

Distillation Processes

A Eurotek training course



ERS Distillation Processes

An introduction:

The ERS Distillation training course covers the key areas of fractionation from assessing the design of the internals through to their eventual installation and operation with the emphasis placed on practical aspects. The course will give participants a thorough understanding of the key elements associated with the design, installation, operation, control and troubleshooting of distillation columns. It will address practical issues which will enable engineers to make a positive and definable economic contribution to their company profits.

Learning objectives:

This course covers the key areas of assessing the design of internals through to their installation and covers the topics from a theoretical and practical approach. While small errors in the design or installation can lead to serious consequences beyond that which could be anticipated, it has been shown that procedures may not be sufficient to ensure verification of the installation of internals because personnel often do not have the appropriate knowledge with which to perform the job they are required to undertake. The course will address these issues and should enable engineers to make a positive and definable economic contribution to their company profits with a minimum of delay.

Upon completion of this course participants will have gained an understanding of:

- The key elements associated with column hydraulics
- The design of modern internals
- The installation of all types of internals
- The operation and troubleshooting of distillation columns and will also include simulation and phase equilibria
- A structured approach to troubleshooting.



Who should attend?

The ERS Distillation course is a comprehensive core skills course for professionals dealing with all aspects of the Distillation Unit. The course will be highly valuable to all engineers involved in the operation and design of Distillation facilities. Additionally, the course will be useful to any technical personnel wishing to gain an insight into the practical aspects of Distillation. Those who are experienced in other fields and seek a review of the fundamentals of Distillation will also find this course most beneficial.

Job Titles/Functions Appropriate for the Course Include:

- Process, Project, and Plant Engineers
- Computer/System Analysts and Refinery Modelling Engineers
- Operations Economic Evaluators
- Product, Equipment, Chemicals, Supplies or Services Sales Personnel

Description:

Distillation is still the most widely used means of separating chemical species in the petroleum and chemical industries and is the first unit operation in an oil refinery. This course covers the key areas of assessing the design of the internals through to their eventual installation. Various aspects relating to the initial design of column internals are covered. Current internals are reviewed including critical design aspects of trays, packings and ancillary equipment.

The discipline of Root Cause Analysis is introduced. The occurrence and avoidance of pyrophoric fires in columns, and the in-situ inspection requirements of all internals, are included. The philosophy and approach to troubleshooting is discussed including a review of actual troubleshooting cases, each demonstrating a significant problem area. The course is designed to open the mind to the wider issues of column internals and to the maintenance of the design performance over the cycle life of the unit. The course is designed to complement and supplement material presented in other ERS training courses.



Course Presenter

Martin Murphy is a Director and founder of MAM Consulting Ltd. He has over 35 years experience in the oil refining and allied industries from design, troubleshooting, operation and optimisation of both fuels and lubes processes as well as catalysis manufacture and application.

He has worked throughout the world in Exploration and Refining with ExxonMobil and BP, has started up and managed technical service departments, started up many FCCUs including ones at ExxonMobil, Total and Repsol.

He spent several years at ExxonMobil sites implementing non-investment operating improvements. While at BASF he managed new catalyst development programmes in Reforming and FCC as well as streamlining FCC catalyst production at one of their manufacturing plants.

He was the founder of Global Technology Forum, the organisers of the ERTC and ARTC series of Conferences.

He holds patents in fractionation and conversion processes and has authored several papers on operational analysis of conversion processes and catalysis. Martin is a Chartered Engineer and a member of the Energy Institute. He graduated in Chemical Engineering from University College Dublin, Ireland. He is also a PADI open water scuba instructor.



Course programme

Day 1

- Introduction
- Feeds
- General requirements
- Stage efficiency
- Design envelopes
- Accuracy and consequences
- Specific Distillation
- Crude oil
- Residue
- Other columns
- Column Internals
- Critical aspects (trays)
- Critical aspects (packings)
- Critical aspects (other internals)
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Day 2

- Column Internals
- Review of current trays and packings
- Pyrophoric Fires
- Occurrence
- Avoidance
- Column cleaning
- Control and Instrumentation
- Inspection:
 - what to look for up to delivery
 - before start up (trays)
 - before start up (packed)
 - before start up (other)
- Computer Exercises

Day 3

- Root Cause Analysis
- Troubleshooting
- Philosophy
- Gamma radiation/interpretation
- Tracers/interpretation
- Troubleshooting
- Case studies
- Q&A.



Registration form:**Distillation Course:**

Sir Christopher Wren's House Hotel, Windsor, UK

Please make a reservation at ERS Course for the following delegate:

Title _____ Given Name _____ Family Name _____
Position _____ Company _____
Address _____
Tel: _____ Fax : _____ Email: _____

For Bookings Received before 25th March :Course fee £1850.00 + 20% VAT

For Bookings Received after this date: Late Booking Supplement of £250.00 + 20% VAT will be applied

Eurotek Refining Services Ltd has obtained a special Conference rate at the Sir Christopher Wren's House Hotel. Bookings at this hotel must be made via Eurotek Refining Services.

- Single room per night (incl. breakfast) £116.67 + 20% VAT
- Double room per night (incl. breakfast) £133.33 + 20% VAT

Arrival Date _____ Departure Date _____ Number of nights required _____

PLEASE NOTE: Payment to be made at time of reservation. If an invoice is required to make payment by bank transfer or cheque please email your request or Purchase order to reservations@eurotek-refining.co.uk and an invoice will be emailed by return.

Make cheque payable to Eurotek Refining Services Ltd.

Transfers to: Account Eurotek Refining Services Ltd IBAN No. GB91LOYD30987301811462

Cancellations, Substitutions & Programme Changes If you are unable to attend the course, you may make a substitution at any time. All substitutions and name changes must be received in writing by mail, e-mail, or Fax. For cancellations received by mail, e-mail or Fax 21 days before course start, 75% of the fees will be refunded. For cancellations received after this date course papers will be sent, but no refund. An official cancellation number must be obtained from Eurotek Refining Services Ltd to qualify for a refund. Course content may be subject to change at Eurotek Refining Services Ltd.'s discretion

Course timetable:**25th April**

08.00 Onwards Course Registration
09:00-17:00 Course Programme

26th April

09:00-17:00 Course Programme
20:00 Course Dinner (free)

27th April

09:00-16:00 Course Programme

Five ways to book

1. Complete and return this form to:
Eurotek Refining Services Ltd 389
Woodham Lane, Addlestone Surrey KT15
3PP UK
2. Telephone with details on:+44 1932
702914 or +44 1737 830077
3. Complete and return this form to:
Reservations@eurotek-refining.co.uk
4. Visit our website at www.eurotek-refining.co.uk and click on Registration Form.
5. Complete and Fax this form to: +44
1737 830239



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