



ENGINEERING AND TECHNICAL TRAINING

Process Control Valves and Actuators

5 day course

Classroom, online or in-house

Course overview

The control valve is where a control strategy meets the process, and an incorrectly sized or poorly maintained valve will defeat any amount of tuning upstream of it. This course covers valve and actuator selection, sizing, installation and maintenance. Delegates work through valve types and their characteristics, sizing calculations including the treatment of flashing and cavitation, actuator and positioner selection, noise and its mitigation, and the diagnostics that identify a valve as the cause of poor loop performance. Practical maintenance content covers packing, seat leakage, stroking and calibration, and the failures that most often return a valve to the workshop.

What you will learn

- Select a valve type appropriate to the service and the control requirement
- Size a control valve, including cases involving flashing and cavitation
- Select actuators and positioners and specify fail action correctly
- Assess and mitigate valve generated noise
- Diagnose a valve as the cause of poor loop performance
- Carry out and verify stroking, calibration and routine maintenance
- Identify the recurring failures that shorten valve life

Who should attend

- Instrumentation and control engineers and technicians
- Maintenance and reliability staff
- Process engineers
- Project and commissioning engineers
- Technical buyers specifying valves

Course outline

- 01 Valve types, trim and inherent characteristics
- 02 Control valve sizing, and the effect of getting it wrong
- 03 Flashing, cavitation and material selection
- 04 Actuators, positioners and fail action
- 05 Noise generation and mitigation
- 06 Valve diagnostics and poor loop performance
- 07 Packing, seat leakage, stroking and calibration
- 08 Recurring failure modes and how to prevent them

Upcoming dates

Dates	Venue	Format	Fee per delegate
28 September to 2 October 2026	Online	Online	R8,500
22 to 26 February 2027	Dar es Salaam, Tanzania	Classroom	USD 1,325
1 to 5 March 2027	Nairobi, Kenya	Classroom	USD 1,325

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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