



CONTROLS & MAINTENANCE OF PNEUMATICS

COURSE

Industrial Pneumatics and
Electro-Pneumatic Controls

TARGET GROUP

Engineers, technicians and
supervisors who are involved
in the design, operation and
maintenance of pneumatic
control systems for industrial
automation

PRE-REQUISITES

Basic technical knowledge and
able to speak, read and write in
basic English & Bahasa Melayu

CERTIFICATION

Certification of Competency

COURSE DURATION

5 days

LOCATION

Festo Sdn. Bhd.

Course Objective:

To provide the participant with an understanding of the construction and function of pneumatic and electric components used in automation. Participants will also be able to read, design and construct simple pneumatic and electro-pneumatic circuits.

Course Content:

- Characteristics of pneumatic systems
- Compressed air generation, distribution and preparation:
 - Different types of compressors and dryers
 - Design of piping system
 - Role of service units
- Construction and principle of pneumatic valves
- Construction and principle of working elements
- Basic pneumatic circuits
- Characteristics of electro-pneumatic systems
- Components and assemblies in the electrical signal control section:
 - Electrical switches
 - Electrical contacts
 - Electrical relays
 - Basic sensors
 - Solenoid operated directional control valves
- ISO electrical and pneumatic symbols according to ISO 1219
- Development and layout of simple controls:
 - Basic pneumatic circuits
 - Electro-pneumatic circuits
- Operation of pneumatic sequencing circuits:
 - Representation of working sequence
- Simulation and practical exercises



CONTROLS & MAINTENANCE OF PNEUMATICS

COURSE

Maintenance and Troubleshooting on Pneumatic and Electro-Pneumatic Systems

TARGET GROUP

Engineers, technicians and supervisors who are involved in the design, operation and maintenance of pneumatic control systems for industrial automation.

PRE-REQUISITES

Basic technical knowledge and able to speak, read and write in basic English & Bahasa Melayu

CERTIFICATION

Certification of Competency

COURSE DURATION

5 days

LOCATION

Festo Sdn. Bhd.

Course Objective:

To provide the participant with the knowledge of understanding pneumatic systems from the maintenance perspective, a systematic approach to maintenance, troubleshooting and design of pneumatic circuits is practised. Extend your specialist knowledge of complex pneumatic and electro-pneumatic control systems and improve your methodical skills.

Course Content:

- Compressed air preparation
- Physical principles of pneumatic and electro-pneumatic systems
- Function and construction of pneumatic components
- Function and construction of electrical equipment
- ISO electrical and pneumatics symbols according to ISO1219
- Methods for the development of pneumatic systems:
 - Control chain
 - Design and layout of circuit diagram
 - Basic logic functions, timer and counter function
- Operation of pneumatics and electro-pneumatic sequence control system
 - Working sequence
 - Method of representation
 - Signal control with signal cut-off
- Part subject to wear and tear
- Possible causes of failure on individual components
- Different types of valve terminal actuation
- Perform routine maintenance and fault tracing procedure on pneumatic and electro-pneumatic control system
- Preventive maintenance and safety regulation
- Practical exercises and systematic troubleshooting