



P101 FUNDAMENTALS OF CENTRIFUGAL PUMPS

COURSE DESCRIPTION

In this 2-day course, participants will review and learn about pump hydraulics, design, pump performance curves, system head curves and the relation between them. Participants will also be exposed to bearing selection criteria, requirement of proper shaft alignment, installation, and good operating procedure of centrifugal pumps.

COURSE OBJECTIVES

At the end of the course, participants will have a strong understanding of centrifugal pumps including a review of the basics of fluid sealing technology.

COURSE OUTLINE

- Understand the classification of centrifugal pumps, its basic working principle and types of impellers.
- Review basic hydraulic terms, concepts and parameters that determine the operating characteristics of a pump system.
- Review centrifugal pump performance characteristics.
- Discuss and review the different centrifugal pump types and design.
- Understand the construction of centrifugal sealless pumps.
- Review the ball bearings types, selection criteria, proper installation and lubrication.
- Review couplings types, its selection criteria, and over view of shaft alignment.
- Overview of packing and mechanical seals.
- Discuss on the requirement of centrifugal pump installation, operation and troubleshooting.
- Review and understand corrosion and erosion in centrifugal pumps.
- Discuss and review the various types of positive displacement pumps.

FOR WHOM

Process and maintenance technicians/technologists, maintenance supervisors, reliability and project technologists/specialists, and anyone responsible for selection, purchase, operations and maintenance of centrifugal pumps and related equipment.

PRE-REQUISITES

None.

COURSE LEADER

The course is conducted by experienced professional engineers with years of practical experience on rotating and fluid sealing equipment. The course leaders are all Flowserve approved certified trainers.

CERTIFICATE OF PARTICIPATION

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course.

COURSE INFORMATION

Course Code	: CT1000
Day / Time	: (9.00 am to 5.00 pm)
Duration (hours)	: 16 hours
Venue	: Chemical Process Technology Centre 81 Jurong Island Highway Singapore 627837
Closing Date for Registration	: One week before course starts

COURSE ADMINISTRATION

Registration

For registration, please complete and return the attached Registration Form together with the appropriate payment by cheque made payable to "Petrofac Training Pte Ltd".

Enquiries

Telephone: 6880 2000 Telefax: 6896 7151

Course Fee Subsidy/Payroll Subsidy
Not Available Yet



S201 FUNDAMENTALS OF MECHANICAL SEALS

COURSE DESCRIPTION

In this 2-day course, participants will gain a strong technical and practical understanding of mechanical seals through the exploration of design features and implications of many sealing systems in today's application. Participants will also be taught how to seek out critical details from vendors to understand and appreciate the limitations of the respective product.

COURSE OBJECTIVES

At the end of the course, participants will have a strong understanding of mechanical seals to enable them to select a economical and efficient sealing system that will improve the plant productivity and meet emission standards.

COURSE OUTLINE

- Brief review of a typical ANSI (chemical) and API (engineered) pump components, its construction and se of performance curves.
- Review mechanical seal basics, how it works, importance of balancing and ideal properties of mechanical seal face material
- Discuss basic construction of several types of single, dual non-pressurized (tandem), dual pressurized (double mechanical seal) and review design characteristics, environmental control (both API and ANSI piping plans).
- Review evolution of modern ANSI and API seal chamber.
- Review the problems associated with sealing of abrasive fluids and explore the design features incorporated for such application.
- Discuss typical bottom, side and top entry autoclaves, mixers and reactors and review common seal designs and systems.
- Review and discuss common causes of bearing failure, importance of lubrication and bearing housing protection devices.
- Discuss equipment inspection and identify common problems in the equipment that effect performance of mechanical seals.

FOR WHOM

Process and maintenance technicians/technologists, maintenance supervisors, reliability and project technologists/specialists, maintenance managers and engineers responsible for operations and maintenance of centrifugal pumps and related equipment and anyone responsible for selection, purchase, operations and maintenance of pumps and seals.

PRE-REQUISITES

None.

COURSE LEADER

The course is conducted by experienced professional engineers with years of practical experience on rotating and fluid sealing equipment. The course leaders are all Flowserve approved certified trainers.

CERTIFICATE OF PARTICIPATION

Certificates of Participation will be awarded to participants who have achieved 75% attendance for the course.

COURSE INFORMATION

Course Code	: CT1100
Day / Time	: (9.00 am to 5.00 pm)
Duration (hours)	: 16 hours
Venue	: Chemical Process Technology Centre 81 Jurong Island Highway Singapore 627837
Closing Date for Registration	: One week before course starts

COURSE ADMINISTRATION

Registration

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