PUMPS & SYSTEMS

Improve Reliability, Reduce Power Consumption

YOUR INTERNATIONALLY RENOWNED PRESENTER

GLENN ROGERS
BENG, MBA

Glenn Rogers has worked in the pump industry for more than 29 years. His experience has included senior roles in pump selection and application, system review, pump troubleshooting, contract/project management, sales and marketing and quality assurance.

Glenn has previously worked for a major pump manufacturer and currently runs a successful pump training and consulting business. He runs pump and system training courses throughout Australia on a regular basis and has run courses in South Africa, Ghana, Nigeria, Indonesia, Laos, United Arab Emirates, Singapore, Malaysia, Thailand and New Zealand.

He has been running these courses in Australia for over 19 years. In that time more than 8,000 people have attended his training sessions.

Clients have included BP, Santos, ExxonMobil, BHPBilliton, Rio Tinto, Xstrata, Queensland Alumina, Water Corporation, Yarra Valley Water, Sydney Water, SA Water, Urban Utilities, South32, Xylem, KSB, Weir Minerals, Worley, Jacobs, Arup, GHD and many more.

Glenn also spent many years working with Singaporean and Malaysian companies on Strategy Development and Implementation. He therefore has a clear understanding of the need to make sure training has a positive impact on the bottom line.

Course 1 - Pumping Fundamentals
Course 2 - Advanced Pumping

Concise, practical training courses tailored to generate immediate benefits

Pumps are a major capital cost item, a key reliability problem and consume huge amounts of energy. For most companies the costs of owning and running pumps are much higher than they should be. A shortage of general knowledge on how to apply, specify, install and operate pumping equipment is the major reason for these high costs. These training courses are designed to address this problem.

UPON COMPLETING THE TWO COURSES DELEGATES WILL BE ABLE TO:

- Understand how system resistance controls the pump
- Learn how to read and use a pump curve
- Learn how the flow rate impacts on pump reliability
- Design better systems and select better pumps, leading to more reliable equipment
- Learn when to use Variable Speed and when to use a Control Valve
- Understand what happens when you operate pumps in parallel or in series - why it only sometimes works
- Understand what cavitation is, why it occurs and how to avoid it
- Avoid operational problems that lead to pump failures
- Understand the key mechanical construction features that will ensure you have a reliable pump
- Know where to focus to reduce power consumption
- Correctly set up piping, install and commission pumps
- Learn why pumps vibrate and why seals and bearings fail
- Implement best practice in pump monitoring and maintenance
- Get to the root cause of pump failures and solve recurring problems

See Booking Form For Course Dates

CERTIFICATE OF COMPLETION


Strategic Achievement

This is to certify that

Glenn Rogers

Has completed our course

Pumping Fundamentals

Held on 21 May 2013

A certificate of completion will be issued to all delegates completing the course.

Strategic Achievement

Making Training Count

DAY 1 - PUMPING FUNDAMENTALS

Introduction
Centrifugal vs Positive Displacement Pumps
The Basic Operating Principle
Introduction to the Pump Performance Curve

The Selection Process
Determining the Flowrate
Calculating System Resistance
Understand the System Resistance Curve
Workshop Exercise
Dealing With System Changes
Understand the Pump Curve
Controlling the Flow - VSD vs Control Valve

The Pump Curve
Pump Selection Workshop
Reading the Curve
Selecting the Pump
What is a Good/Poor Selection
The Significance of the Best Efficiency Point
Calculating Power Consumption

Parallel and Series Operation
Pumps in Parallel
Pumps in Series
When it Works / When it Doesn't Work
Speed Change vs Flowrate
Impeller Diameter Changes
Workshop Exercise

Cavitation
Cavitation
Nett Positive Suction Head Available
Nett Positive Suction Head Required
How Cavitation Impacts on Pump Selection
How High Can You Put Your Pump
Workshop Exercise

Installation and Commissioning
Piping Set-Up
Installation
Commissioning
Monitoring

DAY 2 - ADVANCED PUMPING

Total Cost of Ownership
Reducing Life Cycle Costs
- Efficient System Design
- Efficiency Pump Selection
- Efficiency Control Method

Mechanical Seals vs Gland Packing
How They Work
Advantages / Disadvantages
Reliability - Why They Fail

Pump Mechanical Construction vs Reliability
Design Options vs Reliability
Shaft Design / Seal Chamber Design, Bearings
Dealing with Axial and Radial Thrust
Workshop Exercise

Flowrate vs Reliability
Problems Operating at Low Flow
Problems Operating at High Flow
Vibration, Temperature, Radial Loads, Seal Failures
Suction Specific Speed and Reliable Operation

Purchasing Reliable Equipment
Reliability Begins With the Specification
Reliable Hydraulic / Mechanical Selection
Writing the Specification
Reviewing Bids Workshop Exercise

Maintenance and Monitoring
A 'Typical' Pump Overhaul
What Else Should Get Done
Ensuring Long Term Reliability
What to Monitor and Why

Troubleshooting Problems
Typical Problems and Causes
Troubleshooting - Getting to the Root Cause
The Troubleshooting Process

Wear vs Performance
Loss of Performance - Pump or Systems
Worn Clearance vs Loss of Performance

WORKSHOPS

Our approach is to use practical exercises to aid in fully understanding the concepts being taught. This is a very practical course. You will be able to go back to your workplace and implement changes and improvements in the way your organisation deals with pumps.

MORE INFORMATION

Check out our website or send us an email - details below.

WHO SHOULD ATTEND

We have people attending from all industries who are working with pumps. This includes water, wastewater, mining, minerals processing, oil and gas, power generation, food and beverage processing, paper manufacture, pump manufacture pump sales and HVAC. Attendees job roles vary from engineers to operators, to maintenance staff, and experience levels from starting out in the industry through to 40 years experience.

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