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Baomain 4V210-08

Baomain 4V210-08 Electric Solenoid Valve Instruction Manual

Model: 4V210-08

1. Product Overview

The Baomain 4V210-08 is a single, pilot-operated electric solenoid valve designed for pneumatic systems. It features a 2-Position, 5-Way configuration, making it suitable for controlling double-acting cylinders. Constructed from durable aluminum alloy, this valve operates on 110V AC and is engineered for reliable performance in various industrial applications.

Key Features:

- **Single Solenoid Valve:** Designed for individual installation or integration into custom manifold setups.
- **Standardized Ports:** Equipped with 1/4" PT inlet and outlet ports, and 1/8" PT exhaust ports for compatibility with standard pneumatic systems.
- **2-Position, 5-Way Design:** Provides essential control for double-acting pneumatic cylinders.
- **110V AC Operation:** Features energy-efficient pure copper coils for stable performance and reduced heat build-up.
- **Durable Construction:** Aluminum alloy body ensures lightweight strength and corrosion resistance.

Figure 1: Baomain 4V210-08 Electric Solenoid Valve. This image displays the main product view, highlighting the model number, pressure range, and electrical specifications.

2. Setup and Installation

Proper installation is crucial for the safe and efficient operation of the solenoid valve. Ensure all connections are secure and leak-free.

2.1 Port Connections

The valve features clearly marked ports for inlet, outlet, and exhaust. Refer to the diagram below for port identification and typical pneumatic circuit connection.

- **P Port:** Pressure inlet (1/4" PT)
- **A & B Ports:** Outlet ports to pneumatic cylinder (1/4" PT)
- **R & S Ports:** Exhaust ports (1/8" PT)

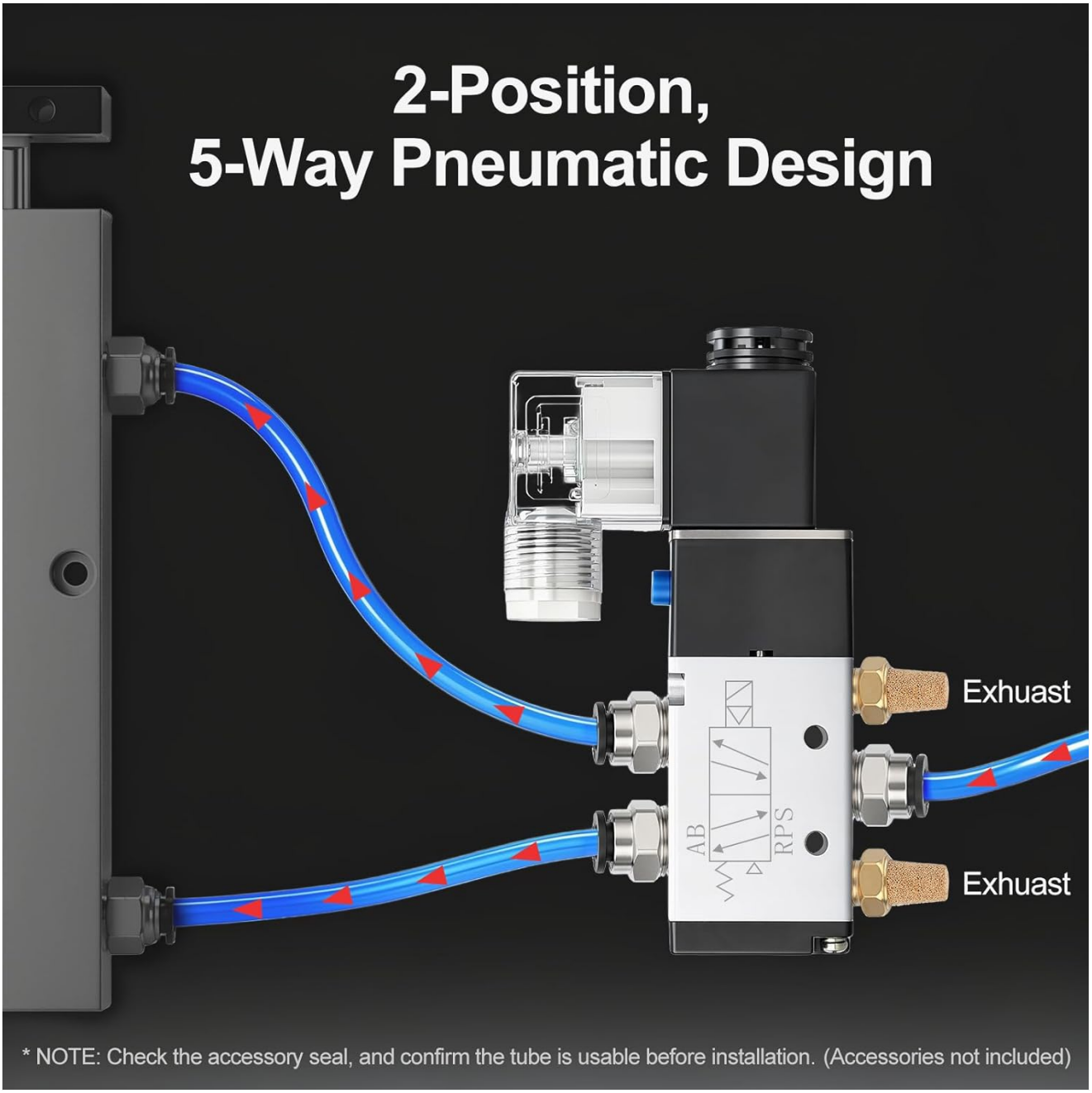

Figure 2: 2-Position, 5-Way Pneumatic Design. This diagram shows the valve's port configuration and how air flows to control a double-acting cylinder. Ensure accessory seals are checked and tubes are usable before installation.

Figure 3: Precision Threads. A close-up of the valve's threaded ports, designed for a secure and leak-free connection with fittings.

2.2 Electrical Wiring

The solenoid valve operates on 110V AC. Connect the power supply to the lampshade junction box according to the wiring diagram. Ensure power is disconnected before performing any wiring.

- **L (Input+):** Connect to the live (hot) wire of the 110V AC supply.
- **N (Input-):** Connect to the neutral wire of the 110V AC supply.
- **Ground Wire:** Connect to a proper ground for safety.

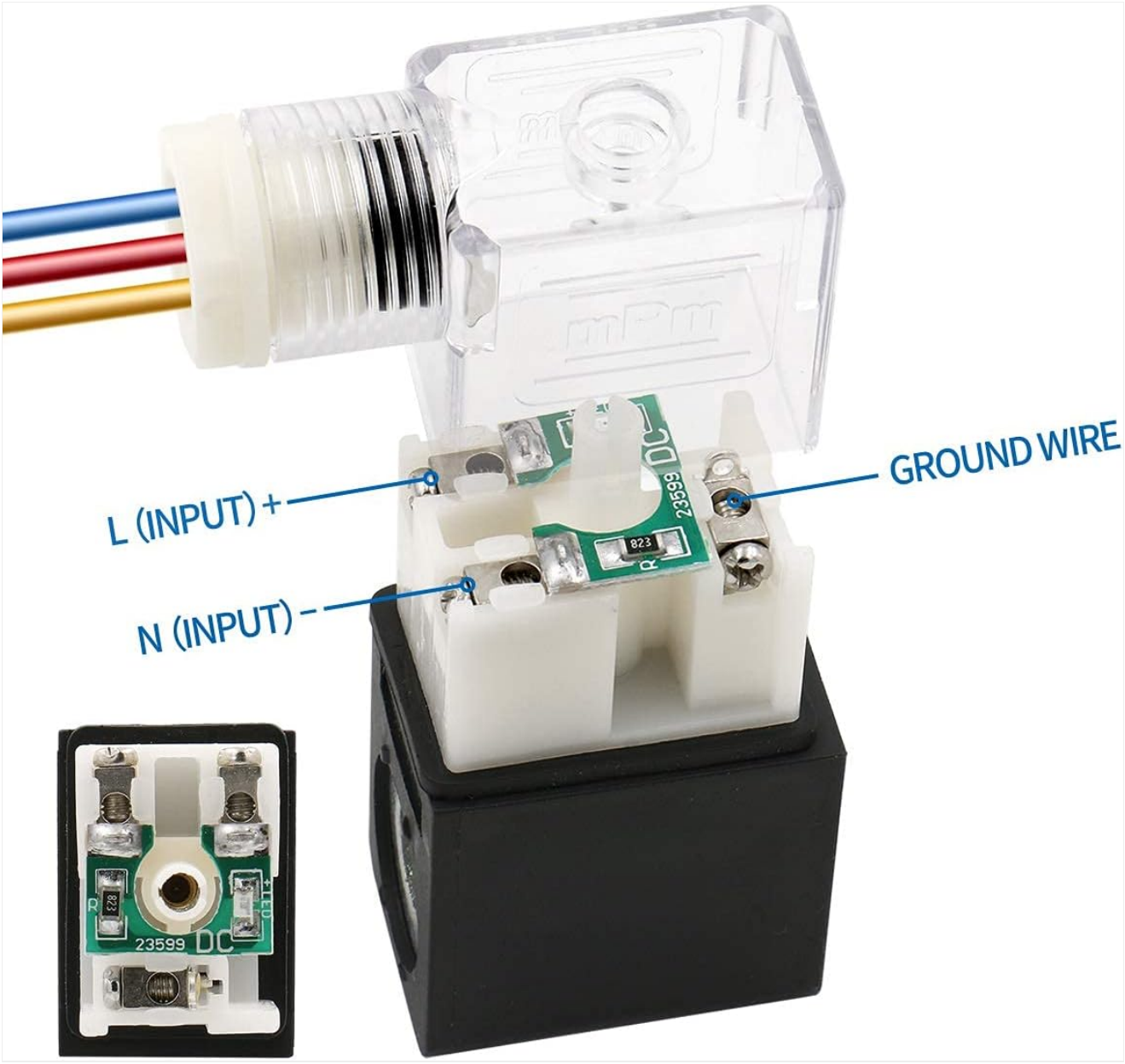

Figure 4: Electrical Wiring Diagram. This image illustrates the correct connections for the 110V AC power supply to the solenoid valve's junction box.

2.3 General Installation Tips

- Mount the valve securely in a location protected from excessive vibration, moisture, and extreme temperatures.
- Use appropriate thread sealant (e.g., PTFE tape) on all threaded connections to prevent air leaks.
- Ensure the air supply is clean and dry to prevent contamination of internal components.

3. Operating Instructions

The Baomain 4V210-08 is a pilot-operated solenoid valve. When electrical power is applied to the coil, the valve shifts its internal mechanism, directing air flow to the connected pneumatic device.

3.1 Basic Operation

1. Ensure the pneumatic system is pressurized within the specified operating range (0.15-0.8 MPa).
2. Apply 110V AC power to the solenoid coil. The valve will shift to its actuated position, directing air from the P port to one of the A or B ports, while exhausting the other.
3. Remove 110V AC power from the solenoid coil. The valve will return to its de-actuated (spring return) position, reversing the air flow.

This 2-Position, 5-Way functionality allows for precise control of double-acting cylinders, extending or retracting them as required by the application.

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Video 1: Baomain 4V210-08 Electric Solenoid Valve Overview. This video demonstrates the features and operational principles of the solenoid valve.

4. Maintenance

Regular maintenance ensures the longevity and optimal performance of your solenoid valve.

4.1 General Maintenance

- **Cleanliness:** Keep the valve and surrounding area clean and free from dust, debris, and moisture.
- **Air Quality:** Ensure the compressed air supply is filtered and dry. Contaminants can cause premature wear and malfunction.
- **Connections:** Periodically check all pneumatic and electrical connections for tightness and signs of wear.
- **Seals:** The valve features durable sealing rings for continuous operation. If air leaks are detected, inspect seals for damage or wear.

Figure 5: Internal Components. This image shows the pure copper coil and durable sealing rings, which contribute to the valve's smooth and reliable operation.

4.2 Disassembly and Reassembly

If internal inspection or component replacement is necessary, refer to the product structure breakdown. Disassembly should only be performed by qualified personnel with appropriate tools.

Figure 6: Product Structure Breakdown. An exploded view detailing the valve's components, including the pilot head, aluminum piston, and coil assembly.

5. Troubleshooting

This section provides solutions to common issues encountered with the solenoid valve.

Problem	Possible Cause	Solution
Valve does not actuate when power is applied.	• No power to coil. • Incorrect voltage. • Damaged coil. • Low air pressure.	• Check electrical connections and power supply. • Verify 110V AC supply. • Test coil continuity; replace if open or shorted. • Ensure air pressure is within 0.15-0.8 MPa.

Problem	Possible Cause	Solution
Air leaks from ports or body.	• Loose fittings. • Damaged O-rings/seals. • Contamination in valve.	• Tighten all pneumatic fittings; use thread sealant. • Inspect and replace worn or damaged seals. • Disassemble and clean valve internals; ensure clean air supply.
Valve operates sluggishly or sticks.	• Contamination. • Insufficient lubrication. • Worn internal components.	• Clean valve internals thoroughly. • Ensure proper air line lubrication if required by system. • Inspect and replace worn pilot head or piston components.

6. Specifications

Detailed technical specifications for the Baomain 4V210-08 Electric Solenoid Valve.

Attribute	Value
Model Number	4V210-08
Operating Voltage	110V AC
Coil Power	4.5 VA
Operating Pressure Range	0.15 - 0.8 MPa (800 Kilopascal max)
Valve Type	2-Position, 5-Way, Pilot-Operated
Port Sizes	Inlet/Outlet: 1/4" PT, Exhaust: 1/8" PT
Body Material	Aluminum Alloy
Dimensions (L x W x H)	4.33 x 2.6 x 0.86 inches (117 x 66.7 x 35 mm approx.)
Item Weight	7 ounces
Protection Class	IP65
Color	Silver, Black

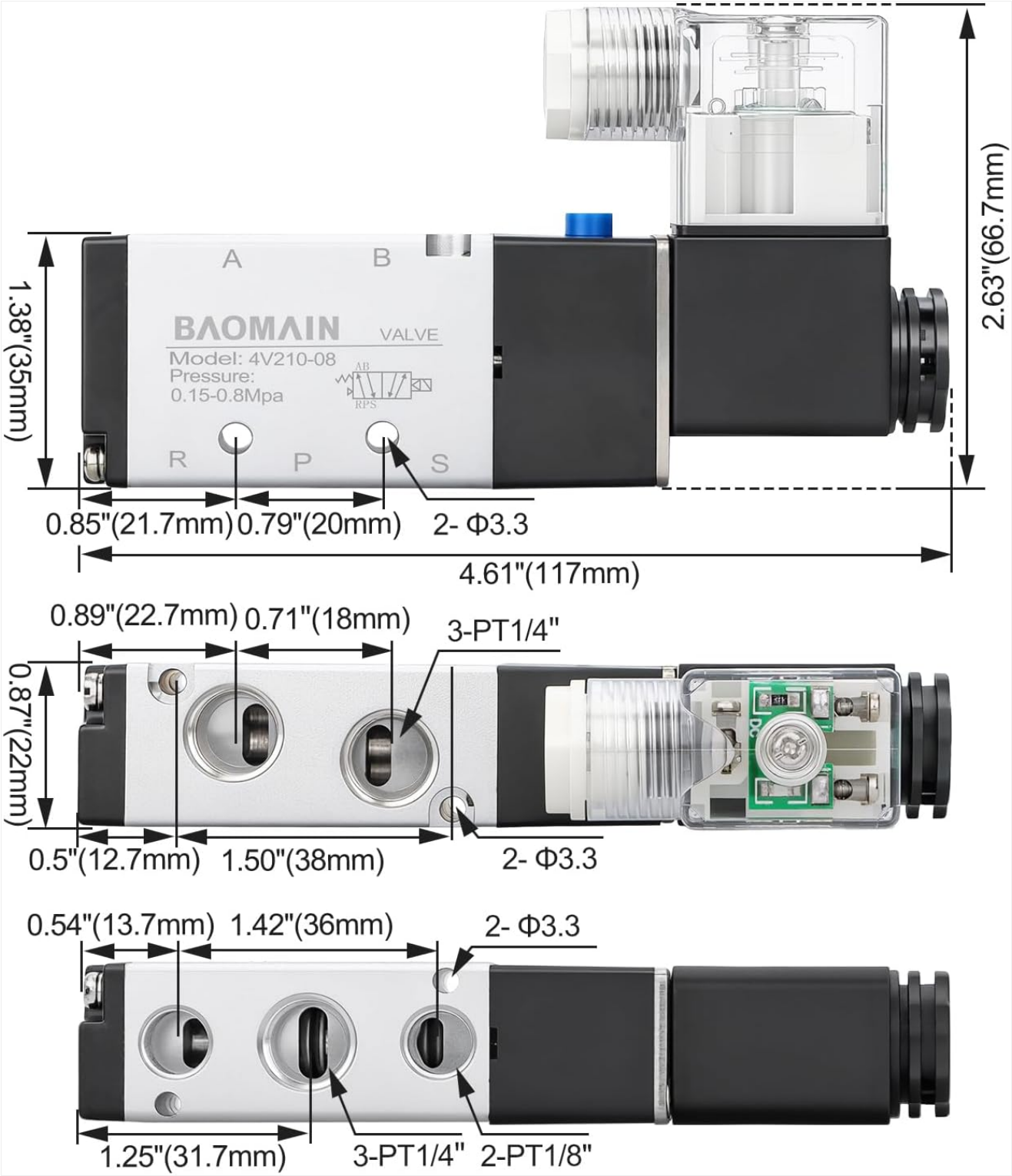

Figure 7: Dimensional Drawing. This image provides detailed measurements of the solenoid valve in both inches and millimeters.

7. Warranty and Support

For specific warranty information, please refer to the product packaging or contact Baomain customer support directly. Keep your purchase receipt for warranty claims.

Customer Support:

If you encounter any issues or have questions regarding the Baomain 4V210-08 Electric Solenoid Valve, please contact Baomain customer service through their official website or the retailer where the product was purchased.