

COURSE OVERVIEW PE0362
Accelerated Development Program
for Young Engineers in Oil Processing

Course Title

Accelerated Development Program for Young Engineers in Oil Processing

Course Date/Venue

October 06-10, 2024/Club B Meeting Room, Ramada Plaza by Wyndham Istanbul City Center, Istanbul, Turkey

Course Reference

PE0362

Course Duration/Credits

Five days/3.0 CEUs/30 PDHs



Course Description



This practical and highly-interactive course includes real-life case studies where participants will be engaged in a series of interactive small groups and class workshops.

This course is designed to provide participants with a detailed and up-to-date overview of Accelerated Development Program for Young Engineers in Oil Processing. It covers the basic concepts in petroleum geology, exploration techniques and reservoir characteristics; the oil processing facilities and health, safety, and environmental (HSE) considerations in oil processing operations; the physical and chemical properties of crude oil and techniques for separating gas, oil and water mixtures; the wellhead operations, oil and gas separation, water treatment and disposal and gas conditioning and processing; the crude oil stabilization and storage; and ensuring reliable flow of hydrocarbon streams through pipelines and equipment.



During this interactive course, participants will learn the design, operation and maintenance of oil and gas pipelines and pumping stations; the tanker operations, crude oil shipping, storage tank design and operations, metering, measurement and quality control in oil processing; the pipeline integrity management and safety practices; the refining processes, distillation processes and conversion processes; the methods for treating and blending refined products and addressing safety and environmental management; the economic aspects of refining, project management basics for engineers and innovation and technology in oil processing; and the career paths in oil processing and the essential skills to develop for young engineers.



Course Objectives

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

- Apply and gain an in-depth knowledge on accelerated development program for young engineers in oil processing
- Discuss the basic concepts in petroleum geology, exploration techniques and reservoir characteristics
- Identify oil processing facilities including health, safety, and environmental (HSE) considerations in oil processing operations
- Recognize the physical and chemical properties of crude oil and techniques for separating gas, oil and water mixtures
- Carryout wellhead operations, oil and gas separation, water treatment and disposal and gas conditioning and processing
- Apply crude oil stabilization and storage and ensure reliable flow of hydrocarbon streams through pipelines and equipment
- Design, operation and maintain oil and gas pipelines and pumping stations
- Carryout tanker operations, crude oil shipping, storage tank design and operations, metering, measurement and quality control in oil processing
- Employ pipeline integrity management and safety practices as well as illustrate refining processes, distillation processes and conversion processes
- Implement methods for treating and blending refined products and address safety and environmental management
- Discuss the economic aspects of refining, project management basics for engineers and innovation and technology in oil processing
- Recognize the career paths in oil processing and the essential skills to develop for young engineers

Who Should Attend

This course provides an overview of all significant aspects and considerations of accelerated development program for young engineers in oil processing.

Course Fee

US\$ 6,000 per Delegate + **VAT**. This rate includes Participants Pack (Folder, Manual, Hand-outs, etc.), 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.

Accommodation


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

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: -


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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.

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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.

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:



Dr. John Petrus, PhD, MSc, BSc, is a Senior Process & Petroleum Engineer with over 30 years of onshore & offshore experience within the Oil & Gas, Refinery and Petroleum industries. His wide experience covers in the areas of Gas Sweetening Process at Upstream Oil & Gas, De-Sulfurization Technology, Process Troubleshooting, Distillation Towers, Fundamentals of Distillation for Engineers, Distillation Operation and Troubleshooting, Advanced Distillation Troubleshooting, Distillation Technology, Vacuum Distillation, Distillation Column Operation & Control, Oil Movement Storage & Troubleshooting, Process Equipment Design, Applied Process Engineering Elements, Process Plant Optimization, Revamping & Debottlenecking, Process Plant Troubleshooting & Engineering Problem Solving, Process Plant

Monitoring, Catalyst Selection & Production Optimization, Operations Abnormalities & Plant Upset, Process Plant Start-up & Commissioning, Clean Fuel Technology & Standards, Flare, Blowdown & Pressure Relief Systems, Oil & Gas Field Commissioning Techniques, Pressure Vessel Operation, Gas Processing, Chemical Engineering, Process Reactors Start-Up & Shutdown, Gasoline Blending for Refineries, Urea Manufacturing Process Technology, Continuous Catalytic Reformer (CCR), Advanced Operational & Troubleshooting Skills, Principles of Operations Planning, Rotating Equipment Maintenance & Troubleshooting. Further he is also well versed in Formation Damage & Acid Stimulation, Production Technology & Engineering, Well Completions, Well Logs, Well Stimulation & Production Logging, Well Completion Design & Operation, Well Surveillance, Well Testing, Well Stimulation & Control and Workover Planning, Completions & Workover, Hole Cleaning & Logging, Servicing and Work-Over Operations, Wellhead Operations, Maintenance & Testing, Petrophysics/Interpretation of Well Composite, Reservoir & Tubing Performance, Practical Reservoir Engineering, Clastic Exploration & Reservoir Sedimentology, Carbonate Reservoir Characterization & Modeling, Seismic Interpretation, Mapping & Reservoir Modelling, Reservoir Geology, Integrating Geoscience into Carbonate Reservoir Management, Faulted & Fractured Reservoirs, Fractured Hydrocarbon Reservoirs, Analyses, Characterisation & Modelling of Fractured Reservoirs & Prospects, Fracture Reservoir Modeling Using Petrel, Reservoir Engineering Applied Research, Artificial Lift, Artificial Lift System Selection & Design, Electrical Submersible Pumps (ESP), Enhance Oil Recovery (EOR), Hydraulic Fracturing, Sand Control Techniques, Perforating Methods & Design, Perforating Operations, Petroleum Exploration & Production, Hydrocarbon Exploration & Production, Exploration & Production, Play Assessment & Prospect Evaluation, Formation Evaluation, Petroleum Engineering Practices, Petroleum Hydrogeology & Hydrodynamics, Project Uncertainty, Decision Analysis & Risk Management, Decision Analysis & Uncertainty Management, Exploration & Development Geology, Sedimentology & Sequence Stratigraphy, Structural Interpretation in Exploration & Development, Petrel Geology, Geomodeling, Structural Geology, Applied Structural Geology in Hydrocarbon Exploration, Petrophysics and Geology of the Oil & Gas Field.. Further, he is also well-versed in seismic interpretation, mapping & reservoir modelling tools like Petrel software, LandMark, Seisworks, Geoframe, Zmap and has extensive knowledge in MSDos, Unix, AutoCAD, MAP, Overlay, Quicksurf, 3DStudio, Esri ArcGIS, Visual Lisp, Fortran-77 and Clipper. Moreover, he is a world expert in analysis and modelling of fractured prospects and reservoirs and a specialist and developer of fracture modelling software tools such as FPDM, FMX and DMX Protocols.

During his career life, Dr. Petrus held significant positions and dedication as the **Executive Director, Senior Geoscience Advisor, Exploration Manager, Project Manager, Manager, Process Engineer, Mechanical Engineer, Maintenance Engineer, Chief Geologist, Chief of Exploration, Chief of Geoscience, Senior Geosciences Engineer, Senior Explorationist, Senior Geologist, Geologist, Senior Geoscientist, Geomodeller, Geoscientist, CPR Editor, Resources Auditor, Project Leader, Technical Leader, Team Leader, Scientific Researcher and Senior Instructor/Trainer** from various international companies and universities such as the Dragon Oil Holding Plc., ENOC, MENA, ENI Group of Companies, Ocre Geoscience Services (OGS), Burren RPL, Ministry of Oil-Iraq, Eni Corporate University, Stanford University, European Universities, European Research Institutes, NorskHydro Oil Company, Oil E&P Companies, just to name a few.

Dr. Petrus has a **PhD in Geology and Tectonophysics and Master and Bachelor degrees in Earth Sciences** from the **Utrecht University, The Netherlands**. Further, he is a **Certified Instructor/Trainer, a Certified Trainer/Assessor/Internal Verifier** by the **Institute of Leadership & Management (ILM)**, a Secretary and Treasurer of Board of Directors of Multicultural Centre, Association Steunfonds SSH/SSR and Founding Member of Sfera Association. He has further published several scientific publications, journals, research papers and books and delivered numerous trainings, workshops, courses, seminars and conferences internationally.



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: Sunday, 06th of October 2024

0730 – 0800	Registration & Coffee
0800 – 0815	Welcome & Introduction
0815 – 0830	PRE-TEST
0830 – 0930	Overview of the Oil & Gas Industry: History, Current Landscape & Future Trends
0930 – 0945	Break
0945 – 1030	Petroleum Geology & Exploration: Basic Concepts in Petroleum Geology, Exploration Techniques & Reservoir Characteristics
1030 – 1130	Oil Processing Facilities: Overview of Upstream, Midstream & Downstream Operations
1130 – 1215	Health, Safety & Environmental (HSE) Considerations: Importance of HSE Practices in Oil Processing Operations
1215 – 1230	Break
1230 – 1330	Crude Oil Properties & Specifications: Understanding the Physical & Chemical Properties of Crude Oil that Influence Processing
1330 – 1420	Basic Separation Processes: Techniques for Separating Gas, Oil & Water Mixtures
1420 – 1430	Recap
1430	Lunch & End of Day One

Day 2: Monday, 07th of October 2024

0730 – 0830	Wellhead Operations: Equipment & Operations at the Wellhead, including Flow Control & Measurement
0830 – 0930	Oil & Gas Separation: Detailed Examination of Separation Process Stages & Equipment
0930 – 0945	Break
0945 – 1100	Water Treatment & Disposal: Techniques for Treating Produced Water for Disposal or ReInjection
1100 – 1215	Gas Conditioning & Processing: Basics of Gas Dehydration, Sweetening, & Condensate Stabilization
1215 – 1230	Break
1230 – 1330	Crude Oil Stabilization & Storage: Methods for Stabilizing Crude Oil for Storage & Transport
1330 – 1420	Flow Assurance: Ensuring Reliable Flow of Hydrocarbon Streams Through Pipelines & Equipment
1420 – 1430	Recap
1430	Lunch & End of Day Two

Day 3: Tuesday, 08th of October 2024

0730 – 0830	Pipelines & Pumping Stations: Design, Operation & Maintenance of Oil & Gas Pipelines & Pumping Stations
0830 – 0930	Tanker Operations & Crude Oil Shipping: Basics of Maritime oil Transport, including Tanker Design & Crude Oil Loading/Unloading Operations
0930 – 0945	Break



0945 – 1100	Storage Tank Design & Operations: Types of Storage Tanks, Design Considerations & Operational Practices
1100 – 1215	Metering & Measurement: Techniques & Equipment for Accurate Measurement of Oil & Gas
1215 – 1230	Break
1230 – 1330	Quality Control in Oil Processing: Ensuring Product Quality through Testing & Standards Compliance
1330 – 1420	Pipeline Integrity & Safety: Pipeline Integrity Management & Safety Practices
1420 – 1430	Recap
1430	Lunch & End of Day Three

Day 4: Wednesday, 09th of October 2024

0730 – 0830	Overview of Refining Processes: The Complexity & Objectives of Crude Oil Refining
0830 – 0930	Distillation Processes: Atmospheric & Vacuum Distillation Units & their Role in Refining
0930 – 0945	Break
0945 – 1100	Conversion Processes: Catalytic Cracking, Hydrocracking & Thermal Conversion Methods
1100 – 1215	Treatment & Blending: Methods for Treating & Blending Refined Products to Meet Specifications
1215 – 1230	Break
1230 – 1330	Refinery Safety & Environmental Management: Addressing Safety & Environmental Challenges in Refineries
1330 – 1420	Economic Aspects of Refining: Margins, Profitability & Cost Management in Refining Operations
1420 – 1430	Recap
1430	Lunch & End of Day Four

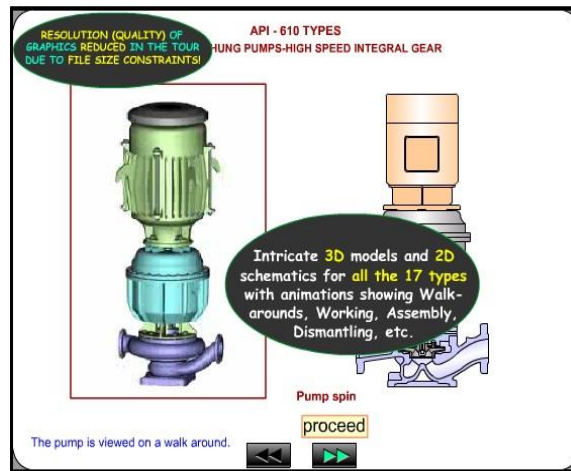
Day 5: Thursday, 10th of October 2024

0730 – 0830	Project Management Basics for Engineers: Principles of Project Management in the Context of oil Processing Projects
0830 – 0930	Innovation & Technology in Oil Processing: Emerging Technologies & their Impact on the Oil Processing Industry
0930 – 0945	Break
0945 – 1100	Career Paths in Oil Processing: Overview of Career Opportunities & Progression Paths for Engineers
1100 – 1230	Skills Development for Young Engineers: Essential Skills for Success, Including Technical, Managerial & Interpersonal Skills
1230 – 1245	Break
1245 – 1345	Case Studies of Successful Projects: Examples of Successful Oil Processing Projects & Lessons Learned
1345 – 1400	Course Conclusion
1400 – 1415	POST-TEST
1415 – 1430	Presentation of Course Certificates
1430	Lunch & End of Course

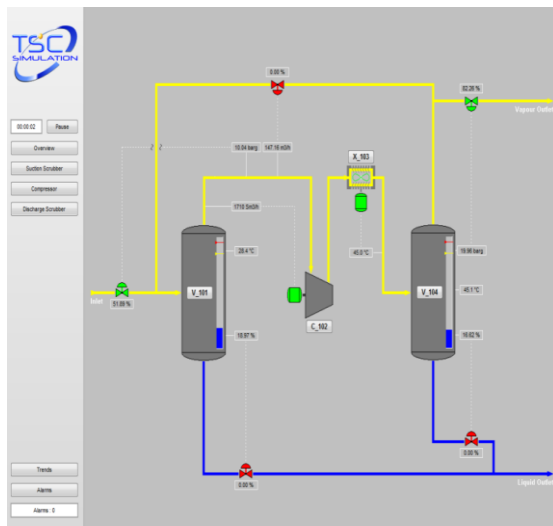


Simulator (Hands-on Practical Sessions)

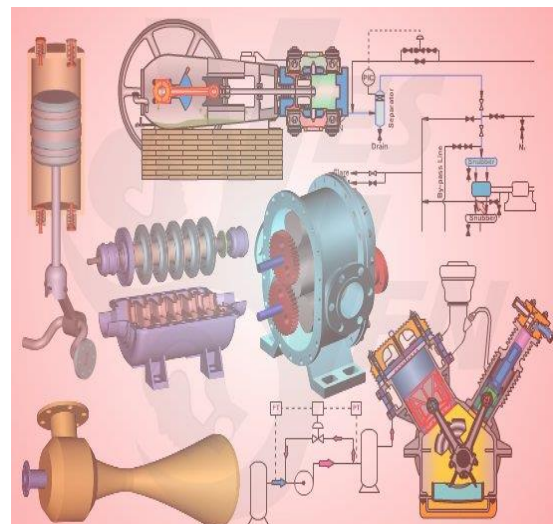
Practical session will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using our state-of-the-art simulators “Centrifugal Pumps and Troubleshooting Guide 3.0”, “SIM 3300 Centrifugal Compressor”, “CBT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



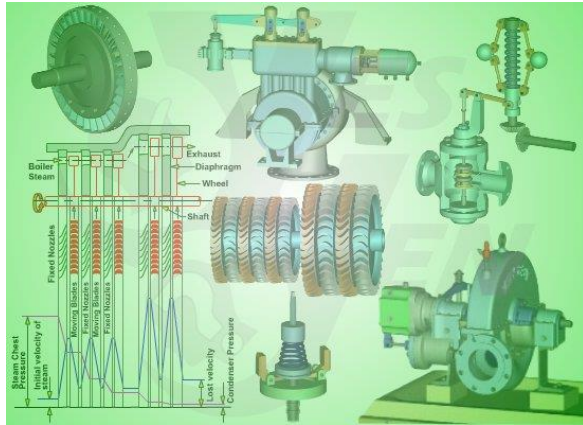
Centrifugal Pumps and Troubleshooting Guide 3.0



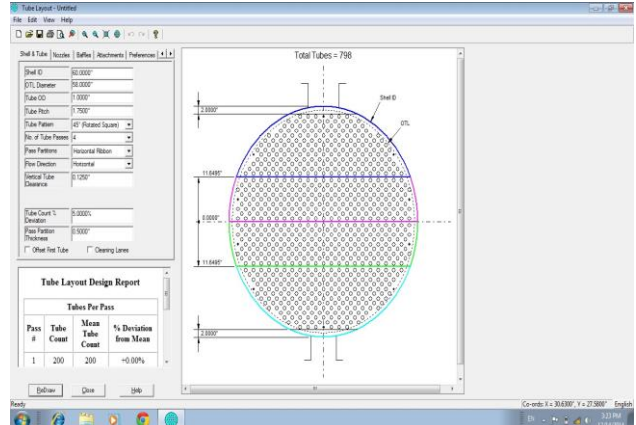
SIM 3300 Centrifugal Compressor Simulator



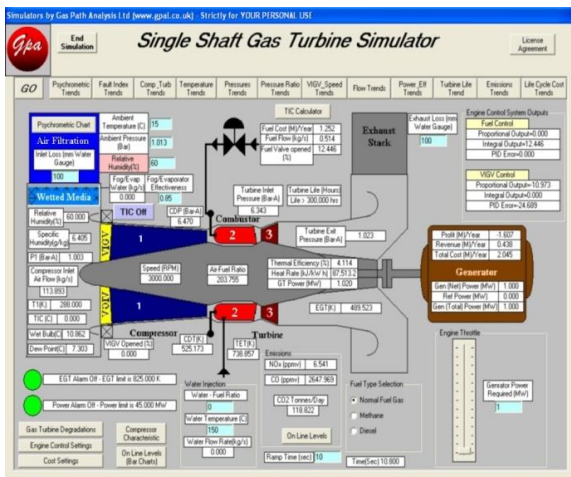
CBT on Compressors



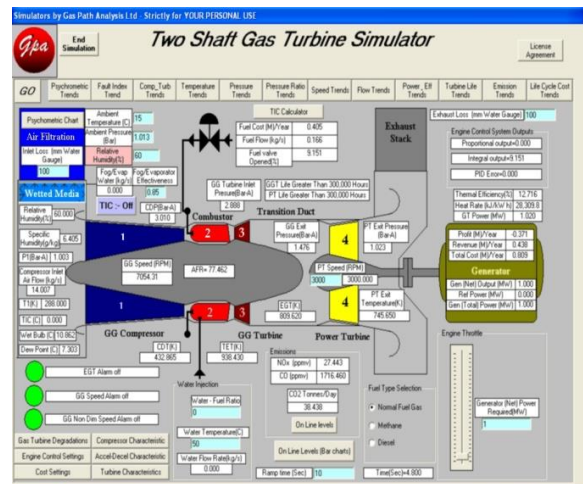
Steam Turbines & Governing System CBT



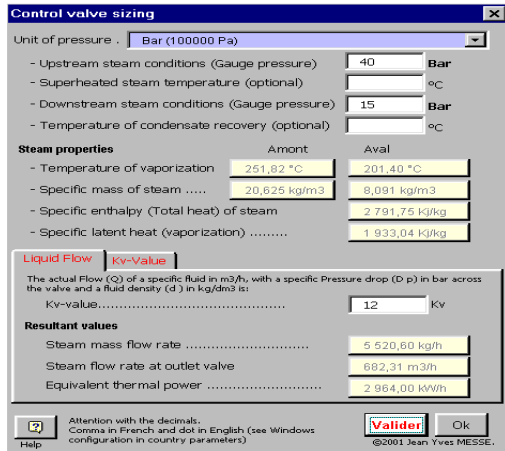
Heat Exchanger Tube Layout



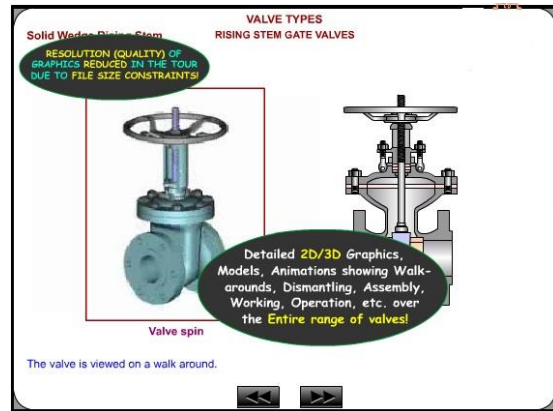
Single Shaft Gas Turbine Simulator



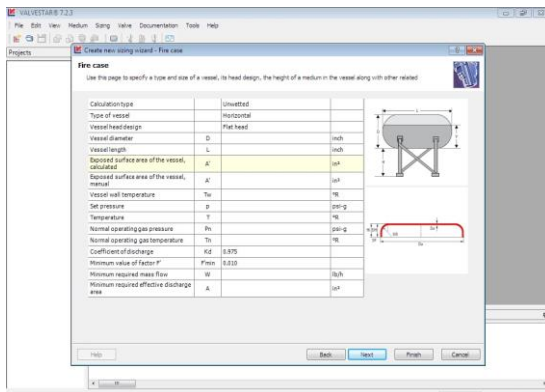
Two Shaft Gas Turbine Simulator



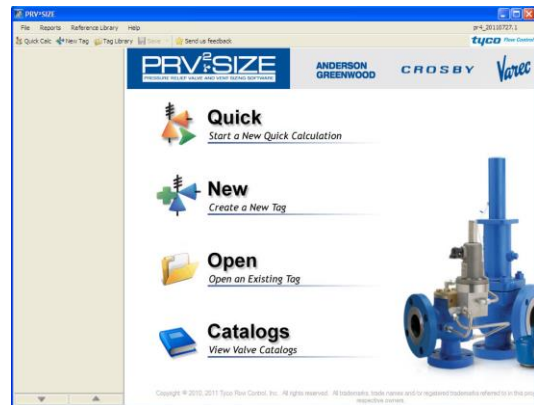
Valve Sizing Simulator



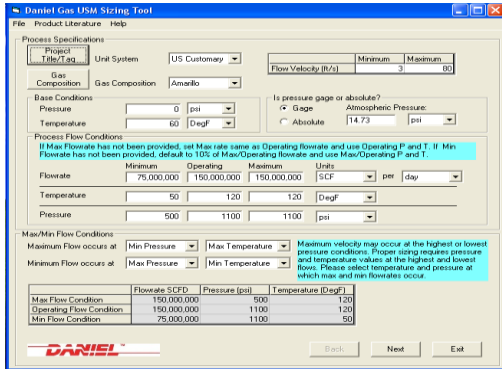
Valve Simulator 3.0



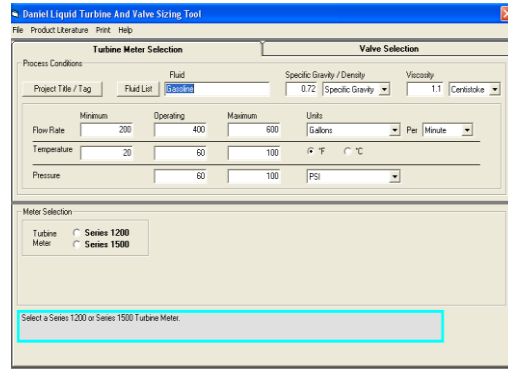
Valvestar 7.2 Simulator



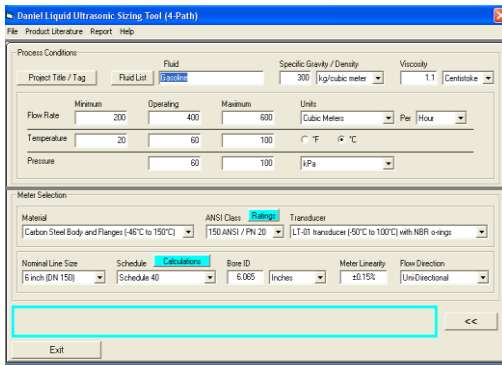
PRV2SIZE Simulator



Gas Ultrasonic Meter (USM) Sizing Tool Software



Liquid Turbine Meter and Control Valve Sizing Tool Software



Liquid Ultrasonic Meter Sizing Tool Software



Orifice Flow Calculator Software

Course Coordinator

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