

RDH77XSR D150

Generic 6" DI D.D. Wafer Check Valve Instruction Manual

Model: RDH77XSR D150

1. INTRODUCTION

This manual provides essential information for the proper installation, operation, and maintenance of the Generic 6" Ductile Iron Double Disc Wafer Check Valve, Model RDH77XSR D150. Please read these instructions thoroughly before installation or use to ensure safe and efficient performance.

1.1 Product Overview

The 6" Ductile Iron Double Disc Wafer Check Valve is designed for reliable backflow prevention in various industrial and plumbing applications. It features a compact wafer design for easy installation between flanges and a dual-disc spring-loaded mechanism for quick closing, minimizing water hammer.

1.2 Key Features

- Durable Construction:** Manufactured from Ductile Iron ASTM A536, 65-45-12 for enhanced strength, pressure resistance, and longevity.
- Corrosion-Resistant Disc:** Equipped with a 316 Stainless Steel disc, ensuring excellent resistance to rust and chemical corrosion.
- Leak-Proof Sealing:** Features an EPDM seat for tight sealing performance and outstanding resistance to water and mild chemicals.
- Compact Wafer Design:** Facilitates easy installation between flanges, reducing space requirements and simplifying maintenance.
- Reliable Backflow Prevention:** A dual-disc spring-loaded mechanism ensures quick closing to prevent reverse flow and water hammer.



Figure 1: Generic 6 inch Ductile Iron Double Disc Wafer Check Valve. This image shows the overall design of the valve, highlighting its compact wafer style and robust construction.

2. SAFETY INFORMATION

Always observe general safety precautions when handling and installing industrial equipment. Failure to follow these instructions may result in property damage, injury, or death.

- Ensure the system is depressurized and drained before installation or maintenance.
- Wear appropriate personal protective equipment (PPE), including safety glasses, gloves, and protective clothing.
- Handle the valve with care to prevent damage to sealing surfaces or internal components.
- Do not exceed the specified working pressure or temperature range.
- Consult local codes and regulations for proper installation procedures.

3. COMPONENTS AND MATERIALS

The Generic 6" DI D.D. Wafer Check Valve is constructed from high-quality materials designed for durability and performance:

- **Body Material:** Ductile Iron ASTM A536, 65-45-12
- **Disc Material:** 316 Stainless Steel
- **Seat Material:** EPDM (Ethylene Propylene Diene Monomer)
- **Coating:** Fusion Bonded Epoxy Coating in accordance with ANSI/AWWA C550

4. SETUP AND INSTALLATION

Proper installation is crucial for the optimal performance and longevity of the check valve. This valve is designed for installation between flanges.

1. Preparation:

- Ensure the pipeline is clean and free of debris.
- Verify that the valve's specifications (size, pressure, temperature) match the system requirements.
- Confirm that the mating flanges are clean and properly aligned.

2. Orientation:

- Install the valve with the flow arrow on the valve body pointing in the direction of the intended flow.
- The valve can be installed in horizontal or vertical pipelines. For vertical installations, ensure the flow is upwards.

3. Placement:

- Carefully insert the wafer check valve between the two mating flanges.
- Ensure the valve is centered and the discs can open and close freely without obstruction from the pipe walls or flange bolts.

4. Bolting:

- Insert the flange bolts through the assembly.
- Tighten the bolts gradually and evenly in a crisscross pattern to ensure uniform compression of the gaskets and proper seating of the valve. Avoid over-tightening.
- Flange specifications: ASME B16.1 CL125, ASME B16.5 CL150.

5. Post-Installation Check:

- After installation, slowly pressurize the system and check for leaks.
- Observe the valve's operation during initial system startup.

5. OPERATION

The Generic 6" DI D.D. Wafer Check Valve is an automatic flow control device. It operates by allowing fluid to flow in one direction and preventing backflow in the opposite direction.

- **Forward Flow:** When fluid flows in the designated direction, the pressure of the fluid pushes the dual discs open against the spring tension, allowing flow through the valve.

- **Backflow Prevention:** If the flow stops or reverses, the spring tension, combined with the back pressure of the fluid, forces the discs closed against the EPDM seat, preventing reverse flow and protecting upstream equipment.
- **Working Pressure:** Up to 300 PSI.
- **Temperature Range:** 0°C - 80°C.
- **Tamper Switch:** Normally Open and Closed options are available for monitoring valve position (if equipped).

6. MAINTENANCE

The Generic 6" DI D.D. Wafer Check Valve is designed for minimal maintenance. Regular inspection is recommended to ensure continued reliable operation.

- **Periodic Inspection:** Regularly inspect the valve for external leaks, corrosion, or signs of damage.
- **Operational Check:** Periodically verify that the valve is opening and closing correctly by observing system pressure and flow.
- **Cleaning:** If the system fluid contains particulates, periodic flushing of the pipeline may be necessary to prevent debris accumulation around the discs and seat.
- **Replacement:** If the valve shows signs of significant wear, damage, or consistent leakage, it should be replaced. Internal components are generally not field-serviceable.

7. TROUBLESHOOTING

This section addresses common issues that may arise during the operation of the check valve.

Problem	Possible Cause	Solution
Valve not closing completely (backflow)	<ul style="list-style-type: none">• Debris lodged in the seat.• Damaged EPDM seat or disc.• Weak or broken spring.	<ul style="list-style-type: none">• Flush the system to remove debris.• Inspect and replace the valve if components are damaged.
Valve not opening fully (restricted flow)	<ul style="list-style-type: none">• Insufficient upstream pressure.• Debris obstructing disc movement.• Incorrect installation (e.g., misaligned).	<ul style="list-style-type: none">• Verify system pressure.• Flush the system.• Re-check installation and alignment.
External leakage	<ul style="list-style-type: none">• Improperly tightened flange bolts.• Damaged flange gaskets.• Cracked valve body.	<ul style="list-style-type: none">• Re-tighten flange bolts evenly.• Replace flange gaskets.• Replace the valve if the body is cracked.

For issues not covered here, or if troubleshooting steps do not resolve the problem, contact customer support.

8. SPECIFICATIONS

Attribute	Detail
Model Number	RDH77XSR D150
Size	6 inches (Available sizes: 2" - 12")
Body Material	Ductile Iron ASTM A536, 65-45-12
Disc Material	316 Stainless Steel
Seat Material	EPDM
Design Standard	MSS SP-67
Top Flange Standard	ISO 5211
Working Pressure	300 PSI
Temperature Range	0°C - 80°C (32°F - 176°F)
Coating	Fusion Bonded Epoxy Coating (ANSI/AWWA C550)
Flange Specification	ASME B16.1 CL125, ASME B16.5 CL150
Manufacturer	NASCO Supply LLC

9. WARRANTY AND SUPPORT

This product comes with a **1 Year Warranty** from the date of purchase, covering defects in materials and workmanship under normal use and service.

For warranty claims, technical assistance, or support, please contact NASCO Supply LLC, the manufacturer. Ensure you have your model number (RDH77XSR D150) and purchase details available when contacting support.

Manufacturer: NASCO Supply LLC

For further assistance, please refer to the contact information provided at the point of purchase or on the manufacturer's official website.