Best Technology Soultions **(BTS)**

Training Program

Pumps: Selection, Application, Operation, Diagnostic, Testing, Trouble Shooting

Introduction:

From the pump and pump system, to the people who operate, maintain and design the pump system, this course will discuss how to identify the real problems causing pump failure, and how to avoid repeating those problems in the future. This course is designed to have immediate impact so that you can start saving maintenance dollars on costly repairs and downtime today! Real examples and practical problems will be discussed and solved.

Who Should Attend?

Maintenance Technicians, Mechanics , Machine Operators, Building Owners, Plant Engineers, Facility Managers, Any Person involved in Cross-training, or Multi-craft Skills programs.

Course Objectives:

Upon completion of this course, participants should be capable to:

- Understand basic pump principles
- Properly select the right pump & motor for the job
- Install, start-up and commission a pump
- Correctly align a pump and motor
- Properly maintain pumps and pump systems
- Properly operate a pump system
- Read and understand what pump gauges are saying
- Read and apply pump curve charts
- Identify and distinguish a pump problem from a system problem
- Identify, correct and avoid cavitations problems
- Prevent mechanical seal failure
- Conduct failure analysis so as not to repeat errors

Course Outline:

Day 1 :

- Principals of hydraulics.
- Classification of pumps.
- Pump control and valves.
- Pump systems.
- Cavitations.

Day 2 :

- Losses in fluid systems including liquid, gas and sludge System calculation
- Principles and design of rotodynamic and positive displacement pumps and compressors cavitations

Day 3 :

- Control valve design and behavior
- Mechanical seals in pumps.
- The use of pumps in some industries.
- The selection and purchasing of pumps.

Day 4 :

- Pump installation, operation and maintenance.
- Chemical injection pumps.
- Pump testing and monitoring.
- Piping systems and piping connections.
- Performance of pressurized water-piping system.

Day 5 :

- Pump applications.
- Matching of machines and systems
- Pump intakes for clean and wastewater
- Drive system, control and operating economics
- Pump selection and maintenance
- Fluid transient and prevention