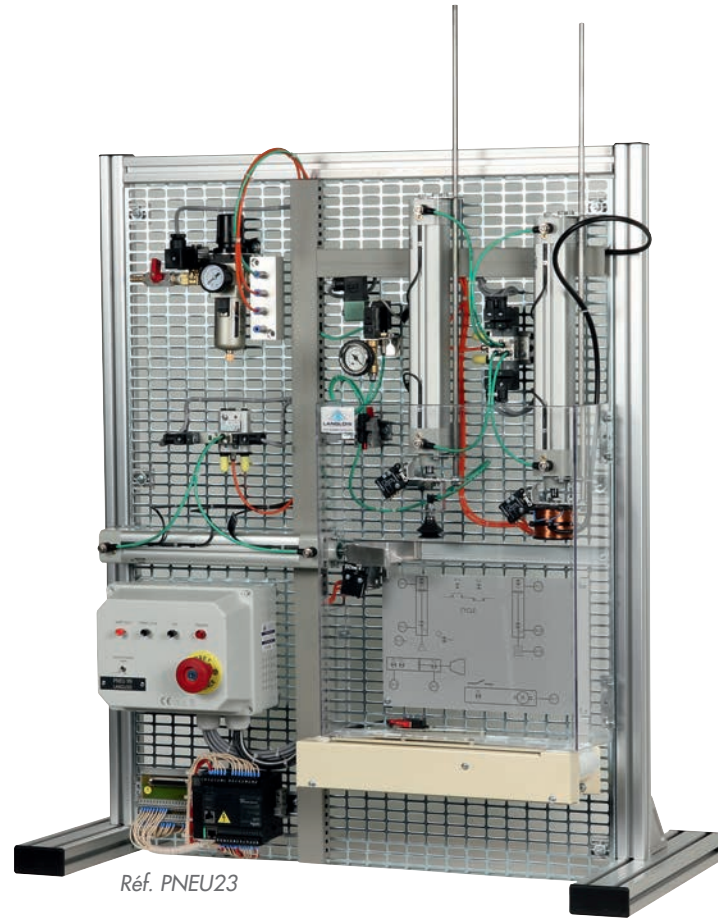
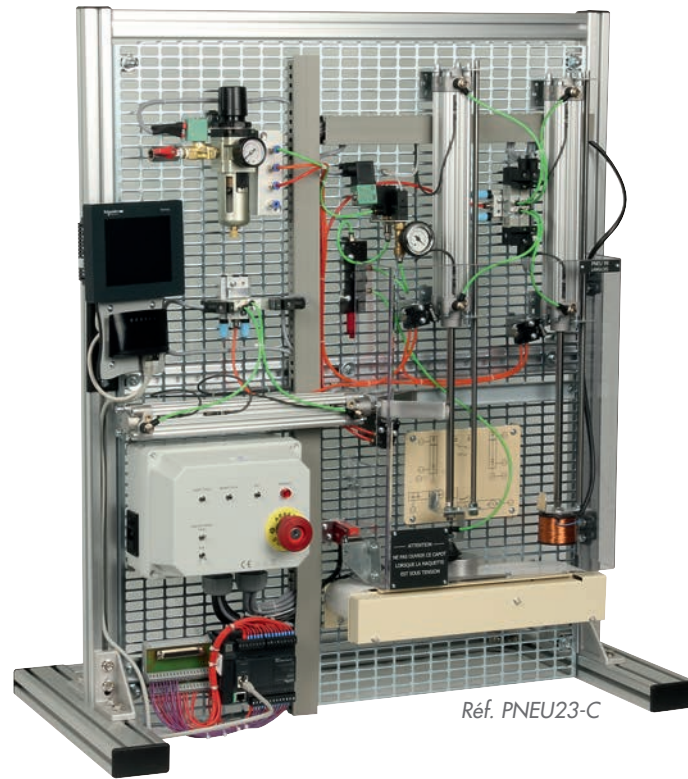


PNEUMATIC HANDLING LINE



Réf. PNEU23



Réf. PNEU23-C

ref. PNEU23-OP without PLC    ref. PNEU23 with PLC

TEACHING RESSOURCES  
STUDENTS / TEACHER

ref. PNEU23-C with PLC and software - communicating version

WIFI AUTONOMOUS NETWORK

TEACHING RESSOURCES  
STUDENTS / TEACHER

EDUCATIONAL OBJECTIVES	PNEU23-OP	PNEU23	PNEU23-C
Introduction to pneumatic components	✓	✓	✓
Commissioning, handling of pneumatic equipment	✓	✓	✓
Controlling the system in manual mode			✓
System control in sequential mode		✓	✓
PLC programming approach		✓	✓
System control in automatic mode		✓	✓
Configure and program a PLC		✓	✓
Configure and program an HMI			✓
Become familiar with supervision			✓
Study Ethernet / IP addressing			✓
Study a communication by Wifi			✓

OPERATING CYCLE

The parts placed on the conveyor belt are held by the vacuum suction grip of a first pneumatic jack, then placed on the horizontal jack, grasped by the electromagnet jack undergoing a complete handling cycle before being returned to the belt.

The conveyor belt is either controlled by the automatic system and the end of belt detection switch or by being forced into operation. An electromagnet illustrates picking up by a magnetic field. PNEU\*\* is connected to the air network by splined terminal placed on the valve block of stop + regulator + filter + distribution output by quick coupling.

The model is delivered ready for use (the electric part is completely wired and all the pneumatic connections made). The quick-fit joints allow dismantling/reassembly of pneumatic interconnections with Ø4mm tubes of various colors. A manual gives details of the operation of all the electro-pneumatic components used and their adjustment. Several cycles are described, including one complete with its grafcet.

PRACTICAL WORKS	PNEU23-OP	PNEU23	PNEU23-C
Model maintenance	✓	✓	✓
Security verification	✓	✓	✓
Study of the operating cycle	✓	✓	✓
Study and production of the electrical and pneumatic wiring diagram	✓	✓	✓
Realization of GRAFCET, LADDER and Chronogram diagrams	✓	✓	✓
Using the model in manual mode			✓
Use of the model in sequential mode		✓	✓
Use of the model via the automatic order		✓	✓
PLC programming via USB or Ethernet		✓	✓
Using PLC Programming Software		✓	✓
Ethernet Network Setup			✓
Loading, modification, creation of supervision programs			✓
Carry out the Wifi configuration for ordering on a tablet or smartphone			✓

PNEUMATIC COMPONENTS

- 3 double effect pneumatic jacks Ø32mm. Travel 250mm, each equipped with:
  - flow reducers allowing fine adjustment of their movement
  - magnetic position detectors (2 or 3 per actuator) with LED
  - quick-fit joints for Ø4mm tubes
- 2 5/2 electropneumatic distributors
- 1 5/3 electropneumatic distributor
- All distributors are fitted with
  - 24V DC coils
  - LED visual display of the state of the coils
  - quick-fit joints for Ø4mm tubes
- Vacuum generator
  - One of the actuators is fitted with a suction grip with its vacuum system. An adjustable threshold vacuostat delivers an electrical presence or absence of vacuum signal. A vacuumeter allows visual checking on the vacuum.
- Jacks protection
  - To avoid any risk of destroying a pneumatic jack, an entirely pneumatic logic system (without student access) prevents the simultaneous movement of the horizontal jack with a vertical jack.

ELECTRIC BOX (except PNEU23-OP)

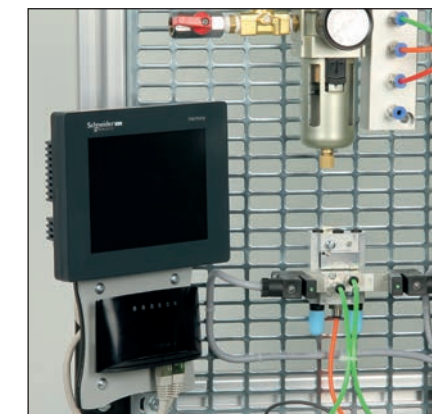
- Contains a regulated 24V DC 2A source to feed the PLC if necessary if it does not have an internal supply. The necessary supplies to the model.
- A Start cycle button, a Stop cycle button,
- a reset button.
- a general emergency button stopping the electric and pneumatic supplies.
- The connector which the user connects to the PLC or to the manual control box.

USER'S PROTECTION

- A transparent color door is a barrier between the pneumatic jacks and the user's hand. The opening turns off the air pressure

PLC (only for PNEU23 and PNEU23-C)

- 14 inputs / 10 outputs (RELAYS)
- 2 languages : Grafcet instructions, contact language.
- Programming : from a PC using a software (included).
- Delivered with a complete and functional program.



COMPONENTS SPECIFIC TO THE PNEU23-C VERSION

- 1 5.7" touch HMI with Ethernet port
- 1 Vijéo Designer software for programming the HMI.
- 1 RJ45 5-port Ethernet switch.
- 1 configured Wifi router (local Wifi specific to the system). Control via the free Vijeo Design'air application.