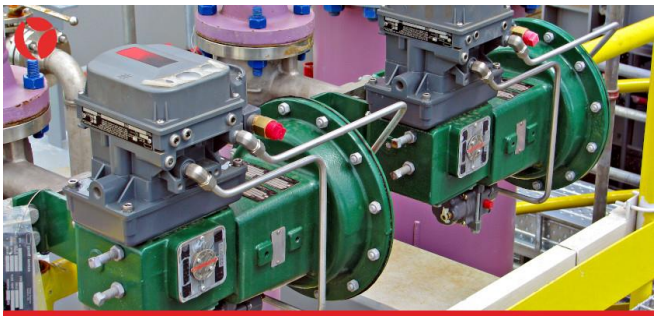
FACT SHEET (LIVE COURSE)

Control Valves Fundamentals



Instrumentation design for Process Plants: Fundamentals, Representation in PID's, Instruments mounting, Wiring, Drawings, Routing, Auxiliary equipment.

Who Should Attend?

This course is intended for graduates (or soon to be), designers, freelancers, technicians and engineers involved in: calculation, design, selection, manufacturing, safety, quality and maintenance of systems and equipment in industrial processes.

Previous knowledge of this subject is not required to attend to the course.

Training Objectives

The main objective of this course is to transfer to participants the theoretical and practical skills required in projects, obtained from experience and sound engineering practices.

Methodology

Instructor-led training course in adult learning format with discussions, individual exercises and simplified case studies, providing practical knowledge to implement in the field.

Duration

The duration of this training course is **16 hours**, divided into several sessions to facilitate the learning process.

What to expect?

Acquire the vocabulary and fundamentals

Recognize different type of control devices

Recognize different type of control valves

Get familiar with applicable design codes

Learn to calculate control valves

Understand cavitation and how to avoid it

Define the leak tightness of the valve

Comprehend the characteristic of the valve

Specify control valves

Benefit from best practices

Contents

Introduction

Introduction

Calculation of control valves

Definition and general concepts

Cv calculation, acceptability range

Noise: Hydro and aerodynamic

Valves cavitation

Cavitation effects and how to avoid it

Speed. Calculation and ranges

Valves types and applications

Globe

Ball

Butterfly

Configuration, Tightness and Characteristic

Definition and general concepts

Characteristic, factors intervening

Tightness, factors intervening

Control valves specification

Size selection, applicable standards.

Characteristic, applicable standards.

Material selection for each part

Selection of accessories

Solenoid valves, stops

Self-regulated valves

Similarities with control valves

Typical applications

Type selection and specification

Control valves & SIL

Control valves & SIL

Conclusions

Conclusions

Case studies in the classroom:

Elaboration questions to fix concepts

Specification of a control valve for liquid fluid

Specification of a control valve for gas line

Specification of a split range control valve

Specification of an anti-cavitation control valve

Specification of a low temperature control valve

Instructor

More than thirteen (13) years of experience in multidisciplinary engineering and construction projects, in fields such as Oil & Gas, Energy and Industrial processes in general, from both the Engineering (EPC) and the end user (Production) point of views, in positions like Instrumentation and Process Control Discipline Lead and Functional Safety Manager.

Vast experience as Coach and Trainer (Instrumentation and Process Control, Industrial Electricity, Risk Analysis, Functional Safety, SIS…), having taught at the University and training courses for experienced professionals to EPCs and Manufacturing and Production Companies globally.

Co-author of the book "Seguridad Funcional en Instalaciones de Proceso: Sistemas Instrumentados de Seguridad y Análisis SIL", edited in June 2012 by Diaz de Santos and ISA-Spain.

Arveng Training

Arveng Training has developed effective and practical courses for the needs of today's industrial challenges by delivering specific and high-quality engineering training courses utilizing all three approaches: classroom, on-line and tailored training. We are proud to have imparted more than 100 classroom courses, 200 online courses and over 15 in-company sessions. Our training activities has benefited over 1,500 professionals. Our greatest pride is in the letters of recommendation we receive from so many of our customers in this area.

We consider the time of our students as the most valuable. For this reason, all our courses have been designed with the main objective of quickly the professional skills of the participants, through our expert instructors in different disciplines. **We stimulate creativity, innovation and initiative to make the participants inquisitive to bring good engineering practices and lessons learned to the field that benefits their employers in the long term.**

Tailored Training

The most effective training is one that satisfies the needs of each company's business focus and deliverables. **We adapt our training programs to each specific requirement, offering bespoke solutions for each need.** The result, 100% tailored programs, developed to maximize the time investment and deliver tangible and intangible returns to the work teams.

After an assessment phase, a tailored training plan is de-signed jointly with the client. This plan is specifically tailored to meet the client's needs, focusing on effectively enhancing the capabilities of the work team. **We provide practical, dynamic and hands-on training,** making available the best instructors in each subject.

Our Company

Arveng Training & Engineering SL is a leading company providing Training and Engineering services based in Madrid, Spain. Our mission and vision are to be a leading training and engineering services company. We are a team of highly motivated, talented high qualified professionals with more than 20 years of experience. Our main goal is to provide our clients, the best training and engineering services and to exceed their expectations in all their spheres of industrial activity, through our renowned services which are based on efficient, innovative, cost-effective and transparent principles.

Established in July 2010, mainly oriented to the industrial sector, from the very beginning Arveng has always worked with closeness, responsibility and commitment in the different areas of activity.