



MODULAR BASIC PNEUMATIC TRAINER



Who is it for?

- Automation Technician
- Automatic Systems Maintenance Tech.
- Mechatronics Tech.

With this trainer the students can perform more than

30 experiments

DL 8110PB

This modular trainer has been designed to implement complete application programs on pneumatic automation. It can be used for demonstrations and experiments in the pneumatic field.

It is a collection of modules mounted on a frame, including pneumatic components and using compressed air to do work for automated equipment, and it is suggested as a workstation for two/three students to be placed on any table.

It includes many of the components that need compressed air treatment such as filter with pressure regulator, manometers, manually operated pneumatic valves, valves pneumatically operated of different types, logic valves, SA and DA cylinders, pneumatic limit switches, among others.

All the components are mounted and identified through clear symbols.



TECHNICAL FEATURES

The trainer includes the following modules:

- **DL 8110P01** with:
 - ◆ a filter with automatic discharge dehumidifier,
 - ◆ a pressure regulator,
 - ◆ a manometer/pressure gauge, $0 \div 12$ bar,
 - ◆ a valve 3/2 slide type, for general pneumatic supply,
 - ◆ a distributor with 6 positions.
- **DL 8110P02** with:
 - ◆ 1 manually controlled pneumatic valve 3/2-NC with fat push button,
 - ◆ 1 manually controlled pneumatic valve 5/2-NC/NO with fat push button.
- **DL 8110P03** with:
 - ◆ 1 manually controlled pneumatic valve 3/2-NC with fat push button,
 - ◆ 1 manually controlled pneumatic valve 5/2-NC/NO with selector long lever.
- **DL 8110P04** with:
 - ◆ 1 manually controlled pneumatic valve 3/2-NC with fat push button,
 - ◆ 1 manually controlled pneumatic valve 3/2-NC with mushroom-head push button with lock.
- **DL 8110P05** with:
 - ◆ 3 pneumatic light indicators, in line,
 - ◆ 1 micro flow regulator, unidirectional, in line.
- **DL 8110P06** with:
 - ◆ 2 manometers/pressure gauges $0 \div 10$ bar, in line,
 - ◆ 1 micro flow regulator, bidirectional, in line.
- **DL 8110P07** with:
 - ◆ 1 pneumatically operated valve 3/2-NC with silencer, with spring return,
 - ◆ 1 pneumatically operated valve 3/2-NO with silencer, with spring return.
- **DL 8110P08** with:
 - ◆ 1 manifold of 2 pneumatically operated monostable valves 5/2-NC/NO with silencers, with spring return,
 - ◆ 1 manifold of 2 pneumatically operated bistable valves 5/2-NC/NO with silencers.
- **DL 8110P09** with:
 - ◆ 2 AND logic elements,
 - ◆ 2 OR logic elements.
- **DL 8110P10** with:
 - ◆ 1 pneumatically operated timer logic element that can work both as on-delay timer and off-delay timer ($0 \div 30$ s) depending on whether feeding is through port “a” or port “b”, with pressure indicator via a pin,
 - ◆ 1 quick exhaust silenced valve, in line.



- **DL 8110P11** with:
 - ◆ 1 single-acting magnetic cylinder with retracted rod ($\varnothing 20\text{mm}$, $l=50\text{mm}$),
 - ◆ 1 micro flow unidirectional regulator, assembled on the cylinder.
- **DL 8110P12** with:
 - ◆ 1 double-acting magnetic cylinder ($\varnothing 20\text{mm}$, $l=100\text{mm}$),
 - ◆ 2 micro flow unidirectional regulators, assembled on the cylinder,
 - ◆ 2 mini-valves with mechanical/manual drive 3/2-NC, with roller lever.
- **DL 8110P13** with:
 - ◆ 1 double-acting magnetic cylinder ($\varnothing 20\text{mm}$, $l=100\text{mm}$),
 - ◆ 2 micro flow unidirectional regulators, assembled on the cylinder,
 - ◆ 2 mini-valves with mechanical/manual drive 3/2-NC, with roller lever,
 - ◆ 1 mini-valve with mechanical/manual drive 3/2-NC, with unidirectional lever.

TRAINING PROGRAM

With this trainer, the students can perform a huge number of experiments starting from basic applications and reaching at the end complex configurations, allowing them to understand how the pneumatic system converts force into potential energy, driving for example an actuator such as a cylinder with kinetic energy.

The course is mainly divided into the following areas:

- Circuits driving only one cylinder with unstable and stable direct and indirect controls, and semiautomatic/automatic sequences (Single/Continuous),
- Circuits with speed adjustment of a Double Acting (DA) cylinder,
- Circuits with fundamental logic functions,
- Circuits with delay elements,
- Circuits with two cylinders with sequences without blocking signals,
- Circuits with emergency control,
- Circuits with combinational and sequential logic controls,
- Circuits with memory.

SUPPLIED ACCESSORIES

The trainer is supplied with the following accessories:

- Flexible tubes enough for connecting to an external main air supply and for carrying out all the exercises included in the manual,
- Pipes cutter,
- Pipes extractor,
- T-fittings and stoppers.

Supplied complete with detailed manuals including a service manual and two practical manuals for both the student and the teacher.



ACCESSORY SUGGESTED (NOT INCLUDED)

To perform the practices, it is suggested the compressor **DL 8110SLZ** that has excellent qualities such as:

- Very low noise level,
- Tank capacity: 24 litres,
- Max. working pressure: 8 bar or 116 PSI,
- Motor power: 0.34 kW or 0.45 HP,
- Noise level: 40 dB,
- Weight: 25 kg,
- Dimensions: 40 x 40 x 60 (h) cm.



OPTION (DL 8110PA)

This basic configuration can be enhanced by adding other modules including important components in the pneumatic field such as valves 5/3, pulse counter, amplifier, vertical DA cylinder with weight, and 4-module pneumatic sequencer.

For more information regarding these advanced modules, please refer to catalogue **DL 8110PA**.