



— MODEL — **81-02/681-02**
Check Valve

INTRODUCTION

The Cla-Val Model 81-02/681-02 Check Valve is an automatic valve designed to close drip tight when outlet pressure exceeds inlet pressure. It is a hydraulically operated, pilot controlled, diaphragm type globe or angle valve. When a pressure reversal occurs, higher downstream pressure is applied to the cover chamber through one control tube line and valve closes tightly. Upon resumption of normal pressure, cover chamber pressure is relieved through the other control tube line. The valve opens for flow. This valve is equipped with adjustable opening and closing speed controls.

INSTALLATION

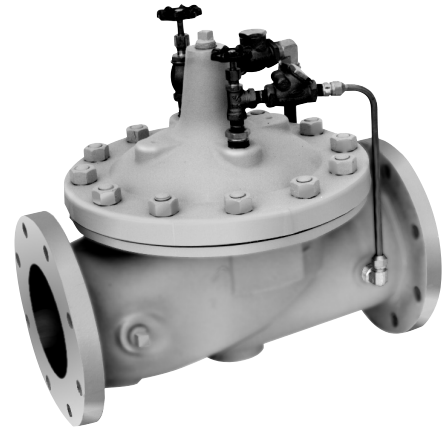
1. Allow sufficient room around the valve to make adjustments, and for disassembly.
2. It is recommended that gate or block valves be installed on both ends of the 81-02/681-02 to facilitate isolating the valve for preventive maintenance.

NOTE: BEFORE VALVE ASSEMBLY IS INSTALLED, PIPE LINES SHOULD BE FLUSHED OF ALL CHIPS, SCALE AND FOREIGN MATTER.

3. Place the valve in the line with flow through the valve in the direction indicated on the inlet nameplate or by flow arrows. Check all fittings and hardware for proper makeup and that no apparent damage is evident. Be sure main valve cover nuts/bolts are tight.
4. Cla-Val valves operate with maximum efficiency when mounted in horizontal piping with the cover UP; however, other positions are acceptable. Due to size and weight of cover and internal components of six inch and larger valves, installation with the cover up is advisable. This makes periodic inspection of internal parts readily accessible.
5. Caution must be taken in the installation of this valve to insure that galvanic and/or electrolytic action does not take place. The proper use of dielectric fittings and gaskets are required in all systems using dissimilar metals.

OPERATION AND START-UP

1. A Cla-Val X101 Valve Position Indicator may be installed in the center cover port to provide a visual indication of the valve stem during start-up.
2. Close the two speed control valves by turning full clockwise. Open both valves 1/4 to 1/2 turn counterclockwise for an initial setting.
3. With pressure in the piping, slowly open the gate or block valves on both ends of the Cla-Val 81-02/681-02 Check Valve. Carefully loosen the center cover plug of the Hytrol Valve, or the vent valve of X101 Valve Position Indicator (if installed), and bleed air from valve. Retighten cover plug or vent after all air is expelled.
4. To check the operation of the valve lower the pressure at the valve inlet and the valve will close. Return the inlet pressure to a

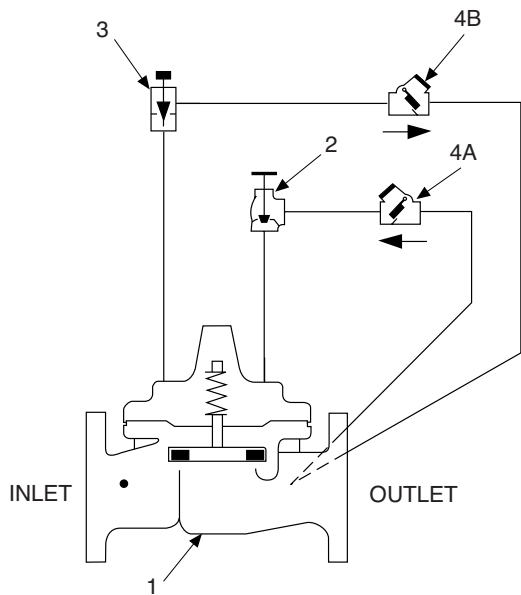


- higher pressure than the outlet pressure and the valve will open.
5. The opening and closing speed of the main valve is controlled by the speed control valves. The opening control will be on the smaller of the two control lines.

MAINTENANCE

1. Cla-Val Valves and Controls require no lubrication or packing and a minimum of maintenance. However, a periodic inspection schedule should be established to determine how the fluid handled is affecting the operation of the valve assembly. Minimum of once per year.
2. Repair and adjustment procedures of the Cla-Val Hytrol valve and control components are included in a more detailed IOM manual. It can be downloaded from our web site (www.cla-val.com) or by contacting a Cla-Val Regional Sales Office.
3. **When ordering parts always refer to the catalog number and stock number on the valve nameplate.**

SYMPTOM	PROBABLE CAUSE	REMEDY
Fails to close	Lack of cover chamber pressure	Check upstream and downstream pressure, tubing for restrictions
	Diaphragm damaged	Replace diaphragm
	Diaphragm assembly inoperative	Clean and polish stem
	Corrosion or excessive scale build up on valve stem	Replace any defective part damaged, badly eroded
	Mechanical obstruction	Remove obstruction
	Object lodged in valve	
	Worn disc	Replace disc
Fails to open (Valve is designed to fail closed on a diaphragm failure)	Badly scored seat	Replace seat
	Closing speed control closed	Open speed control 1/4 turn
	Insufficient line pressure	Check pressure
	Diaphragm assembly in-operative	Clean and polish stem
	Corrosion on valve stem	Replace any defective part damaged, badly eroded
	Diaphragm damaged	Replace diaphragm
	Opening speed control closed	Open 1/4 turn

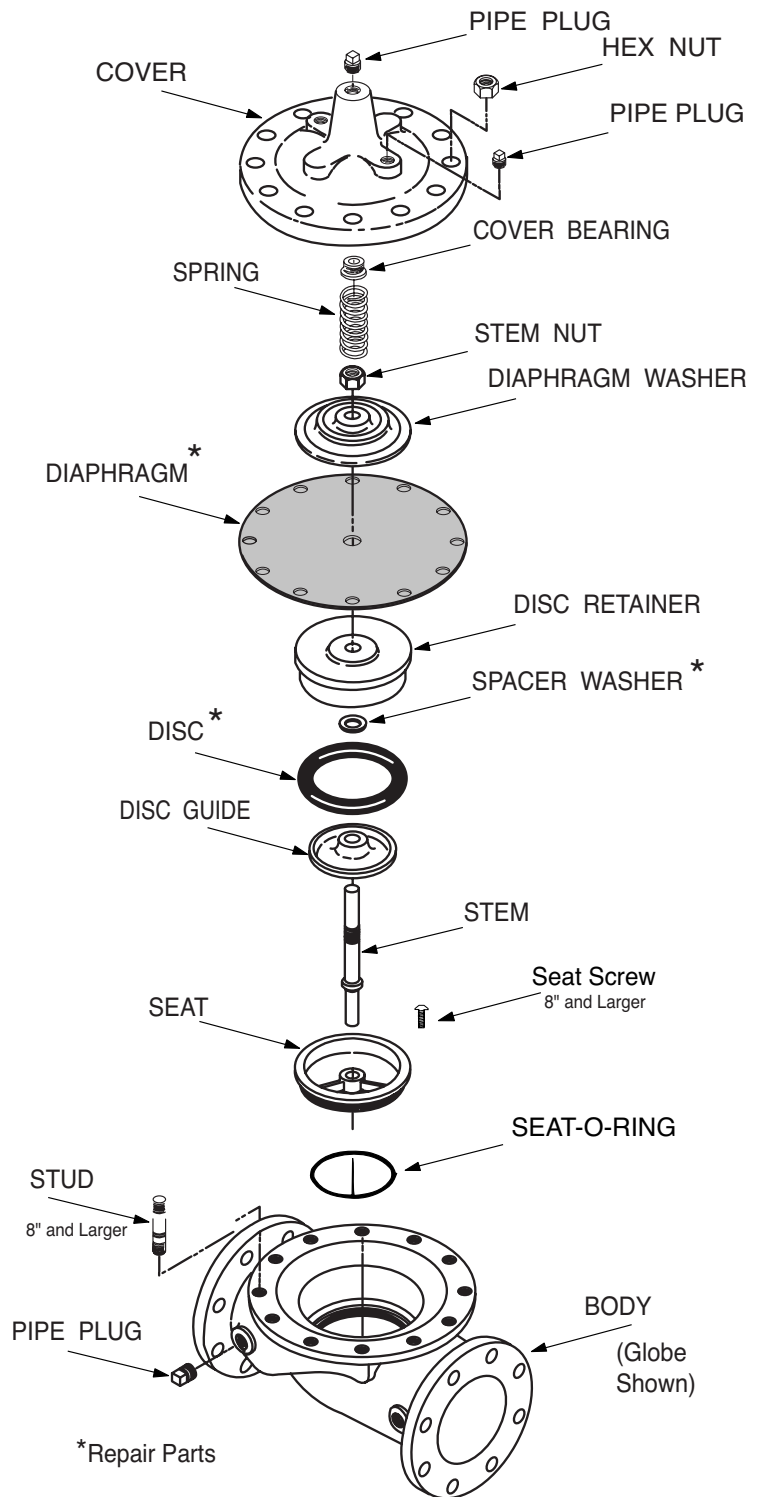


BASIC COMPONENTS

- 1 100-01 Hytrol (Reverse Flow)
- 100-20 600 Series Hytrol (Reverse Flow)
- 2 CGA Angle Valve (Closing)
- 3 CNA Needle Valve (Opening)
- 4 CSC Swing Check Valve



1. 100-01 Hytrol Reverse Flow Main Valve



*Repair Parts

*SUGGESTED REPAIR PARTS

For a more detailed IOM Manual go to www.cla-val.com or contact a Cla-Val Regional Sales Office.