

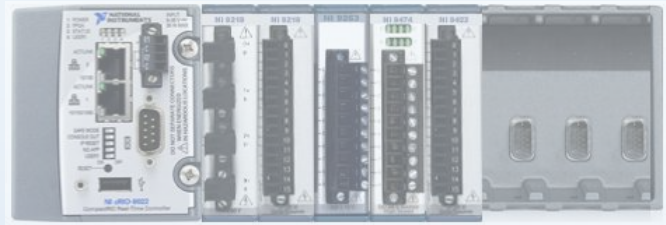
Process Control Laboratory



In this lab, we use a bench-mounted Process Trainer PT001 from National Instruments. It is a computer based process control training setup. It is used for Level, Flow, Pressure, Temperature, and Pressure control. It includes all required sensors and transducers to perform different process control experiments.

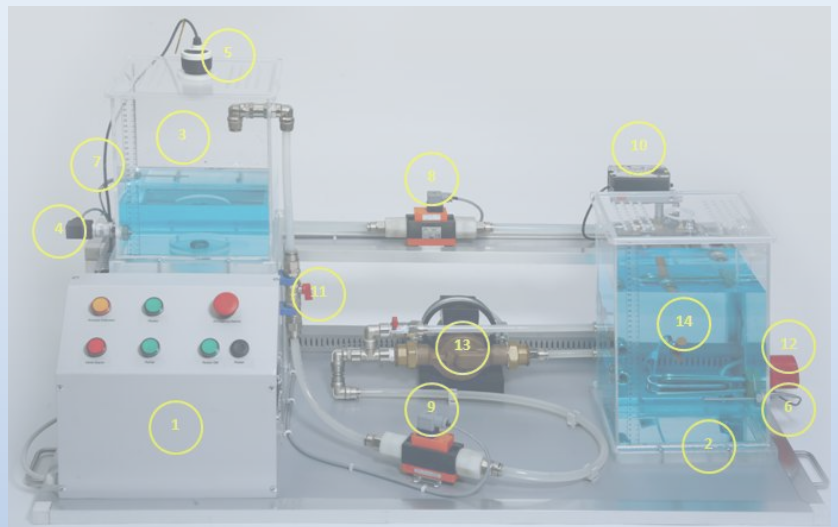
Major Equipment

- Process Trainer PT001
- CompactRIO Real-Time Controller: NI cRIO-9025
- NI cRIO-9118
- C Series Modules



Experiments

- Acquiring Physical Phenomena
- On/Off Control
- PID Feedback Control
- Setpoint Profile Generation
- Lead-Lag Compensation
- Feedback/Feedforward Control
- Multiloop Cascade Control
- Material's Ratio Control (Simulation)



1	Electric Control Box	8	Flow Meter (Upper)
2	Tank 1	9	Flow Meter (Lower)
3	Tank 2	10	Electric Flow Control Valve
4	Pressure Sensor	11	Manual Flow Control Valve
5	Ultrasonic Level Meter	12	Heater
6	Thermocouple Tank 1	13	Pump
7	Thermocouple Tank 2	14	Level Switch