HAYWARD INDUSTRIAL PRODUCTS
INSTALLATION, OPERATION & MAINTENANCE
OF SWING CHECK VALVES

PLEASE READ THE FOLLOWING INFORMATION PRIOR TO INSTALLING AND USING HAYWARD VALVES, STRAINERS, FILTERS, AND OTHER ASSOCIATED PRODUCTS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN SERIOUS INJURY.

1. Hayward guarantees its products against defective material and workmanship only. Hayward assumes no responsibility for damage or injuries resulting from improper installation, misapplication, or abuse of any product.
2. Hayward assumes no responsibility for damage or injury resulting from chemical incompatibility between its products and the process fluids to which they are subjected. Compatibility charts provided in Hayward literature are based on ambient temperatures of 70F and are for reference only. Customer should always test to determine application suitability.
3. Consult Hayward literature to determine operating pressure and temperature limitations before installing any Hayward product. Note that the maximum recommended fluid velocity through any Hayward product is eight feet per second. Higher flow rates can result in possible damage due to the water hammer effect. Also note that maximum operating pressure is dependent upon material selection as well as operating temperature.
4. Hayward products are designed primarily for use with non-compressible liquids. They should NEVER be used or tested with compressible fluids such as compressed air or nitrogen.
5. Systems should always be depressurized and drained prior to installing or maintaining Hayward products.
6. Temperature effect on piping systems should always be considered when the systems are initially designed. Piping systems must be designed and supported to prevent excess mechanical loading on Hayward equipment due to system misalignment, weight, shock, vibration, and the effects of thermal expansion and contraction.
7. Because PVC and CPVC plastic products become brittle below 40F, Hayward recommends caution in their installation and use below this temperature.
8. Published operating torque requirements are based upon testing of new valves using clean water at 70F. Valve torque is affected by many factors including fluid chemistry, viscosity, flow rate, and temperature. These should be considered when sizing electric or pneumatic actuators.
9. Due to differential thermal expansion rates between metal and plastic, transmittal of pipe vibration, and pipe loading forces DIRECT INSTALLATION OF METAL PIPE INTO PLASTIC CONNECTIONS IS NOT RECOMMENDED. Wherever installation of plastic valves into metal piping systems is necessary, it is recommended that at least 10 pipe diameter in length of plastic pipe be installed upstream and downstream of the plastic valve to compensate for the factors mentioned above.

FLANGED CONNECTION:

Flange bolts should be tight enough to slightly compress the gasket or end O-ring and make a good seal, without distorting or putting excessive stress on the flanges. Suitable washers should be used between the bolt head and flange and the nut and flange. Bolts should be tightened in alternating sequence.

RECOMMENDED FLANGE BOLT TORQUE

FLANGE SIZE	BOLT DIA.	TORQUE FT. LBS.
3	5/8	20-25
4	5/8	20-25
6	3/4	30-40
8	3/4	30-40

NOTE: USE WELL LUBRICATED METAL BOLTS AND NUTS. USE SOFT RUBBER GASKETS.

INSTALLATION:

FOR HORIZONTAL PIPE RUNS IT IS RECOMMENDED THAT THE VALVE BE INSTALLED WITH THE SIZE LABEL MOUNTED ON THE TOP.

It is recommended that these valves be installed no closer than 10 pipe diameters from a pump. At least 5 pipe diameters should be between these valves and an elbow. At least six (6) feet of plastic pipe should be installed upstream and downstream of these valves when installed in metal piping systems.

OPERATION:

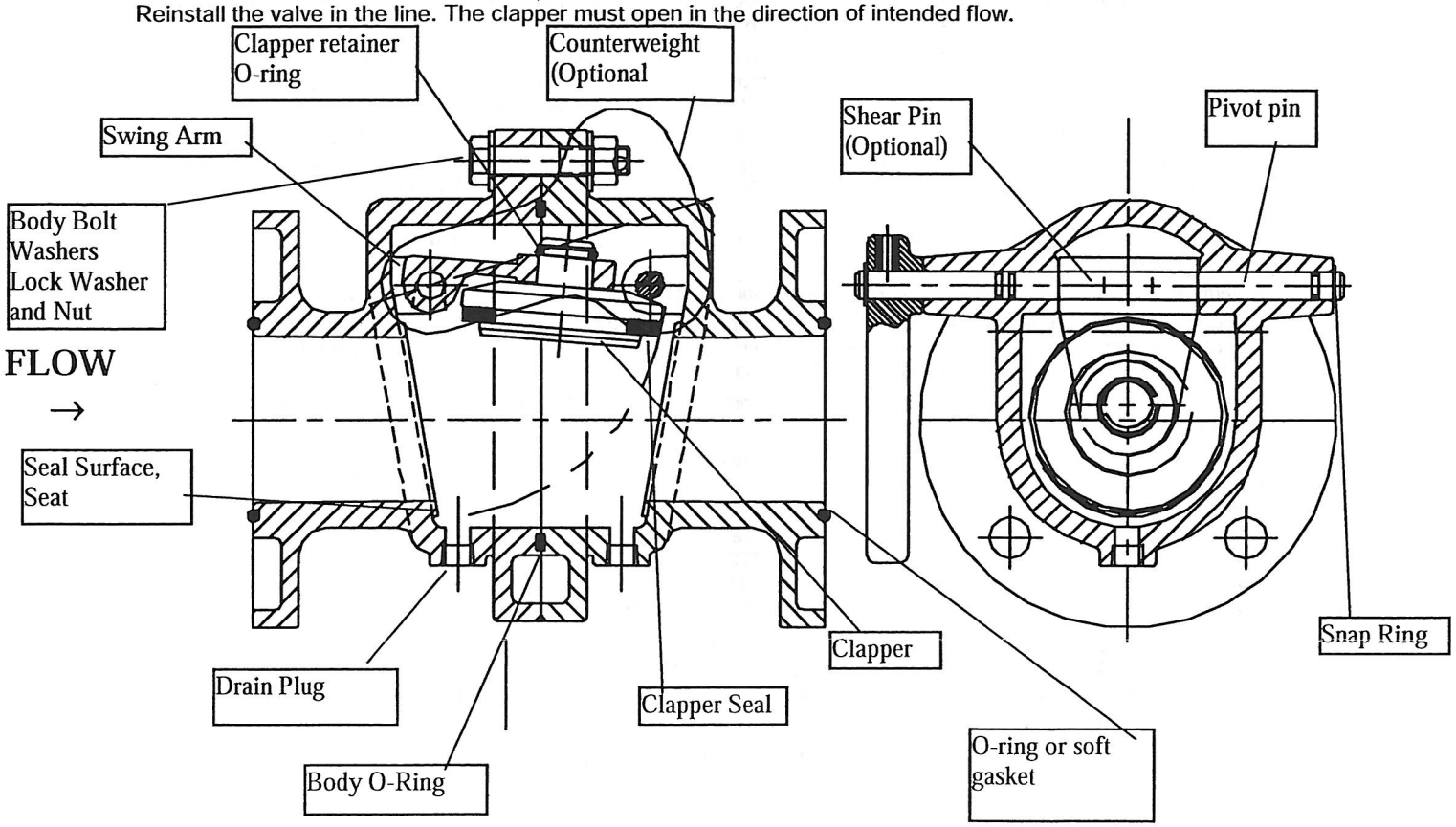
These valves are designed to open in the direction of the flow arrow. A minimum of 3 psi back pressure is required to seal. Two drain plugs are installed in the unit. If there are solids in the system, the drains can be used to flush body and remove solid build up from under and around the seat.

The counter weight can be adjusted to aid in obtaining an initial seal on check valve closure. Additional weight may be required depending on valve orientation and fluid viscosity. Adjustment of the counterweight set screw or bolt MUST be made if the weight is to aid in obtaining a valve seal.

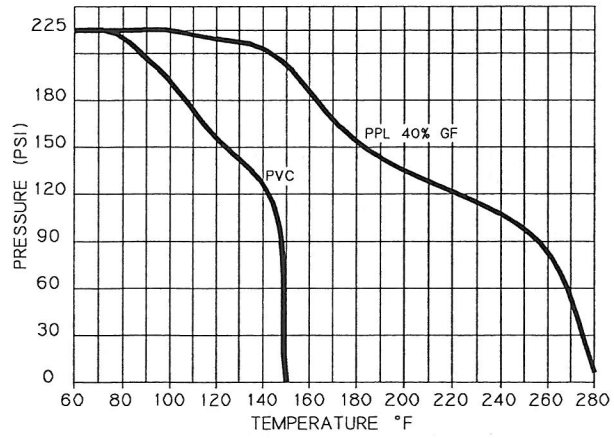
EXTREME CAUTION MUST BE TAKEN WHEN WORKING ON THIS VALVE.
THE PIPING SYSTEM MUST BE DEPRESSURIZED AND DRAINED. PROPER CARE MUST BE TAKEN. CONSULT M.S.D.S. (MATERIAL SAFETY DATA SHEETS) INFORMATION REGARDING YOUR SPECIFIC APPLICATION.

REPAIR:

Remove the complete valve body from the piping system. If the valve seat is damaged due to solids or erosion the valve does not necessarily have to be replaced. A new seat seal surface can be obtained by reversing the clapper in the body. Remove the bolts, nuts and washers that hold the body together. Carefully remove all solids from the body halves. Remove the snap rings from both the pivot shafts. *IF THERE IS A SHEAR PIN AND COUNTER WEIGHT THE SHEAR PIN MUST BE REMOVED TO REMOVE THE CLAPPER.* Carefully push the shafts out of the valve body. Check all O-rings for damage and replace if damaged. Reassemble the valve with the clapper on the undamaged seat side. The snap rings are required to maintain the shafts in the correct position. Install the body bolts with flat washers. A flat washer, lock washer and nut must be installed on the opposite body half. Carefully peal the label from the valve and apply it to the opposite body half. Reinstall the valve in the line. The clapper must open in the direction of intended flow.

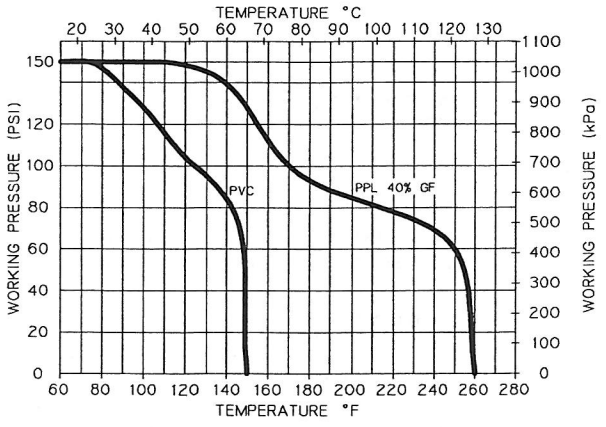


SWING CHECK CUT-A-WAY VIEW



OPERATING PRESSURE vs TEMPERATURE

3" and 4" SWING CHECK



OPERATING PRESSURE vs. TEMPERATURE

6" and 8" SWING CHECK

SWIS REV F 9/14/99 ECR 819R