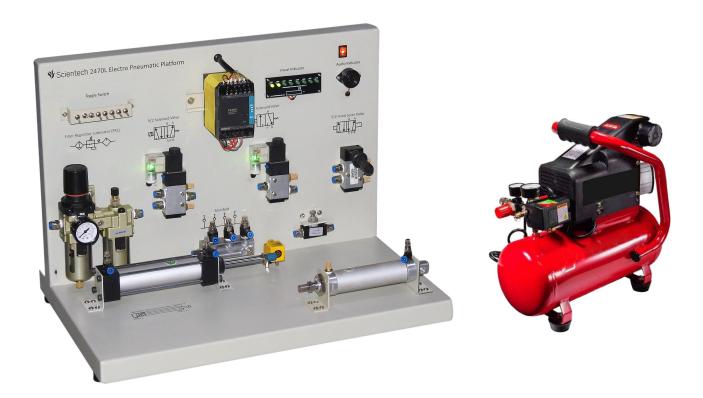


# Electro Pneumatic Platform Scientech 2470L



A Pneumatic system is a system that uses compressed air to transmit and control energy. **Scientech 2470L Electro Pneumatic Platform** is designed to demonstrate the design, construction and application of pneumatic components and circuits. It integrates PLC technology to build Hybrid Industrial automation systems with pneumatic components and modules.

Pneumatic systems provide the power needed to control aircrafts, operate heavy dump trucks, excavators, operate the brakes in our cars and even power lifts in tall buildings. PLC provides flexibility to design and build numerous systems using software and I/O interfaces without changing hard wired connections.

#### **Features**

- PLC operated pneumatic platform
- PLC with 8 digital inputs, 6 digital outputs
- Industrial look & feel
- Toggle switches, LEDs, buzzer, double acting cylinder, solenoid valve, flow control valve, manifold, hand lever valve, proximity sensor, FRL, single acting cylinder, and air compressor
- Function and identification of pneumatic components and their symbols
- Powerful instruction sets

- Extremely easy and student friendly software
- Several sample ladder programs
- Understanding of industrial pneumatic components
- Sequential & linear pneumatic control
- Robust construction
- Pneumatic safety awareness
- Board to pin up documents
- Mounting panel for pneumatic components



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## **Scope of Learning**

#### Control of:

- Pneumatic double acting cylinder using 5/2 solenoid valve and hand lever valve
- Pneumatic single acting cylinder using 3/2 solenoid valve A+ A-

## Sequencing of:

 Sequencing of single and double acting cylinder using solenoid valve and PLC

### Counting of:

 Double acting cylinder (DAC) forward movement using proximity sensor

## Study and use of:

- Ladder programming
- Normally open bit (NO) and normally close bit (NC) instruction by PLC
- Logic gate e.g. NOT, AND, OR, NAND, NOR, XOR and XNOR
- Memory bit
- Set & reset bit
- Timer instruction
- Counter instruction
- PWM instruction
- Compare instruction
- Arithmetic function (addition)
- Move instruction
- Fundamental principle of pneumatics and its application
- Air compressor
- Sensor & actuator

## **Application areas:**

- Brake system of automobiles
- Railway wagons
- Printing presses
- Industrial robots.

# **Technical Specifications**

#### **PLC**

Make :FATEK

Digital inputs and outputs:8 nos. and 6 nos. respectively

Program size (words) :2048

Boolean execution speed :0.33 μs/sequential instruction

in average

Interfacing :USB
Input and output voltage :24 V DC

## **General specifications**

Toggle switches :8 nos.
Visual indicators :8 nos.
Audio indicator :1 no.

Power supply :110V - 260V AC, 50/60Hz

## Pneumatics components (1 no. each)

Double acting cylinder Single acting cylinder 5/2 hand lever valve

Manifold

Flow control valves 5/2 Solenoid valves 3/2 Solenoid valve Proximity sensor

Air compressor (110psi)

#### Package contains (1 no. each)

PU tube (15 meter)

Tube cutter

Air compressor

Mains cord

PLC communication cable

### Software window

