



# HAYWARD INDUSTRIAL PRODUCTS INC.

## INSTALLATION, OPERATION & MAINTENANCE OF SPRING CHECK VALVE

**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.**

- 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.
- 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 70 °F and are for reference only. Customer should always test to determine application suitability.
- 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.
- 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.
- Systems should always be depressurized and drained prior to installing or maintaining Hayward products.
- 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.
- Because PVC and CPVC plastic products become brittle below 40 °F, Hayward recommends caution in their installation and use below this temperature.
- Published operating torque requirements are based upon testing of new valves using clean water at 70 °F. 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.
- 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.

### THREADED CONNECTION:

Threaded end connections are manufactured to ASTM specifications D2464-88 F437-88 and ANSI B2.1. Wrap threads of pipe with Teflon tape of 3 to 3-1/2 mil thickness. The tape should be wrapped in a clockwise direction starting at the first or second full thread. Overlap each wrap by 1/2 the width of the tape. The wrap should be applied with sufficient tension to allow the threads of a single wrapped area to show through without cutting the tape. The wrap should continue for the full effective length of the thread. Pipe sizes 2" and greater will not benefit with more than a second wrap, due to the greater thread depth. To provide a leak proof joint, the pipe should be threaded into the end connection "hand tight". Using a strap wrench only. (Never use a stillson type wrench) tighten the joint an additional 1/2 to 1-1/2 turns past hand tight. Tightening beyond this point may induce excessive stress that could cause failure.

### INSTALLATION:

It is recommended that these spring check 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. The design of this equipment allows a maximum set pressure of 10 PSI. It is designed to avoid draining a tank through siphon action and to allow a check valve in a down flow condition. Adjustment of the "SET" pressure can be made by loosening the **LOCK RING** and rotating the **ADJUSTMENT SCREW**, clock-wise rotation increases the set pressure. The reset pressure on this device is generally about 2 feet of head below the initial leak pressure. **MAXIMUM** tank height on pump inlet is 20 feet to assure complete valve closure. As in all plastic piping the maximum fluid velocity is 8 feet per second. This velocity minimizes the effects of valve closure and pump start up or shut down. **CAUTION: COMBINATION OF VALVE SET PRESSURE AND PUMP MINIMUM INLET PRESSURE MUST ALLOW FLOW.**

### REPAIR:

**EXTREME CAUTION MUST BE TAKEN WHEN WORKING ON THIS SPRING CHECK 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.**

To repair the valve, remove **ADJUSTMENT SCREW**, then the **CAP NUT** from the valve by turning counter clockwise. Remove the spring and the internal elements. Inspect all parts for wear and damage. Replace the o-rings. Reinstall the internal elements, and then the spring. Install the o-ring in the body groove. Use a non-petroleum base lubricant to lubricate the o-ring and thread, and re-assemble the **CAP** and the **ADJUSTMENT SCREW** to the valve.

