

# CENTRIFUGAL PUMPS MAINTENANCE & TROUBLESHOOTING

Start Date:	01/09/2025	End Date:	05/09/2025
Categories:	Engineering & Maintenance	Venues:	Amsterdam
Formats:	In Person	Instructors:	Marinel Hercut

## OVERVIEW

This technical course provides practical knowledge of centrifugal pump systems, covering their design, performance, maintenance, and troubleshooting techniques. Participants will gain hands-on insight into diagnosing failures, improving reliability, and optimizing performance for process-critical equipment.

## OBJECTIVES

By the end of this course, participants will be able to:

- Understand the operating principles of centrifugal pumps.
- Perform routine maintenance and alignment procedures.
- Diagnose mechanical seal failures, cavitation, and vibration issues.
- Select the right pump based on system requirements.
- Apply predictive maintenance tools to minimize unplanned downtime.

## COURSE OUTLINE

1- Introduction to Centrifugal Pump Principles 2- Components, Operation, and System Integration 3- Maintenance Procedures and Inspection Standards 4- Common Failures: Causes, Detection, and Prevention 5- Performance Optimization and Predictive Techniques

## TARGET AUDIENCE

Mechanical technicians, maintenance engineers, reliability specialists, and plant supervisors working with rotating equipment.

## METHODOLOGY

Hands-on disassembly/assembly, alignment practice, vibration demos, fault diagnostics, and group troubleshooting activities.

## CONCLUSION

Participants will be capable of maintaining and troubleshooting centrifugal pumps to ensure smooth and safe plant operations while minimizing operational disruptions.

## DAILY AGENDA

### Day 1: Pump Theory and Design

Explore hydraulic principles, pump components, and the head-flow relationship.

### Day 2: Operation and System Behavior

Study system curves, NPSH, cavitation effects, and performance indicators.

### Day 3: Maintenance and Alignment

Perform mechanical seal inspections, bearing checks, and coupling alignment.

### Day 4: Troubleshooting Techniques

Address common failures including vibration, leakage, and impeller wear.

### Day 5: Predictive Tools and Optimization

Use thermography, vibration analysis, and flow data to improve reliability.

*For more information, please contact us:*

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