



OIL, GAS AND PETROCHEMICALS TRAINING

Gas Compression and Transmission Operations

5 day course

Classroom, online or in-house

Course overview

A gas transmission system is a balance between what enters, what leaves and what is stored in the pipe itself, held in place by compressor stations that must answer every swing in demand. Work begins with steady state gas hydraulics: pressure drop equations, line pack and the influence of temperature and elevation on capacity. Compressor station operation follows, comparing centrifugal and reciprocating machines, reading performance maps, keeping clear of surge and stonewall and matching gas turbine or electric motor drivers. Station controls, load sharing, recycle and anti surge valves and unit sequencing come next, then transient behaviour, shipper nominations and gas control dispatch. Attendees return able to predict network capacity, run a station efficiently and ride through upsets without tripping units or failing a delivery point.

What you will learn

- Calculate pressure drop and capacity in a gas transmission line
- Explain how line pack buffers supply and demand swings
- Compare centrifugal and reciprocating compressors for transmission duty
- Interpret compressor performance maps and operating envelopes
- Operate anti surge and recycle control to protect machines
- Select and load gas turbine and electric motor drivers
- Plan station sequencing and load sharing for minimum fuel use
- Respond to transients, nominations and contract pressure limits

Who should attend

- Gas control and dispatch engineers
- Compressor station operators and supervisors
- Rotating equipment engineers on transmission assets
- Network planners and capacity analysts
- Gas utility and energy regulator technical staff

Course outline

- 01 Gas properties and flow equations
- 02 Line pack and network capacity
- 03 Centrifugal compressor behaviour
- 04 Reciprocating compressors in transmission
- 05 Surge, stonewall and anti surge control
- 06 Drivers, fuel and efficiency
- 07 Station control and unit sequencing
- 08 Transients, nominations and dispatch

Upcoming dates



Dates	Venue	Format	Fee per delegate
16 to 20 November 2026	Online	Online	R8,500
23 to 27 November 2026	Gaborone, Botswana	Classroom	R19,950
4 to 8 January 2027	Harare, Zimbabwe	Classroom	USD 1,325
11 to 15 January 2027	Cape Town, 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@afriScience.co.za, or WhatsApp us on **+27 63 479 1136**.

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