

# Craft Skills

Hydraulics and Pneumatics Fundamentals



## Course Number

MMS-125

## Course Purpose

This course provides information on the concepts associated with hydraulics, hydraulic systems and components, fluid principles, hydraulic system design, and hydraulic schematic symbology.

Upon completion of this course, you should be able to:

- Describe the basic principle of fluid dynamics
- State the relationship between force, pressure, and area
- List and describe the major components of a hydraulic system
- Identify the symbols used to identify hydraulic components in a schematic
- List and describe the major components of a pneumatic system
- Identify the symbols used to identify pneumatic components in a schematic

## COURSE AGENDA

### DAY 1

- Listing the Advantages of Hydraulics and Pneumatics
- Discuss Hydraulic and Pneumatic Components
- Disassembling, Cleaning, Inspecting, and Reassembling a Hydraulic and/or Pneumatic Control Valve
- Operating a Hydraulic and/or Pneumatic Cylinder Using a Given Medium

### DAY TWO

- Operating Multiple Hydraulic Cylinders Using a Hydraulic Medium
- Disassembling, Cleaning, Inspecting, and Reassembling a Hydraulic and/or Pneumatic Control Valve

### DAY THREE

- Operating a Pneumatic Cylinder Using a Pneumatic Medium
- Operating Multiple Pneumatic Cylinders Using a Pneumatic Medium
- Lab
- Review and Exam

## WHO SHOULD ATTEND

This course is designed for mechanical technicians.

## PREREQUISITES

To successfully complete this course, the following prerequisites are required:

- Understanding of mechanical theory and mechanical systems

## STUDENT MATERIALS

To enhance and facilitate the students' learning experiences, the following materials are provided as part of the course package:

- Student Manual
  - Includes the key concepts, definitions, examples, and activities presented in this course
- Lab Guide which includes the hands-on exercises

## HANDS-ON PRACTICE

Throughout this course, you will have the opportunity to practice the skills you have learned through a variety of hands-on exercises. These exercises focus on the skills introduced in each lesson.

You will also have the opportunity to combine and practice groups of key skills by completing multiple integrated practices during the course.

## NEXT LEARNING LEVEL

Once you have mastered the skills covered in this course, you may want to attend specific training, such as:

- Centrifugal Pumps

## COURSE LENGTH





This is a three-day course.

### TO REGISTER

To register for this or any other Rockwell Automation training course, contact your local authorized Allen-Bradley® Distributor or your local Sales/Support office for a complete listing of courses, descriptions, prices, and schedules.

You can also access course information via the Web at <http://www.rockwellautomation.com/training>

To be respectful of the environment, Rockwell Automation is transitioning some of its training courses to a paperless format. Students are asked to complete downloads and bring personal devices to these classes. A full list of digital/paperless courses is currently available through your local distributor.

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