





PERTECNCA'S

PUMP MAINTENANCE

TRAINING

BROCHURE

-  Practical training
-  Post training assistance

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PUMP MAINTENANCE TRAINING

The Pump Maintenance Training Program is designed to equip participants with the essential skills and knowledge needed to maintain, troubleshoot, and repair a variety of pumps used in industrial, agricultural, and domestic applications. This course focuses on the fundamentals of pump operation, preventive maintenance techniques, and best practices for ensuring the longevity and efficiency of pumping systems.

What you'll learn?

- Fundamentals of pump types and their applications
- Common pump problems and troubleshooting methods
- Preventive maintenance strategies for various pump systems
- Techniques for repairing and replacing pump components
- Safety protocols for working with pumps and pumping systems

Course summary:

Pump maintenance is a critical aspect of ensuring the reliable operation of equipment in various industries, including agriculture, manufacturing, and water management. This training program covers all essential aspects of pump maintenance, from understanding the working principles of different types of pumps to hands-on practice in diagnosing and repairing common issues. Participants will gain practical experience in maintaining pumps, ensuring their optimal performance and extending their lifespan.

Key Takeaways:

- In-depth knowledge of different types of pumps and their uses
- Expertise in diagnosing and troubleshooting pump-related problems
- Skills in conducting regular maintenance and emergency repairs
- Understanding of safety measures and regulatory standards in pump maintenance
- Ability to implement cost-effective maintenance strategies

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Course syllabus:

Module 1: Introduction to Pumps and Their Applications

- Overview of types of pumps: centrifugal, positive displacement, submersible, etc.
- Applications of pumps in various industries: agriculture, manufacturing, water treatment
- Basic principles of fluid dynamics and pump operation
- Introduction to pump system components and configurations

Module 2: Pump Installation and Setup

- Site selection and preparation for pump installation
- Installing and aligning pumps with drive systems
- Setting up control systems and monitoring devices
- Initial testing and commissioning of pumping systems

Module 3: Routine Maintenance and Inspection

- Understanding maintenance schedules and intervals
- Conducting visual and functional inspections of pumps
- Lubrication of moving parts and replacement of seals and gaskets
- Monitoring performance indicators: pressure, flow rate, temperature

Module 4: Troubleshooting and Problem-Solving

- Identifying common pump issues: cavitation, leaks, vibration, and noise
- Diagnostic tools and techniques for pinpointing problems
- Step-by-step procedures for troubleshooting various pump systems
- Repairing or replacing faulty components: bearings, impellers, shafts

Module 5: Preventive Maintenance Strategies

- Developing and implementing preventive maintenance plans
- Predictive maintenance using condition monitoring techniques
- Scheduling and documenting maintenance activities
- Best practices for minimizing downtime and maximizing pump life

Module 6: Advanced Pump Repair Techniques

- Disassembling and reassembling pump components
- Techniques for machining and fabricating replacement parts
- Welding, brazing, and other repair methods for metal components
- Reconditioning and retrofitting old or damaged pumps

Module 7: Safety and Compliance in Pump Maintenance

- Safety protocols for working with pumps and pressurized systems
- Understanding regulatory standards and industry best practices
- Handling hazardous materials and dealing with environmental risks
- Emergency response procedures for pump system failures

Module 8: Energy Efficiency and Pump Optimization

- Techniques for optimizing pump performance and energy use
- Upgrading to energy-efficient motors and drives
- Implementing variable frequency drives (VFDs) for speed control
- Assessing and improving overall system efficiency

Module 9: Real-World Maintenance Projects

- Hands-on project involving the maintenance and repair of a pump system
- Collaboration on diagnosing and solving complex pump issues
- Application of learned techniques in a real-world scenario
- Optimization of a pump system for improved reliability and efficiency

Module 10: Evaluation and Certification

- Comprehensive assessment of technical and practical skills.
- Written exams covering theoretical knowledge of pump systems.
- Practical exams on installation, operation, and maintenance.
- Certification upon successful completion of the course.
- Opportunities for advanced training and specialization.

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Practical training:

- Pump Installation: Hands-on experience in installing various types of pumps.
- Maintenance Procedures: Practical training in routine inspection and maintenance tasks.
- Troubleshooting: Real-time problem-solving for common pump issues.
- Component Repair: Techniques for repairing or replacing worn-out pump parts.
- System Optimization: Strategies for improving pump efficiency and performance.

Career scope:

Upon completing the Pump maintenance training course, graduates can explore career opportunities in various sectors, including:

- Pump Maintenance Technician
- Industrial Equipment Maintenance Specialist
- Agricultural Pump Mechanic
- Water Resource Management Technician
- Manufacturing Maintenance Engineer
- Utility Maintenance Supervisor



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