VALVE TYPES: SELECTION, INSTALLATION AND OPERATION

Presenter: Abe Swart

ABOUT THE PRESENTER: ABE SWART

Abe Swart holds a B(Eng.) Mechanical Degree from the University of Pretoria. He started his career in 1998, with a small company, Culmen Consultants, where he gained extensive hands-on experience, in lifting equipment and pressure vessel design. Apart from doing detailed engineering design, this is where he got his first opportunity to write Technical Specifications.

Five years later he moved to SASOL Technology for the position of Piping Lead engineer on a $1b project and as a Valve Specialist. He has subsequently authored/co-authored more than 10 Sasol Specifications in Piping and Valves, Spares, Management Systems, Commercial Processes and was a major key contributor in Welding, Instruments and Electric specifications. He subsequently became the Secunda Lead for Piping. He also assumed the role of (Sastech-) Technical Representative for Synfuels Utilities and Tank Farm then later Acting Mechanical Manger for these (Sastech-) Business Units. Abe received no less than 30 recognition awards for his contributions in both technical and communication and one accolade bestowed upon him by the SASOL Technology MD.

Abe is currently a major technical contributor to the Petrochemical and Heavy industries and currently serve on the Pressure Equipment Regulation (PER) Forum.

Number of days: 3 **CPD** Points: 3

Live Virtual Classroom

2KG Training Live Virtual Courses offer participants the same instructors, training systems, course materials, personal support, and face-to-face engagement with instructors and other participants that they would expect to find in a conventional classroom.

The Valves: Selection, Installation & Operation Live Virtual Course brings participants together in a virtual classroom, where they receive training from an expert via a live video link. Participants are interconnected via audio and video, enabling them to interact both with the instructor and with their classmates. Learners can speak to their instructor at any time to ask questions, request assistance, and instructors can provide hands-on support.

INTRODUCTION

This course introduces the participant to the functionality and purpose of a valve and explains the working, and to guide the participant to select the correct valve for the application. It provides information to maintenance and operation personnel, to emphasize the specific application restrictions, possible replacement options and associated maintenance requirements. To select the best valve for an application, the participant must understand the functioning of the different types of valves.

Subjects also include SA statutory requirements and special services such as: slurry, ash, oxygen and also testing requirements, end connections, nomenclature, ratings, symbology, materials, operator and emissions, amongst many other crucial topics.

VALVE TYPES: SELECTION, INSTALLATION AND OPERATION Cont...

Many new valve types continuously evolve, from existing basic types or combinations thereof, resulting in countless different types. This course will introduce the understanding of basic types

WHO SHOULD ATTEND

- This course is aimed at petrochemical, process plant and power engineers, piping designers, chemical engineers for the purpose of selection of valves for new systems and plant such as refineries, chemical plants and power plants.
- Maintenance personnel, technicians, field engineers, process safety practitioners and R&D or process optimization personnel.

PROGRAMME OBJECTIVES

At the end of this program participants will have:

- An understanding of different basic valve types, and their basic operational function
- Knowledge to be able to select the valve type for an application and what to consider when changing or optimizing existing plants
- Adequate technical understanding to uncover evidence in Root Cause Analysis (RCA) of valve failures
- An understanding of valve operators (hand wheel, gearbox) and their selection
- An understanding of material and internal (trim) selection
- An understanding the legal accountability when procuring and using a valve

TRAINING METHOLODGY

The transfer of knowledge will be by means of presentation slides, and limited number of practical exercises. To ensure the audience's digestion and understanding of the material the presenter will continuously ask questions throughout the presentation. Interaction will be highly promoted in a confident, positive atmosphere. The level of the course will be from basic understanding to a higher level of detail to suit a wide variety of learners.

COURSE OUTLINE

DAY 1
Introduction & Arrangements

SESSION 1

- What is a valve?
- Types of valves
- Consideration for selection

SESSION 2

- Commodity Valves
- *Gate*
- *Globe*
- *Check*

SESSION 3

- Other commonly used valves
- *Butterfly*
- *Ball*
- *Plug*

SESSION 4

- *Knife Gate*
- *Pinch*
- *Diaphragm*
- *Rising stem ball (RSBV)*

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DAY 2

SESSION 5

- *Nomenclature*
- Various components
- *Materials*
- *Service requirements*
- Strength
- Temperature limitations
- *Operator types*
- *End connections*
- *Patterns*

SESSION 6

- *Legal requirements in SA*
- PER
- SANS 347 and SANS 329
- *Ratings & pressure temperature limitations*
- API and ASME
- AWWA
- BS DIN EN
- CWP and WOG
- Soft seats

SESSION 7

- *Testing*
- Body
- Seats
- Cryogenic
- Fire
- Owner Purchaser tests
- Specifications: API; ASME B16.34 B31.3 ANSI FCI 70-2
- *Uni- and Bidirectional valves*
- Shut-off vs flow
- *Installation*
- Position
- Orientation
- Direction

SESSION 8

- Special Applications
- Fugitive emissions
- API
- EPA
- Steam seal design
- Safety applications
- SILL
- ESD and HIPPS

DAY 3

SESSION 9

- Symbology
- Flow diagrams
- Specifications
- Specifications
- SA and International
- User eg SASOL
- Relief Valves Extended
- Categories
- Types
- Set pressure and overpressure

SESSION 10

- Actuators
- Electric
- Hand
- Pneumatic
- Hydraulic
- Instrument: FO FC
- Valve Locks

SESSION 11

- Sample codes and standards
- Practical session
- Sample problems
- Specific Queries
- Video CLIPS

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Registration Form

Number of days: 3 **CPD Points:** 3

How to register for the course:

1. Complete this registration form and fax it to Phindi Chauke: Tel: 011 325 0686 Fax: 011 325 0488 Email: phindi@2kg.co.za
2. Acknowledgement will be emailed to you.
3. Final confirmation and details will be faxed or emailed to you approximately 7 days before the commencement of the seminar.

Cancellation Policy:

By signing and returning the registration form, the authorizing signatory on behalf of the stated company is subject to the following terms and conditions.

- All cancellations must be received in writing
- Any cancellations received less than 3 working days before the date of the event, the full fee will be payable and no refunds or credit notes will be given.
- If a registered delegate does not cancel and fails to attend the Workshop, this will be treated as a cancellation and no refund or credit note will be issued.

Delegate information:

Title: _____ Surname: _____ Name: _____

Full Company name: _____ Job Title: _____

Postal Address (to which invoice must be sent): _____

_____

Code: _____ VAT number: _____

Tel: ( ) _____ fax: ( ) _____

Cell: _____ Email: _____

Contact/ Accounts information:

Title: _____ Surname: _____ Name: _____

Tel: ( ) _____ fax: ( ) _____

Cell: _____ Email: _____

Please tick the course that you would like to attend:

Conventional Classroom

☐ 17 -19 March 2025, (3 Days)
Johannesburg
R13 500.00 (excl VAT)

Live Virtual Classroom

☐ 29 September – 1 October 2025, (3 Days)
Live Virtual Classroom
R12 500.00 (excl VAT)

I have read and agreed to all the conditions of registration as stipulated in this brochure.

_____ _____

Signature Date

For more info and to register contact Phindi Chauke on tel: 011 325 0686 or cell: 071 125 6188 and email: phindi@2kg.co.za or visit www.2kg.co.za