



ENGINEERING AND TECHNICAL TRAINING

Industrial Hydraulics and Pneumatics

5 day course

Classroom, online or in-house

Course overview

Fluid power moves the heavy parts of most industrial machines, and it is troubleshooted by replacing components until the fault goes away because few people can read a circuit diagram. This course fixes that. Delegates work through fluid power principles including pressure, flow and their relationship to force and speed, then hydraulic components: pumps, valves, actuators and accumulators, and how each fails. Circuit reading is taught until a schematic can be followed through a machine. Pneumatic systems, air preparation and their differences follow. Contamination control receives full attention, since it causes most hydraulic failures. The course closes on systematic troubleshooting and on the safety of stored energy.

What you will learn

- Apply pressure and flow principles to force and speed
- Describe hydraulic pumps, valves, actuators and accumulators and their failures
- Read a fluid power schematic and follow it through a machine
- Operate and maintain pneumatic systems and air preparation
- Control contamination, the cause of most hydraulic failures
- Troubleshoot systematically rather than by replacement
- Control the hazards of stored energy in fluid power systems

Who should attend

- Maintenance technicians, fitters and electricians
- Mechanical and mechatronic engineers
- Plant and mobile equipment maintainers
- Maintenance supervisors and planners
- Machine operators with maintenance duties

Course outline

- 01 Replacing parts until the fault goes away
- 02 Fluid power principles
- 03 Pumps and prime movers
- 04 Valves, actuators and accumulators
- 05 Reading circuit schematics
- 06 Pneumatics and air preparation
- 07 Contamination control and fluid condition
- 08 Systematic troubleshooting and stored energy safety

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 September to 2 October 2026	Accra, Ghana	Classroom	USD 1,325
5 to 9 October 2026	Cape Town, South Africa	Classroom	R19,950
7 to 11 December 2026	Online	Online	R8,500
28 December 2026 to 1 January 2027	Durban, South Africa	Classroom	R19,950



Fees and how to register

This 5 day course is **R8,500** per delegate online, **R19,950** in the classroom in South Africa, Botswana, Namibia, Lesotho and Eswatini, and **USD 1,325** in the classroom elsewhere in Africa. In-house training is quotation on request. Book 2 or more delegates on this course and save 10%.

To register or request an in-house proposal, visit www.afrisciencegroup.com, email info@afiscience.co.za, or WhatsApp us on **+27 63 479 1136**.

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