

Closed Loop Pneumatics

Overview:

- From the function and the properties of selected components to the setup of pneumatic operating diagrams – many basics that pneumatic engineers need to know.
- Participants will be able to design feedback dependent Pneumatic circuits for different applications.

Participant Profile:

- Operation, Maintenance, Assembly & Planning personnel designers.
- Engineering Students.

Contents:

- Advantages of closed loop pneumatic system over open loop pneumatic system.
- Electronic pressure switch, Cylinders for closed loop Pneumatics.
- Calibration of the command values module VT-SWMA-1 for PLC interfacing.
- Setup of closed-loop control assemblies, devices and systems.
- Measuring resolution and operating times of the PID control according to the technical data sheets.
- Transfer behavior, repeatability, hysteresis and linearity of the ED02 and open position control loop with pneumatic cylinder.
- Pressure control valve ED02 with controlled pressure command values
- IndraLogic L20 project with PID controller; default PID settings; step response, capacity/damping, stability
- Constant pressure control, Force control, Basic principles of PID controlling, Pneumatic position control with spring
- Comparison of the pneumatic position control with and without PID controller
- Practical Implementation of various tasks by standard procedure of plan, decide, execute, analysis, discussion & evaluation.

Learning Target:

The Participants will be able to

- Understand the symbols, physical parameters, construction and functions of closed loop pneumatics system
- Model and design the closed loop pneumatic circuit by proper analysis of the fundamentals

Prerequisites:

- Basic Knowledge on fluid.
- Basic knowledge on computer application
- Communication Skills in English.

Evaluation:

- Theory & Practical Exam
- Project work based on Industrial Application.

Teaching & Learning Media:

- Multimedia Presentation.
- Cut-section & Transparent models.
- Sample units & Power units.

Time Durations:

- 18 Hours
- 3 Hours/ Day

Fee:

- ₹ 3500/- + GST

