LDI TRAINING
"Leading Edge Courses for Professionals" ™

An LDI Training Course

PUMPS and DRIVERS

Design, Selection, Installation, Operation and Trouble-Shooting

by
Rachmat Sudjana, ST

Introduction

Pumps and Drivers are the second-most common machines in use today. They are exceeded in numbers only by the electric motor.

Knowledge of Pumps and Pump Operation is often overlooked in today's colleges and universities. This course is designed to educate you with the appropriate knowledge of Pumping principles focusing mainly on the Centrifugal Pump.

A thorough comprehension of underlying Pump principles is often required for you to effectively carry out your day to day business. If you design, specify, repair, maintain, operate or work with Pumps in any way, this course will provide you with the information required to perform these tasks.

The Aims

Upon completion of this course you will be able to identify Pump and Drivers classifications, describe the purpose of Pump parts, define various Pump terms, explain Pump Operation, describe the components of a Pump curve.

Develop a “feel” for the important parameters in designing, selecting, specifying, installing, operating and maintaining pumps and drivers.

How to select the appropriate driver, such as, internal combustion engine, turbine or electrical motor

Couse Contents

- **Pumps Principles**
  - Pump Definition
  - Pump Classifications
  - ANSI Pump Standard
  - Centrifugal Pumps
  - Pumping System and Design
  - Pump Selection

- **Pump Parts**
  - Overhung Impeller Centrifugal Pump Configuration
  - Overhung Impeller Centrifugal Pump Wet-end; Parts & Function
  - Overhung Impeller Centrifugal Pump Power-end; Parts & Function
  - Overhung Impeller Centrifugal Pump Driver; Parts & Function
  - Overhung Impeller Centrifugal Pump Support Structure; Parts & Function
  - Split-case Centrifugal Pump Part Differences

- **Pump Terms**
  - Pressure Terms
  - Fluid Terms
  - Pressure / Head Conversions
  - Temperature Effects

- **Pump Operation**
  - Fluid Flow
  - Fluid Energy Conversion

- **Pump Curves**
  - Pump Performance Curve Definition
  - Pump Performance Curve Elements
  - Element Effects; Various Operating Conditions

- **Driver Selection**
  - Size availability
  - Purchase price Vs total life cycle cost
  - Installation costs
  - Fuel Considerations
  - Power requirements
  - Environmental considerations
  - Final Selection

Who Should Attend

Engineering & Construction engineers, Mechanical Engineers, Process Engineer, Operation Engineers, Construction, Maintenance and operations personnel who are or will be responsible for the selection, sizing, specification, installation, testing, operation and maintenance of pumps, compressors and drivers used in surface production facilities, and other personnel who will involved in the daily operations of oil and gas fields activities

Your Course Leader

Rachmat Sudjana, ST. **Education**: - Industrial Engineering, University of Indonesia, - Mechanical Engineering, AKAMIGAS
Qualifications: - Professional Instructor for Oil and Gas Industry**,** - Technical Subject Matter Expert for Oil Company**,** - Lecturer and Mentor for Graduate Engineering Trainee**,** - Engineering Manager**,** - Senior Staff Pipeline/Facility Engineer**,** - Pipeline Material Selection Specialist

He possesses highly experienced and dedicated Professional Instructor with over 40 years of experience in the Oil & Gas industry, both domestically and internationally. Proven track record as a Technical Subject Matter Expert, Lecturer, and Mentor for graduate engineers. Skilled in pipeline material selection, facility engineering, and engineering management.

He is a seasoned professional with a passion for sharing knowledge, and eager to contribute his expertise to the next generation of engineers and continue to stay updated with industry developments.

He was an Oil & Gas Industry Practitioner in World class Oil Companies (Retired), Company Engineer of Foster Wheeler, Reading, UK, Lecturer , and Mentor of Graduate Engineering Trainee.

He presented technical papers at national and international forums **c**ontributed to the development of oil and gas industry professionals

This course is presented by LDITraining.

For information about LDI Training please visit www.lditraining.com
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