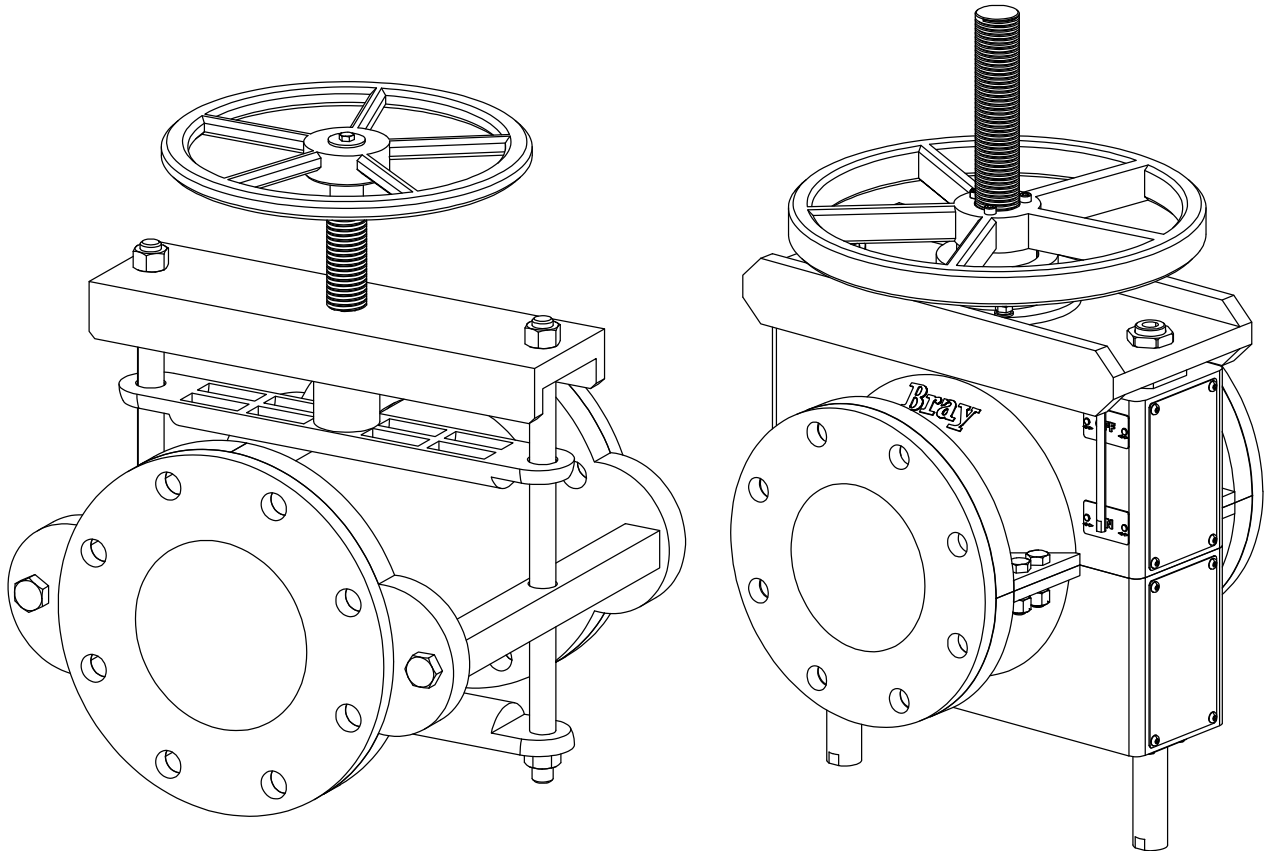

SERIES PVA

PINCH VALVES

Installation, Operation, and Maintenance Manual



Bray[®]

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THE HIGH PERFORMANCE COMPANY

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1.0 INTRODUCTION

- 1.1 The Bray pinch valve Series PVA is a replaceable-sleeve dual arm mechanical pinch valve that can provide ON/OFF shut off, throttling and modulating control. The PVA is available in open body and enclosed body designs for operating pressures up to 363 psi | 25 bar with tri-layer reinforced sleeves in a variety of materials to suit applications in a variety of industries. The PVA is full-bore with no external leak paths or dead pockets making it an ideal choice for challenging applications.

The valve sleeve is the only wetted component, the valve body and operating mechanism are not in contact with the service media.

- 1.2 Additional product information (such as application data, engineering specifications, actuator selection, etc.) is available from your local Bray distributor or sales representative, or online at BRAY.COM
- 1.3 For a detailed list of product certifications please contact your local Bray representative.

**READ AND FOLLOW THESE INSTRUCTIONS CAREFULLY.
FOR THE LATEST IOM VERSION, VISIT BRAY.COM**

2.0 DEFINITION OF TERMS

2.1 Safety Statements

To prevent unwanted consequences, standard symbols and classifications are used as shown below:



DANGER

Indicates a potentially hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury.



NOTICE

Used without the safety alert symbol, indicates a potential situation which, if not avoided, may result in an undesirable result or state, including property damage.

NOTE: Provides important information related to a procedure.

2.2 Sleeve

The pressure boundary and closure member of the valve

2.3 Body

The carrier for the sleeve which is open to atmosphere and not a pressure retaining component

2.4 Pinch Bar

Internal bars that are driven by the operator to squeeze the sleeve from opposing sides

2.5 Sleeve Rating

The maximum pressure the sleeve can withstand in the open or closed position

2.6 Maximum Operating Pressure

The maximum pressure the valve can operate against based on the sleeve rating and operator size

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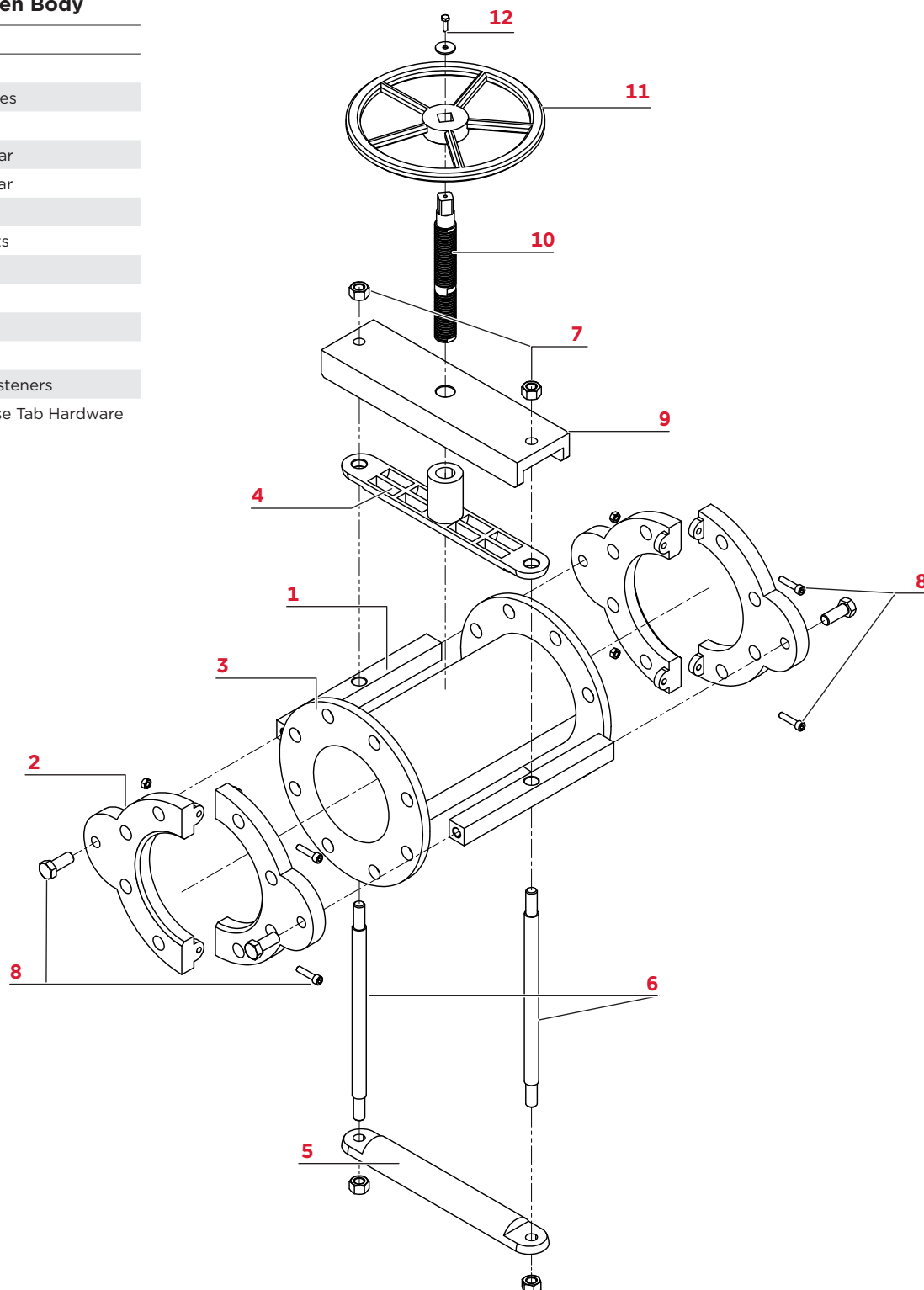


3.0 PARTS IDENTIFICATION

3.1 Parts Callout - PVA Open Body

Parts List - PVA Open Body

ITEM	DESCRIPTION
1	Body Bars
2	Retainer Flanges
3	Sleeve
4	Upper Pinch Bar
5	Lower Pinch Bar
6	Guide Rods
7	Guide Rod Nuts
8	Body Bolting
9	Top Plate
10	Stem
11	Handwheel
12	Handwheel Fasteners
13	Quick Response Tab Hardware (not shown)



SERIES PVA PINCH VALVES

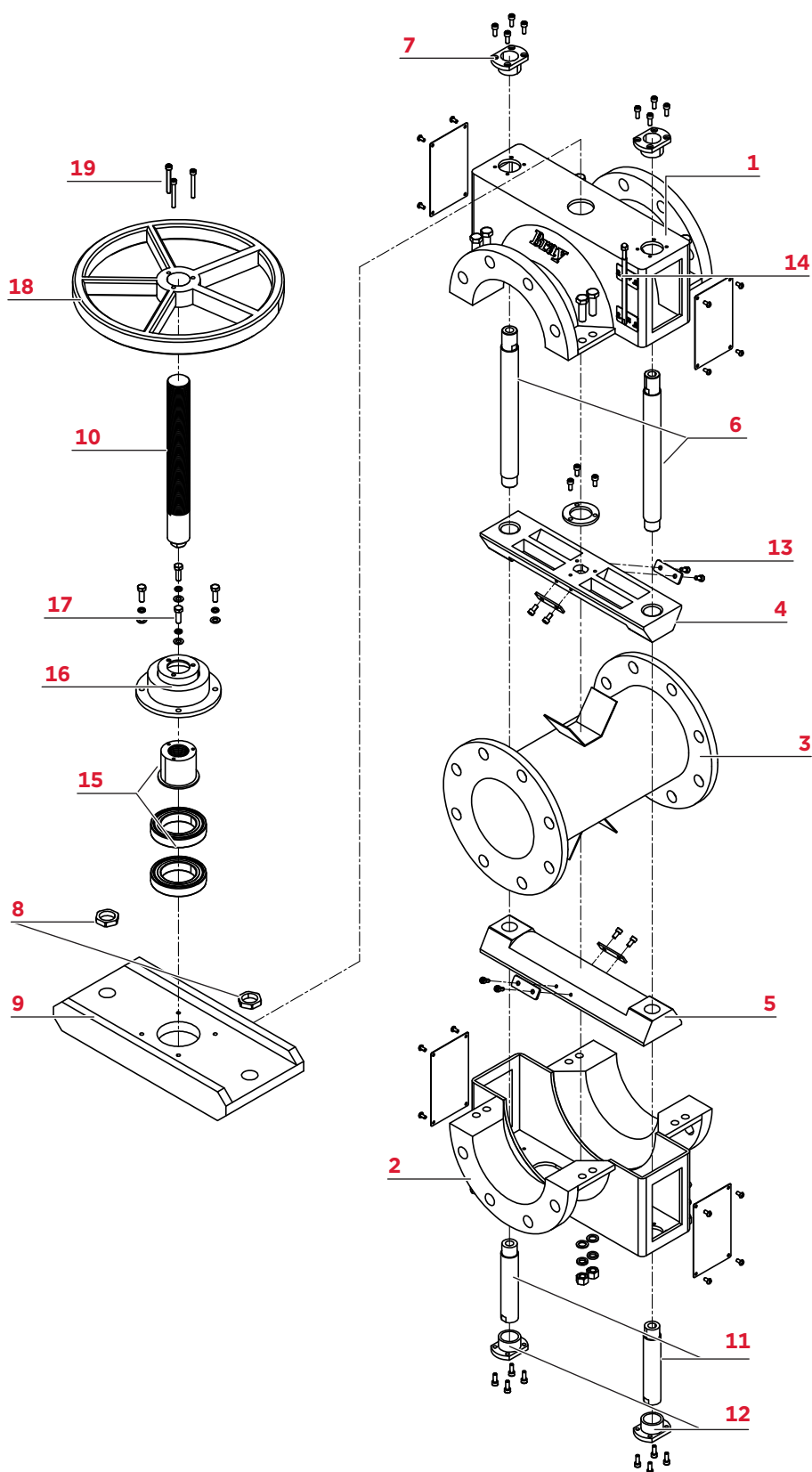
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3.2 Parts Callout – PVA Enclosed Body - 232 psi | 16 bar

Parts List - PVA Enclosed Body

ITEM	DESCRIPTION
1	Upper Body
2	Lower Body
3	Sleeve
4	Upper Pinch Bar
5	Lower Pinch Bar
6	Upper Guide Rods
7	Upper Guide Bushings
8	Upper Guide Rod Nuts
9	Top Plate
10	Stem
11	Lower Guide Rods
12	Lower Guide Rod Bushings
13	Quick Response Tab Hardware
14	Position Indicator Rod
15	Stem Bearings
16	Stem Bearing Housing
17	Stem Bearing Housing Bolting
18	Handwheel
19	Handwheel Bolting



4.0 VALVE IDENTIFICATION

All valves, actuators, or control products are provided with an identification tag that is unique to each device. The following table is a representation of information that may be included.

Model Number:	Description of valve
Size:	Nominal Size of valve
Working Pressure:	Maximum Pressure at Ambient Temperature
Max. Temperature Rating:	Maximum Service Temperature
Serial Number:	Valve Serial Number
Part Number:	Valve Part Number
Date of Manufacture:	Valve Manufacturing Date
Flange:	Flange Drilling Standard
Body:	Body Material of Construction
Sleeve:	Sleeve Material of Construction

5.0 HAZARD-FREE USE / INTENDED USE



NOTICE

Failure to follow these procedures could affect product warranty.

This device left the factory in proper condition to be safely installed and operated in a hazard-free manner. The notes and warnings in this document must be observed by the user if this safe condition is to be maintained and hazard-free operation of the device assured.

Take all necessary precautions to prevent damage to the valve due to rough handling, impact, or improper storage. Do not use abrasive compounds to clean the valve, or scrape metal surfaces with any objects.

The control systems in which the valve is installed must have proper safeguards — to prevent injury to personnel, or damage to equipment — should failure of system components occur.

The upper limits of permitted pressure and temperature (depending on the housing and liner materials) must be observed. These limits are shown on the valve identification tag.

The valve must not be operated until the following documents have been observed:

- > Declaration on EU Directives (if applicable)
- > IOM Manual (supplied with the product).

For installations governed by the Pressure Equipment Directive (PED 2014/68/EU): This valve is classified for use with Group 2 Liquids only. Maximum Allowable Pressure for any Gas is restricted to 0.5 bar.

6.0 QUALIFIED PERSONNEL



NOTICE

Failure to follow these procedures could affect product warranty.

A **qualified person** (in terms of this document) is one who is familiar with the installation, commissioning, and operation of the device, and who has appropriate qualifications, such as:

1. Is trained in the operation and maintenance of pressure equipment and systems in accordance with established safety practices.
2. Is trained in the operation and maintenance of electrical equipment and systems in accordance with established safety practices.
3. Is trained or authorized to energize, de-energize, ground, tag, and lock electrical circuits and equipment in accordance with established safety practices.
4. Is trained in the proper use and care of personal protective equipment (PPE) in accordance with established safety practices.
5. Is trained in the commissioning, operation, and maintenance of equipment in hazardous locations — in cases where the device is installed in a potentially explosive (hazardous) location.

7.0 HANDLING REQUIREMENTS



WARNING

A potential hazard exists with handling valves. Failure to handle valves properly may cause a valve to shift, slip or fall causing serious injury or death and/or equipment damage.

7.1 Packed Valves

Crates: Lifting and handling of the packed valves in crates will be carried out by a forklift truck, by means of the appropriate fork hitches.

Cases: The lifting of packed valves in cases will be carried out in the lifting points and in the center of gravity position which has been marked. The transportation of all packed material must be carried out safely and following the local safety regulations.

Moving crated, packed, or palletted products must be done in a safe manner, using appropriate lifting equipment (i.e., forklift, hand truck, pallet jack, etc.)



NOTICE

When lifting the valve from shipping container, use straps through valve body. Take care to position lifting straps to avoid damage to the tubing and mounted accessories.

7.2 Unpacked Valves

Lifting and handling of valves should be carried out by using appropriate means and observing the carrying limits. Handling must be carried out on pallets, protecting all machined surfaces to avoid any damage.

With large bore valves, rigging the load must be carried out by using the appropriate tools to prevent the valve from falling or moving during the lifting and handling.



CAUTION

Product is shipped in protected position and must be transported in such a way as to avoid damage during movement.

For handling and/or lifting, the lifting equipment (fasteners, hooks, etc.) must be sized and selected while considering the product weight indicated in our packing list and/or delivery note.

Lifting and handling must be performed only by qualified personnel.

Fasteners must be protected by plastic covers in sharp corner areas.

Caution must be taken during handling to avoid this equipment passing over workers, or over any other place where a possible fall could cause injury or damage. In all cases, local safety regulations must be respected.



CAUTION

The end connection necks are suitable places to attach lifting slings/straps. Never use hand wheels or other protruding parts of the gearbox or actuator not designated for this purpose.



NOTICE

During handling, protect the end connection faces and fittings against damage from the lifting devices. Failure to cover faces and fittings could cause damage to the valve.

While unpacking the valve, check the packing list against the materials received. Lists describing the valve and accessories are included in each shipping container and General Assembly drawing as applicable.



WARNING

Never lift the valve or valve package by the actuator, positioner, limit switch or their piping. When lifting a valve, be aware that the center of gravity may be above the lifting point. Therefore, support must be given to prevent the valve from rotating. Failure to do so can cause serious injury to personnel and damage to the valve and nearby equipment.

Contact your shipper immediately if there is shipping damage. Should any problem arise, call your Bray representative.



WARNING

A potential hazard exists with handling valves. Failure to handle valves properly may cause a valve to shift, slip or fall causing serious injury or death and/or equipment damage.

7.3 Moving Valves

Moving crated, packed, or palletized products must be done in a safe manner, using appropriate lifting equipment (i.e., forklift, hand truck, pallet jack, etc.)

Lifting of products should be done using lifting points, and in the center of gravity position as marked, in observance of existing carrying limits.



CAUTION

Product is shipped in protected position and must be transported in such a way as to avoid damage during movement.

For handling and/or lifting, the lifting equipment (fasteners, hooks, etc.) must be sized and selected while considering the product weight indicated in our packing list and/or delivery note.

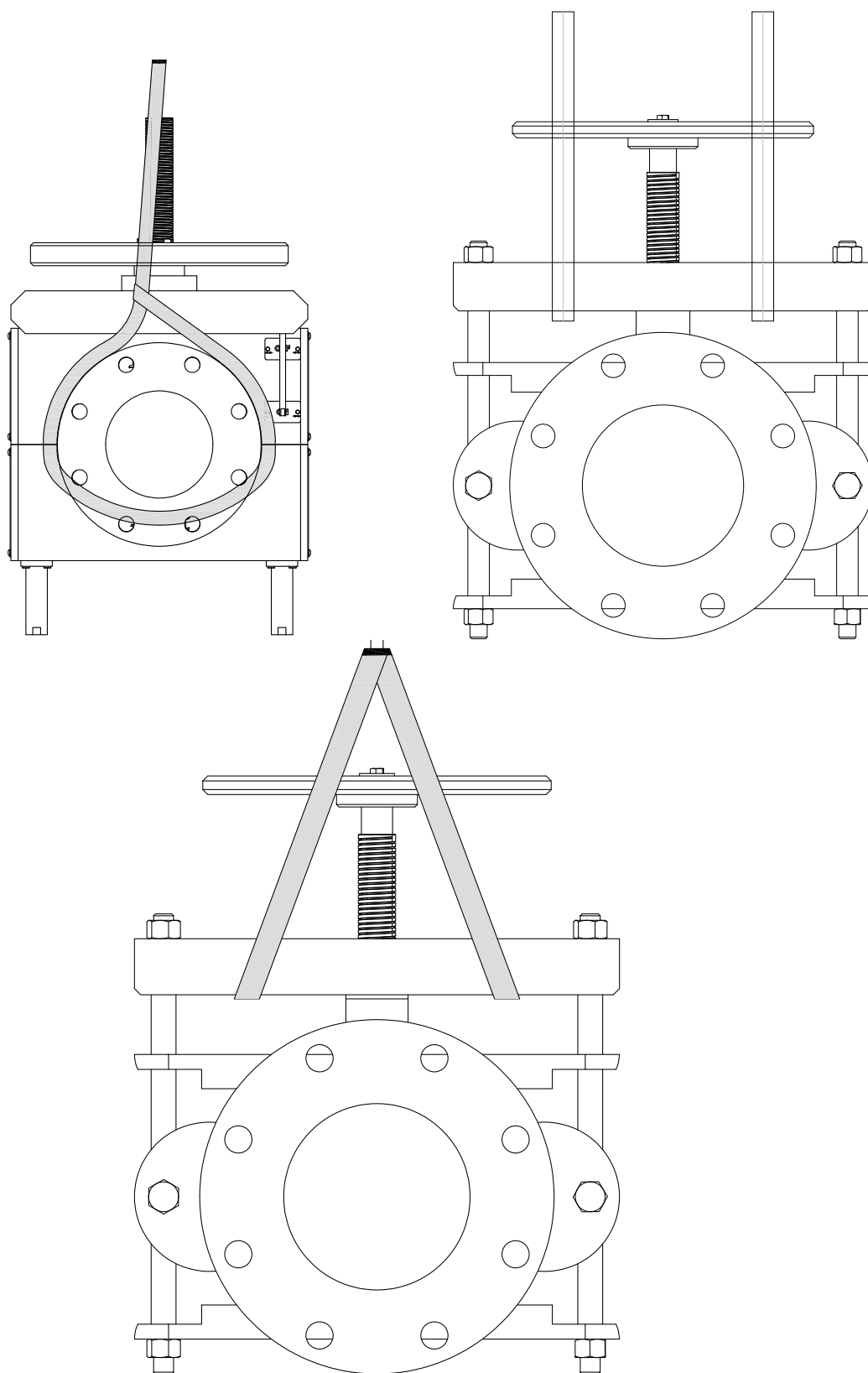
Lifting and handling must be performed only by qualified personnel.

Fasteners must be protected by plastic covers in sharp corner areas.

Caution must be taken during handling to avoid this equipment passing over workers, or over any other place where a possible fall could cause injury or damage. In all cases, local safety regulations must be respected.

Lifting should be performed as shown in **Figure 1**. Straps may be passed through operator handwheel for stability. Straps should never be wrapped around guide rods of valve stem.

If lifting lugs are provided on the operator, these shall never be used to lift the entire valve and operator assembly.

Figure 1

8.0 STORAGE



NOTICE

The packaging is designed to protect the valve only during shipping. If you are not installing the valve immediately after delivery, then you must store it according to these requirements.

Failure to follow these procedures could affect product warranty.

- 8.1** **Short-term storage** is defined as storage of valves to allow for project construction and will be installed within a relatively short amount of time (typically one to three months). During short-term storage, the following is required:
- 8.2** The preferred storage location is a clean, dry, protected warehouse. Do not expose the valve to temperature extremes.
- 8.3** End protectors shall remain on the valve ends to prevent the entrance of dirt, debris, or insects/wildlife.
- 8.4** Remain in the original shipping container with the original packaging materials. This packaging method will not protect valves that will be stored outside, uncovered, and unprotected.
- 8.5** Storage of valves in an open, uncovered area is permissible, but requires provisions for inclement weather. The product must be elevated from the ground on a pallet, a shelf, or other suitable surface, and must be covered with a secure, waterproof tarp.
- 8.6** **Do not** stack the valves on top of each other.
- 8.7** Manually actuated valves may be stored in the vertical or horizontal position. For air or hydraulic actuated valves, the preferred orientation is with the valve and cylinder in the vertical position. Access ports should be secured to prevent unauthorized entry and prevent contamination.

- 8.8** **Long-term storage** is defined as storage of valves longer than three months. During long-term storage, the following is required:
- 8.9** The storage location shall be a clean, dry, protected warehouse. Do not expose the valve to temperature extremes.
- 8.10** End protectors shall remain on the valve ends to prevent the entrance of dirt, debris, or insects/wildlife.
- 8.11** Product shall remain in the original shipping container with the original packaging materials.
- 8.12** **Do not** stack the valves on top of each other.
Store sleeves stress-free. Store vertically on a stable rack. Do not stack sleeves.
- 8.13** Manually actuated valves may be stored in the vertical or horizontal position. For air or hydraulic actuated valves, the preferred orientation is with the valve and cylinder in the vertical position. Access ports should be secured to prevent unauthorized entry and prevent contamination.
- Valves and equipment containing elastomers, including O-rings, must be stored in a climate-controlled warehouse according to SAE-ARP5316D requiring:
- > The ambient relative humidity to be less than 75%.
 - > No exposure from direct ultraviolet or sunlight.
 - > Protection from ozone generating equipment or combustible gases and vapors.
 - > Storage at temperatures below 100°F (38°C), away from direct sources of heat.
 - > No exposure to ionizing radiation.
- Storage inspection — visual inspection shall be performed on a semi-annual basis and results recorded. Inspection, as a minimum, shall include reviewing the following:
- > Packaging.
 - > Flange covers.
 - > Dryness.
 - > Cleanliness.
- 8.14** Actuators to be stored with all cable/pneumatic entries plugged to prevent entry of foreign material.
- 8.15** Leave protective caps and covers on the product.

9.0 INSTALLATION



WARNING

Verify line is depressurized before installing, removing, or repairing a valve or operator.

Do not pressurize the line without an operator on the valve.



CAUTION

Never try to assemble a valve with misaligned pipe flanges



CAUTION

Support should be used for valves installed in vertical pipeline. Failure to do so can result in improper valve operation and/or valve failure.

Before installing the valve, check the valve body port for any foreign material that may have collected during shipping or storage.

Do not install the valve near high-temperature areas.

Choose a valve location that allows easy inspection and maintenance. Leave sufficient clearance for maintenance and removal and inspection of auxiliary instruments.

Open Body: Sunlight and UV light can degrade certain grades of rubber. Protect the valve from direct sunlight or UV source as possible during installation and operation.

Series PVA are bidirectional and can be installed in any pipeline orientation with no restriction on flow direction. Pipe horizontal, stem vertical installation is preferred.

If valve is installed with stem horizontal, adequate support for stable operation must be provided. Due to the movement of the mechanism, sliding support must be provided for large pneumatic or hydraulic actuators.

Many configurations of the Series PVA require clearance on the top and bottom of the valve for the movement of the pinch mechanism. A good rule of thumb is to ensure at least one pipe diameter of space above and below the top and bottom of the installed valve.

The valve sleeves also function as the flange gaskets. Do not use additional flange gaskets.



NOTICE

The valve must be installed in the OPEN position to ensure the sleeve is correctly clamped between the flanges. Damage to valve may occur if not followed.

Tighten flange bolts in a crisscross pattern. **See Figure 2**

Exceeding recommended torque values will reduce the overall valve performance and may permanently damage the sleeve or other parts. **See Table 1** for maximum flange bolt tightening torques for metallic and FRP flanges.

Figure 2: Bolt Tightening Sequence

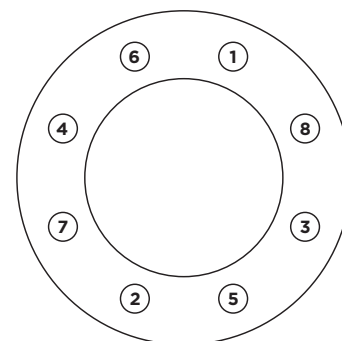


Table 1: Recommended Flange Tightening Torque

Valve Size		Total Number of Holes	Bolt/Stud Size (S)	Tightening Torque for Standard Flange		Tightening Torque for Non-Metallic Pipe	
NPS	DN			lbf-ft	N-m	lbf-ft	N-m
0.5	15	4	1/2"-13 UNC	30	40	21	28
1	25	4	1/2"-13 UNC	30	40	21	28
1.5	40	4	1/2"-13 UNC	30	40	21	28
2	50	4	5/8"-11 UNC	40	54	25	34
2.5	65	4	5/8"-11 UNC	40	54	25	34
3	80	4	5/8"-11 UNC	40	54	25	34
4	100	8	5/8"-11 UNC	40	54	25	34
5	125	8	3/4"-10 UNC	70	95	49	66
6	150	8	3/4"-10 UNC	70	95	49	66
8	200	8	3/4"-10 UNC	70	95	49	66
10	250	12	7/8"-9 UNC	111	150	65	88
12	300	12	7/8"-9 UNC	111	150	65	88
14	350	12	1"-8 UN	170	230	100	136
16	400	16	1"-8 UN	170	230	100	136
18	450	16	1-1/8"-8 UN	240	325	140	190
20	500	20	1-1/8"-8 UN	240	325	140	190
24	600	20	1-1/4"-8 UN	344	467	200	271
26	650	24	1-1/4"-8 UN	344	467	200	271
28	700	28	1-1/4"-8 UN	344	467	200	271
30	750	28	1-1/4"-8 UN	344	467	200	271
32	800	28	1-1/2"-8 UN	610	827	320	434
36	900	32	1-1/2"-8 UN	610	827	320	434

Ensure the mating line flanges are properly aligned prior to valve installation and tightening. All piping must be supported and the valve must not be subject to piping tension or compression loads.

10.0 COMMISSIONING



WARNING

Pinch and shear hazard: keep hands and fingers away from moving parts. Do not energize the actuator before the valve is correctly installed in the pipeline. Before installation and maintenance, isolate the actuator power source (i.e. air, hydraulic, or electrical supply), and de-energize as required.



NOTICE

Hydrostatic system testing with the valve in the closed position may result in damage to the valve seats, affecting their ability to create a proper seal.

Perform a visual inspection of the valve condition.

After installation, inspect and confirm all connections are fully sealed.

Before the valve is put into regular use, stroke the valve to check for smooth operation.

10.1 Manually Operated Valves:

It is recommended to close and open the valve once or twice.

10.2 Pneumatically Operated Valves:

Valves with a double-acting cylinder, connect a closed air line to the upper actuator port and gradually increase the air supply pressure to the rated pressure on the nameplate to close the valve; repeat by connecting the air line to the other port to slowly stroke the valve back to open position. If movement with the rated air supply pressure is smooth, the valve is ready to be put into service. Note: Air supply pressure must be maintained in the cylinder for the valve to remain in the closed position.

For valves with spring-return actuators, use the air port to stroke the valve in one direction and release air slowly to stroke by spring in the opposite direction.

Recommended minimum air quality: ISO 8573-1:2010 Class 7:4:4.

10.3 Electrically Operated Valves:

Wire the electric actuator according to the internal wiring diagram. The open/close limit switches have been preset prior to shipment. The actuator should be set to open on position limit and close on torque limit. Please contact your Bray representative for assistance if required.

10.4 Hydraulically Operated Valves:

Refer to the actuator nominal supply pressure. Note: Hydraulic pressure must be maintained in the cylinder for the valve to remain in the closed position.

Ensure that the valve is stroking fully between the OPEN and CLOSED indicators provided and is unhindered.

11.0 OPERATION



WARNING

Do not place hands, fingers, or other objects between moving parts of the valve during operation.

Series PVA is suitable for on-off, throttling, and modulating operation.

11.1 Manual Operation:

When rotating the handwheel clockwise, the internal drive mechanism moves the upper and lower pinch bars to compress the sleeve and close the valve. Stop rotating the handwheel when light resistance is felt and the position indicator indicates closed. Rotate the handwheel counter-clockwise to open the valve.



NOTICE

Over-travel and excessive compression may reduce the service life of the sleeve.

11.2 Pneumatic Operation:

Apply air to the top port of the cylinder to close the valve. An air filter-regulator must be used to ensure correct air pressure is supplied. Correct air pressure will extend sleeve service life. If the air pressure is too low, the valve may leak, potentially causing premature sleeve failure. If the air pressure is too high, sleeve life will be reduced.

11.3 Electrical Operation:

When the actuator rotates the stem clockwise, the internal drive mechanism moves the upper and lower pinch bars to compress the sleeve and close the valve. The actuator should stop on torque when light resistance met. Counter-clockwise operation opens the valve.

11.4 Hydraulic Operation:

Apply hydraulic pressure to the top port of the cylinder to close the valve. Hydraulic pressure should be controlled ensure correct closing force supplied. Correct hydraulic pressure will extend sleeve service life. If the pressure is too low, the valve may leak, potentially causing premature sleeve failure. If the pressure is too high, sleeve life will be reduced.

12.0 STANDARD MAINTENANCE



WARNING

Verify line is depressurized before installing, removing, or repairing a valve or operator.
Do not pressurize the line without an operator on the valve.



WARNING

After completing any alterations or maintenance procedures, the product must be tested to confirm performance requirements.



NOTICE

Any modification or use of unauthorized parts voids any and all warranty considerations.



NOTICE

Note assembly positions before removal.

Series PVA requirements minimal maintenance. There is no packing gland that must be adjusted. Only the sleeve is in contact with the pipeline media.

Bray recommends that at least one spare sleeve be available at user location for maintenance as required.

Service life of the sleeve depends on several factors including but not limited to media properties, temperature, operating pressure, and operating speed and frequency.

Inspect the valve body and sleeve at regular intervals. Check for any signs of corrosion, component wear, or damage caused by process media.

Look for corrosion, galling, or excessive wear on guide rods and bushings, stem threads or operator rods. Lubricate manual operators as required.

Look for any signs of leakage from the sleeve or sleeve-to-flange connections. Enclosed body valves have ports available for inspection. If found, replace sleeve immediately.

Sleeves should be changed on a regular schedule to prevent upset conditions. It is recommended to change the sleeve at a minimum every three (3) years, more frequently as the application requires.



WARNING

The process medium may be corrosive, harmful or even lethal. Verify the properties of the media and ensure the appropriate measures and PPE are utilized when handling the valve.

12.1 Sleeve Replacement – Open Body Style

1. Depressurize and drain the piping and valve.
2. Operate the valve to the fully open position.
3. Remove the valve from the piping and place in a suitable workspace.
4. Remove the bolting from the four Quick Response Lifting Tabs on the upper and lower pinch bars.
5. Unbolt the sleeve retainer flanges from the body bars and connecting bolting between the two halves on each side of the valve.
6. Remove the worn sleeve.
7. Install a new sleeve between the fully opened pinch bars. The sleeve flange may need to be slightly bent to pass between the bars. Do not use any sharp tool that may damage the sleeve.
8. Align and fix the Quick Response Lifting Tabs to the upper and lower pinch bars. Any excess length of the tabs may be cut away.
9. Bolt the two halves of the sleeve retainer flanges on each side of the valve and fix the retainer flanges back to the body bars.
10. **See Table 2** for standard bolting torques.
11. The pinch bars must be adjusted before installing in the pipeline.

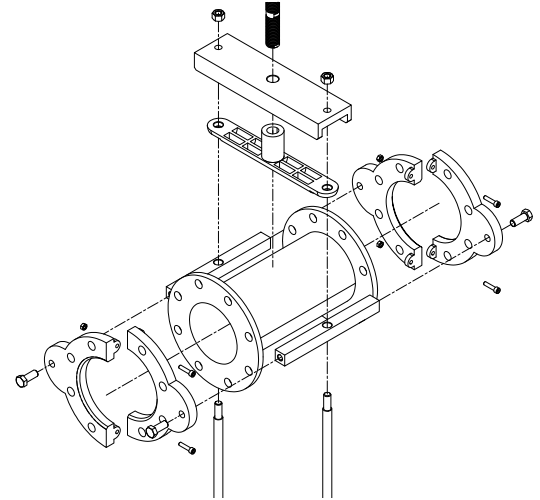


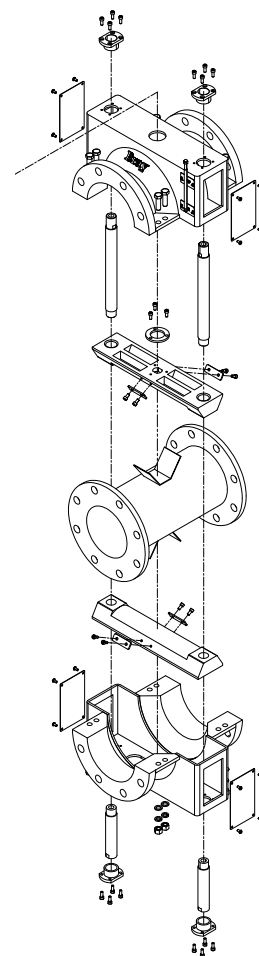
Table 2: Body Bolting Tightening Torque

Bolt Size	Carbon Steel (N·m)	Carbon Steel (lbf·ft)	Stainless (N·m)	Stainless (lbf·ft)
M6	8	6	8	6
M8	21	15	19	14
M10	40	30	38	28
M12	70	51	65	48
M16	169	125	161	119
M20	331	244	313	231
M24	572	422	541	399
M27	827	610	782	577
M30	1127	831	1067	787
M33	1522	1123	1437	1060
M36	1961	1446	1858	1370

Note: Torque values consider lubricated condition with MoS₂.

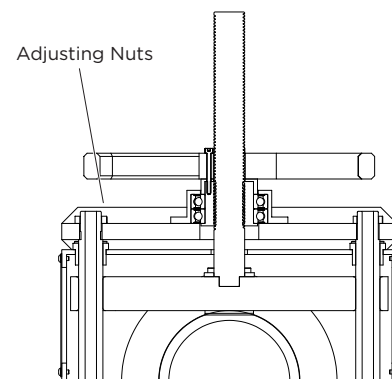
12.2 Sleeve Replacement – Enclosed Body Style

1. Depressurize and drain the piping and valve.
2. Operate the valve to the fully open position.
3. Remove the valve from the piping and place in a suitable workspace.
4. Loosen and remove the bolting between the body halves and detach the lower body half.
5. Remove the bolting from the four Quick Response Lifting Tabs on the upper and lower pinch bars.
6. Remove the worn sleeve.
7. Inspect and clean valve body and internal components that have been in contact with process media.
8. Inspect bushings and guide rods for wear or damage and replace as required.
9. Install a new sleeve between the fully opened pinch bars. Remove the lower pinch bar if difficult to install the new sleeve. Do not use any sharp tool that may damage the sleeve.
10. Align and fix the Quick Response Lifting Tabs to the pinch bars. Any excess length of the tabs may be cut away.
11. Align and reinstall the lower body half and tighten body bolting.
12. **See Table 2** for standard bolting torques.
13. The pinch bars must be adjusted before installing in the pipeline.



12.3 Pinch Bar Adjustment

1. After every sleeve replacement, the closing operation of the valve must be checked and adjusted. Incorrectly set pinch bars may under- or over-compress the sleeve resulting in leakage or damage that will shorten the life of the sleeve.
2. Loosen the nuts on the top of the guide rods.
3. Close the valve with the operator.
4. Adjust the pinch bars to be parallel to each other by tightening the two nuts. Adjust the nuts such that light is passing evenly between the sleeves. Use a bright light source on one side of the valve in necessary.
5. Equally tighten the nuts so that the light disappears and the sleeve compresses closed.



13.0 TROUBLESHOOTING

TROUBLE	POSSIBLE CAUSE	SOLUTION
Valve leaking to the environment	1. Sleeve damaged/ruptured. 2. Flange bolts not tightened evenly or are loose.	1. Replace and adjust the sleeve. 2. Tighten the flange-end bolts/nuts.
Leakage or flow occurs when the valve is in the closed position	Sleeve damaged or ruptured.	Inspect through the bottom port—replace and adjust the sleeve.
	Sleeve not fully compressed.	Manual valve: tighten the handwheel further. Pneumatic/hydraulic actuator: check supply pressure. If pressure is too low, the sleeve will not be fully compressed. Check actuator sealing/tightness. Electric: Verify actuator set for close on torque and torque value is correct.
	Pinch bars are not parallel.	Adjust guide rod nuts.
Sleeve service life is shorter than expected.	Sleeve not fully compressed in the closed position.	See above.
	Pinch bars are not parallel.	See above.
	Changes in process conditions, media, pressure, temperatures or flow rate.	Contact your Bray representative to determine the optimal valve size and / or sleeve material.
Sleeve does not open fully.	Quick Response tabs are not engaged	Inspect and adjust quick response tabs
	Sleeve has stiffened.	Contact your Bray representative to determine the optimal sleeve material.
Sleeve fluttering or collapsing	Vacuum, cavitation or pressure surges	Contact your Bray representative to determine the optimal valve size and configuration.

14.0 RETURN MERCHANDISE AUTHORIZATION

All products that are returned require a Return Merchandise Authorization (RMA). Contact a Bray representative to obtain authorization and shipping instructions.

The following information must be provided when submitting RMA:

- > Serial number
- > Part number
- > Month and year of manufacture
- > Actuator specifics
- > Application
- > Media
- > Operating temperature
- > Operating pressure
- > Total estimated cycles (since last installation or repair)

NOTE: Product information is provided on identification tag attached to device.



NOTICE

Materials must be cleaned and sanitized prior to return. MSDS sheets and Declaration of Decontamination are required.

SINCE 1986, BRAY HAS PROVIDED FLOW CONTROL SOLUTIONS
FOR A VARIETY OF INDUSTRIES AROUND THE WORLD.

VISIT **BRAY.COM** TO LEARN MORE ABOUT
BRAY PRODUCTS AND LOCATIONS NEAR YOU.

HEADQUARTERS

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