

Rain Bird 077985029470

Rain Bird HV Series Inline Sprinkler Valve User Manual

MODEL: 077985029470

1. INTRODUCTION

The Rain Bird HV Series Inline Sprinkler Valve is engineered for reliable performance in irrigation systems. With over 50 years of valve design experience, Rain Bird offers a product known for its ease of maintenance and compact design, making it a preferred choice for both professionals and homeowners. This manual provides essential information for the proper installation, operation, and care of your HV Series valve.

2. KEY FEATURES

- **Eccentric Diaphragm:** Designed for smooth and consistent operation.
- **Durable Construction:** Features a glass-filled polypropylene body for FPT models and a durable PVC body for Slip models, ensuring strength and longevity.
- **Buna-N Balanced Pressure Diaphragm:** Provides reliable sealing and performance.
- **90 Mesh Filter:** Integrated for enhanced reliability and prevention of debris ingress.
- **Reverse Flow Normally Closed Design:** Ensures the valve closes securely when not in operation.
- **Easy Servicing:** Quick access to the diaphragm with only four captive, multi-drive screws (nut driver, Phillips, or slotted screwdriver compatible).
- **Manual Operation:** Includes both external bleed for manual flush and internal bleed for spray-free manual operation.
- **Controller Compatibility:** Compatible with most standard sprinkler controllers.

3. SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and longevity of your Rain Bird HV Series valve. If you are unsure about any steps, it is recommended to consult a qualified irrigation professional.

Installation Steps:

1. **Turn Off Water Supply:** Before beginning any work, ensure the main water supply to the irrigation system is completely shut off.
2. **Prepare Piping:** Cut and prepare the existing irrigation pipes where the valve will be installed. Ensure clean cuts and remove any burrs.
3. **Connect Valve:** For Slip models, apply appropriate PVC cement to the pipe ends and the valve's slip connections, then firmly push the pipes into the valve. For FPT (Female Pipe Thread) models, apply thread sealant tape or compound to the male pipe threads and screw them into the valve's female threads. Ensure connections are watertight.
4. **Wire Solenoid:** Connect the valve's solenoid wires to your sprinkler controller's common wire and zone wire, following the controller's specific wiring instructions. Ensure all electrical connections are secure and waterproof.
5. **Install Filter (if necessary):** If operating at low flows (below 3 GPM), install a 200 mesh filter upstream of the valve to prevent clogging and ensure proper function.
6. **Test System:** Slowly turn the main water supply back on. Check for leaks at all connections. Manually activate the valve using the bleed screw or through the controller to ensure it opens and closes correctly.



An image showing the Rain Bird HV Series Inline Sprinkler Valve, a black plastic unit with a solenoid and wiring on top, and threaded connections on either end for water flow. This illustrates the general appearance of the valve for installation reference.

4. OPERATING INSTRUCTIONS

The Rain Bird HV Series valve is designed for automatic operation via a sprinkler controller, but also offers manual control

options.

Automatic Operation:

Once properly wired to a compatible sprinkler controller, the valve will open and close automatically according to the programmed schedule. Refer to your sprinkler controller's manual for programming instructions.

Manual Operation:

- **External Bleed:** To manually open the valve and flush the system, slowly turn the external bleed screw (usually located on the solenoid or valve body) counter-clockwise until water begins to flow. Turn clockwise to close.
- **Internal Bleed:** For spray-free manual operation, the valve can be opened by turning the solenoid a quarter turn counter-clockwise. This allows water to bypass the diaphragm internally without external spray. Turn clockwise to return to automatic operation.

5. MAINTENANCE

The Rain Bird HV Series valve is designed for easy maintenance. Regular inspection and occasional cleaning can extend its lifespan and ensure consistent performance.

Diaphragm Access and Cleaning:

The valve's design allows for quick access to the diaphragm, which is the primary component for sealing and flow control. If the valve is not opening or closing properly, the diaphragm may need inspection or cleaning.

1. **Shut Off Water:** Always turn off the main water supply to the valve before performing any maintenance.
2. **Remove Screws:** The valve cover is secured by four captive, multi-drive screws. Use a nut driver, Phillips screwdriver, or slotted screwdriver to loosen and remove these screws.
3. **Inspect Diaphragm:** Carefully lift the valve cover and remove the diaphragm. Inspect it for any tears, cracks, debris, or mineral deposits. Clean the diaphragm and the valve body cavity thoroughly with clean water.
4. **Reassemble:** Place the diaphragm back into its correct position, ensuring it is seated properly. Replace the valve cover and tighten the four screws evenly to ensure a proper seal. Do not overtighten.
5. **Restore Water:** Slowly turn the water supply back on and check for leaks.

Note: If the valve continues to malfunction after cleaning, the diaphragm or solenoid may need replacement.

6. TROUBLESHOOTING

This section addresses common issues you might encounter with your Rain Bird HV Series valve.

Common Issues and Solutions:

- **Valve Does Not Open:**
 - Check if the main water supply is on.
 - Verify electrical connections to the solenoid and controller.
 - Ensure the controller is sending power to the correct zone.
 - Inspect the diaphragm for debris or damage (refer to Maintenance section).
 - Check if the solenoid is faulty (can be tested with a multimeter).
- **Valve Does Not Close (Constant Flow):**
 - Inspect the diaphragm for debris, tears, or improper seating. Even a small particle can prevent proper sealing.
 - Ensure the internal or external bleed screw is fully closed.

- Check for proper water pressure; very low or very high pressure can sometimes affect valve closure.
- Verify the solenoid is not stuck in the open position or faulty.

- **Leaks from Valve Body:**

- Check the tightness of the four cover screws. Tighten evenly.
- Inspect the diaphragm for damage or improper seating.
- Check the O-rings or gaskets if present around the solenoid or cover.

- **Low Flow/Pressure:**

- Check for blockages in the valve or piping.
- Ensure the upstream filter (if installed) is clean.
- Verify adequate main water supply pressure.

7. SPECIFICATIONS

Attribute	Detail
Model Number	077985029470
Material	Glass, Polypropylene, Polyvinyl Chloride
Inlet Connection Size	1 Inch
Inlet Connection Type	National Pipe Tapered (NPT) / Slip
Outlet Connection Size	1 Inch
Number of Ports	2
Valve Type	Diaphragm Valve
Product Dimensions (L x W x H)	5 x 4 x 6 inches
Item Weight	10.7 ounces
Manufacturer	Rain Bird

8. WARRANTY AND SUPPORT

Manufacturer's Warranty:

The Rain Bird HV Series Inline Sprinkler Valve comes with a **3-Year Manufacturer's Warranty**. This warranty covers defects in materials and workmanship under normal use and service.

Customer Support:

For technical assistance, troubleshooting beyond this manual, or warranty claims, please contact Rain Bird customer support directly. Refer to the official Rain Bird website or product packaging for the most current contact information.

Please retain your proof of purchase for warranty purposes.

