COURSE OVERVIEW ME1140-2D
Valves Overhauling Procedure

Course Title
Valves Overhauling Procedure

Course Reference
ME1140-2D

Course Duration/Credits
Two days/1.2 CEUs/12 PDHs

Course Date/Venue

Session(s)	Date	Venue
1	June 15-16, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
2	August 04-05, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
3	October 05-06, 2025	Tamra Meeting Room, Al Bandar Rotana Creek, Dubai, UAE
4	December 08-09, 2025	Glasshouse Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE

Course Description

This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using our state-of-the-art simulators.

This course is designed to provide participants with a detailed and up-to-date overview of Valves Overhauling Procedure. It covers the types of valves including components and functions and its importance in industrial systems; the general procedures and steps in valve overhauling and tools required for valve disassembly; the detailed inspection of valve components and wear and tear or damage; repairing or replacing valve components; the valve component reconditioning techniques and step-by-step valve assembly procedure; and the torque specifications for each component, testing valve function during reassembly and final inspection before testing.

During this interactive course, participants will learn the types of seals and gaskets used in valves; the installation and maintenance of seals and prevention of leaks during overhauling; the pressure testing, functionality tests for opening, closing and sealing, leak testing and troubleshooting and adjusting valves for correct operation; the common valve issues, common causes of valve failure and solutions and corrective actions; the techniques for reducing the need for overhauling and monitoring valve performance through sensors; and the industry standards and industry best practices in valve overhauling.

Course Objectives

Upon the successful completion of this course, each participant will be able to: -

- Apply and gain an in-depth knowledge on valves overhauling procedure
- Identify the types of valves including components and functions and its importance in industrial systems
- Explain the general procedures and steps in valve overhauling and the tools required for valve disassembly
- Carryout detailed inspection of valve components and identify wear and tear or damage
- Repair or replace valve components and apply valve component reconditioning techniques
- Illustrate step-by-step valve assembly procedure, torque specifications for each component, testing valve function during reassembly and final inspection before testing
- Identify the types of seals and gaskets used in valves, install and maintain seals and prevent leaks during overhauling
- Apply pressure testing, functionality tests for opening, closing, and sealing, leak testing and troubleshooting and adjusting valves for correct operation
- Identify common valve issues, common causes of valve failure and solutions and corrective actions
- Implement techniques for reducing the need for overhauling and monitor valve performance through sensors
- Maintain inspection and maintenance records, comply with industry standards and apply industry best practices in valve overhauling

Exclusive Smart Training Kit - H-STK®

*Participants of this course will receive the exclusive "Haward Smart Training Kit" (**H-STK®**). The **H-STK®** consists of a comprehensive set of technical content which includes **electronic version** of the course materials conveniently saved in a **Tablet PC**.*

Who Should Attend

This course provides an overview of all significant aspects and considerations of valves overhauling procedure for maintenance technicians/engineers, mechanical engineers, quality assurance/quality control (QA/QC) personnel, safety officers, operations personnel, ttrainees or apprentices (optional), third-party Inspectors (if required) and other technical staff.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.

Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

- British Accreditation Council (BAC)

  Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

- The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units** (CEUs) in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **1.2 CEUs** (Continuing Education Units) or **12 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:

Mr. Manuel Dalas MSc, BSc, is a **Senior Mechanical & Maintenance Engineer** with over **25 years** of industrial experience in **Oil**, **Gas**, **Refinery**, **Petrochemical**, **Power** and **Nuclear** industries. His wide expertise includes **Gas Turbines & Compressors** Troubleshooting, **Gas Turbines** Performance, Maintenance & Testing, **Gas Turbine Performance** and Optimization, **Gas Turbine Control** Systems, **Advanced Gas Turbine**, **Gas Turbine Design** and **Analysis**, **Air Compressor** & **Gas Turbines** Selection and Design, **Material Cataloguing**, **Maintenance Planning & Scheduling**, Reliability Centered Maintenance (**RCM**), **Reliability Maintenance**, **Condition Based Maintenance & Condition Monitoring**, **Asset & Risk** Management, **Vibration Condition Monitoring & Diagnostics** of Machines, **Vibration & Predictive** Maintenance, Reliability Improvement & Vibration Analysis for Rotating Machinery, Effective Maintenance **Shutdown & Turnaround** Management, **Engineering Codes & Standards**, **Rotating Equipment** Maintenance, **Mechanical** Troubleshooting, **Static Mechanical Equipment** Maintenance, **Machinery** Failure Analysis, **Machinery Diagnostics & Root Cause Failure** Analysis, **Plant Reliability & Maintenance** Strategies, **Boiler** Operation & Water Treatment, **Pumps** Maintenance & Troubleshooting, **Fans**, **Blowers & Compressors**, **Process Control Valves**, Piping Systems & Process Equipment, Advanced **Valve** Technology, **Pressure Vessel** Design & Analysis, **Steam & Gas Turbine**, **High Pressure Boiler** Operation, **FRP Pipe** Maintenance & Repair, **Centrifugal & Positive Displacement Pump** Technology Troubleshooting & Maintenance, **Rotating Machinery** Best Practices, **PD Compressor & Gas Engine** Operation & Troubleshooting, **Hydraulic Tools & Fitting**, **Mass & Material Balance**, **Water Distribution & Pump Station**, **Tank Farm & Tank Termina**l Safety & Integrity Management, **Process Piping** Design, Construction & **Mechanical Integrity**, **Stack & Noise** Monitoring, **HVAC & Refrigeration** Systems, BPV Code, Section VIII, Division 2, **Facility Planning & Energy** Management, Hoist - Remote & Basic **Rigging & Slinging**, **Mobile Equipment** Operation & Inspection, **Heat Exchanger**, **Safety Relief Valve**, **PRV & POPRV/PORV**, **Bearing & Lubrication**, **Voith Coupling** Overhaul, **Pump & Valve** Technology, **Lubrication** Inspection, **Process Plant** Optimization, Rehabilitation, Revamping & Debottlenecking, Engineering Problem Solving and **Process Plant** Performance & Efficiency. Currently, he is the **Technical Consultant** of the **Association of Local Authorities of Greater Thessaloniki** where he is in charge of the mechanical engineering services for piping, pressure vessels fabrications and ironwork.

During his career life, Mr. Dalas has gained his practical and field experience through his various significant positions and dedication as the **Technical Manager**, **Project Engineer**, **Safety Engineer**, **Deputy Officer**, **Instructor**, **Construction Manager**, **Construction Engineer**, **Consultant Engineer** and **Mechanical Engineer** for numerous multi-billion companies including the **Biological Recycling Unit** and the **Department of Supplies** of **Greece**, **Alpha Bank Group**, **EMKE S.A**, **ASTE LLC** and **Polytechnic College of Evosmos**.

Mr. Dalas has a **Master's** degree in **Energy System** from the **International Hellenic University, School of Science & Technology** and a **Bachelor's** degree in **Mechanical Engineering** from the **Mechanical Engineering Technical University of Greece** along with a **Diploma** in **Management & Production Engineering** from the **Technical University of Crete**. Further, he is a **Certified Internal Verifier/Assessor/Trainer** by the **Institute of Leadership and Management** (**ILM**), a **Certified Project Manager Professional** (**PMI-PMP**), a **Certified Instructor/Trainer**, a **Certified Energy Auditor** for **Buildings**, **Heating & Climate Systems**, a **Member** of the **Hellenic Valuation Institute** and the **Association of Greek Valuers** and a **Licensed Expert Valuer Consultant** of the **Ministry of Development and Competitiveness**. He has further delivered numerous trainings, courses, seminars, conferences and workshops internationally.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

30% Lectures
20% Practical Workshops & Work Presentations
30% Hands-on Practical Exercises & Case Studies
20% Simulators (Hardware & Software) & Videos

In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Fee

US$ $2,750 per Delegate + **VAT**. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the workshop for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	*Registration & Coffee*
0800 – 0815	*Welcome & Introduction*
0815 – 0830	***PRE-TEST***
0830 – 0930	***Introduction to Valves*** *Definition and Types of Valves (Gate, Globe, Ball, Check, etc.) • Valve Components and Their Functions • Importance of Valves in Industrial Systems • Valve Materials and Selection Criteria*
0930 – 0945	*Break*
0945 – 1030	***Valve Overhauling Overview*** *What is Valve Overhauling? • Why Overhauling is Necessary for Valve Longevity and Performance • General Procedures and Steps in Valve Overhauling • Common Issues Requiring Valve Overhauling*
1030 – 1130	***Valve Disassembly Process*** *Tools Required for Valve Disassembly • Step-by-Step Disassembly Process • Inspection During Disassembly • Safety Precautions During Disassembly*
1130 – 1215	***Cleaning & Inspection of Valve Components*** *Types of Cleaning Techniques (Manual, Ultrasonic, etc.) • Importance of Cleaning in Preventing Future Damage • Detailed Inspection of Valve Components (Seat, Disc, Stem, etc.) • Identification of Wear and Tear or Damage*

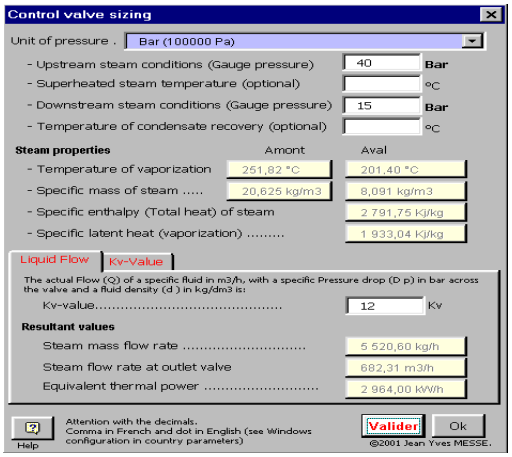
1215 – 1230	*Break*
1230 – 1330	***Repairing or Replacing Valve Components*** *Criteria for Deciding Whether to Repair or Replace Valve Parts • Common Repairs for Valve Components (Seat Re-Facing, Valve Stem Replacement) • Sourcing Replacement Parts • Valve Component Reconditioning Techniques*
1330 – 1420	***Assembling the Valve*** *Step-by-Step Valve Assembly Procedure • Torque Specifications for Each Component • Testing Valve Function During Reassembly • Final Inspection Before Testing*
1420 – 1430	***Recap*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Topics that were Discussed Today and Advise Them of the Topics to be Discussed Tomorrow*
1430	*Lunch & End of Day One*

Day 2

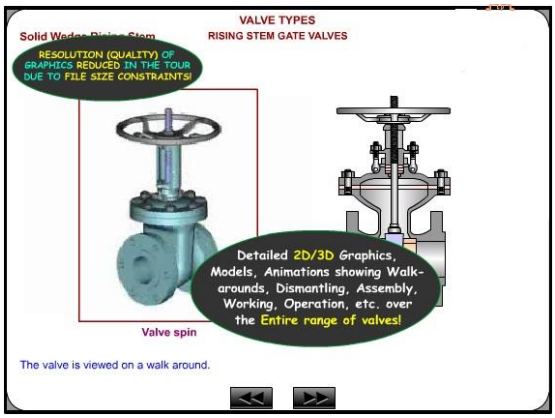
0730 – 0830	***Sealing Mechanisms & Gaskets*** *Types of Seals and Gaskets Used in Valves • Material Selection for Seals and Gaskets • Installation and Maintenance of Seals • Preventing Leaks During Overhauling*
0830 – 0930	***Valve Testing Methods*** *Pressure Testing: Hydrostatic and Pneumatic Tests • Functionality Tests for Opening, Closing, and Sealing • Leak Testing and Troubleshooting • Adjusting Valves for Correct Operation*
0930 – 0945	*Break*
0945 – 1100	***Troubleshooting Valve Issues*** *Identifying Common Valve Issues (Leakage, Improper Sealing, Erratic Operation) • Troubleshooting Using Diagnostic Tools (Leak Detectors, Pressure Gauges) • Common Causes of Valve Failure • Solutions and Corrective Actions*
1100 – 1230	***Preventive Maintenance for Valves*** *Importance of Regular Valve Maintenance • Techniques for Reducing the Need for Overhauling • Monitoring Valve Performance Through Sensors • Recordkeeping and Tracking Valve Maintenance History*
1230 – 1245	*Break*
1245 – 1315	***Documentation & Compliance*** *Importance of Proper Documentation in Valve Overhauling • Maintaining Inspection and Maintenance Records • Compliance with Industry Standards (API, ASME, ANSI, etc.) • Auditing and Certification of Overhauled Valves*
1315 - 1345	***Best Practices & Industry Standards*** *Overview of Industry Best Practices in Valve Overhauling • Key Standards and Codes to Follow • Training Requirements for Overhauling Personnel • Future Trends in Valve Maintenance and Overhauling Technology*
1345 – 1400	***Course Conclusion*** *Using this Course Overview, the Instructor(s) will Brief Participants about the Course Topics that were Covered During the Course*
1400 – 1415	***POST-TEST***
1415 – 1430	*Presentation of Course Certificates*
1430	*Lunch & End of Course*

Simulators (Hands-on Practical Sessions)

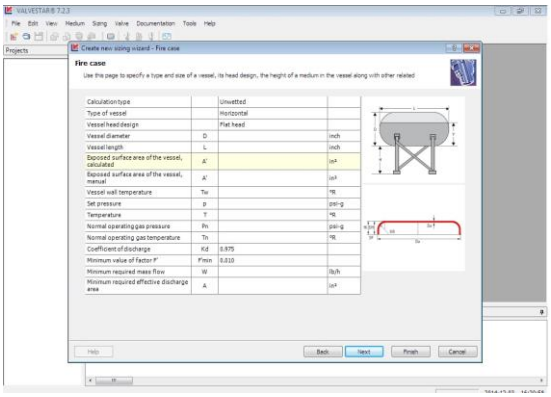
Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using our state-of-the-art "Valve Sizing Software", "Valve Software 3.0", "Valvestar 7.2 Software" and "PRV²SIZE Software".



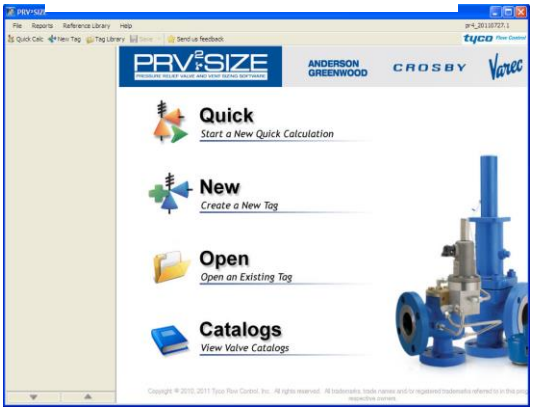
Valve Sizing Software



Valve Software 3.0



Valvestar 7.2 Software



PRV²SIZE Software

Course Coordinator

Mari Nakintu, Tel: +971 2 30 91 714, Email: mari1@haward.org