MXBAOHENG HQ-2588

MXBAOHENG Air-Operated Double Diaphragm Pump

Model HQ-2588 (18L/min) Instruction Manual

Brand: MXBAOHENG

1. Introduction

This manual provides essential information for the safe and efficient operation, installation, and maintenance of your MXBAOHENG Air-Operated Double Diaphragm Pump, Model HQ-2588. This pneumatic pump is designed for transferring various flowing liquids, including those that are difficult to move, across a range of industrial and chemical applications.
Key features of this pump include:

- **Reliable Performance:** Engineered for long service life with low noise and vibration.
- **Operational Safety:** Designed to prevent damage from dry running or sudden stops. Features automatic shutdown upon overload and restarts when conditions normalize.
- **Simplified Design:** Simple structure with minimal wearing parts, facilitating easy installation and maintenance. The conveyed medium does not contact internal moving components.
- **Versatile Application:** Suitable for various industries including textile, chemical, pharmaceutical, spraying, and sewage treatment.

Figure 1: Overview of the MXBAOHENG Diaphragm Pump's key operational benefits including safety, reliability, energy saving, portability, and maintainability.

2. Safety Instructions

Read all safety instructions carefully before operating the pump. Failure to follow these instructions may result in equipment damage, personal injury, or property damage.

- **Chemical Compatibility:** This pump utilizes a PTFE diaphragm, which is resistant to many acids and alkalis. However, the pump body is constructed from aluminum alloy. **Do not use this pump to transfer strong acids or alkalis that may react with aluminum alloy.** Always verify chemical compatibility before use.
- **Avoid Dry Running:** The pump must not be operated without liquid (empty) for extended periods. Running the pump dry can cause internal damage and lead to bursting. Ensure there is always liquid in the system during operation.
- **Air Pressure Limits:** The optimal operating air pressure for this diaphragm pump is 4 kilograms (approximately 3.9 bar). The maximum permissible air pressure is 6 kilograms (approximately 5.88 bar). Exceeding 6 kilograms of air pressure will damage the pump.
- **Compressed Air Source:** Use clean, dry compressed air as the power source. This design eliminates sparks, making it suitable for various flammable and explosive environments.

- **Installation Environment:** Ensure the pump is installed in a well-ventilated area, free from obstructions.

3. Product Overview and Components

Familiarize yourself with the main components of the MXBAOHENG Air-Operated Double Diaphragm Pump:

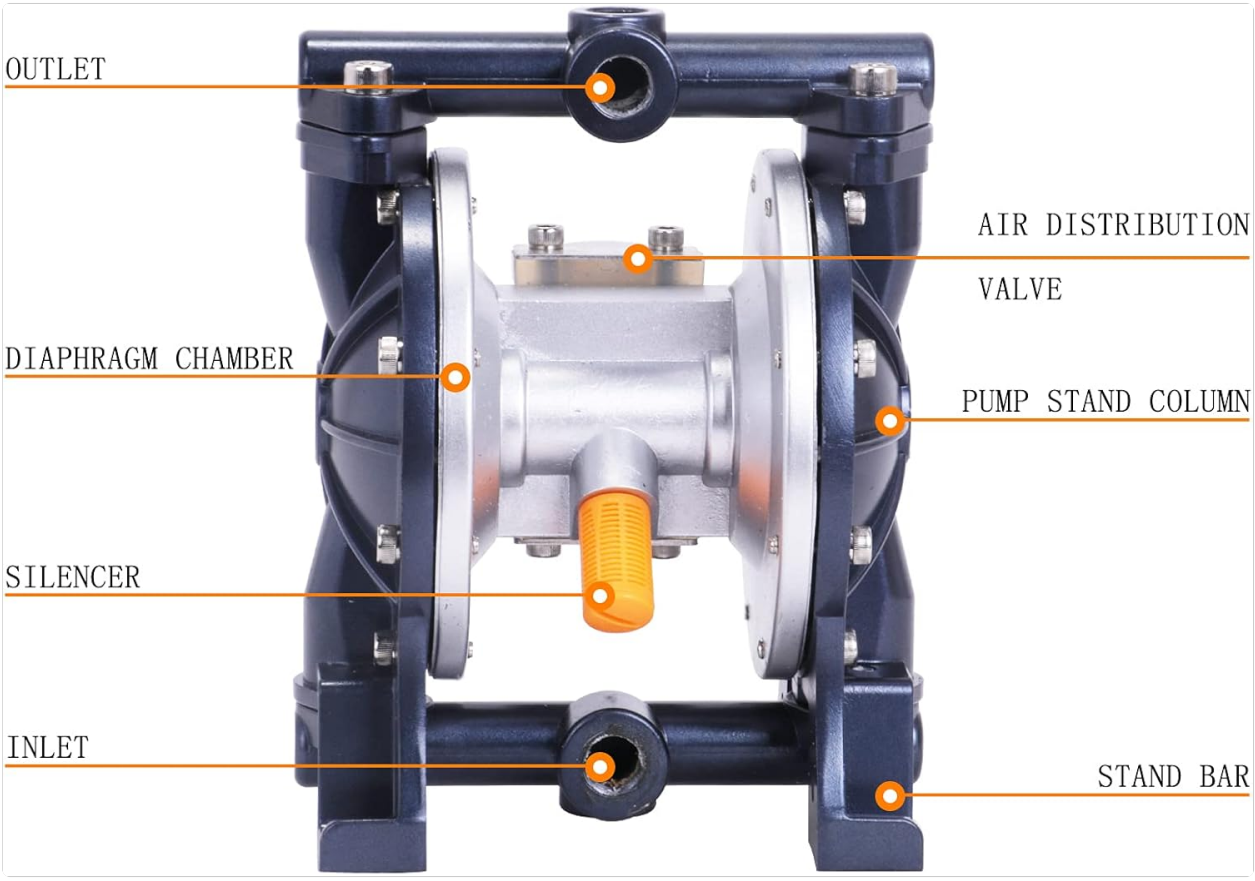

Figure 2: Diagram illustrating the main components of the diaphragm pump, including the inlet, outlet, air distribution valve, diaphragm chamber, silencer, pump stand column, and stand bar.

- **Inlet:** Point where fluid enters the pump.
- **Outlet:** Point where fluid exits the pump.
- **Air Distribution Valve:** Controls the flow of compressed air to alternate the diaphragms.
- **Diaphragm Chamber:** Houses the diaphragms that move to create pumping action.
- **Silencer:** Reduces operational noise from the air exhaust.
- **Pump Stand Column / Stand Bar:** Provides structural support and stability for the pump.

4. Specifications

Technical specifications for the MXBAOHENG Air-Operated Double Diaphragm Pump (Model HQ-2588):

Parameter	Value
Model	HQ-2588 (A-15)
Fluid Inlet Size	3/8 inch
Fluid Outlet Size	3/8 inch
Air Inlet Size	1/4 inch NPT

Parameter	Value
Maximum Flow Rate	18 Liters Per Minute
Maximum Pump Speed	500 cpm
Optimal Air Pressure	4 kg (approx. 3.9 bar)
Maximum Air Pressure	6 kg (approx. 5.88 bar)
Material	Aluminum
Item Weight	3 Pounds (approx. 1.36 kg)
UPC	885946489764

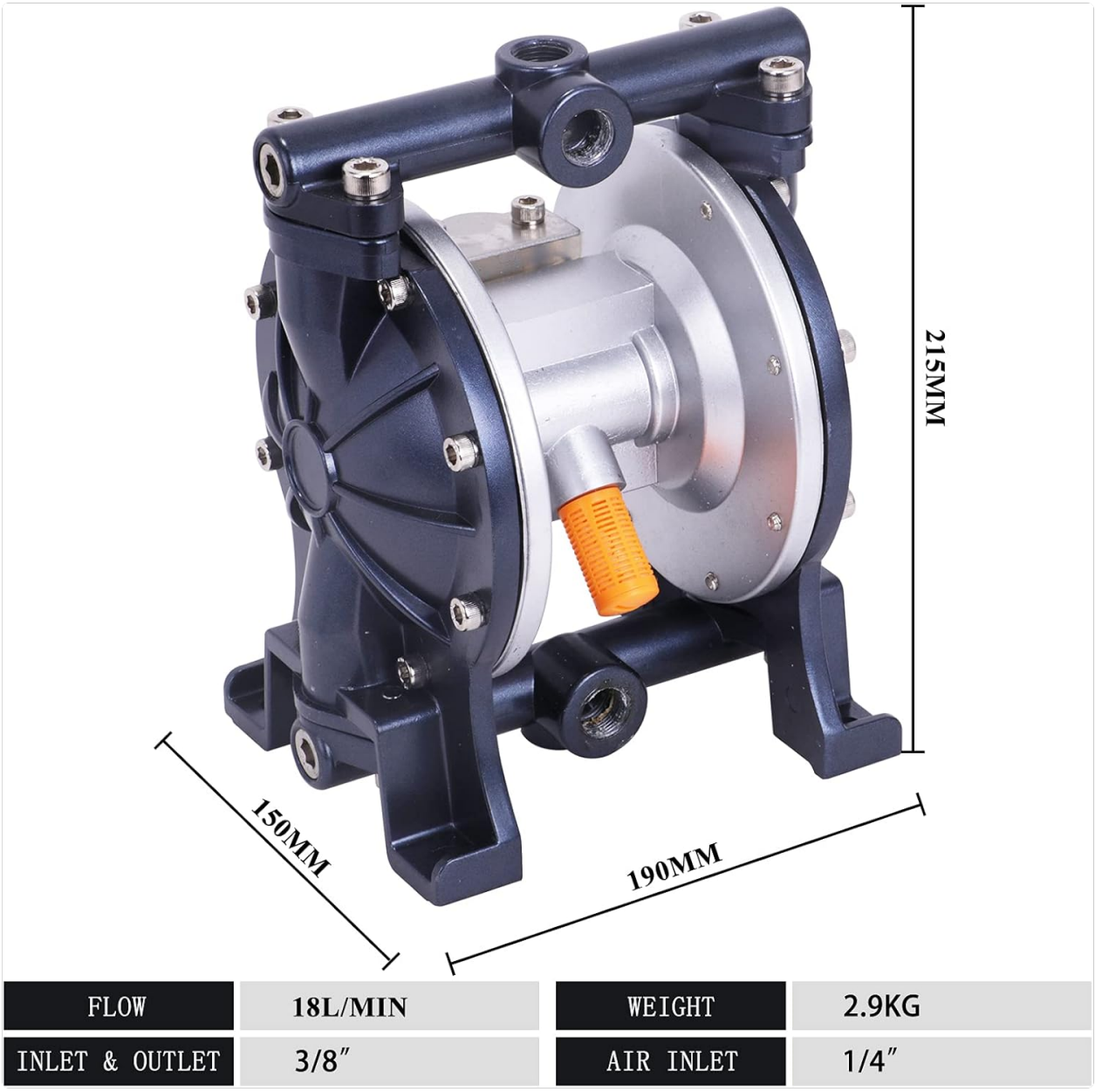

Figure 3: Visual representation of the pump's dimensions (190mm x 150mm x 215mm) and key specifications like flow rate, weight, and inlet/outlet sizes.

5. Setup and Installation

Follow these steps for proper setup and installation of your diaphragm pump:

1. **Mounting:** Securely mount the pump on a stable, level surface using the provided stand bar and pump stand columns. Ensure adequate space around the pump for maintenance and operation.
2. **Fluid Connections:** Connect the fluid inlet (3/8 inch) to your liquid source and the fluid outlet (3/8 inch) to your destination. Ensure all connections are tight and leak-free.
3. **Air Connection:** Connect a clean, dry compressed air line to the 1/4 inch NPT air inlet. Install an air regulator and pressure gauge to monitor and control the air pressure.
4. **Silencer Installation:** Ensure the noise reduction silencer is properly attached to the air exhaust port.
5. **System Priming:** Before initial operation, ensure the pump and suction line are filled with the liquid to be transferred to prevent dry running.

6. Operation

Operating the MXBAOHENG diaphragm pump is straightforward:

1. **Verify Connections:** Double-check all fluid and air connections for security and absence of leaks.
2. **Set Air Pressure:** Gradually increase the air pressure to the optimal operating range of 4 kg (approx. 3.9 bar). Do not exceed the maximum of 6 kg (approx. 5.88 bar).
3. **Start Pumping:** The pump will begin operation once compressed air is supplied.
4. **Adjust Flow Rate:** The flow rate can be adjusted by varying the air pressure. Higher air pressure generally results in a higher flow rate, up to the maximum of 18 L/min.
5. **Stopping the Pump:** To stop the pump, simply close the air supply valve. The pump will cease operation.

7. Maintenance

Regular maintenance ensures the longevity and optimal performance of your pump:

- **Routine Inspection:** Periodically inspect all connections, hoses, and the pump body for signs of wear, damage, or leaks.
- **Diaphragm Check:** Although designed for durability, diaphragms are wearing parts. Inspect them for cracks or fatigue during routine maintenance. Replace if necessary.
- **Silencer Cleaning:** The detachable silencer can be cleaned to maintain its noise reduction effectiveness. Refer to Figure 4 for a visual of the silencer.
- **Air Supply Quality:** Ensure your compressed air supply remains clean and dry to prevent contamination and wear of internal components.
- **Storage:** If storing the pump for an extended period, flush it with a compatible cleaning solution or water, then drain completely to prevent residue buildup or freezing.

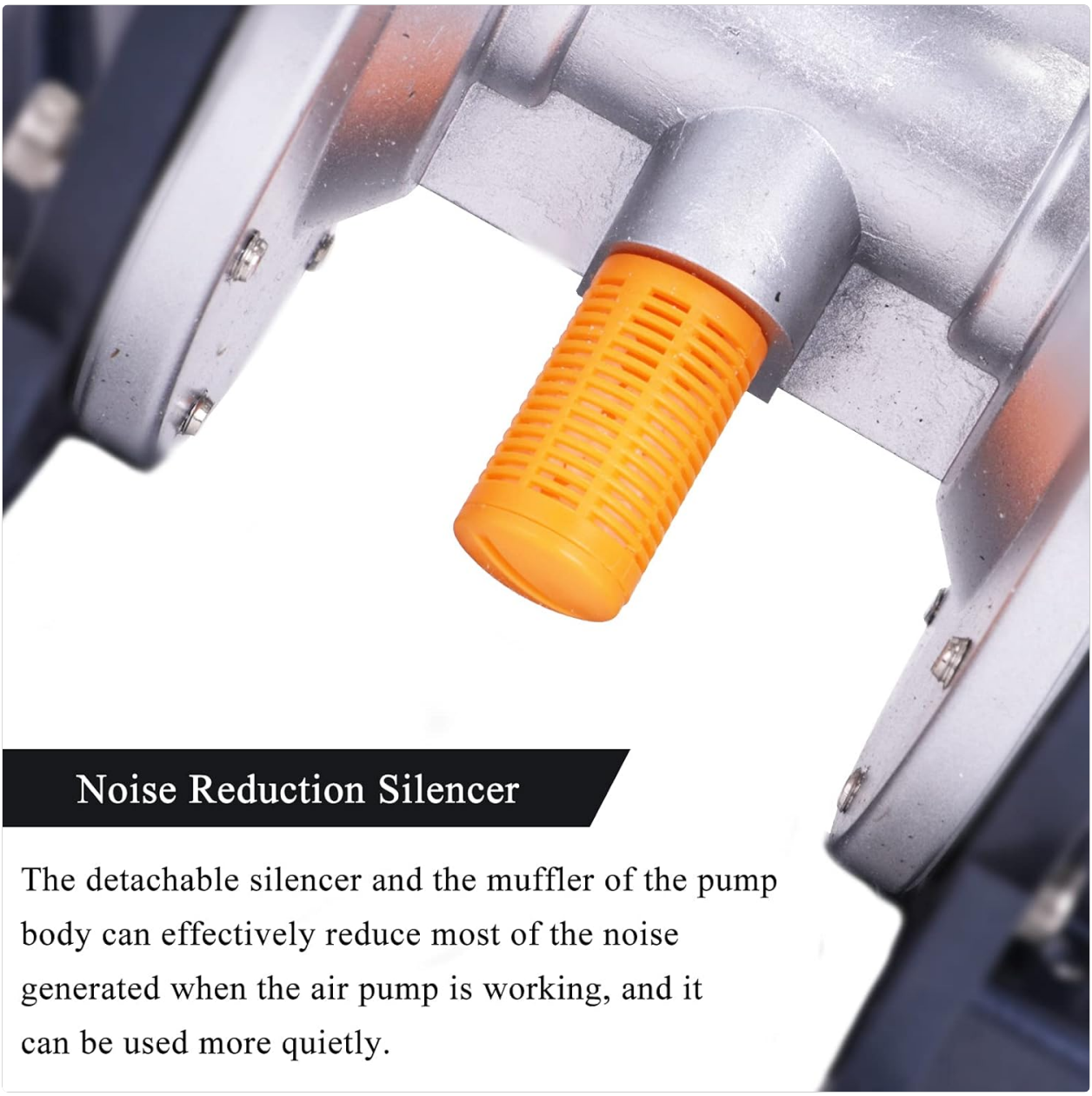

Figure 4: Close-up view of the noise reduction silencer, which can be detached for cleaning or replacement.

8. Troubleshooting

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

Problem	Possible Cause	Solution
Pump does not start or runs intermittently	Insufficient air pressure; Air supply disconnected; Clogged air inlet/valve; Overload condition.	Check air supply and pressure (ensure 4-6 kg); Verify air line connection; Inspect and clean air inlet/valve; Reduce load or clear obstruction.
Reduced flow rate	Low air pressure; Clogged fluid lines/inlet; Worn diaphragms; Air leak in suction line.	Increase air pressure (within limits); Clear fluid lines; Inspect and replace diaphragms; Check and seal suction line connections.
Pump leaking fluid	Loose connections; Damaged diaphragms; Cracked pump housing.	Tighten all fluid connections; Inspect and replace diaphragms; Contact support for housing damage.

Problem	Possible Cause	Solution
Pump makes excessive noise	Loose components; Damaged silencer; Cavitation (if pumping viscous fluids).	Check and tighten all bolts; Inspect and replace silencer; Ensure proper fluid supply and reduce suction lift.
Pump bursts or is damaged	Running empty for too long; Exceeding maximum air pressure; Pumping incompatible chemicals.	**This indicates severe misuse.** Review safety instructions. Replacement of damaged parts or the entire pump may be necessary.

9. Warranty and Support

For warranty information, technical assistance, or to order replacement parts, please contact MXBAOHENG customer support. Refer to the product packaging or the official MXBAOHENG website for contact details.