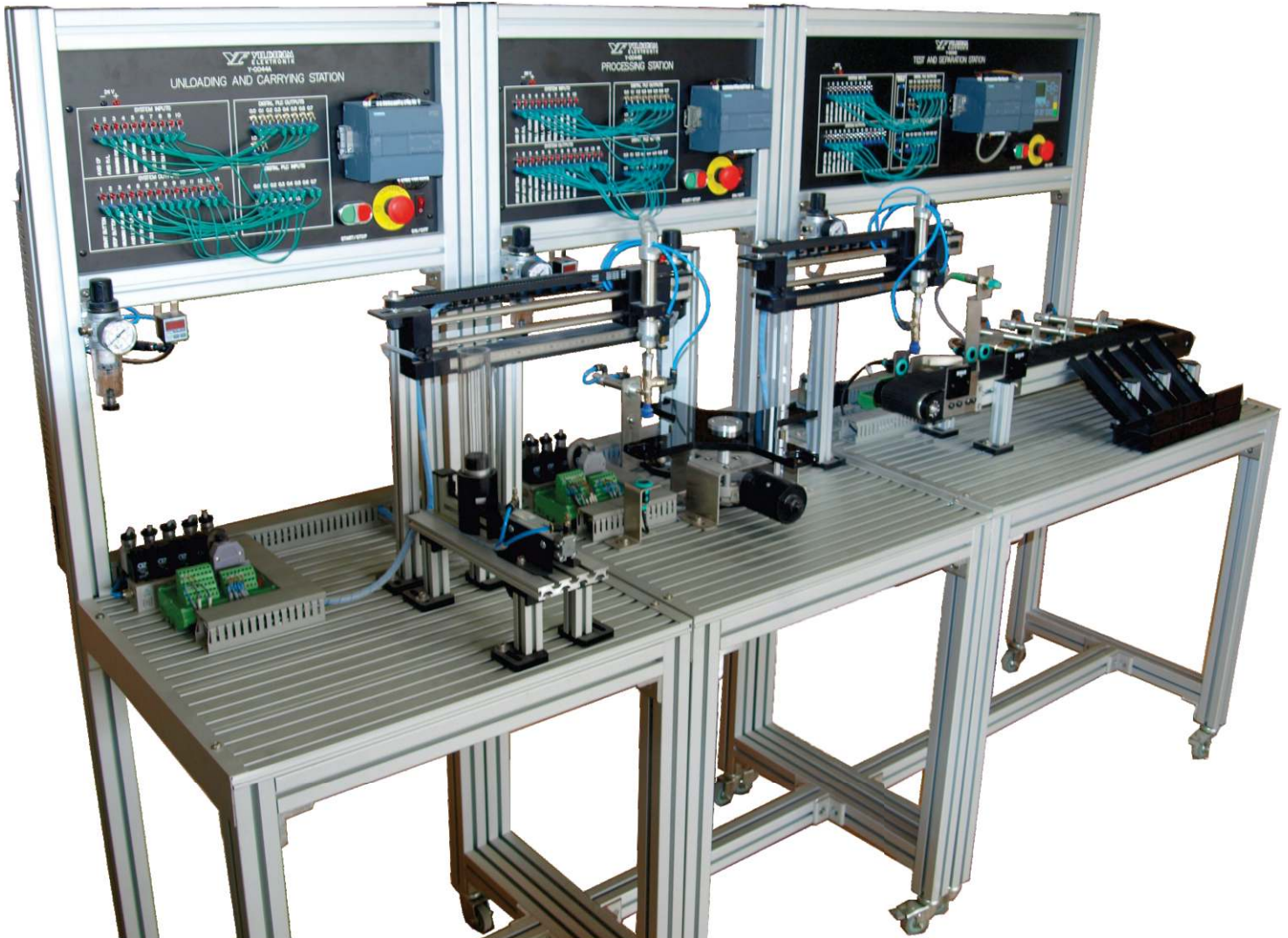


Y-0044
MECHATRONICS TRAINING SET



With the mechatronics training set typical factory automation is modeled.

Due to the scenario the factory automation; product that is rough at the first station is transported to the processing center one by one. The materials processed at the processing station are transported to test and separation station and become subject to quality control and separation.

Mechatronics Training Set contains the topics on mechanic, electronic, electro-pneumatic, PLC, sensor technologies, motor control.

All materials used in the training are those used in the industrial applications. All units in the training set are modular.

In order to examine the factory automation with PLC; all PLC and system inputs/outputs at the control panel are constructed with sockets. User can connect the PLC and the system over this panel at any manner. System can be controlled manually by the keys at the panel and the operation can be traced by led.

Mechatronics Training Set is formed of 3 stations;

- Y-0044A -Unloading and Carrying station**
- Y-0044B -Processing Station**
- Y-0044C -Test and Separation Station**

All these stations can either be used independently or together by various combinations.

Three of the systems are PLC controlled and can control over PLC with PC, when desired.

Y-0044 A UNLOADING AND CARRYING STATION

At the unloading unit the materials are driven from the storage unit of the station at the programmed time by the help of a piston. The vacuumed holder at the tip of the piston that is at the carrying unit carries the material coming from the unloading unit throughout the transporting line and leaves it at the end of the line. This can be carried out continuously or separately.

The unloading and carrying information of the system is traced real time by the led on the panel.

As aluminum sigma profile is used in the construction of the training set, the units can easily be assembled and disassembled. The system and PLC inputs/outputs on the control panel enable various connections.

Unloading and carrying station consist of two units and control panel.

Storage-Unloading Unit

- Transparent storage unit with the capacity of 9 materials
- Double-effect cylindrical storage and driving mechanism
- Limit keys

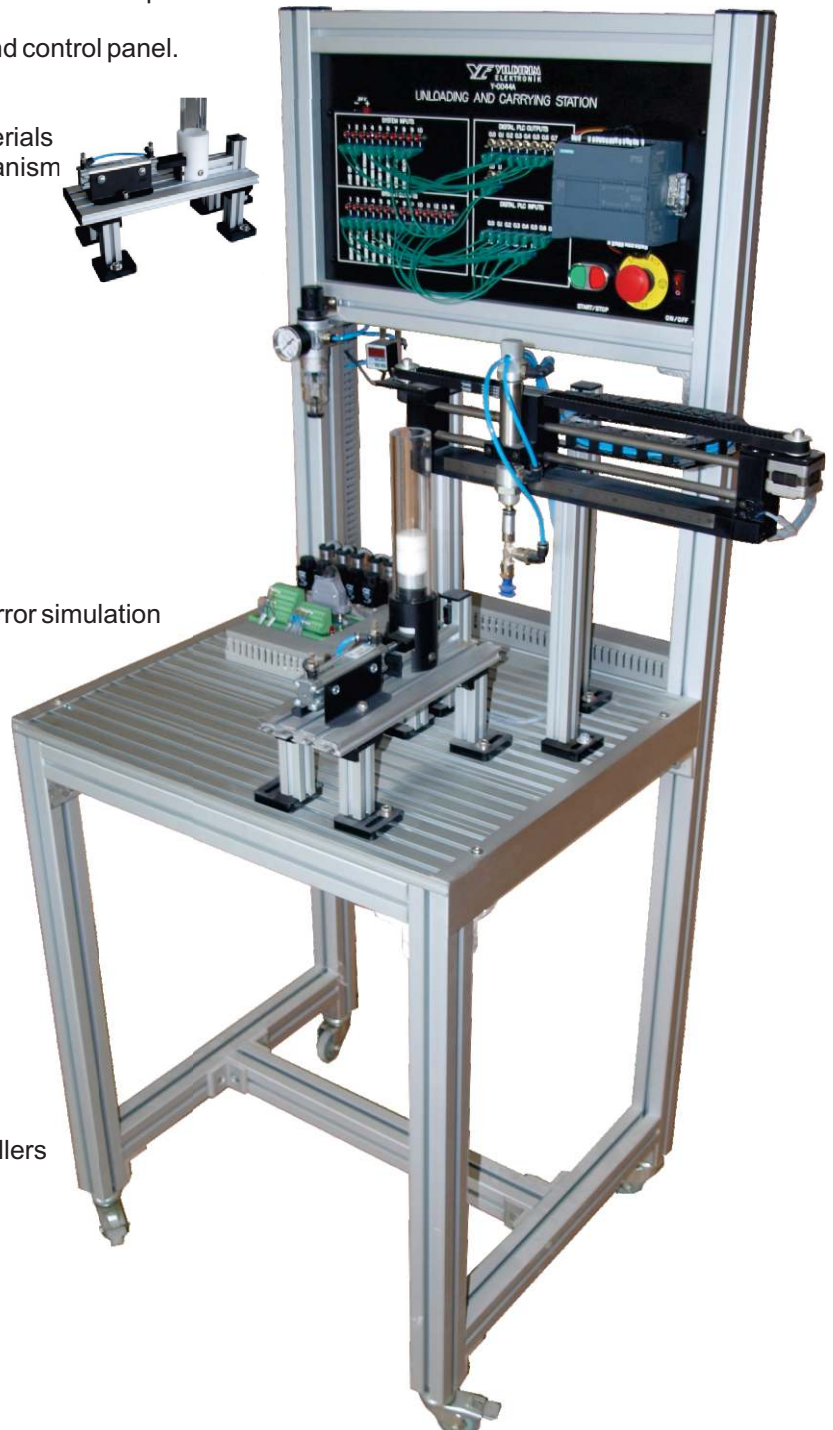
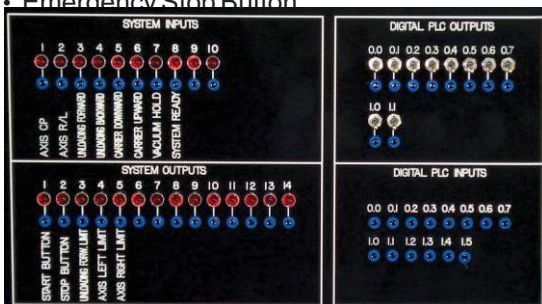


Pneumatic carrying Unit

- 30 cm linear transportation axis
- Position control with step motor
- Pneumatic material hold/release
- Vacuum key with digital indicator
- Double-effect cylindrical up/down movement
- Linear axis right-left limit keys

Control Panel

- PLC input-outputs with 2 mm socket and led
- System input-output with 2 mm socket and led
- Keys for the manual control of the system and the error simulation
- PLC with 14 input/10 output
- Start-stop buttons
- Emergency Stop Button



System Structure

- Desk; anodized aluminum sigma profile and lock rollers
- Channeled aluminum desk (50x60 cm)
- Pressure regulator and manometer
- Electropneumatic valve island
- I/O Board Module
- 24V power supply unit
- The supply voltage of the system is AC 220V.
- Dimensions: 60x150x67 (WxHxD)

Y-0044 B PROCESSING STATION

The work pieces coming to this station have been firstly left to the rotary table. The mechanism consisted of rotary table has proceed the work piece in the processing center and applied one of the processes such as punching/repairing/erasing as well as it has transmitted them to the transport unit. The linear mechanism unit carries the work piece to the test and separation station.

The processing station is composed of three units and control panel.

Control Panel

- PLC input-output having 2 mm sockets and led
- System input and output with 2 mm sockets and led
- Manual control of the system and keys for failure simulation
- PLC with 14 input/10 output
- Start-stop buttons
- Emergency stop button

System Structure

- Table; Anodized aluminum sigma shape and locked wheel
- Channeled aluminum table (50x60 cm)
- Pressure regulator and manometer
- Electropneumatic valve block
- 24V power source unit
- Supply voltage of the system AC 220V.
- Dimensions: 60x150x67 (WxHxD)

Rotary Table

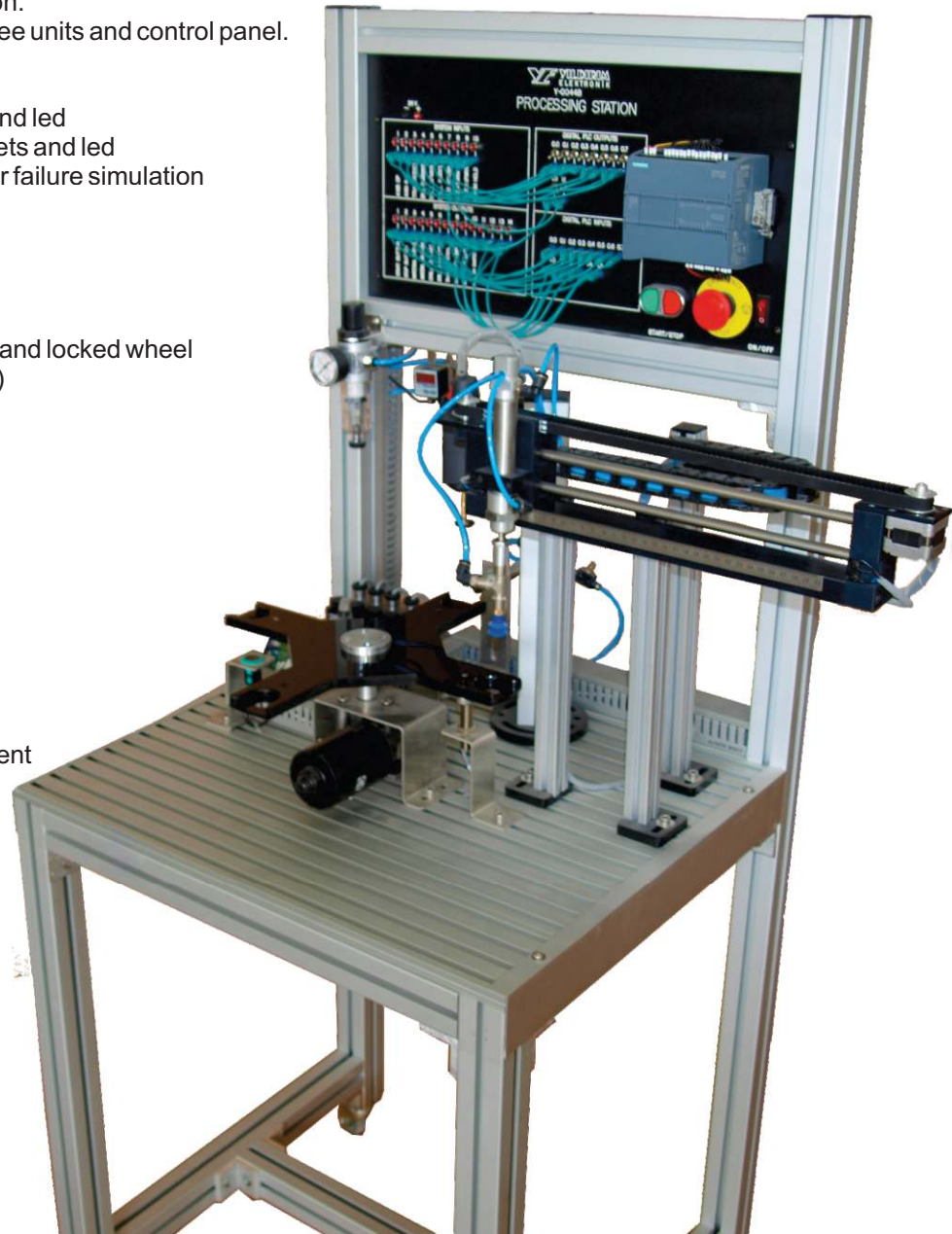
- Rotary table
- Inductive and optic sensors
- Flange engine and control relay

Processing Unit

- Holding plunger for construction equipment
- Reciprocate through threaded rod
- Processing engine
- Down/up bound keys
- Optic sensor

Pneumatic carrying Unit

- 30 cm linear transportation axis
- Position control with step motor
- Pneumatic material hold/release
- Vacuum key with digital indicator
- Linear axis right-left limit keys
- Double-effect cylindrical up/down movement



Y-0044 C TEST AND SEPARATION STATION

The qualifications of the work pieces which are left on to the conveyor, is detected by sensors, after the conformity tests are made by allocation mechanism the work pieces are separated. This station enables us to review the sensor technologies practically and can make studies with PLC on analog /digital signals which are coming from system.

PLC informs the user about the specifications and numbers of the work pieces over the operator panel. Upon the request of the user, the various working programs for operator panel and PLC could be prepared accordingly. Testing and separation station is composed of a conveyor unit and control panel.

Control Panel

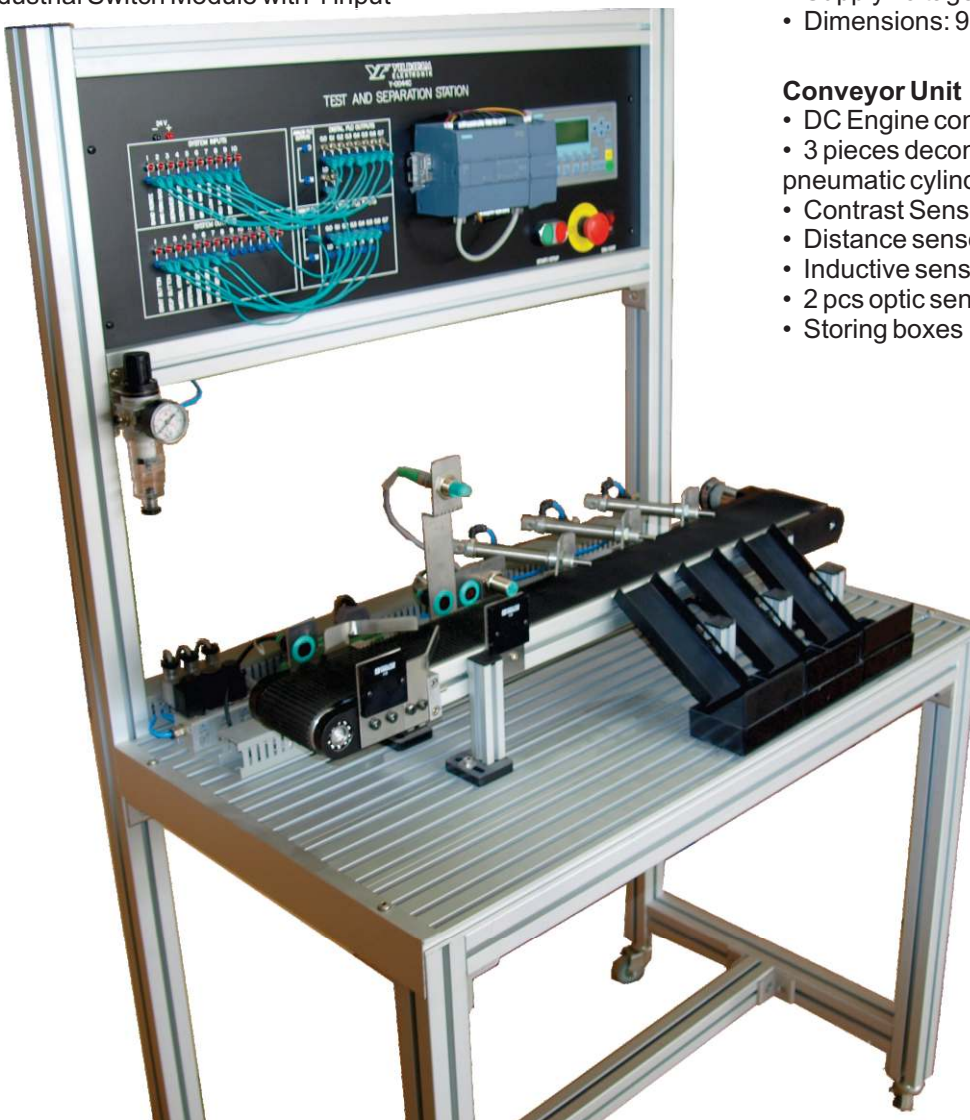
- PLC inputs-outputs with 2 mm sockets and led
- System inputs and outputs with 2 mm sockets and led
- Manual control of the system and keys for failure simulation
- 14 input/10 output PLC
- Start-stop buttons, Emergency Stop Buttons
- 1 pcs Operator Panel
- Analog Module with 2 input / 1 output
- Industrial Switch Module with 4 input

System Structure

- Table; Anodized aluminum sigma shape and locked wheel
- Channeled aluminum table (90x50 cm)
- Pressure regulator and manometer
- Electropneumatic valve block
- 24V power source unit
- Supply voltage of the system AC 220V.
- Dimensions: 90x150x67 (WxHxD)

Conveyor Unit

- DC Engine conveyor band mechanism
- 3 pieces decomposition mechanism with pneumatic cylinder
- Contrast Sensor
- Distance sensor
- Inductive sensor
- 2 pcs optic sensor
- Storing boxes



Y-0044
MECHATRONICS TRAINING SET

ACCESSORIES

- 3 user's guide and experiment booklet and application CD
- 1 licensed PLC Software programming CD
- 1 PLC programming cable
- 3 pcs IEC Power Cable (2 mt.)
- 3 material boxes
- 15 pcs work pieces
- 80 pcs 2 mm infinite matched test cable

TRAINING TOPICS

- Assembling/Installation applications
- Diagnosis and fault repair
- Comments and examination of documentations
- Mechanism topics of factory automation systems
- Connection and control of electronic connection of the mechanical structure
- Application of pneumatic elements at automation systems
- PLC applications at automation systems
- Usage applications of operator panel
- Topics on sensors and signal processing
- Examination of operating principle of conveyor mechanism
- Examination of step and DC motor controls
- Examination and taking into operation of electro-mechanic systems

YOUR REQUIREMENTS FOR THE APPLICATION

- 25 lt/minute, 6 bar air compressor

