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

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

Subject to change - Version 1.0