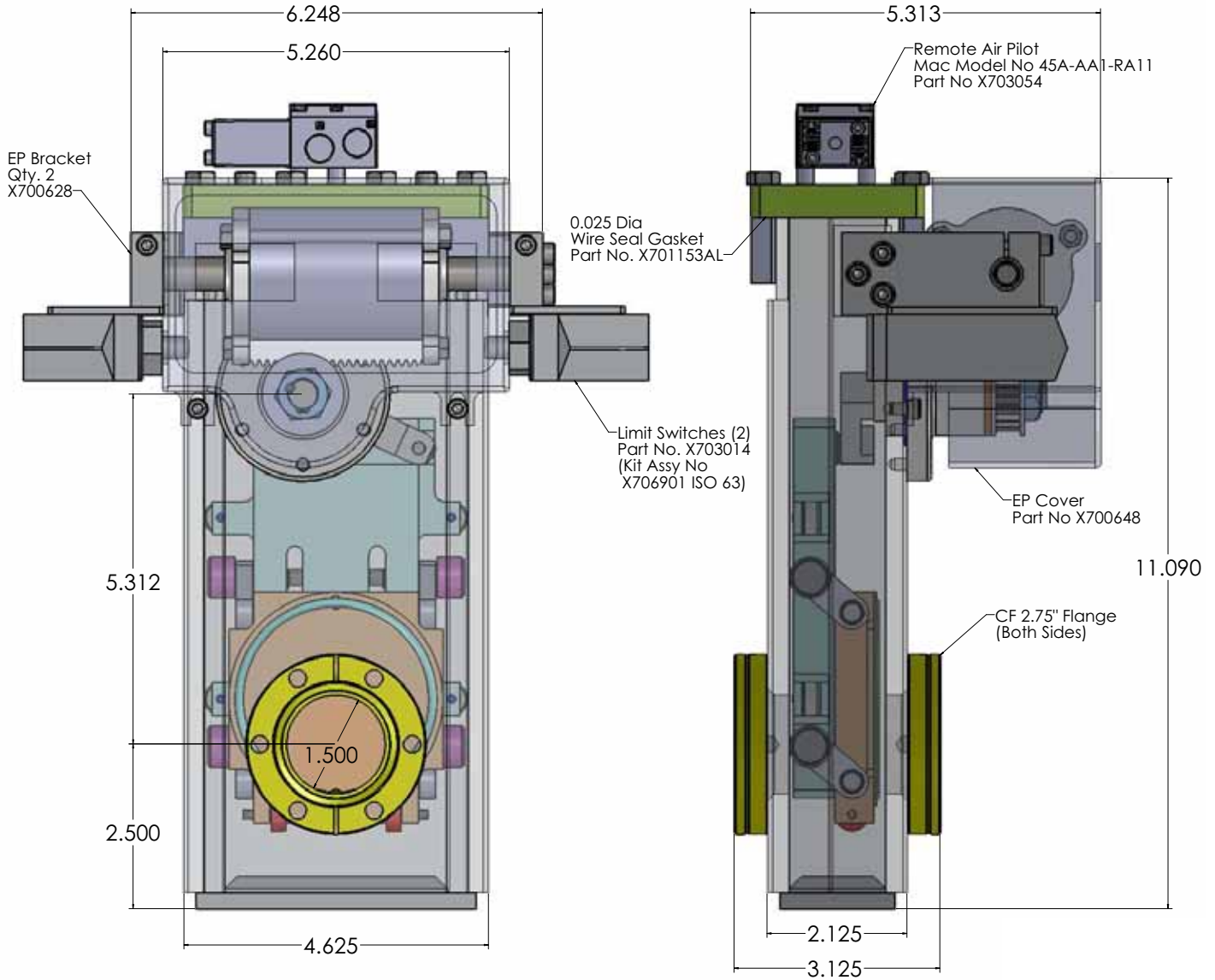




OPERATING, SERVICE, & SAFETY INSTRUCTIONS WITH SPARE PARTS LIST: Model No. OP-2.75-CON-N1-C-P-LSS



Overall Dimensions

INTRODUCTION

The uncomplicated design of these high vacuum gate valves makes servicing easier than on any other gate valve. Dismantling requires no training or practice, and reassembly errors are almost impossible. There is only one way to put any part or assembly in place and there are no critical adjustments.

The gate (disc) O-ring seals in a motion perpendicular to its seat, without O-ring scuffing. The gate carriage assembly stays securely locked in position at the open or closed position because of the dead centers at the extremes of the 180° arc. The half circle swing of the cam is rapid at mid-way point, slowing to stop at top or bottom. This makes very fast action possible without the hammer effect of a plunger type operator. It is built-in cushioning for the stroke which means negligible wear and a long operating life without maintenance.

These valves will work equally well in any orientation. It should be determined that the valve and/or adjacent piping of the vacuum system will be adequately supported when assembled. Make certain the mating flanges are in-line, parallel and the correct distance apart to minimize the strain on the valve body.

These valves will hold vacuum in either direction. However, no gate valve will open easily in a vacuum-to-atmosphere condition with the pressure of atmosphere on the open side, or against the back of the gate. If opening is necessary with a vacuum to atmosphere differential, make sure the gate faces upstream (toward atmosphere or higher pressures) or install a means of equalizing pressure prior to actuation. Gate valves will not close easily against atmosphere if the vacuum side is a very large chamber where the inrush of atmosphere may approach very high velocity.

MAINTENANCE

These valves do not require any routine maintenance. However, it is necessary to prevent the accumulation of dirt and debris inside the valve and if your vacuum system is extremely dusty or dirty, cleaning the interior of the valve will be required from time to time. When the valve is disassembled for cleaning, it is recommended that the O-rings be replaced (metal gaskets must be replaced). Note that cleaning O-rings with solvents is never recommended, because the solvent will be absorbed by the O-ring and will produce high outgassing for hours or even weeks after such cleaning. If vacuum grease is used on O-rings, it can also cause outgassing and 'burps' of gas. Only a thin, almost invisible, coating of grease should be used on O-rings in vacuum systems. O-rings shipped as spare or replacement parts have not been greased prior to shipment.

PNEUMATIC (PP) ACTUATORS

Recommended minimum air pressure is 65 psi (4.6 kg/cm²) Recommended maximum air pressure is 100 psi. (7 kg/cm²).



WARNING!

The air supplied to these valves must be free of oil, water and dirt for proper operation. If the air at your facility is not clean and dry you must install filters and traps upstream of the valve.

PNEUMATIC OPERATOR ADJUSTMENT

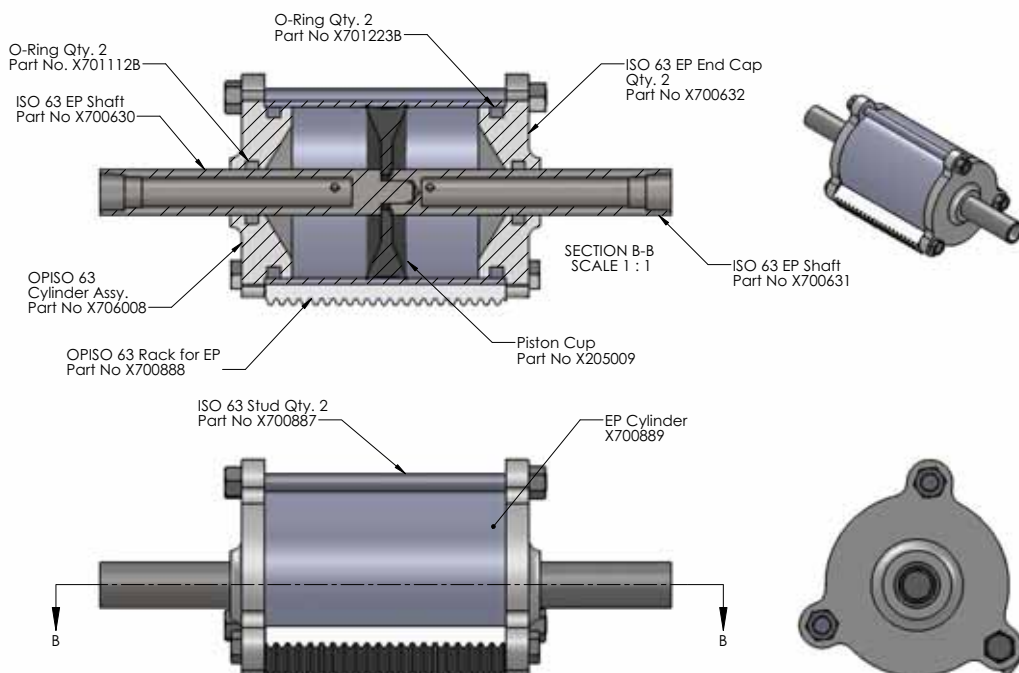


WARNING!

Disconnect electrical and air supply before making any adjustment or repairs.

(1) Disconnect electrical and air supply before making any adjustment or repairs. (2) Refer to the drawings listed in these instructions. (3) Valve gate must be in full closed position. This can be done manually by using a crescent wrench and turning hex nut located in front of pinion gear assembly. Remove hex nut and spacer washers from hub assembly. (4) Rotate air cylinder out of pinion gear. Manually move air cylinder to closed position. (See the arrow label on the air cylinder.) (5) After reaching fully closed position, back off into open position by the space of one (1) full gear tooth. (6) Rotate the air cylinder to mesh with pinion gear. Using rubber mallet, hit mounting bracket. (This will mesh rack and gear teeth for proper alignment.) Re-install spacers and hex nut on stem-crank assembly. (7) Recheck that all bolts on EP bracket are tight. (8) Reconnect electrical and air supply. (9) Operate valve and listen for gate locking in closed position.

EP Actuator Assembly, X810846



DISASSEMBLY

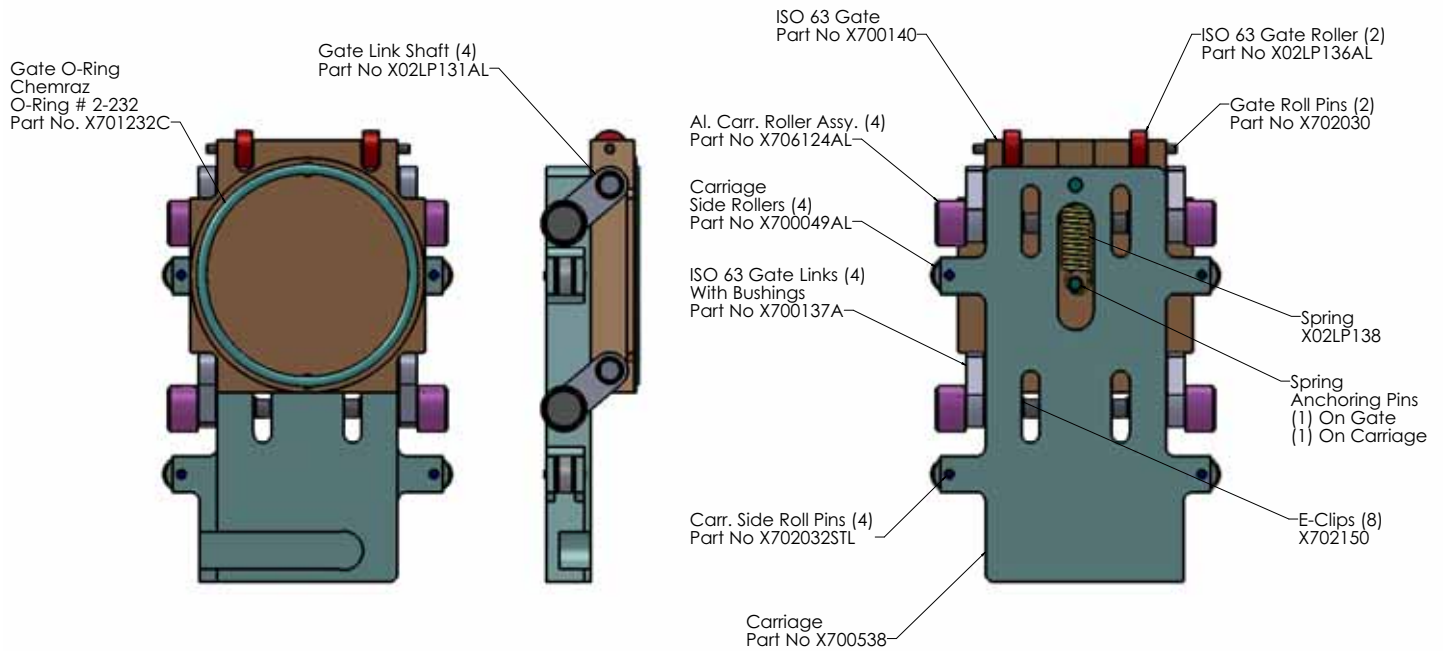


WARNING!

Disconnect electrical and air supply before making any adjustment or repairs.

With valve in open position, remove the bonnet plate bolts and lift the bonnet plate free. Then turn the hex nut above the pinion gear on pneumatic valves to release the carriage from its locked position. Pull on carriage and it will come out and slide off the crank roller. The flanged body stays bolted in the system unless the gate seat is damaged and needs polishing or machining. When the stem seal area is also to be cleaned or needs new seals, the steps are easy: (1) Take off the pinion gear. (2) Use appropriate snap ring pliers to remove retaining ring and remove the gland spacer and hub flange screws. (3) Lift out hub by sliding over stem, which will bring stem seal assembly with it, which can then be lifted out with a finger. (4) The stem crank comes out easily through the flange opening.

Gate Carriage Assembly, X810845 AL



ASSEMBLY

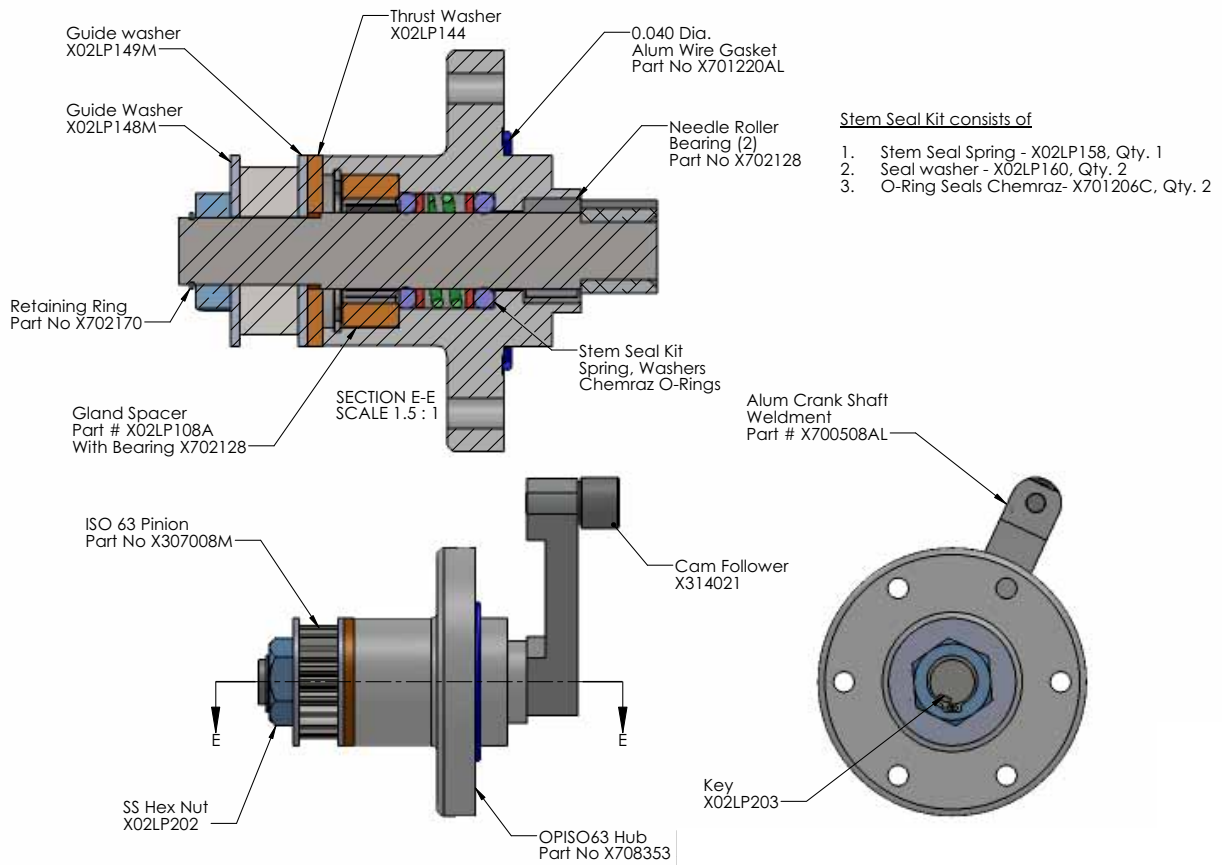
NOTICE

Maximum torque for bonnet plate bolts is 100 inch pounds. Maximum torque for the hub bolts is 80 inch pounds.

These valves use fully annealed soft aluminum gaskets for both the bonnet plate seal and the hub seal. These gaskets, like Conflat[®] flange gaskets, can only be used once and like Conflat[®] flanges require cross tightening of the bolts and a torque wrench to prevent over tightening.

Apply a very thin film of vacuum grease to the shaft and: (1) Grasp the stem crank by the roller end, tip the stem to the side, insert in the bonnet flange opening and bring the stem out through the hub opening. (2) Place hub aluminum gasket in hub flange and slide hub onto stem while holding stem-crank up to make it easy to insert. (3) Cross tighten the hub flange screws using a torque wrench with a maximum of 80 inch pounds. (4) While holding the stem crank up with one hand and pushing to the farthest point through the stem housing in the hub, insert the stem seal assembly and be sure of the proper order. Slide over stem first, one O-ring; next, a washer. Then slide the spring over the stem; next a washer, and last, the second O-ring. Make sure this second O-ring is down over the shoulder on the stem. (5) While still holding up the stem, replace the stem gland spacer (push downward to overcome spring tension). Hold the internal retaining ring in position and seat it in the modified hub groove using appropriate snap ring pliers. (6) Replace manual lever or pinion gear of pneumatic operator with key in its slot. Retaining ring fits onto the stem crank. (7) Insert gate seal evenly, and with crank turned to expose its roller, slide carriage slot over the roller and retract into body by turning stem counterclockwise (with manual lever or a wrench on pinion head nut). (8) Position the bonnet plate on the flanged section—Gate toward its seat. (9) Replace and evenly tighten body bolts in centerline flanges.

Hub Crank Assembly, X810847 AL



PARTS LIST

Description	Part No.	Price
MAC 45A Air Pilot Valve, 1/8" without Fittings and Tubing	X703054	\$87.00 each
SPDT (Enclosed) Limit Switch without Mounting Bracket	X703014	65.00 each
OPISO63 Gate Carriage Assembly (Aluminum) without Chemraz® O-Ring	X810845AL	392.00 each
OPK50 / ISO63 Machined Carriage only without Rollers or Links	X700538	59.00 each
EOISO63 2" ANSI Machined Gate only without O-Ring, Links or Rollers	X700140	62.00 each
LP2-8 Aluminum Carriage Roller Assembly (Quantity 4 per valve)	X706124AL	21.00 each
6061-T6AL 2" Gate Roller (Quantity 2 per valve)	X02LP136AL	14.00 set of 2
1/8 X 1 In. Roll Pin for Gate Roller (Quantity 2 per valve)	X702030	.50 set of 2
ISO 63 AL. Carriage Side Roller (Quantity 4 per valve)	X700049AL	21.00 set of 4
OPISO63 Hub Crank Assembly (All AL.) without Chemraz® Seals and Aluminum Gasket	X810847AL	175.00 each
Stem Seal Kit: Spring, Washers, 2 Chemraz O-Rings	X706118C	180.00 kit
OP2"/ISO50-63 EP Actuator Assembly	X810846	299.00 each
EP Actuator Seal Kit: Piston Cup, 2 Cap & 2 Shaft O-Rings; Buna-N	X706013	27.00 kit
2-232 Chemraz® 585 Gate O-Ring (Quantity 1 per valve)	X701232C	215.00 each
2-206 Chemraz® 585 Stem Seal O-Ring (Quantity 2 per valve)	X701206C	80.00 each
1100 Aluminum Wire Seal, Hub Gasket	X701220AL	9.00 each
1100 Aluminum Wire Seal, Bonnet Gasket	X701153AL	12.00 each

