



TRAINING



TRAINING COURSES

BASIC HYDRAULIC PRINCIPLES

The training course is an introduction to the basic hydraulic principles of fluid power systems. It is designed to provide an understanding of hydraulic components, hydraulic system functionality and the importance of hydraulic safety practices.

WHO WOULD BENEFIT FROM THE TRAINING?

The course is suited for all individuals involved in the hydraulic industry seeking to gain further knowledge in hydraulics.

- ✓ New starters entering the hydraulics industry
- ✓ A refresher for individuals currently working in the hydraulics industry
- ✓ Individuals working in warehousing, sales, service or administrative roles in industries which utilise hydraulics.

THE COURSE COVERS

- ✓ Basic hydraulic systems
- ✓ Hydraulic components and their functions
- ✓ The extreme flexibility of hydraulic elements and associated problems
- ✓ Oil contaminations and the importance of filtration
- ✓ Why fluids must be confined in hydraulic systems
- ✓ Understanding of schematics and implementing safe work practices
- ✓ A certificate of achievement for successful attendees

Adelaide 08 8228 2411 • Sydney 02 8814 2100
Newcastle 02 4964 2123 • Brisbane 07 3022 3700 • Emerald 07 4988 1800
Mackay 07 4847 8800 • Melbourne 03 8793 6400
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SOUTHCOTT
Hydraulics & Control Systems

BASIC HYDRAULIC PRINCIPLES

COURSE OVERVIEW



1. HYDRAULIC PRINCIPLES

- Definition of Hydraulics
- Advantages and Disadvantages
- Physical Properties of Liquids
- Hydraulic Oil
- Pascal's Law



2. HYDRAULIC SYSTEM - COMPONENTS

RESERVOIR

- Principles and Features

PUMPS

- Hydraulic Pump Classifications
- Hydraulic Pump Design
- Hydraulic Pump Controllers
- Hydraulic Pump Types
- Gear/Vane/Piston Pumps

CONTROL VALVES:

Directional Control Valves (DCV)

- Spool DCV
- Ball Valves
- Check Valves
- Solenoid DCV
- Counter Balance Valves
- DCV Spool Configuration/Symbols

Flow Control Valves (FCV)

- Needle Valves
- Throttle Flow Controls
- FCV Symbols

Pressure Control Valves

- Relief Valves
- Unloader Valves
- Sequence Valves
- Pressure Control Valve Symbols
- Pressure Reducer Valves

ACTUATORS:

Linear Actuators

- Cylinders

Rotary Actuators

- Geroler
- Piston
- Vane
- Gear
- Geroter
- Rotary Actuator

FILTRATION:

- Contamination
- Filtration Types
- Filters Elements Media
- Filtration Accessories



3. ACCUMULATORS

- Accumulator Function
- Accumulator Types

4. OIL COOLERS

- Oil Cooler Function
- Oil Cooler Types

DURATION AND COST

Course duration and cost may vary depending on class numbers, student knowledge, accessibility to equipment, facilities and courses or multiple course selection.

CALL YOUR LOCAL SOUTHCOTT REPRESENTATIVE OR
SOUTHCOTT BRANCH TO DISCUSS YOUR COURSE REQUIREMENTS