

**COURSE OVERVIEW PE0098**

**Production Quality & Process Troubleshooting**

**Course Title**

Production Quality & Process Troubleshooting

**Course Date/Venue**

Session 1: February 25-29, 2024/The Mouna Meeting Room, The H Dubai Hotel, Sheikh Zayed Rd - Trade Centre, Dubai, UAE

Session 2: March 03-07, 2024/Oryx Meeting Room, Doubletree By Hilton Doha-AI Sadd, Doha, Qatar



**Course Reference**

PE0098

**Course Duration/Credits**

Five days/3.0 CEUs/30 PDHs

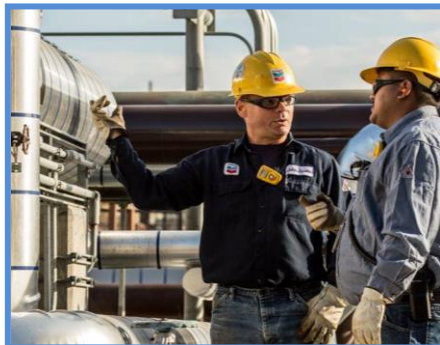
**Course Description**



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



In the hydrocarbon industry, a typical process operator controls an investment in plant and equipment that runs into the tens of millions of dollars; raw materials worth as much as a million dollars a day; the safety of hundreds of people working and living around the plant.



The abnormal process situations cost the processing industry billions of dollars a year. 40% of this lost is directly attributable to human errors, with the failure to properly troubleshoot the condition being the leading contributor. The operator is the first line of defense against minor upsets and equipment problems. Failure to identify and resolve these situations quickly can lead to lost production, off-spec product, equipment loss, and even catastrophic accidents.

Therefore, the ability to troubleshoot process operations is one of the most valuable skills operations personnel can possess. However, in order to troubleshoot the process or equipment, operator has to understand the theory laying behind such process and equipment. This is what this course all about.

This course is designed to provide a complete and up-to-date overview of production quality and process troubleshooting. It covers the theory behind operation skill; the logic in operating procedures and sequence of steps; and the different types of storage and facilities, heat transfer equipment, process support equipment, process and instrument drawings.

At the completion of the course, participants will be able to diagnose operating problems; optimize usage of chemicals and blending; carryout start up, shutdown and monitoring of a process system in the operations in accordance with internationally recognized standards; implement health and safety procedures of the working environment; and assist and control emergencies and critical situations in the workplace.

### Course Objectives

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

- Apply and gain an in-depth knowledge on production management
- Explain theory behind operation skills
- Discuss the different types of pressure & temperature, flow & level, pipes, insulation & associated equipment, valves, solenoids, actuators, prime movers, pumps, strainers, compressors, etc. in oil and gas process operations
- Discuss logic in operating procedures and sequence of steps
- Recognize the different types of storage and facilities, heat transfer equipment, process support equipment and process and instrument drawings.
- Diagnose operating problems and optimize usage of chemicals and blending
- Carryout start up, shutdown and monitoring of a process system in the operations in accordance with internationally recognized standards.
- Implement health and safety procedures of the working environment as well as to assist and control emergencies and critical situations in the workplace

### 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, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

### Who Should Attend

This course provides an overview of all significant aspect and considerations of production quality and process troubleshooting for operators I and II in productions operation and technicians in the oil and gas field.

### 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: -

- 
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 **3.0 CEUs** (Continuing Education Units) or **30 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.

- 
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.

### Accommodation

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



**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. Henry Beer** is a **Senior Process Engineer** with over **35 years** of indepth industrial experience within the **Petrochemical, Oil & Gas** industries specializing in **Process Plant Troubleshooting, Process Plant Optimization Technology, Engineering Problem Solving, Process Plant Performance & Efficiency, Process Plant Start-up & Shutdown, Process Plant Commissioning, Process Plant Turn-around & Shutdown, Polymers, Plastics, Polyolefin & Catalysts, Polymerization, Thermal Analysis Techniques, Rheology, Thermoplastics, Thermosets, Coating Systems and Fibre Reinforced Polymer Matrix Composites**. Further, he is also well-versed in **Catalyst Manufacturing Techniques, Fuel Systems Management, Aviation Fuel, Diesel, Jet Fuel, Petrol and IP Octane, Cetane Control** and related Logistics, Road, Rail and Pipeline Distribution, **Process Design and Optimisation, Boiler Feed Water Preparation, Flocculation Sedimentation, Hot Lime Water Softening Processes, Desalination Processes, Reverse Osmosis, Molecular Sieves, activated Sludge Aerobic/Anaerobic, Sludge Removal and Incineration Process Control, Domestic Sewage Plants Optimisation, Process Cooling Water System, High Pressure and Low Pressure Tank Farm Management, Hydrocarbon and Chemical products and GTL (Gas to Liquids)**.

During his career life, Mr. Beer holds significant key positions such as the **Director, Global Commissioning Manager, Senior Business Analyst, Process Engineer, Chemical Engineer, Senior Technician, Technical Sales Engineer, Entrepreneur, Financial Consultant, Business Analyst, Business Financial Planner and Independent Financial Planner** to various international companies such as the **Sasol, SASOLChem, TAG Solvents, Virgin Solvent Products, SARS & SAPIA (South African Petroleum Industry Association)** and **RFS Financial Services (Pty) Ltd.**

**Course Fee**

Dubai	<b>US\$ 5,500</b> per Delegate + <b>VAT</b> . This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.
Doha	<b>US\$ 6,000</b> per Delegate. This rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

### 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 Program

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

#### **Day 1**

0730 – 0800	<i>Registration &amp; Coffee</i>
0800 – 0815	<i>Welcome &amp; Introduction</i>
0815 – 0830	<b>PRE-TEST</b>
0830 – 0930	<i>Introduction to Crude Oil</i>
0930 – 0945	<i>Break</i>
0945 – 1030	<b>Process Operations</b>
1030 – 1130	<b>Pressure &amp; Temperature</b>
1130 – 1230	<b>Flow &amp; Level</b>
1230 – 1245	<i>Break</i>
1245 – 1330	<b>Pipes, Insulation &amp; Associated Equipment</b>
1330 – 1420	<b>Valves, Control Valves, Solenoids &amp; Actuators</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day One</i>

#### **Day 2**

0730 – 0830	<b>Prime Movers: Steam, Turbine, Diesel</b>
0830 – 0930	<b>Pumps (Centrifugal, Reciprocating)</b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Strainers &amp; Filters</b>
1100 – 1230	<b>Compressors (Centrifugal, Reciprocating, Multistage)</b>
1230 – 1245	<i>Break</i>
1245 – 1330	<b>Storage &amp; Loading Facilities</b>
1330 – 1420	<b>Types of Heat Transfer Equipment</b>
1420 – 1430	<b>Recap</b>
1430	<i>Lunch &amp; End of Day Two</i>

**Day 3**

0730 – 0830	<b>Process Support Equipment</b>
0830 – 0930	<b>Process &amp; Instrument Drawings (P&amp;IDs)</b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Start Up a Process System</b>
1100 – 1230	<b>Shutdown a Process System</b>
1230 – 1245	<i>Break</i>
1245 – 1330	<b>Monitor a Process System</b>
1330 – 1420	<b>Process Monitoring</b>
1420 – 1430	<b>Recap</b>
1430	<b>Lunch &amp; End of Day Three</b>

**Day 4**

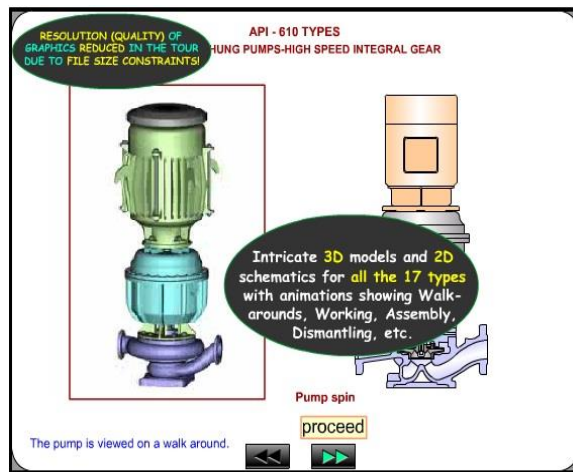
0730 – 0830	<b>Contribute to the Health and Safety of the Working Environment</b>
0830 – 0930	<b>Assist with the Control of Emergencies and Critical Situations</b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Maintaining GC Production</b>
1100 – 1230	<b>Evaluation of GC Production Based on the Review &amp; Analysis of Daily Production Reports</b>
1230 – 1245	<i>Break</i>
1245 – 1330	<b>GC Troubleshooting &amp; Corrective Actions</b>
1330 – 1420	<b>Operation According to Production Standards &amp; Procedures</b>
1420 – 1430	<b>Recap</b>
1430	<b>Lunch &amp; End of Day Four</b>

**Day 5**

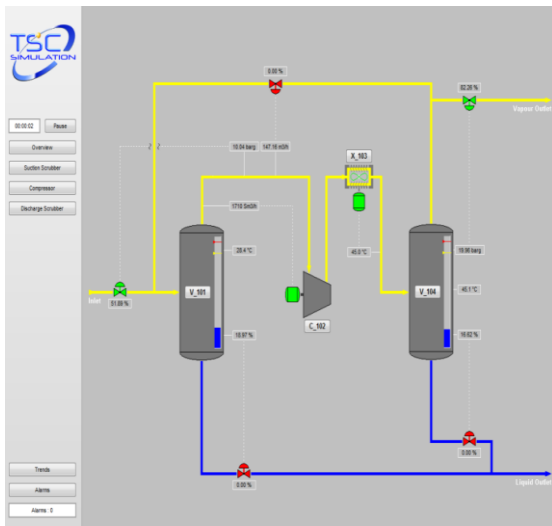
0730 – 0830	<b>Practices Use to Meet Quantify and Quality Production Targets</b>
0830 – 0930	<b>Coordination of a Flowing Well Transfer with Linked GCs/ Areas</b>
0930 – 0945	<i>Break</i>
0945 – 1100	<b>Chemical Optimization &amp; Blending</b>
1100 – 1230	<b>Effluent Water Management</b>
1230 – 1245	<i>Break</i>
1245 – 1315	<b>Hazards Associated with Failure to Control Operation Parameters &amp; Product Specifications in GC</b>
1315 – 1345	<b>Case Studies on Operations Upsets</b>
1345 – 1400	<b>Course Conclusion</b>
1400 – 1415	<b>POST-TEST</b>
1415 – 1430	<b>Presentation of Course Certificates</b>
1430	<b>Lunch &amp; End of Course</b>

**Simulator (Hands-on Practical Sessions)**

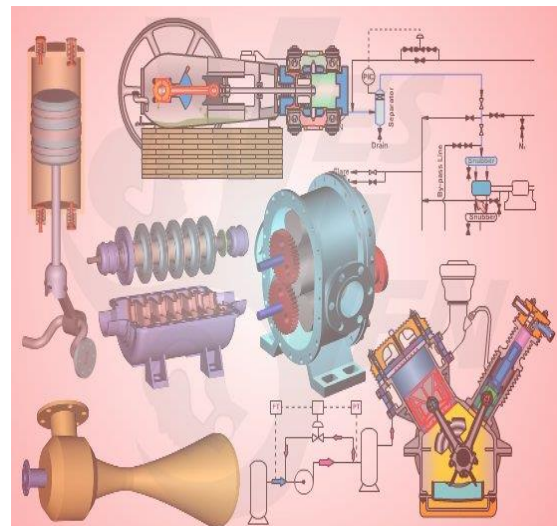
Practical session will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the state-of-the-art simulators “Centrifugal Pumps and Troubleshooting Guide 3.0”, “SIM 3300 Centrifugal Compressor”, “CBT on Compressors”, “Steam Turbines & Governing System CBT”, “Single Shaft Gas Turbine”, “Two Shaft Gas Turbine Simulator”, “Heat Exchanger Tube Layout”, “Valve Sizing Software”, “Valve Software 3.0”, “Valvestar 7.2 Software” and “PRV2SIZE Software”.



**Centrifugal Pumps and Troubleshooting Guide 3.0**

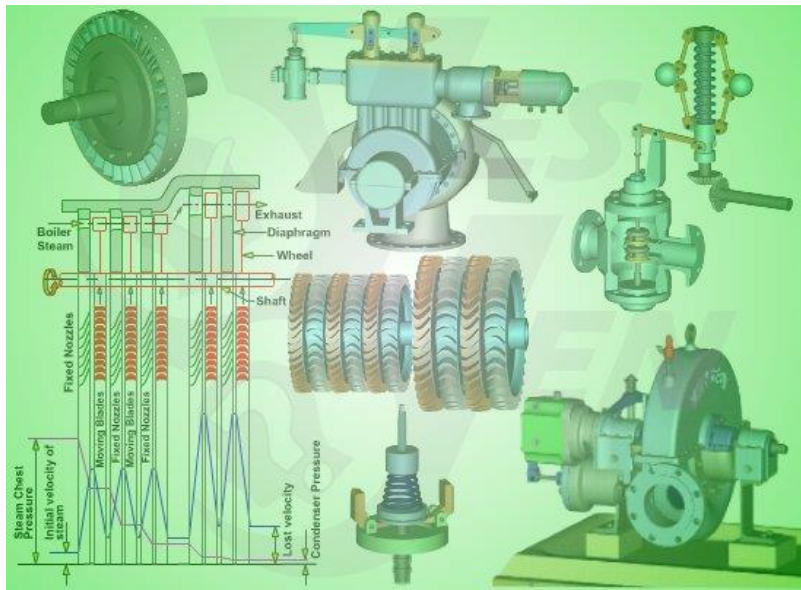


**SIM 3300 Centrifugal Compressor Simulator**

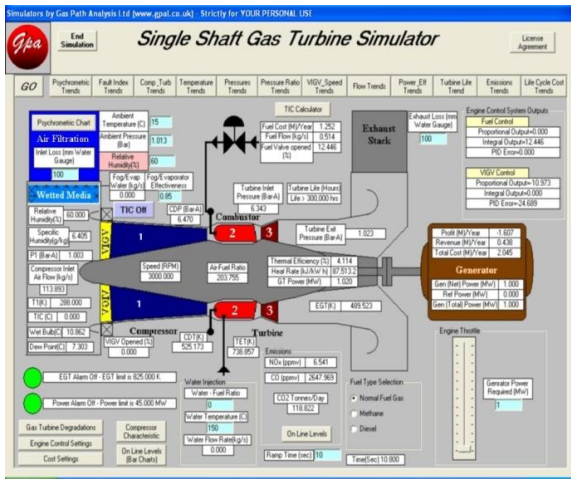


**CBT on Compressors**

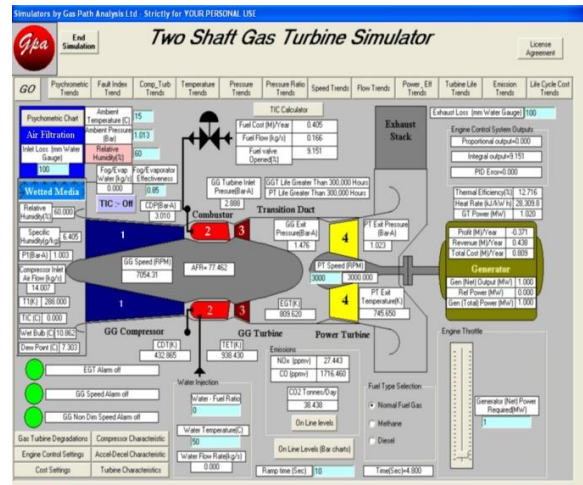




### Steam Turbines & Governing System CBT



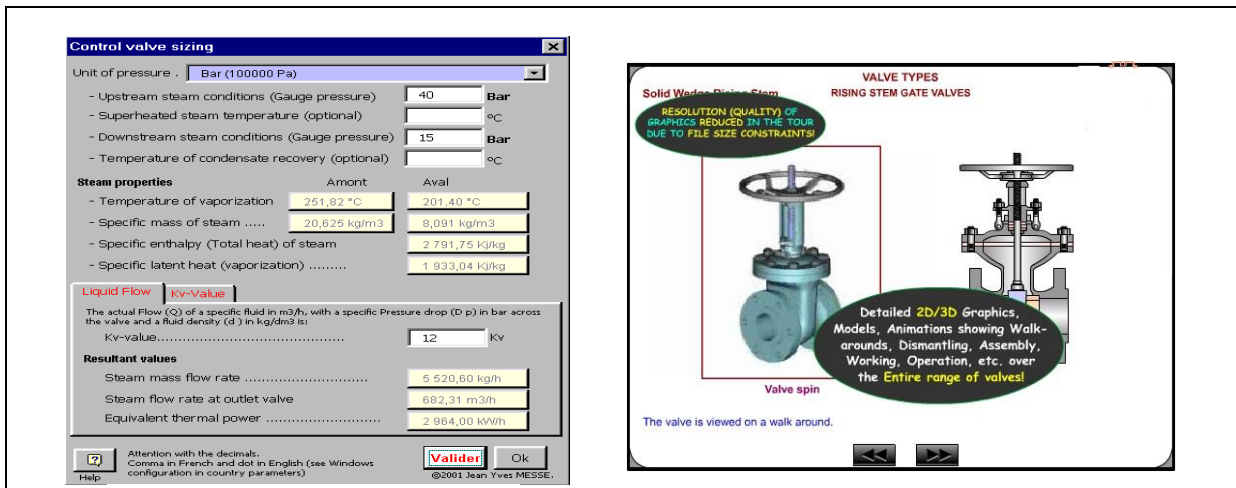
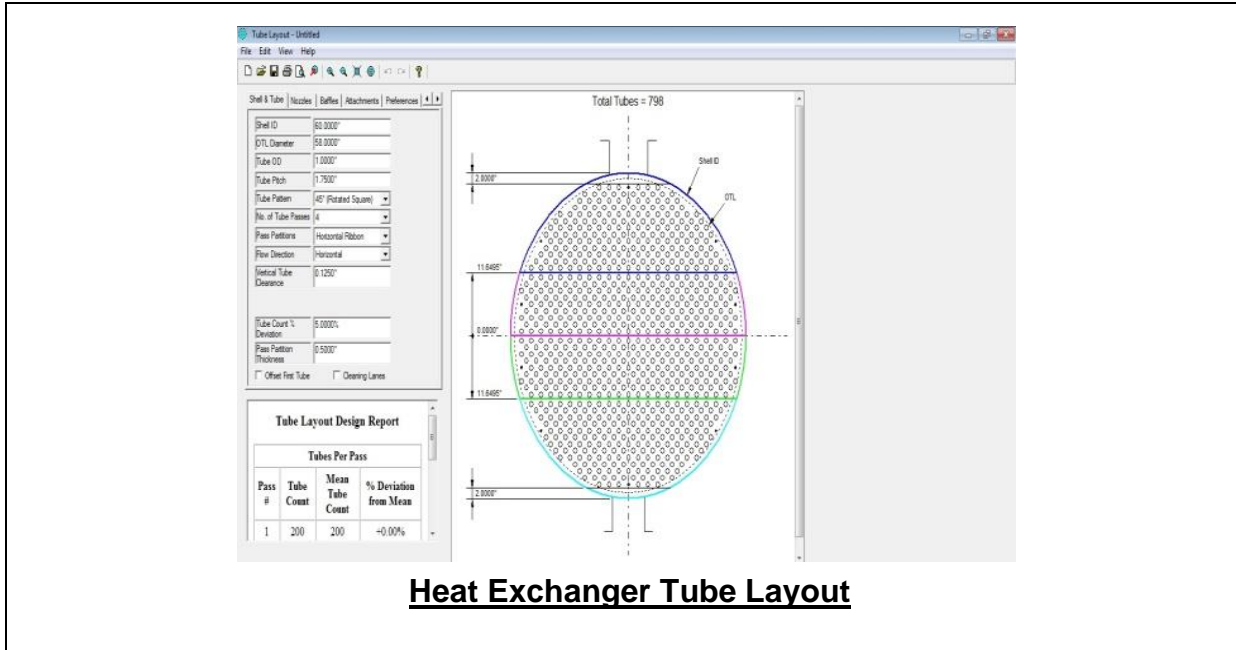
Single Shaft Gas Turbine Simulator



Two Shaft Gas Turbine Simulator

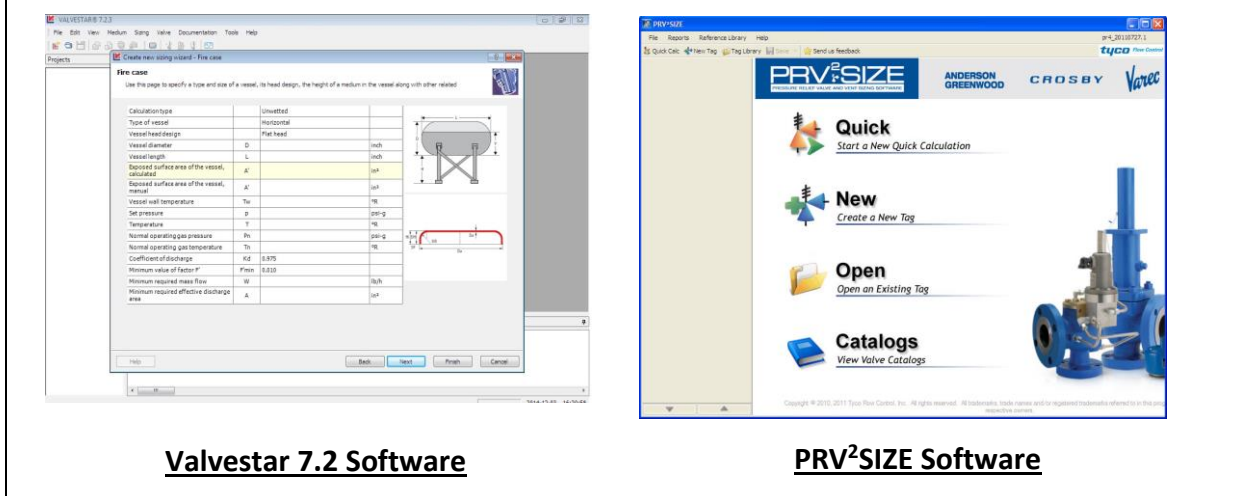






**Valve Sizing Software**

**Valve Software 3.0**



**Valvestar 7.2 Software**

**PRV²SIZE Software**

**Course Coordinator**

Kamel Ghanem, Tel: +971 2 30 91 714, Email: [kamel@haward.org](mailto:kamel@haward.org)