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› SIMMONS 504SB 1-1/4 Inch FPT Silicon Bronze Check Valve Instruction Manual

SIMMONS 504SB

SIMMONS 504SB 1-1/4 Inch FPT Silicon Bronze Check Valve Instruction Manual

Brand: SIMMONS | Model: 504SB

1. INTRODUCTION

This manual provides essential information for the safe and effective installation, operation, and maintenance of your SIMMONS 504SB 1-1/4 Inch FPT Silicon Bronze Check Valve. Please read these instructions thoroughly before installation and retain for future reference.

1.1 Product Overview

The SIMMONS 504SB is a robust check valve designed to allow fluid flow in one direction only, preventing backflow in various systems. It features a durable silicon bronze cast body, a stainless steel spring, washer, and locknut, and a Buna-N O-ring for reliable sealing. This valve is suitable for use with water, oil, and gas, and is specifically designed for well water systems.



Figure 1: Side view of the SIMMONS 504SB 1-1/4 Inch FPT Silicon Bronze Check Valve, showing the threaded connections and overall bronze construction.

1.2 What's in the Box

- One (1) SIMMONS 504SB 1-1/4 Inch FPT Silicon Bronze Check Valve

The valve is typically packaged in a box indicating the brand, size, and model number. The packaging also includes important warnings regarding improper use or installation, such as the one shown on the product box for the SIMMONS 1 1/4" Check Valve 504-SB, which states "For use in cold water systems only. Improper use or installation may cause property damage or personal injury."

2. SAFETY INFORMATION

WARNING: Improper use or installation of this check valve may cause property damage or personal injury. Always follow local plumbing codes and safety regulations.

- Ensure the system pressure does not exceed the maximum operating pressure of the valve (400 PSI for valves up to 1-1/2 inches).
- Always depressurize the system before attempting installation, maintenance, or removal of the valve.
- Wear appropriate personal protective equipment (PPE), such as safety glasses and gloves, during installation and maintenance.
- The valve body is made of silicon bronze, which contains less than 0.05% lead, meeting NSF/ANSI 372 standards for lead content.
- Do not use this valve for applications beyond its specified pressure, temperature, or media compatibility.

3. SETUP AND INSTALLATION

Proper installation is crucial for the correct function and longevity of the check valve.

3.1 Pre-Installation Checks

- Verify that the valve size (1-1/4 inch) and connection type (FPT - Female Pipe Thread) match your system requirements.
- Inspect the valve for any visible damage or debris.
- Ensure the system is clean and free of foreign particles that could impede valve operation.

3.2 Installation Steps

1. **Depressurize System:** Shut off the main water supply and drain the system to relieve pressure.
2. **Prepare Connections:** Apply appropriate thread sealant (e.g., PTFE tape or pipe dope) to the male pipe threads that will connect to the valve's FPT ends.
3. **Orient Valve:** Identify the flow direction arrow on the valve body. Install the valve so that the arrow points in the direction of desired flow. Check valves are designed for specific flow direction and will not function correctly if installed backward.
4. **Thread Valve:** Carefully thread the valve onto the pipe connections. Hand-tighten first, then use a wrench to tighten securely. Avoid over-tightening, which can damage threads or the valve body.
5. **Leak Check:** Slowly restore system pressure and carefully inspect all connections for leaks. Tighten any leaking connections as necessary.

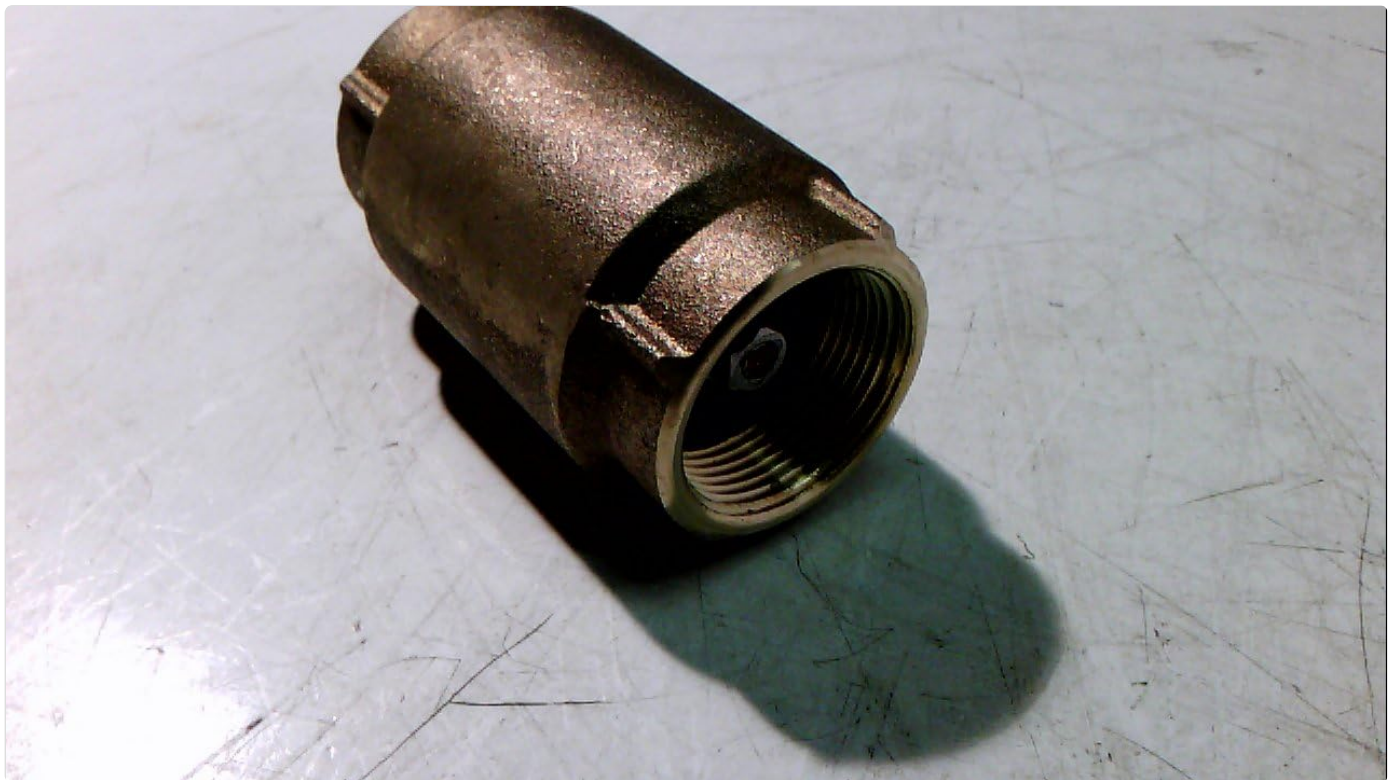


Figure 2: Angled view of the SIMMONS 504SB Check Valve, highlighting the internal mechanism and threaded ends for connection. This image shows the bronze construction and the hexagonal recess for the internal poppet.

4. OPERATING INSTRUCTIONS

The SIMMONS 504SB check valve operates automatically based on fluid pressure differentials.

- When fluid pressure on the inlet side exceeds the pressure on the outlet side and the spring force, the valve's poppet opens, allowing flow.
- When the flow stops or reverses, the spring and back pressure on the outlet side push the poppet back into its seat, closing the valve and preventing backflow.

- This valve is designed for use in systems handling water, oil, and gas.

5. MAINTENANCE

The SIMMONS 504SB check valve is designed for long-lasting use with minimal maintenance. However, periodic inspection is recommended to ensure optimal performance.

- **Visual Inspection:** Periodically check the exterior of the valve for any signs of corrosion, damage, or leaks.
- **Flow Check:** Monitor system flow to ensure the valve is opening and closing correctly. Reduced flow or persistent backflow may indicate an issue.
- **Internal Components:** If internal inspection or repair is required, the system must be fully depressurized and drained. The valve can be disassembled by unscrewing the end connections. Inspect the Buna-N O-ring, stainless steel spring, and poppet for wear or damage. Replace components as needed with genuine SIMMONS parts.

6. TROUBLESHOOTING

Refer to the following table for common issues and their potential solutions.

Problem	Possible Cause	Solution
No flow or significantly reduced flow	Valve installed backward; debris obstructing poppet; damaged spring.	Verify flow direction arrow and reinstall if necessary; depressurize, disassemble, clean debris, and inspect internal components.
Backflow occurring	Poppet not seating properly due to debris; worn or damaged O-ring; damaged poppet or seat.	Depressurize, disassemble, clean debris, inspect and replace O-ring or other damaged internal components.
Leakage at connections	Improperly tightened connections; insufficient thread sealant; damaged threads.	Depressurize, re-apply thread sealant, and re-tighten connections. If threads are damaged, replace the affected pipe section or valve.

7. SPECIFICATIONS

Feature	Detail
Model Number	504SB
Size	1-1/4 Inch
Connection Type	FPT (Female Pipe Thread), National Pipe Tapered
Maximum Operating Pressure	400 PSI (for 1-1/2 inch and smaller valves)
Body Material	Silicon Bronze Cast (less than 0.05% lead)
Internal Components	Stainless Steel Spring, Washer, Locknut
Sealing Material	Buna-N O-ring

Feature	Detail
Overall Length	Approximately 3-3/4 inches
Overall Width	Approximately 2-1/4 inches
Product Dimensions (L x W x H)	3 x 3 x 5 inches
Item Weight	1.6 pounds
Manufacturer	SIMMONS
UPC / GTIN	008391019205
Certification	NSF/ANSI 372 (Lead-Free Compliance)

8. WARRANTY AND SUPPORT

Specific warranty terms for the SIMMONS 504SB check valve are typically provided at the point of purchase or by the manufacturer. Please retain your proof of purchase for warranty claims.

For technical support, replacement parts, or warranty inquiries, please contact your authorized SIMMONS dealer or the manufacturer directly. Contact information can usually be found on the product packaging or the manufacturer's official website.

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Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

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