

## Basic Hydraulic Course

This course is aimed at anyone who wants to enhance their hydraulic skills and knowledge and is designed to give delegates a better working knowledge and understanding of fluid power systems. The course includes theory and one day practical session.

### Course Outline

- Introduction to Fluid Power
- Graphic Symbols and Circuit Drawings
- Fluid and Filtration
- Control Valves
- Pump and Motion
- Directional Valves
- Maintenance and Troubleshooting
- Hoses and Connectors
- Practical Session

### Who Should Attend

- Maintenance Engineers, Mechanics, Motormen, Service Engineers, Hydraulic Engineers, Chief Mechanics, Subsea Trainees, Assistant Subsea Engineers, Subsea Engineers.

### Course Duration

- 4 Days

### Certification

The final test at the end of the course requires a pass rate of 65%. After successful course completion students receive a certificate accredited by International Association of Drilling Contractors Drilling Industry Training (IADC DIT) and British Fluid Power Association (BFPA).

### Course Overview

This course has been developed to provide the students with the knowledge of hydraulic principles and fundamentals of industrial hydraulics found in offshore industry. On completion the attendee will have a knowledge and understanding of fluid power principles along with skills in schematic symbol recognition.

If you are interested in attending the course or looking for more information about the training please contact

## COURSE CONTENT AIMS AND OBJECTIVES

### **SECTION 1: INTRODUCTION TO FLUID POWER**

Gain knowledge of the basic principles of fluid power systems, which include force, pressure, power, Pascal's law and work.

### **SECTION 2: GRAPHIC SYMBOLS AND CIRCUIT DRAWINGS**

Learn how to interpret hydraulic symbols and incorporate them into schematic flow diagrams, which are an integral part of the fluid power system.

### **SECTION 3: FLUID AND FILTRATION**

Learn location of filter suction, pressure and return, types of contamination control, cleanliness level and table.

### **SECTION 4: CONTROL VALVES**

Learn about pump and motor operation and actuator types. Identify the differences between the gear vane, piston type pumps and motors, including the construction and functions of hydraulic cylinders.

### **SECTION 5: PUMP AND MOTION**

Learn the major types of directional control valves used in hydraulic circuits along with control setup and centre position.

### **SECTION 6: DIRECTIONAL VALVES**

Learn the control valves which cover flow, pressure and temperature control together with how they work in the fluid power system and where they are located in the setup.

### **SECTION 7: MAINTENANCE AND TROUBLESHOOTING**

Learn how to manage the maintenance of fluid power systems and use of a flow chart troubleshooting procedure.

### **SECTION 8: HOSES AND CONECTORS**

Learn about hoses and terminations, the composition of hydraulic hoses used in the oil industry along with hydraulic fittings and threads used in fluid power systems.

### **SECTION 9: PRACTICAL SESSION**

There are two stages to the practical session of this course. Stage 1 includes the following activities, strip down a hydraulic component, investigate the fault and write a detailed report on findings, recommendations and spares. Stage 2 includes the following activities, build a hydraulic circuit and test run, troubleshoot the system and get it running correctly and retest timings of events.