Global Horizon
TRAINING CENTER

Training Course:
Compressor & Pump Technology

22 June - 3 July 2026
Cape Town (South Africa)
DoubleTree by Hilton Cape Town - Upper Eastside

Training Course:
Compressor & Pump Technology

Training Course code: EN6024 From: 22 June - 3 July 2026 Venue: Cape Town (South Africa) - DoubleTree by Hilton Cape Town - Upper Eastside Training Course Fees: 12000 Euro

Introduction

Compressors and pumps are critical rotating equipment in industrial systems, responsible for the movement and compression of fluids in sectors such as oil & gas, petrochemicals, power generation, and manufacturing. Their performance directly impacts process efficiency, energy consumption, and operational reliability.

This program, designed by Global Horizon Training Center, provides a comprehensive 10-day training that equips participants with advanced knowledge and practical skills in the design, operation, maintenance, and optimization of compressors and pump systems.

Course Objectives

By the end of this program, participants will be able to:

- Understand the principles of pump and compressor operation
- Identify different types and applications of pumps and compressors
- Analyze performance characteristics and system behavior
- Perform sizing and selection calculations
- Diagnose operational issues and failures
- Apply maintenance and reliability strategies
- Optimize system efficiency and energy usage
- Ensure compliance with industry standards API, ISO

Target Audience

This program is designed for:

- Mechanical and Process Engineers
- Maintenance and Reliability Engineers
- Plant Operators and Technicians
- Oil & Gas and Industrial Professionals
- Facility and Utility Engineers
- Technical staff working with rotating equipment

Outline

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Day 1: Fundamentals of Pumps and Compressors

- Overview of rotating equipment
- Fluid dynamics basics
- Differences between pumps and compressors
- Components and terminology
- Safety considerations

Day 2: Pump Technology and Applications

- Centrifugal and positive displacement pumps
- Pump selection and applications
- Performance characteristics
- System requirements
- Case examples

Day 3: Pump Performance and System Analysis

- Pump curves and system curves
- Efficiency and energy consumption
- Cavitation and NPSH
- Flow control methods
- Performance optimization

Day 4: Pump Installation, Operation, and Maintenance

- Installation best practices
- Alignment and commissioning
- Preventive and predictive maintenance
- Troubleshooting pump issues
- Reliability improvement

Day 5: Compressor Types and Principles

- Reciprocating compressors
- Centrifugal compressors
- Screw and rotary compressors
- Applications and limitations
- Selection criteria

Day 6: Compressor Performance and Operation

- Compression processes and thermodynamics
- Performance curves and efficiency
- Surge and stall phenomena
- Control systems
- Monitoring and diagnostics

Day 7: Compressor Installation and Maintenance

- Installation and commissioning
- Lubrication and cooling systems

- Maintenance strategies
- Fault diagnosis and troubleshooting
- Reliability management

Day 8: System Integration and Optimization

- Integration of pumps and compressors in systems
- Energy efficiency improvement
- Load management and control
- Process optimization
- Digital monitoring tools

Day 9: Failure Analysis and Reliability Engineering

- Common failure modes
- Root cause analysis RCA
- Condition monitoring techniques
- Reliability-centered maintenance RCM
- Case studies

Day 10: Standards, Best Practices, and Case Studies

- API standards API 610, API 617, API 618
- ISO standards and compliance
- Best practices in operation and maintenance
- Real-world industrial case studies
- Final review and assessment

Registration form on the Training Course: Compressor & Pump Technology

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Complete & Mail or fax to Global Horizon Training Center (GHTC) at the address given below

Delegate Information

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Company Information

Company Name: .....
Address: .....
City / Country: .....

Person Responsible for Training and Development

Full Name (Mr / Ms / Dr / Eng): .....
Position: .....
Telephone / Mobile: .....
Personal E-Mail: .....
Official E-Mail: .....

Payment Method

- ☐ Please find enclosed a cheque made payable to Global Horizon
- ☐ Please invoice me
- ☐ Please invoice my company

Easy Ways To Register

Telephone: +201095004484 to provisionally reserve your place.	Fax your completed registration form to: +20233379764	E-mail to us : info@gh4t.com or training@gh4t.com	Complete & return the booking form with cheque to:Global Horizon 3 Oudai street, Aldouki, Giza, Giza Governorate, Egypt.