



DEGEM  
SYSTEMS

Tech-Prep

Solar energy training system

Wind energy training system

Solar water heating energy  
training system

Polar robot & robotics principles  
training system

Conveyors & sorting machines  
training system

Cartesian robot & computerized  
storage training system

CNC lathe machine training  
system

CNC milling machine training  
system

Process control training system

Basic electronics training system

Basic communications systems

Basic pneumatics training system

Basic hydraulics training system

Basic mechanics training system

Pressure forming & inflation  
training system

Bending & vacuum forming  
training system

# TP-3716

## Process Control Training System

### Objectives

This course teaches the uses of process control, the components involved in a process control system, problem solving and logical reasoning. The application of logic, sequencing and control are demonstrated. The students will be able to apply logical thought processes and employ them in formulating basic algorithms for problem solving. The student also applies and learns about the advantages of simulation in industry. The students will be able to write, test and run his/her own programs by applying the user friendly, icon based, set of control commands.

### Description

The desktop unit contains three water tanks, filled with colored water. The height of the tanks is adjustable. Each tank has an electrically controlled valve. Water can flow from the tanks to a liquid accumulation tank. The level of the liquid in the accumulation tank is measured and controlled. The system includes a dedicated, user friendly, control software package. This package allows creating the process flow diagram, performing a simulation of the process and, finally, executing the process on the actual system. Measurement and control are all implemented via the computer.



# Specifications

## LEARNING PROGRAM

- Tech Prep pedagogical guidelines
- Introduction to process control
- Basic process control terminology, block diagrams
- Industrial process control technology
- TP-3716 process control system
- TP-3716 software
- Basic experiments
- Experiments with logic tools
- Advanced experiments

## TECHNICAL CHARACTERISTICS

- Upper storage tanks (3)
- Main tank for mixing color liquids
- Solenoid valve type (on/off) (3)
- Drain valve type (manual ball valve)
- Float
- Water level potentiometer
- Operating voltage (100 - 240 VAC, 50 / 60 Hz)
- General dimensions (610(w) x 455 (l) x 570(h) mm)
- Emergency stop button
- Main power switch
- Computer - machine connection (USB port)

## SUPPLIED ACCESSORIES

The learning unit is supplied with the following accessories:

- Paint type - soluble powder (red, yellow, blue)
- Colored liquid containers (3)
- Container for draining the main tank
- Software application and courseware or soft copy electronic book for MS-Windows PC

## REQUIRED ACCESSORIES

Personal computer with MS Windows (not included)

## SAFETY FEATURE

The following safety features are provided by the learning unit:

- 'Emergency Stop' pushbutton that cuts off all electricity to the unit when pressed.
- The soluble powder used to color the water is non-toxic, transparent and should not leave any residue in the tanks.

The courseware or e-book contains the essential theory and detailed procedures for each hands-on activity.