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TianQinLang Air Compressor Pump Head

TianQinLang 3HP Air Compressor Pump Head Instruction Manual

Model: Air Compressor Pump Head

1. Product Overview

The TianQinLang 3HP Air Compressor Pump Head is a robust and efficient replacement component designed for various industrial and home improvement applications. Constructed from high-quality aluminum and iron with a durable painting process, this pump head ensures stable operation and long-term reliability. It features a powerful cooling system for effective heat dissipation and a specialized suction and exhaust valve design for optimal air compression.



Figure 1: Front view of the Air Compressor Pump Head, showcasing its robust construction.

Key Features:

- **Durable Construction:** Made from high-class aluminum and iron with a painting process for wear and heat prevention.
- **Efficient Cooling:** Equipped with powerful cooling fan blades and heat dissipation fins to ensure stable operation.
- **Optimized Air Compression:** Features a suction and exhaust valve design that efficiently draws in and compresses air.
- **Stable Operation:** Main-frame belt design ensures balanced operation and high transmission efficiency.
- **Integrated Air Filter Muffler:** Delivers clean air to the pump with reduced noise levels.
- **Oil Observation Port:** Transparent port for easy monitoring of oil capacity.



Figure 2: Illustration highlighting the durable aluminum and iron construction with painting process.



Figure 3: Visual representation of the thoughtful design, including heat dissipation fins and belt power for stable and efficient operation.



Figure 4: Diagram illustrating the suction and exhaust valve design, showing air input and output flow.



Figure 5: Detailed views of the air filter muffler for low noise and impurity filtration, round edges for safety, and the oil observation port for easy oil level checks.

2. Specifications

Below are the technical specifications for the TianQinLang 3HP Air Compressor Pump Head:

Specification	Value
Brand	TianQinLang
Model Name	Air Compressor Pump Head
Style	3HP
Overall Size	31 x 26 x 34 cm (12.2 x 10.24 x 13.39 in)

Specification	Value
Cylinder Diameter	6.5 cm (2.56 in)
Pulley Outer Diameter	26 cm (10.24 in)
Net Weight	11 kg (24.25 lbs)
Recommended Uses	Air compressor pump head replacement
Power Source	Air Compressor Pump Head
Noise Level	55 dB
Maximum Power	3 Horsepower
Matching Motor Power	2.2 KW
Color	Silver, Black
Material	Cast Iron
Air Flow Capacity (Exhaust)	250 L/min (66 Gal/min)
Rated Exhaust Pressure	0.8 MPa
Maximum Operating Pressure	1.0 MPa
Included Components	2065-3HP air compressor pump head, silencer, screws, breathing nozzle

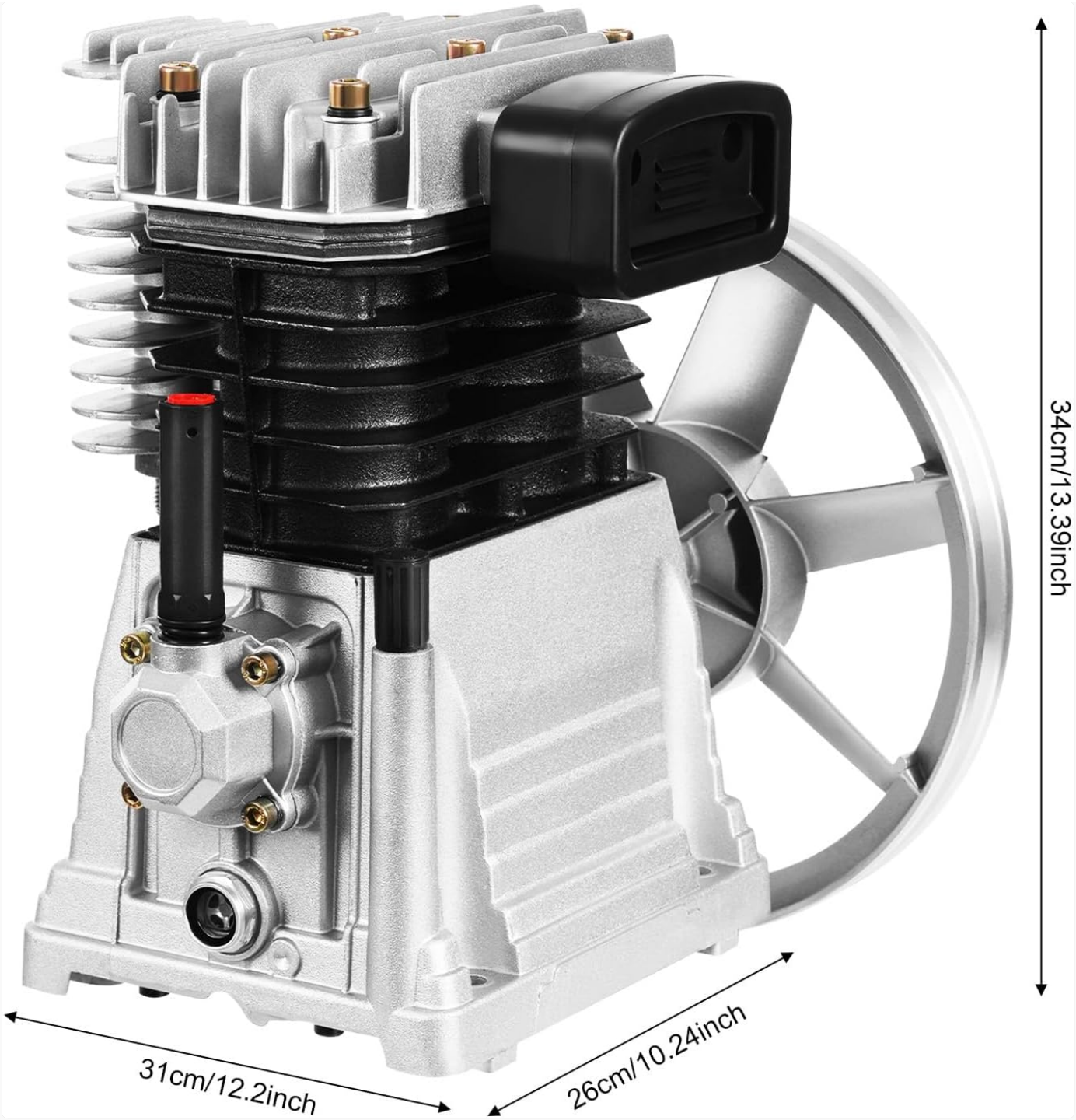


Figure 6: Dimensional drawing of the pump head, indicating length, width, and height.

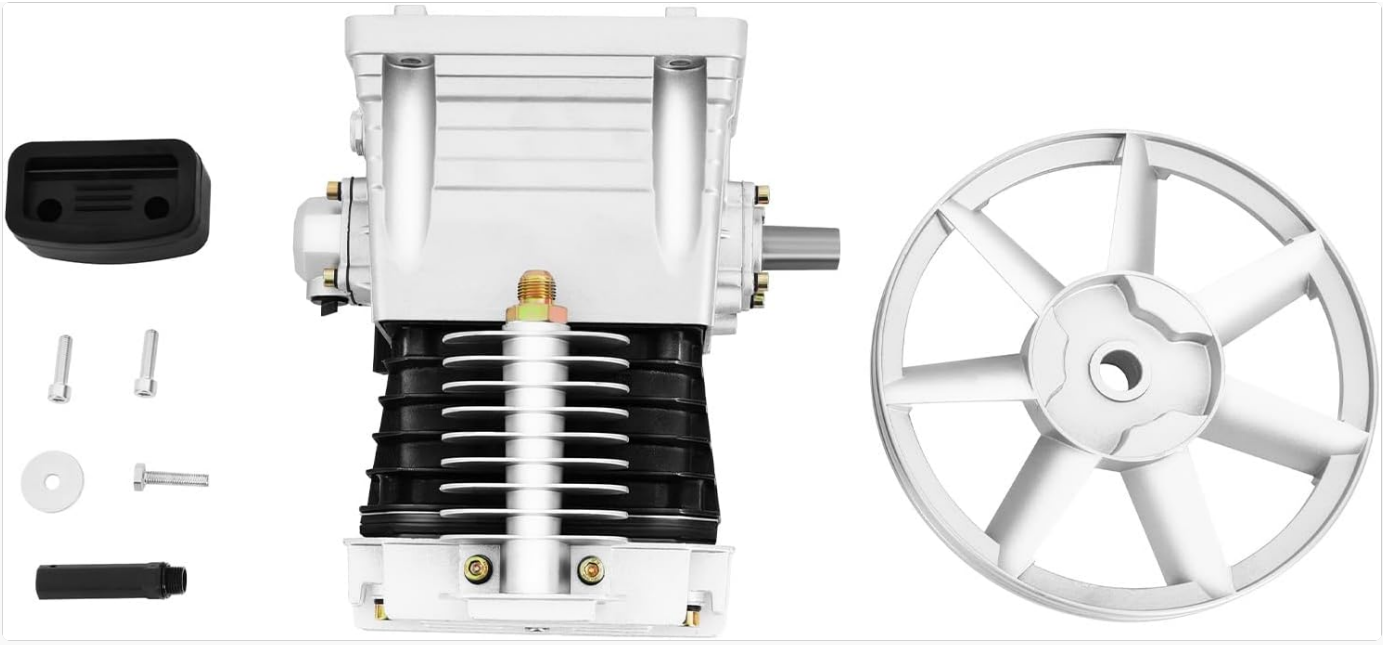


Figure 7: All components included with the pump head: the main unit, pulley, muffler, screws, and breathing nozzle.

3. Setup and Installation

Assembly is required for this air compressor pump head. Please follow these general guidelines for safe and proper installation. Always refer to the specific instructions provided with your air compressor system for detailed steps.

Installation Steps:

1. **Safety First:** Ensure the power to the air compressor motor is disconnected and the air tank is fully depressurized before beginning any installation.
2. **Mounting:** Securely mount the pump head to the compressor frame using appropriate bolts and fasteners. Ensure it is stable and level.
3. **Pulley Installation:** Attach the pulley to the pump head shaft. Ensure it is properly aligned with the motor pulley to prevent belt slippage and wear.
4. **Belt Connection:** Install the drive belt between the pump head pulley and the motor pulley. Adjust tension as necessary, ensuring it is neither too tight nor too loose.
5. **Air Line Connection:** Connect the air intake and exhaust lines to the designated ports on the pump head. Ensure all connections are tight and leak-free.
6. **Muffler/Filter Installation:** Install the air filter muffler onto the intake port. This helps reduce noise and filters impurities from the incoming air.
7. **Breathing Nozzle:** Install the breathing nozzle as per your compressor's design.
8. **Oil Fill:** Fill the crankcase with the recommended type and amount of compressor oil. Use the oil observation port to monitor the level.
9. **Initial Check:** Before starting, double-check all connections, ensure all tools are removed, and verify proper oil level.

4. Operating Instructions

This section outlines the general operating principles and guidelines for the air compressor pump head. Always adhere to the safety instructions of your complete air compressor system.

Operation Guidelines:

- **Power On:** Once installed and checked, connect the compressor motor to its power source and turn it on.
- **Pressure Build-up:** The pump head will begin to draw in air and compress it into the reservoir. It is designed to reach a rated exhaust pressure of 0.8 MPa and a maximum pressure of 1.0 MPa.
- **Monitoring:** Regularly monitor the pressure gauge on your air compressor tank to ensure it operates within safe limits.
- **Cooling:** The integrated cooling fan blades and heat dissipation fins work to maintain optimal operating temperature. Ensure adequate airflow around the pump head.
- **Shut Down:** When finished, turn off the compressor motor and bleed any remaining air pressure from the tank before disconnecting tools or performing maintenance.



Figure 8: Overview of the pump head's powerful functions, including 3HP horsepower, 1.0 MPa maximum pressure, 2.2 KW matching motor power, 0.8 MPa rated exhaust pressure, and 250 L/min discharge volume.

5. Maintenance

Regular maintenance is crucial for the longevity and efficient operation of your air compressor pump head. Follow these guidelines:

Maintenance Schedule:

- **Air Filter Cleaning:** The air filter muffler should be cleaned once a month. This ensures clean air delivery and low noise operation.
- **Air Filter Replacement:** Replace the air filter after every 500 hours of operation.
- **Oil Change (Initial):** Change the oil in the crankcase after the first week of operation for a new machine.
- **Oil Change (Regular):** After the initial change, replace the oil every 500 hours of operation. Always change the oil after the machine has been shut down and cooled.
- **Regular Inspection:** Periodically check all parts for wear, damage, or loose connections. Inspect for any signs of oil or air leakage.
- **Pulley and Belt Check:** Ensure the pulley is securely fastened and the belt is in good condition and properly tensioned.

6. Troubleshooting

This section provides solutions to common issues you might encounter. For problems not listed here, or if solutions do not resolve the issue, please contact qualified service personnel.

Common Issues and Solutions:

- **Low Air Pressure/Slow Build-up:**
    - Check for air leaks in connections or hoses.
    - Ensure the air filter is clean and not clogged.
    - Verify proper belt tension and condition.
    - Check oil level; low oil can affect performance.
- **Excessive Noise/Vibration:**
    - Ensure the pump head is securely mounted.
    - Check for loose components or fasteners.
    - Inspect the belt for wear or damage.
    - Clean or replace the air filter muffler if it's dirty.
- **Overheating:**
    - Ensure adequate ventilation around the pump head.
    - Check if cooling fins are clean and free of debris.
    - Verify proper oil level and type.
- **Oil Leakage:**
    - Inspect seals and gaskets for damage.
    - Check tightness of all bolts and connections.

7. Applications

The TianQinLang 3HP Air Compressor Pump Head is versatile and suitable for a wide range of applications requiring high-quality compressed air. It can be matched with 2.2KW 3HP engines.

Typical Applications Include:

- **Automotive Industry:** For pneumatic tools, tire inflation, and various workshop tasks.
- **Pneumatic Tools:** Powering nail guns, impact wrenches, sanders, and other air-powered equipment.
- **Decoration and Construction:** For painting, framing, and other construction-related activities.
- **Chemical Industry:** For processes requiring compressed air.
- **Light Industry:** General manufacturing and assembly.
- **Food Industry:** Specific applications where compressed air is needed (ensure air quality meets standards).
- **Electronics and Machinery:** For cleaning, assembly, and operation of machinery.
- **Mining:** Various pneumatic operations in mining environments.
- **Scientific Research:** Laboratory and research applications.



Figure 9: Examples of wide applications, including automotive industries, decoration industries, mining industries, and textile factories.

8. Warranty and Support

For information regarding warranty coverage, technical support, or replacement parts, please refer to the documentation provided with your original purchase or contact the manufacturer directly. Keep your purchase receipt as proof of purchase.

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