Advanced Centrifugal Pump Systems & Power Dynamics

Duration: 5 Days

Language: en

Course Code: IND14-110

Objective

Upon completion of this course, participants will be able to:

- Understand the fundamental principles of centrifugal pumps and their components.
- Master advanced calculation methods for pump performance and system design.
- Develop skills to select and design pump systems that maximise efficiency and reliability.
- Learn about the integration of centrifugal pumps within broader power systems.
- Gain expertise in maintenance and troubleshooting to ensure long-term system performance.

Audience

This course is intended for

- Engineers
- Maintenance managers
- System designers
- Technical personnel involved in the selection, design, operation, and maintenance of centrifugal pump systems
- Professionals seeking to enhance their knowledge of pump integration within power systems for improved efficiency and performance

Training Methodology

The course employs a blend of theoretical instruction and practical application. Hands-on workshops, case studies, and group discussions will complement interactive lectures. Participants will engage in real-world problem-solving activities, utilising industry-standard tools and software for pump selection and system design.

Summary

This comprehensive 5-day course is designed to provide an in-depth understanding of centrifugal pump systems and their integration within power systems. It covers key concepts, advanced calculation methods, selection criteria, and maintenance strategies. Participants will gain practical skills to optimise pump performance, enhance energy efficiency, and ensure system reliability.

Course Content & Outline

Section 1: Introduction to Centrifugal Pumps:

- Principles and components
- Operating mechanisms
- Applications in various industries

Section 2: Hydraulic Performance and Efficiency:

- Flow dynamics and head calculations
- Efficiency curves and pump characteristics
- Cavitation and NPSH (Net Positive Suction Head) considerations

Section 3: Pump Selection and System Design:

- Criteria for pump selection
- System head curves and pump/system interaction
- Design of pump systems for optimal performance

Section 4: Power System Integration:

- Electrical considerations and motor selection
- Energy efficiency and power consumption
- Integration with control systems and automation

Section 5: Maintenance and Troubleshooting:

- Preventive and predictive maintenance strategies
- Common issues and failure analysis
- Repair techniques and best practices

Certificate Description

Upon successful completion of this training course, delegates will be awarded a Holistique Training Certificate of Completion. For those who attend and complete the online training course, a Holistique Training e-Certificate will be provided.

Holistique Training Certificates are accredited by the British Assessment Council (BAC) and The CPD Certification Service (CPD), and are certified under ISO 9001, ISO 21001, and ISO 29993 standards.

CPD credits for this course are granted by our Certificates and will be reflected on the Holistique Training Certificate of Completion. In accordance with the standards of The CPD Certification Service, one CPD credit is awarded per hour of course attendance. A maximum of 50 CPD credits can be claimed for any single course we currently offer.

Categories

Engineering, Manufacturing, Procurement, Warehouse, Logistics & Supply Chain

Tags

Power Dynamics , Pump Systems , Centrifugal Pump Systems

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