

Instrumentation and Process Control Lab

Subject overview:

Instrumentation and process control is a subject of study with its own intricacies and challenges. It is intimately related to chemical engineering science and practice. The design of a control system is not a mathematical problem, but should be perceived as an engineering task. A good understanding of physical and chemical phenomena taking place in a chemical process is of paramount importance for the design of simple and effective control schemes. Several alternative control configurations are usually possible for a given processing unit or complete plant.

Temperature Control Trainer:

The level control trainer is designed for teaching the basic level control principles study in chemical engineering. For ease of understanding, the product is described with its major components



Temperature Control Trainer:

The Temperature control trainer is designed for teaching the basic level control principles study in chemical engineering. For ease of understanding the real industrial control components, controllers, transducers, actuators operation, configuration and parameterisation of the local industrial controller

I to P and P to I Converter:

Its purpose is to translate the analog output from a control system into a precise, repeatable pressure value to control pneumatic actuators or operators, pneumatic valves, dampers, vanes. I to P converter provide a reliable, repeatable, accurate means of converting an electrical signal into pneumatic pressure.





Flow control Trainer:

Pressure Control Trainer is designed for teaching the basic level control principles study in chemical engg. The scope includes design, manufacturing, supply, installation. The trainer to be designed broadly using instruments with necessary piping & standard fittings. The trainer must have built in safety measures for its equipments, process and the user.

Pressure control Trainer:

The Flow control trainer is designed for teaching the basic level control principles study in chemical engineering. Flow control serves to demonstrate and teach the measurements of liquid flow processes. Flow Process Control course gives students hands-on experience raising and lowering water flow rates to preset levels using manual control and auto-tuning methods



Control Valve Characteristics:

Control Valve Characteristics is designed for teaching the basic level control principles study in chemical engg. An inherent characteristic is the ideal flow characteristics of a control valve. Its decided by the shape and size of the plug. On the other hand, when the valve is connected to a pipeline, its overall performance is decided by its effective characteristics.



Interacting and Non Interacting:

Interacting and Non Interacting is designed for teaching the basic level control principles study in chemical and instrumentation engineering. For ease of understanding, the product is described with its major components





Characteristics of PID Controller:

Calibration of Thermocouple is designed for teaching the basic level control principles study in chemical engg. Calibration is a measurement technology. It is the process of comparison of measurement values delivered by a device under test with a calibration standard of known accuracy.

Calibration of Thermocouple:

Characteristics of PID Controller are designed for teaching the basic level control principles study in chemical. The distinguishing feature of the PID controller is the ability to use the three control terms of proportional, integral and derivative influence on the controller output to apply accurate and optimal control.

