

TRAINING TITLE

OIL DESALTING SYSTEM STARTUP, SHUTDOWN, NORMAL OPERATIONS AND TROUBLESHOOTING

Training Duration

5 day

Training Venue and Dates

Ref. No. RE213	Oil Desalting System Startup, Shutdown, normal operations and troubleshooting	5	01-05 Sep. 2025	\$5,500	DUBAI, UAE
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

The oil desalting process is a critical step in crude oil treatment, ensuring the removal of salts, water, and other impurities to protect downstream processing equipment and improve product quality. Mastering the startup, shutdown, normal operations, and troubleshooting of oil desalting systems is essential for maintaining operational efficiency, minimizing downtime, and preventing costly issues. This 5-day course is designed to provide participants with a comprehensive understanding of oil desalting systems, including best practices for operation, optimization, and troubleshooting.

TRAINING OBJECTIVES

Upon the successful completion of this course, participants will be able to:-

- Understand the fundamentals of oil desalting, including system components and operational principles.
- Perform safe and efficient startup and shutdown of oil desalting systems.
- Monitor and optimize the performance of desalting systems during normal operations.
- Identify, analyze, and resolve common operational challenges and troubleshoot issues effectively.

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- Apply best practices to ensure the reliability, safety, and efficiency of desalting systems.

WHO SHOULD ATTEND?

This course is ideal for professionals responsible for the operation and maintenance of oil desalting systems in upstream and downstream oil processing facilities, including:

- Process Engineers
- Operations Engineers
- Field Operators
- Maintenance Personnel
- Production Supervisors
- HSE (Health, Safety, and Environmental) Professionals
- Plant and Facility Managers

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work & Practical Exercises
- 20% Videos & General Discussions

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COURSE PROGRAM:

Day 1: Introduction to Oil Desalting Systems

- Overview of the oil desalting process and its role in upstream and downstream operations.
- Key principles of desalting: removing salts, water, and contaminants from crude oil.
- Types of desalting systems: single-stage and multi-stage desalting.

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- Components of an oil desalting system: electrostatic grids, separators, and wash water systems.
- Common challenges in crude oil desalting: emulsion stability, salt removal efficiency, and fouling.
- Impact of improper desalting on downstream equipment and processes.
- Introduction to operational phases: startup, shutdown, and normal operations.

Day 2: System Startup Procedures

- Pre-startup checks: equipment inspection, utility readiness, and safety protocols.
- Step-by-step startup procedure for oil desalting systems.
- Setting operational parameters: temperature, pressure, wash water rate, and chemical dosing.
- Commissioning of desalting systems: initial filling, grid activation, and fluid circulation.
- Monitoring key variables during startup to ensure proper operation.
- Troubleshooting common startup issues: power failures, emulsion carryover, and poor separation.

Day 3: Normal Operations and Optimization

- Understanding steady-state operations in oil desalting systems.
- Key performance indicators (KPIs) for desalting efficiency: salt content, water content, and oil quality.
- Monitoring and controlling operational parameters for optimal performance.
- Chemical additives: demulsifiers and wash water conditioning agents.
- Process optimization techniques: adjusting flow rates, improving mixing, and maintaining grid performance.
- analyzing desalting efficiency data and making adjustments.

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Day 4: Shutdown and Maintenance Procedures

- Types of shutdowns: planned, unplanned, and emergency shutdowns.
- Safe shutdown procedure for oil desalting systems: depressurization, draining, and cleaning.
- Best practices for equipment maintenance: grid inspection, electrode cleaning, and separator maintenance.
- Troubleshooting during shutdown: handling residual fluids, grid failures, and fouling issues.

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- Long-term preservation of desalting systems during extended shutdowns.

Day 5: Troubleshooting and Advanced Topics

- Systematic troubleshooting of desalting systems during startup, shutdown, and normal operations.
- Addressing common issues: emulsion carryover, water carry-under, and fouling of grids.
- Advanced troubleshooting techniques: root cause analysis and predictive maintenance.
- Emerging technologies in oil desalting: automation, AI, and digital monitoring systems.
- Sustainability in desalting operations: reducing water and chemical usage.
- Course review, Q&A, and certification distribution.

NOTE:

Pre- & Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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