

GxI[®] Control Valve

Body Sub-assembly

02



INDEX

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Installation, Operation and Maintenance Instructions

1.1 - GENERAL INFORMATION

The following instructions are designed to assist in the installation, operation and maintenance of GxL globe control valves, as necessary.

Users and maintenance personnel should read this bulletin carefully before the installation, operation or servicing of the valve, actuator, positioner or any other accessory installed on the valve.

WARNING

If it is necessary to store the products before field installation, Valtek Sulamericana recommends that valves be stored in dry, fresh, closed places. Do not store valves in places where relative humidity is higher than 85% or the room temperature is lower than 41°F or higher than 113°F (5-45°C). Environments containing excessive UV radiation, acid or alkaline mist or ozone sources must be avoided.

Product storage in non-recommended places may void the manufacturer warranty.

1.2 - UNPACKING

- ⤷ When removing the valve from its package, check the packing list or the valve datasheet, comparing it with the received material. A specification sheet of the valve and assembled accessories is shipped inside each shipping container.
- ⤷ When lifting the valve from shipping container, position the lifting straps properly in order to avoid damages to the valve tubings and accessories assembled in the valve. The GxL valves may be lifted by the lifting rings provided on the top of the actuators. In case there is no lifting ring provided, lift the valve using straps attached to the yoke legs.
- ⤷ In case of damages during transport, immediately contact the shipper.
- ⤷ In case of any problem, call your Valtek Sulamericana representative.

1.3 - IDENTIFICATION

All GxL valves have a stainless steel name plate (see Fig. 1). The name plate provides the following data:

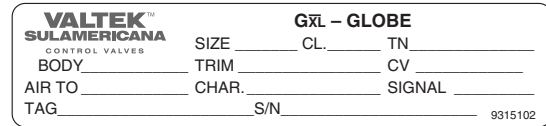


Figure 1 - Name Plate

- SIZE: Valve size in inches
- CL: Body rating (ANSI)
- TN.: Trim size
- BODY: Body material
- TRIM: Trim material
- CV: Rated Cv
- AIR TO: Air action (open/close)
- CHAR.: Flow characteristic
- SIGNAL: Instrument signal range
- TAG: Customer identification
- S/N: Serial number

1.4 - SAFETY WARNINGS

To avoid potential injury and/or damage to the valve parts, WARNING and CAUTION notes must be strictly observed. Changing this product characteristics, using non-original spare parts or using maintenance procedures different from those presented herein may affect the performance of the valve, be hazardous to personnel and equipment and may void the manufacturer warranty.

WARNING

Standard industry safety practices must be applied when using this equipment. Industry safety standards for personal protection and for equipment handling must also be observed.

CAUTION

Removing the valve for maintenance: Piping must be completely depressurized and process fluid drained. In case of toxic, caustic or hazardous fluid services, the valve must be decontaminated to avoid accidents.

WARNING

It is the user responsibility the proper material selection of the fasteners ne-

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cessary to install the valve in the process. User will take into account the material strength and its resistance to stress corrosion cracking. As with any mechanical equipment, periodic inspection and maintenance is required.

1.5 - INSTALLATION

- ▷ Before installing the valve, clean the piping to remove contaminants, scales and other foreign materials. Clean the flange gasket surfaces to assure that there is no leakage.
- ▷ Whenever possible, the valve should be installed in an upright position. Vertical installation allows easier maintenance service. Make sure that there is enough clearance over the actuator to allow the disassembly of the actuator from the valve body. Refer to Table I to find the necessary clearance to disassemble the actuator.

Table I: Free space necessary to disassemble the actuator

| Valve Size (in.) | Clearance | |
|------------------|-----------|-----|
| | in. | mm |
| 0.75 & 1 | 4 | 102 |
| 1.5 & 2 | 6 | 152 |
| 3 & 4 | 8 | 203 |

- ▷ Check the flow direction to assure that the valve is installed with the flow in the same direction indicated by the arrow plate.



When operating the valve, keep your hands, hair, clothes, etc. away from moving parts. Failure to follow this warning may result in serious injury.

- ▷ Connect air supply and instrument signal (throttling control valves are generally equipped with positioners). The air ports are identified indicating the air supply and the instrument signal. The actuator can operate with air supply pressure up to 150 psi (10.3 Bar). However, the sticker attached to the actuator must be checked for maximum pressure allowed according to the positioner installed. Air filter is recommended, unless the instrument air is clean and dry.



For transport reasons, the air filter may be installed out of the vertical position. Before operating the valve, position the air filter pointing down.

1.6 - QUICK CHECK

Prior to start-up, check the control valve according to the following steps:

- ▷ Check all air connections for leaks. Tighten the packing nuts evenly with a torque slightly higher than the torque applied by fingers adding 1/4 turn (only for PTFE).

Note: in case of high temperature application, check and re-tighten bonnet and packing nuts after the temperature increment.

- ▷ Check the full stroke making appropriate instrument signal change. The plug must move smoothly, from one end position to the other end.
- ▷ Check the failsafe position in case of air supply lack. Position the valve in the middle of its stroke and shut off the air supply to the actuator or cut-off the instrument signal sent to positioner. Observe the stroke plate to confirm that the plug reaches the specified failsafe position. If specified failsafe position is not reached, refer to section "Reversing the Air Action".



Do not overtighten packing. This may cause excessive packing wear and increase the friction on the plug stem, blocking its movement.

1.7 - PREVENTIVE MAINTENANCE

Check if the valve is working properly at least every six months following the preventive maintenance steps indicated below.

This sequence can be performed with the valve installed in the line and, in some cases, without disturbing operation. In case there is a potential problem inside the valve, refer to the section "Disassembly and Reassembly":

- ▷ Inspect signs of leakage in the bonnet gasket and in the piping flanges. Tighten the flange and bonnet nuts, if necessary.
- ▷ Observe if corrosive vapors or process fluid dripping is damaging the valve.
- ▷ Clean valve and repaint areas of severe oxidation.

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- ▷ Check tightness of the packing box nuts. Packing nuts must be tightened with a torque slightly over finger-tight; however, tighten just enough to avoid leakage through the plug stem.
- ▷ If the valve is supplied with a lubricator, check the lubricant reservoir and add new lubricant, if necessary.
- ▷ If possible stroke the valve and, observing the stroke plate, check if the valve travels its full stroke in a smooth and uniform way. An unsteady movement of the stem may indicate an internal problem of the valve (jerky stem motion is normal when graphite packing is used).
- ▷ Verify valve calibration, comparing the pressure indicated in the positioner gauges against the stroke plate of the actuator. Make sure that the positioner is calibrated within the correct range. Refer to the positioner instructions for information about preventive maintenance.
- ▷ Make sure all accessories, brackets and bolts are properly tightened.
- ▷ If possible, shut-off air supply and observe on the stroke plate if the specified failsafe position is reached.
- ▷ Verify if actuator stem bellows is worn out.
- ▷ Apply a soap solution around the cylinder retaining ring, adjusting screw and actuator bushings to check if there are air leaks through the O-rings.
- ▷ Remove any contaminant or other foreign material from the exposed areas of valve stem.
- ▷ If an air filter is supplied, check and replace cartridge if necessary.

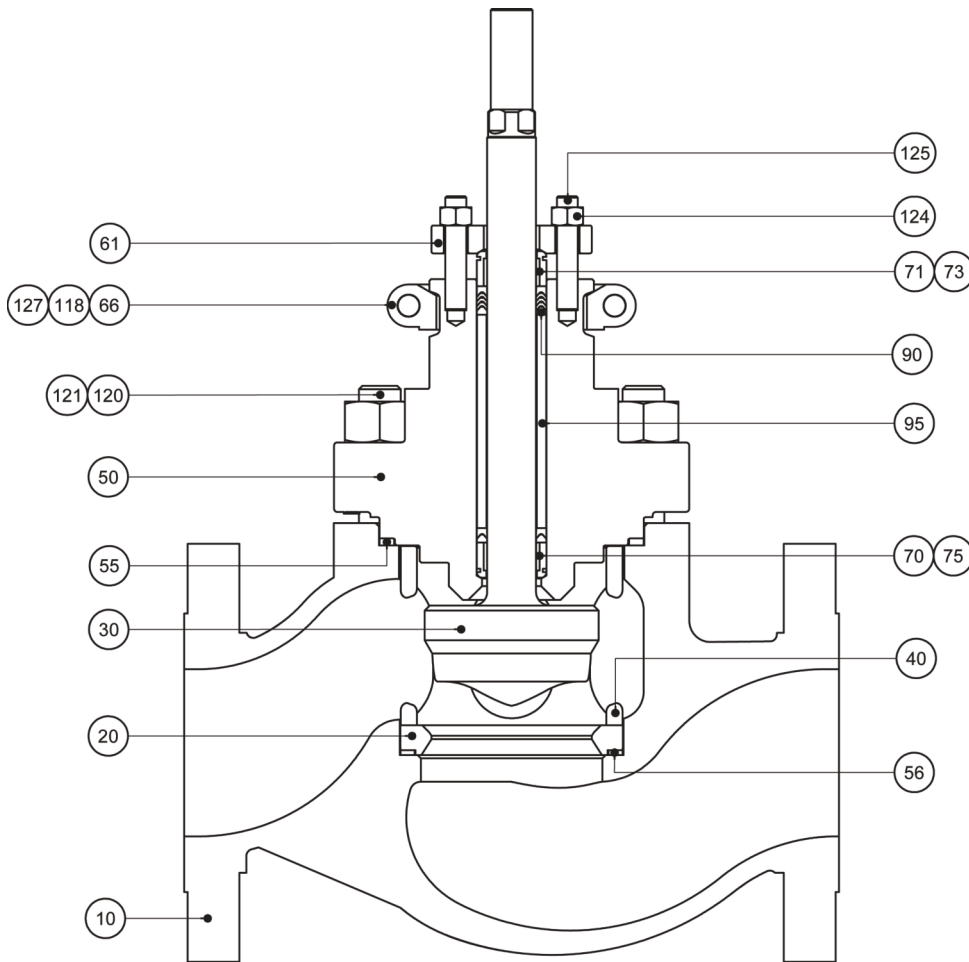


Figure 2: GxL valve body sub-assembly

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DISASSEMBLY AND REASSEMBLY

1.8 - DISASSEMBLING THE BODY

For disassembling the G \bar{x} L valve, refer to Figures 2, 3 and 4 and proceed as follows:



CAUTION

Removing the valve for maintenance: piping must be completely depressurized and process fluid drained. In case of toxic, caustic or hazardous fluid services, the valve must be decontaminated to avoid accidents.

- ▷ Remove the bonnet flange nuts and then lift the actuator, bonnet and plug, taking them out of the valve (Fig. 3).



WARNING

To avoid damages to the plug and seat, make sure when lifting the actuator, bonnet and plug assembly, that they are correctly aligned with the seat.

- ▷ Remove the seat retainer, seat and the gaskets from the body (see Fig. 4).
- ▷ Check if the seating surfaces on the seat

and plug are not damaged and can ensure tight shutoff. Check if the gasket seating surfaces on the seat, bonnet and body are clean and not damaged.

- ▷ To inspect the plug, release the clamp that secures the plug stem in the actuator, remove the gland flange and the yoke fixing clamps. Turn the actuator to unfasten the plug from the actuator stem. Use an open wrench to avoid the plug rotation inside the bonnet. Pull the plug carefully through the packing box.



WARNING

To prevent scratching the guides and the plug stem, follow exactly the procedure described above.

- ▷ If plug stem presents light scratching, it can be polished in order to provide a smooth finish on the surfaces touching guides and packing.
- ▷ To replace packing or change the packing box configuration, push out packing, spacer and guides using a bronze or brass dowel of the same approximate size as the plug stem. Verify if the bonnet internal sur-

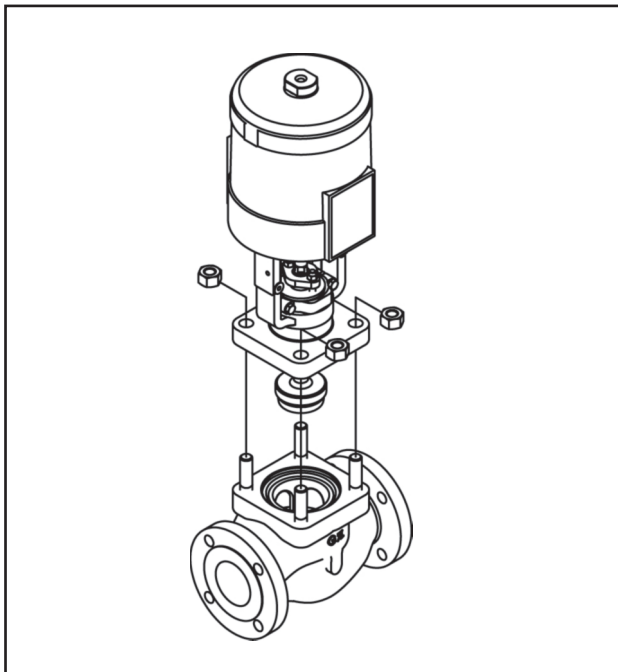


Figure 3

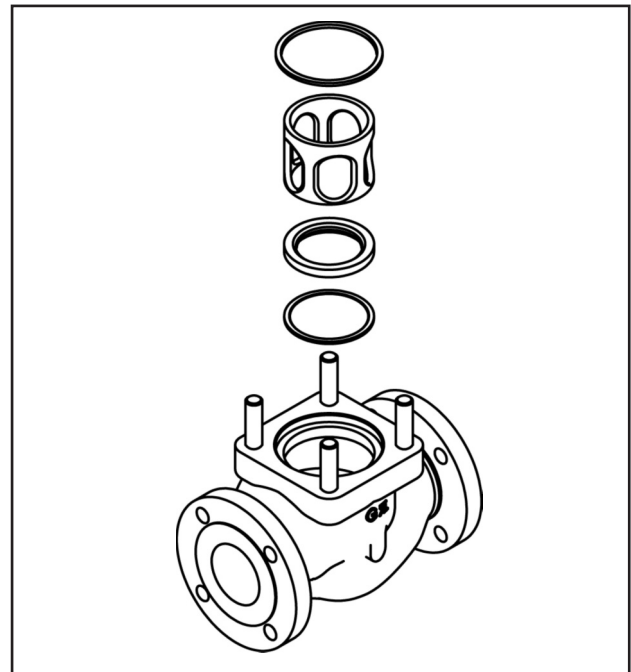


Figure 4

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faces has a smooth finish and, if necessary, clean and polish that area.

1.9 - REASSEMBLING THE BODY

To reassemble the valve body refer to figures 2, 3, 4 and 5 and proceed as follows:

- ▷ Position the valve over a workbench and secure it in a vise. Install new seat and bonnet gaskets. Place the seat into the body with the gasket shoulder downwards, assuring that the seat turns freely into the body. Place the seat retainer into the body with the arrow pointing upwards and replace bonnet studs.
- ▷ Replace guides with inserts, packing and spacer into the bonnet bore, one piece at a time, according to Figure 5, or as noted during the disassembling.
- ▷ Place the plug carefully in the seat. Then, while the plug is maintained in the vertical position, place the bonnet over the plug stem, taking care to avoid scratching the surfaces.



WARNING

Follow strictly the procedure above to avoid scratching guides and plug stem.

- ▷ Replace bonnet nuts and first, bring them to finger-tightness.
- ▷ Place the actuator assembly over the plug stem and then the gland flange and the plug stem locknut.
- ▷ Taking care to avoid rotating the plug over the seat, turn the actuator over the plug stem until the bottom of the yoke touches the bonnet top shoulder. Make sure that the actuator is correctly oriented in the assembly, with the yoke legs parallel to the valve body.



WARNING

Do not allow the plug to rotate over the seat to avoid damages to the seating surfaces. The plug stem has a section with flat faces that must be used to avoid its rotation during this procedure.

- ▷ Place the yoke clamps around the bonnet with the beveled side facing upwards. Replace yoke clamp bolting and tighten firmly.

- ▷ Replace gland flange bolting and tighten them evenly making sure that the plug stem is centered inside the gland flange.
- ▷ Following this, proceed with the valve calibration, reconnecting the positioner, the instrument air and the control signal. Send a low signal to the positioner (3 psi / 0.2 Bar or 4 mA).
- ▷ Determine the instrument signal on which the plug will begin to move from the seat and apply this signal to the positioner. In case the plug stem does not start to move with the pre-determined signal, adjust the signal to its mid-range values until the plug moves out of the seat, release the stem clamp bolt and turn plug stem in or out of the actuator stem.
- ▷ For example, if the plug starts moving with a signal lower than the pre-determined signal, turn the plug outwards from the actuator stem. If the plug starts moving with a signal higher than the pre-determined signal, turn the plug inwards from the actuator stem. Repeat these steps until the actuator is set according to the required signal and retighten the bolt of the stem clamp.



WARNING

Do not turn the plug stem when it is seated over the seat; if this occurs, the trim may be damaged.

- ▷ When the correct seat/plug seating is achieved, the bonnet will be forced upwards against the bonnet nuts which have been finger-tightened, in such a way that the force created will prevent any bonnet movement. If the seating is not correct, the bonnet can be wiggled with light hand force. In this case, the actuator must be recalibrated in according to the previous steps above; otherwise, the valve may leak when there is no signal.
- ▷ Move the plug to the closed position and tighten the bonnet nuts, tightening the first nut with 1/6 turn, then tighten the nut directly opposite 1/6 turn and so on, for all bonnet nuts. Tighten all the nuts firm and evenly to compress the bonnet gasket and seat the bonnet properly. Apply the torque values indicated in Table II to the bonnet nuts.

NOTE: Due to the self-centering design of the G \bar{x} L valve seat, the plug must be fully seated before the bonnet nuts are tightened.

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Table II: Suggested torque values for bonnet bolting

| Valve Size (in.) | Bolting material | | | |
|------------------|------------------|-----|-----------------|-----|
| | Carbon Steel | | Stainless steel | |
| | Ft-lbs | Nm | Ft-lbs | Nm |
| 0.75 & 1 | 30 | 41 | 20 | 27 |
| 1.5 & 2 | 80 | 108 | 50 | 68 |
| 3 | 140 | 190 | 90 | 122 |
| 4 | 350 | 475 | 220 | 298 |

ACTUATOR - DISASSEMBLY AND REASSEMBLY

Although many repair services may be performed in the field with the actuator assembled in the valve, it is much easier to carry out maintenance services in the actuator when the actuator is apart from the valve and the maintenance services are carried out on a workbench, as indicated in the procedure below.

1.10 - Disassembling the actuator

To disassemble the spring-cylinder actuator proceed as follows:

- Shut-off the air supply.
- Disconnect all tubing. Remove the stem clamp and the stem bellows.
- Release completely the spring tension removing the adjusting screw and its respective rubber gasket.

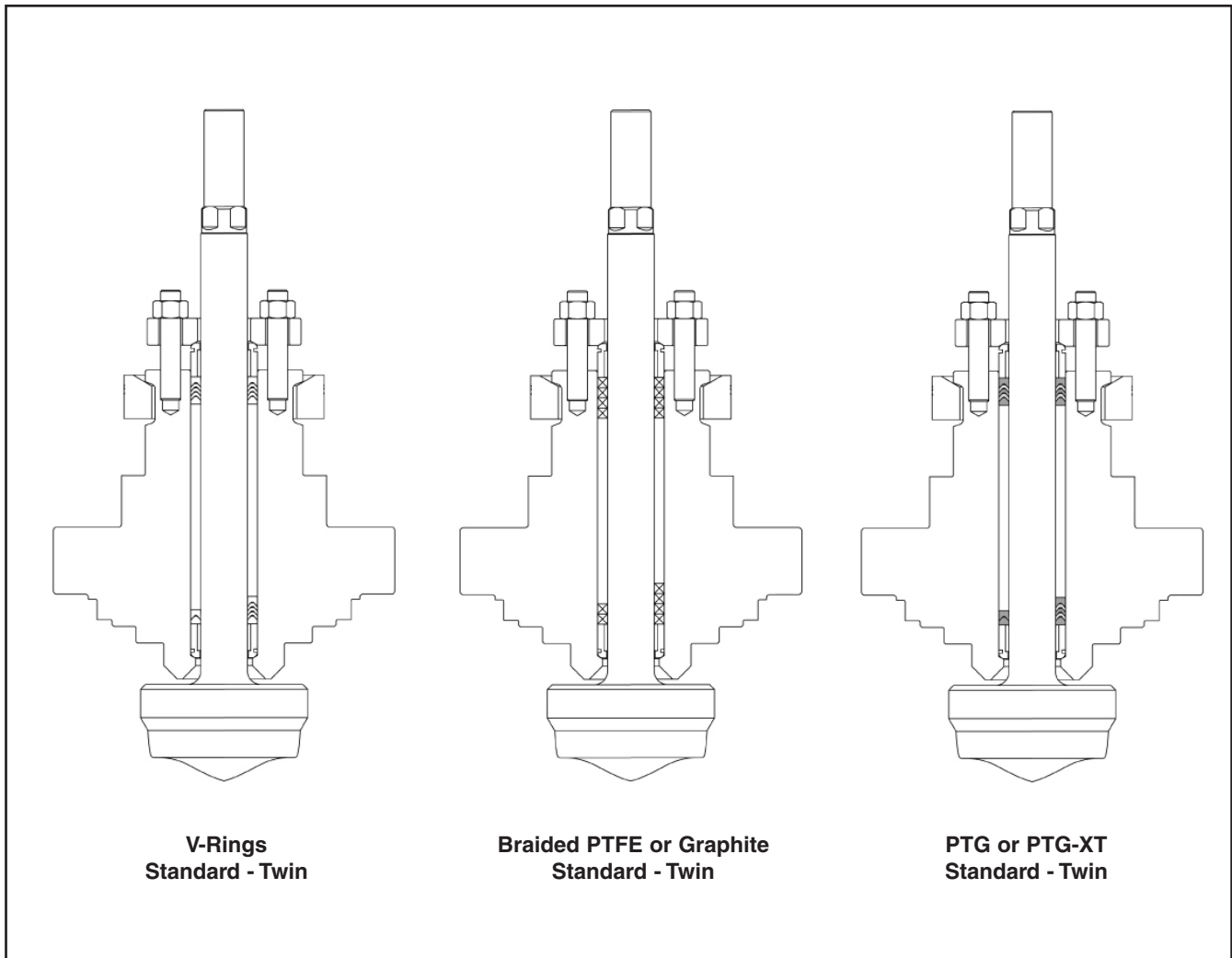


Figure 5 - GXL Typical Packing Configurations



CAUTION

The spring compression must be completely relieved before disassembling the actuator. If this is not done, the cylinder may be ejected out of the yoke when the retaining ring is removed from the cylinder, causing serious injury.

- ▷ Remove the retaining ring from the groove at the base of the cylinder using two screwdrivers. Introduce the tip of a screwdriver in the slot on the ring and remove the ring out of its channel. Use another screwdriver to help the operation of removing the ring.
- ▷ Pull the cylinder out of the yoke and piston (some O-ring resistance may be felt).



CAUTION

Do not use air pressure to remove cylinder. This may cause the cylinder to be ejected out of the yoke, causing serious injury.

- ▷ In the "air-to-open" configuration, remove the spring(s) and the spring button for cleaning and inspection (see Fig. 7). Remove the locknut and slide the piston and the stem spacer out from the actuator stem. On actuators with dual springs the spring guide must be removed also.
- ▷ In the "air-to-close" configuration (Fig. 6), slowly release and remove the actuator stem locknut, making sure that the piston follows the locknut and is not jammed on the actuator stem. Remove the stem locknut, spring button, piston, spring and stem spacer.
- ▷ Remove the O-rings from the piston, the piston stem and from the yoke.
- ▷ Remove the actuator stem O-ring.



WARNING

The upper and lower actuator stem bushings are pressed into the yoke. It is not necessary to remove them to replace the actuator stem O-ring.

- ▷ If the bushings are worn out or damaged use an appropriate device to remove the bushings from the yoke.

1.11 - Reassembling the actuator

To reassemble the actuator refer to the Figures 6 and 7:

- ▷ All the O-rings will be replaced and the new ones must be lubricated. The majority of the O-rings can be lubricated with silicone lubricant (Dow Corning 55M or equivalent). Do not use a silicone lubricant on silicone O-rings.
- ▷ Assure that all internal parts are completely clean before starting to assemble. Clean the cylinder wall and lubricate it with proper lubricant.
- ▷ If the bushings need to be removed, lubricate the external side of the replacement bushings. Press the new lower stem bushing into the yoke hole until it touches the bottom shoulder. Press the upper stem bushing until it is aligned with the top of the yoke (refer to the Figures 6 or 7).
- ▷ Replace the O-rings on the actuator stem and on the yoke.
- ▷ Reassemble the piston, the piston stem O-ring and the stem spacer in the actuator stem, according to the desired air action (refer to Figures 6 and 7). Replace the piston O-ring. The air-to-close configuration requires that the spring button be fixed by the actuator stem locknut. Tighten the nut firmly.
- ▷ In the air-to-close configuration, place the spring below the piston and insert the actuator stem through the yoke, taking care not to strike (and scratch) the stem or bushings. For air-to-open configurations insert the actuator stem through the yoke and place the spring(s) and the spring button on top of the piston.
- ▷ Assemble the cylinder in the yoke, assuring that these parts are correctly positioned to allow the installation of the cylinder retaining ring. Care must be taken to avoid scratching or cutting the O-rings on the piston and on the yoke.
- ▷ Insert the retaining ring in the cylinder groove, by steps, until it is fitted in place. Using a hammer and a drift rod, tap gently on the retaining ring, already fitted in place, to confirm that it is securely installed.



CAUTION

The cylinder retaining ring must be securely fixed into the groove so that the cylinder does not escape when pressurized, causing personal injury. During installation, avoid damaging or deforming the edge of the retaining ring square section.

- ▷ Replace the adjusting screw, using a new adjusting screw gasket.

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WARNING

In the air-to-open configuration make sure that the hole in the spring button is centered directly under the adjusting screw hole.

- ▷ Tighten the adjusting screw sufficiently so that the gasket provides a leakproof sealing. Do not overtighten it.
- ▷ Reassemble the stem bellows and the stem clamp.



WARNING

When installing the stem clamp, make sure that the bolt of the clamp is square

to one of the flat faces machined on the actuator stem. This assures a more rigid connection.

- ▷ Apply air on top of the piston. With the stem clamp adjusted indicating the "closed" position on the stroke plate, tighten the stem clamp bolt.

Reversing the Air Action

To revert the air-to-close action to air-to-open, refer to Figures 6 and 7:

- ▷ Disassemble the actuator according to the section "Disassembling the Actuator".
- ▷ Reassemble the actuator with the stem spacer and the spring button over the piston.

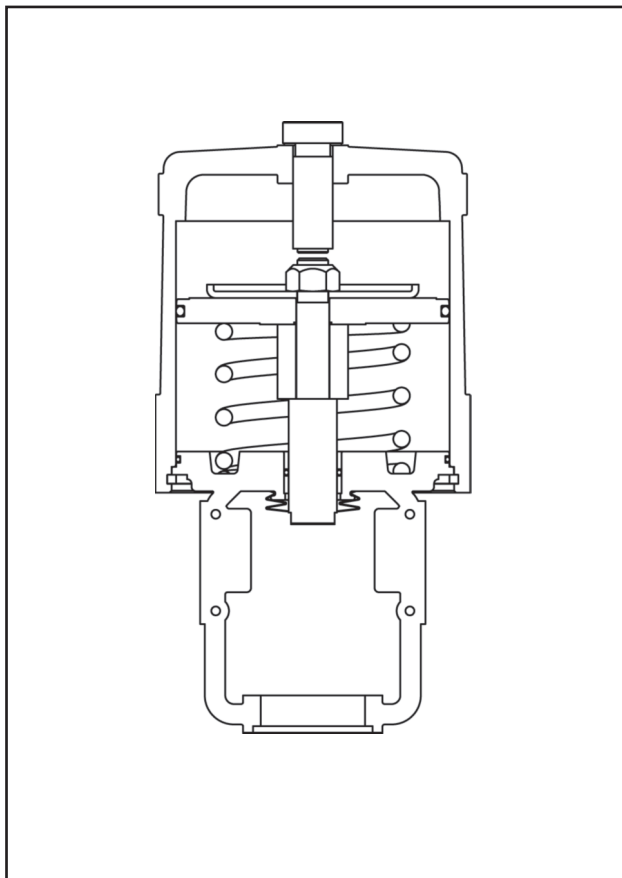


Figure 6 - Air-to-Close Configuration

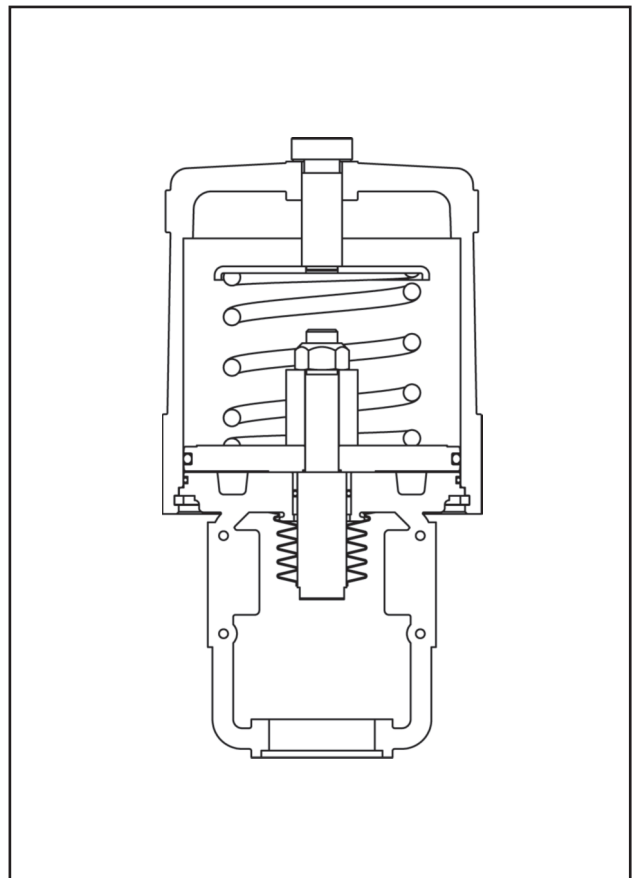


Figure 7 - Air-to-Open Configuration

1.12 - GxL Valve Troubleshooting Chart

| Problem | Probable Cause | Corrective Action |
|--|--|---|
| Stem moves slowly or does not move | <ul style="list-style-type: none"> • Overtightened Packing • Service temperature is above the operating limits of trim design • Insufficient air supply • Malfunctioning Positioner • Insufficient actuator thrust | <ul style="list-style-type: none"> • Adjust packing box nuts to slightly over finger-tight • Reconfirm service conditions and contact the manufacturer • Check for leaks in air supply or instrument signal system; tighten loose fittings and replace the leaking ferrules • See Positioner IOM • Verify air supply pressure to actuator; if pressure is adequate, double check service conditions and contact the manufacturer |
| Excessive leakage through the valve seat | <ul style="list-style-type: none"> • Insufficient tightness on the bonnet nuts • Worn or damaged seat ring • Worn or damaged seat gasket • Insufficient actuator thrust • Improper plug adjustment • Zero adjustment incorrectly carried out • Worn or damaged plug | <ul style="list-style-type: none"> • See steps on "Reassembling the Body" for tightening procedures • Disassemble valve and change or repair seat ring • Disassemble and replace gaskets • Verify air supply pressure to actuator: if pressure is adequate, double check service conditions and contact the manufacturer • See section "Reassembling the Body" for correct plug adjustment • Carry out the positioner calibration • Disassemble valve and replace the plug |
| Inadequate flow | <ul style="list-style-type: none"> • Incorrect plug adjustment, limiting the stroke • Malfunctioning positioner • Service conditions exceed the trim nominal capacity • Insufficient air supply pressure • Incorrect flow direction | <ul style="list-style-type: none"> • See section "Disassembling the Body" for the correct adjustment of the plug • See Positioner IOM • Check service conditions and contact the manufacturer • Check air supply requirements • Correct flow direction |
| Valve does not fail in correct position | <ul style="list-style-type: none"> • Incorrect flow direction • Incorrect assembly of the actuator • Insufficient actuator thrust | <ul style="list-style-type: none"> • Reconfirm flow direction and, if necessary, correct flow direction through valve • Change failsafe position of the actuator spring; see section "Reversing the Air Action" • Recheck service conditions and contact the manufacturer |
| Excessive air consumption | <ul style="list-style-type: none"> • Leaks in air supply or instrument signal system • Malfunctioning positioner • Leaks through O-rings or through the adjusting screw gasket | <ul style="list-style-type: none"> • Tighten the fittings and replace any leaking ferrule • Refer to Positioner IOM • Replace O-rings and gasket |

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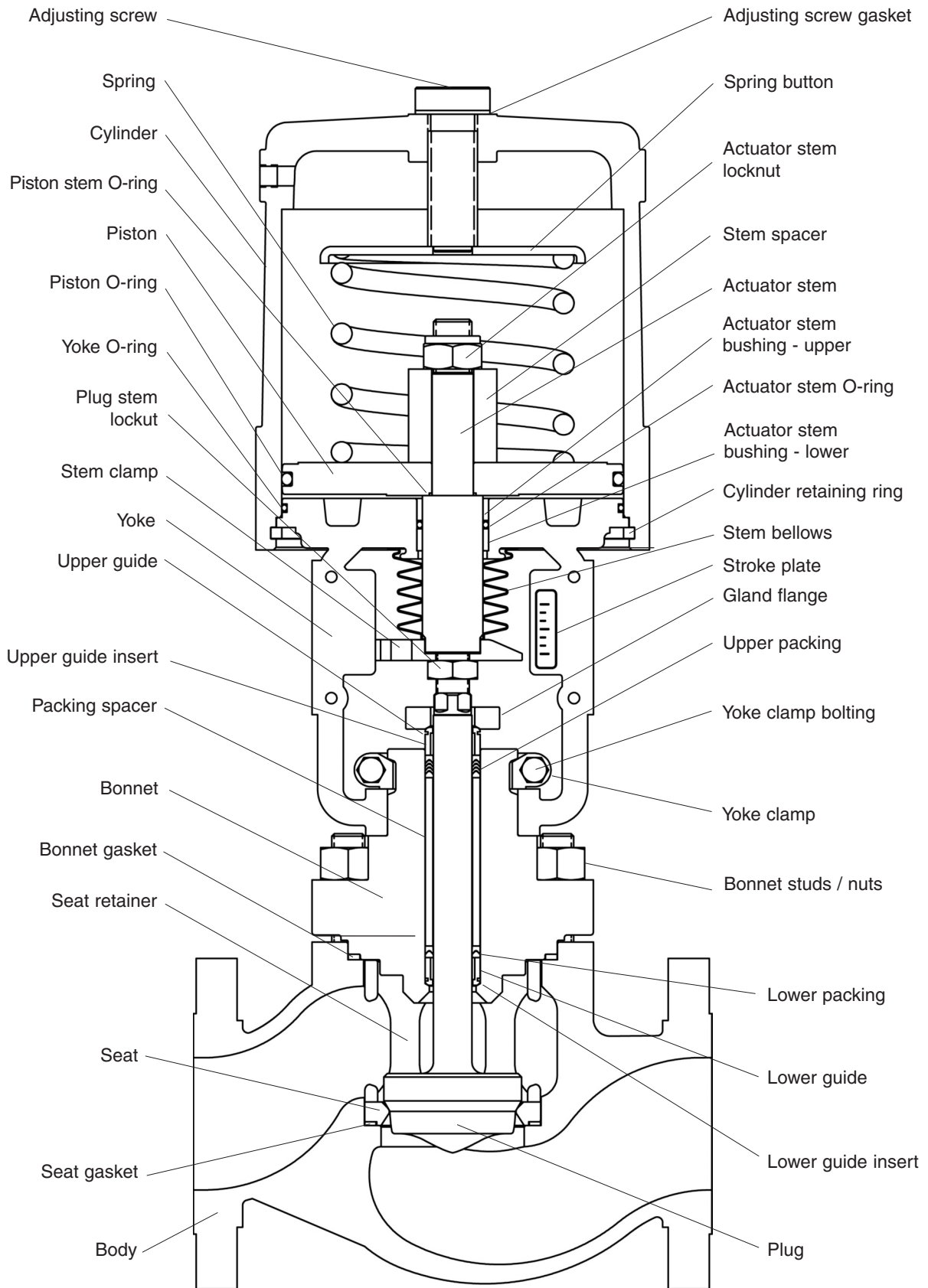


Figure 8 – GxL control valve

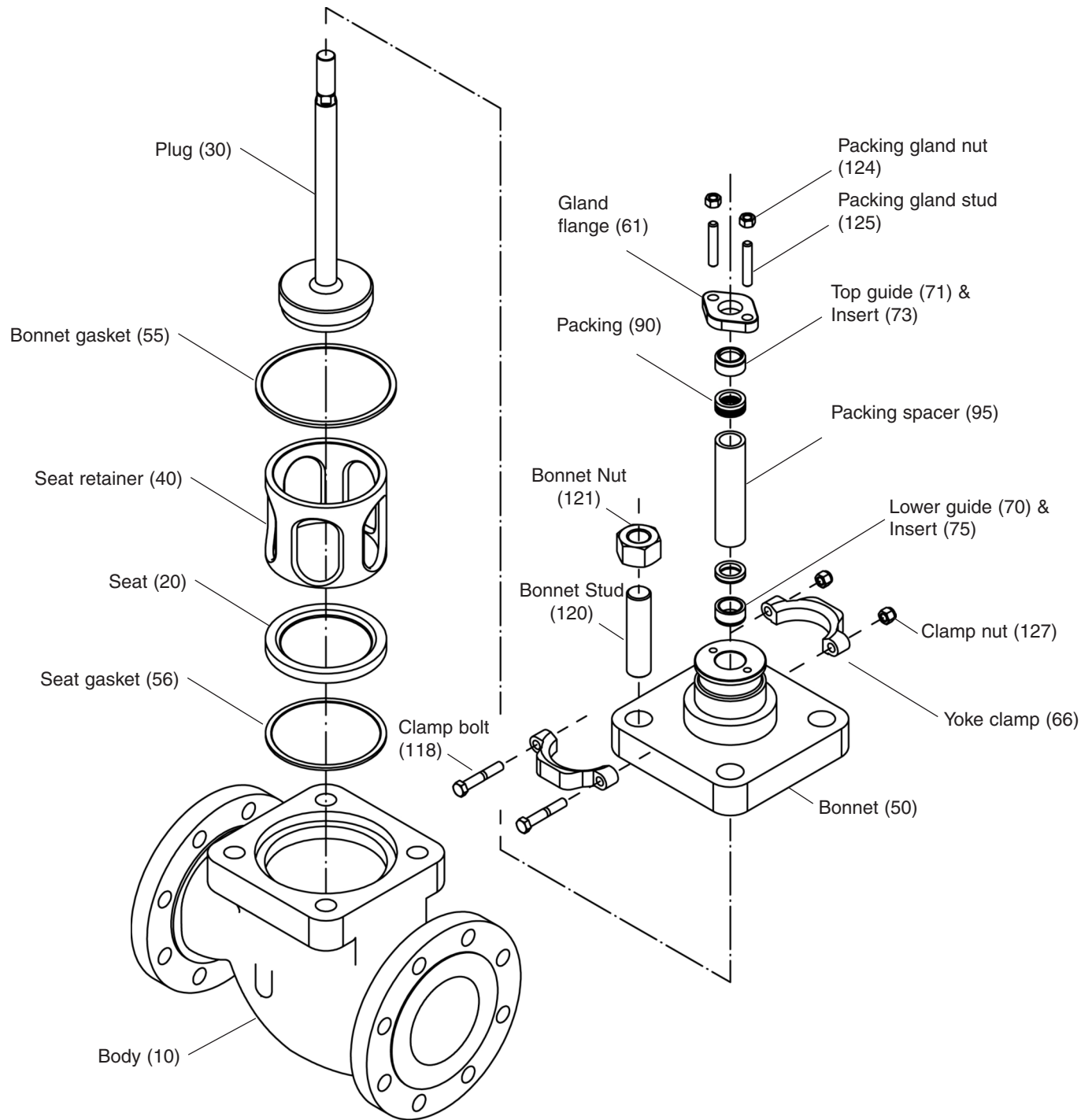


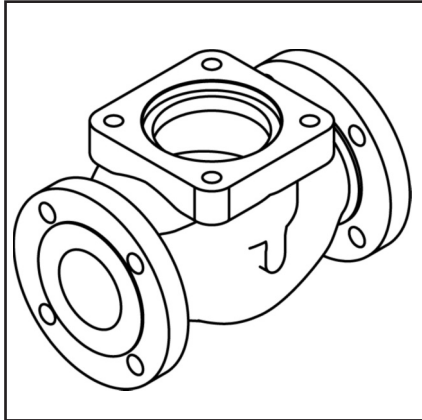
Figure 9 – Exploded View of the Body Sub-Assembly

¹ Item numbers above correspond directly to the valve's bill of material.

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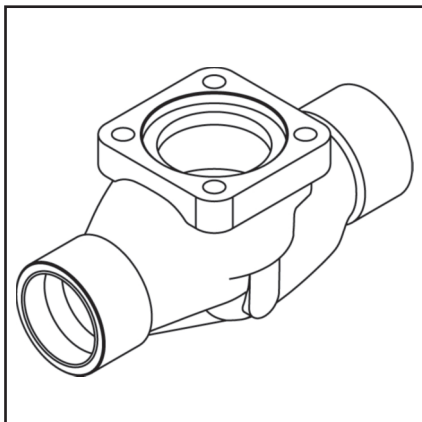
1.13 - SPARE PARTS LIST

ITEM 10A - BODY, FLANGED ENDS, SPIRAL GROOVES



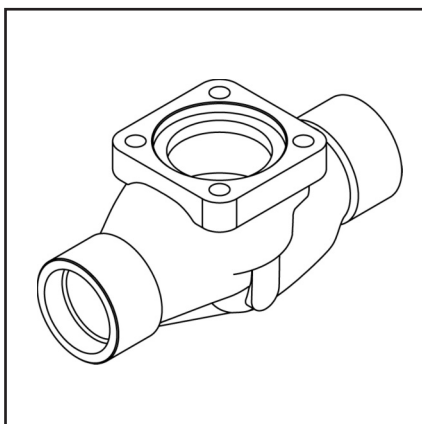
| Valve Size (in.) | ANSI Class | Face Finish 125-250 Ra | Face Finish 250-500 Ra |
|------------------|------------|------------------------|------------------------|
| | | Part Number | |
| 0.75 | 150 | 9310020 | 9310120 |
| | 300 | 9310021 | 9310121 |
| 1 | 150 | 9310030 | 9310130 |
| | 300 | 9310031 | 9310131 |
| 1.5 | 150 | 9310040 | 9310140 |
| | 300 | 9310041 | 9310141 |
| 2 | 150 | 9310050 | 9310150 |
| | 300 | 9310051 | 9310151 |
| 3 | 150 | 9310060 | 9310160 |
| | 300 | 9310061 | 9310161 |
| 4 | 150 | 9310070 | 9310170 |
| | 300 | 9310071 | 9310171 |

ITEM 10B - BODY, NPT THREADED ENDS



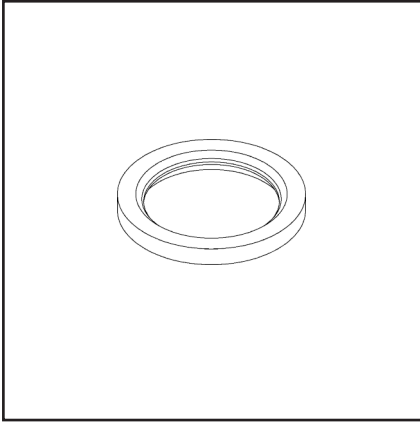
| Valve Size (in.) | ANSI Class | Part Number |
|------------------|------------|-------------|
| 0.75 | 150 & 300 | 9310022 |
| 1 | 150 & 300 | 9310032 |
| 1.5 | 150 & 300 | 9310042 |
| 2 | 150 & 300 | 9310052 |

ITEM 10C - BODY, SOCKET WELD ENDS



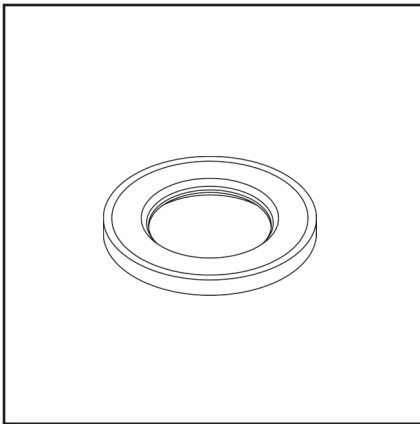
| Valve Size (in.) | ANSI Class | Part Number |
|------------------|------------|-------------|
| 0.75 | 150 & 300 | 9310023 |
| 1 | 150 & 300 | 9310033 |
| 1.5 | 150 & 300 | 9310043 |
| 2 | 150 & 300 | 9310053 |

ITEM 20 - METAL SEAT



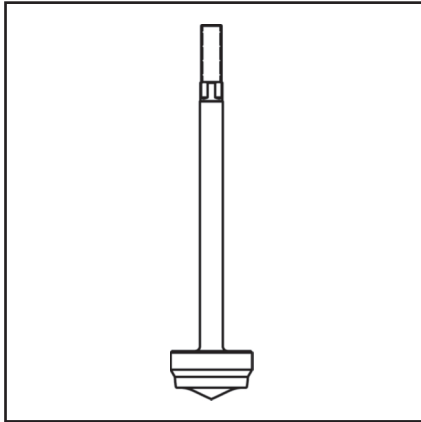
| Valve Size (in.) | Trim Size (TN) | | Metal Seat | Soft Seat (Kit) |
|------------------|----------------|-----|-------------|-----------------|
| | in. | mm | Part Number | Part Number |
| 0.75 & 1 | 0.25 | 6.5 | 9320010 | 9321010 |
| | 0.30 | 8 | 9320012 | 9321012 |
| | 0.38 | 10 | 9320014 | 9321014 |
| | 0.51 | 13 | 9320016 | 9321016 |
| | 0.63 | 16 | 9320018 | 9321018 |
| 1 | 0.71 | 18 | 9320020 | 9321020 |
| | 0.83 | 21 | 9320022 | 9321022 |
| 1.5 | 0.30 | 8 | 9320030 | 9321030 |
| | 0.38 | 10 | 9320032 | 9321032 |
| | 0.51 | 13 | 9320034 | 9321034 |
| | 0.63 | 16 | 9320036 | 9321036 |
| 1.5 & 2 | 0.71 | 18 | 9320038 | 9321038 |
| | 0.83 | 21 | 9320040 | 9321040 |
| | 1.07 | 27 | 9320042 | 9321042 |
| | 1.38 | 35 | 9320044 | 9321044 |
| 2 | 1.80 | 46 | 9320046 | 9321046 |
| 3 | 1.80 | 46 | 9320054 | 9321054 |
| | 2.20 | 56 | 9320056 | 9321056 |
| | 2.83 | 72 | 9320058 | 9321058 |
| 4 | 2.20 | 56 | 9320068 | 9321068 |
| | 2.83 | 72 | 9320070 | 9321070 |
| | 3.70 | 94 | 9320072 | 9321072 |

ITEM 21 - KIT, SOFT SEAT

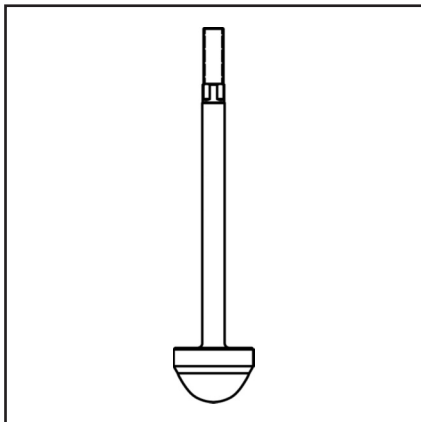


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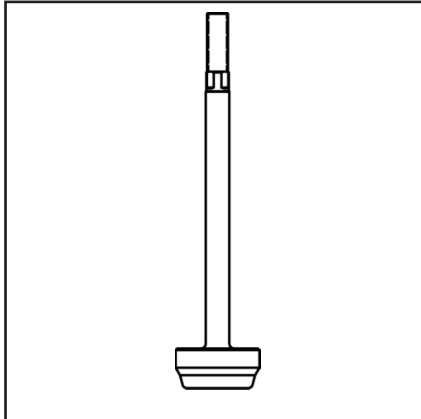
ITEM 30 - PLUG 30A: EQUAL PERCENTAGE



30B: LINEAR



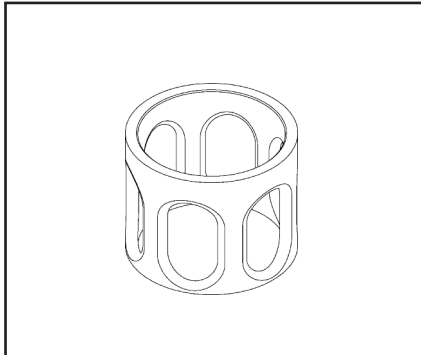
30C: QUICK OPENING



| Valve Size (in.) | Trim Size (TN) | | Equal Percentage | Linear | Quick Opening |
|------------------|----------------|--------|------------------|-------------|---------------|
| | in. | mm | Part Number | Part Number | Part Number |
| 0.75 & 1 | 0.25-10 | 6.5-10 | 9330510 | | |
| | 0.25-12 | 6.5-12 | 9330512 | 9330012 | |
| | 0.25-14 | 6.5-14 | 9330514 | | |
| | 0.25-16 | 6.5-16 | 9330516 | | |
| | 0.25-26 | 6.5-26 | | 9330026 | |
| | 0.25-34 | 6.5-34 | | 9330034 | |
| | 0.25-42 | 6.5-42 | | 9330042 | |
| | 0.25-46 | 6.5-46 | | 9330046 | |
| | 0.25-56 | 6.5-56 | | 9330056 | |
| | 0.25-58 | 6.5-58 | | 9330058 | |
| | 0.30 | 8 | 9330518 | 9330060 | |
| | 0.38 | 10 | 9330520 | 9330062 | |
| | 0.51 | 13 | 9330522 | 9330064 | |
| | 0.63 | 16 | 9330524 | 9330066 | 9330766 |
| 1 | 0.71 | 18 | 9330526 | 9330068 | |
| | 0.83 | 21 | 9330528 | 9330070 | 9330770 |
| 1.5 | 0.30 | 8 | 9330519 | 9330061 | |
| | 0.38 | 10 | 9330521 | 9330063 | |
| | 0.51 | 13 | 9330523 | 9330065 | |
| | 0.63 | 16 | 9330525 | 9330067 | |
| 1.5 & 2 | 0.71 | 18 | 9330527 | 9330069 | |
| | 0.83 | 21 | 9330529 | 9330071 | |
| | 1.07 | 27 | 9330530 | 9330072 | |
| | 1.38 | 35 | 9330532 | 9330074 | 9330774 |
| 2 | 1.80 | 46 | 9330534 | 9330076 | 9330780 |
| 3 | 1.80 | 46 | 9330540 | 9330080 | |
| | 2.20 | 56 | 9330542 | 9330082 | |
| | 2.83 | 72 | 9330544 | 9330084 | 9330784 |
| 4 | 2.20 | 56 | 9330550 | 9330090 | |
| | 2.83 | 72 | 9330552 | 9330092 | |
| | 3.70 | 94 | 9330554 | 9330094 | 9330794 |

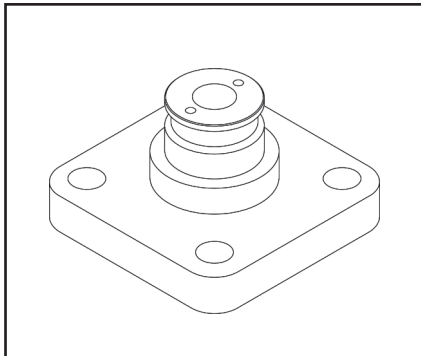
Installation, Operation and Maintenance Instructions

ITEM 40 - SEAT RETAINER



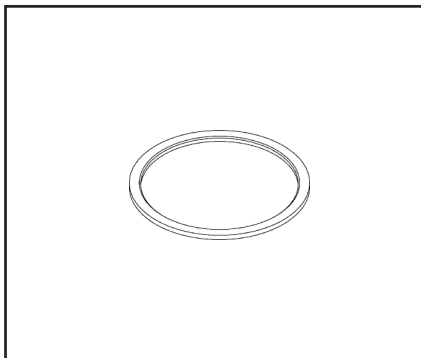
| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 & 1 | 9340010 |
| 1.5 & 2 | 9340020 |
| 3 | 9340030 |
| 4 | 9340040 |

ITEM 50 - BONNET



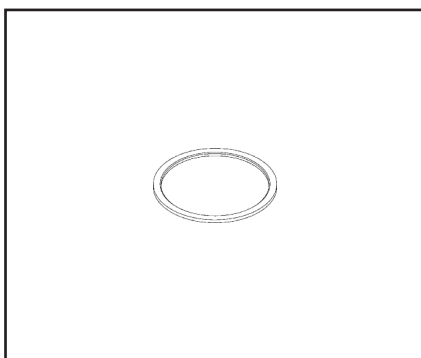
| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 & 1 | 9350011 |
| 1.5 & 2 | 9350021 |
| 3 | 9350030 |
| 4 | 9350040 |

ITEM 55 - BONNET GASKET



| Valve Size (in.) | Part Number | |
|------------------|-------------|-------------------|
| | Materials | |
| | PTFE | 316 SS / Graphite |
| 0.75 & 1 | 9355010 | 9355011 |
| 1.5 & 2 | 9355020 | 9355021 |
| 3 | 9355030 | 9355031 |
| 4 | 9355040 | 9355041 |

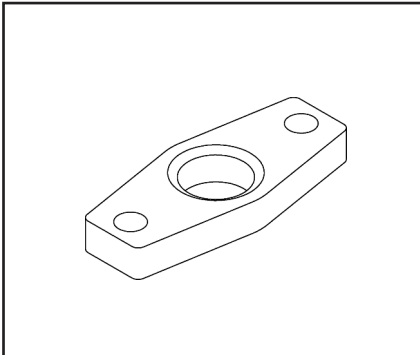
ITEM 56 - SEAT GASKET



| Valve Size (in.) | Part Number | |
|------------------|-------------|-------------------|
| | Materials | |
| | PTFE | 316 SS / Graphite |
| 0.75 & 1 | 9356010 | 9356011 |
| 1.5 & 2 | 9356020 | 9356021 |
| 3 | 9356030 | 9356031 |
| 4 | 9356040 | 9356041 |

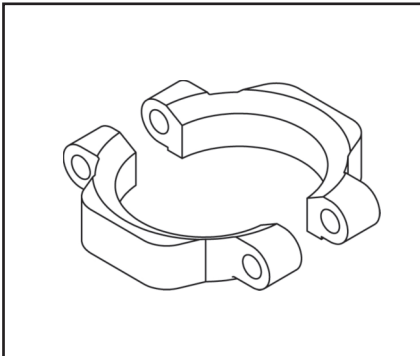
Installation, Operation and Maintenance Instructions

ITEM 61 - GLAND FLANGE



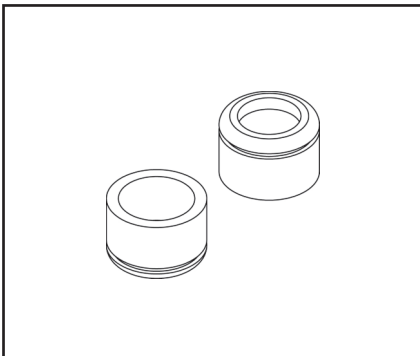
| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 & 1 | 9361021 |
| 1.5 & 2 | 9361021 |
| 3 & 4 | 9361030 |

ITEM 66 - YOKE CLAMP



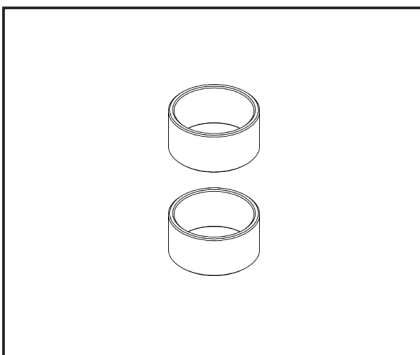
| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 & 1 | 9366020 |
| 1.5 & 2 | 9366020 |
| 3 & 4 | 9366030 |

ITEM 70 / 71 - UPPER AND LOWER PLUG GUIDES



| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 & 1 | 9370020 |
| 1.5 & 2 | 9370020 |
| 3 & 4 | 9370030 |

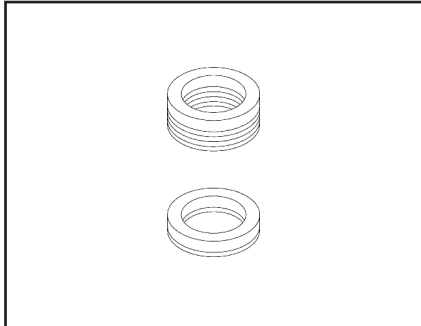
ITEM 73 / 75 - UPPER AND LOWER GUIDE INSERTS



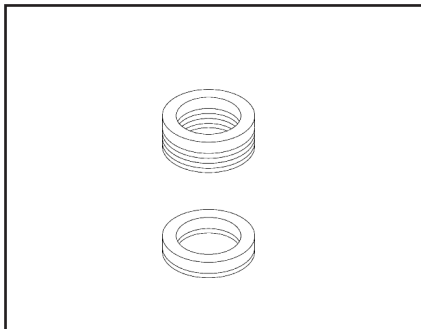
| Valve Size (in.) | Part Number | |
|------------------|-------------|----------|
| | Materials | |
| | PTFEG | Graphite |
| 0.75 & 1 | 9373020 | 9373021 |
| 1.5 & 2 | 9373020 | 9373021 |
| 3 & 4 | 9373030 | 9373031 |

Installation, Operation and Maintenance Instructions

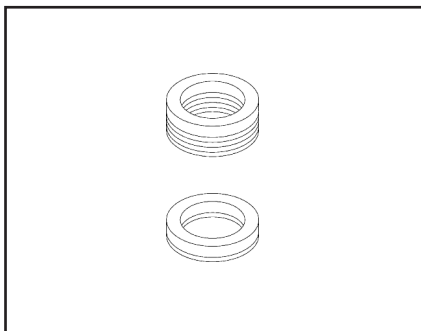
ITEM 90 - PACKING SET



| Valve Size (in.) | Part Number | | | |
|------------------|-----------------------|-------------------|-----------------------|-------------------|
| | PTFE V-Rings Standard | PTFE V-Rings Twin | Braided PTFE Standard | Braided PTFE Twin |
| 0.75 & 1 | 9390020 | 9390021 | 9390022 | 9390023 |
| 1.5 & 2 | 9390020 | 9390021 | 9390022 | 9390023 |
| 3 & 4 | 9390030 | 9390031 | 9390032 | 9390033 |

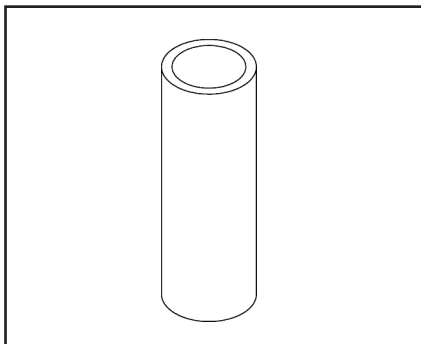


| Valve Size (in.) | Part Number | |
|------------------|-------------------|---------------|
| | Graphite Standard | Graphite Twin |
| 0.75 & 1 | 9390024 | 9390025 |
| 1.5 & 2 | 9390024 | 9390025 |
| 3 & 4 | 9390034 | 9390035 |



| Valve Size (in.) | Part Number | | | |
|------------------|--------------|----------|-----------------|-------------|
| | PTG Standard | PTG Twin | PTG-XT Standard | PTG-XT Twin |
| 0.75 & 1 | 9391022 | 9391023 | 9391024 | 9391025 |
| 1.5 & 2 | 9391022 | 9391023 | 9391024 | 9391025 |
| 3 & 4 | 9391032 | 9391033 | 9391034 | 9391035 |

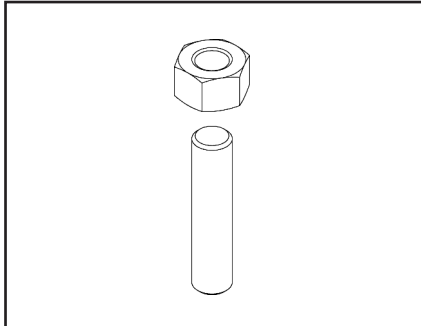
ITEM 95 - PACKING SPACER



| Valve Size (in.) | Part Number | | | |
|------------------|------------------|--------------|-----------------------|-------------------|
| | Standard V-Rings | Twin V-Rings | Standard Square Rings | Twin Square Rings |
| 0.75 & 1 | 9395010 | 9395011 | 9395011 | 9395013 |
| 1.5 & 2 | 9395020 | 9395010 | 9395010 | 9395011 |
| 3 | 9395030 | 9395031 | 9395031 | 9395033 |
| 4 | 9395040 | 9395041 | 9395041 | 9395043 |

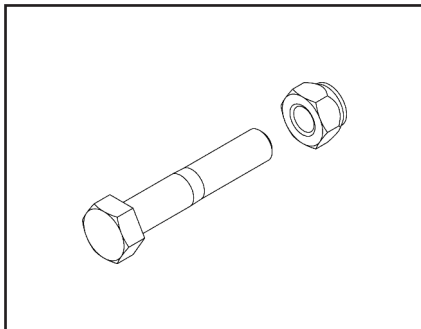
Installation, Operation and Maintenance Instructions

ITEM 120 / 121 - KIT, BONNET STUDS & NUTS



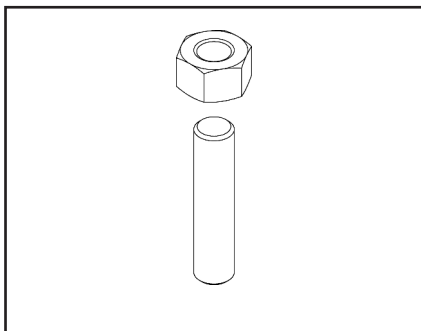
| Valve Size (in.) | Part Number | |
|------------------|-------------|---------|
| | B7/2H | B7M/2HM |
| 0.75 & 1 | 9399024 | 9399025 |
| 1.5 & 2 | 9399040 | 9399041 |
| 3 | 9399074 | 9399075 |
| 4 | 9399077 | 9399079 |

ITEM 118 / 127 - KIT, YOKE CLAMP BOLTS & NUTS



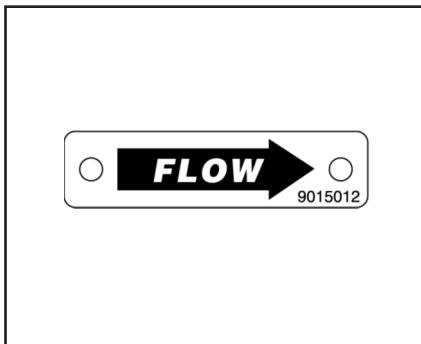
| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 & 1 | 9399020 |
| 1.5 & 2 | 9399020 |
| 3 & 4 | 9399030 |

ITEM 125 / 124 - KIT, GLAND FLANGE STUDS & NUTS



| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 & 1 | 9399012 |
| 1.5 & 2 | 9399012 |
| 3 & 4 | 9399014 |


ITEM 150 - PLATE, FLOW ARROW



| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 - 4 | 9015012 |

Installation, Operation and Maintenance Instructions

ITEM 151 - NAME PLATE

| | | | |
|---|-------------|--------------------|---------|
|  | | GXL – GLOBE | |
| SIZE _____ | CL. _____ | TN _____ | |
| BODY _____ | TRIM _____ | CV _____ | |
| AIR TO _____ | CHAR. _____ | SIGNAL _____ | |
| TAG _____ | S/N _____ | | 9315102 |

| Valve Size (in.) | Part Number |
|------------------|-------------|
| 0.75 - 4 | 9315102 |

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Quality Management System



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