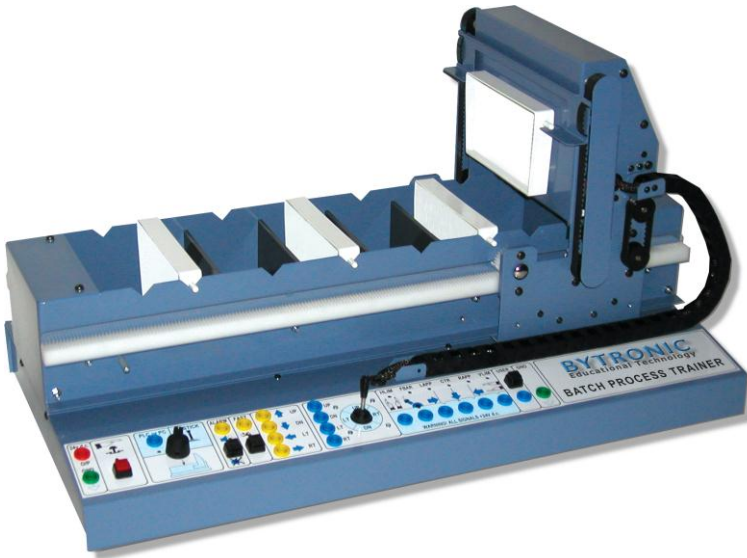


Batch Process Trainer BPT**Key Features:**

- Representation of automated batch process system
- LEDs on front panel for visual representation of sensors activity
- Hardware and software interlocks
- Automated and Manual control
- PC or PLC control
- 24v 4mm colour coded shrouded sockets
- 24v d.c and TTL connections
- Two Speed horizontal control

The Batch Process Trainer (BPT) represents the mechanics and control requirements of; electroplating, printed circuit board etching, paint stripping and degreasing as used in sequential processing industries.

The BPT consists of a transporter that traverses left and right over five separate process tanks with eight flight bar locations. A lift bar, attached to the transporter is used to raise and lower flight bars in and out of the process. The first program would implement only a few simple movements but the exercises become more complex until the student is capable of programming the carriage movements required for a complete (simulated) electroplating process. Solutions to the various exercises are also provided.

The control panel has LEDs for indication of the sensor activities. Manual control is available using the switches and a joystick. Connection through colour coded 4mm shrouded sockets on the front panel. PLCs can be connected using the 24v.d.c. 'D' type connectors and a PC can be connected, using a suitable interface, through the IDC on the rear of the unit.

Curriculum Coverage

- How the BPT works
- The BPT control panel
- Getting started
- Trouble shooting
- Connecting the BPT to a PC
- Connecting the BPT to a PLC
- Switched faults

Labworks**Exercises for the BPT using a PC**

- Sensors, actuators and hard interlocks
- Software installation and software program
- Simple control program
- Simple square dance
- General sequence
- Time-Out detection
- Transporter initialisation
- Flight bar detection and relocation
- Assignments

Exercises for the BPT using a PLC

- Sensors, actuators and hard interlocks
- Soft interlocks
- Semi automatic operation
- Simple square dance
- General sequence
- Time-Out detection
- Initial flight bar position detection
- Flight bar detection and relocation

Specification

Inputs	6 x 24V d.c digital Inputs
Outputs	11 x 24V d.c. digital outputs
Sensors	5 x Infra-red through beam sensor
Transporter position	left approach, centre and right approach
Vertical travel limiters	Top limit and bottom limit
Flight bar detection	1 x Infra-red reflective sensor
Front control panel	12 x Blue 4mm terminals for input signals 6 x Yellow 4mm terminals for output signals 1 x Red 4mm terminal for 24v d.c. power output 2 x Green 4mm terminal for 0v connection
Transporter drive	24V d.c. motor
Lift bar drive	24V d.c. motor
Horizontal travel limiters	2 x SPDT micro switches
Emergency stop	Red, hand operated push button on front control panel.
Joystick/manual control	Joystick for up, down, left and right movements Fast button for two speed horizontal motion.
Alarm sounder	Buzzer with push button silence feature
Number of flight bars	5
Number of process tanks	5
Number of flight bar positions	8
Selectable faults	4 x Switched faults
Connection	2 x 15 way D type connector 24v dc 1 x IDC 26 pins TTL 21 x 4mm colour coded shrouded sockets 2.1mm power jack socket
Power supply requirements	24V d.c. @ 1.5A

Required

A suitable PC with minimum; Pentium processor, 1GB RAM, 20GB HDD, CDROM Drive, and Windows XP or above

Ordering Information

Model Number:	BPT
<i>Consists of:</i>	1 x Batch process trainer 1 x 24Vd.c. power supply unit 5 x Flight bars 1 x User manual 1 x Software CD

Weights and Dimensions

Un-Packed		Packed	
Approximate Dimensions (mm)	650W x 320D x 350H	Approximate Dimensions (mm)	720L x 420W x 430H
Approximate Weights	16.2Kg	Approximate Weights	17.2Kg

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