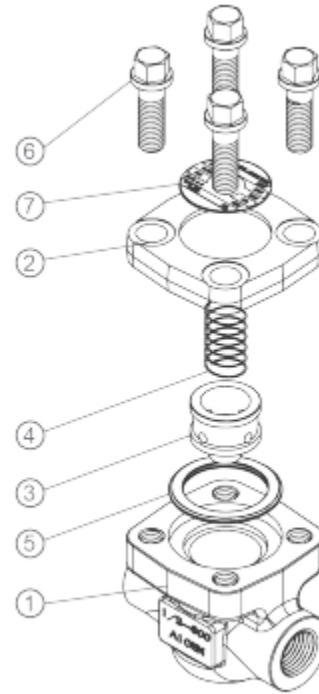


Installation, Operation, and Maintenance Instructions Forged Stainless & Forged Steel Piston/Swing Check Valves Series P48 and 48

PISTON CHECK VALVE

PARTS & MATERIAL

PART NO.	PART NAME	QTY.	MATERIAL	
1	Body	1	A105N+STL	A182 F316L+STL
2	Bonnet	1	A105N	A182 F316L
3	Disc	1	A276 420	A276 316L
4	Spring	1	316 SS	
5	Gasket	1	304+Graphite	316L+Graphite
6	Bonnet Bolt	4	A193 B7	A193 B8M
7	Nameplate	1	Aluminum	



1. **SAFETY INSTRUCTIONS:**

Read this Installation, Operation and Maintenance Manual before using the valve. CVC Valves cannot anticipate all the situations a user may encounter while installing and using the Valve. The user must know and follow all applicable industry specifications on the safe installation and use of these valves. Only qualified personnel or technicians who are trained for maintenance work and have read the instructions are to assemble and disassemble the valve. Misapplication of the product may result in injuries or property damage.

2. Applications:

- 2.1 Valves are to be installed in a pipeline to prevent fluid flow from reversing direction.
- Stainless steel valves are suited to corrosive service. Please consult Chicago Valves for special applications

3. Operations

The Check valve piston or disk is automatically opened or closed by fluid flow; allowing flow in the preferred direction and preventing flow in the reverse direction.

4. Storage, Protection, and Installation:

- a. Valves shall be stored in a dry warehouse, with end covers installed.
- b. For long term storage, valves shall be checked periodically, and cleaned to remove dirt and foreign material. Special care shall be taken for the cleanliness of seat surfaces, to prevent damage to the seat and disc.
- c. Before installing the valve, check the valve identification tag carefully to verify that it is the correct valve for the application.
- d. Before installing the valve, check inside passage and seal surface. Clean as necessary to remove all dirt and foreign material.
- e. When installing the valve, make sure that the flow arrow on the valve points in the required direction of flow.
- f. All check valves should be installed at least ten pipe diameters away from upstream pumps, elbows, fittings or equipment.
- g. Check valves without springs should be installed with bonnet up and angle of incline should be no more than 45° from horizontal. Also, the roll angle of the valves bonnet should be no more than 45° from side to side.
- h. For vertical installation of a swing check valve, the flow must be in an upward direction so the disc seats when flow is reduced. Verify with CVC if the flow meets the minimum flow requirements of the valve in question. Low flows can cause disc chatter, wear of seat and disc, and erosion.

4. Inspection Maintenance and Disassembly:

- a. Make sure there is no pressure in the line before performing any maintenance on the valve.
- b. Remove the bolts to separate the cover from the body.
- c. Remove the spring and the piston off the body. Check and replace broken spring.
- d. Check and replace damaged gaskets.
- e. Examine piston and seat surfaces for damage. Excessive wear or wire-drawing may require replacement of the damaged component. Minor damage or wear may be repaired by re-lapping or stoning the seat faces.

5. Reassembly:

- 6.1 Reassemble the valve in the reverse order of disassembly

Cover Bolt Torque

Bolt Material: A193 B7

Diameter of bolt(in)	Torque(lb-in)	Diameter of bolt (in)	Torque(lb-ft)
1/4	40	1	267
5/6	81	1-1/8	380
3/8	147	1-1/4	530
7/16	244	1-3/8	730
1/2	353	1-1/2	940
9/16	527	1-5/8	1200
5/8	730	1-3/4	1520
3/4	1345	1-7/8	1860
7/8	2150	2	2330

Bolt Material: A193 B8

Diameter of bolt(in)	Torque(lb-in)	Diameter of bolt (in)	Torque(lb-ft)
1/4	16	1	108
5/6	32	1-1/8	153
3/8	58	1-1/4	216
7/16	96	1-3/8	294
1/2	140	1-1/2	378
9/16	210	1-5/8	475
5/8	290	1-3/4	617
3/4	540	1-7/8	745
7/8	860	2	935