Pentek 3/4" Valve-In-Head NPT

Pentair Pentek 150166 Valve-In-Head Filter Housing User Manual

Model: 3/4" Valve-In-Head NPT

1. Product Overview

The Pentair Pentek Valve-in-Head Filter Housing is designed for efficient water filtration in various applications, including residential, commercial, and industrial settings. This housing features an integrated valve-in-head mechanism that allows for simultaneous shut-off of both inlet and outlet ports with a simple half-turn of the handle, eliminating the need for external shut-off valves. Its robust construction ensures durability and chemical compatibility.

The housing is compatible with standard 2-3/8" to 2-7/8" diameter cartridges and is available in 10" and 20" lengths. A pressure-relief button is included on the inlet side to facilitate easy cartridge changes by relieving internal pressure.

Figure 1: Pentair Pentek 20-Inch Valve-In-Head Filter Housing (Black/Blue)

This image displays the Pentair Pentek 20-inch Valve-In-Head Filter Housing in black and blue, showcasing its tall, cylindrical design with a black valve head and a blue sump. The housing is designed to accommodate various filter cartridges.

2. Features and Benefits

- **Integrated Valve-in-Head:** Allows simultaneous shut-off of inlet and outlet ports with a half-turn of the handle, eliminating the need for external shut-off valves.
- **Pressure Relief Button:** Located on the inlet side, this button helps relieve pressure inside the housing, making filter cartridge changes easier and safer.
- **Leak-Proof Operation:** Radial sealing O-rings and sealing surfaces are continuously cleaned with valve use, ensuring a reliable, leak-free seal.
- **Durable Construction:** Molded from rugged reinforced polypropylene, offering excellent chemical compatibility and long-term durability.
- **Versatile Application:** Ideal for a wide range of low-flow applications including under-sink and countertop residential filtration, pre- and post-reverse osmosis filtration, recreational vehicle filtration, foodservice, and humidifying systems.
- **Cartridge Compatibility:** Accommodates a wide range of 2-3/8" to 2-7/8" diameter cartridges.
- **Available Sizes:** Offered in both 10" and 20" lengths to suit different filtration needs.

PENTEK VALVE-IN-HEAD (VIH) SERIES
FILTER HOUSINGS

IDEAL FOR A VARIETY OF APPLICATIONS INCLUDING RESIDENTIAL, COMMERCIAL AND INDUSTRIAL

Pentair‡ Pentek‡ Valve-in-Head Filter Housings incorporate the same rugged design and application features as our Standard 3/4" NPT Housings.

The internal valve-in-head allows both inlet and outlet ports to be simultaneously shut off with a half turn of the handle. This eliminates the need for external shut-off valves. Radial sealing O-rings and sealing surfaces are continuously cleaned each time the valve is used, ensuring leak-proof operation.

Valve-in-Head Filter Housings are available in both 10" and 20" lengths, and will accommodate a wide range of 2-3/8" to 2-7/8" diameter cartridges. The polypropylene caps feature a pressure-relief button on the inlet side to relieve pressure inside the housing when changing filter cartridges.

Opaque Valve-In-Head Filter Housings are molded from rugged reinforced polypropylene, offer outstanding chemical compatibility, and are ideal for use in a variety of low-flow applications. These applications include under-sink and countertop residential filtration, pre- and post-reverse osmosis filtration, recreational vehicle filtration, foodservice, and humidifying systems.

Clear Valve-In-Head Filter Housings offer on-site examination of flow, performance, and cartridge life. They are also ideal for a variety of applications.

FEATURES/BENEFITS

Ideal for a wide range of applications, including residential, commercial and industrial

Available in 10" and 20" lengths

Thick walls for increased strength

Pressure relief/bleed button on inlet side of cap

Leak-proof seal

Available with clear or opaque sumps

SPECIFICATIONS

Housing – Polypropylene (opaque) or Styrene Acrylonitrile (clear)

Cap – Reinforced polypropylene

Button Assembly – 300 Series stainless steel, EPDM, and polypropylene

Valve Parts – Delrin

O-Ring – Buna-N

Temperature Rating– 40-125°F (4.4-51.7°C)

Maximum Pressure – 125 psi (8.6 bar)

NSF COMPONENT

150164 is Tested and Certified by NSF International to NSF/ANSI Standard 42 for material and structural integrity requirements.

Figure 2: Pentek Valve-In-Head Filter Housings Overview

This image provides a detailed overview of the Pentek Valve-In-Head (VIH) Series Filter Housings, highlighting their features, benefits, and specifications. It shows both 10-inch and 20-inch models and explains the valve-in-head functionality and pressure relief button.

3. Installation Instructions

3.1 Safety Precautions

- Always turn off the main water supply before beginning installation.
- Depressurize the water lines before cutting or connecting pipes.
- Wear appropriate personal protective equipment, such as safety glasses.
- Ensure all connections are secure to prevent leaks.

3.2 Required Tools and Materials

- Pipe wrench or adjustable wrench
- Pipe cutter or hacksaw
- Teflon tape or pipe sealant
- Mounting bracket (if not already installed)
- Screws or bolts for mounting
- Drill (if mounting)

3.3 Installation Steps

1. **Choose Location:** Select a suitable location for the filter housing, ensuring it is easily accessible for maintenance and protected from freezing temperatures.
2. **Turn Off Water Supply:** Locate and turn off the main water supply valve to your home or the specific area where the filter will be installed.
3. **Depressurize System:** Open a nearby faucet to drain water from the pipes and relieve pressure.
4. **Cut Pipe:** Carefully cut the water pipe at the desired installation point. Ensure the cut is clean and straight.
5. **Mount Housing:** If using a mounting bracket, secure it to a sturdy surface using appropriate screws or bolts. Attach the filter housing to the bracket.
6. **Connect Plumbing:** Apply Teflon tape or pipe sealant to the threaded connections of the filter housing. Connect the inlet and outlet pipes to the corresponding ports on the filter housing. Ensure the flow direction is correct (usually indicated by an arrow on the housing head).
7. **Install Filter Cartridge:** Unscrew the sump (blue part) from the housing head. Insert the desired filter cartridge into the sump, ensuring it is properly seated. Lubricate the O-ring with a silicone-based lubricant if necessary, and place it correctly in its groove.
8. **Reassemble Housing:** Screw the sump back onto the housing head. Hand-tighten until snug, then use a filter wrench for an additional 1/4 to 1/2 turn to ensure a tight seal. Do not overtighten.
9. **Restore Water Supply:** Slowly turn on the main water supply. Check for any leaks around the connections. If leaks occur, turn off the water, depressurize, and re-tighten the connections.
10. **Flush System:** Open a nearby faucet to flush the system for a few minutes to remove any air or carbon fines (if using a carbon filter).

4. Operating Instructions

4.1 Valve-In-Head Operation

The unique valve-in-head design allows for convenient isolation of the filter housing without needing external shut-off valves. To operate:

- **Water Flow ON:** Ensure the handle on the valve-in-head is in the "ON" position (typically aligned with the direction of water flow).
- **Water Flow OFF:** To stop water flow to the housing, turn the handle 90 degrees (a quarter or half turn depending on the model) to the "OFF" position. This will simultaneously shut off both the inlet and outlet ports.

4.2 Pressure Relief Button

The pressure relief button is crucial for safe and easy cartridge replacement. Always use it before unscrewing the sump:

- After turning off the water supply to the housing using the valve-in-head, press and hold the red pressure relief button on the inlet side of the housing head until water stops flowing from it. This indicates that the pressure inside the housing has been relieved.

5. Maintenance

5.1 Filter Cartridge Replacement

Filter cartridges should be replaced regularly based on water quality and usage, typically every 3-6 months, or when a noticeable drop in water pressure occurs.

1. Turn the valve-in-head handle to the "OFF" position to stop water flow to the housing.
2. Press and hold the pressure relief button until all pressure is released.
3. Place a bucket or towel underneath the housing to catch any residual water.
4. Using a filter wrench, slowly unscrew the sump from the housing head.
5. Remove the old filter cartridge and dispose of it properly.
6. Clean the inside of the sump with warm, soapy water and rinse thoroughly. Inspect the O-ring for any cracks or damage. Replace if necessary.
7. Lubricate the O-ring with a food-grade silicone lubricant to ensure a good seal and prevent pinching. Place the O-ring back into its groove.
8. Insert the new filter cartridge into the sump, ensuring it is centered.
9. Screw the sump back onto the housing head. Hand-tighten until snug, then use the filter wrench for an additional 1/4 to 1/2 turn. Do not overtighten.
10. Slowly turn the valve-in-head handle to the "ON" position. Check for leaks.
11. Flush the system by opening a nearby faucet for several minutes to remove air and any loose filter media.

6. Troubleshooting

Problem	Possible Cause	Solution

Problem	Possible Cause	Solution
Water Leakage from Housing	◦ Improperly seated O-ring ◦ Damaged O-ring ◦ Sump not tightened sufficiently ◦ Cracked housing or head	◦ Turn off water, depressurize, remove sump, re-seat O-ring. ◦ Replace O-ring. ◦ Tighten sump with filter wrench (do not overtighten). ◦ Replace the housing.
Low Water Pressure	◦ Clogged filter cartridge ◦ Air trapped in housing ◦ Valve-in-head not fully open	◦ Replace filter cartridge. ◦ Press pressure relief button to release air, flush system. ◦ Ensure valve handle is fully in the "ON" position.
Pressure Relief Button Not Working	◦ Debris in button mechanism ◦ Button stuck	◦ Gently tap the button to dislodge debris. ◦ If persistent, contact a qualified plumber or Pentair support.

7. Specifications

Attribute	Detail
Model Number	3/4" Valve-In-Head NPT (Pentair Pentek 150166)
Material	Reinforced Polypropylene (Housing), Delrin (Valve Parts), Buna-N (O-Ring)
Inlet/Outlet Size	3/4" NPT
Dimensions (20-Inch Model)	Approx. 2.5"D x 2.5"W x 20"H (Product), 23 x 5.12 x 5.12 inches (Shipping)
Item Weight	4.7 Pounds
Maximum Pressure	125 psi (8.6 bar)
Temperature Rating	40-125°F (4.4-51.7°C)
External Testing Certification	NSF
Product Benefits	Reduces Sediment

8. Warranty and Support

Specific warranty details for this product are not provided in the available information. For warranty claims, technical support, or further inquiries, please contact Pentair customer service or visit the official Pentair website.

You can also visit the Pentek Store on Amazon for more information and related products.