

## Swagelok SS-43GXS4

# Swagelok SS-43GXS4 3-Way Ball Valve

## INSTRUCTION MANUAL

### 1. Introduction

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This manual provides essential information for the safe and effective installation, operation, and maintenance of the Swagelok SS-43GXS4 3-Way Ball Valve. Please read this manual thoroughly before using the product to ensure proper handling and to prevent potential hazards or damage.

### 2. Safety Information

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**WARNING: Improper installation, operation, or maintenance can lead to serious injury or property damage. Always follow industry best practices and local regulations.**

- Ensure the system is depressurized and drained before installation or maintenance.
- Verify material compatibility of the valve with the system media. The valve is constructed from stainless steel.
- Do not exceed the maximum pressure rating of 2500 PSIG at 100°F (172 Bar at 37°C).
- Wear appropriate personal protective equipment (PPE) during installation and operation.
- Consult a qualified professional for any procedures beyond the scope of this manual.

### 3. Product Overview

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The Swagelok SS-43GXS4 is a high-quality 3-way ball valve designed for reliable flow control in various industrial applications. It features a durable stainless steel construction and compression fittings for secure connections.



This image displays the Swagelok SS-43GXS4 3-Way Ball Valve. It is constructed from stainless steel, featuring a cubic body with three ports and a black lever handle for operation. The Swagelok logo is visible on the valve body.

#### Key Features:

- **Material:** Stainless Steel
- **Number of Ports:** 3
- **Inlet Connection Size:** 0.44 Inches (7/16"-20" Fine Thread)
- **Outlet Connection Size:** 0.25 Inches
- **Connection Type:** Compression
- **Pressure Rating:** 2500 PSIG @ 100°F (172 Bar @ 37°C)

#### 4. Setup and Installation

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Proper installation is crucial for the valve's performance and safety. Follow these general guidelines:

1. **System Preparation:** Ensure the system is clean, free of debris, and depressurized.
2. **Connection:** Connect the valve to the system piping using appropriate compression fitting techniques. Ensure tubing ends are properly prepared (cut square, deburred).
3. **Tightening:** Follow Swagelok's recommended tightening procedures for compression fittings to achieve

a leak-tight seal. Overtightening or undertightening can lead to leaks.

4. **Orientation:** Install the valve in an orientation that allows for easy access to the handle and clear indication of flow direction.
5. **Support:** Provide adequate support for the valve and connected tubing to prevent stress on the connections.
6. **Leak Test:** After installation, slowly pressurize the system and perform a leak test using a suitable leak detection solution.

## 5. Operating Instructions

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The Swagelok SS-43GXS4 is a 3-way ball valve, meaning it can direct flow between three ports. The handle position indicates the flow path.

- **Handle Position:** The handle typically aligns with the port(s) that are open. For a 3-way valve, the handle will point towards the port that is *closed*, or indicate the direction of flow between two ports while blocking the third. Refer to the valve body markings for specific flow configurations (e.g., L-port or T-port flow paths).
- **Actuation:** To change the flow path, rotate the handle 90 degrees. Ensure the handle is fully engaged in the desired position.
- **Flow Control:** This valve is designed for on/off service and flow diversion, not for throttling or flow regulation.
- **Temperature and Pressure:** Operate the valve within its specified temperature and pressure limits to prevent damage and ensure safety.

## 6. Maintenance

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Regular inspection and maintenance can extend the life of your Swagelok valve. This valve is generally designed for minimal maintenance, but periodic checks are recommended.

- **Visual Inspection:** Periodically inspect the valve for signs of external leakage, corrosion, or damage to the body or handle.
- **Functionality Check:** Ensure the handle operates smoothly and fully engages in its positions. If the handle is stiff or difficult to turn, do not force it.
- **Cleaning:** Keep the exterior of the valve clean. Avoid using harsh chemicals that may damage the stainless steel or seals.
- **Seal Replacement:** Internal seals may degrade over time depending on service conditions. For internal maintenance or seal replacement, it is recommended to contact Swagelok or a certified service technician. Do not attempt to disassemble the valve without proper training and tools.

## 7. Troubleshooting

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This section addresses common issues that may arise during the use of the Swagelok SS-43GXS4 valve.

- **Leakage at Connections:**
  - Ensure compression fittings are properly tightened according to Swagelok specifications.
  - Check for damaged tubing or fitting components.
  - Verify that the system pressure does not exceed the valve's rating.
- **Valve Difficult to Operate (Stiff Handle):**
  - Do not force the handle.

- The valve may require servicing or replacement if internal components are seized or damaged.
  - Ensure the valve is not subjected to extreme temperatures outside its operating range.
- **No Flow or Restricted Flow:**
    - Verify the handle is in the correct position for the desired flow path.
    - Check for blockages in the system or within the valve.

For persistent issues or problems not listed here, contact Swagelok technical support.

## 8. Specifications

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Specification	Detail
Model Number	SS-43GXS4
Material	Stainless Steel
Number of Ports	3
Inlet Connection Size	0.44 Inches (7/16"-20" Fine Thread)
Inlet Connection Type	Compression
Outlet Connection Size	0.25 Inches
Outlet Connection Type	Compression
Maximum Pressure Rating	2500 PSIG @ 100°F (172 Bar @ 37°C)
Item Dimensions (L x W x H)	1 x 3 x 3 inches
Item Weight	5 ounces
Specification Met	RWC, SS

## 9. Warranty and Support

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For information regarding product warranty, technical support, or service, please contact Swagelok directly through their official website or authorized distributors. Provide your product model number (SS-43GXS4) and purchase details when seeking assistance.