# PNEUMATIC CHAIN HOISTS



Pneumatic hoists - often called air hoists - are lifting devices powered by compressed air rather than electricity. They are widely used in industrial environments such as manufacturing plants, workshops, offshore facilities, and hazardous areas where safety, durability, and precision are essential. Their reliability in harsh or explosive atmospheres makes them a preferred choice over electric or manual alternatives.

## **HOW PNEUMATIC HOISTS WORK**

Air hoists use compressed air to drive a motor that turns a gear train, lifting or lowering a load via a chain or wire rope. The hoist is controlled through pendant or toggle controls, allowing the operator to adjust lifting speed and positioning with accuracy. Because air is the power source, these hoists run cooler and are less prone to overheating compared to electric models. They also provide smooth, continuous operation and can be used for long duty cycles.

## **KEY BENEFITS**

- Safety in Hazardous Environments: Air hoists are ideal for ATEX-rated or explosionrisk zones since they don't generate sparks.
- Durability: With fewer electrical components, they are resistant to dust, heat, and moisture.
- Smooth Operation: Variable speed control allows for precise load handling.
- Continuous Duty: They can run for extended periods without overheating.
- Compact and Lightweight: Easier to move or mount than many electric hoists.

## **PURCHASING ADVICE**

When choosing a pneumatic hoist, consider the following factors:

- Load Capacity: Determine the maximum weight you'll need to lift. Common capacities range from 250 kg to 10 tonnes or more. Always allow a safety margin.
- **Lifting Height:** Check the required lift and ensure the hoist has a suitable chain or rope length.
- Air Supply: Verify that your air system can provide the correct pressure and flow rate-typically around 6 bar (90 psi). Insufficient air supply will reduce performance.
- **Duty Cycle and Speed:** Match the hoist to the frequency of use and lifting speed required for your operation.
- **Environment:** If the hoist will be used in explosive or corrosive areas, ensure it meets the correct ATEX or IP protection standards.
- **Mounting Options:** Decide whether you need a hook suspension, push/pull trolley, or motorized trolley system for horizontal movement.



## **INSTALLATION GUIDANCE**

Proper installation ensures performance and safety:

- Air Line Preparation: Use clean, dry, and lubricated compressed air. Installing a filter-lubricator-regulator (FLR) unit helps prevent internal corrosion and wear.
- **Secure Mounting:** Ensure the hoist is attached to a load-bearing structure or rated beam that can handle the maximum load plus safety margin.
- **Testing:** Conduct a load test as per manufacturer recommendations before first use.
- **Training:** Operators should be trained in safe lifting practices and basic hoist controls.

#### MAINTENANCE TIPS

Regular maintenance is key to extending the life of your pneumatic hoist:

- Daily Checks: Inspect chains, hooks, and controls for wear or damage.
- Air Supply Maintenance: Drain water from air lines and keep filters clean.
- **Lubrication:** Follow the manufacturer's lubrication schedule both for the chain and internal components.
- **Periodic Servicing:** Schedule professional inspections every 6–12 months, depending on usage intensity.
- **Storage:** If not in use, store the hoist in a clean, dry environment to prevent corrosion.

## THINGS TO CONSIDER

- **Noise Levels:** Air hoists can be louder than electric types consider acoustic enclosures or silencers if working indoors.
- **Energy Efficiency:** While compressed air is reliable, it can be less energy-efficient than electric systems, so ensure your air network is optimised.
- **Spare Parts & Support:** Choose reputable brands with readily available spares and local servicing support.
- **Compliance:** Always ensure your hoist complies with local lifting equipment regulations such as LOLER or PUWER (in the UK).

## CONCLUSION

Pneumatic hoists are dependable, robust, and ideal for challenging environments. By choosing the right model, ensuring proper installation, and following a consistent maintenance routine, you can achieve safe, efficient, and long-lasting lifting performance.

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