



2KG TRAINING

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PUMPING SYSTEM ASSESSMENT WORKSHOP

Improving Pump Efficiency and Reliability

ABOUT THE PRESENTER: HARRY ROSEN



Harry Rosen has over 30 years of experience in the pumping industry, his company TAS Online is an international market leader in engineering software and consulting services for both users and manufacturers of pumps

He is one of only two International Pump Experts contracted by the United Nations Industrial Development Organisation (UNIDO) to deliver expert pump training programs in South Africa, Malaysia, Indonesia, Thailand, Philippines, Russia and Colombia. He is also the lead facilitator in the 'Train the Trainer' program, whereby groups of pump experts are selected and developed as pump trainers themselves.

He recently presented a pumping systems course on behalf of the Massachusetts Energy Efficiency Partnership in Boston and is internationally recognised as one of the leading experts in promoting the system approach to pumping system optimisation.

He presents both a 3 day workshop on improving the efficiency and reliability of pumping systems, and a 4 day course on pump operation and maintenance. Drawing on his wealth of experience, both courses address both the theoretical and practical aspects of pumping systems. The courses have been supported by UNIDO, NCPC, Eskom (local power utility) and the National Energy Efficiency Agency as a valuable tool to help industry achieve their targeted 15% savings in electricity.

Number of days: 3

CPD Points: 3

Live Virtual Classroom

2KG Training Live Virtual Courses offer participants the same instructors, training systems, course materials, personal support, and face-to-face engagement with instructors and other participants that they would expect to find in a conventional classroom.

The Pump Efficiency and Reliability Live Virtual Course brings participants together in a virtual classroom, where they receive training from an expert via a live video link. Participants are interconnected via audio and video, enabling them to interact both with the instructor and with their classmates. Learners can speak to their instructor at any time to ask questions, request assistance, and instructors can provide hands-on support.

Who Can Benefit From This Course

Engineering consultants, engineering procurement construction engineers, pump system designers, pump system specialist, assessment engineers, process engineers, system engineers, reliability engineers, maintenance managers, and energy efficiency engineers.

Delegates Will Learn The Following:

- Benefits of assessing pumping systems
- Pump system power consumption and energy efficiency
- Interaction between pump behavior and system behavior
- Understand how the system is controlled and how to vary the operating point
- Understand the process for pump selection, specification, and acceptance

- Explain the function of different pump system components, such as drivers, bearings, seals, piping, valves, and instrumentation
- Identify common operating issues in pump systems and how to resolve them
- Describe the different preventive and predictive maintenance practices
- Understand piping and instrumentation diagrams, isometrics, process flow diagrams, and engineering drawings
- Identify optimization opportunities in existing systems and new designs
- Describe the steps in creation of an action plan for a pump system optimization program
- Importance of preparing a financial proposal using LCC analysis, NPV and ROI
- Implement optimization solutions

COURSE OUTLINE

Basic Principles	<ul style="list-style-type: none"> Hydraulic principles Flow, Head and pressure Power consumption and pump efficiency Pump types and applications Pump performance characteristics
Pumping Systems and Pump Control	<ul style="list-style-type: none"> - Static and friction head, System Curves - Systems with variable demand - Control valve throttling and bypass flow - Trimming impellers - Variable speed drives - Pumps in parallel - Pumps in series and multistage pumps - Pump selection considerations
Mechanical Components Driver	<ul style="list-style-type: none"> - Bearings - Pump Packing - Mechanical Seals - Pump- Motor Alignment - Electric motors
Life Cycle Costing and Pump Reliability	<ul style="list-style-type: none"> - Overview of LCC - Pump efficiency and reliability - Bearings and seal life - Cost of operating off BEP - Why pump duties change
Pumping System Assessments	<ul style="list-style-type: none"> - Guide to performing a pump system assessment - Optimization opportunities in existing systems and new designs - Importance of understanding piping and instrumentation diagrams, isometrics, process flow diagrams, and engineering drawings - Field data collection / Instrumentation - On site testing to find actual pump duty point - Highlight problem areas and make improvements - Failure analysis - interpreting the evidence - Develop financial proposal using LCC analysis, NPV and ROI - How to implement optimization recommendations
Maintaining Pumping Systems	<ul style="list-style-type: none"> - Condition monitoring - Preventive and predictive maintenance practices - Start-up and stop procedures - Pump Performance Monitoring - Measurement and verification (M&V) - Case Studies

In House Course Option - Extra day

- If the course is done in house at a customer's premises, an extra day can be arranged to conduct a plant walk through
- The trainer together with the delegates will go into the plant and look at their existing pumping systems, to show how to put the above theory into practice
- Equivalent to performing a level one assessment of a pumping system in the plant

Registration Form

Number of days: 3

CPD Points: 3

How to register for the course:

1. Complete this registration form and fax it to Phindi Chauke: Tel: 011 325 0686 Fax: 011 325 0488 Email: phindi@2kg.co.za
2. Acknowledgement will be emailed to you.
3. Final confirmation and details will be faxed or emailed to you approximately 7 days before the commencement of the seminar.

Cancellation Policy:

By signing and returning the registration form, the authorizing signatory on behalf of the stated company is subject to the following terms and conditions.

- All cancellations must be received in writing
- Any cancellations received less than 3 working days before the date of the event, the full fee will be payable and no refunds or credit notes will be given.
- If a registered delegate does not cancel and fails to attend the Workshop, this will be treated as a cancellation and no refund or credit note will be issued.

Delegate information:

Title: _____ Surname: _____ Name: _____

Full Company name: _____ Job Title: _____

Postal Address (to which invoice must be sent): _____

Code: _____ VAT number: _____

Tel: () _____ fax: () _____

Cell: _____ Email: _____

Contact/ Accounts information:

Title: _____ Surname: _____ Name: _____

Tel: () _____ fax: () _____

Cell: _____ Email: _____

Please tick the course that you would like to attend:

Live Virtual Classroom

- 11-13 May 2026, (3 Days)
Live Virtual classroom
R13 750.00 (excl VAT)

- 17-19 August 2026, (3 Days)
Live Virtual classroom
R13 750.00 (excl VAT)

Conventional Classroom

- Date to be advised (3 Days)
 Venue to be confirmed
R14 850.00 (excl VAT)

I have read and agreed to all the conditions of registration as stipulated in this brochure.

Signature

Date

For more info and to register contact Phindi Chauke on tel: 011 325 0686 or cell: 071 125 6188 and email: or visit www.2kg.co.za