

Reciprocating & screw compressors operating

Düsseldorf (Germany)

10 - 14 August 2026

UK Training

PARTNER



Reciprocating & screw compressors operating

Code: OG28 From: 10 - 14 August 2026 City: Düsseldorf (Germany) Fees: 4900 Pound

Introduction

This course offers a comprehensive understanding of various types of compressors, pumps, motors, and variable speed drives used in industrial applications. The course will cover essential terminology, operation, and maintenance strategies for reciprocating compressors, screw compressors, centrifugal pumps, and more. We will dive into the principles of operation, troubleshooting, and efficiency monitoring of these systems, enabling participants to apply industry best practices for maximum performance and cost efficiency.

Course Objectives

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

- Understand the different types of compressors, pumps, motors, and variable speed drives, such as reciprocating compressors, screw compressors, and centrifugal pumps.
- Operate compressors, pumps, motors, and variable speed drives efficiently to achieve optimal performance.
- Monitor and assess the efficiency, availability, and reliability of these systems.
- Learn selection, operation, and maintenance strategies for these critical components.
- Troubleshoot and resolve issues related to compressors, pumps, motors, and variable speed drives.

Course Outlines

Day 1: Compressors

- Compressor Types: Overview of positive displacement compressors reciprocating and rotary and dynamic compressors centrifugal and axial.
- Principles of compressor operation and gas laws.
- Compressor performance measurement and energy recovery.
- Detailed discussion on reciprocating compressors e.g., piston pumps, plunger pumps and screw compressors.
- Compressor control, unloading systems, and auxiliary components like intercoolers and after-coolers.

Day 2: Compressor System Calculations

- Affinity Laws for centrifugal compressors.
- Calculations for air leaks in compressed-air systems and annual costs.
- Power requirements for centrifugal compressors and reciprocating compressors.
- Compressor selection and air system requirements.
- Sizing compressor components, including air receivers and pump-up time.

Day 3: Bearings & Lubrication



- Overview of bearing types e.g., ball bearings, roller bearings and their operation.
- Analyzing lubrication systems and maintenance techniques.
- Oil analysis techniques: visual inspection, viscosity, and spectrographic analysis for evaluating lubrication condition.

Day 4: Positive Displacement Pumps

- Types of positive displacement pumps: reciprocating, screw pumps, and rotary pumps.
- Understanding the principles of pump operation and performance characteristics.
- Pump selection and calculation of system requirements.
- Understanding the role of pumps in system performance and their maintenance.

Day 5: Mechanical Seals & Vibration Analysis

- Mechanical seals: Components, lubrication, and temperature control.
- Overview of vibration analysis for predictive maintenance.
- Techniques for using vibration transducers to monitor compressor and pump performance.
- Troubleshooting using vibration analysis for equipment health assessment.

Why Attend this Course: Wins & Losses!

- In-depth understanding of compressors, including reciprocating compressors and screw compressors, crucial for optimizing industrial operations.
- Practical skills in operating compressors, pumps, motors, and variable speed drives with maximum efficiency.
- Knowledge of how to monitor the efficiency, availability, and reliability of these systems, ensuring high performance and low operational costs.
- The ability to troubleshoot and solve issues quickly, enhancing the life span of industrial equipment.
- Proficiency in selecting the appropriate systems based on specific operational needs and performing key maintenance practices.

Conclusion

This course provides a valuable opportunity to master the fundamentals of compressor operation, pump management, and motor performance. Whether you're new to the field or an experienced professional, this training will equip you with the knowledge and skills necessary to operate and maintain reciprocating compressors, screw compressors, centrifugal pumps, and variable speed drives efficiently.

By attending, you'll not only enhance your technical understanding but also improve your ability to troubleshoot, optimize, and maintain critical industrial equipment.

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)



Salzburg (Austria)



Florence (Italy)



London (UK)



Istanbul (Turkey)



Amsterdam



Düsseldorf (Germany)



Paris (France)



Athens (Greece)



Barcelona (Spain)



Munich (Germany)



Geneva (Switzerland)



Prague (Czech)



Vienna (Austria)



Rome (Italy)



Brussels (Belgium)



Madrid (Spain)



Berlin (Germany)



Lisbon (Portugal)



Zurich (Switzerland)



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)
(Kuwait)



Phuket (Thailand)



Shanghai (China)



Dubai (UAE)



Kuala Lumpur (Malaysia)



Kuwait City



Seoul (South Korea)



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



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.



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

 www.blackbird-training.com

