

LESSON 4 - BASIC MECHANICS

Overview of Lesson 4 - BASIC MECHANICS for AUTOMATION

Lecture 1: Pressure & Flow

Lecture 2: Load & Force

Lecture 3: Temperature & Thermal Consideration

Lecture 1 of 3 - Pressure & Flow

Goal for this Lecture: For the student to gain an introductory understanding of basic mechanics, and how it relates to automation.

Lecture 1: Pressure & Flow with Mechanics

- I. Pressure and Flow with water and air
 - A. Wastewater Treatment
 - B. Water Filtration plant
 - C. Air with machines
- II. Mechanics (Basic Concepts)
 - A. Statics - The branch of the mechanics that deals with bodies at Rest.
 - B. Dynamics - the branch that deals with bodies in motion
 - C. Mechanics is the oldest physical science that deals with both stationery and moving boundaries under the influence of forces.
- III. Fluid Mechanics (is the science that deals with behavior of fluids)
 - A. Fluid Statics
 - B. Fluid Dynamics
- IV. Water Pressure in a home
 - A. Shower head water pressure
 - B. Shower or bath
- V. Flow
 - A. What is volume flow rate?
 - B. Volume flow rate formula
- VI. Can we find Pressure and Flow in Automation?
 - A. Oil Refinery
 - B. Fanuc Robot assembly line

- C. Amazon automated warehouse
- D. Pressure Transducer
- E. Pressure Gauge