

Course Name: Centrifugal pumps

Code:

DATE:

Course Objective:

- Familiarize the Attendees with different types of pumps
- Learn the appropriate operation methods. By learning the operation limits of the machine
- Upgrading the knowledge of problems and solutions for pump.
- Exercising examples of troubleshooting methods
- Highlight the importance of cavitations in pumps
- Highlight the importance of seals and bearings on pumps availability
- Learn the importance and methods of lubrication

Who Should attend?

This course is mainly targeted to mechanical technicians working in the field as an introduction or refresher. The course can also be applicable to employees working with equipment purchasing, procurement, storage, and job planning, as well as immediate supervisors to the working technicians.

Course Outline:

Day 1

Identification

- Types of dynamic pumps
- Components
- Construction

The focus of day one will be the identification of dynamic pumps. Types of pumps that will be covered include piston, vane, and diaphragm. Participants will learn about dynamic pump terminology, hazards, safe work practices, and the components and their applications.

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Day 2

Pumping Theory

- Pressure Head Theory
- Dynamic Suction Lift Theory
- Dynamic Discharge Head
- Total Dynamic Head Theory

Day two will start discussions on the many different pumping theories. The specific theories that will be covered on this day will be pressure head, dynamic suction lift, dynamic suction head, and dynamic discharge head. The total dynamic head theory will also be discussed on this day.

Day 3

Pumping Theory (Cont.)

- Total Static Head
- Friction Head
- Static Suction Lift and Head
- Static Discharge Head

On day three participants will continue learning about pumping theories. The theories that will be covered on this day will include total static head, volumetric efficiency, friction head, viscosity, and velocity head. Static suction lift, static suction head, net positive suction head, and static discharge head will also be discussed.

Day 4

Pumping Theory (Cont.)

- Cavitation
- Aeration
- Vapor pressure
- Slip (slippage)
- Hydraulic efficiency

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The discussion of pumping theories will continue on day four. Participants will learn about cavitation, aeration, and vapor pressure. Other theories that will be discussed will include slip (slippage) and hydraulic efficiency.

Day 5

Maintenance and Diagnostics

- Repairing dynamic pumps
- Troubleshooting
- Repair and replacement

Day five will cover the maintenance and diagnostics of dynamic pumps. Repairing and troubleshooting pumps will be discussed on this day. Participants will also learn about evaluating pumps and determining if a pump can be repaired or if it needs to be replaced.

Course Duration: (5) Day

Venue:

Time: Numbers of hours: Hours

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