

HAYWARD INDUSTRIAL PRODUCTS, INC. CCP SERIES TANK-TITE™ COMPRESSION FITTING INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

PLEASE READ THE FOLLOWING INFORMATION PRIOR TO INSTALLING AND USING HAYWARD CCP SERIES TANK-TITE™ COMPRESSION FITTINGS WITH HAYWARD BFA AND BFAS SERIES BULKHEAD FITTINGS. FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY, OR EVEN DEATH.

1. Hayward Industrial Products, Inc. (Hayward) guarantees its products against defective material and workmanship only. Hayward assumes no responsibility for property damage or personal injury resulting from improper installation, misapplication, or abuse of any product.
2. Hayward assumes no responsibility for property damage or personal injury resulting from chemical incompatibility between its products and the process fluids to which they are exposed. Determining whether a particular PVC, CPVC, or PP product is suitable for an application is the responsibility of the user. Chemical compatibility charts provided in Hayward literature are based on ambient temperatures of 70°F and are for reference only.
3. Hayward products are designed for use with non-compressible liquids.

WARNING

Hayward PVC and CPVC products should NEVER be used or tested with compressible fluids such as compressed air or nitrogen. Use of PVC and CPVC products in compressible fluid applications may result in product damage, property damage, personal injury, or even death.

4. The maximum recommended fluid velocity through any Hayward product is eight feet per second (8 ft/s). Higher fluid velocity can result in damage due to the water hammer effect.
5. Piping systems must be designed and supported to prevent excess mechanical loading on Hayward products due to system misalignment, weight, shock, vibration, and the effects of thermal expansion and contraction.
6. The effect of temperature on plastic piping systems must be considered when the systems are initially designed. The pressure rating of plastic systems must be reduced with increasing temperature. Maximum operating pressure is dependent upon material selection as well as operating temperature. Before installing any Hayward product, consult Hayward product literature for pressure vs. temperature curves to determine any operating pressure or temperature limitations.
7. PVC and CPVC plastic products become brittle below 40°F. Use caution in their installation and operation below this temperature.

WARNING

Hayward PVC and CPVC products should not be used in services with operating temperature below 34°F.

8. Due to differential thermal expansion rates between metal and plastic, transmittal of pipe vibration and pipe loading forces, **DIRECT INSTALLATION OF PLASTIC VALVES INTO METAL PIPING SYSTEMS IS NOT RECOMMENDED.** Wherever installation of plastic valves into metal piping systems is necessary, it is recommended that at least 10 pipe diameters in length of plastic pipe be installed upstream and downstream of the plastic valve to compensate for the factors mentioned above.
9. Published operating torque requirements are based on 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.
10. Systems should always be depressurized and drained prior to installing or maintaining any Hayward product.

WARNING

The Hayward CCP Series Tank-Tite™ Compression Fitting is intended for use with Hayward BFA and BFAS Series Bulkhead Fittings ONLY! Use with bulkhead fittings produced by manufacturers other than Hayward may result in improper assembly torque of the bulkhead fitting and improper gasket compression, resulting in malfunction, product damage, property damage, personal injury, or even death.

INSTALLATION CONSIDERATIONS:

- a) The Hayward CCP Series Tank-Tite™ Compression Fitting applies a constant load to the bulkhead fitting gasket to offset changes in tank wall dimensions and changes in gasket compression due to atmospheric temperature changes, thermal fluctuations in the fluid contained in the tank and pressure fluctuations, or head level changes, within the tank.
- b) When properly installed, the Hayward CCP Series Tank-Tite™ Compression Fitting also applies a constant load to the bulkhead fitting nut, resulting in greater resistance to loosening due to vibration as well as dimensional changes of the tank wall resulting from atmospheric temperature changes, or caused by pressure and temperature changes of the fluid within the tank.
- c) The Hayward CCP Series Tank-Tite™ Compression Fitting is intended to be installed on the outside of the tank, immediately against the outside tank wall, and between the bulkhead fitting nut and the outside tank wall. To ensure proper orientation of the Hayward CCP Series Tank-Tite™ Compression Fitting during installation, the fitting should be oriented with the arrow on the label pointing to the outside tank wall.
- d) When properly installed on *most* tanks, the load generated by the Hayward CCP Series Tank-Tite™ Compression Fitting on the gasket of a Hayward BFA or BFAS Series Bulkhead Fitting should be sufficient to generate a seal between the bulkhead fitting gasket and the inside wall of the tank without further tightening of the bulkhead fitting nut. However, as tank geometry is widely variable, on *some* installations it may be necessary to apply additional torque to the bulkhead fitting nut to initiate the gasket seal.

WARNING

Proper orientation of the Hayward CCP Series Tank-Tite™ Compression Fitting is designated by an arrow on the product label that points to the outside tank wall. Installation of the fitting with the orientation arrow opposite the direction indicated on the product label may result in malfunction of the fitting, product damage, property damage, personal injury, or even death.

INSTALLATION:

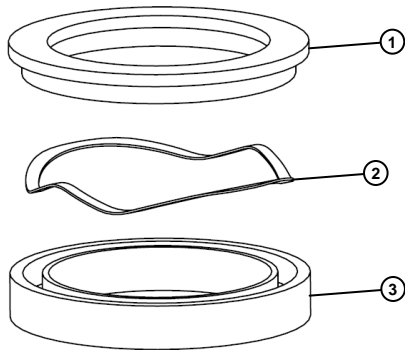
- a) With the tank prepared with the properly sized hole for the Hayward BFA or BFAS Series Bulkhead Fitting, remove the nut from the Hayward BFA or BFAS Series Bulkhead Fitting, leaving the gasket positioned against the "hex" flange of the bulkhead fitting body.
- b) From the inside of the tank, insert the body of the bulkhead fitting through the hole in the tank wall, until the gasket is against the inside wall of the tank.
- c) Assemble the CCP Series Tank-Tite™ Compression Fitting over the exposed portion of the bulkhead fitting body on the outside of the tank. Make sure that the CCP Series Tank-Tite™ Compression Fitting is properly oriented on the bulkhead fitting body by aligning the Spring Housing Ring against the outer tank wall, as indicated on the product label.

- d) Remove any assembly or shipping tape from the CCP Series Tank-Tite™ Compression Fitting.
- e) Assemble the Hayward BFA or BFAS Series Bulkhead Fitting nut over the exposed end of the bulkhead fitting body and rotate the nut counterclockwise. (Note: Hayward BFA and BFAS Series Bulkhead Fittings have LEFT HAND threads.)
- f) Continue to rotate the nut until the flange of the nut comes into contact with the upper Compression Ring of the CCP Series Tank-Tite™ Fitting.
- g) Before continuing to tighten the bulkhead fitting nut, ensure that the Wave Spring is properly seated and that the upper Compression Ring is properly engaged in the groove of the lower Spring Housing Ring.
- h) Continue tightening the nut until the “flange” of the Compression Ring comes into contact with the top surface of the Spring Housing Ring. At this point, the spring will be at its maximum intended deflection, or working height, and maximum intended load. For most tanks, additional tightening of the bulkhead fitting nut should not be necessary to generate a seal between the bulkhead fitting gasket and the inside tank wall.

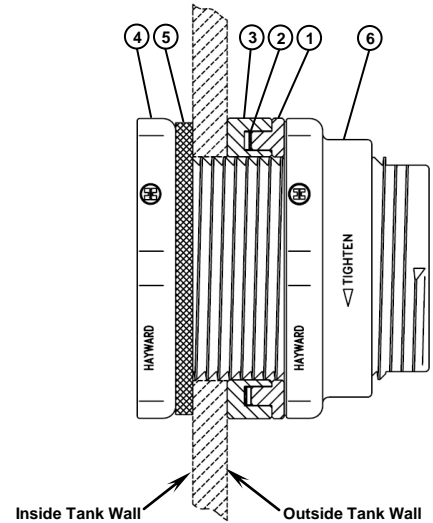
MAINTENANCE:

- a) The Hayward CCP Series Tank-Tite™ Compression Fitting is not intended to be repaired. CCP Series Tank-Tite™ Compression Fittings that are damaged during installation or operation should be replaced with a new unit.

ASSEMBLY & PARTS LIST:

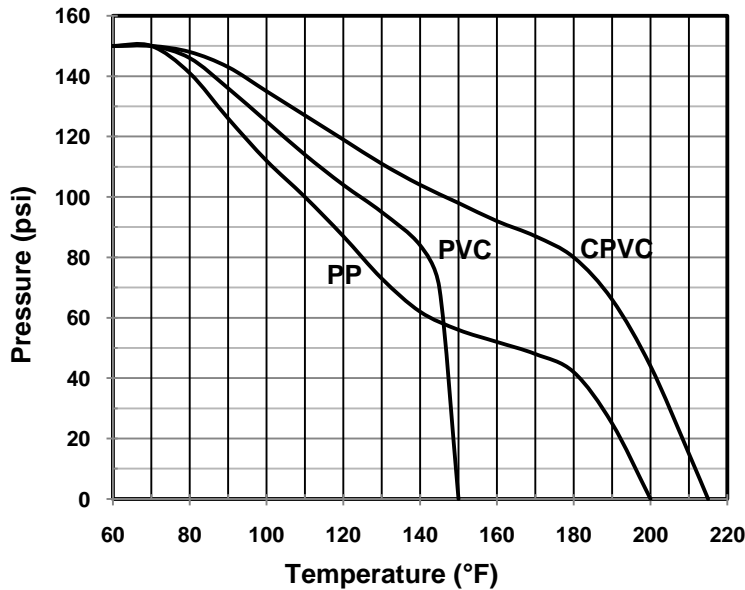


ITEM	DESCRIPTION
1	Compression Ring
2	Wave Spring
3	Spring Housing Ring
4	Bulkhead Fitting Body
5	Bulkhead Fitting Gasket
6	Bulkhead Fitting Nut



PRESSURE & TEMPERATURE RATINGS (HAYWARD BFA & BFAS BULKHEAD FITTINGS):

- Pressure rating of PVC, CPVC and PP products at 70°F: 150 psi
- Minimum service temperature of PVC, CPVC and PP products: 34°F
- Maximum service temperature of PVC products: 140°F
- Maximum service temperature of CPVC and PP products: 180°F



Note: The Compression Rings and Spring Housing Rings of the Hayward CCP Series Tank-Tite™ Compression Fitting are only provided in PVC. These fittings are intended for installation with Hayward BFA or BFAS Series Bulkhead Fittings. The pressure vs. temperature ratings and chart provided are applicable to the Hayward BFA and BFAS Series Bulkhead Fittings.

CHEMICAL COMPATIBILITY CHARTS:

- Consult the Hayward Industrial Product Guide or www.haywardflowcontrol.com for complete chemical compatibility charts for all materials of construction.