

AutoControl

High-Visibility
Transparent
Pneumatic Trainer



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High-Visibility Transparent Pneumatic Trainer

This [High-Visibility Transparent Pneumatic Trainer](#) is an advanced platform for designing and demonstrating pneumatic circuits, ideal for professional training and educational purposes. With this trainer, students can easily study the internal structure and working principles of various pneumatic components during classroom instruction. All components are crafted to mirror the actual internal structures of industrial pneumatic parts, ensuring that the tectonic and operational principles are accurately reflected.

Key Features of [High-Visibility Transparent Pneumatic Trainer](#)



SKU: 0401020020

- 1. Transparent Design for Clear Understanding:** The pneumatic components are encased in high-quality imported transparent plexiglass, offering excellent visibility, compact size, and lightweight construction. This transparency allows students to observe the internal workings and understand the function of each component in detail.
- 2. Practical Learning Experience:** Students can explore the structure, working principles, and functions of individual pneumatic components. Additionally, they can assemble and analyze fundamental pneumatic circuits, observing the spool movement within the loop tank and the fluid flow direction in the spool body. This hands-on approach significantly enhances learning and understanding.

4.Versatile Control Methods: The system supports both PLC (Programmable Logic Controller) and relay control methods. The PLC control utilizes a Mitsubishi FX1S-20MR with 12 inputs and 8 outputs (relay output). This combination of PLC and pneumatic control enables students to conduct automatic pneumatic control experiments and compare the advantages and advancements of PLC control over traditional relay control.

5.Robust Construction: All pneumatic components are securely mounted on a quick-type slab, ensuring stability and ease of use during experiments.

This [High-Visibility Transparent Pneumatic Trainer](#) is designed to meet the diverse teaching needs of different pneumatic disciplines, offering a comprehensive and practical learning experience for students. Whether for circuit design, demonstration, or hands-on training, this trainer provides a clear and effective platform for mastering pneumatic systems.

Typical Comprehensive Training Modules for [High-Visibility Transparent Pneumatic Trainer](#)

1. Pressure Control Circuits

- **1.1 Secondary Pressure Control Circuit:** Learn to manage secondary pressure adjustments in pneumatic systems.
- **1.2 High and Low Pressure Shift Circuit:** Understand the transition between high and low-pressure settings for efficient operation.
- **1.3 Overload Protection Circuit:** Explore circuits designed to prevent system overloads, ensuring safe operation.
- **1.4 Unloading Circuit:** Study the unloading process to relieve excess pressure in the system.

2. Directional Control Circuits

- **2.1 Single-Acting Cylinder Reversing Circuit:** Master the reversing mechanism in single-acting cylinders.
- **2.2 Double-Acting Cylinder Reversing Circuit:** Gain insights into the reversing operations of double-acting cylinders.
- **2.3 Single-Cylinder Reciprocating Control Circuit:** Learn to control single-cylinder reciprocating motions.
- **2.4 Single-Cylinder Continuous Reciprocating Control Circuit:** Understand the continuous reciprocating process in single cylinders.
- **2.5 Sequence Action Circuit of Straight Cylinder and Rotating Cylinder:** Study the sequence actions involving straight and rotating cylinders.
- **2.6 Multi-Cylinder Sequence Action Circuit:** Explore the coordination and sequencing of multiple cylinders in action.
- **2.7 Double Cylinders Synchronous Action Circuit:** Understand how to achieve synchronized actions between two cylinders.

3. Speed Control Circuits

- **3.1 Single-Acting Cylinder Speed Regulating Circuit:** Learn the methods of regulating speed in single-acting cylinders.
- **3.2 Unidirectional Speed Regulation Circuit of Double-Acting Cylinder:** Study the unidirectional speed control techniques for double-acting cylinders.
- **3.3 Bidirectional Speed Regulation Circuit of Double-Acting Cylinder:** Explore bidirectional speed control in double-acting pneumatic cylinders.
- **3.4 Speed Shift Circuit:** Understand how to shift speeds in pneumatic circuits effectively.
- **3.5 Buffer Circuit:** Learn the importance and application of buffer circuits to absorb shocks and maintain system stability.

4. Advanced Pneumatic Circuits

- **4.1 Relay Circuit:** Master the operation of relay circuits within pneumatic systems.
- **4.2 Counting Circuit:** Understand the integration of counting mechanisms into pneumatic circuits.
- **4.3 Interlock Circuit:** Learn how interlock circuits enhance safety and prevent errors in operations.
- **4.4 Four Cylinders Linkage Circuit:** Study the linkage operations involving four cylinders for complex applications.
- **4.5 Application Circuit of OR-Gate Type Shuttle Valve:** Explore the use of shuttle valves in creating OR-gate logic circuits.
- **4.6 Application Circuit of Quick Exhaust Valve:** Understand how quick exhaust valves improve efficiency in pneumatic systems.

Main Technical Parameters for **High-Visibility Transparent Pneumatic Trainer**

1. Air Compressor

- **Power:** 250W
- **Power Supply:** 220V
- **Rated Capacity:** 10L
- **Maximum Output Pressure:** 1Mpa
- **Noise Level:** ≤ 58 dB

1. Power Supply

- **AC Supply:** AC 220V, 50Hz
- **DC Supply:** Input AC 220V, Output DC 24V/3A

1. Workbench Dimensions

- **Size:** 1500mm × 600mm × 1700mm