

Laboratory Name	Vibration and Control lab.
Lab. Supervisor	Eng. Waleed Nayfeh
Lab. Location	Mechanical Engineering Department



Device Name: Simple Control Systems

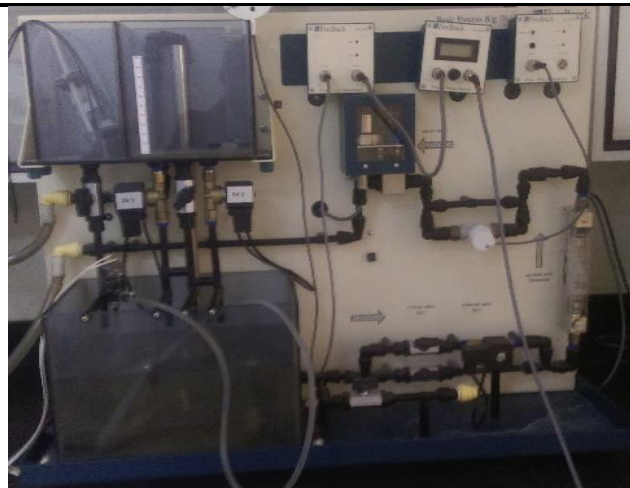
Used For:

Introduce the main concepts of control and some basic terminology.

Experiment associated with it:

Introduction To Control Systems

Courses associated with it: Control Systems.



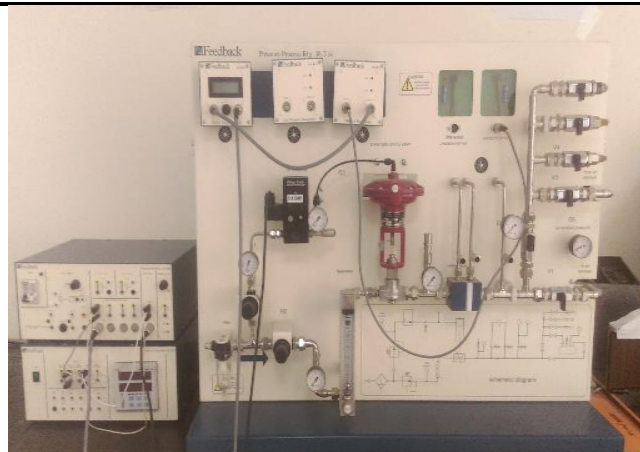
Device Name Level and flow control unit.

Used For: Complete package dealing with all aspects of level and flow process control. It also provides measurement and graphical display of results in real time using PC.

Experiment associated with it:

1. On/Off Control.
2. PI and PID Control.
3. Modeling of a Single Water Tank.

Courses associated with it: Control Systems.

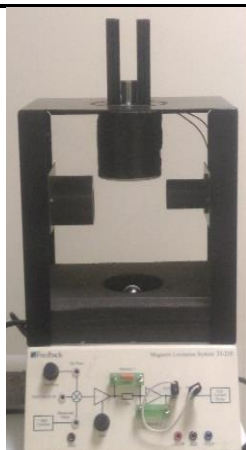


Device Name: Pressure control Unit.

Used For: To study of the principles of both pressure regulation of a process and the control of flow in a pressurized system.

Experiment associated with it: Proportional Pressure Control.

Courses associated with it: Control Systems.



Device Name: Magnetic levitation Unit.

Used For: Sustaining a metallic ball in an electromagnetic field with both analogue and digital solutions.

Experiment associated with it: Position control of a sphere in magnetic field.

Courses associated with it: Control Systems.



Device Name: Vibration Apparatus.

Used For: To determine the acceleration due to gravity and spring coefficient.

Experiment associated with it:

1. Stiffness of helical springs.
2. Frequency & amount of vibration amplitude of damped/undamped spring-mass system."

Courses associated with it: Mechanical Vibrations.



Device Name: Static and dynamic balancing apparatus.

Used For: The unit demonstrates the balancing of 4 different unbalance weights at the same time.

Experiment associated with it:

1. Investigation of static/dynamic basics of balancing.
2. Balancing Process.

Courses associated with it: Mechanical Vibrations.



Device Name: Bifilar and Trifilar Suspension Unit.

Used For: To measure mass moment of inertial of the suspended object.

Experiment associated with it: Study the response of one degree of freedom system.

Courses associated with it: Mechanical Vibrations.