Gas Compressor Control (GCC2) Process and Surge Control Systems

Technical Training Course and Workshop
Introduction to the controlling of centrifugal compressors

Ideal for machinery, process and control engineers, this course will give you an understanding of the essential requirements of controlling centrifugal compressors.
Using Dynamic Simulation to Verify Surge-Protection Systems

Surging of compressors is a high-speed transient phenomenon and is extremely damaging for the plant and machinery. Its proper understanding requires the use of high-speed dynamic simulators to ensure that surge-protection systems are verified.

This practical course provides you with an introduction to the controlling of centrifugal compressors used in oil & gas, petrochemical refinery and LNG applications.

Who Will Benefit?

Ideal for machinery, process and control engineers this course will give you an understanding of the essential requirements of controlling centrifugal compressors.

Through the use of dynamic simulation models and live case studies, this course will enable you to understand the many complex issues inherent in the operation of the plant.

It is only by careful analysis of compressor operation and real time visualisation that the underlying interactions can be understood and the system be fine-tuned.

During the course the selection and optimisation of surge control valves will be described and a methodology for verifying its operation will be explained.

Dynamic simulations will also be used to illustrate the complex issues surrounding valve sizing, opening times and the need for hot gas bypass.

Content

- Process control of compressors explained
- What is the surge phenomenon and how to avoid it?
- Surge and process control systems explained (including special features)
- Application of PID controllers shown
- Dynamic simulation demonstrated, including:
  - Plant start up and shut down
  - Testing surge, process control systems and valve sizing
  - Dynamic simulation vs. steady-state analysis
- Valve sizing verification
- Transient analysis of compressor systems including start-up and shutdown

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