Best Technology Soultions **(BTS)**

Training Program

Rotating Equipment Maintenance And Troubleshooting

Introduction:

Pumps and compressors are the tow pieces of equipment which are used in almost all manufacturing and processing plants. The effectiveness of their selection, specifications, operations, maintenance and troubleshooting has tremendous impact on plant productivity. An understanding of the basic principles involved, how they work, what can go wrong, troubleshooting and preventive maintenance can go a long way to increase productivity. In addition, pumps and compressors are generally critical machines in any production process, and hence it is vital that maintenance is most effective for these units.

Who Should Attend?

Plant and process engineers, operators, supervisors and team leaders and managers in maintenance engineering and production. It is suitable for those who expects to become involved at any stage in project application and applicable maintenance technologies. The seminar will also benefit anyone who wishes to update themselves on pump and compressor technology, judge the suitability of different types of pumps and compressors for their needs, and learn how to operate and maintain them for the benefit of their organizations.

Methodology:

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Certificate:

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

Course Objectives:

The program assumes familiarity with troubleshooting and maintenance of rotating equipment. It adopts the approach to understanding the failure of all types of pumps and compressors. From a component-by-component perspective, the program investigates the root causes of failure, and relates these to operating conditions and process parameters. Installation, lubrication and wear related failure mechanisms are identified and a detailed understanding of the troubleshooting and diagnostic methods needed to detect and identify these is developed. The program provides participants with the knowledge needed to be effective in the inspection, monitoring and diagnostics of pumps and compressors, with emphasis placed upon the importance of a combined condition monitoring and strip-down inspection approach to maintenance. The main objective of this course is to enhance skills of plant personnel to increase productivity. This program aims to provide delegates with a comprehensive understanding of how to use a combined predictive and preventive maintenance approach to achieve maximum reliability and greatest understanding of any deterioration that may occur. This course focuses on the essentials to add to the skills of those who are responsible for plant equipment to reduce breakdowns and get more operation hour.

Course Outline:

DAY 1

- Rotating equipment overview
- Fluid mechanics and systems, an overview
- Pump fundamentals
- Pump selection and sizing
- Pump installation and operation

DAY 2

- Compressor installation and operation
- Alignment and mechanical consideration
- Antifriction and hydrodynamic bearings
- Flexible coupling installation and operation

DAY 3

- The effect of a gas density change
- Compressor selection and sizing
- Compressor design and maintenance
- Shaft sealing

DAY 4

- Steam turbine function and types
- Steam turbine operation and maintenance
- Gas turbine types, applications and operation
- Gas turbine performance and maintenance

DAY 5

- Functions and failures, predictive and preventive maintenance
- Failure consequences and analysis
- Steam turbine troubleshooting
- Pumps and compressors system troubleshooting

Summary and open discussion