

Plate Heat Exchangers: Design, Performance, and Maintenance

Amman (Jordan)

8 - 12 November 2026

UK Training

PARTNER



Plate Heat Exchangers: Design, Performance, and Maintenance

Code: OG32 From: 8 - 12 November 2026 City: Amman (Jordan) Fees: 4900 Pound

Introduction

Plate heat exchangers are among the most widely used technologies for heat transfer in various industrial sectors, including refrigeration, HVAC, chemical processing, food and beverage, and energy. Due to their high efficiency, compact size, and ease of maintenance, they have become the preferred solution for many industrial applications.

This theoretical course is designed to equip participants with a mechanical background with a comprehensive understanding of the design, operation, and maintenance principles of plate heat exchangers. The course enables them to evaluate performance, identify common issues, and interpret technical manuals and system diagrams effectively.

Course Objectives

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

- Understand the working principles and different types of plate heat exchangers.
- Identify industrial applications for various types of plate heat exchangers.
- Grasp key thermal and hydraulic performance concepts.
- Become familiar with commonly used materials and quality standards.
- Develop skills in reading technical datasheets and installation diagrams.
- Recognize common failures and understand basic maintenance principles.
- Gain insight into the latest technologies and trends in the field.

Course Outlines

Day 1: Introduction & Components of Plate Heat Exchangers

- Introduction to heat exchangers and their main types
- Working principle of plate heat exchangers
- Key components plates, gaskets, frame
- Comparison between plate and shell-and-tube heat exchangers

Day 2: Types of Plate Heat Exchangers & Applications

- Gasketed, brazed, and welded plate heat exchangers
- Flow configurations within plate heat exchangers
- Industrial applications HVAC, food & beverage, energy, oil & gas
- Criteria for selecting the suitable type for each application

Day 3: Thermal & Hydraulic Performance

- Log Mean Temperature Difference LMTD and its role



- Causes and implications of pressure drop
- Effect of plate design on thermal efficiency and fluid dynamics
- Fouling: causes, impact, and prevention

Day 4: Materials, Standards & Maintenance

- Common materials used and their selection criteria
- Corrosion types in plate heat exchangers
- Relevant industry standards ASME, ISO, TEMA
- Common failures and inspection techniques

Day 5: Installation, Operation & Modern Technologies

- Installation steps and safe startup procedures
- Reading datasheets, technical manuals, and nameplates
- Cleaning, maintenance, and part replacement schedules
- Modern innovations smart systems, digital monitoring, energy-efficient designs

Why Attend this Course: Wins & Losses!

- Master plate heat exchanger selection and design □ or risk implementing inefficient and oversized systems.
- Understand failure modes and preventive maintenance □ or face unexpected breakdowns and operational downtime.
- Learn how to evaluate thermal and hydraulic performance □ or continue to rely on guesswork in sizing and troubleshooting.
- Read and interpret technical manuals and standards with confidence □ or struggle to implement OEM recommendations.
- Keep up with the latest technologies and digital innovations □ or miss opportunities to enhance energy efficiency and reliability.

Conclusion

This course provides mechanical professionals with essential knowledge and practical understanding of plate heat exchangers. With a solid foundation in design, performance evaluation, failure diagnosis, and modern technologies, participants will be better prepared to optimize systems, ensure reliability, and support long-term operational excellence across industrial applications.



Blackbird Training Clients



MANNAI Trading
Company WLL,
Qatar



Alumina Corporation
Guinea



Booking.com
Netherlands



Oxfam GB International
Organization,
Yemen



Capital Markets
Authority,
Kuwait



Waltersmith Petroman Oil Limited
Nigeria



Qatar National Bank
(QNB),
Qatar



Qatar Foundation,
Qatar



AFRICAN UNION ADVISORY
BOARD ON CORRUPTION,
Tanzania



KFAS
Kuwait



Reserve Bank of
Malawi,
Malawi



Central Bank of Nigeria
Nigeria



Ministry of Interior,
KSA



Mabruk Oil Company
Libya



Saudi Electricity
Company,
KSA



BADAN PENGELOLA
KEUANGAN Haji,
Indonesia



NATO
Italy



ENI CORPORATE
UNIVERSITY,
Italy



Gulf Bank
Kuwait



Defence Space Administration
Nigeria



National Industries
Group (Holding),
Kuwait



Hamad Medical
Corporation,
Qatar



USAID
Pakistan



STC Solutions,
KSA



North Oil company,



EKO Electricity



Oman Broadband



UNITED NATIONS
UN.



Authority for

UK Training
PARTNER



Blackbird Training Categories

Management & Admin

Entertainment & Leisure
Professional Skills
Finance, Accounting, Budgeting
Media & Public Relations
Project Management
Human Resources
Audit & Quality Assurance
Marketing, Sales, Customer Service
Secretary & Admin
Supply Chain & Logistics
Management & Leadership
Agile and Elevation

Technical Courses

Artificial Intelligence (AI)
Sustainability, ESG & Corporate Responsibility
Advanced Courses
Hospital Management
Public Sector
Special Workshops
Oil & Gas Engineering
Telecom Engineering
IT & IT Engineering
Health & Safety
Law and Contract Management
Customs & Safety
Aviation
C-Suite Training

