



# PUMPS - APPLICATION, OPERATION & MAINTENANCE

TAKE THE MYSTERY OUT OF INDUSTRIAL PUMP APPLICATIONS

HRDF

[www.zohlgroup.com](http://www.zohlgroup.com)

## COURSE CODE: H-ME-01

LEVEL: Basic to Intermediate

LANGUAGE: Bahasa & English

## OVERVIEW

Pumps are essential components in almost all industries and required to meet system demands as well as operate safely, economically and reliably. This course will describe the function of both positive displacement and centrifugal pumps, discuss the operational characteristics, and explain the maintenance requirements.

Additionally, the course will discuss cost efficiency in terms of energy consumption and will provide information on selecting and purchasing the correct pump for a particular application.

## OBJECTIVES & LEARNING OUTCOMES

Main learning outcomes of this course:

- Be aware of the performance characteristics of positive displacement and centrifugal pumps
- Understand the operational and maintenance aspects of various pumps
- Become familiar with the components of positive displacement and centrifugal pumps
- Appreciate the influence of fluid sources and attached piping

## COURSE DURATION

2 days (9am—5pm)

Tea Breaks: 10:30am & 3:30pm

Lunch: 1:00pm-2:00pm

**Note:** Please contact our office for Training Date or visit our website for details ([www.zohlgroup.com](http://www.zohlgroup.com))

## METHODOLOGY

This program will be conducted with:

- Interactive Lecturers
- PowerPoint presentation
- Group Discussions
- Practical Exercise
- Role Play
- Case Study

## TARGET AUDIENCE

- Process Engineers
- Plant & Facilities Engineers
- Technicians
- Project Engineers & Managers
- Maintenance & Operations personnel
- Mechanical Foremen
- Instrumentation Technicians
- Pump Operators

## LOCATION

Mindset Discovery Center™@ZOHL, M2-6-08, Level 6, 8trium Tower 2, Bandar Sri Damansara, Kuala Lumpur (other Regions please contact our office)

## KEY TAKEAWAYS

*Participants will leave the training with specific knowledge to eliminate mysterious pump failures, improve the running time and service life on a population of industrial pumps.*

## LEARN WHY IMPROPER PUMP SPECIFICATION RESULTS IN:

- Unnecessary capital costs
- Large long-term energy losses
- Reduced pump reliability
- Elevated maintenance costs
- Reduced operation time
- Poor hydraulic performance
- Discover the key elements necessary to avoid these negative effects

## LEARN A TROUBLESHOOTING APPROACH THAT AVOIDS TRIAL AND ERROR

### FIND OUT HOW TO:

- ⇒ Focus on the real problem
- ⇒ Save wasted effort on unnecessary pump & motor repairs
- ⇒ Quickly determine a pump's performance
- ⇒ Correlate pump reliability and hydraulic performance
- ⇒ Visually assess bearing & seal service
- ⇒ Predict time to probable component failure
- ⇒ How to properly install and commission a pump
- ⇒ Optimize mechanical seal service life
- ⇒ Optimize bearing life
- ⇒ Improve power train (motor, coupling, pump) efficiency
- ⇒ Predict pump performance changes with variable speed motors

## COURSE CONTENT

- Positive displacement pumps
- Centrifugal pumps
- Cavitation
- Pump flow control
- Pump components
- Pump maintenance
- Pump condition monitoring
- Potential pump problems & workshop
- Operating & maintenance costs
- Pump installation & selection

Note: Course Content subject to further review



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## COURSE FEE

RM1,200 per person excl. SST

(Fee inclusive of Course Material, Attendance Certificate, and Meals)

## CERTIFICATE

Participants will be issued a Certificate of Attendance/Accomplishment upon successful completion of this training program. Full attendance is a pre-requisite.

## HRDF SBL KHAS

Claimable under HRDF SBL KHAS Scheme (for Companies contributing to HRDF)

## REGISTRATION METHOD

1. **Online:** [http://zohlgroupp.com/hrdf\\_registration/](http://zohlgroupp.com/hrdf_registration/) OR
2. Download this brochure at: <http://zohlgroupp.com/all-brochures/> and fill up the required information. Then please fax to: 03.6279.0663
3. Or contact our office at: 03.6279 9276 / 013.398.1038

## FACILITATOR

**Sathy Vel Naidu** - Sathy has more than 25 years of experience in the Mechanical and Electrical (M&E) industry. Over the span of his career he has gained significant knowledge in project management, electrical systems troubleshooting & maintenance, and systems design & engineering. In addition to managing projects he has also started sharing his knowledge through training services under ZOHL Technical Programs.



### Education:

- ◇ Electrical Chargeman License
- ◇ Certificate in Westinghouse Electrical Systems
- ◇ Power Systems Auditor for Procter & Gamble
- ◇ Radiation Safety Training for Honeywell TDC 3000

### Experience:

- ◇ Electrical Technician for Hitachi Electronics Devices Singapore
- ◇ Testing & commissioning supervisor for Toyo Engineering
- ◇ Asst Engineer for FPG Oleochemicals Sdn Bhd
- ◇ Maintenance Manager FPG Oleochemicals sdn Bhd
- ◇ Engineering Director at Pakat Perkasa Sdn Bhd
- ◇ Lightning & Earthing Protection Systems Trainer for Celcom
- ◇ Electrical Trainer for Leighton Offshore
- ◇ Senior Technical Trainer @ZOHL

\*Note: Trainer availability is subject to change



## REGISTRATION FORM

Participant#1: \_\_\_\_\_

Position: \_\_\_\_\_

IC No: \_\_\_\_\_

Participant#2: \_\_\_\_\_

Position: \_\_\_\_\_

IC No: \_\_\_\_\_

Training Date: \_\_\_\_\_

Training Venue: \_\_\_\_\_

Organization: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Contact Person: \_\_\_\_\_

Position: \_\_\_\_\_

Tel: \_\_\_\_\_

Fax: \_\_\_\_\_

Email: \_\_\_\_\_

Company Website: \_\_\_\_\_

## PAYMENT

CASH: RM \_\_\_\_\_ OR

CHEQUE No: \_\_\_\_\_

Please fax your bank-in slip to 03.6279.0663 or scan your bank-in slip and email to [plbk@zohlgroupp.com](mailto:plbk@zohlgroupp.com)

\*Please make your cheque payable to:

**ZOHL Consultancy Sdn Bhd**



Account No:  
**514392303373**

Signature & Company Stamp

### Note:

- Date & venue of seminar subject to changes
- Payment must be made 7 days before the training date
- Registration cancelled 7 days prior to the event is subject to RM100 service charge per participant
- No refunds for notice received less than 7 days prior to the event. A substitution may be made at any time at no extra charge.
- Program content may change subject to revision by our consultants from time to time.
- Full fee is required with your registration. 5% Group discount is available - min 3 pax.

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