



HAYWARD INDUSTRIAL PRODUCTS, INC.

1/4", 3/8" and 1/2" NVA SERIES NEEDLE VALVES

INSTALLATION, OPERATION AND MAINTENANCE INSTRUCTIONS

PLEASE READ THE FOLLOWING INFORMATION PRIOR TO INSTALLING AND USING HAYWARD NVA SERIES NEEDLE VALVES. 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.

THREADED CONNECTIONS:

- a) Wrap male threads of pipe end with Teflon® tape. Proper application of Teflon® tape will provide a sufficient seal for PVC, CPVC and PP threaded joints.

WARNING

Do not use "pipe dope", liquid sealant, or thread sealant on any PVC, CPVC, or Polypropylene, threaded connections. Pipe dope and thread sealants may react with the PVC, CPVC, or Polypropylene, weakening the material and potentially resulting in failure of the joint, product damage, property damage, personal injury, or even death.

- b) Thread the pipe end into the threaded ends of the valve until "hand tight". Using a strap wrench only (never use a pipe wrench), tighten the pipe into the end of the valve only to the point required to form a seal between the valve end and pipe thread; 1/2 turn past hand tight is typically sufficient to form a seal. **(Caution: Tightening beyond this point may introduce excessive stress that could cause failure of the valve end or the threaded end of the pipe.)**

INSTALLATION CONSIDERATIONS:

- a) Hayward NVA Series Needle Valves are designed to regulate, or meter, flow as well as to provide drop-tight shutoff.
- b) Hayward NVA Series Needle Valves are uni-directional. The direction of flow is critical to the proper and successful performance of the valve. **A FLOW ARROW ON THE BODY DESIGNATES THE PROPER INSTALLATION DIRECTION.** Installation of the valve in the flow direction indicated by the flow arrow on the valve body allows the flow to be accurately regulated as well as to achieve complete shutoff.

WARNING

Installation of the valve with the flow arrow on the body opposite to the direction of system flow may result in malfunction of the valve, potentially resulting in failure of the product, product damage, property damage, personal injury, or even death.

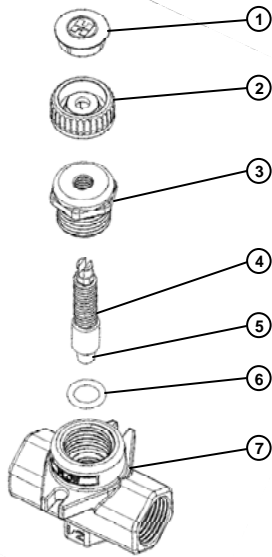
OPERATION:

- a) Operation of the Hayward NVA Series Needle Valve is achieved by clockwise rotation of the thumbwheel to decrease flow, or fully close the valve, and counterclockwise rotation of the thumbwheel to increase flow, or fully open the valve.
- b) The Hayward NVA Series Needle Valve can be used to meter flow. The stem will retain its set point once it is positioned to achieve a particular flow rate through the valve.

MAINTENANCE:

- a) The Hayward NVA Series Needle Valve is not intended to be repaired. Valves that are damaged during installation or operation should be replaced with a new valve.

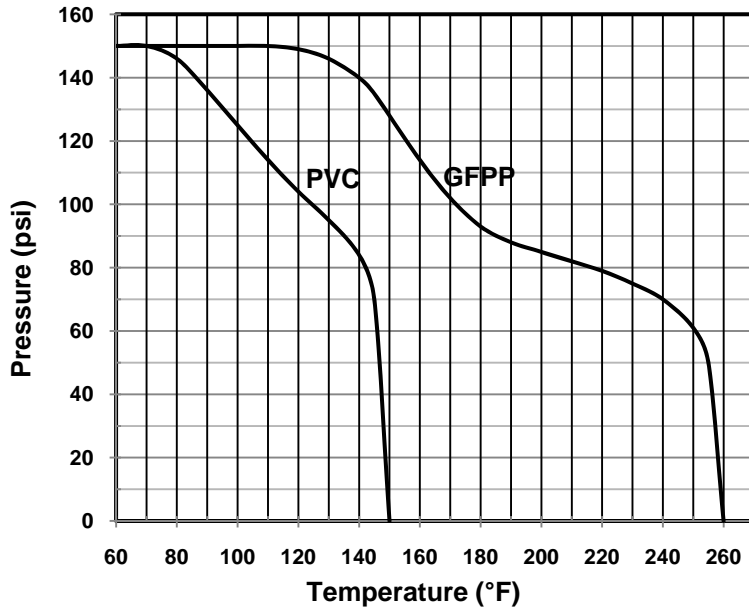
ASSEMBLY & PARTS LIST:



ITEM	DESCRIPTION
1	BEZEL
2	THUMBWHEEL
3	BONNET
4	STEM
5	SEAT
6	O-RING
7	BODY

PRESSURE & TEMPERATURE RATINGS:

- Pressure rating of PVC and GFPP products at 70°F: 150 psi
- Minimum service temperature of PVC and GFPP products: 34°F
- Maximum service temperature of PVC products: 140°F
- Maximum service temperature of GFPP products: 240°F



CHEMICAL COMPATIBILITY CHARTS:

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