

# Plate Heat Exchangers: Design, Performance, and Maintenance

*Lyon (France)*

*27 - 31 July 2026*

UK Traininig

# PARTNER



# Plate Heat Exchangers: Design, Performance, and Maintenance

Code: OG28 From: 27 - 31 July 2026 City: Lyon (France) 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 Cities

## Europe



Malaga (Spain)



Sarajevo (Bosnia and Herzegovina)



Oporto (Portugal)



Glasgow (Scotland)



Edinburgh (UK)



Oslo (Norway)



Annecy (France)



Bordeaux (France)



Copenhagen (Denmark)



Birmingham (UK)



Lyon (France)



Moscow (Russia)



Stockholm (Sweden)



Podgorica (Montenegro)



Batumi (Georgia)



London (UK)



Istanbul (Turkey)



Amsterdam



Düsseldorf (Germany)  
(Switzerland)



Paris (France)



Athens (Greece)



Barcelona (Spain)



Munich (Germany)



Geneva



Prague (Czech)



Vienna (Austria)



Rome (Italy)



Brussels



Madrid (Spain)



Berlin (Germany)



Lisbon (Portugal)



Zurich



Manchester (UK)



Milan (Italy)



## Blackbird Training Cities

### USA & Canada



Los Angeles (USA)



Orlando, Florida (USA)



Online



Phoenix, Arizona (USA)



Houston, Texas (USA)



Boston, MA (USA)



Washington (USA)



Miami, Florida (USA)



New York City (USA)



Seattle, Washington (USA)



Washington DC (USA)



In House



Jersey, New Jersey (USA)



Toronto (Canada)

### ASIA



Baku (Azerbaijan)  
(Thailand)



Maldives (Maldives)



Doha (Qatar)



Manila (Philippines)



Bali (Indonesia)



Bangkok



Beijing (China)



Singapore (Singapore)



Sydney



Tokyo (Japan)



Jeddah (KSA)



Riyadh (KSA)



Melbourne (Australia)  
Korea



Phuket (Thailand)



Dubai (UAE)



Kuala Lumpur (Malaysia)



Kuwait City (Kuwait)



Seoul (South)



Pulau Ujong (Singapore)



Irbid (Jordan)



Jakarta (Indonesia)



Amman (Jordan)



Beirut



## Blackbird Training Cities

### AFRICA



Kigali (Rwanda)



Cape Town ( South Africa)



Accra (Ghana)



Lagos (Nigeria)



Marrakesh (Morocco)



Nairobi (Kenya)



Zanzibar (Tanzania)



Tangier (Morocco)



Cairo (Egypt)



Sharm El-Sheikh (Egypt)



Casablanca (Morocco)



Tunis (Tunisia)



## 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  
Kingdom of Saudi Arabia  
KSA



Mabruk Oil Company  
Libya



Saudi Electricity  
Company,  
KSA



BADAN PENGELOLA  
KEUANGAN Haji,  
Indonesia



NATO  
Italy



ENI CORPORATE  
UNIVERSITY,  
Italy



Gulf Bank  
Kuwait



المؤسسة العامة للتأمينات الاجتماعية  
General Organization for  
Social Insurance  
KSA



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.



هيئة تنظيم الكهرباء - عمان  
AUTHORITY FOR ELECTRICITY REGULATION, OMAN  
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)  
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



International House 185 Tower Bridge  
Road London SE1 2UF United Kingdom



+44 7401 1773 35  
+44 7480 775526



[Sales@blackbird-training.com](mailto:Sales@blackbird-training.com)



[www.blackbird-training.com](http://www.blackbird-training.com)

