Manufacturing Technology Training
An IMTMA initiative

Maintenance & Trouble Shooting of Hydraulics & Pneumatic Systems
Date : 19 to 20 August, 2026
Venue : IMTMA Technology Centre, Pune

INTRODUCTION

Hydraulic systems are used extensively in all kinds of process industries, construction equipment, vehicles, heavy engineering, Presses, Machine Tools, Factory Automation and many more sectors.

Hydraulic systems may look small, but are mighty in force, are highly versatile systems used for lifting heavy loads in a precise and repetitive manner. A well designed hydraulic system is critical to the productivity of an industry. Factoring in proper placement of the components and accessibility of frequently changed components, while making the unit as compact as possible with safety in place are key to a well-designed hydraulic system.

Hence in depth understanding about Hydraulics systems is mandatory for design, assembly and maintenance engineers. Proper functioning of the system, minimizing /eliminating down time and extending service life of the Hydraulic system is essential for uninterrupted production.

Pneumatics is used in Machine tools and factory Automation because of High speed, Low pressure application.

This programme will focus on in depth understanding of Elements of Hydraulics and Pneumatic circuits, Preventive Maintenance Procedures and Safe TroubleShooting Practices.

Keeping this in view, Indian Machine Tool Manufacturers' Association is organizing an offline training programme on **Maintenance and Trouble Shooting of Hydraulic and Pneumatics Systems.** Through Classroom session and Demonstration of cutsession and Power pack of machine tools.

FOCUS AREAS

- Introduction to principles of Fluidics
- Function & construction of hydraulic components - Pumps, DC Valves, Cylinders, Motors, Reservoirs and accessories
- Symbols and circuit diagrams
- Hydraulic circuits using elements - DC valves, Check valves, Pressure control and Flow control valves
- Hydraulic technology in Machine Tools – case studies
- Energy saving measures in Hydraulic power packs
- Maintenance and Trouble shooting of Hydraulic circuits; Safety procedures and practices.
- Hands-on sessions and exercises in Hydraulic trainer kit.
- Pneumatic components; Standard ISO Pneumatic Symbols & schematic diagrams
- Maintenance and Trouble shooting of Pneumatic elements & circuits; Typical issues with Do's and Dont's

KEY TAKE AWAYS

At the end of the program, the participants shall be able to:

- Understand Hydraulic and Pneumatic components / circuits
- Adopt preventive maintenance procedure for Hydraulic and Pneumatic systems
- Troubleshoot Hydraulic and Pneumatic circuits in systematic manner
- Innovate the system for superior performance & lower running cost.

PARTICIPATION FEE

Rs. 4999/-
+18% GST
IMTMA Members/ Micro Companies/ Individuals/ Educational Institutions / Students/ IMTMA Non Members/ Others

USD 200/-
Overseas Participants

Group Concession : 10% for 3 to 5 and 20% for 6 and more delegates being nominated from the same company

PARTICIPANT PROFILE

This programme will benefit Engineers & members from Design, Production, Planning, Engineering and Maintenance functions of manufacturing industries. This programme will cover from basics of hydraulics & Pneumatic Circuits to their maintenance & troubleshooting with hands-on practice.

FACULTY

This programme will be conducted by, IMTMA Subject Matter Expert.

He is a Domain expert with more than 38 years of hands-on experience in machine controls design, assembly, & commissioning. He is an expert in hydraulics, pneumatics, bearings lubrication & mechatronics (focus on factory automation). He has vast experience in circuit building, system designing, commissioning & fault finding. He has delivered extensive hands-on training in hydraulics and pneumatics to more than 2000 industry professionals across India. He represented India as Mechatronics trainer & expert of Mechatronics World Skills international Competition 2013 & Jury for Russian hi-tech World Skill competition 2014.

For Registration Contact

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REGISTRATION : Prior registration for participation is necessary. Number of participants is limited and will be accepted on 'First Come First Serve' basis. A Certificate of participation will be issued to participants.
Important Information : Participation fee includes, course material, working lunch and tea / coffee. Interested companies are requested to register online by clicking on 'REGISTER' button and by filling up the nomination authority and participant's details in specified form.