



## Course Overview

### 110 Pneumatic Technology

Duration: 2 days

Prerequisite: None

Objectives:

- Understand compressed air production, purification, and distribution
- Understand the construction and the operation of components in a typical pneumatic control system
- Identify and use control schematics
- Design, build, and troubleshoot pneumatic circuits

### 130 Energy Saving

Duration: 1 day

Prerequisite: 110 Pneumatic Technology recommended

Objectives:

- Define energy conservation
- Explain the benefits of energy conservation
- Define areas where energy conservation can be applied
- Realize energy saving opportunities at their facilities

### 210 Electro-Pneumatic Technology

Duration: 2 days

Prerequisite: 110 Pneumatic Technology

Objectives:

- Understand the construction and function of components in electro-pneumatic control systems
- Identify and use control schematics
- Design, construct and troubleshoot electro-pneumatic circuits

### 310 Vacuum Technology

Duration: 2 days

Prerequisite: 110 Pneumatic Technology

Objectives:

- Understand vacuum system operation
- Understand basic vacuum components and their functions
- Select and size components for typical applications
- Carry out systematic troubleshooting of vacuum control systems

### 410 Pneumatic System Troubleshooting

Duration: 2 days

Prerequisites: 110 Pneumatic Technology / 210 Electro-Pneumatic Technology recommended

Objectives:

- Follow an organized and methodical system of troubleshooting
- Recognize the inherent dangers of stored energy and follow best practices for ensuring that equipment is safe to approach, diagnose and repair
- Observe common faults in pneumatic systems and trace each particular fault back to a specific component
- Complete a systematic troubleshooting exercise on a simple pneumatic circuit

### 513 Sizing & Selection

Duration: 1 ½ days

Prerequisites: 110 Pneumatic Technology or individuals who have well-rounded pneumatic knowledge. Good math skills are required.

Objectives:

- The fundamentals of sizing
- Pressure versus flow and the properties of compressed air
- Properly sizing individual components in a pneumatic system
- Calculating the flow rate of an entire pneumatic system
- How to use SMC online sizing software (Model Selection, Guided Cylinder Sizing Software, E-Tech Database)

*Note: All the sizing exercises done, are based on the Sonic Conductance C Standard (ISO 6358)*

### 999 Special Training Classes

On request, SMC also offers special training classes such as:

- Custom training classes
- On-site training classes
- Standard training classes compressed to 1 day
- Product training classes

Please contact your Regional Trainer or local Sales Representative for more details.

### #98 Online Technology Classes

Classes Offered:

- Industrial Pneumatics 4.3
- Industrial Mechanical 4.3
- AC / DC Motors and Drivers 4.3
- Industrial Safety
- Industrial Hydraulics 4.3
- Industrial Electrical 4.3
- PLC Fundamentals 4.2

Please contact your Regional Trainer or local Sales Representative for more details.