

PNEUMATIC TRAINER KIT

MODEL: PNE10

BASIC PNEUMATIC TRAINER (PNE10A)

This trainer explains the physical principles of pneumatics apart from describing the basic components along with their constructions and functions. It can be upgraded to learn advanced theories and comparatively complicated circuits. Optionally, sliding arrangement for in-use component mounting can be provided along with component storage facility.

Areas of study

Fundamentals of pneumatics
Safety aspects of pneumatics
Study of symbols, schematic diagrams, standards and ratings
Study of transmission and distribution of air
Study of pneumatic memory and simple logic circuits
Trouble shooting in simple pneumatic circuits
Study of manual and stroke dependent controls
Study of sequencing and pressure dependent controls
Pressure measurement and control
Flow measurement and control
Study of pneumatic actuators
Study of pneumatic fluid conditioning accessories
Study of an air compressor



R Model: Sliding type component mounting. With storage facility & with table

ADVANCED PNEUMATIC TRAINER (PNE10B)

This trainer aims at helping the students to make complex pneumatic circuits using input and output signals. Complex valves and actuators can also be studied with the help of this trainer. Optionally, sliding arrangement for in-use component mounting can be provided along with component storage facility.

Areas of study:

In addition to the areas covered in basic trainer, following additional areas are covered

- Safety aspects with safety controls
- Use of sensors for creating control circuits
- Study of internally and externally pilot operated valves
- Study of sequence control using step diagrams
- Functions and use of advanced pneumatic valves and circuits
- Trouble shooting in complex pneumatic circuits

PLC OPERATED PNEUMATIC TRAINER (PNE10N)

Pneumatically driven devices can be regulated by electrical controls very efficiently. Due to this PLC operated pneumatics is widely used in all industries for a variety of applications. This combination of electrical and pneumatic control is very effective tool in automation. The PLC controlled pneumatic trainer emphasises this concept which is widely used in today's industry in the automation of machines and machining related process. Optionally, sliding arrangement for in-use component mounting can be provided along with component storage facility.

Areas of study:

Fundamentals of PLC
Study of PLC Ladder diagram programming
Functions and use of various pneumatic components
Study of logic circuits using PLC controlled pneumatics
Study of control circuits with feedback
Monitoring and trouble shooting in PLC controlled pneumatic trainer and many more

** List of experiment may vary depending on model selected.*

Some of the experiments are theoretical only.

COMPONENTS

COMPONENT	N	A	B
3/2 way Directly Actuated Valve (with push button)	1	3	3
3/2 way Mushroom Button Operated Spring Return Valve	-	1	1
3/2 way Roller Lever Actuated Valve	1	3	4
5/2 way Valve with Selector Switch	1	1	1
5/2 way Solenoid Operated Spring Return Valve	2	-	1
5/2 way Double Solenoid Valve	2	-	1
5/2 way Pilot Operated Spring Return Valve	1	1	1
5/2 way Double pilot Valve (with manual override)	-	3	3
Manifold	1	1	1
Quick Exhaust Valve	-	1	1
One-Way Flow Control Adjustable Valve	1	2	4
Double acting cylinder	4	1	2
OR Function shuttle valve	1	1	1
Single Acting Cylinder	2	1	1
Electrical limit switch	2	-	-
Power Supply	1	-	1
I/O Card	-	-	1
Relay card	-	-	1
Pressure Gauge With T-Piece	1	2	2
Pressure Regulator With Gauge	-	1	1
NAND/NOR Elements Pilot Operated with Spring Return and Silencers	-	-	-
Memory Elements 5/2 Way Valves, Double Pilot Operated	-	-	-
Vacuum Suction Generator Operating On Venturi Principle	1	-	1
Service Unit with Filter Pressure Regulator, Gauge and Lubricator	1	1	1
T-Piece with Fittings for Tubing		1Set	
Tubing		1Set	
PLC	1	-	-
Proximity Sensor/ Limit switch	2	-	3

N- PLC OPERATED PNEUMATIC TRAINER A - BASIC PNEUMATIC TRAINER B - ADVANCED PNEUMATIC TRAINER



OPTIONAL ADDITIONAL

- Silent air Compressor
- Computer
- Simulation Software
- Transparent components
- Cut away (sectioned) components
- Interface card to interface physical components with the software.



MODELS

PNE10-P: Component mounting fixed type. No storage facility.

PNE10-Q: Sliding type component mounting. No storage facility. Table top model.

PNE10-R: Sliding type component mounting. With storage facility & with table.

Model No.	Dimension	Weight
PNE10-P	800 (W) X 500 (B) X 1200 (H)	200 Kg
PNE10-Q	800 (W) X 600 (B) X 900 (H)	200 Kg
PNE10-R	800 (W) X 600 (B) X 1700 (H)	200 Kg



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- (1) Since research and development is an on-going activity, the specifications mentioned herein are subject to change without notice
- (2) Photographs are indicative only.