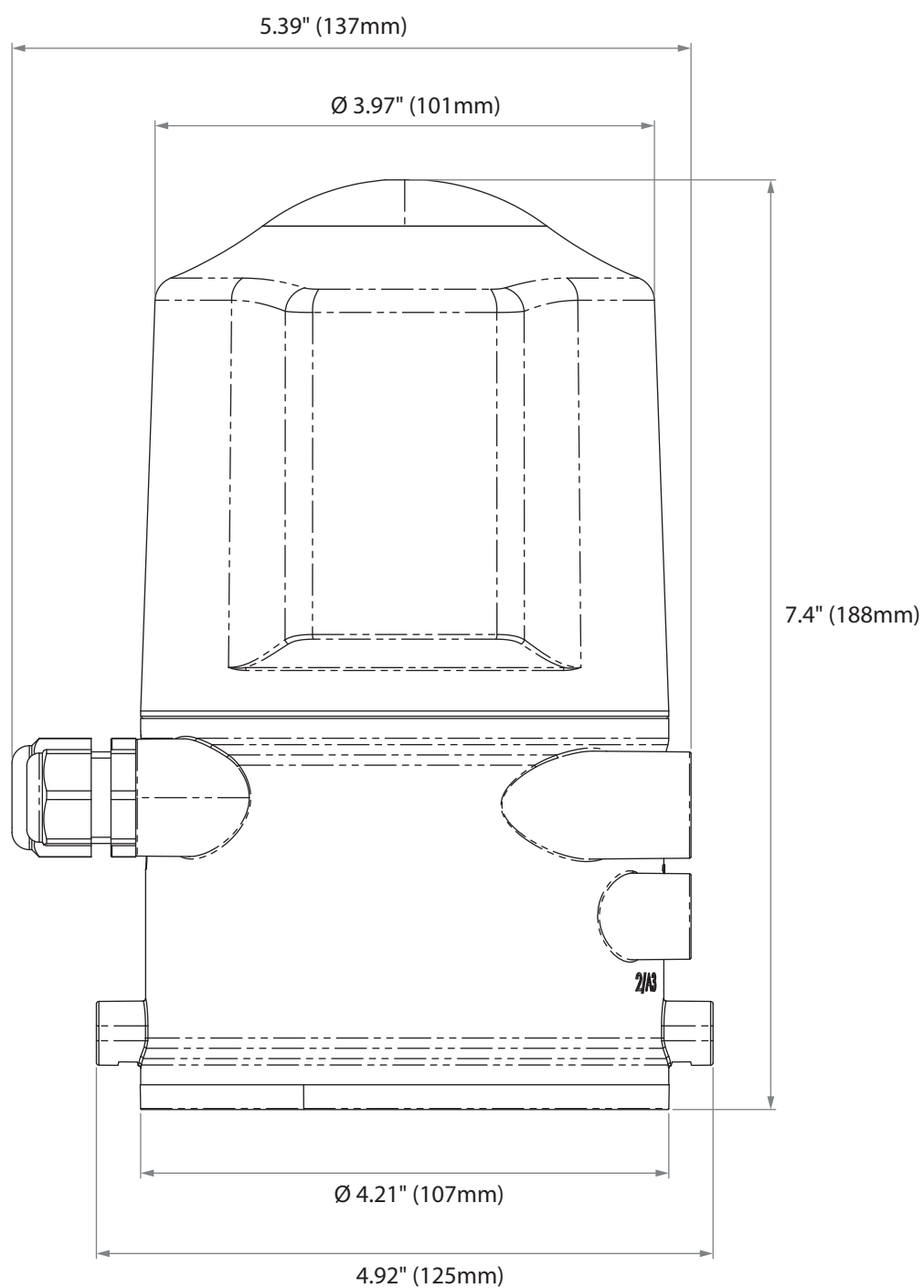
PVEP	-	CH	-	SR	-	1.0 - 0.75	-	24V
		Product Line			Action			Control Top
		Control top PVE - Linear			SR - Spring Return			24 V ASi Bus I/O Link *
					Valve Size			
					0.75-1.0 1.5-3.0 4.0			

* By Customer

4.5. Exploded view



4.6. Dimensions



4.7. Control Top Types

24VDC

- ✓ Direct I/O 24VDC valve controller
 - ✓ Integrated LED dome indicator (Green = Closed / Amber = Open)
 - ✓ Auto calibration feature for accurate position indication
 - ✓ Mounts on valve using a dedicated mounting kit
- Direct I/O Controller for Linear Valves (Spring Return)

Includes:

- Baseplate made of POM
- 3/2-way solenoid valve
- Transparent screw cover
- Auto calibration for position indication
- LED dome indicator
- 5-pin M12x1 connector
- Air connection for 6 mm air hose

ASI

- ✓ AS-Interface valve controller
 - ✓ Integrated LED dome indicator (Green = Closed / Amber = Open)
 - ✓ Auto calibration for precise position indication
 - ✓ Mounts on valve via dedicated mounting kit
 - ✓ Slave Profile: S-3/A.0.E
- AS-Interface Controller for Linear Valves (Spring Return)

Equipped with:

- Baseplate (POM)
- 3/2-way solenoid valve
- Transparent screw cover
- Auto calibration for position indication
- AS-Interface electronic module with LED dome
- 4-pin M12x1 connector
- Air connection for 6 mm air hose

I/O Link Headline

- ✓ IO-Link is a globally standardized IO technology (IEC 61131-9) designed for communication with sensors and actuators.
- ✓ It utilizes a point-to-point communication system with 3- or 5-conductor wiring for sensors and actuators, using unshielded standard sensor cables.
- ✓ The IO-Link control top is available in two variants:
 - Port Class A: Shared power supply (Power 1) for both the system and actuators (solenoid valves).
 - Port Class B: Separate power supplies—Power 1 for the system and Power 2 for actuators—allowing safety shutdown of the solenoid valves independently.

4.8. Technical specification

Parameter	24 V	AS-I bus	I/O Link
Working temperature	14°F(-10°C)...131°F(55 °C)		Ambient temperature: Standard version:14°F (-10°C)...131°F (55 °C) in a potentially explosive atmosphere (zone 2): 41°F (5°C)...131°F (55 °C)
Protection class	IP65/IP67**		Protection Class 3 in accordance with DIN EN 61140 (VDE 0140-1)
Max. working pressure	116 psi (8 bar)		36.25 psi to 116psi (2.5 bar to 8 bar)
Weight	~1.76 lb (0.8 kg)		Approx. 1.76lb (0.8kg)
Housing material:			Hood: PC (transparent, partly coated inside) lower part: PPE-PS GF20, blue cable gland: PA
Hood	PC		PC (transparent, partly coated inside)
Base	PPE-PS GF20		
Cable gland	PA		PA
Sealing material	NBR		Exterior: EPDM, NBR
Stroke range	0 ... 3.15" (80 mm)		0 ... 3.15" (80mm)
Power Supply	12~28 VDC	29.5~31.6VDC 21.0~31.6 VDC	18...30 V DC (according to specification)
Power Consumption	2.6 W	2.9 W	
Electrical connection	M16 x 1.5 cable gland/size22	15 cm cable with multipole connector M12, 4-pole	Port A Class - Circular plug-in connector M12 x 1, 4-pole Port B Class - Circular plug-in connector M12 x 1, 5-pole

** IP 67 can be achieved ONLY when an approved technician performs the assembly and the hood is sealed properly

Current consumption:

- Port class A (supply of the system and actuators (solenoid valves) via Power 1)
- Port class B (system supply via Power 1, supply of actuators (solenoid valves) via Power 2)

Max. current consumption:

i.e. 2 solenoid valves active, 1 solenoid valve switches on (for 200 ms),

1 position feedback via LED display, no external proximity switch:

- Port class A (Power 1): <151 mA at 24 V DC
- Port class B (Power 1): <63 mA at 24 V DC
- Port class B (Power 2): <97 mA at 24 V DC

Current consumption in the persistent state:

i.e. 3 solenoid valves active, 1 position feedback via LED Display,

no external proximity switch:

- Port class A (Power 1): <138 mA at 24 V DC
- Port class B (Power 1): <63 mA at 24 V DC
- Port class B (Power 2): <84 mA at 24 V DC

Idle current:

i.e. no solenoid valve active, no position feedback via LED display, no

external proximity switch:

- Port class A (Power 1): <42 mA at 24 V DC
- Port class B (Power 1): <42 mA at 24 V DC
- Port class B (Power 2): <9 mA at 24 V DC

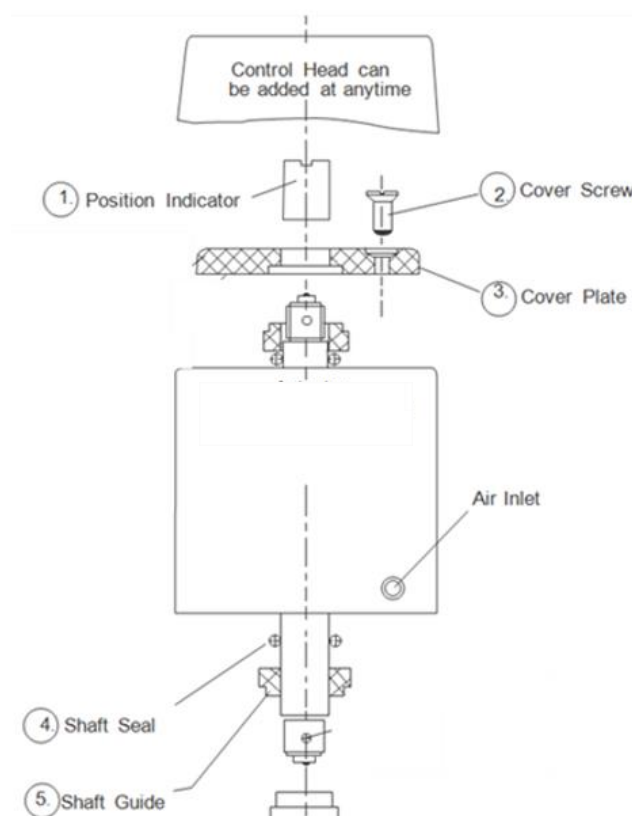
4.9. Control Top Installation



- A - Exhaust
- B - Supply pressure connection, air tube ¼"
- C - Working connection, air tube ¼", Solenoid valve 1
- D - Actuator air tube ¼"
- E - Electrical connection, see page 20

5. Air Actuator

5.1. Air Actuator Description



Item #	Description
1.	Position Indicator
2.	Cover Screw (2 pcs. required)
3.	Cover Plate
4.	Shaft Seal (Actuator O-Ring)
5.	Shaft Guide

5.2. 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 (Actuator O-Ring) and a shaft guide on each side of the actuator.

5.3. Disassembly of the shaft seals and shaft guides

- ! For NC actuator, insert air pressure of 5-7.5 Bar, 72.5 -108.7 Psi in lower air inlet before disassembly, see page 22 for components.
- ! Unscrew the position indicator #1 and the cover plate #3, see page 22 for components.
- ! Removal of the shaft seal #4 and guide #5 is achieved by introducing air into the system. This action will increase the pressure and force out the shaft seal and guide, see page 22 for components.

5.4. Re-Assembly of the shaft seals and shaft guides

- ! Grease the shaft seal #4 with recommended grease : ANDEROL PQ AA -2 PLUS, see page 22 for components.
- ! Press the shaft seal #4 into its position with the aid of the shaft guide #5, see page 22 for components.
- ! Tighten the seal #4 and guide #5 into their place with the aid of the valve yoke (on the one side) or the cover plate #3 (on the other side). Check that the seals #4 are in position before tightening, see page 22 for components.

5.5. Changing the Actuator Function

To achieve a change in the actuator function from NO to NC and NC to NO:

- ! For PVE sizes 3/4" and 1" disassemble the actuator from the valve by unscrewing the Split connection #18 and Rod Piston Head # 17 from the stem #13, see page 8 for components.
- ! For PVE sizes 1.5" to 3" disassemble the actuator from the valve by unscrewing the Stem Coupling #4A or Quick Disconnect Coupling #4 from the stem #13, see page 8 for components
- ! For PVE sizes 4" disassemble the actuator from the valve by unscrewing the Stem Coupling #4A from the stem #13, see page 8 for components.
- ! Unscrew the position indicator #1, see page 22 for components.
- ! Remove the actuator cover plate #3, see page 22 for components.
- ! Re-assemble the cover plate and the position indicator. Re-assemble the Split connection & Rod piston or Stem Coupling or Quick Disconnect Coupling on the opposite side of the actuator from which they were removed.
- ! **Note:** For PVE sizes 1.5" to 3" apply thread locker of medium bond strength (e.g. Loctite 243) to Stem Coupling thread or Quick Disconnect Coupling thread before screwing on the Stem Coupling or Quick Disconnect Coupling.
- ! **Note:** For PVE sizes 3/4" and 1 " and 4" apply recommended grease ANDEROL PQ AA -2 PLUS on the Rod Piston Head thread or Stem Coupling Connection thread.
- ! **Note:** During each assembly and re-assembly it is necessary to apply recommended greases to all the. seals.
- ! **Note:** During each assembly apply recommended grease ANDEROL PQ AA -2 PLUS on all clamp threads.

5.6. Assembly actuator to the valve

- ! For PVE sizes 3/4" and 1" insert the actuator shaft through the Yoke # 5 and screw the Rod Piston Head #17 and Split connection #18 to the valve stem #13, see table on page 9 for details.
- ! For PVE sizes 1.5" to 3" insert the actuator shaft through the Yoke # 5 and screw the Stem Coupling #4A to the valve stem #13 or connect the Quick Disconnect Coupling #4 to the valve stem #13, see table on page 9 for details.
- ! For PVE sizes 4" insert the actuator shaft through the Yoke # 5 and screw the Stem Coupling #4A to the valve stem #13, see table on page 9 for details.
- ! Line up the actuator body holes with the fastening bolt holes in the Yoke # 5.
- ! Insert the actuator fastening bolts #3 and tightening gradually by hand.
- ! With a wrench tighten each bolt partially in a clockwise direction, alternating the bolts to maintain an even pressure. Repeat until each bolt is fully tightened, see table below for details.

Size	Manual Tool **	
3/4" to 1"	Open Wrench 10m	
1 1/2" to 3"	Open Wrench 13m	
4"	Open Wrench 17m	

6. 3A PVE Divert Closed Outlet Valve

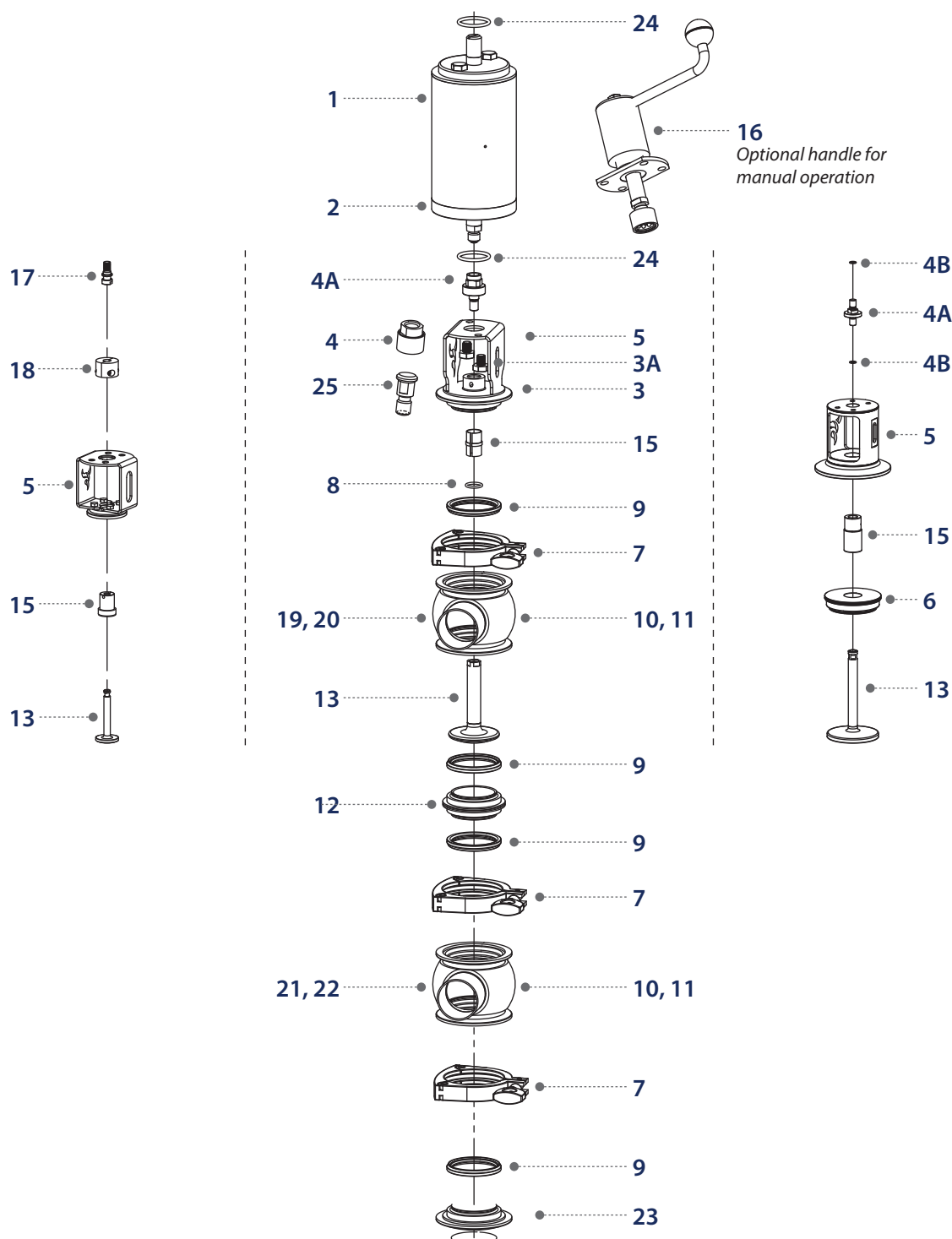
6.1. Components & Materials

3A PVE Divert Closed Outlet Valve

Size ¾" to 1"

Size 1½" to 3"

Size 4"



Parts List:

3A PVE DIVERT CLOSED OUTLET VALVE: PART LIST For PVE sizes 3/4" (0.75") to 4"

Item #	Part Number	Description
1.	PVEP-1-NC-(NO)-¾ & 1.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-1.5 & 2.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-2.5 & 3.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-4.0	Actuator is reversible for normally open or normally closed
2.	PVEP-2-ALL	Air Inlet
3.	PVEP-3-¾ & 1.0	Fastening Bolts
	PVEP-3-1.5÷3.0	Fastening Bolts
	PVEP-3-4.0	Fastening Bolts
3A.	PVEP-3A-¾ & 1.0	Washer for fastening bolt
	PVEP-3A-1.5÷3.0	Washer for fastening bolt
	PVEP-3A-4.0	Washer for fastening bolt
4.	PVEP-4-ALL	Quick Disconnect Coupling (Optional)
4A.	PVEP-4-1.5÷3.0	Stem Coupling
	PVEP-4-4.0	Stem Coupling
5.	PVEP-5-¾ & 1.0	Bonnet & Yoke for¾" & 1"
	PVEP-5-1.5	Bonnet & Yoke for 1½"
	PVEP-5-2.0	Bonnet & Yoke for 2"
	PVEP-5-2.5	Bonnet & Yoke for 2½"
	PVEP-5-3.0	Bonnet & Yoke for 3"
	PVEP-5-4.0	Bonnet & Yoke for 4"
6.	PVEP-6-4.0	Upper ring seal
7.	Clamp-¾&1.0" 2pc	Clamp (For¾&1.0" Valves)
	13MHHS Clamp-3" 3pc	Heavy Duty Clamp 3" 3 Piece clamp (For 1½" & 2" Valves)
	13MHHS Clamp-4" 3pc	Heavy Duty Clamp 4" 3 Piece clamp (For 2½" & 3" Valves)
	13MHHS Clamp-6" 3pc	Heavy Duty Clamp 6" 3 Piece clamp (For 4" Valve)
8.	PVEP-8-¾-1.0V	Viton® Stem O-Ring (For¾" & 1" Valves)
	PVEP-8-1.5-2.0 (V)	EPDM, or Viton® Stem O-Ring (For 1½" & 2" Valves)
	PVEP-8-2.5-3.0 (V)	EPDM or Viton® Stem O-Ring (For 2½" & 3" Valves)
	PVEP-8-4.0 (V)	EPDM or Viton® Stem O-Ring (For 4" Valve)
9.	PVEP-9-¾&1.0" (V)	EPDM or Viton® Seat Seal for¾" & 1"
	PVEP-9-1.5 (V)	EPDM or Viton® Seat Seal for 1½"
	PVEP-9-2.0 (V)	EPDM or Viton® Seat Seal for 2"
	PVEP-9-2.5 (V)	EPDM or Viton® Seat Seal for 2½"
	PVEP-9-3.0 (V)	EPDM or Viton® Seat Seal for 3"
	PVEP-9-4.0 (V)	EPDM or Viton® Seat Seal for 4"
10.	PVEP-7-10C-1.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-3.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-4.0	Tee Body (C=Clamp, W=Butt-Weld)
11.	PVEP-9-11C-1.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-3.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-4.0	Cross Body (C=Clamp, W=Butt-Weld)

PVE MAXCLEAN SINGLE SEAT VALVE FOR SANITARY APPLICATIONS

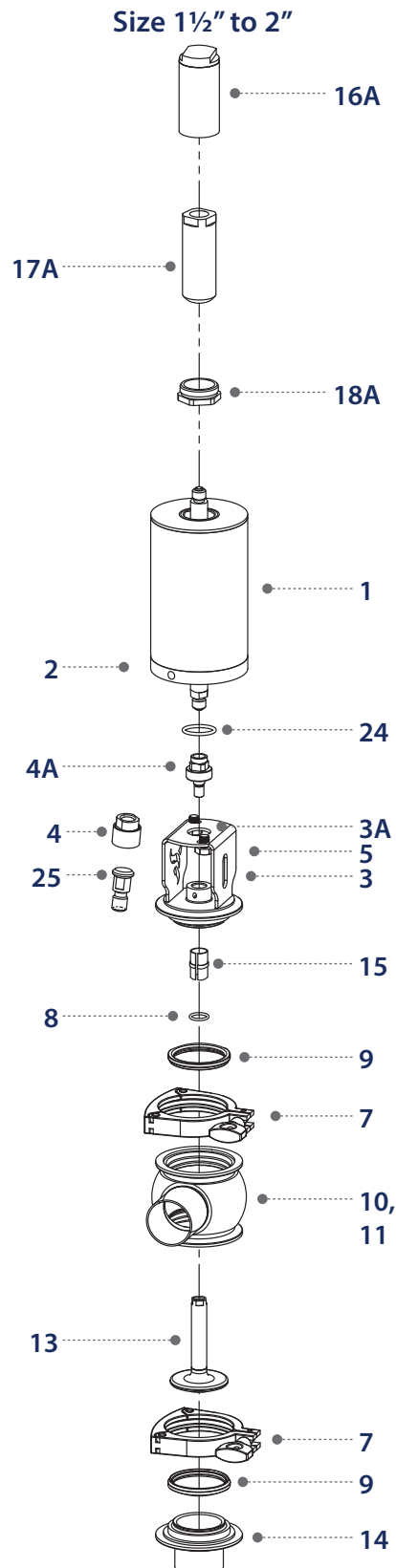
Item #	Part Number	Description
12.	PVEP-12-1.0	Seal Base Adapter 1"
	PVEP-12-1.5	Seal Base Adapter 1½"
	PVEP-12-2.0	Seal Base Adapter 2"
	PVEP-12-2.5	Seal Base Adapter 2½"
	PVEP-12-3.0	Seal Base Adapter 3"
	PVEP-12-4.0	Seal Base Adapter 4"
13.	PVEP-77-13-¾	Stem for ¾" Shut off
	PVEP-77-13-1.0	Stem for 1" Shut off
	PVEP-77-13-1.5	Stem for 1½" Shut off
	PVEP-77-13-2.0	Stem for 2" Shut off
	PVEP-77-13-2.5	Stem for 2½" Shut off
	PVEP-77-13-3.0	Stem for 3" Shut off
14.	PVEP-77-13-4.0	Stem for 4" Shut off
	PVEP-14C-¾	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-1.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-1.5	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-2.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-2.5	Lower Connection (C=Clamp, W=Butt-Weld)
15.	PVEP-14C-3.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-4.0	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-15-¾ & 1.0	Stem guide
	PVEP-15-1.5÷3.0	Stem guide
	PVEP-15-4.0	Stem guide
	PVEP-MANUAL-1.5÷3.0	Manual Handle (Optional .Fits 1.5÷3.0 Sizes)*
17.	PVEP- 17-3 & 1.0	Rod piston head (For¾" & 1" Valves)
18.	PVEP- 18-3 & 1.0	Split connection (For¾" & 1" Valves)
19.	PVEP-7-19C-¾	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-19C-1.0	Tee Body (C=Clamp, W=Butt-Weld)
20.	PVEP-9-20C-¾	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-20C-1.0	Cross Body (C=Clamp, W=Butt-Weld)
21.	PVEP-7-21C-¾	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-21C-1.0	Tee Body (C=Clamp, W=Butt-Weld)
22.	PVEP-9-22C-¾	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-22C-1.0	Cross Body (C=Clamp, W=Butt-Weld)
23.	PVEP-23C-¾	Closed outlet
	PVEP-23C-1.0	Closed outlet
	PVEP-23C-1.5	Closed outlet
	PVEP-23C-2.0	Closed outlet
	PVEP-23C-2.5	Closed outlet
	PVEP-23C-3.0	Closed outlet
24.	PVEP-23C-4.0	Closed outlet
	PVEP-24-¾÷1.0	Actuator O-Ring
	PVEP-24-1.5÷3.0	Actuator O-Ring
	PVEP-24-4.0	Actuator O-Ring
	PVEP-25-1.5÷3.0	Knob for Quick Disconnect Coupling

* Manual Handle to be used only with #4 PVEP-4-ALL Quick Disconnect Coupling.

7. 3A PVE Pressure Relief Valve

7.1. Components & Materials

3A PVE Pressure Relief Valve



Parts List:

3A PVE PRESSURE RELIEF VALVE: PART LIST For PVE sizes 1.5" to 2"

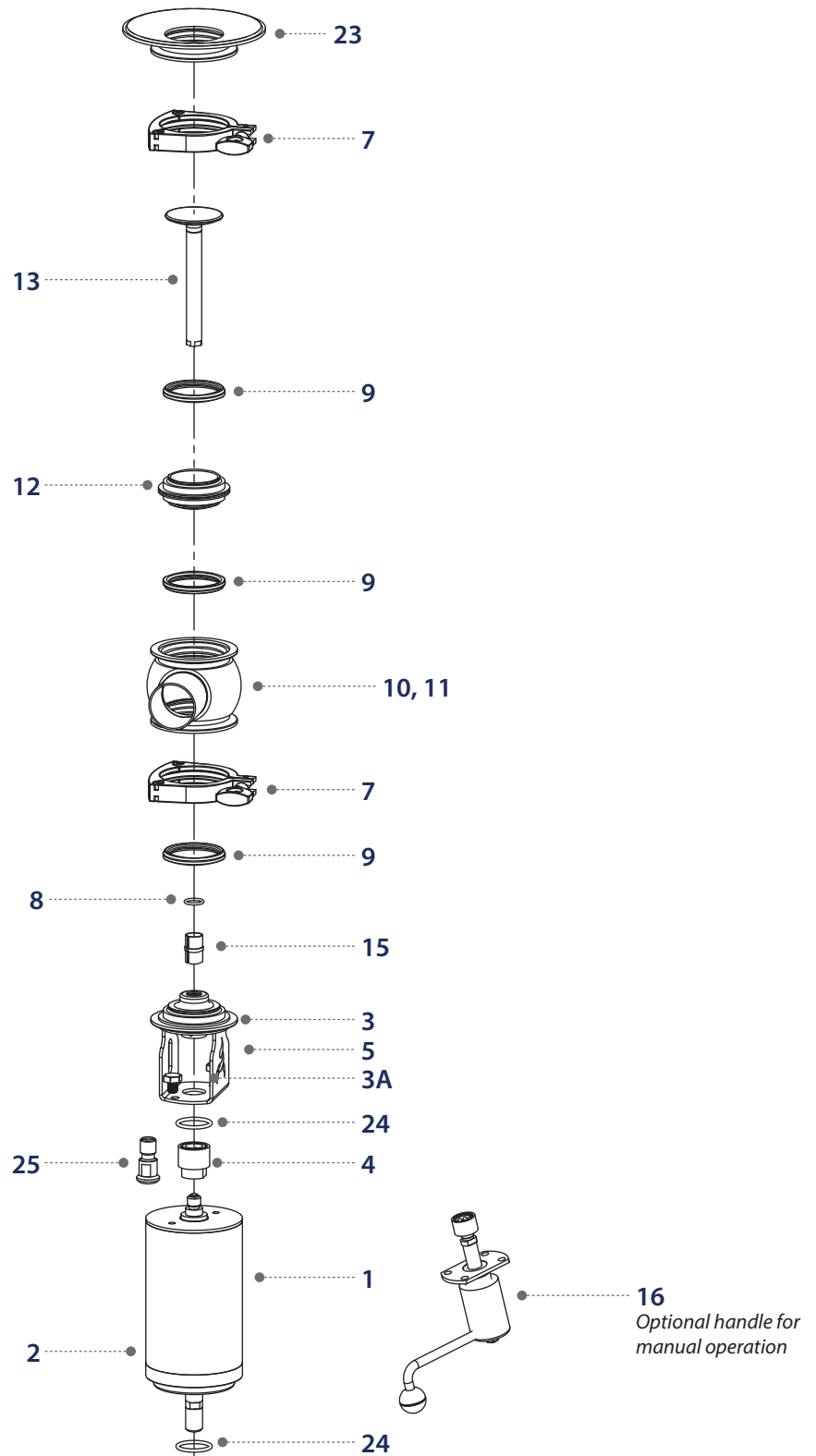
Item #	Part Number	Description
1.	PVEP-1-NC-(NO)-1.5 & 2.0	Actuator is reversible for normally open or normally closed
2.	PVEP-2-ALL	Air Inlet
3.	PVEP-3-1.5÷2.0	Fastening Bolts
3A.	PVEP-3A-1.5÷2.0	Washer for fastening bolt
4.	PVEP-4-ALL	Quick Disconnect Coupling (Optional)
4A.	PVEP-4-1.5÷2.0	Stem Coupling
5.	PVEP-5-1.5	Bonnet & Yoke for 1½"
	PVEP-5-2.0	Bonnet & Yoke for 2"
7.	13MHHS Clamp-3" 3pc	Heavy Duty Clamp 3" 3 Piece clamp (For 1½" & 2" Valves)
8.	PVEP-8-1.5-2.0 (V)	EPDM, or Viton® Stem O-Ring (For 1½" & 2" Valves)
9.	PVEP-9-1.5 (V)	EPDM or Viton® Seat Seal for 1½"
	PVEP-9-2.0 (V)	EPDM or Viton® Seat Seal for 2"
10.	PVEP-7-10C-1.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.0	Tee Body (C=Clamp, W=Butt-Weld)
11.	PVEP-9-11C-1.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.0	Cross Body (C=Clamp, W=Butt-Weld)
13.	PVEP-7-13-1.5	Stem for 1½" Shut off
	PVEP-7-13-2.0	Stem for 2" Shut off
14.	PVEP-14C-1.5	Lower Connection (C=Clamp, W=Butt-Weld)
	PVEP-14C-2.0	Lower Connection (C=Clamp, W=Butt-Weld)
15.	PVEP-15-1.5÷2.0	Stem guide
16A.	PVEP-16A-1.5 & 2.0	Cup
17A.	PVEP-17A-1.5 & 2.0	Calibrating screw
18A.	PVEP-18A-1.5 & 2.0	Locking nut
24.	PVEP-24-1.5÷3.0	Actuator O-Ring
25.	PVEP-25-1.5÷3.0	Knob for Quick Disconnect Coupling

8. 3A PVE Tank Bottom Valve

8.1. Components & Materials

3A PVE Tank Bottom Valve

Size 1½" to 3"



Parts List:

3A PVE TANK BOTTOM VALVE: PART LIST For PVE sizes 1.5" to 3"

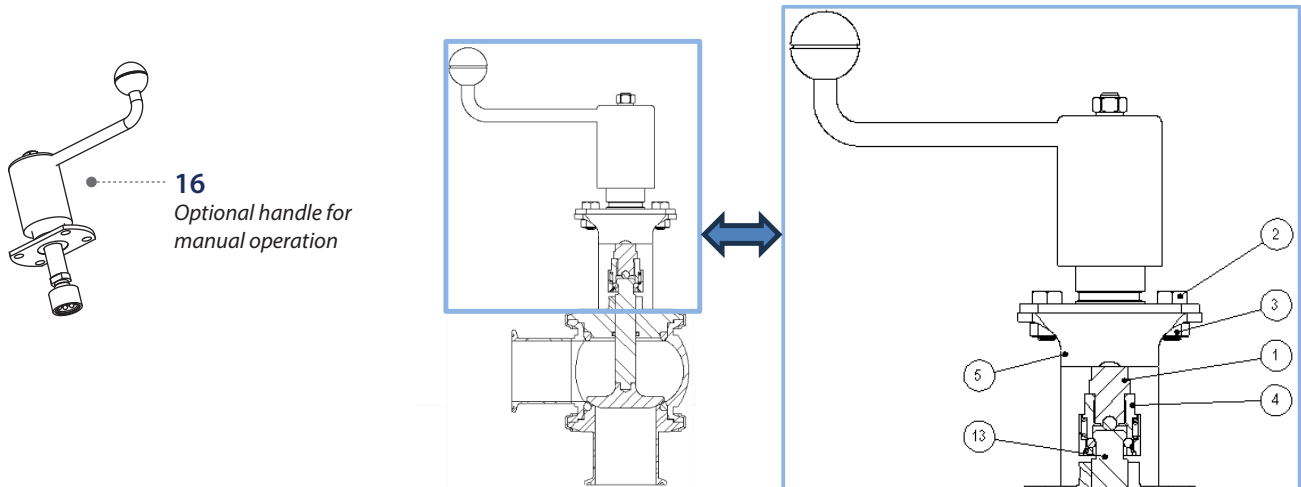
Item #	Part Number	Description
1.	PVEP-1-NC-(NO)-1.5 & 2.0	Actuator is reversible for normally open or normally closed
	PVEP-1-NC-(NO)-2.5 & 3.0	Actuator is reversible for normally open or normally closed
2.	PVEP-2-ALL	Air Inlet
3.	PVEP-3-1.5÷3.0	Fastening Bolts
3A.	PVEP-3A-1.5÷3.0	Washer for fastening bolt
4.	PVEP-4-ALL	Quick Disconnect Coupling
5.	PVEP-TANK-5-1.5	Bonnet & Yoke
	PVEP-TANK-5-2.0	Bonnet & Yoke
	PVEP-TANK-5-2.5	Bonnet & Yoke
	PVEP-TANK-5-3.0	Bonnet & Yoke
7.	13MHHS Clamp-3" 3pc	Heavy Duty Clamp 3" 3 Piece clamp (For 1½" & 2" Valves)
	13MHHS Clamp-4" 3pc	Heavy Duty Clamp 4" 3 Piece clamp (For 2½" & 3" Valves)
8.	PVEP-8-1.5-2.0 (V)	EPDM, or Viton® Stem O-Ring (For 1½" & 2" Valves)
	PVEP-8-2.5-3.0 (V)	EPDM or Viton® Stem O-Ring (For 2½" & 3" Valves)
9.	PVEP-9-1.5 (V)	EPDM or Viton® Seat Seal for 1½"
	PVEP-9-2.0 (V)	EPDM or Viton® Seat Seal for 2"
	PVEP-9-2.5 (V)	EPDM or Viton® Seat Seal for 2½"
	PVEP-9-3.0 (V)	EPDM or Viton® Seat Seal for 3"
10.	PVEP-7-10C-1.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.0	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-2.5	Tee Body (C=Clamp, W=Butt-Weld)
	PVEP-7-10C-3.0	Tee Body (C=Clamp, W=Butt-Weld)
11.	PVEP-9-11C-1.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.0	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-2.5	Cross Body (C=Clamp, W=Butt-Weld)
	PVEP-9-11C-3.0	Cross Body (C=Clamp, W=Butt-Weld)
12.	PVEP-12-1.5	Seal Base Adapter
	PVEP-12-2.0	Seal Base Adapter
	PVEP-12-2.5	Seal Base Adapter
	PVEP-12-3.0	Seal Base Adapter
13.	PVEP-TANK-13-1.5	Stem
	PVEP-TANK-13-2.0	Stem
	PVEP-TANK-13-2.5	Stem
	PVEP-TANK-13-3.0	Stem
15.	PVEP-15-1.5÷3.0	Stem guide
16.	PVEP-MANUAL-1.5÷3.0	Manual Handle (Optional .Fits 1.5÷3.0 Sizes)
23.	PVEP-TANK-23-1.5	Tank Bottom Plate for 1½"
	PVEP-TANK-23-2.0	Tank Bottom Plate for 2"
	PVEP-TANK-23-2.5	Tank Bottom Plate for 2½"
	PVEP-TANK-23-3.0	Tank Bottom Plate for 3"
24.	PVEP-24-1.5÷3.0	Actuator O-Ring
25.	PVEP-25-1.5÷3.0	Knob for Quick Disconnect Coupling

9. Manual Operation

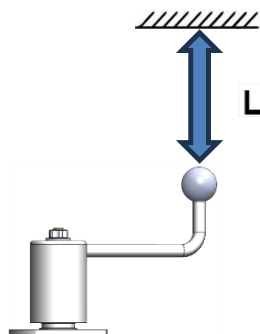
9.1. Assembly Of The Manual Handle

Assembly of the Manual handle:

- ! Insert the handle shaft #1 through the Yoke #5 until the Quick Disconnect Coupling #4 connects to the valve stem #13.
- ! Line up to handle body holes with fastening bolt holes in the Yoke #5 .
- ! Insert the handle fastening bolts #2 and gradually tighten the corresponding nuts# 3 by hand.
- ! With an open wrench size 13mm, tighten each bolt partially in a clockwise direction, alternating the bolts to maintain even pressure. Repeat until each bolt is fully tightened.



- ! During installation leave a minimum Length "L" above the manual handle to ensure easy accessibility during maintenance.



Size	L, Min. Length required for maintenance
1½" to 3"	16" [406.4 mm]

- ! Apply grease during each assembly and re-assembly. Only grease approved by the Food and Drug Administration (FDA) may be used. For Stem Seal use KLUBER PARALIQ GTE 703.
For Seat Seal use MOLYKOTE 111.

10. PVE Pressure Relief Valve 1.5"-2.0" (Overflow Valve)



! Pressure relief valves normally should be installed in the upright position with the spindle vertical.

Where space or piping configuration preclude such an installation, the valve may be installed in other than the vertical position provided that:

1. The valve design is satisfactory for such position.
2. The media is such that material will not accumulate at the inlet of the valve
3. Valve and piping drainage to be installed downwards to avoid any safety events.

! Operates as a pressure-release valve with the option to completely open the valve using a pneumatic actuator.

! Overflow valves are used mainly for automatic CIP operation or bypass.

Factory calibrated to a specific pressure as per customer requirements**

Pressure Relief Valve - Key Properties

Operating pressure range: 2-7 Bar or 29 -101,5 Psi

Pneumatic opening pressure: 5-7 Bar or 72.5 -101.5 Psi

Materials of construction:

Actuator: AISI 304L stainless steel

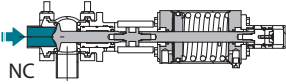
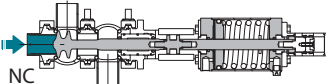
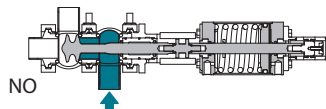
Valve body: AISI 316L stainless steel

Gaskets: EPDM or Viton

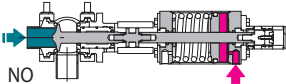
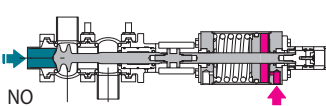
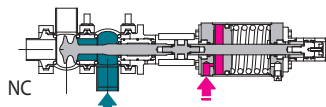
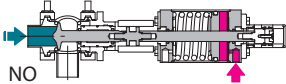
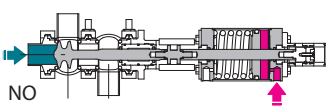
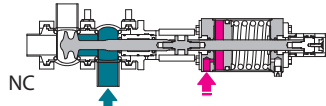
Internal surface finish: $\leq 32 \mu\text{m Ra}$

11. Maximum Media Working Pressure*

11.1. Spring Actuator

Actuator & Valve body combinations	Actuator Mode	Air pressure	Valve Size						
			¾"	1"	1½"	2"	2 ½"	3"	4"
			PVE0	PVE0	PVE1	PVE1	PVE2	PVE2	PVE3
 NC	Spring	0 Bar	13.5	7.0	11.5	6.0	6.5	4.5	5.0
	Spring	0 PSI	196	102	167	87	94	65	73
 NC	Spring	0 Bar	12.5	8.0	11.5	6.0	6.5	4.5	5.0
	Spring	0 PSI	181	116	167	87	94	65	73
 NO	Spring	0 Bar	13.5	9.5	11.5	6.0	6.5	4.5	5.0
	Spring	0 PSI	195	138	167	87	94	65	73

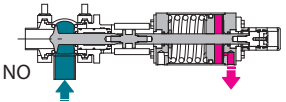
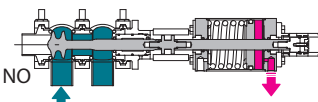
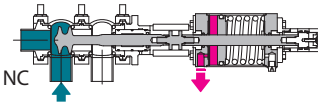
11.2. Air Actuator

Actuator & Valve body combinations	Actuator Mode	Air pressure	Valve Size						
			¾"	1"	1½"	2"	2 ½"	3"	4"
			PVE0	PVE0	PVE1	PVE1	PVE2	PVE2	PVE3
 NO	Air	5 Bar	13	6.5	7.5	4.5	5.2	4.5	5.0
	Air	72.5 PSI	188.5	94	109	65	75	65	73
 NO	Air	5 Bar	11.5	7.0	7.5	4.5	5.2	4.5	5.0
	Air	72.5 PSI	167	102	109	65	75	65	73
 NC	Air	5 Bar	15	9.5	7.5	4.5	5.2	4.5	5.0
	Air	72.5 PSI	217.5	138	109	65	75	65	73
Actuator & Valve body combinations	Actuator Mode	Air pressure	Valve Size						
			¾"	1"	1½"	2"	2 ½"	3"	4"
			PVE0	PVE0	PVE1	PVE1	PVE2	PVE2	PVE3
 NO	Air	6 Bar	15	9.5	12	7	8.5	6.5	7.0
	Air	87 PSI	217.5	138	174	102	123	94	102
 NO	Air	6 Bar	12.5	10.0	12.0	7.0	8.5	6.5	7.0
	Air	87 PSI	181.5	145	174	102	123	94	102
 NC	Air	6 Bar	15	12.0	12.0	7.0	8.5	6.5	7.0
	Air	87 PSI	217.5	174	174	102	123	94	102

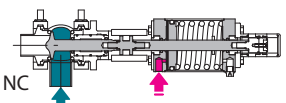
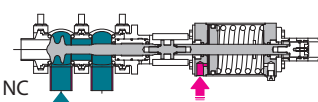
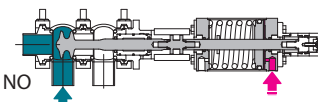
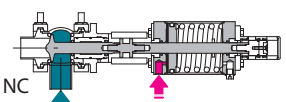
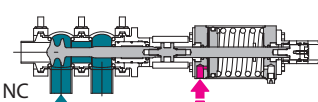
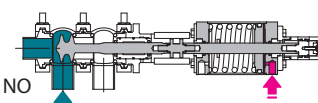
* Please see Installation and Service Manual

Warning: Depressurize before handling/maintenance

11.3. Relief Air Actuator

Actuator & Valve body combinations	Actuator Mode	Air pressure	Valve Size						
			¾"	1"	1½"	2"	2 ½"	3"	4"
			PVE0	PVE0	PVE1	PVE1	PVE2	PVE2	PVE3
 NO	Spring	0 Bar	15	12.5	17.0	9.0	10.0	8.5	6.5
	Spring	0 PSI	217.5	181	247	131	145	123	94
 NO	Spring	0 Bar	15	12.0	17.0	9.0	10.0	8.5	6.5
	Spring	0 PSI	217.5	174	247	131	145	123	94
 NC	Spring	0 Bar	15	9.0	17.0	9.0	10.0	8.5	6.5
	Spring	0 PSI	217.5	131	247	131	145	123	94

11.4. Compress Air Actuator

Actuator & Valve body combinations	Actuator Mode	Air pressure	Valve Size						
			¾"	1"	1½"	2"	2 ½"	3"	4"
			PVE0	PVE0	PVE1	PVE1	PVE2	PVE2	PVE3
 NC	Air	5 Bar	15	12.5	12.5	7.0	7.0	5.0	6.0
	Air	72.5 PSI	217.5	181	181	102	102	73	87
 NC	Air	5 Bar	15	10.5	12.5	7.0	7.0	5.0	6.5
	Air	72.5 PSI	217.5	152	181	102	102	73	87
 NO	Air	5 Bar	15	8.5	12.5	7.0	7.0	5.0	6.5
	Air	72.5 PSI	217.5	123	181	102	102	73	87
Actuator & Valve body combinations	Actuator Mode	Air pressure	Valve Size						
			¾"	1"	1½"	2"	2 ½"	3"	4"
			PVE0	PVE0	PVE1	PVE1	PVE2	PVE2	PVE3
 NC	Air	6 Bar	15	17.0	18	10	10.0	7.0	8.5
	Air	87 PSI	217.5	247	254	145	145	102	123
 NC	Air	6 Bar	15	15.5	17.5	10.0	10.0	7.0	8.5
	Air	87 PSI	217.5	225	254	145	145	102	123
 NO	Air	6 Bar	15	17.5	17.5	10.0	10.0	7.0	8.5
	Air	87 PSI	217.5	254	145	94	102	102	123

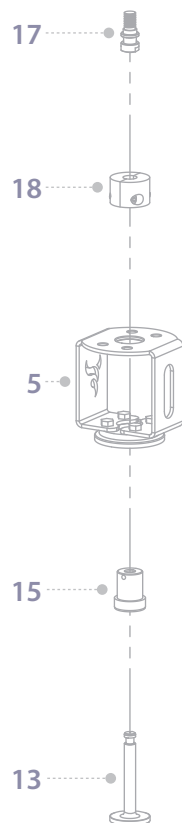
* Please see Installation and Service Manual

Warning: Depressurize before handling/maintenance

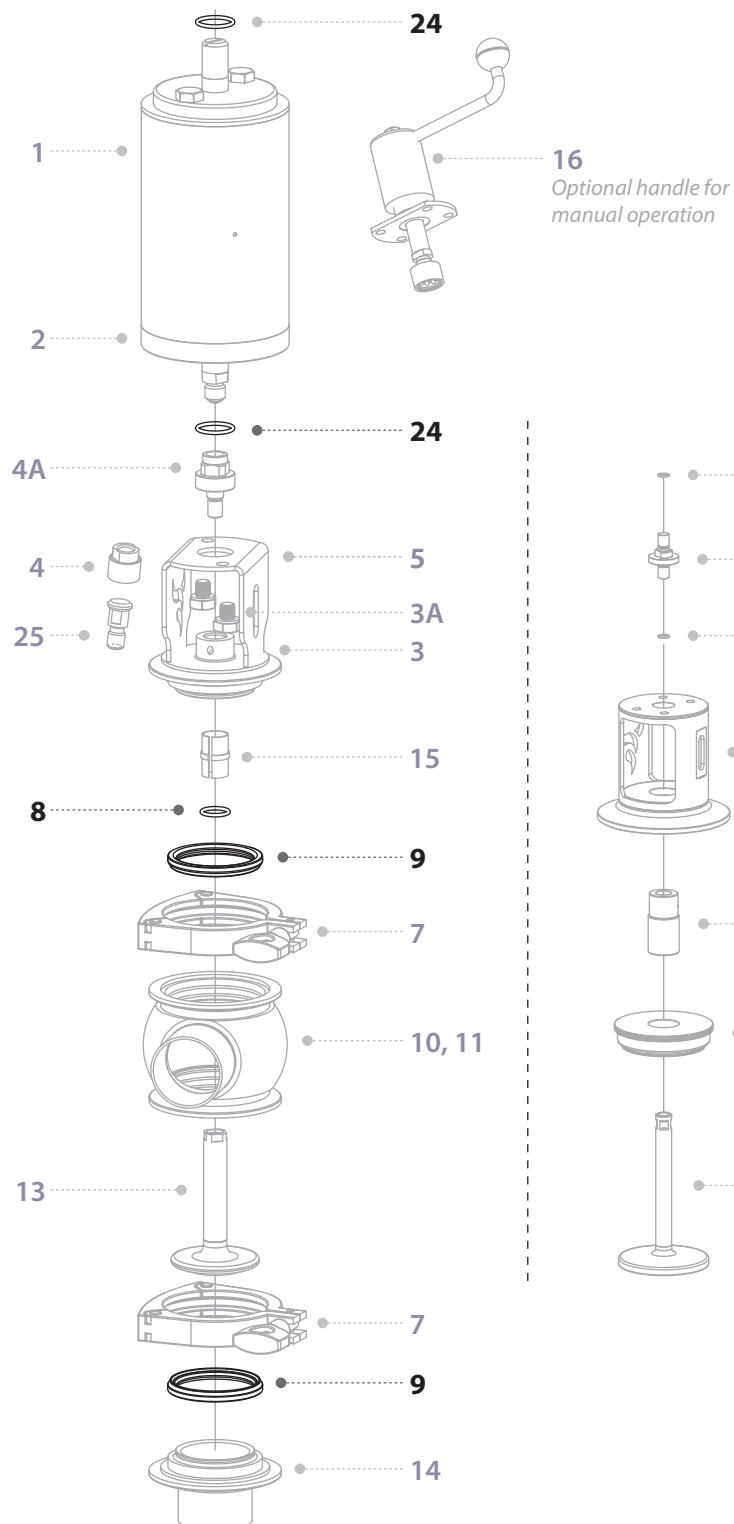
12. PVE Seal Kits

12.1. Shut Off Valve

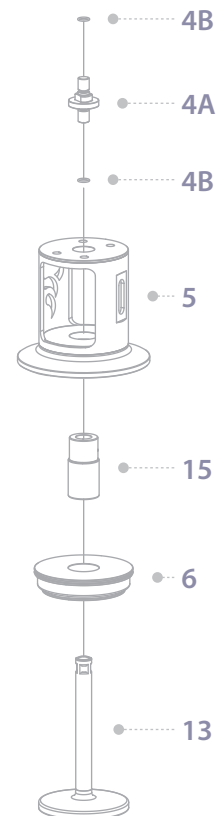
Size $\frac{3}{4}$ " to 1"



Size 1½" to 3"



Size 4"



7

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00521	R Kit 3/4" EPDM PVE 7/9	8, 9, 24	EGPVE-7-NC-0.75	611-02758	EPVE-7-NC-0.75	611-02748
624-00531	R Kit 1.0" EPDM PVE 7/9 New	8, 9, 24	EGPVE-7-NC-1.0	611-03086	EPVE-7-NC-1.0	611-03935
624-00354	R Kit 1.5"/40 EPDM PVE 7/9	8, 9, 24	EGPVE-7-NC-1.5	611-03098	EPVE-7-NC-1.5	611-03947
624-00356	R Kit 2.0"/50 EPDM PVE 7/9	8, 9, 24	EGPVE-7-NC-2.0	611-03110	EPVE-7-NC-2.0	611-03959
624-00532	R Kit 2.5" EPDM PVE 7/9 New	8, 9, 24	EGPVE-7-NC-2.5	611-03124	EPVE-7-NC-2.5	611-03971
624-00533	R Kit 3.0" EPDM PVE 7/9 New	8, 9, 24	EGPVE-7-NC-3.0	611-03137	EPVE-7-NC-3.0	611-03983
624-00513	R Kit 4.0" EPDM PVE 7/9	8, 9, 24	EGPVE-7-NC-4.0	611-00872	EPVE-7-NC-4.0	611-00499

9

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00521	R Kit 3/4" EPDM PVE 7/9	8, 9, 24	EGPVE-9-NC-0.75	611-02746	EPVE-9-NC-0.75	611-02750
624-00531	R Kit 1.0" EPDM PVE 7/9 New	8, 9, 24	EGPVE-9-NC-1.0	611-03453	EPVE-9-NC-1.0	611-04317
624-00354	R Kit 1.5"/40 EPDM PVE7/9	8, 9, 24	EGPVE-9-NC-1.5	611-03465	EPVE-9-NC-1.5	611-04329
624-00356	R Kit 2.0"/50 EPDM PVE 7/9	8, 9, 24	EGPVE-9-NC-2.0	611-03477	EPVE-9-NC-2.0	611-04341
624-00532	R Kit 2.5" EPDM PVE 7/9 New	8, 9, 24	EGPVE-9-NC-2.5	611-03491	EPVE-9-NC-2.5	611-04353
624-00533	R Kit 3.0" EPDM PVE 7/9 New	8, 9, 24	EGPVE-9-NC-3.0	611-03503	EPVE-9-NC-3.0	611-04365
624-00513	R Kit 4.0" EPDM PVE 7/9	8, 9, 24	EGPVE-9-NC-4.0	611-00877	EPVE-9-NC-4.0	611-00879

7

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00527	R Kit 3/4" VITON PVE 7/9	8, 9, 24	EGPVE-7-NC-0.75-V	611-02764	EPVE-7-NC-0.75-V	611-02768
624-00534	R Kit 1.0" VITON PVE 7/9 New	8, 9, 24	EGPVE-7-NC-1.0-V	611-03094	EPVE-7-NC-1.0-V	611-03943
624-00366	R Kit 1.5"/40 VITON PVE 7/9	8, 9, 24	EGPVE-7-NC-1.5-V	611-03106	EPVE-7-NC-1.5-V	611-03955
624-00368	R Kit 2.0"/50 VITON PVE 7/9	8, 9, 24	EGPVE-7-NC-2.0-V	611-03119	EPVE-7-NC-2.0-V	611-03967
624-00535	R Kit 2.5" VITON PVE 7/9 New	8, 9, 24	EGPVE-7-NC-2.5-V	611-03133	EPVE-7-NC-2.5-V	611-03979
624-00536	R Kit 3.0" VITON PVE 7/9 New	8, 9, 24	EGPVE-7-NC-3.0-V	611-03146	EPVE-7-NC-3.0-V	611-03991
624-00511	R Kit 4.0" VITON PVE 7/9	8, 9, 24	EGPVE-7-NC-4.0-V	611-00884	EPVE-7-NC-4.0-V	611-00887

9

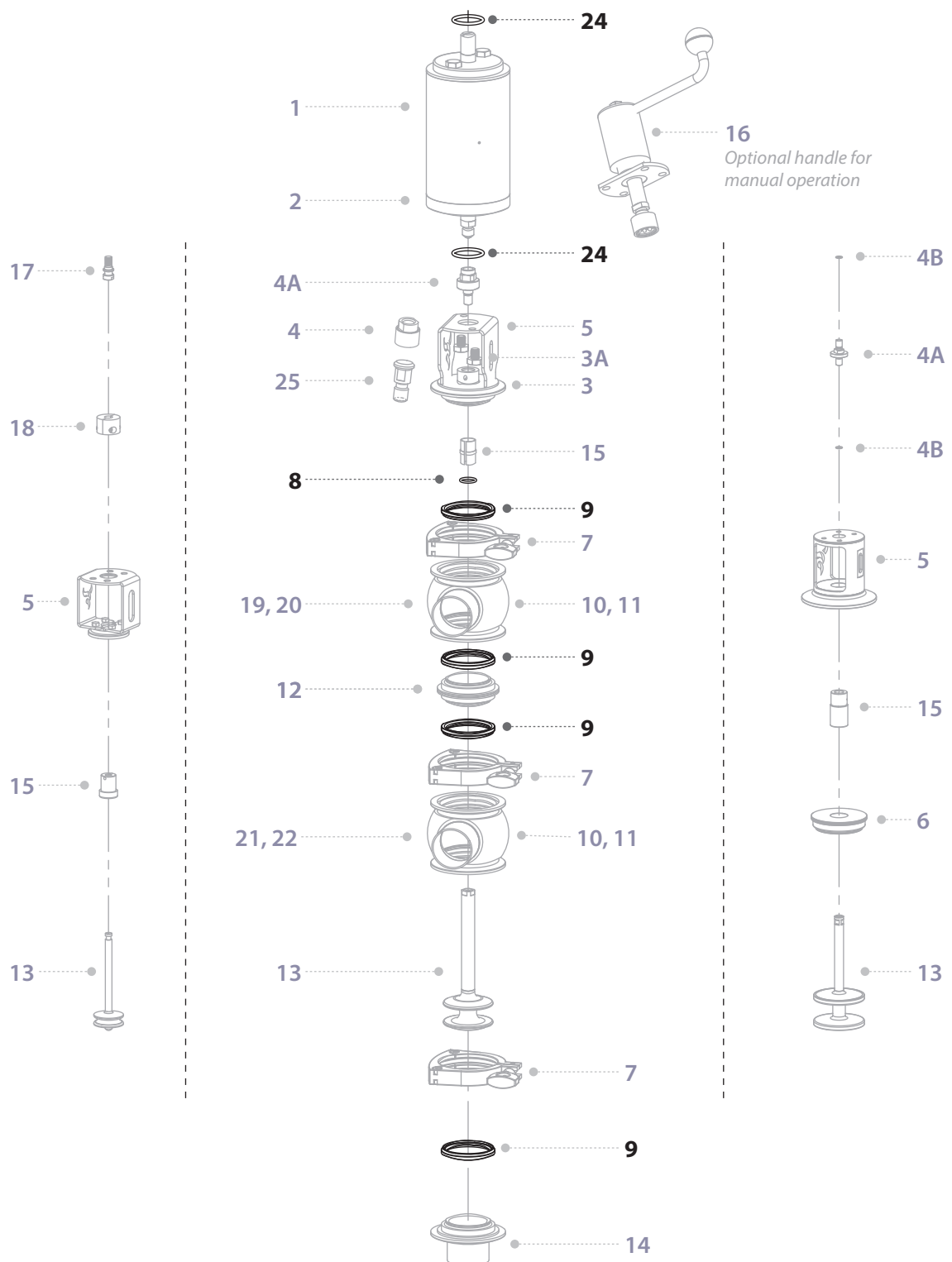
KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00527	R Kit 3/4" VITON PVE 7/9	8, 9, 24	EGPVE-9-NC-0.75-V	611-02760	EPVE-9-NC-0.75-V	611-02772
624-00534	R Kit 1.0" VITON PVE 7/9 New	8, 9, 24	EGPVE-9-NC-1.0-V	611-03461	EPVE-9-NC-1.0-V	611-04325
624-00366	R Kit 1.5"/40 VITON PVE 7/9	8, 9, 24	EGPVE-9-NC-1.5-V	611-03473	EPVE-9-NC-1.5-V	611-04337
624-00368	R Kit 2.0"/50 VITON PVE 7/9	8, 9, 24	EGPVE-9-NC-2.0-V	611-03486	EPVE-9-NC-2.0-V	611-04349
624-00535	R Kit 2.5" VITON PVE 7/9 New	8, 9, 24	EGPVE-9-NC-2.5-V	611-03499	EPVE-9-NC-2.5-V	611-04361
624-00536	R Kit 3.0" VITON PVE 7/9 New	8, 9, 24	EGPVE-9-NC-3.0-V	611-03512	EPVE-9-NC-3.0-V	611-04373
624-00511	R Kit 4.0" VITON PVE 7/9	8, 9, 24	EGPVE-9-NC-4.0-V	611-00894	EPVE-9-NC-4.0-V	611-00895

12.3. Divert valve

Size $\frac{3}{4}$ " to 1"

Size 1½" to 3"

Size 4"



77

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00522	R Kit 3/4"EPDM PVE 77/79/97/99	8, 9, 24	EGPVE-77-NC-0.75	611-02759	EPVE-77-NC-0.75	611-02752
624-00537	R Kit 1.0"EPDM PVE 77/79 New	8, 9, 24	EGPVE-77-NC-1.0	611-02835	EPVE-77-NC-1.0	611-03663
624-00355	R Kit 1.5"/40 EPDM PVE 77/99	8, 9, 24	EGPVE-77-NC-1.5	611-02848	EPVE-77-NC-1.5	611-03676
624-00357	R Kit 2.0"/50 EPDM PVE 77/99	8, 9, 24	EGPVE-77-NC-2.0	611-02860	EPVE-77-NC-2.0	611-03689
624-00538	R Kit 2.5"EPDM PVE 77/79/99 New	8, 9, 24	EGPVE-77-NC-2.5	611-02876	EPVE-77-NC-2.5	611-03704
624-00539	R Kit 3.0"EPDM PVE 77/79/99 New	8, 9, 24	EGPVE-77-NC-3.0	611-02889	EPVE-77-NC-3.0	611-03716
624-00514	R Kit 4.0" EPDM PVE 77/79/99	8, 9, 24	EGPVE-77-NC-4.0	611-00874	EPVE-77-NC-4.0	611-00875

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KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00522	R Kit 3/4"EPDM PVE 77/79/97/99	8, 9, 24	EGPVE-79-NC-0.75	611-02761	EPVE-79-NC-0.75	611-02754
624-00537	R Kit 1.0"EPDM PVE 77/79 New	8, 9, 24	EGPVE-79-NC-1.0	611-02964	EPVE-79-NC-1.0	611-03799
624-00355	R Kit 1.5"/40 EPDM PVE 77/99	8, 9, 24	EGPVE-79-NC-1.5	611-02976	EPVE-79-NC-1.5	611-03811
624-00357	R Kit 2.0"/50 EPDM PVE 77/99	8, 9, 24	EGPVE-79-NC-2.0	611-02988	EPVE-79-NC-2.0	611-03823
624-00538	R Kit 2.5"EPDM PVE 77/79/99 New	8, 9, 24	EGPVE-79-NC-2.5	611-03001	EPVE-79-NC-2.5	611-03835
624-00539	R Kit 3.0"EPDM PVE 77/79/99 New	8, 9, 24	EGPVE-79-NC-3.0	611-03013	EPVE-79-NC-3.0	611-03847
624-00514	R Kit 4.0" EPDM PVE 77/79/99	8, 9, 24	EGPVE-79-NC-4.0	611-00876	EPVE-79-NC-4.0	611-00878

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KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00529	R Kit3/4"VITON PVE 77/79/97/99	8, 9, 24	EGPVE-77-NC-0.75-V	611-02773	EPVE-77-NC-0.75-V	611-02774
624-00540	R Kit1.0"VITON PVE 77/79/97 New	8, 9, 24	EGPVE-77-NC-1.0-V	611-02843	EPVE-77-NC-1.0-V	611-03672
624-00367	R Kit 1.5"/40 VITON PVE 77/99	8, 9, 24	EGPVE-77-NC-1.5-V	611-02856	EPVE-77-NC-1.5-V	611-03685
624-00369	R Kit 2.0"/50 VITON PVE 77/99	8, 9, 24	EGPVE-77-NC-2.0-V	611-02872	EPVE-77-NC-2.0-V	611-03700
624-00541	R Kit2.5"VITON PVE 77/79/99 New	8, 9, 24	EGPVE-77-NC-2.5-V	611-02885	EPVE-77-NC-2.5-V	611-03712
624-00542	R Kit 3.0VITON PVE 77/79/99 New	8, 9, 24	EGPVE-77-NC-3.0-V	611-02898	EPVE-77-NC-3.0-V	611-03724
624-00512	R Kit 4.0" VITON PVE 77/79/99	8, 9, 24	EGPVE-77-NC-4.0-V	611-00885	EPVE-77-NC-4.0-V	611-00888

79

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00529	R Kit3/4"VITON PVE 77/79/97/99	8, 9, 24	EGPVE-79-NC-0.75-V	611-02763	EPVE-79-NC-0.75-V	611-02769
624-00540	R Kit1.0"VITON PVE 77/79/97 New	8, 9, 24	EGPVE-79-NC-1.0-V	611-02972	EPVE-79-NC-1.0-V	611-03807
624-00367	R Kit 1.5"/40 VITON PVE 77/99	8, 9, 24	EGPVE-79-NC-1.5-V	611-02984	EPVE-79-NC-1.5-V	611-03819
624-00369	R Kit 2.0"/50 VITON PVE 77/99	8, 9, 24	EGPVE-79-NC-2.0-V	611-02997	EPVE-79-NC-2.0-V	611-03831
624-00541	R Kit2.5"VITON PVE 77/79/99 New	8, 9, 24	EGPVE-79-NC-2.5-V	611-03009	EPVE-79-NC-2.5-V	611-03843
624-00542	R Kit 3.0VITON PVE 77/79/99 New	8, 9, 24	EGPVE-79-NC-3.0-V	611-03021	EPVE-79-NC-3.0-V	611-03855
624-00512	R Kit 4.0" VITON PVE 77/79/99	8, 9, 24	EGPVE-79-NC-4.0-V	611-00886	EPVE-79-NC-4.0-V	611-00889

97

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00522	R Kit 3/4"EPDM PVE 77/79/97/99	8, 9, 24	EGPVE-97-NC-0.75	611-02765	EPVE-97-NC-0.75	611-02762
624-00537	R Kit 1.0"EPDM PVE 77/79 New	8, 9, 24	EGPVE-97-NC-1.0	611-03212	EPVE-97-NC-1.0	611-04062
624-00355	R Kit 1.5"/40 EPDM PVE 77/99	8, 9, 24	EGPVE-97-NC-1.5	611-03224	EPVE-97-NC-1.5	611-04074
624-00357	R Kit 2.0"/50 EPDM PVE 77/99	8, 9, 24	EGPVE-97-NC-2.0	611-03236	EPVE-97-NC-2.0	611-04086
624-00538	R Kit 2.5"EPDM PVE 77/79/99New	8, 9, 24	EGPVE-97-NC-2.5	611-03248	EPVE-97-NC-2.5	611-04098
624-00539	R Kit 3.0"EPDM PVE 77/79/99New	8, 9, 24	EGPVE-97-NC-3.0	611-03260	EPVE-97-NC-3.0	611-04110
624-00514	R Kit 4.0" EPDM PVE 77/79/99	8, 9, 24	EGPVE-97-NC-4.0	611-00880	EPVE-97-NC-4.0	611-00882

99

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00522	R Kit 3/4"EPDM PVE 77/79/97/99	8, 9, 24	EGPVE-99-NC-0.75	611-02747	EPVE-99-NC-0.75	611-02756
624-00537	R Kit 1.0"EPDM PVE 77/79 New	8, 9, 24	EGPVE-99-NC-1.0	611-03332	EPVE-99-NC-1.0	611-04189
624-00355	R Kit 1.5"/40 EPDM PVE 77/99	8, 9, 24	EGPVE-99-NC-1.5	611-03344	EPVE-99-NC-1.5	611-04201
624-00357	R Kit 2.0"/50 EPDM PVE 77/99	8, 9, 24	EGPVE-99-NC-2.0	611-03356	EPVE-99-NC-2.0	611-04213
624-00538	R Kit 2.5"EPDM PVE 77/79/99New	8, 9, 24	EGPVE-99-NC-2.5	611-03369	EPVE-99-NC-2.5	611-04225
624-00539	R Kit 3.0"EPDM PVE 77/79/99New	8, 9, 24	EGPVE-99-NC-3.0	611-03381	EPVE-99-NC-3.0	611-04237
624-00514	R Kit 4.0" EPDM PVE 77/79/99	8, 9, 24	EGPVE-99-NC-4.0	611-00881	EPVE-99-NC-4.0	611-00883

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KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00529	R Kit3/4"VITON PVE77/79/97/99	8, 9, 24	EGPVE-97-NC-0.75-V	611-02766	EPVE-97-NC-0.75-V	611-02770
624-00540	R Kit1.0"VITON PVE77/79/97New	8, 9, 24	EGPVE-97-NC-1.0-V	611-03220	EPVE-97-NC-1.0-V	611-04070
624-00367	R Kit 1.5"/40 VITON PVE 77/99	8, 9, 24	EGPVE-97-NC-1.5-V	611-03232	EPVE-97-NC-1.5-V	611-04082
624-00369	R Kit 2.0"/50 VITON PVE 77/99	8, 9, 24	EGPVE-97-NC-2.0-V	611-03244	EPVE-97-NC-2.0-V	611-04094
624-00541	R Kit2.5"VITON PVE 77/79/99New	8, 9, 24	EGPVE-97-NC-2.5-V	611-03256	EPVE-97-NC-2.5-V	611-04106
624-00542	R Kit 3.0VITON PVE 77/79/99New	8, 9, 24	EGPVE-97-NC-3.0-V	611-03268	EPVE-97-NC-3.0-V	611-04118
624-00512	R Kit 4.0" VITON PVE 77/79/99	8, 9, 24	EGPVE-97-NC-4.0-V	611-00890	EPVE-97-NC-4.0-V	611-00892

99

KIT	KIT NAME	CONTAINS	EPDM			
			C		W	
			NAME	ITEM	NAME	ITEM
624-00529	R Kit3/4"VITON PVE77/79/97/99	8, 9, 24	EGPVE-99-NC-0.75-V	611-02767	EPVE-99-NC-0.75-V	611-02771
624-00540	R Kit1.0"VITON PVE77/79/97New	8, 9, 24	EGPVE-99-NC-1.0-V	611-03340	EPVE-99-NC-1.0-V	611-04197
624-00367	R Kit 1.5"/40 VITON PVE 77/99	8, 9, 24	EGPVE-99-NC-1.5-V	611-03352	EPVE-99-NC-1.5-V	611-04209
624-00369	R Kit 2.0"/50 VITON PVE 77/99	8, 9, 24	EGPVE-99-NC-2.0-V	611-03365	EPVE-99-NC-2.0-V	611-04221
624-00541	R Kit2.5"VITON PVE 77/79/99New	8, 9, 24	EGPVE-99-NC-2.5-V	611-03377	EPVE-99-NC-2.5-V	611-04233
624-00542	R Kit 3.0VITON PVE 77/79/99New	8, 9, 24	EGPVE-99-NC-3.0-V	611-03389	EPVE-99-NC-3.0-V	611-04245
624-00512	R Kit 4.0" VITON PVE 77/79/99	8, 9, 24	EGPVE-99-NC-4.0-V	611-00891	EPVE-99-NC-4.0-V	611-00893

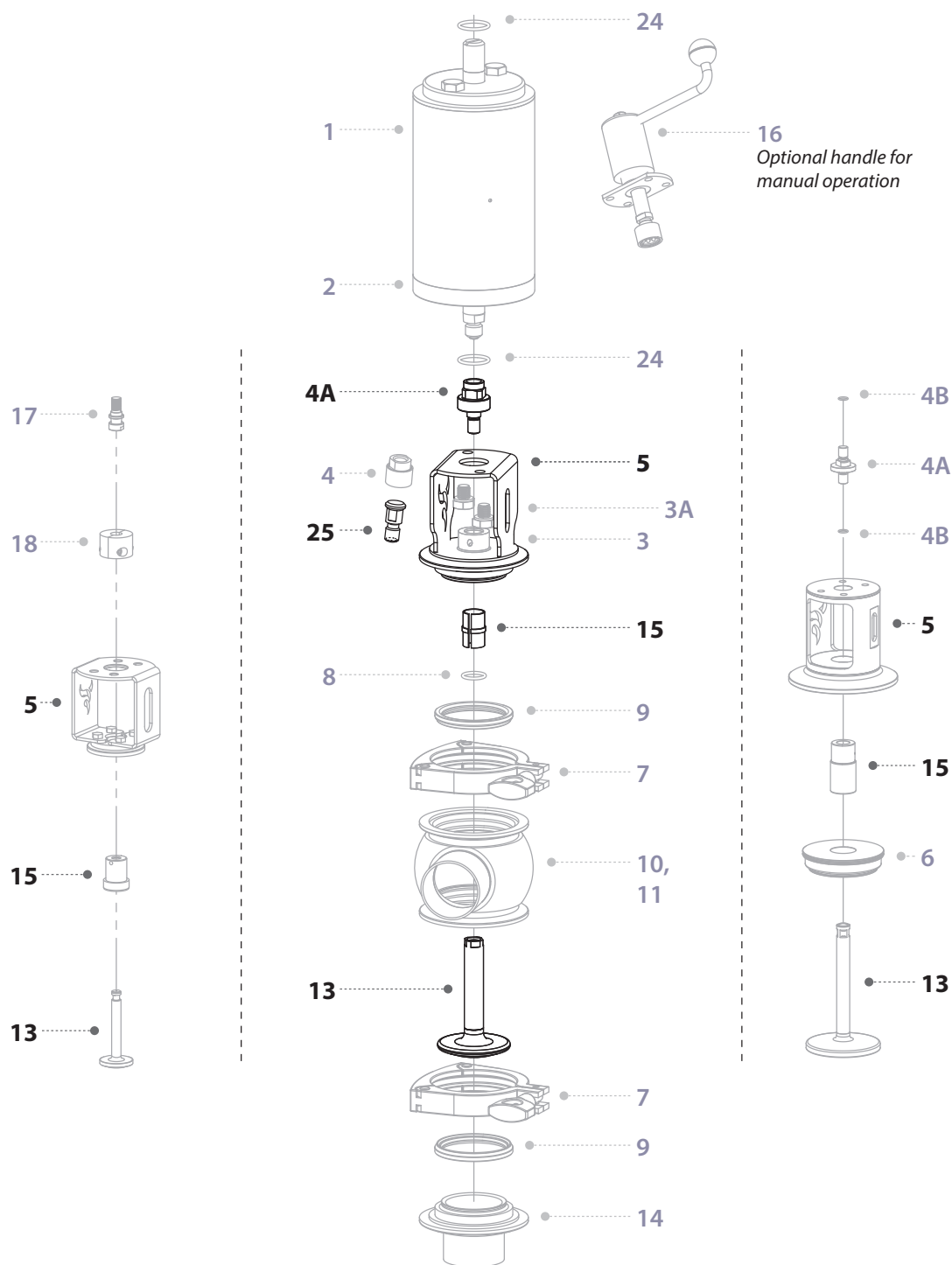
13. PVE Retrofit Kits

13.1. Shut Off Valve

Size ¾" to 1"

Size 1½" to 3"

Size 4"



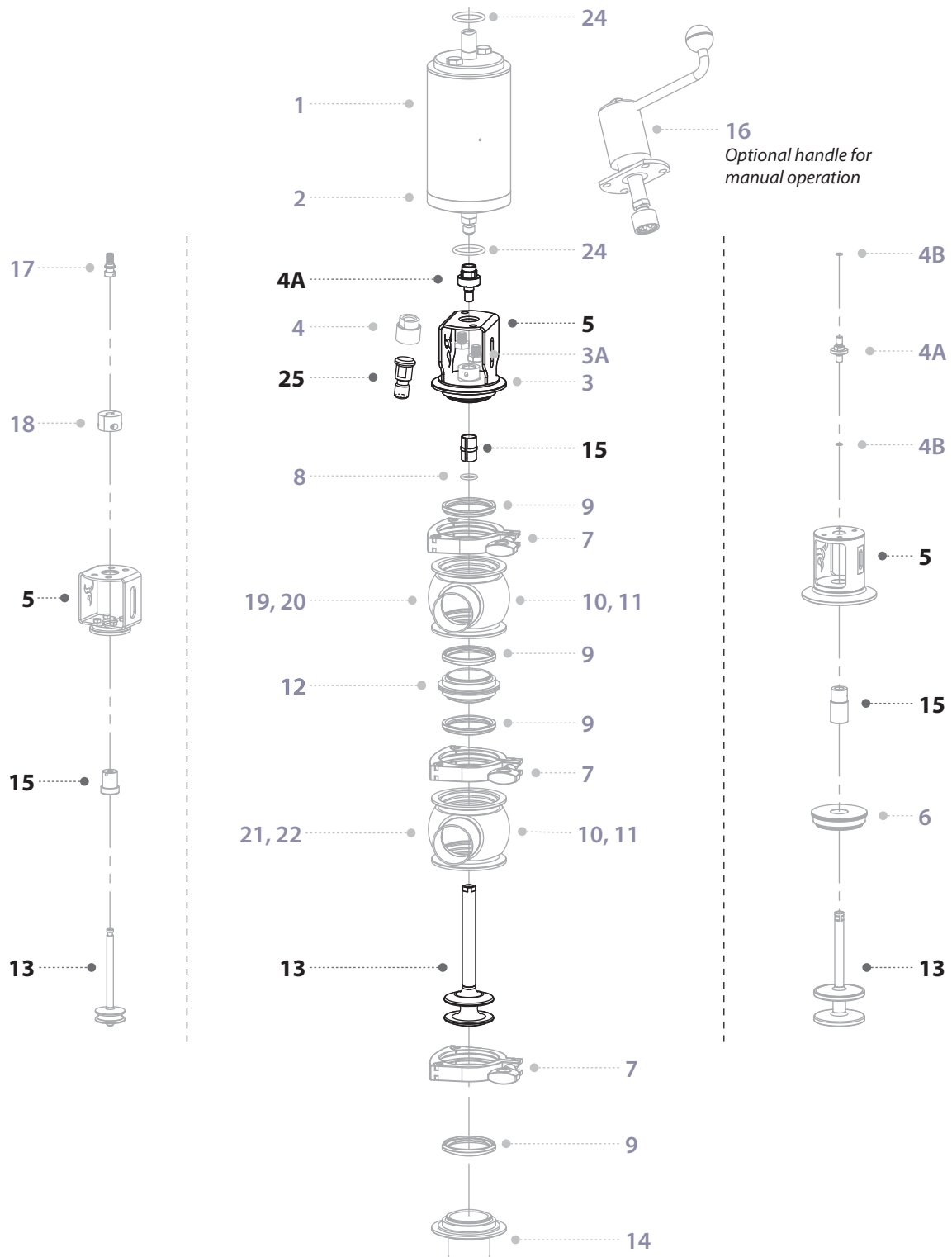
Item #	Part Number	Description	Contains
624-00543	PVE 1.5" 7/9	Retrofit Kit PVE 1.5" 7/9	4A, 5, 13, 15, 25
624-00544	PVE 2.0" 7/9	Retrofit Kit PVE 2.0" 7/9	4A, 5, 13, 15, 25
624-00545	PVE 2.5" 7/9	Retrofit Kit PVE 2.5" 7/9	4A, 5, 13, 15, 25
624-00546	PVE 3.0" 7/9	Retrofit Kit PVE 3.0" 7/9	4A, 5, 13, 15, 25

13.2. Divert Valve

Size ¾" to 1"

Size 1½" to 3"

Size 4"



Item #	Part Number	Description	Contains
624-00551	PVE 1.5" 77/79	Retrofit Kit PVE 1.5" 77/79	4A, 5, 13, 15, 25
624-00552	PVE 2.0" 77/79	Retrofit Kit PVE 2.0" 77/79	4A, 5, 13, 15, 25
624-00553	PVE 2.5" 77/79	Retrofit Kit PVE 2.5" 77/79	4A, 5, 13, 15, 25
624-00554	PVE 3.0" 77/79	Retrofit Kit PVE 3.0" 77/79	4A, 5, 13, 15, 25

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