

FESTO VSVA-B-T32U-AZH-A1-1AC1

FESTO VSVA-B-T32U-AZH-A1-1AC1 547110 Air Solenoid Valve Instruction Manual

1. INTRODUCTION

This instruction manual provides essential information for the safe and efficient installation, operation, and maintenance of the FESTO VSVA-B-T32U-AZH-A1-1AC1 547110 Air Solenoid Valve. Please read this manual thoroughly before using the product to ensure proper function and to prevent potential hazards.

2. SAFETY INFORMATION

Always adhere to local safety regulations and general engineering practices when working with pneumatic components. Failure to follow these instructions may result in injury or damage to the equipment.

- Ensure the system is depressurized and de-energized before installation, maintenance, or repair.
- Only qualified personnel should install, operate, and maintain this valve.
- Do not exceed the specified operating pressure or voltage.
- Protect the valve from contamination, moisture, and extreme temperatures.
- Use appropriate personal protective equipment (PPE).

3. PRODUCT OVERVIEW

The FESTO VSVA-B-T32U-AZH-A1-1AC1 547110 is a high-performance air solenoid valve designed for precise control in pneumatic systems. It features a compact design and robust construction for reliable operation.

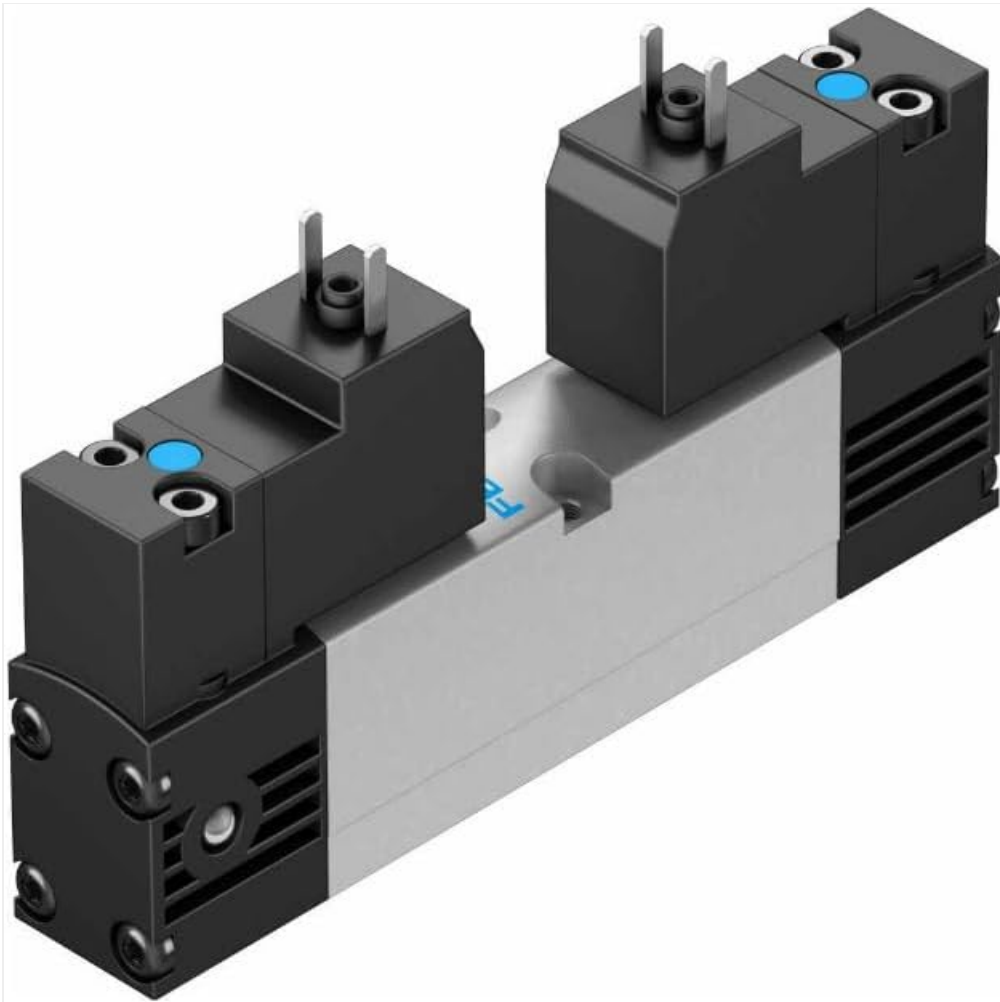


Figure 3.1: Isometric view of the FESTO VSVA-B-T32U-AZH-A1-1AC1 547110 Air Solenoid Valve, showing its compact design with two black solenoid coils mounted on a silver-colored valve body. The coils have electrical connections and blue indicator dots.

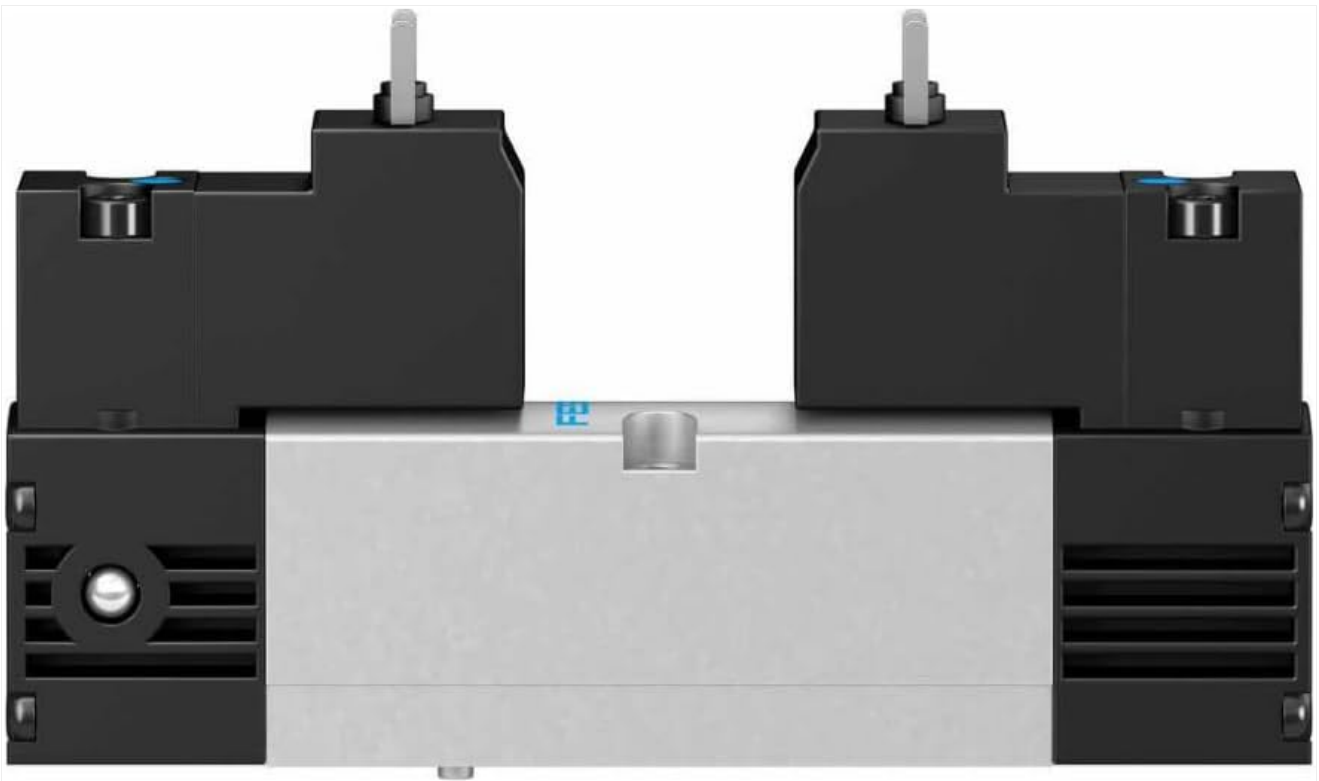


Figure 3.2: Front view of the FESTO VSVA-B-T32U-AZH-A1-1AC1 547110 Air Solenoid Valve, highlighting the two black solenoid coils with their electrical terminals extending upwards. The silver valve body is visible between and below the coils.



Figure 3.3: Side profile view of one end of the FESTO VSVA-B-T32U-AZH-A1-1AC1 547110 Air Solenoid Valve, showing the black solenoid coil and the mounting screws on the side of the valve body.

4. SETUP AND INSTALLATION

Proper installation is crucial for the valve's performance and longevity. This valve is designed for mounting on a sub-base.

4.1 Mounting

1. Ensure the mounting surface is clean and flat.
2. Mount the valve securely onto the designated sub-base. The maximum tightening torque for valve mounting is **2 Nm**.
3. The valve can be mounted in **any position**.

4.2 Pneumatic Connections

- Connect pneumatic lines to the G1/4 ports on the sub-base, ensuring all connections are tight and leak-free.
- The pneumatic working port is G1/4, compatible with sub-bases of size 26 mm as per ISO 15407-1 and Size 01 as per VDMA 24563.
- Auxiliary pilot air ports 12 and 14 are also sub-base, size 26 mm as per ISO 15407-1.
- Pilot exhaust air ports 82/84 can be ducted or not ducted as per standard.

4.3 Electrical Connections

- Connect the electrical supply to the solenoid coils. The electrical connection is **Form C as per DIN EN**

175301-803, without PE conductor.

- The operating voltage is **24V AC**.
- Ensure the power supply matches the valve's specifications (24 V AC: 50/60 Hz, initial power 3.1 VA, holding power 2.3 VA).
- Permissible voltage fluctuations are -15% / +10%.

5. OPERATING INSTRUCTIONS

The VSVA-B-T32U-AZH-A1-1AC1 is a 2x3/2, open, monostable, pilot-controlled valve with electrical actuation.

- **Actuation:** The valve is actuated electrically. Applying the specified voltage to the solenoid coil will shift the valve position.
- **Reset Method:** The valve resets via a pneumatic spring when the electrical signal is removed.
- **Manual Override:** A non-detenting manual override is available for testing or emergency situations.
- **Signal Status Display:** An LED indicator provides visual confirmation of the valve's signal status.
- **Operating Medium:** Use compressed air as per ISO 8573-1:2010 [7:4:4]. Operation with oil lubrication is possible (required for further use).

6. MAINTENANCE

Regular maintenance ensures optimal performance and extends the lifespan of the valve.

- **Inspection:** Periodically inspect the valve and connections for leaks, damage, or wear.
- **Cleaning:** Keep the valve and surrounding area clean. Avoid using harsh chemicals that could damage the housing or seals.
- **Air Quality:** Ensure the compressed air supply meets the specified quality standards to prevent internal contamination.
- **Replacement:** If any part of the valve is damaged or worn, replace it with genuine FESTO spare parts.

7. TROUBLESHOOTING

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

| Problem | Possible Cause | Solution |
|-----------------------|--|--|
| Valve does not switch | No electrical signal; Incorrect voltage; Low pilot pressure; Contamination | Check electrical connections and power supply; Verify pilot pressure (3-10 bar); Check air quality and clean if necessary. |
| Air leakage | Loose pneumatic connections; Damaged seals | Tighten connections; Inspect and replace seals if damaged. |
| Slow response | Low operating pressure; Contamination; Incorrect pilot air supply | Verify operating pressure (2-10 bar); Check air quality; Ensure pilot air supply is external and correct. |

8. TECHNICAL SPECIFICATIONS

Detailed technical data for the FESTO VSVA-B-T32U-AZH-A1-1AC1 547110 Air Solenoid Valve.

| Parameter | Value |
|--|---|
| Valve function | 2x3/2, open, monostable |
| Lap | Overlap |
| Actuation type | Electrical |
| Valve size | 26 mm |
| Standard nominal flow rate | 900 l/min |
| Pneumatic working port | G1/4, Sub-base, size 26 mm as per ISO 15407-1, Size 01 sub-base as per VDMA 24563 |
| Operating voltage | 24V AC |
| Operating pressure | 2 bar ... 10 bar |
| Design | Piston gate valve |
| Reset method | Pneumatic spring |
| Degree of protection | IP65, NEMA 4 |
| Nominal width | 9 mm |
| Type code | VSVA |
| Exhaust air function | With flow control option |
| Sealing principle | Soft |
| Mounting position | Any |
| Conforms to standard | VDMA 24563, ISO 15407-1 |
| Manual override | Non-detenting |
| Type of control | Pilot-controlled |
| Pilot air supply port | External |
| Flow direction | Non-reversible |
| Symbol | 00991819 |
| Signal status display | LED |
| Pilot pressure | 3 bar ... 10 bar |
| Flow rate of pneumatic valve | 1250 l/min |
| Flow rate of pneumatic valve on individual sub-base | 1000 l/min |
| Optimized flow rate of pneumatic valve pneumatically concatenated flow | 900 l/min |

| Parameter | Value |
|---|--|
| Switching time off | 28 ms |
| On switching time | 20 ms |
| Duty cycle | 100% |
| Coil characteristics | 24 V AC: 50/60 Hz, initial power 3.1 VA, holding power 2.3 VA |
| Permissible voltage fluctuations | -15 % / +10 % |
| Operating medium | Compressed air as per ISO 8573-1:2010 [7:4:4] |
| Information on operating and pilot media | Operation with oil lubrication possible (required for further use) |
| Vibration resistance | Transport application test with severity level 2 as per FN 942017-4 and EN 60068-2-6 |
| Shock resistance | Shock test with severity level 2 as per FN 942017-5 and EN 60068-2-27 |
| Corrosion resistance class (CRC) | 0 - No corrosion stress |
| Temperature of medium | -5 °C ... 50 °C |
| Relative air humidity | 0 - 90 % |
| Noise level | 85 dB(A) |
| Pilot medium | Compressed air as per ISO 8573-1:2010 [7:4:4] |
| Ambient temperature | -5 °C ... 50 °C |
| Max. tightening torque for valve mounting | 2 Nm |
| Product weight | 305 g |
| Electrical connection | Form C as per DIN EN 175301-803, Without PE conductor |
| Type of mounting | On sub-base |
| Auxiliary pilot air port 12 | Sub-base, size 26 mm as per ISO 15407-1 |
| Auxiliary pilot air port 14 | Sub-base, size 26 mm as per ISO 15407-1 |
| Pilot exhaust air port 82/84 | Not ducted as per standard, Ducted |
| Pneumatic connection 1 | Sub-base, size 26 mm as per ISO 15407-1 |
| Pneumatic connection 2 | Sub-base, size 26 mm as per ISO 15407-1 |
| Pneumatic connection 3 | Sub-base, size 26 mm as per ISO 15407-1 |
| Pneumatic connection 4 | Sub-base, size 26 mm as per ISO 15407-1 |
| Pneumatic connection 5 | Sub-base, size 26 mm as per ISO 15407-1 |
| Pilot interface | as per ISO 15218 |

| Parameter | Value |
|--------------------|-------------------|
| Note on materials | RoHS-compliant |
| Seals material | HNBR, NBR |
| Housing material | Die-cast aluminum |
| Material of screws | Steel, Galvanized |

9. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact your FESTO distributor or visit the official FESTO website. Ensure you have your product model number (VSVA-B-T32U-AZH-A1-1AC1) and manufacturer part number (547110) available when seeking support.