

Cascade Control Trainer



Product Categories: [Engineering Equipment](#), [Heat Transfer Lab](#)

Product Page: <https://www.labappara.com/product/cascade-control-trainer/>

Product Description

Cascade Control Trainer

The setup is designed to understand the advanced control methods used for complex processes in the industries. Different experiments like Flow, level and cascade control can be configured and studied with the setup. It consists of water supply tank, pump, level transmitter, transparent level tank, orifice meters with differential pressure transmitters, rota-meters, pneumatic control valve, I/P converter and serial based dual loop controller.

These units along with necessary piping are mounted on support housing designed for tabletop mounting. The set up is connected to computer through USB port for monitoring and control by using PID logics.

Range of Experiments

Study of open loop (Manual control)

Study of on/off controller

Study of proportional controller

Study of proportional integral controller

Study of prop. derivative controller

Study of PID controller

Tuning of controller (Open loop method)
Tuning of controller (Closed loop method)
To study stability of the system (Bode plot)
To study cascade control system

Flow Transmitter :

Output : 4 – 20 mA.
Supply : 24 V DC.
Range : 0 – 500 mm of we.

Level Transmitter :

Output : 4 – 20 mA.
Supply : 24 V DC.
Range : 0 – 500 mm of wc.
ADC & DAC Card : 2 Nos.

Level Tank : 1 No.

I/P Converter : 1 No.

Input : 4 – 20 mA

Output : 0.2 – 1 Kg/Cm² .

Control Valve:

Diaphragm Actuated: 1 No.

Line Size : ½ “

Pressure : 0.2 – 1 Kg/Cm².

Action : Air to Open.

Air Filter Cum Regulator: 1 No.

Service Required *

230 V AC Supply.

Air at the range of 2 Kg/Cm² constantly.

The System Consists of:

Computer : Core 2 Duo, 80 GB hard disk, 17” LCD flat screen monitor, keyboard
optical mouse, antivirus update, windows XP operating system, UPS 600 VA

Control Software:

SCADA SOFTWARE

Features:

Data logging facility for every one second

Windows based user friendly software runs on any computer

Data Printing facility

Powerful graphics with trends and bar page

Online data display in tubular chart and graphical form

Live mimic diagram of the process including SP , PV and CO.

P , PI , PD ,PID Modes

2 - way communication for control and data acquisition

Flow, Level and Cascade control

ON-Off & PID operation

SCADA study

Closed loop water circulation

Non-corrosive wetted parts