PetroSof

Chemical Engineering Softwares

Product Catalog 2022

Developed by
Imran Aslam
Sr. Process Engineer

Product of
Petrosof

www.petrosof.com

imranaslam@petrosof.com

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CONTENTS

1- FRICTION FACTOR CALCULATIONS

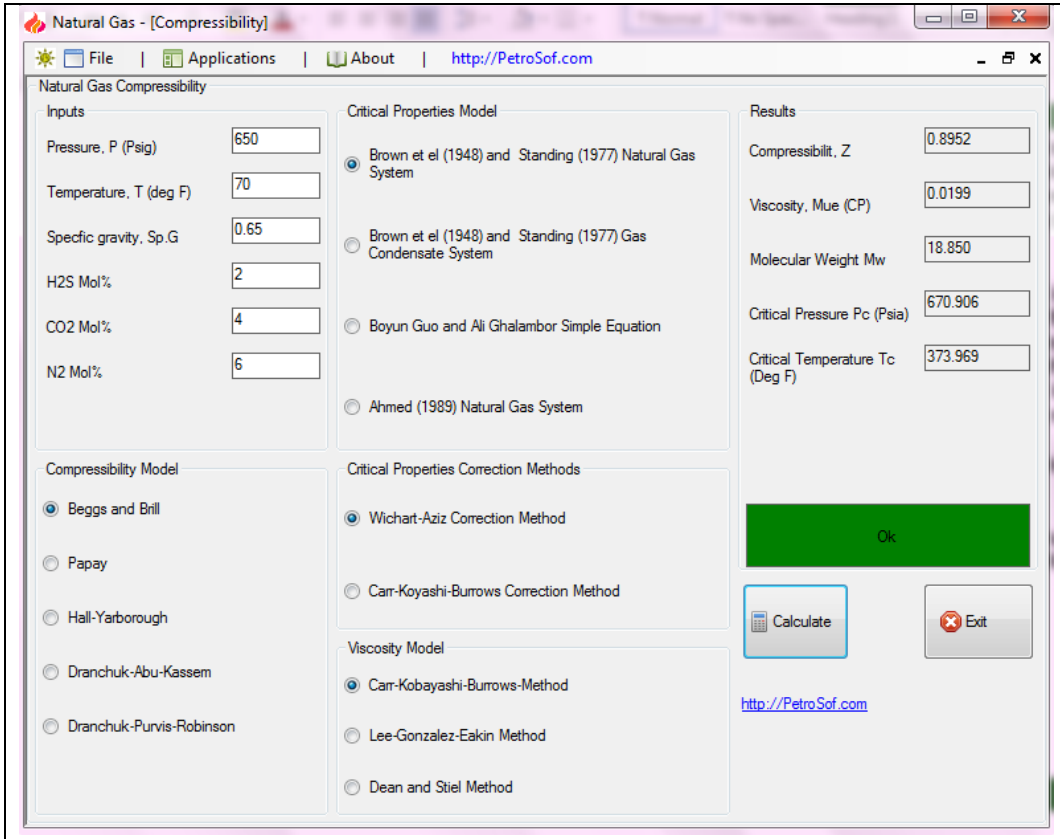
Friction factor software calculates Moody and Fanning friction factors of the pipes. Users can select pipe material from a wide range of list of material that has been incorporated in the software.

Pipe size from 0.125 inch to 52 inch can be selected for various piping classes. Friction factor is calculated quickly based on the carefully selected equations to which the manual solution are laborious and time consuming. Software is very user friendly while errors and input limitations are cautioned in the message bar.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

2- NATURAL GAS COMPRESSIBILITY



Natural Gas Compressibility software is developed to calculate:

- **Gas compressibility**
- **Gas viscosity**
- **Critical parameters**

Five (05) empirical procedures are included in application to calculate gas compressibility. Four (04) models are given for critical properties determination. Three (03) models are given for gas viscosity calculation and two (02) methods are provided for correction methods. Engineers may find manual solution to these equations very tedious and time consuming. Having this software on your computer can really make a difference. Users are cautioned about the limitations of inputs for each set of calculations to obtain the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

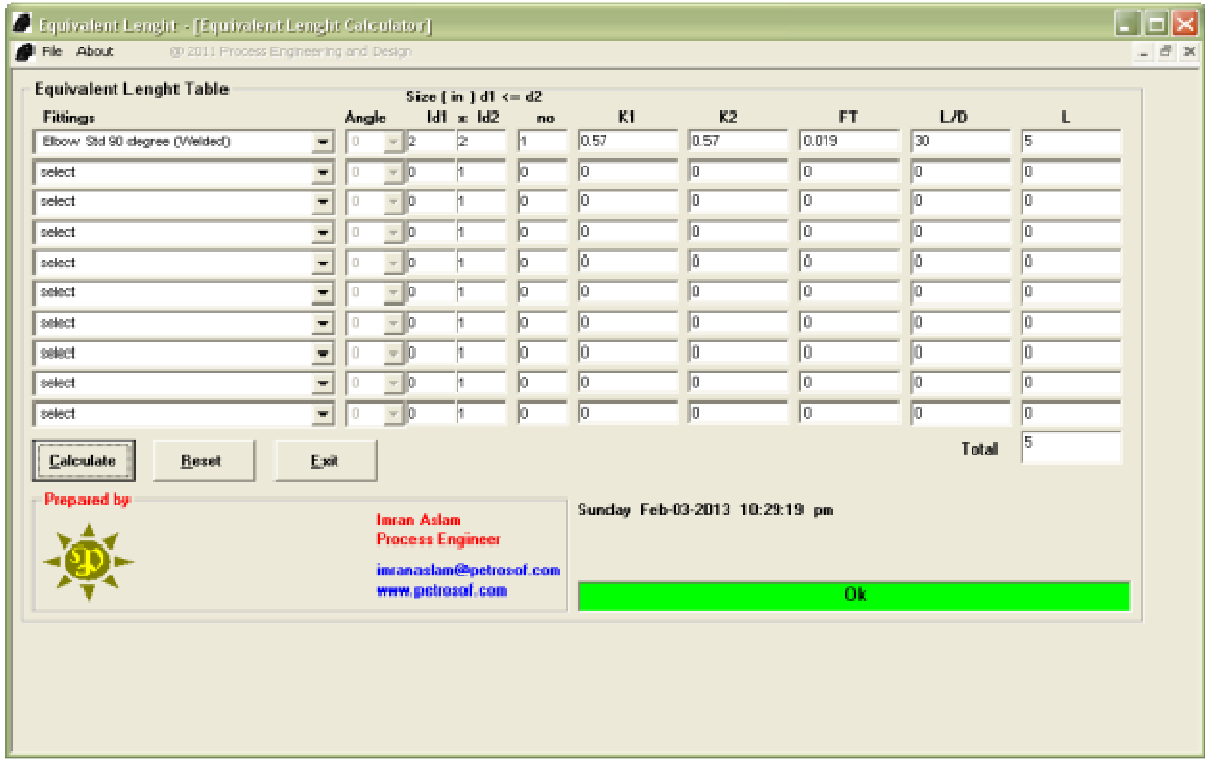
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

3- EQUIVALENT LENGTH CALCULATIONS

Equivalent length calculation program is developed to estimate the total equivalent length of complete piping system including all the pipe fittings, manual block valves etc. Standard methods of calculation are adopted by using proven equations to help Engineers and Piping Designers to swiftly obtain the results. Manual calculations of various fittings in entire piping system may very cumbersome. Having this software on your computer can be handy tool.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

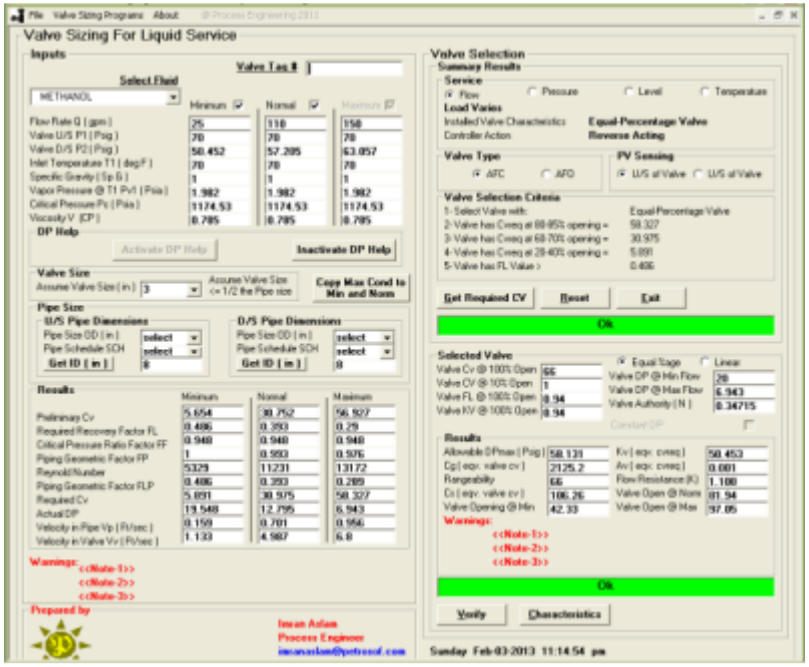


4- CONTROL VALVE SIZING [LIQUID SERVICE]

A comprehensive and detailed valve sizing software has been developed with great care and efforts to help out Design Engineers to appropriately size the valve.

A wide range of fluids are included in the program to promptly solve for the physical properties. Together with valve sizing, program helps to select the valve and determines the suitability for the service by developing the valve characteristics and generates the complete valve travel and opening profile over the complete range of flow rate.

A very important aspect of this software is the valve's pressure drop determination which is often assumed or completely neglected leading to the incorrect valve size. To determine the correct pressure drop profile for the valve, a comprehensive valve pressure drop

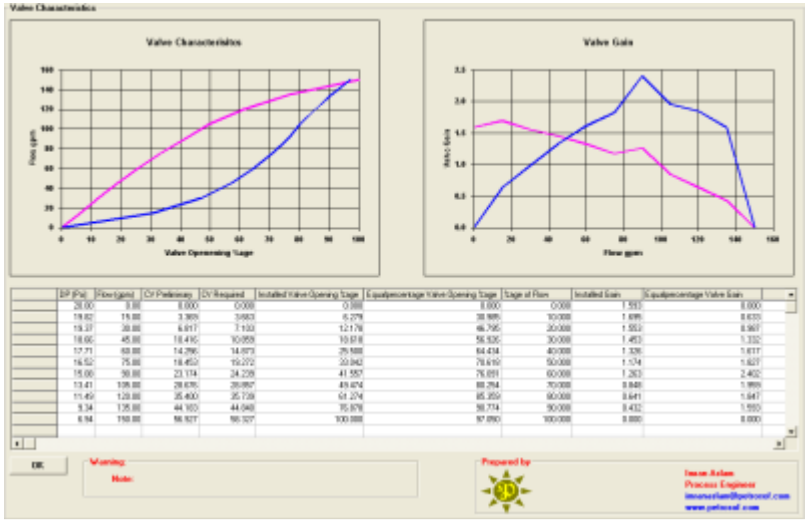


calculation program is included in the software.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

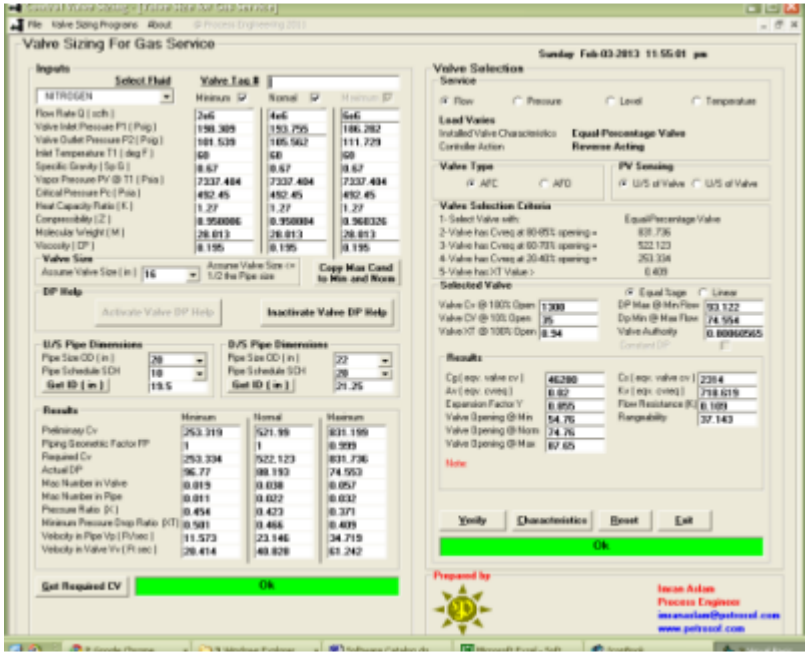


5- CONTROL VALVE SIZING [GAS SERVICE]

A comprehensive and detailed valve sizing software has been developed with great care and efforts to help out Design Engineers to appropriately size the valve.

A wide range of fluids are included in the program to promptly solve for the physical properties. Together with valve sizing, program helps to select the valve and determines the suitability for the service by developing the valve characteristics and generates the complete valve travel and opening profile over the complete range of flow rate.

A very important aspect of this software is the valve's pressure drop determination which is often assumed or completely neglected leading to the incorrect valve size. To determine the correct pressure drop profile for the valve, a comprehensive valve pressure drop

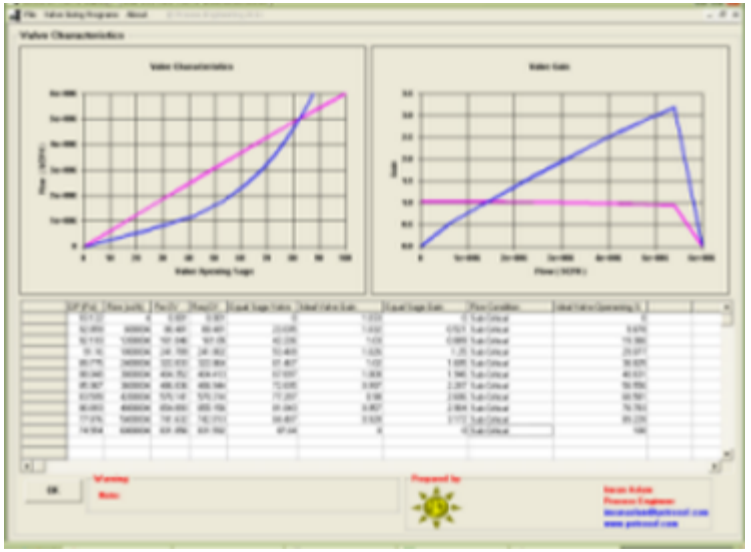


calculation program is included in the software.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

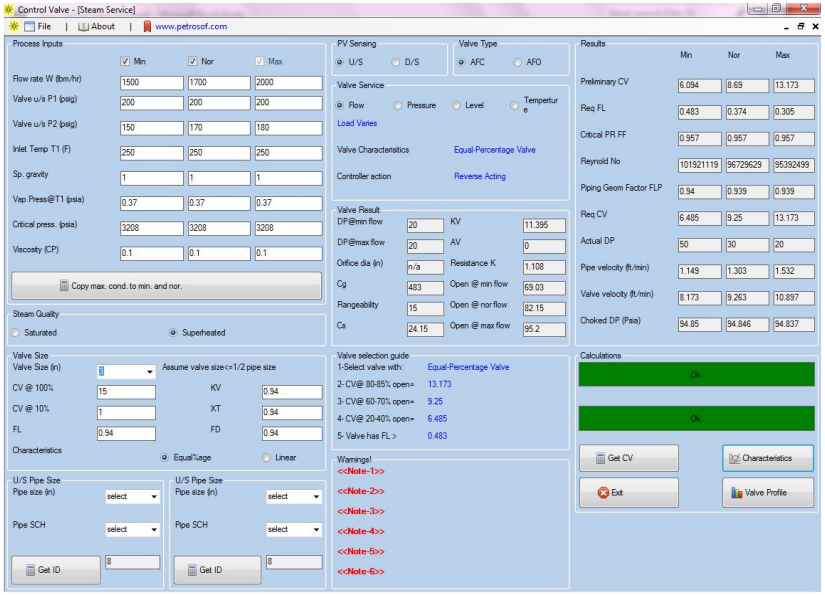
An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



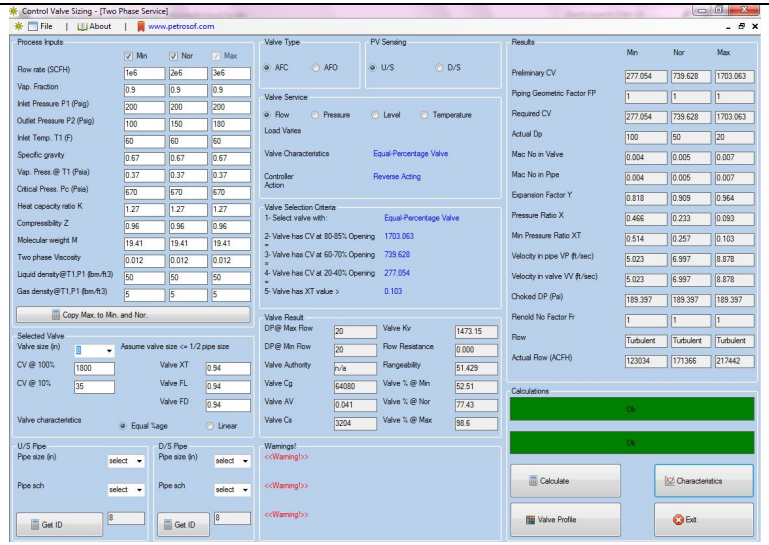
6- CONTROL VALVE [STEAM SERVICE]

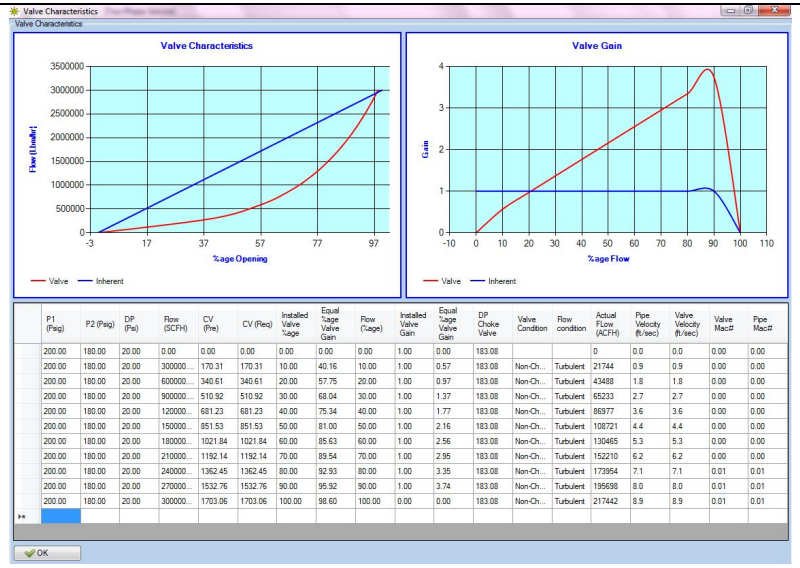
A comprehensive and detailed valve sizing software has been developed with great care and efforts to help out Design Engineers to appropriately size the valve.
A wide range of fluids are included in the program to promptly solve for the physical properties. Together with valve sizing, program helps to select the valve and determines the suitability for the service by developing the valve characteristics and generates the complete valve travel and opening profile over the complete range of flow rate.
A very important aspect of this software is the valve's pressure drop determination which is often assumed or completely neglected leading to the incorrect valve size. To determine the correct pressure drop profile for the valve, a comprehensive valve pressure drop calculation program is included in the software.
Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.
An introductory demonstration of this software is available online at www.petrosof.com
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



7- CONTROL VALVE SIZING [TWO PHASE]

A comprehensive and detailed valve sizing software has been developed with great care and efforts to help out Design Engineers to appropriately size the valve.
A wide range of fluids are included in the program to promptly solve for the physical properties. Together with valve sizing, program helps to select the valve and determines the suitability for the service by developing the valve characteristics and generates the complete valve travel and opening profile over the complete range of flow rate.
A very important aspect of this software is the valve's pressure drop determination which is often assumed or completely neglected leading to the incorrect valve size. To determine the correct pressure drop profile for the valve, a comprehensive valve pressure drop calculation program is included in the software.
Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.
An introductory demonstration of this software is available online at www.petrosof.com
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





8- CONTROL VALVE VAPOR BREAK THROUGH CALCULATION

Many times a situation arises in operation where high pressure equipment are connected to low pressure system like flare headers and level control valves on high pressure separators. Engineers have to make repetitive and laborious manual calculations to predict the situation.

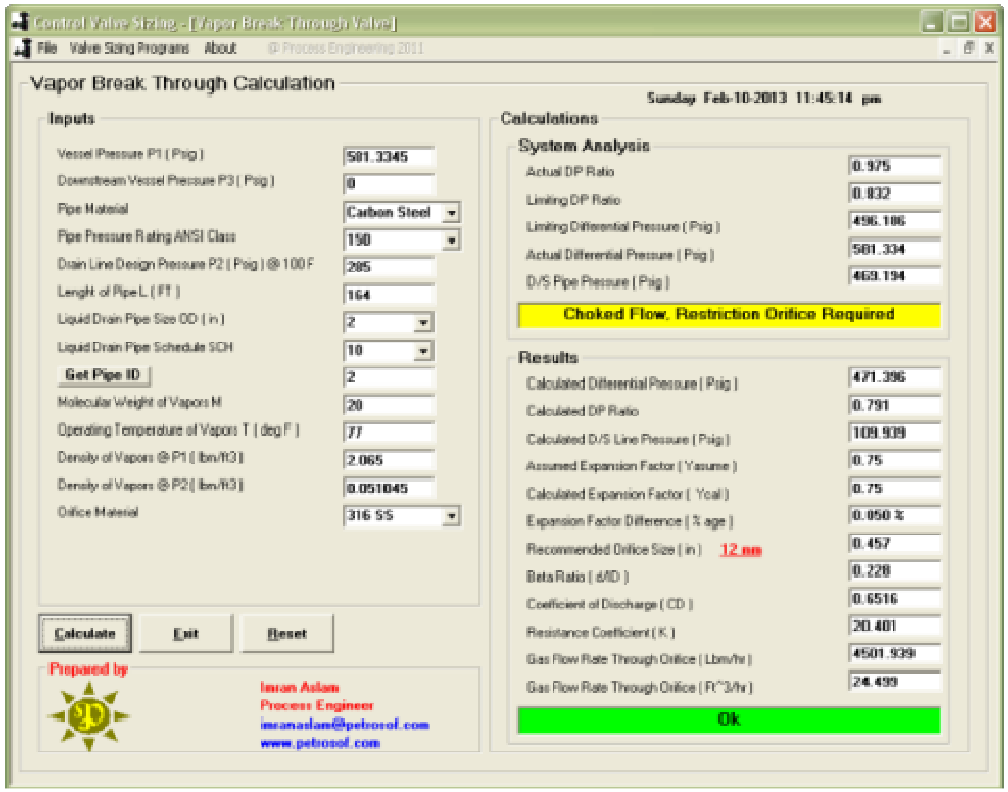
This software is developed with high precision to step by step evaluate all of the above scenarios and size the restriction orifice, determine mass flow rate and calculate rise in downstream piping pressure.

A list of ANSI piping class is incorporated in the program to assist the users and minimize the inputs required. Having this smart tool on computers can be of time saving and efficient.

Users are prompted about the limitations and given direction on how to apply correct inputs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



9- TANK BLANKET GAS CALCULATION

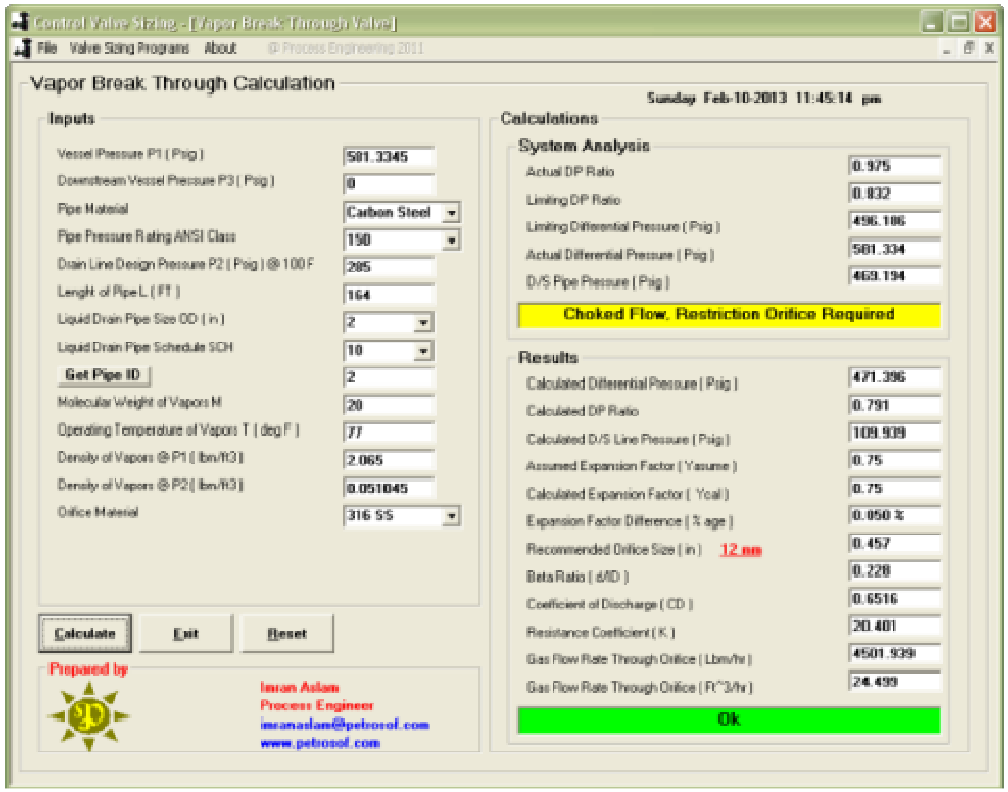
Many times a situation arises in operation where high pressure equipment are connected to low pressure system like flare headers and level control valves on high pressure separators. Engineers have to make repetitive and laborious manual calculations to predict the situation.

This software is developed with high precision to step by step evaluate all of the above scenarios and size the orifice, vapors mass flow rate, downstream piping pressure. A list of ANSI piping class is incorporated in the program to assist the users and minimize the inputs required. Having this smart tool on computers can be of time saving and efficient.

Users are prompted about the limitations and gives direction on how to make correction in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

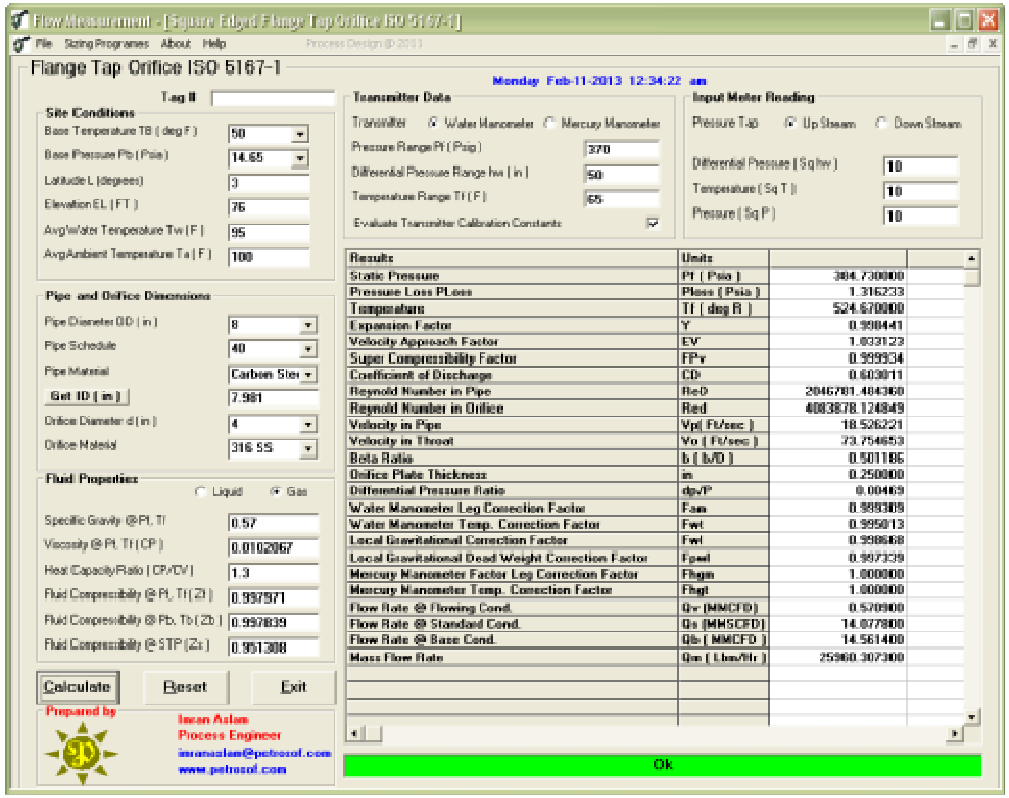


10- SQUARE EDGE FLANGE TAP ORIFICE SIZING [ISO 5167-1, ASME & API]

Flow measurement is one of the essential elements of process design and most important part in plant operation for controlling and optimizing the process.

Engineers often required sizing the orifice and specifying correct range of flow transmitter for display and control on the DCS. Sizing the orifice based on assumptions often leads to incorrect design and poorly specified transmitter which gives erratic measurement and cause poor process control.

This software is developed based on widely accepted oil and gas flow measurement standard using correct orifice sizing equation and recommended method of calculating the Reynold number. Added advantage of this software is to size the correct range of transmitter and evaluate the calibration constants. This software can also be used to validate the existing transmitter for its adequacy.



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

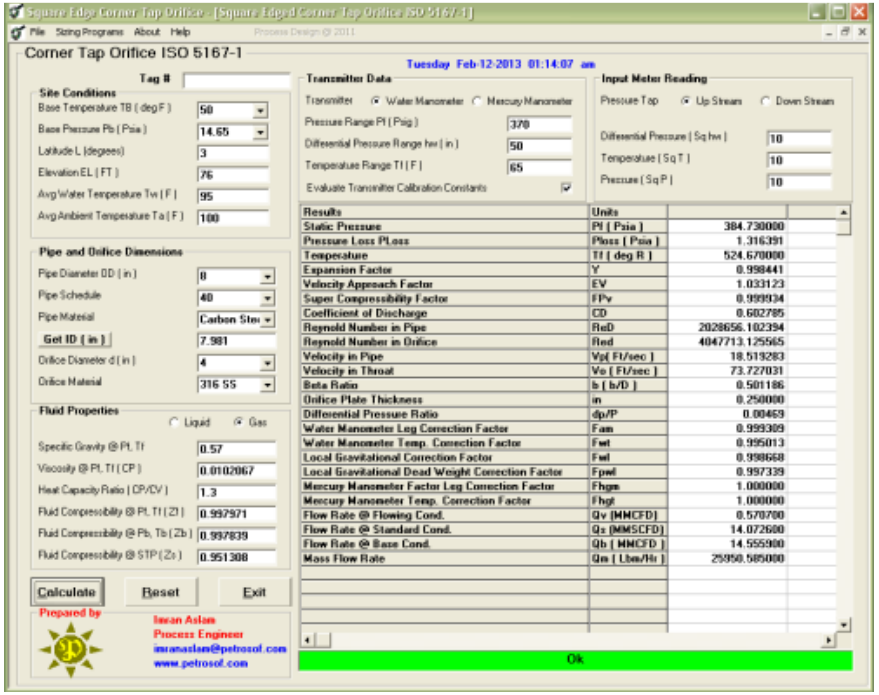
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

11- SQUARE EDGE CORNER TAP ORIFICE SIZING [ISO 5167-1, ASME & BS 1042]

Another orifice sizing software as per ISO 5167-1 standard.

Main features are as follows:

- **Site condition section to define base temperature, pressure, base latitude and site elevation.**
- **A section to define the pipe size, schedule and material. Orifice size and material.**
- **A section to define fluid properties and type of fluid (liquid or gas).**
- **A section to define the transmitter range.**
- **A section to define the pipe tapping location and transmitter readings.**
- **A result section to display the calculated orifice sizing factor, coefficient of discharge and flow rate along with other useful parameters.**
- **A message bar to display the warnings and program orifice sizing limitations.**



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

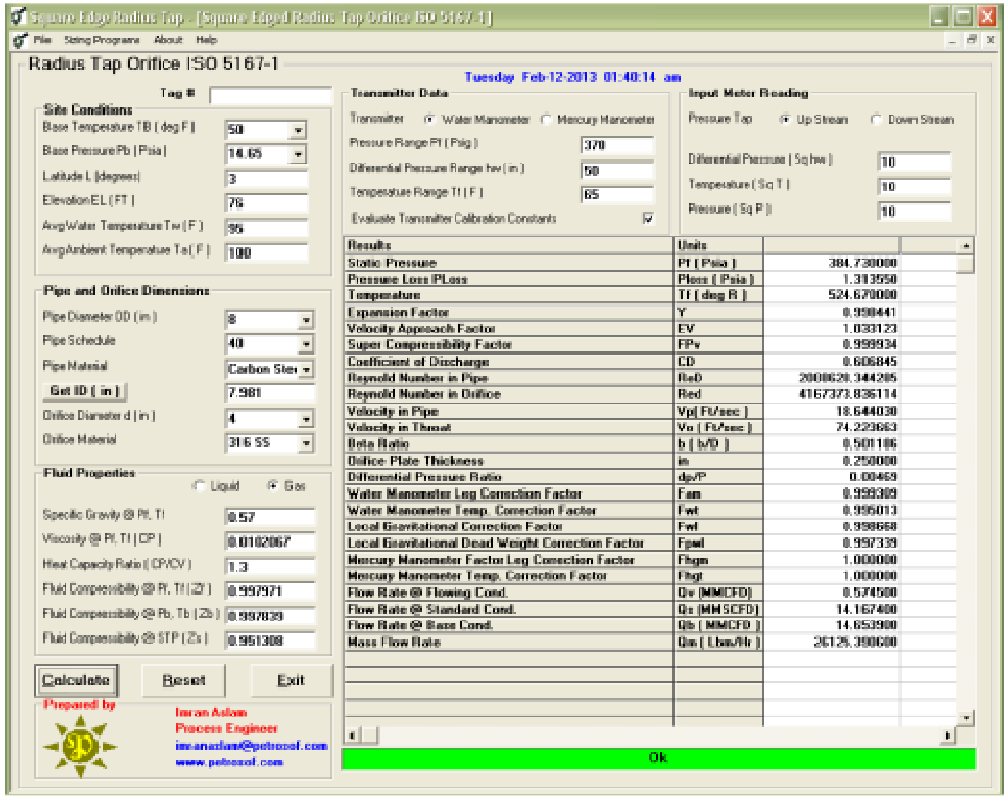
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

12- SQUARE EDGE RADIUS TAP ORIFICE SIZING [ISO 5167-1 & ASME]

Another orifice sizing software as per ISO 5167-1 standard.

Main features are as follows:

- **Site condition section to define base temperature, pressure, base latitude and site elevation.**
- **A section to define the pipe size, schedule and material. Orifice size and material.**
- **A section to define fluid properties and type of fluid (liquid or gas).**
- **A section to define the transmitter range.**
- **A section to define the pipe tapping location and transmitter readings.**
- **A result section to display the calculated orifice sizing factor, coefficient of discharge and flow rate along with other useful parameters.**
- **A message bar to display the warnings and program orifice sizing limitations.**



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

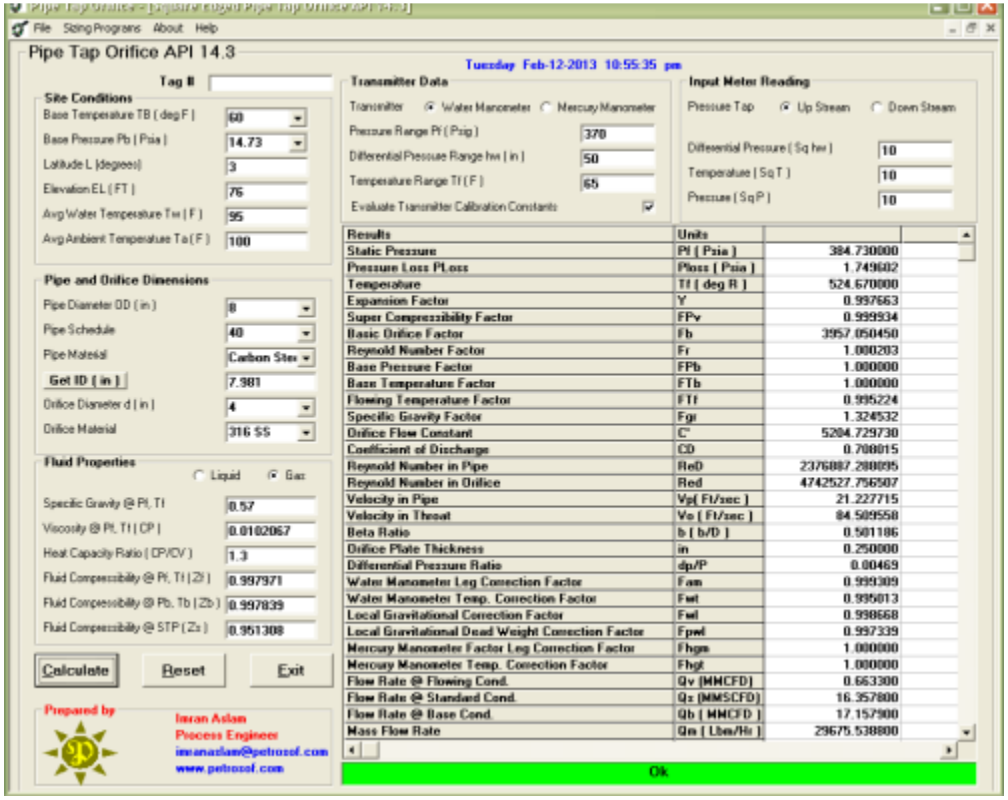
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

13- SQUARE EDGE PIPE TAP ORIFICE SIZING [API 14.3 & API 2530]

Another orifice sizing software as per API 14.3 and API 2530 standard.

Main features are as follows:

- **Site condition section to define base temperature, pressure, base latitude and site elevation.**
- **A section to define the pipe size, schedule and material. Orifice size and material.**
- **A section to define fluid properties and type of fluid (liquid or gas).**
- **A section to define the transmitter range.**
- **A section to define the pipe tapping location and transmitter readings.**
- **A result section to display the calculated orifice sizing factor, coefficient of discharge and flow rate along with other useful parameters.**
- **A message bar to display the warnings and program orifice sizing limitations.**



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

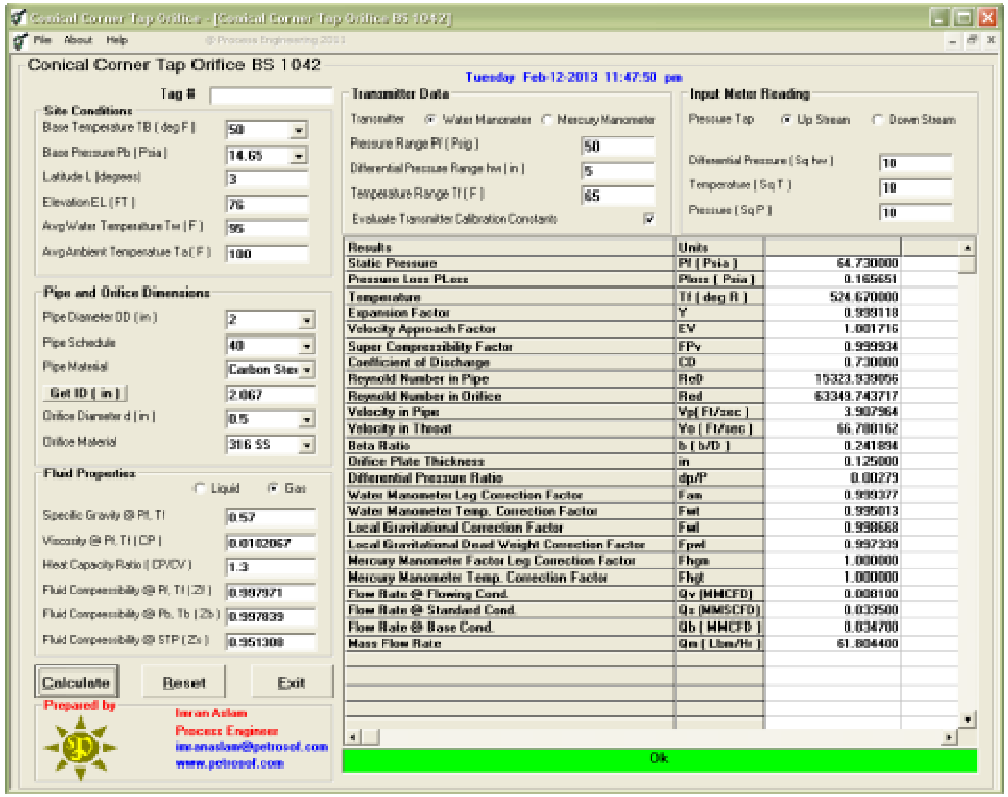
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

14- CONICAL CORNER TAP ORIFICE SIZING [BS1042]

Orifice sizing program for Conical Style Corner tap orifice according to British Standard BS 1042.

Main features are as follows:

- **Site condition section to define base temperature, pressure, base latitude and site elevation.**
- **A section to define the pipe size, schedule and material. Orifice size and material.**
- **A section to define fluid properties and type of fluid (liquid or gas).**
- **A section to define the transmitter range.**
- **A section to define the pipe tapping location and transmitter readings.**
- **A result section to display the calculated orifice sizing factor, coefficient of discharge and flow rate along with other useful parameters.**
- **A message bar to display the warnings and program orifice sizing limitations.**



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

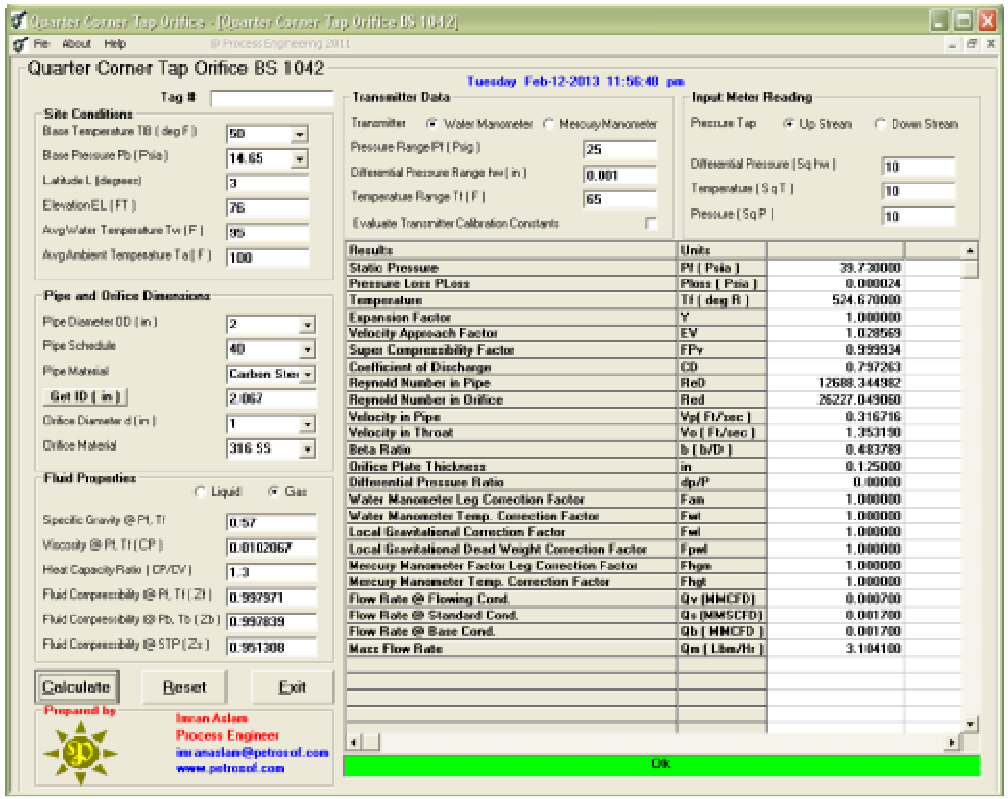
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

15- QUARTER CORNER TAP ORIFICE SIZING [BS1042]

Orifice sizing program for Quarter type Corner tap orifice according to British Standard BS 1042.

Main features are as follows:

- **Site condition section to define base temperature, pressure, base latitude and site elevation.**
- **A section to define the pipe size, schedule and material. Orifice size and material.**
- **A section to define fluid properties and type of fluid (liquid or gas).**
- **A section to define the transmitter range.**
- **A section to define the pipe tapping location and transmitter readings.**
- **A result section to display the calculated orifice sizing factor, coefficient of discharge and flow rate along with other useful parameters.**
- **A message bar to display the warnings and program orifice sizing limitations.**



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

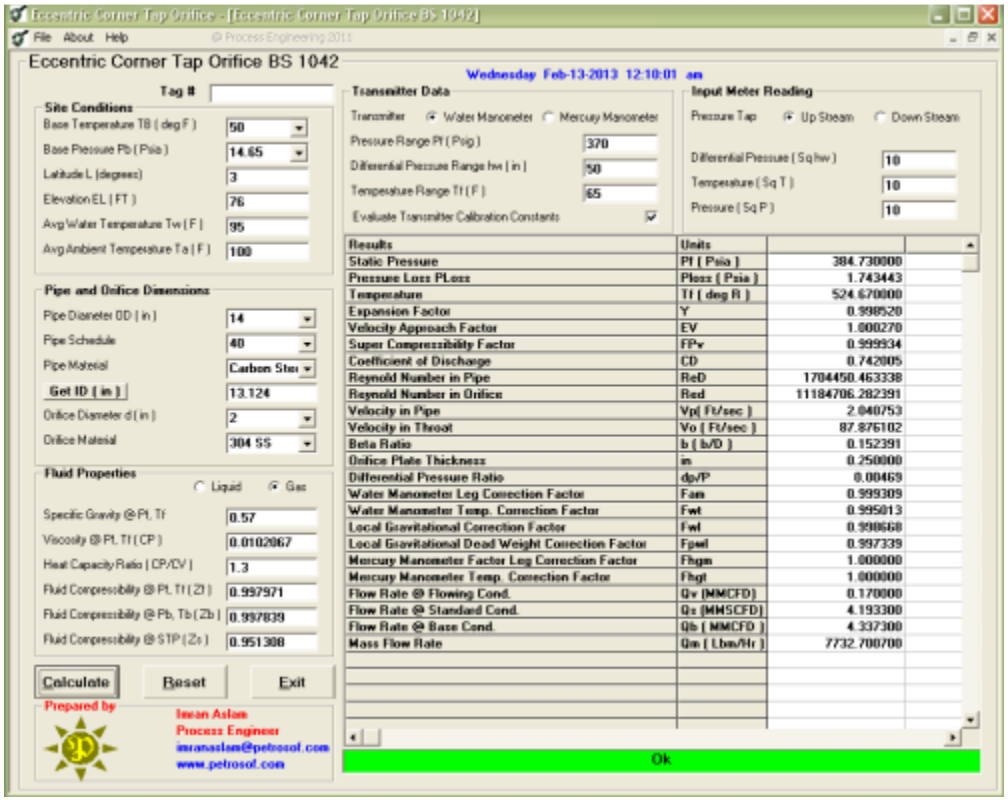
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

16- ECCENTRIC CORNER TAP ORIFICE SIZING [BS1042]

Orifice sizing program for Eccentric Corner tap orifice according to British Standard BS 1042.

Main features are as follows:

- **Site condition section to define base temperature, pressure, base latitude and site elevation.**
- **A section to define the pipe size, schedule and material. Orifice size and material.**
- **A section to define fluid properties and type of fluid (liquid or gas).**
- **A section to define the transmitter range.**
- **A section to define the pipe tapping location and transmitter readings.**
- **A result section to display the calculated orifice sizing factor, coefficient of discharge and flow rate along with other useful parameters.**
- **A message bar to display the warnings and program orifice sizing limitations.**



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

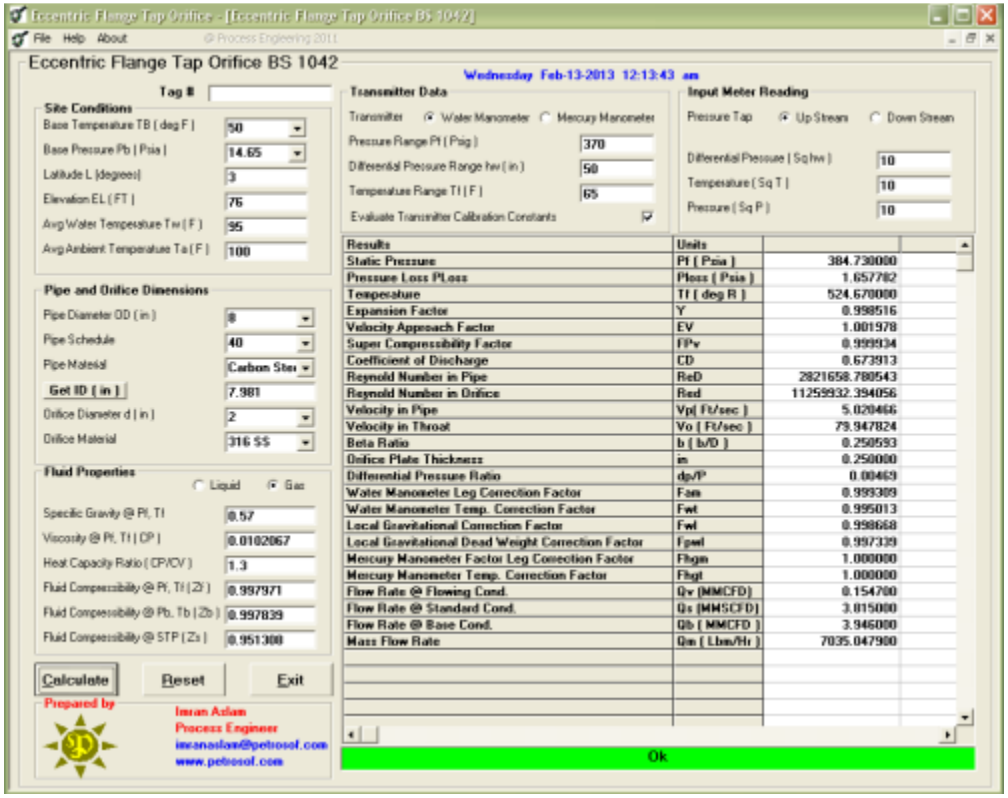
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

17- ECCENTRIC FLANGE TAP ORIFICE SIZING [BS1042]

Orifice sizing program for Eccentric Flange tap orifice according to British Standard BS 1042.

Main features are as follows:

- **Site condition section to define base temperature, pressure, base latitude and site elevation.**
- **A section to define the pipe size, schedule and material. Orifice size and material.**
- **A section to define fluid properties and type of fluid (liquid or gas).**
- **A section to define the transmitter range.**
- **A section to define the pipe tapping location and transmitter readings.**
- **A result section to display the calculated orifice sizing factor, coefficient of discharge and flow rate along with other useful parameters.**
- **A message bar to display the warnings and program orifice sizing limitations.**



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

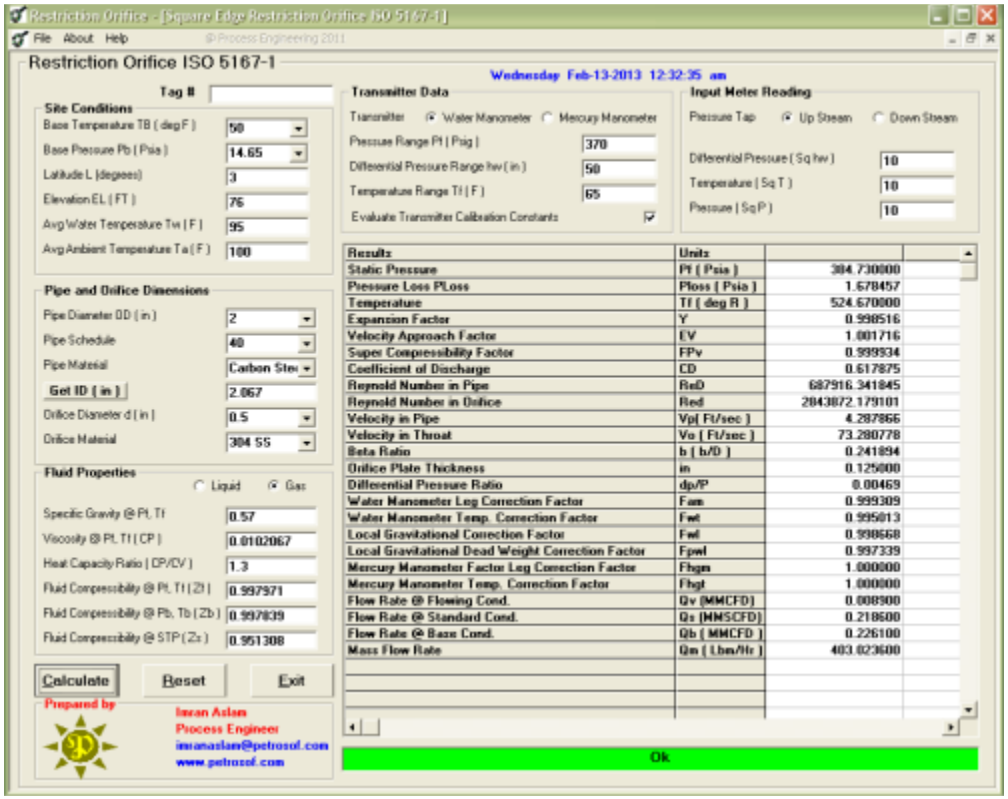
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

18- RESTRICTION ORIFICE SIZING [ISO 5167-1]

A restriction orifice software is exclusively developed to determine the correct size the orifice required to restrict the high pressure flow downstream of a blow down valve on flare headers, pump's minimum circulations lines and downstream of a level control valve to mitigate the vapor breakthrough and many other similar operations requirements. Sizing method selected is based on ISO 5167-1 flow measurement standard for its wide applicability and accuracy.

Program is design such that it completes the calculation steps while highlighting the choked flow condition, correct range of pipe and orifice size and pressure drop limitations.

Flow transmitters are not commonly installed on restriction orifices although, program have the flexibility to size the flow transmitter which is sometimes required in critical operation. Having this software on computer can really make the calculations just a click away.



Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

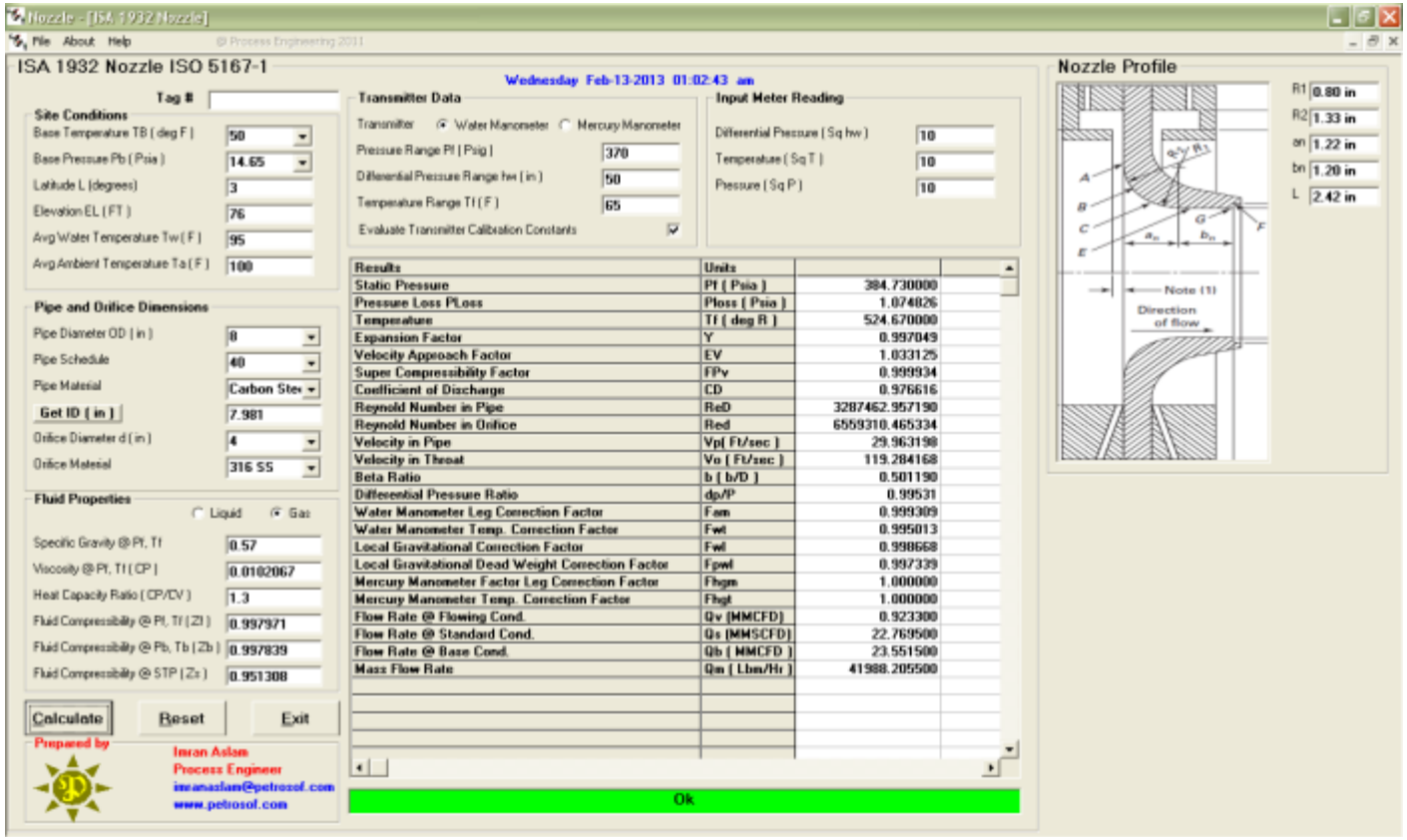
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

19- ISA 1932 NOZZLE SIZING [ISO 5167-1]

ISA 1932 Nozzles is a differential pressure flow measuring devices. Nozzle sizing software is developed with great precision according to ISO standard recommended procedure. Program is very users friendly and main interface is kept same as of the orifice sizing software. Program calculates mass flow rate and volumetric flow at standard conditions, flowing conditions and local base conditions. Nozzle dimensions are also displayed on the screen for ready reference.
Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

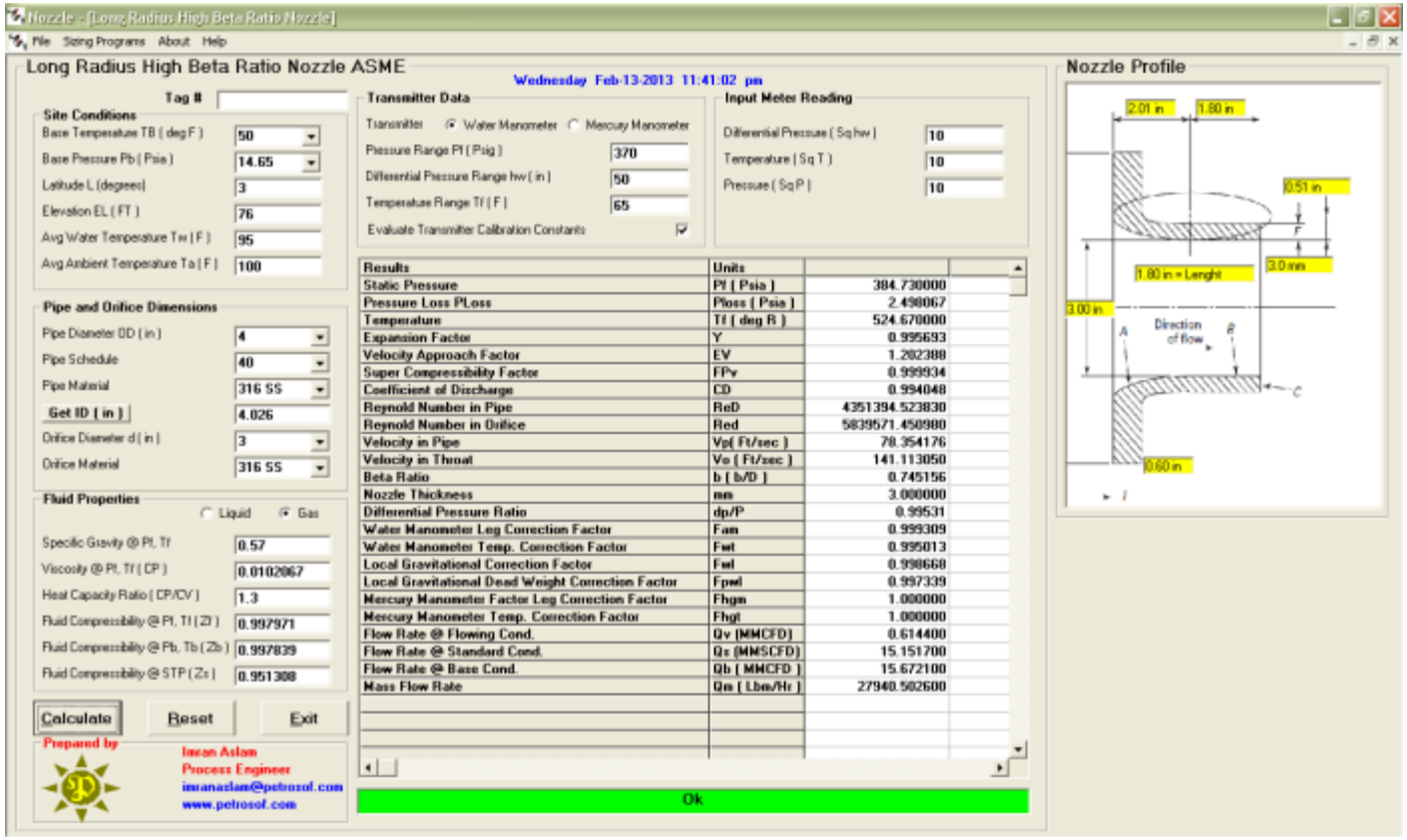


20- LONG RADIUS HIGH BETA RATIO NOZZLE SIZING [ASME & ISO 5167-1]

Software is developed with great accuracy according to ASME & ISO 5167-1standard procedure for liquid and gas measurement. Program is very users friendly and main interface is kept same as of the other nozzle sizing software. Program calculates mass flow rate and volumetric flow at standard conditions, flowing conditions and local base conditions. Nozzle dimensions are also displayed on the screen for ready reference.
Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

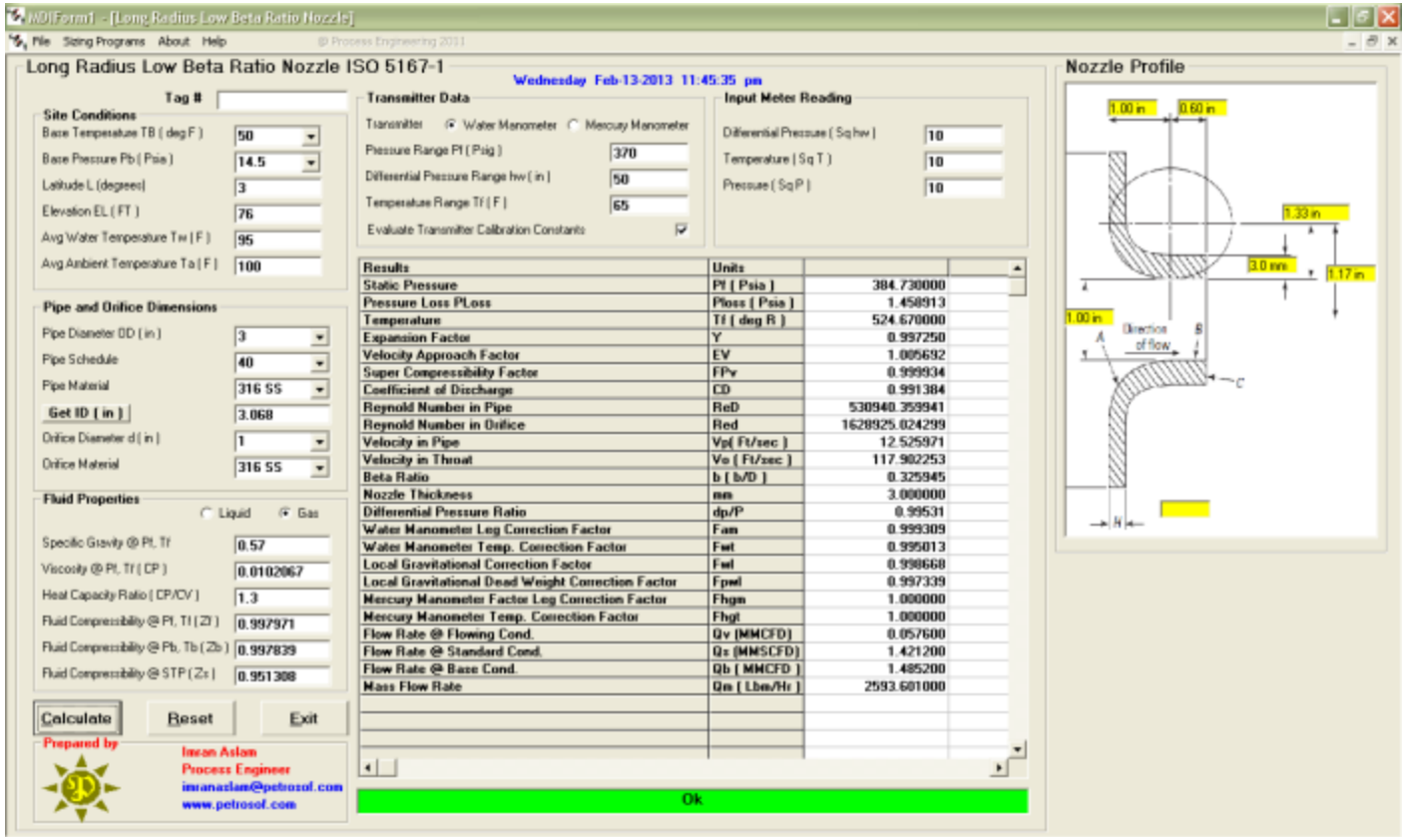


21- LONG RADIUS LOW BETA RATIO NOZZLE SIZING [ISO 5167-1]

Software is developed with great accuracy according to ISO standard recommended procedure. Program is very users friendly and main interface is kept same as of the other nozzle sizing software. Program calculates mass flow rate and volumetric flow at standard conditions, flowing conditions and local base conditions. Nozzle dimensions are also displayed on the screen for ready reference.
Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

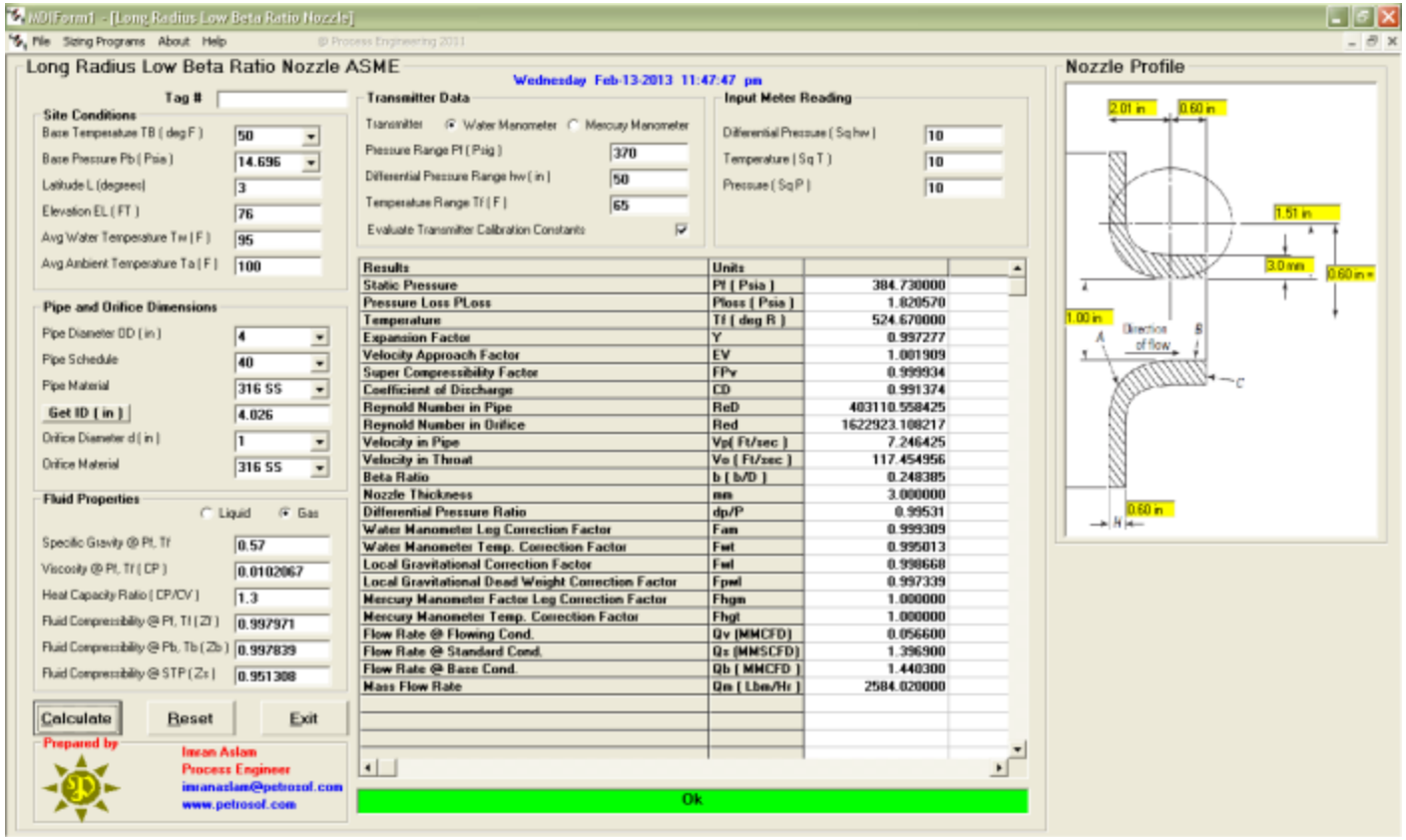


22- LONG RADIUS LOW BETA RATIO NOZZLE SIZING [ASME]

Software is developed with great accuracy according to ASME standard recommended procedure. Program is very users friendly and main interface is kept same as of the other nozzle sizing software. Program calculates mass flow rate and volumetric flow at standard conditions, flowing conditions and local base conditions. Nozzle dimensions are also displayed on the screen for ready reference.
Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

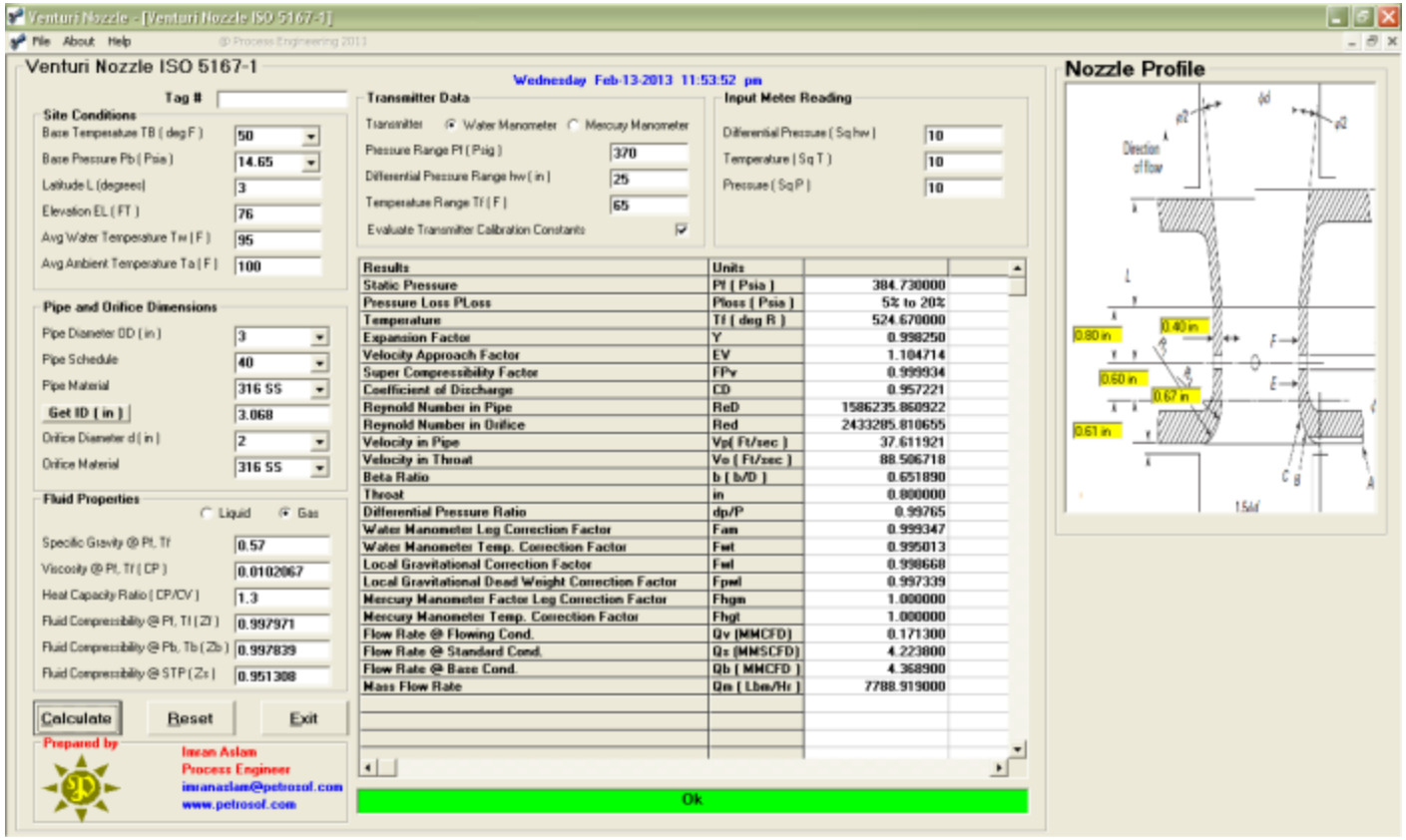


23- VENTURI NOZZLE SIZING [ISO 5167-1]

Software is developed with great accuracy according to ISO standard procedure for liquid and gas measurement. Program is very users friendly and main interface is kept same as of the other nozzle sizing software. Program calculates mass flow rate and volumetric flow at standard conditions, flowing conditions and local base conditions. Nozzle dimensions are also displayed on the screen for ready reference.
Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

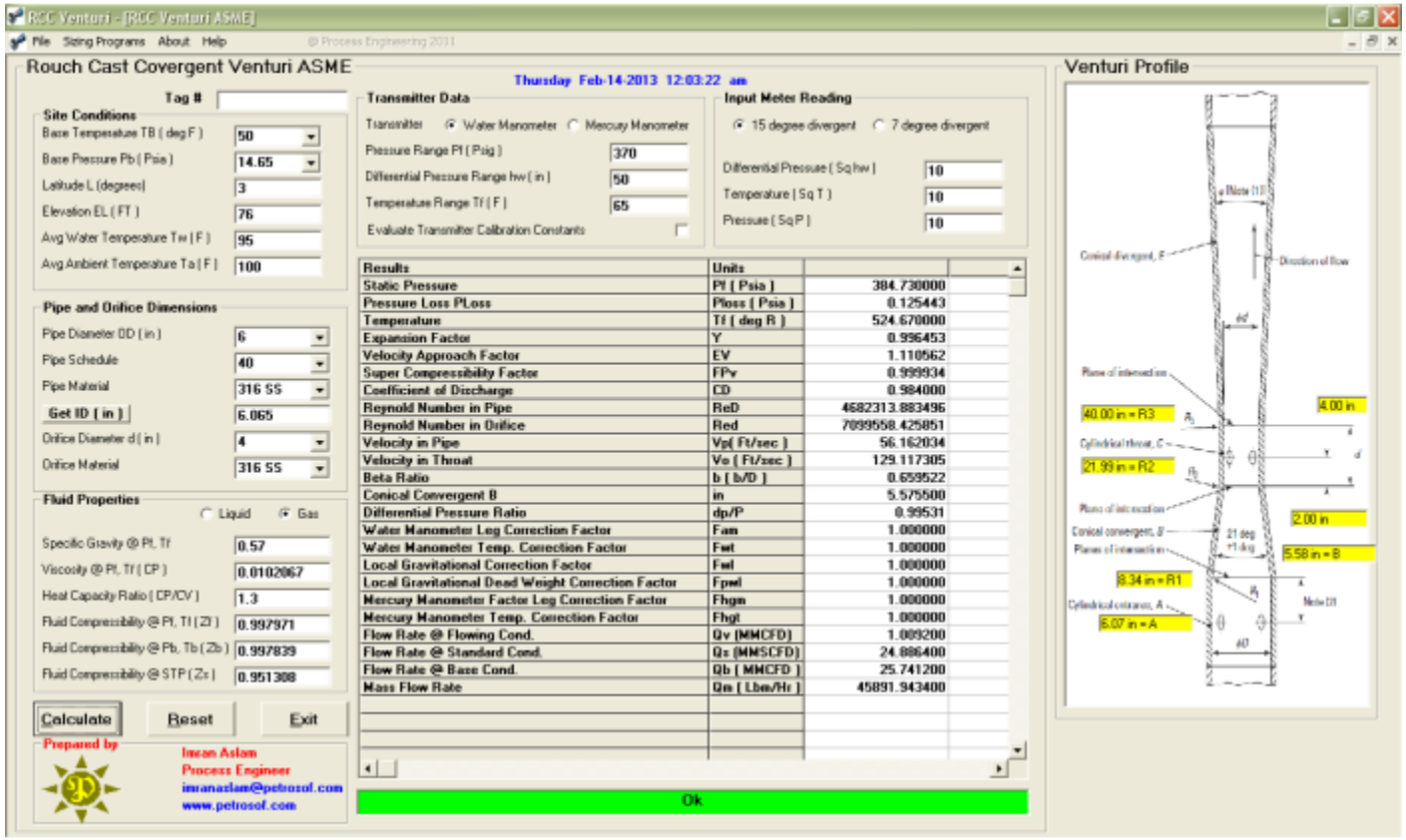


24- ROUGH CAST CONVERGENT VENTURI SIZING [ASME & ISO 51671-1]

Software is developed with great accuracy according to ISO 5167-1 and ASME standard procedure. Application contains two sub-applications for ISO-5167-1 and ASME. Program is very user's friendly containing two main section a) The input section to provide site conditions and b) result section where a detailed calculation of flow measuring device displayed. Program calculates mass flow rate and volumetric flow at standard conditions, flowing/site conditions and local site base conditions. Nozzle dimensions are also displayed on the screen for ready reference.
Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

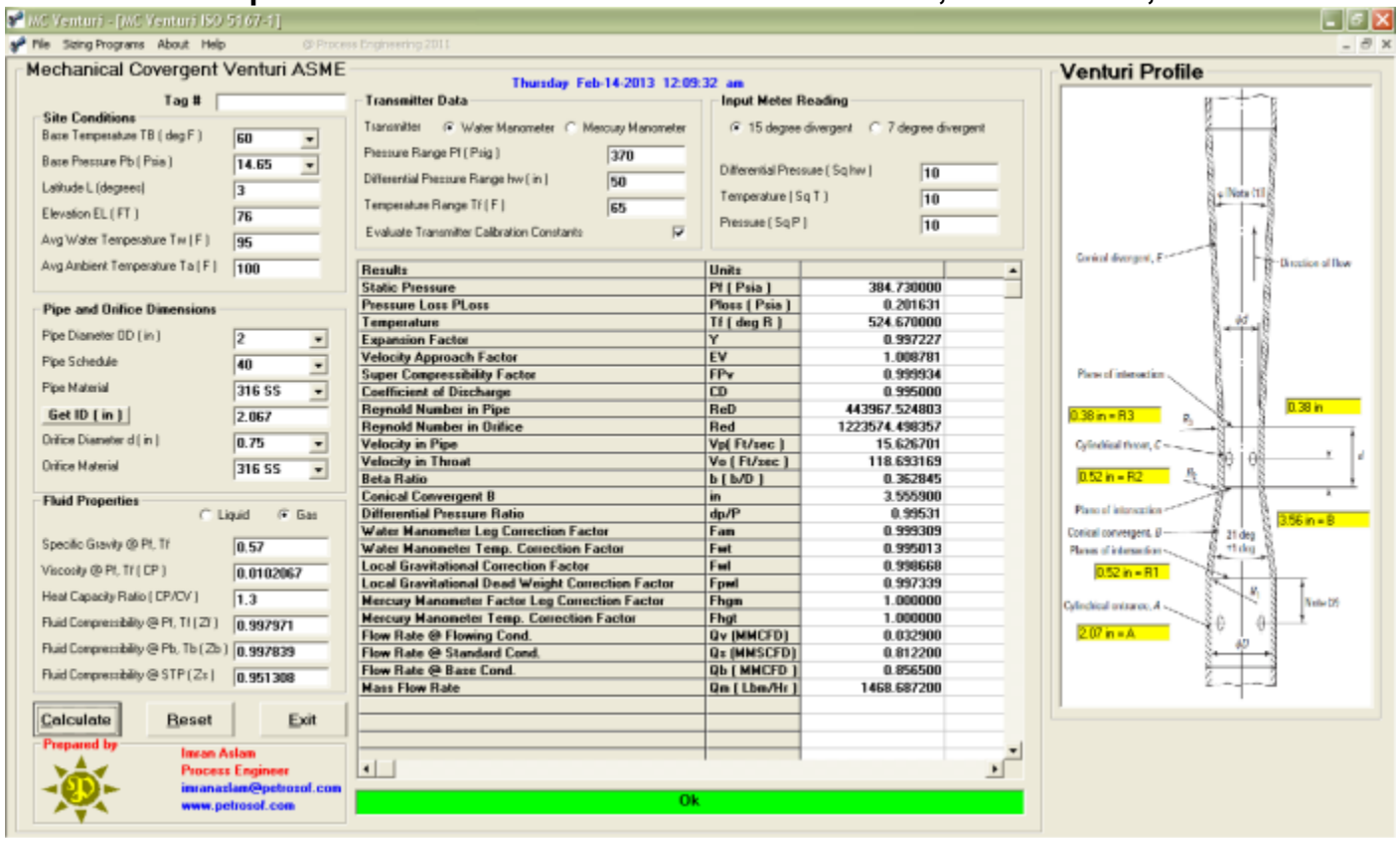


25- MECHANICAL CONVERGENT VENTURI SIZING [ASME & ISO 5167-1]

Software is developed with great accuracy according to ISO 5167-1 and ASME standard procedure. Application contains two sub-applications for ISO-5167-1 and ASME. Program is very user's friendly containing two main section a) The input section to provide site conditions and b) result section where a detailed calculation of flow measuring device displayed. Program calculates mass flow rate and volumetric flow at standard conditions, flowing/site conditions and local site base conditions. Nozzle dimensions are also displayed on the screen for ready reference.
Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



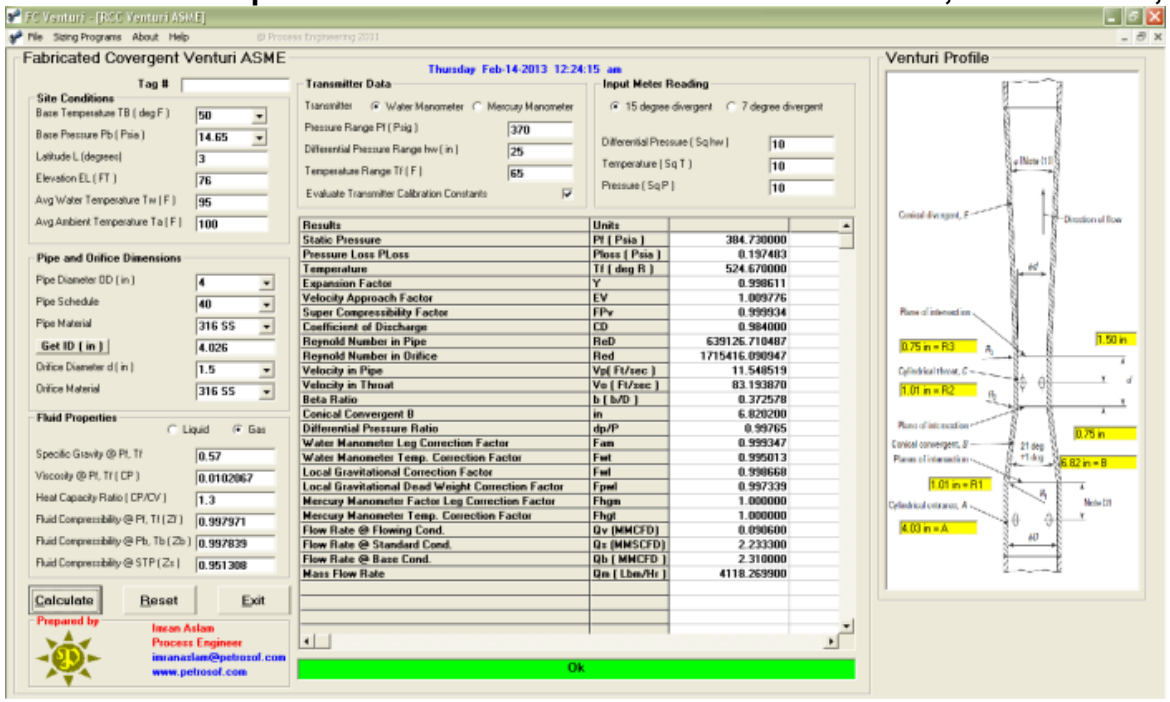
26- FABRICATED CONVERGENT VENTURI SIZING [ASME & ISO 51671-1]

Software is developed with great accuracy according to ISO 5167-1 and ASME standard procedure. Application contains two sub-applications for ISO-5167-1 and ASME. Program is very user's friendly containing two main section a) The input section to provide site conditions and b) result section where a detailed calculation of flow measuring device displayed. Program calculates mass flow rate and volumetric flow at standard conditions, flowing/site conditions and local site base conditions. Nozzle dimensions are also displayed on the screen for ready reference.

Users are prompted about the limitations of the programs in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



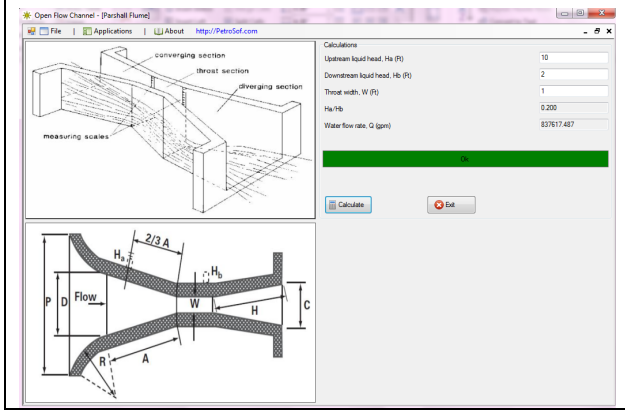
27- OPEN CHANNEL FLOW MEASUREMENT

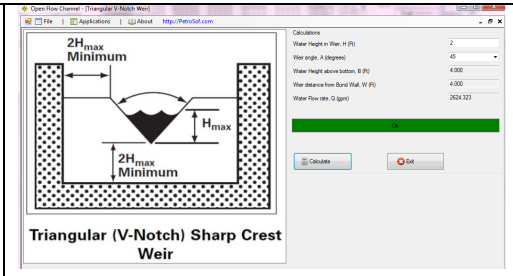
Open channel flow measurement software is developed with great accuracy to calculate open channel water flow through various types of measurement devices. Following five types of devices are normally used in open channels to calculate the flow of water/drains or water channels in rivers canals and gutters. Software is very user's friendly allowing users to provide simple inputs and determine the flow. Software covers all possible errors and define limits on the screen for user's to provide accurate details for calculation.

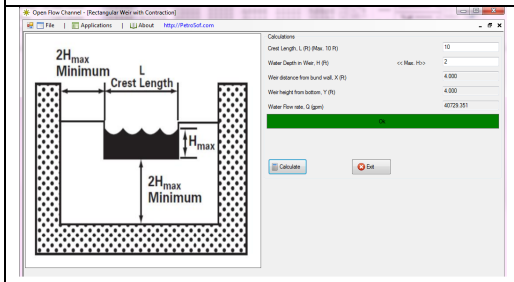
- **Triangular V-Notch Sharp Crest weir type device**
- **Rectangular weir with contraction**
- **Rectangular weir without contraction**
- **Cipolletti weir**
- **Parshall flume**

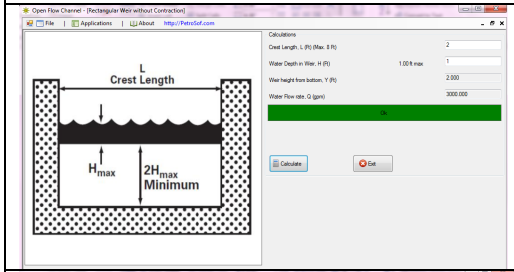
An introductory demonstration of this software is available online at www.petrosof.com

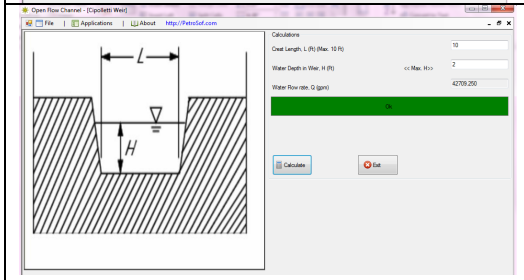
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.









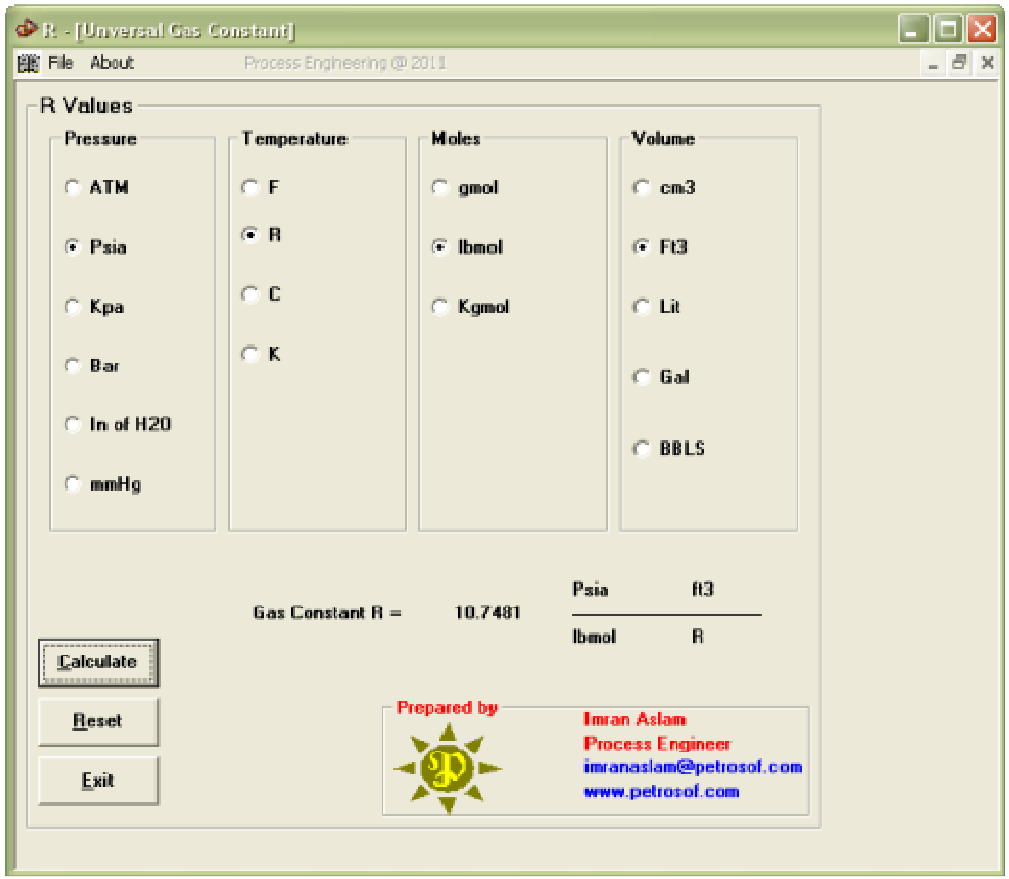


28- UNIVERSAL GAS CONSTANT

Universal gas constant is used in a variety of calculations with different set of units. A simple program is developed to calculate the R values with most commonly set of units. A simple tool to be used on desk calculations.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



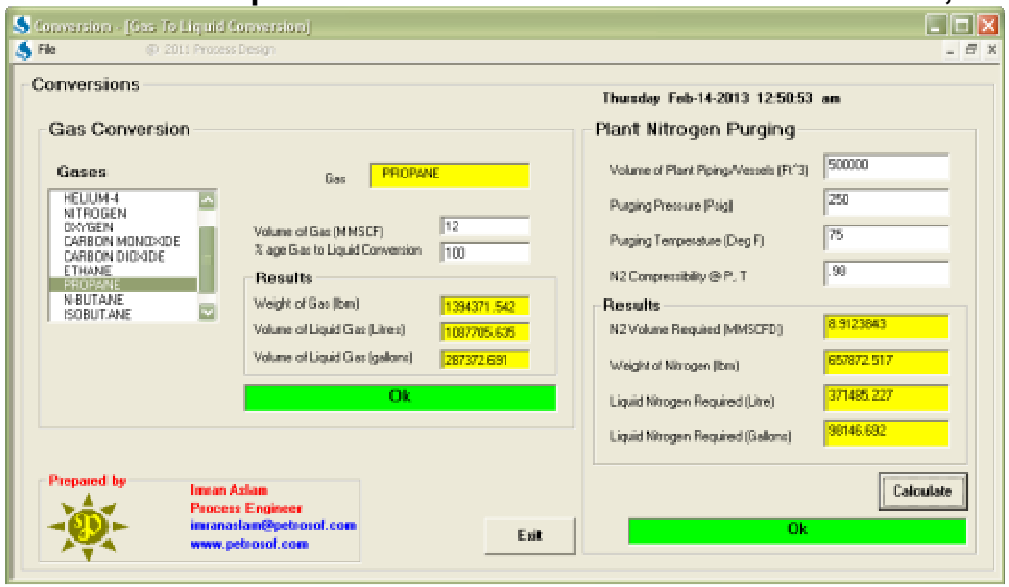
29- GAS TO LIQUID CONVERSION

A most common practice is the gas plant purging with an inert gas before and after the plant shutdown. Nitrogen is an inert gas and mostly used for this specific purpose. Engineers are required to determine the volume of liquid nitrogen used during the purging process based on the volume of piping and vessels at various pressures. A simple and robust software is developed to calculate the exact volume of liquid nitrogen at different pressures based on the piping and vessel volumes.

Also a list of selective components are incorporated in the software for which the equivalent liquid volume can be calculated. All is required to select the component from the list of components and equivalent liquid volume will be calculated automatically as the gaseous volume is typed.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

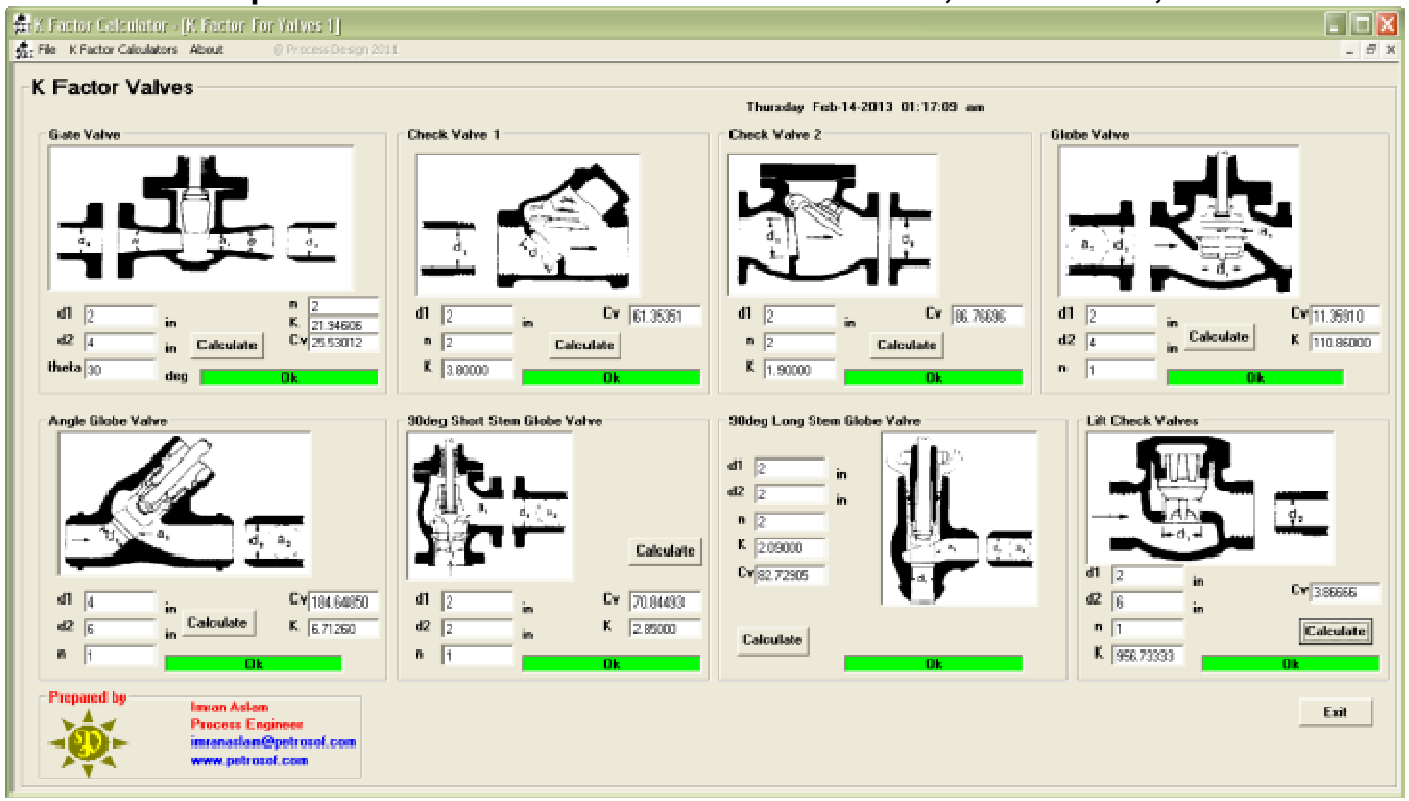


30- K FACTOR CALCULATIONS

In fluid hydraulic calculations, flow resistance coefficient is the key variable to be calculated to determine the pressure drop. There are various types of fittings and valves normally used in the piping system and each type has different value of K depending on the size and internal body casting. This software is developed with great precision to calculate the K factor for all types of known fittings in the piping system. This is a complete package consisting of four sets of screens each can be pulled up from the drop down menu on the title bar of the program. This program is very simple to use and Engineers can obtain the results with little inputs without manual calculations of lengthy equations.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



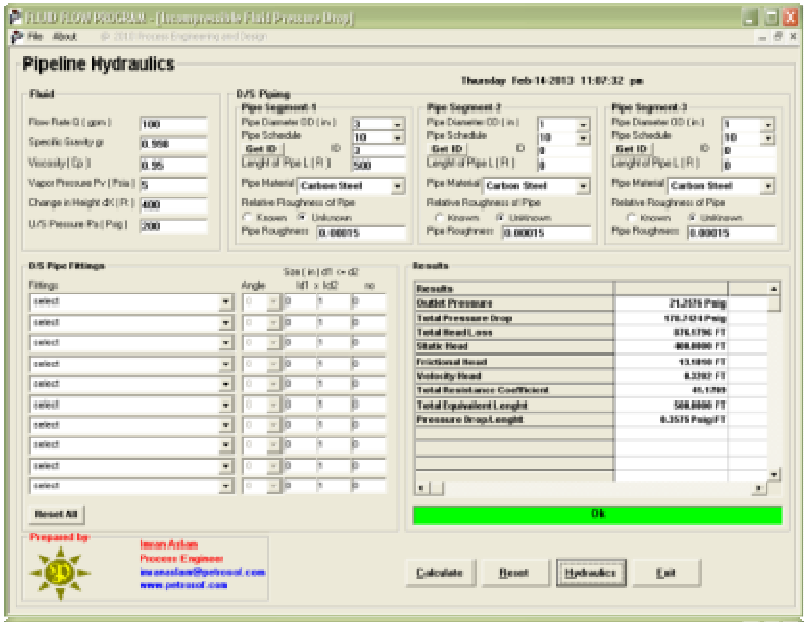
31- INCOMPRESSIBLE FLUID HYDRAULICS

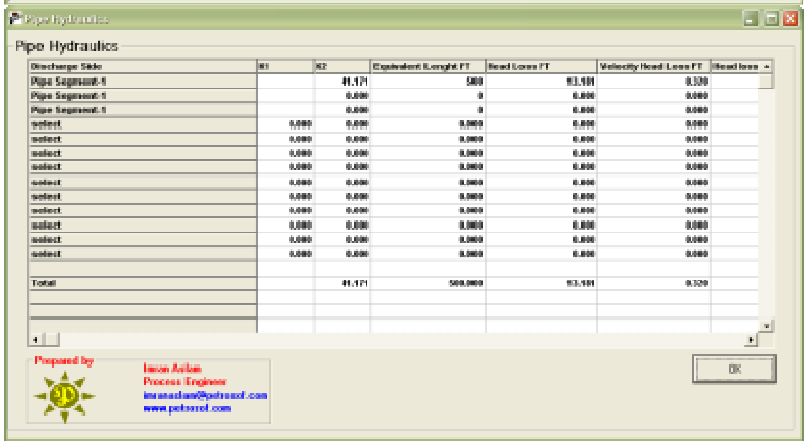
Hydraulic calculation is the basic requirement of Process Design. This software is developed with great commitment to accurately calculate the pipeline hydraulics carrying incompressible fluid. Engineers can define a complete isometric layout of the pipes installed at different elevations including various types of fittings and valves. Program can determine the hydraulic calculations of each pipe segment and displays the summary results in tabulated form on the screen while a detailed calculations analysis of each individual item is provided on hydraulics section of the program.

All possible errors and warning are captured and display in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





32- GAS HYDRAULICS

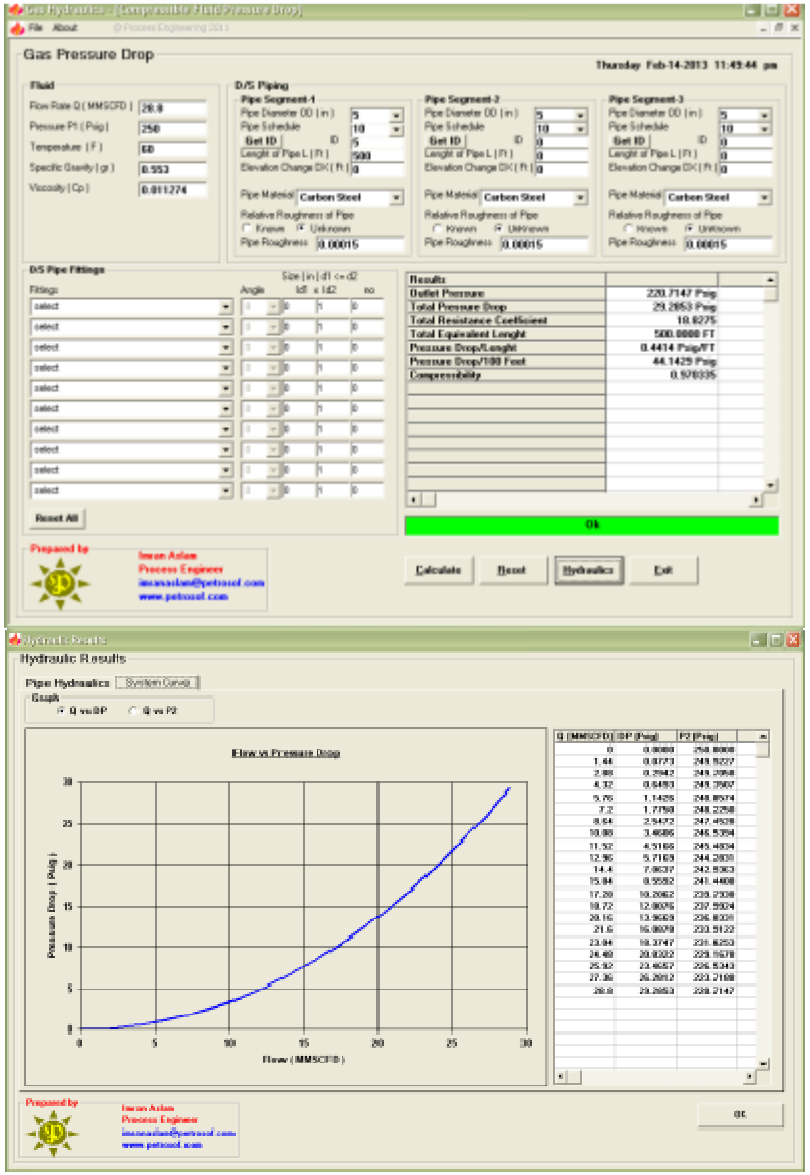
Flow of gas in the pipeline is very different than the liquid flow due to the nature of fluid. Properties of the compressible fluid changes with the temperature and pressure drop in the pipe and hydraulic calculations requires more attentions and care in order to predict the accurate results. The Gas Hydraulic software is developed with great effort and time to precisely calculate pressure drop, velocity, compressibility and other important hydraulic parameters.

A complete piping system can be defined along with fittings and valves with elevation details. A separate section of tabulated and graphical results are compiled within the software. An important feature of the program is; it generates the pressure drop and system resistance curves and presents a breakdown of pressure drop over the entire range of flow and pipe length.

All possible errors and warning are captured and display in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



33- PUMP HYDRAULICS

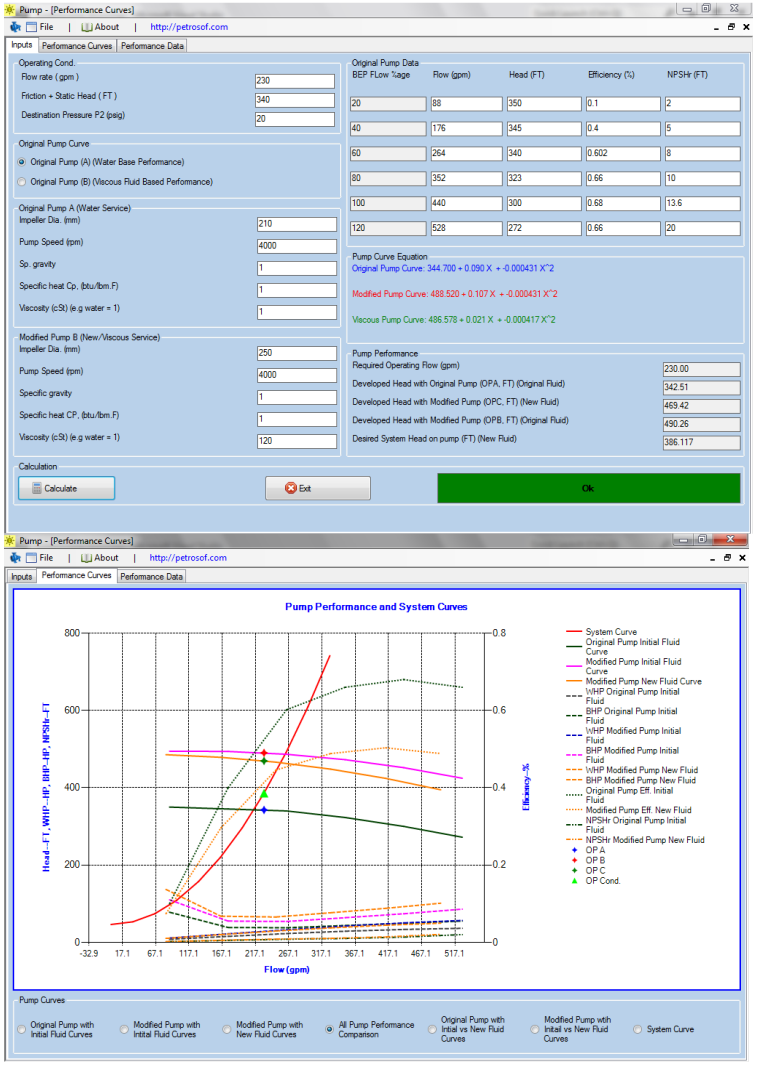
Pump sizing and system hydraulic calculation is the most important and challenging task in Process Design. Engineers often face the situation where they design a new system or have to determine the performance of existing pump system and its hydraulics calculations.

This application is designed with high accuracy to model the performance curves of centrifugal pump provided vendors original performance curves. Then engineers can specify the new field conditions to determine performance of the pump. A system resistance curves is also developed in the application. An exquisite application specially designed for process engineering calculation.

All possible errors and warning are captured and display in the message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



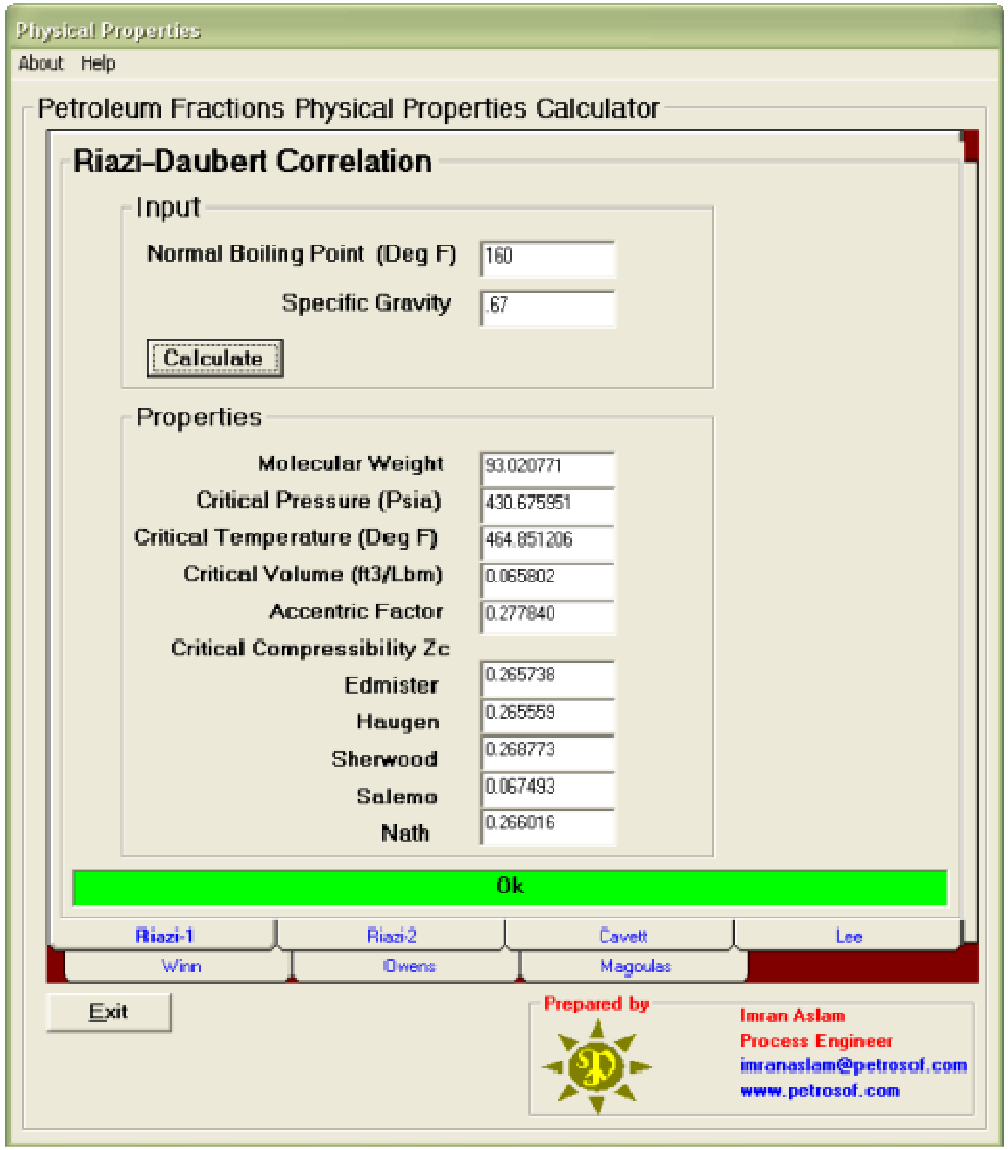
34- PETROLEUM FRACTION PHYSICAL PROPERTIES

This software is developed to calculate the physical properties of hypothetical petroleum fractions. This program contains a set of seven complex empirical equations to which the manual interpolation is laborious and tedious. A very handy and useful tool for quick calculation without using graphs or tables.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



35- PRESSURE RELIEF VALVE SIZING [GAS SERVICE]

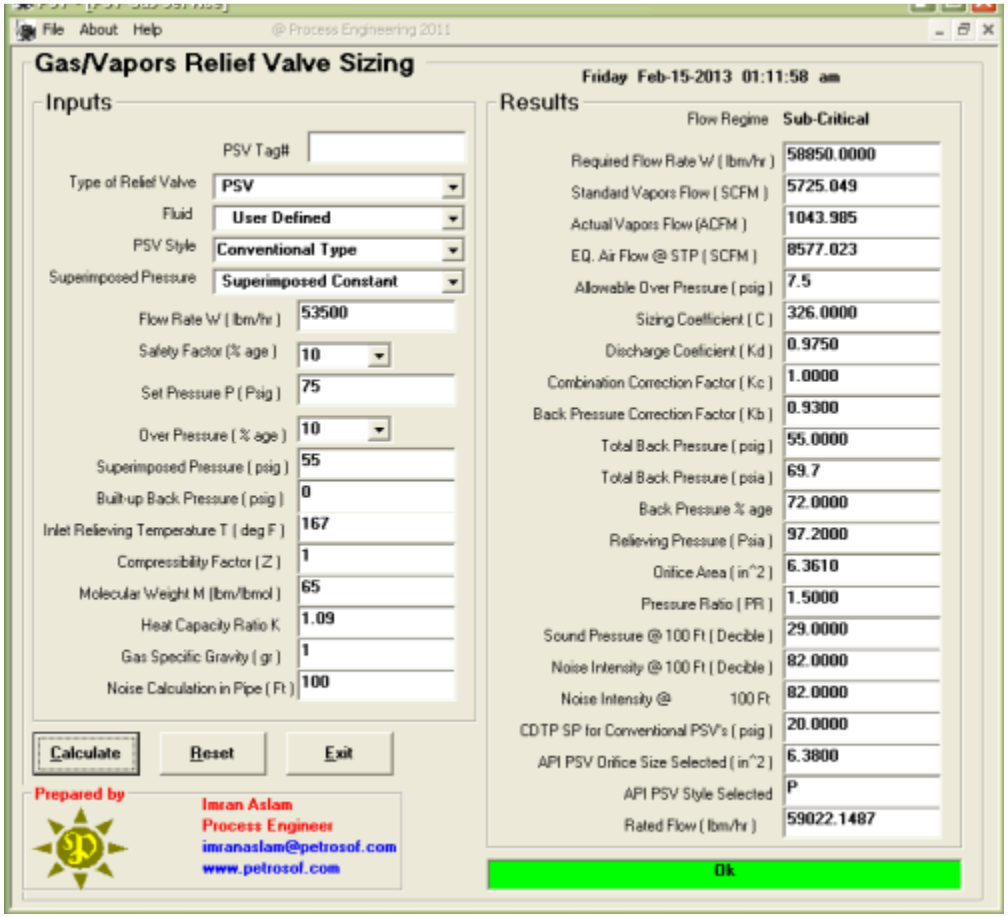
The most important part of Process Engineering is Pressure Relief Valve Designing. Accurate sizing of PSV is highly important for the life and safety of equipment.

This software is developed with great precision and care to accurately determine the required orifice size of PSV in gas service.

A complete list of most common gases is given in the program to help defining the physical properties which users can alter as per requirements. Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section.

The result section gives complete information on all the sizing constants and mass flow rate and volumetric flow rates at standard and actual conditions. Also calculate the rated flow of selected orifice size.
Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



36- PRESSURE RELIEF VALVE SIZING [LIQUID SERVICE]

The most important part of Process Engineering is Pressure Relief Valve Designing. Accurate sizing of PSV is highly important for the life and safety of equipment.

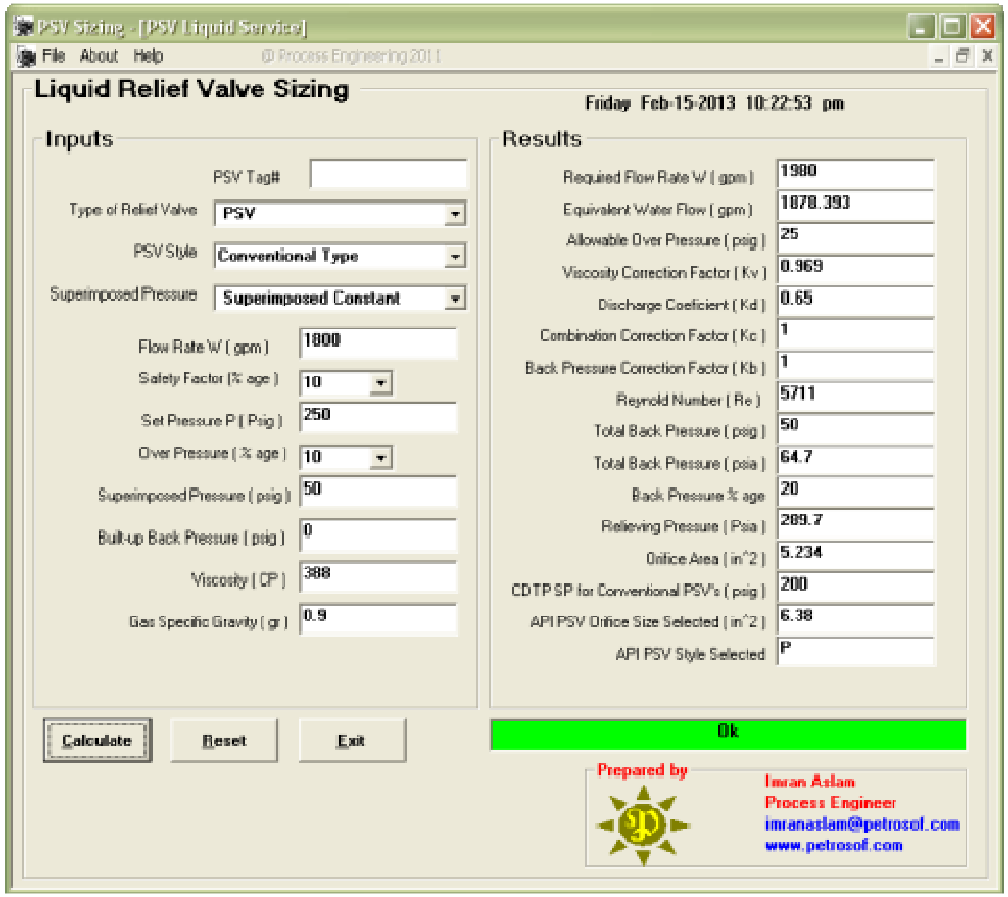
This software is developed with great precision and care to accurately determine the required orifice size of PSV in liquid service. Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section.

The result section gives complete information on all the sizing constants and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



37- PRESSURE RELIEF VALVE SIZING [STEAM SERVICE]

The most important part of Process Engineering is Pressure Relief Valve Designing. Accurate sizing of PSV is highly important for the life and safety of equipment.

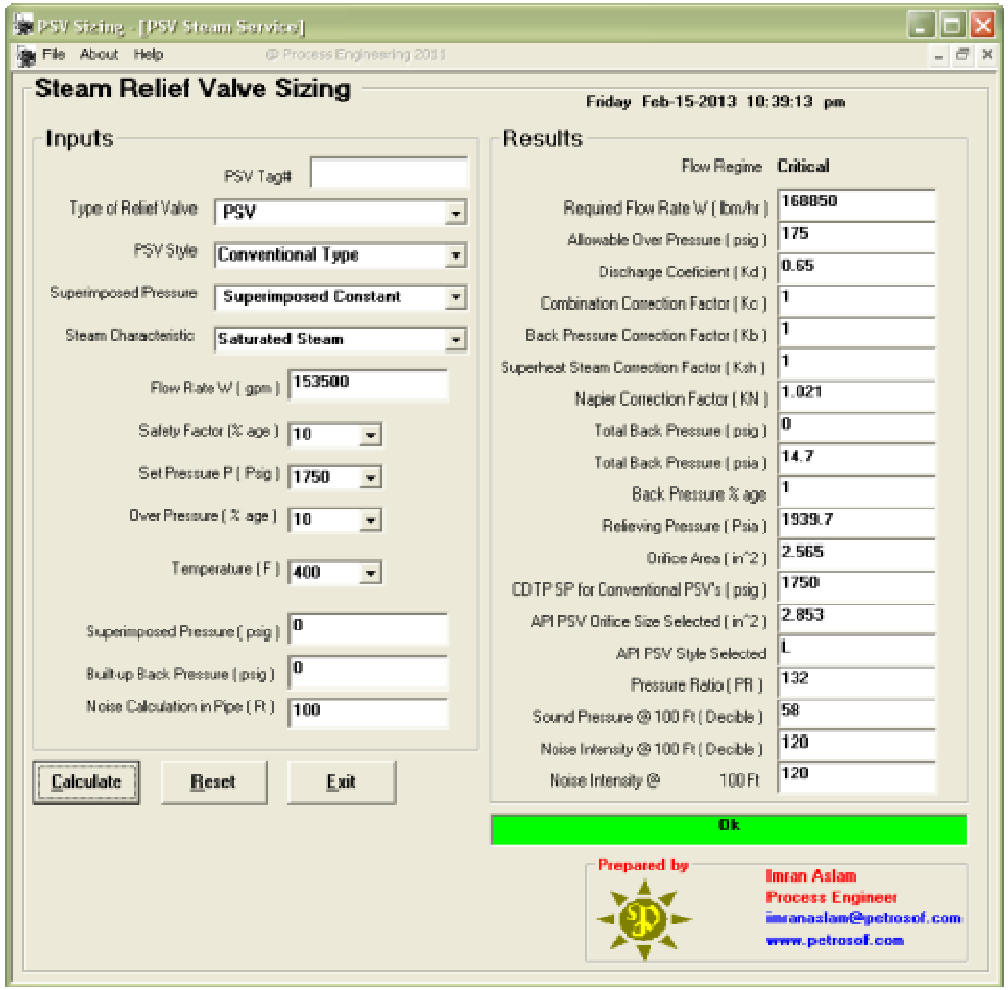
This software is developed with great precision and care to accurately determine the required orifice size of PSV. Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section.

The result section gives complete information on all the sizing constants and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



38- PRESSURE RELIEF VALVE SIZING [THERMAL RELIEF]

Thermal relief valve is somewhat different than the regular relief valves as it is not meant to full relief instead, it fulfills the purpose of relieving a small volume through the valve enough to bring the pressure down that was increase due to the trapped liquid inside the pipe due to expansion caused by the ambient temperature.

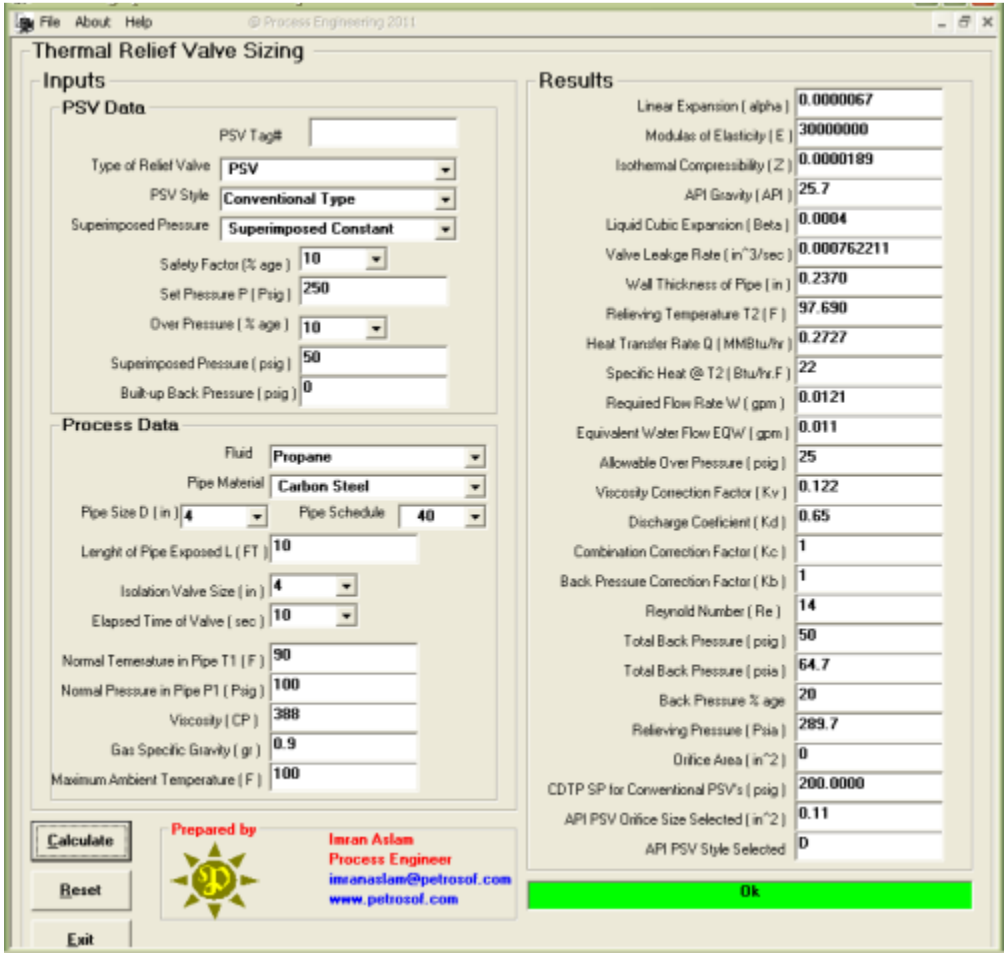
This software is developed with great precision and care to accurately determine the required orifice size of PSV. Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section.

The result section gives complete information on all the sizing constants, mass flow rate and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



39- PRESSURE RELIEF VALVE SIZING FIRE CASE [GAS SERVICE]

This software is developed with great commitment to precisely determine the required orifice size of PSV and relieving rate through the vessel in case of fire.

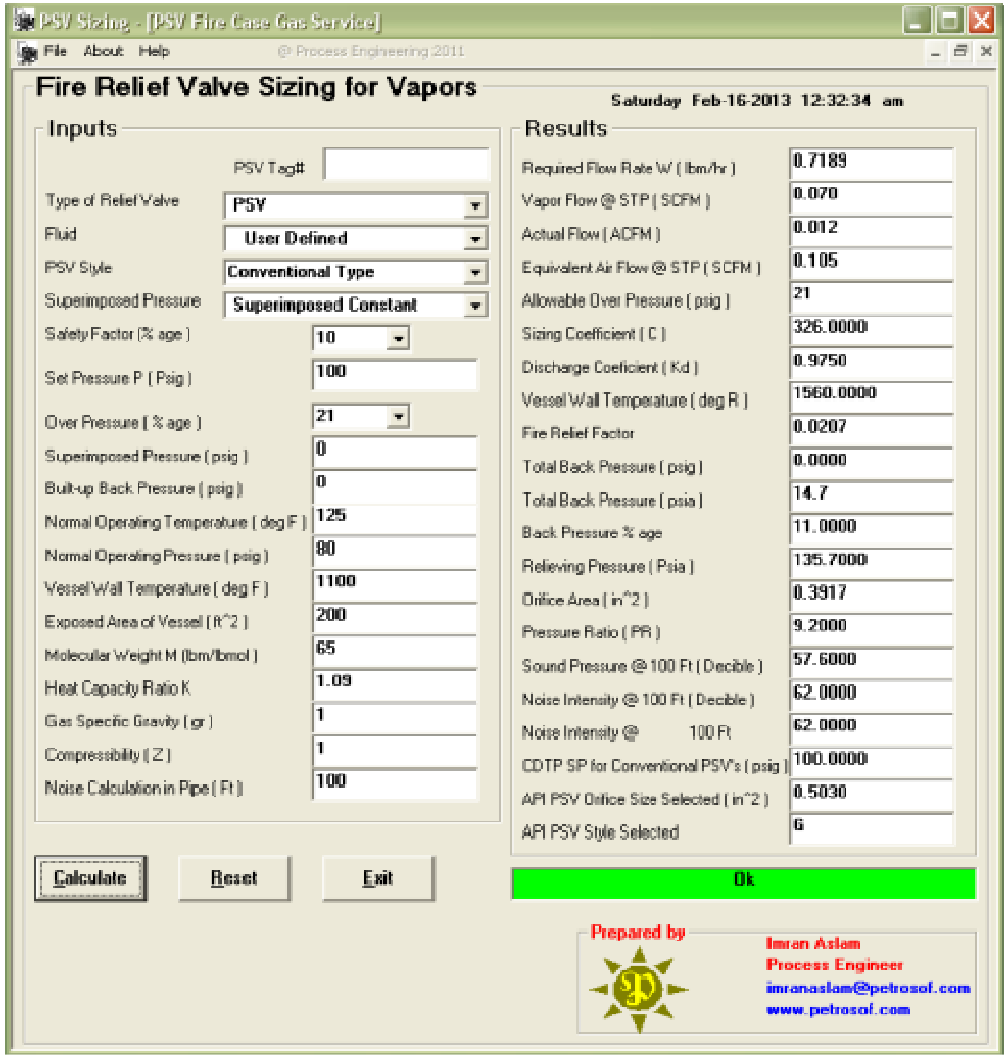
Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section.

The result section gives complete information on all the sizing constants, mass flow rate and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



40- PRESSURE RELIEF VALVE SIZING FIRE CASE [LIQUID SERVICE]

This software is developed with great commitment to precisely determine the required orifice size of PSV and relieving rate through the vessel filled with liquid in case of fire.

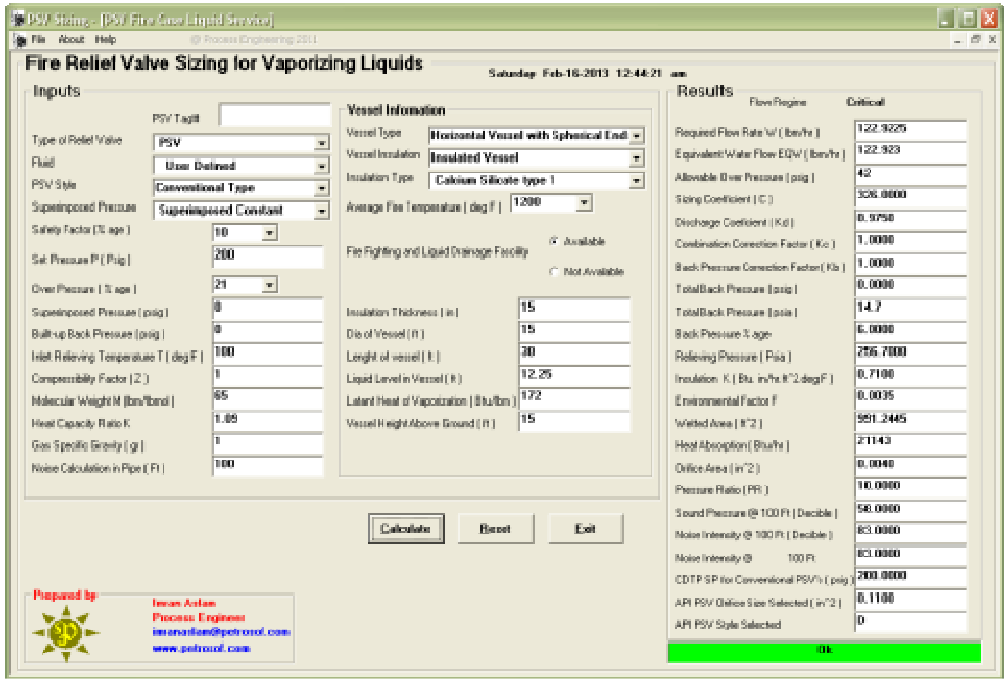
Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section.

The result section gives complete information on all the sizing constants, mass flow rate and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



41- PRESSURE RELIEF VALVE SIZING TWO PHASE [SUB-COOLED LIQUIDS]

PSV sizing for two phase flow is entirely different than other types of sizing methods which involves iterative solutions to complex equations to correctly size the orifice. This software is developed with great accuracy to solve the equations to calculate the factors and achieve the required orifice size.

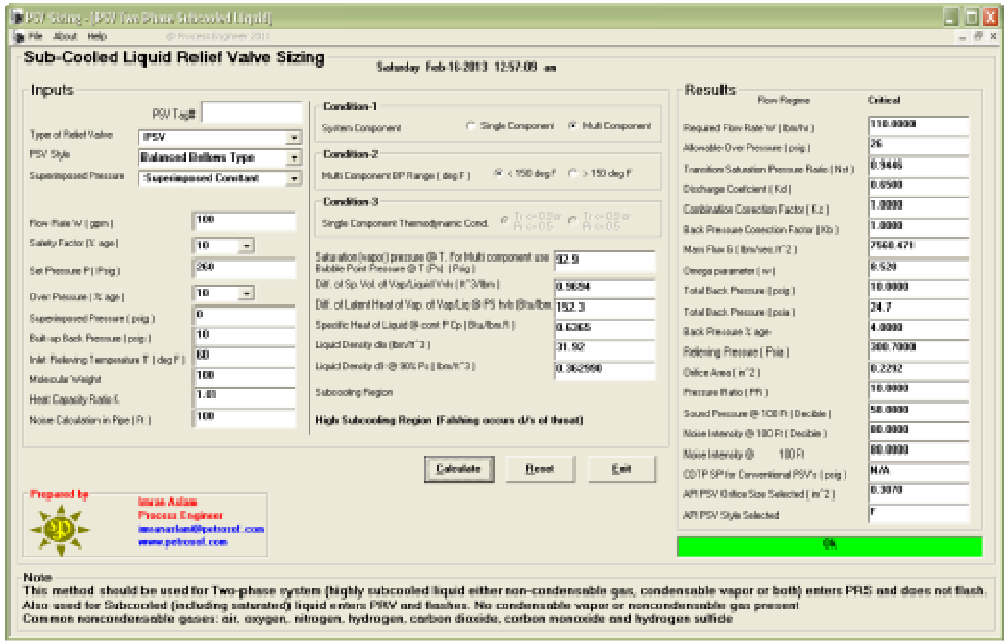
Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section. Also users can select the possible scenarios and conditions of the two phase fluid involved in the sizing.

The result section gives complete information on all the sizing constants, mass flow rate and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



42- PRESSURE RELIEF VALVE SIZING TWO PHASE METHOD 1 [FLASHING LIQUIDS]

PSV sizing for two phase flow is entirely different than other types of sizing methods which involves iterative solutions to complex equations to correctly size the orifice.

This software deals with different type of two phase fluid and it is developed with great accuracy to solve the equations to calculate the factors and achieve the required orifice size.

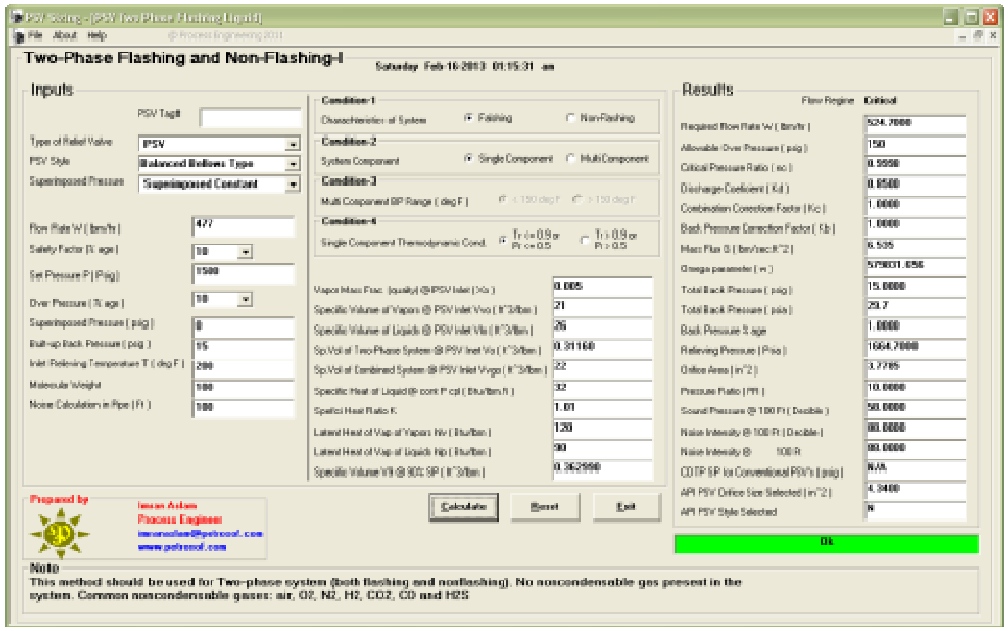
Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section. Also users can select the possible scenarios and conditions of the two phase fluid involved in the sizing.

The result section gives complete information on all the sizing constants, mass flow rate and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



43- PRESSURE RELIEF VALVE SIZING TWO PHASE METHOD 2 [FLASHING LIQUIDS]

PSV sizing for two phase flow is entirely different than other types of sizing methods which involves iterative solutions to complex equations to correctly size the orifice.

This software based on a method 2 for different type of two phase fluid. It is developed with great accuracy to solve the equations to calculate the factors and achieve the required orifice size.

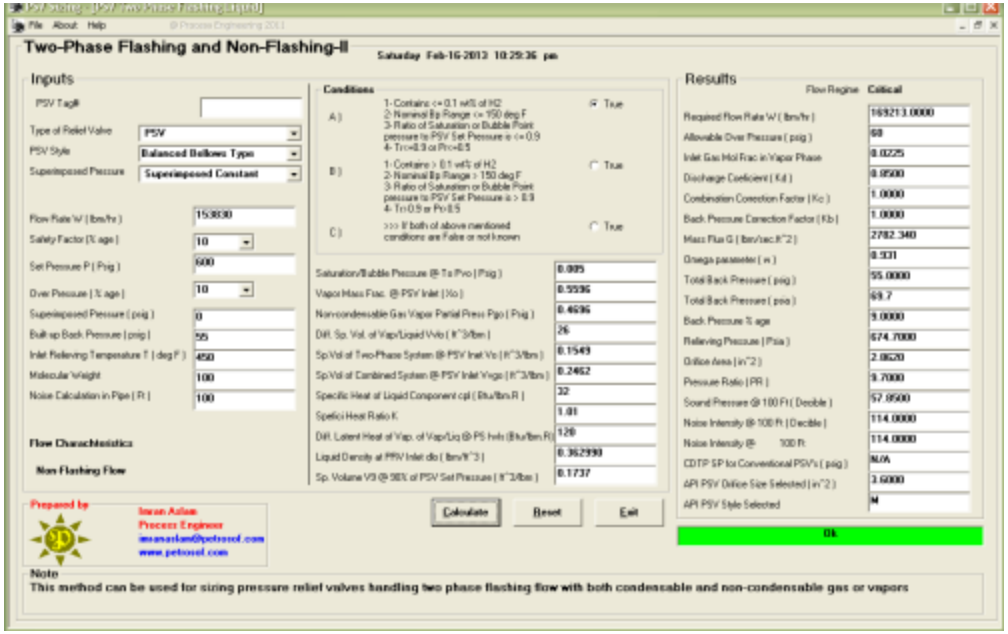
Selection of different types of PSV, back pressure, set pressure and over pressure range can be defined in the input section. Also users can select the possible scenarios and conditions of the two phase fluid involved in the sizing.

The result section gives complete information on all the sizing constants, mass flow rate and size of orifice.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



44- RUPTURE DISC SIZING [ATMOSPHERIC RELEASE]

Rupture discs are another means to relieve pressure from equipment. Mostly they are installed on the shell side of heat exchangers to protect over pressurizing the shell from a leak of high pressure fluid from inside tubes.

Mostly flow through rupture discs are not required to be calculated however, in some special cases where it is required to estimate the flow through rupture disc relieved to atmosphere this software can be a handy tool to quickly calculate the flow.

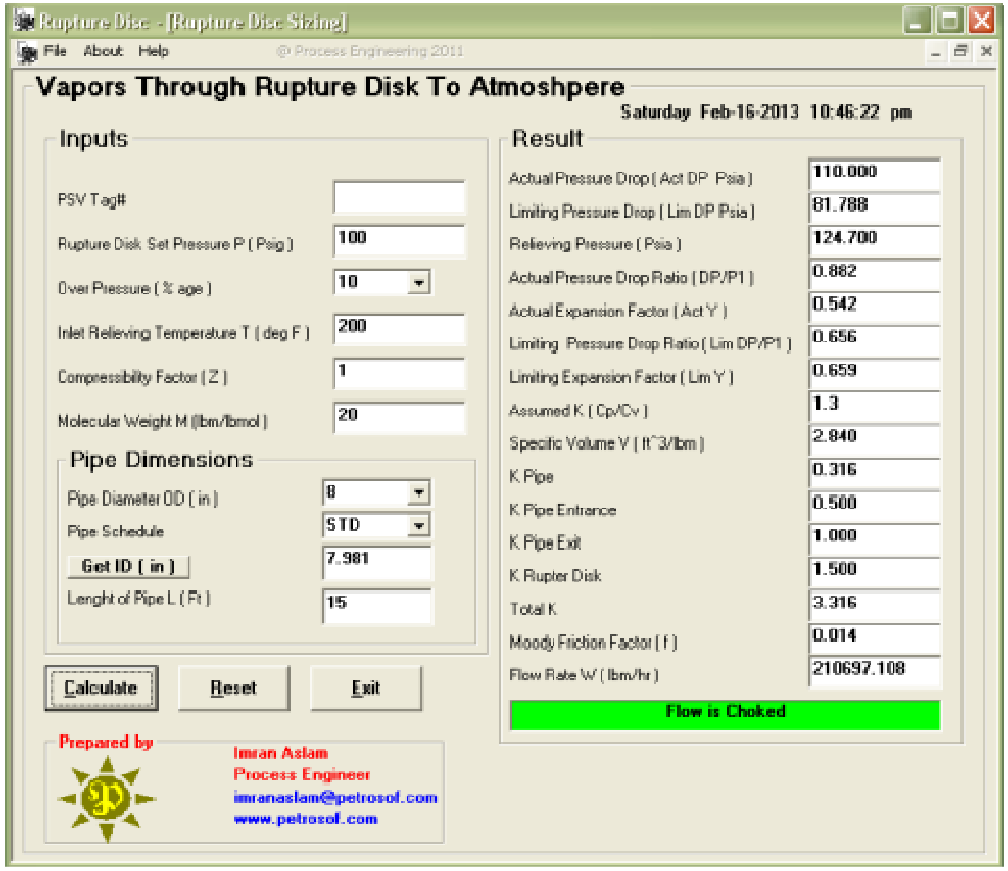
This software is developed with great care for precise calculations.

The result section gives complete information on all the sizing constants, mass flow rate and choked flow conditions.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



45- HORIZONTAL TWO PHASE SEPARATOR SIZING

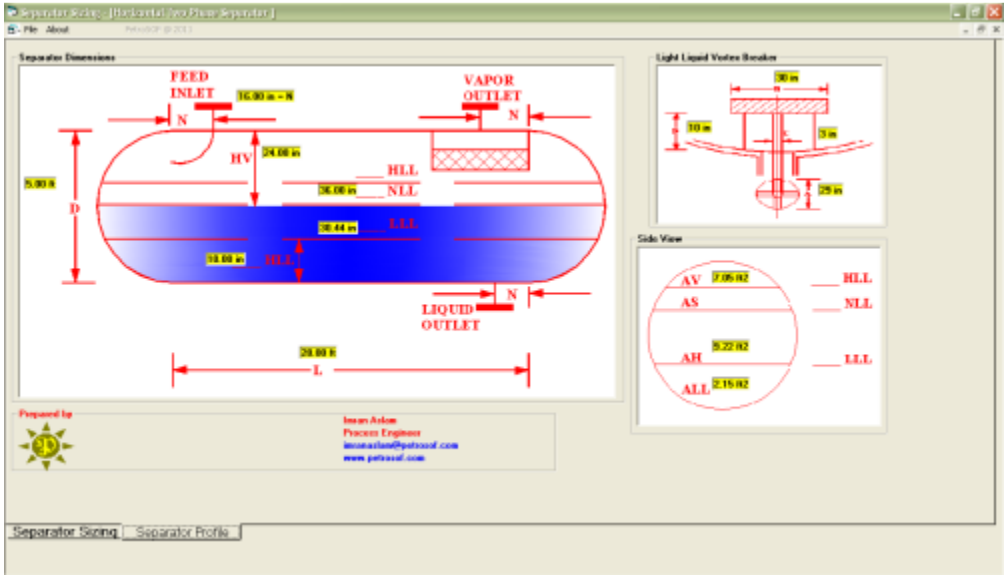
In oil and gas facilities separators are the key equipment used both offshore and onshore plants for oil, water and gas separation.

This software is developed with great precision to determine the sizing parameters of separators by solving complex iterative equations. Demister pad, inlet and outlet nozzle sizing, residence time, slug lengths, hold up time and separator weight and pressure ratings are calculated simultaneously. Besides, liquid levels at normal, low and high points are determined and respective alarm set points are calculated. All calculated results including complete level and alarm information are also displayed on the separator picture on the screen.

Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



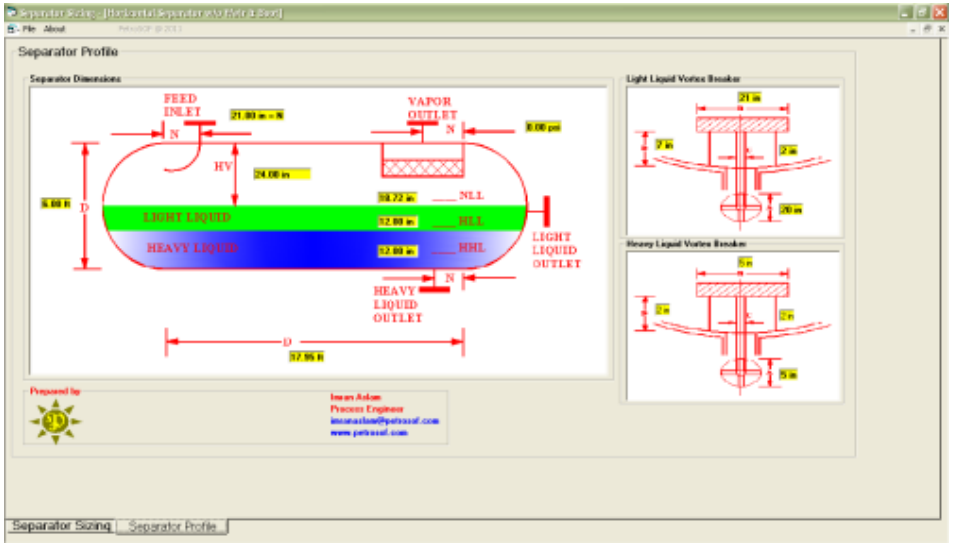
46- HORIZONTAL THREE PHASE SEPARATOR SIZING WITHOUT WEIR AND BOOT

In oil and gas facilities separators are the key equipment used both offshore and onshore plants for oil, water and gas separation. To separate the three components in the associated gas, three phase separators are mostly the first equipment in the battery limit of any gas plant where separation takes place also, separator acts as slug catchers as well.

This software is developed with great precision to determine the sizing parameters of three phase separators by solving complex iterative equations. Demister pad, inlet and outlet nozzle sizing, residence time, slug lengths, hold up time and separator weight and pressure ratings are calculated simultaneously. Besides, liquid levels at normal, low and high points are determined and respective alarm set points are calculated. All calculated results including complete level and alarm information are also displayed on the separator picture on the screen.
Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



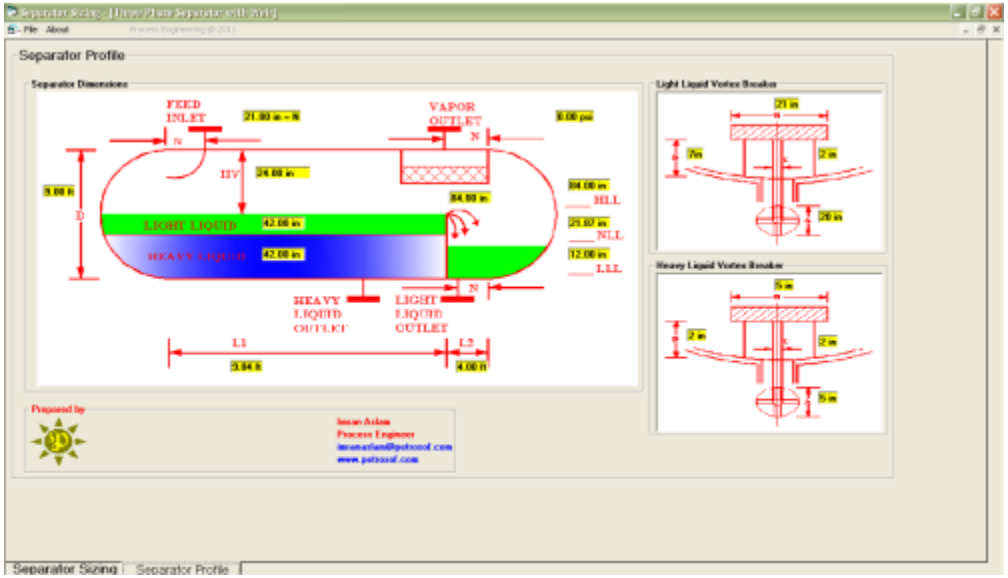
47- HORIZONTAL THREE PHASE SEPARATOR SIZING WITH WEIR

In oil and gas facilities separators are the key equipment used both offshore and onshore plants for oil, water and gas separation. To separate the three components in the associated gas, three phase separators are mostly the first equipment in the battery limit of any gas plant where separation takes place also, separator acts as slug catchers as well.

This software is developed with great precision to determine the sizing parameters of three phase separators by solving complex iterative equations. Demister pad, inlet and outlet nozzle sizing, residence time, slug lengths, hold up time and separator weight and pressure ratings are calculated simultaneously. Besides, liquid levels at normal, low and high points are determined and respective alarm set points are calculated. All calculated results including complete level and alarm information are also displayed on the separator picture on the screen.
Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



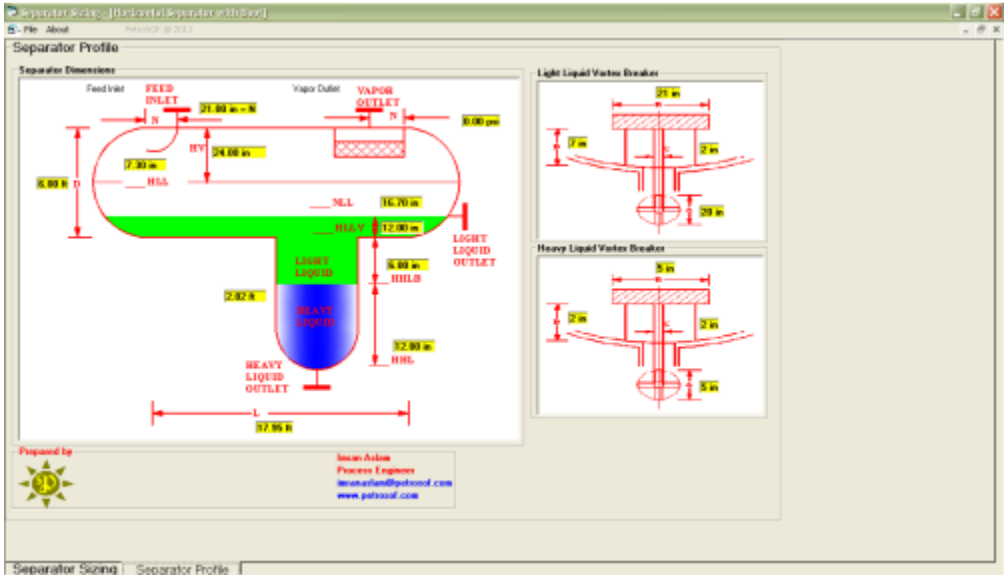
48- HORIZONTAL THREE PHASE SEPARATOR SIZING WITH BOOT

In oil and gas facilities separators are the key equipment used both offshore and onshore plants for oil, water and gas separation. To separate the three components in the associated gas, three phase separators are mostly the first equipment in the battery limit of any gas plant where separation takes place also, separator acts as slug catchers as well.

This software is developed with great precision to determine the sizing parameters of three phase separators by solving complex iterative equations. Demister pad, inlet and outlet nozzle sizing, residence time, slug lengths, hold up time and separator weight and pressure ratings are calculated simultaneously. Besides, liquid levels at normal, low and high points are determined and respective alarm set points are calculated. All calculated results including complete level and alarm information are also displayed on the separator picture on the screen.
Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



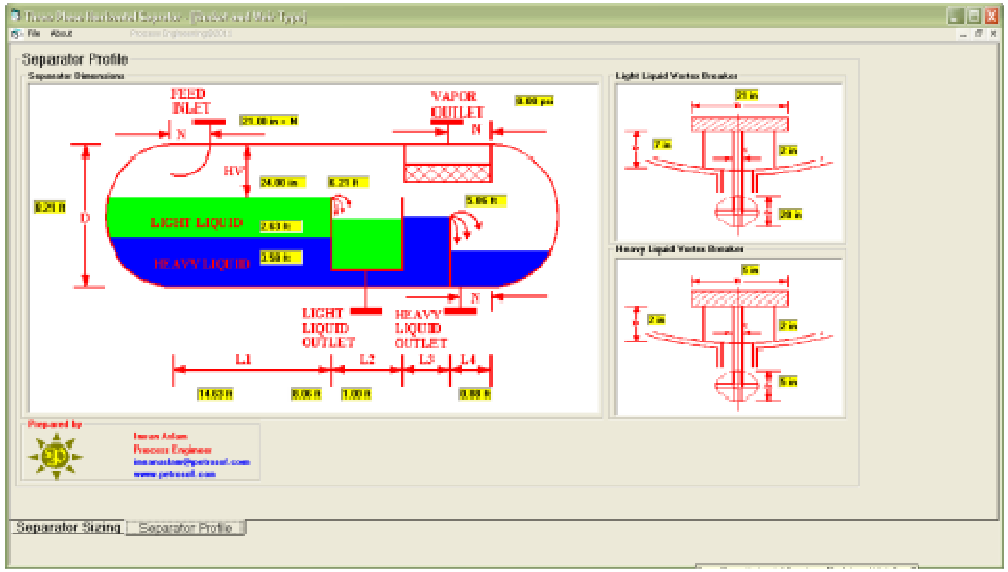
49- HORIZONTAL THREE PHASE SEPARATOR SIZING WITH BUCKET AND WEIR

In oil and gas facilities separators are the key equipment used both offshore and onshore plants for oil, water and gas separation. To separate the three components in the associated gas, three phase separators are mostly the first equipment in the battery limit of any gas plant where separation takes place also, separator acts as slug catchers as well.

This software is developed with great precision to determine the sizing parameters of three phase separators by solving complex iterative equations. Demister pad, inlet and outlet nozzle sizing, residence time, slug lengths, hold up time and separator weight and pressure ratings are calculated simultaneously. Besides, liquid levels at normal, low and high points are determined and respective alarm set points are calculated. All calculated results including complete level and alarm information are also displayed on the separator picture on the screen.
Errors and program limitations are cautioned through message bar on the screen.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



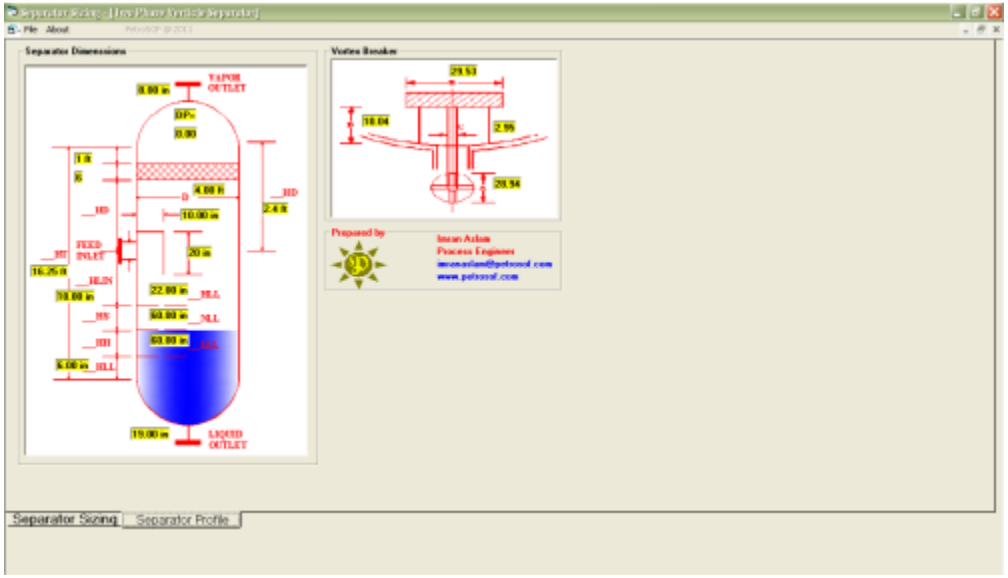
50- VERTICAL TWO PHASE SEPARATOR SIZING

In oil and gas facilities separators are the key equipment used both offshore and onshore plants for oil, water and gas separation.

This software is developed with great precision to determine the sizing parameters of three phase separators by solving complex iterative equations. Demister pad, inlet and outlet nozzle sizing, separator capacity, residence time, slug lengths, hold up time and separator weight and pressure ratings are calculated simultaneously. Besides, liquid levels at normal, low and high points are determined and respective alarm set points are calculated. All calculated results including complete level and alarm information are also displayed on the separator picture on the screen.
Errors and program limitations are cautioned through message bar on the screen.

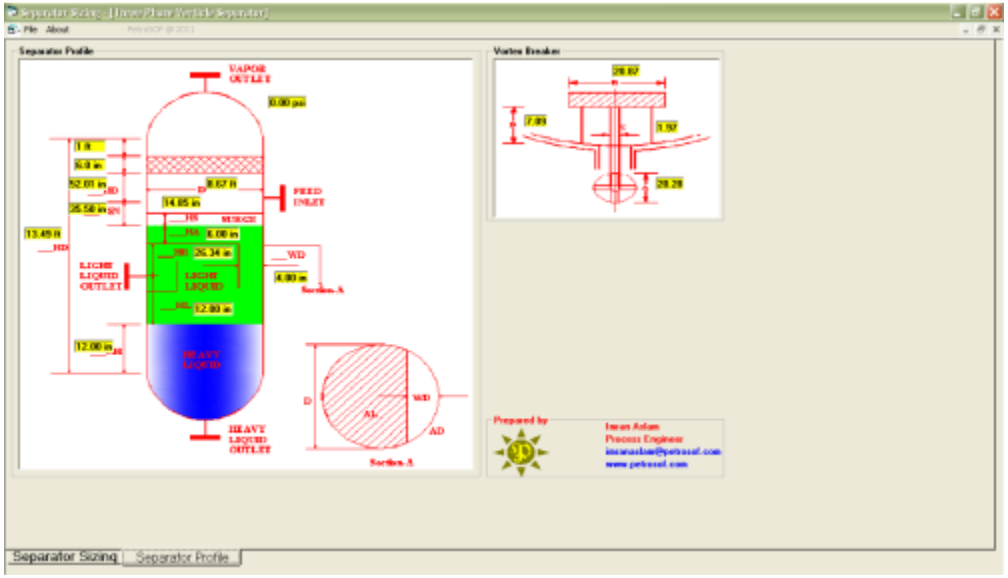
An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



51- VERTICAL THREE PHASE SEPARATOR SIZING

In oil and gas facilities separators are the key equipment used both offshore and onshore plants for oil, water and gas separation. To separate the three components in the associated gas, three phase separators are mostly the first equipment in the battery limit of any gas plant where separation takes place also, separator acts as slug catchers as well.



This software is developed with great precision to determine the sizing parameters of three phase separators by solving complex iterative equations. Demister pad, inlet and outlet nozzle sizing, residence time, slug lengths, hold up time and separator weight and pressure ratings are calculated simultaneously. Besides, liquid levels at normal, low and high points are determined and respective alarm set points are calculated. All calculated results including complete level and alarm information are also displayed on the separator picture on the screen.
Errors and program limitations are cautioned through message bar on the screen.
An introductory demonstration of this software is available online at www.petrosof.com

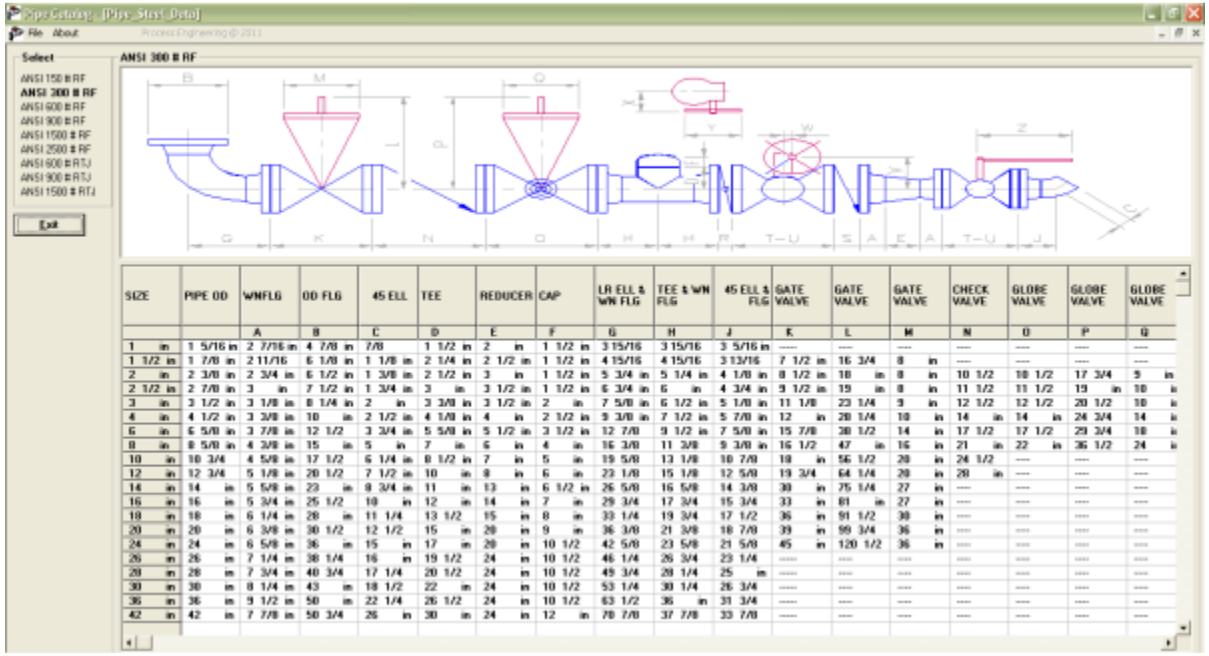
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

52- STEEL PIPE CATALOG

Pipe and fittings dimensions are often required to prepare accurate isometric drawings for new projects and existing plant piping modifications. This quick piping catalog is prepared to provide complete dimensions details of any ANSI piping class.

An introductory demonstration of this software is available online at www.petrosof.com

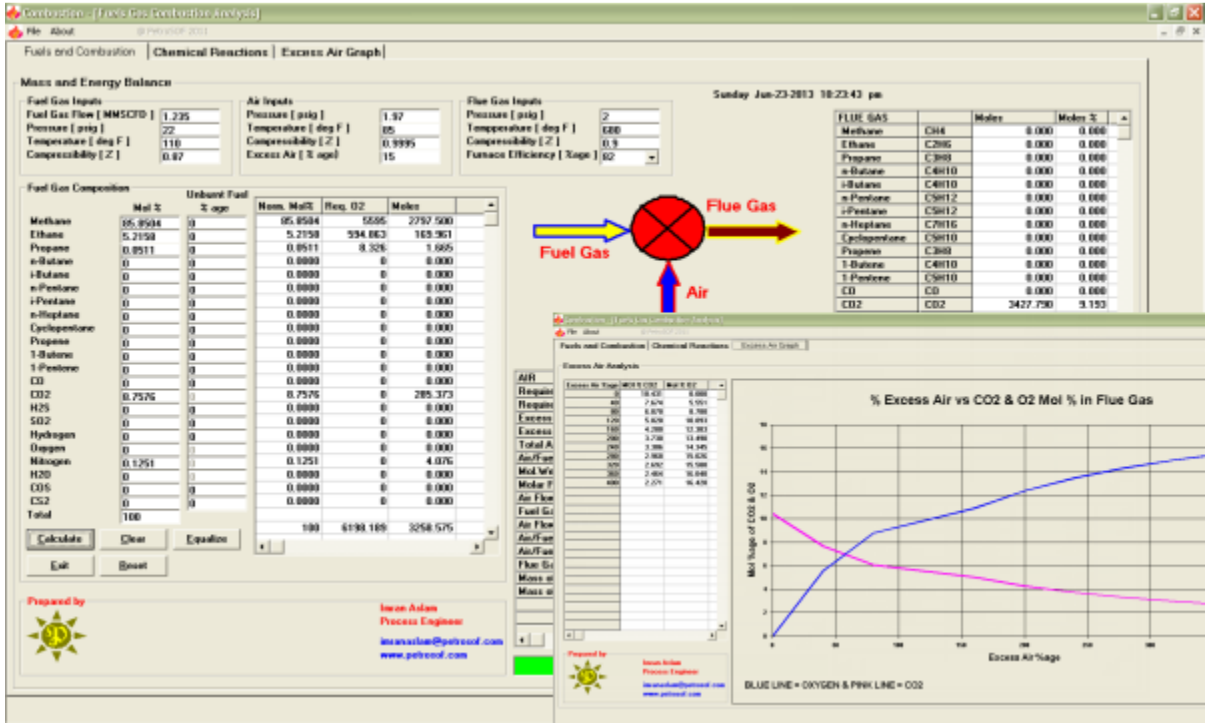
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



SIZE	PIPE OD	WNFLG	OD FLG	45 ELL	TEE	REDUCER	CAP	LR ELL & WN FLG	TEE & WN FLG	45 ELL & FLG	GATE VALVE	GATE VALVE	GATE VALVE	CHECK VALVE	GLOBE VALVE	GLOBE VALVE	GLOBE VALVE
		A	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q
1 in	1 5/16 in	2 7/16 in	4 7/8 in	7/8	1 1/2 in	2 in	1 1/2 in	3 15/16	3 15/16	3 5/16 in	----	----	----	----	----	----	----
1 1/2 in	1 7/8 in	2 11/16	6 1/8 in	1 1/8 in	2 1/4 in	2 1/2 in	1 1/2 in	4 15/16	4 15/16	3 13/16	7 1/2 in	16 3/4	8 in	----	----	----	----
2 in	2 3/8 in	2 3/4 in	6 1/2 in	1 3/8 in	2 1/2 in	3 in	1 1/2 in	5 3/4 in	5 1/4 in	4 1/8 in	8 1/2 in	18 in	8 in	10 1/2	10 1/2	17 3/4	9 in
2 1/2 in	2 7/8 in	3 in	7 1/2 in	1 3/4 in	3 in	3 1/2 in	1 1/2 in	6 3/4 in	6 in	4 3/4 in	9 1/2 in	19 in	8 in	11 1/2	11 1/2	19 in	10 in
3 in	3 1/2 in	3 1/8 in	8 1/4 in	2 in	3 3/8 in	3 1/2 in	2 in	7 5/8 in	6 1/2 in	5 1/8 in	11 1/8	23 1/4	9 in	12 1/2	12 1/2	20 1/2	10 in
4 in	4 1/2 in	3 3/8 in	10 in	2 1/2 in	4 1/8 in	4 in	2 1/2 in	9 3/8 in	7 1/2 in	5 7/8 in	12 in	28 1/4	10 in	14 in	14 in	24 3/4	14 in
6 in	6 5/8 in	3 7/8 in	12 1/2	3 3/4 in	5 5/8 in	5 1/2 in	3 1/2 in	12 7/8	9 1/2 in	7 5/8 in	15 7/8	38 1/2	14 in	17 1/2	17 1/2	29 3/4	18 in
8 in	8 5/8 in	4 3/8 in	15 in	5 in	7 in	6 in	4 in	16 3/8	11 3/8	9 3/8 in	16 1/2	47 in	16 in	21 in	22 in	36 1/2	24 in
10 in	10 3/4	4 5/8 in	17 1/2	6 1/4 in	8 1/2 in	7 in	5 in	19 5/8	13 1/8	10 7/8	18 in	56 1/2	20 in	24 1/2	----	----	----
12 in	12 3/4	5 1/8 in	20 1/2	7 1/2 in	10 in	8 in	6 in	23 1/8	15 1/8	12 5/8	19 3/4	64 1/4	20 in	28 in	----	----	----
14 in	14 in	5 5/8 in	23 in	8 3/4 in	11 in	13 in	6 1/2 in	26 5/8	16 5/8	14 3/8	30 in	75 1/4	27 in	----	----	----	----
16 in	16 in	5 3/4 in	25 1/2	10 in	12 in	14 in	7 in	29 3/4	17 3/4	15 3/4	33 in	81 in	27 in	----	----	----	----
18 in	18 in	6 1/4 in	28 in	11 1/4	13 1/2	15 in	8 in	33 1/4	19 3/4	17 1/2	36 in	91 1/2	30 in	----	----	----	----
20 in	20 in	6 3/8 in	30 1/2	12 1/2	15 in	20 in	9 in	36 3/8	21 3/8	18 7/8	39 in	99 3/4	36 in	----	----	----	----
24 in	24 in	6 5/8 in	36 in	15 in	17 in	20 in	10 1/2	42 5/8	23 5/8	21 5/8	45 in	120 1/2	36 in	----	----	----	----
26 in	26 in	7 1/4 in	38 1/4	16 in	19 1/2	24 in	10 1/2	46 1/4	26 3/4	23 1/4	----	----	----	----	----	----	----
28 in	28 in	7 3/4 in	40 3/4	17 1/4	20 1/2	24 in	10 1/2	49 3/4	28 1/4	25 in	----	----	----	----	----	----	----
30 in	30 in	8 1/4 in	43 in	18 1/2	22 in	24 in	10 1/2	53 1/4	30 1/4	26 3/4	----	----	----	----	----	----	----
36 in	36 in	9 1/2 in	50 in	22 1/4	26 1/2	24 in	10 1/2	63 1/2	36 in	31 3/4	----	----	----	----	----	----	----
42 in	42 in	7 7/8 in	50 3/4	26 in	30 in	24 in	12 in	70 7/8	37 7/8	33 7/8	----	----	----	----	----	----	----

53- FUELS AND COMBUSTION

In oil and gas facilities heating system is the main utility to provide heat to exchangers and re-boilers. Often engineers are required to optimize the furnace performance by analyzing the combustion process of the fuel gas. This program is developed in order to carry out complete fuels and combustion analysis by mass and energy balance. Most common components found in fuel gas are provided in the program. A rigorous calculations method is used specifically to determine the optimum excess air in order to control the carbon dioxide and oxygen emission in the flue gas.



An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible with Windows 95-2000/XP/7/8.

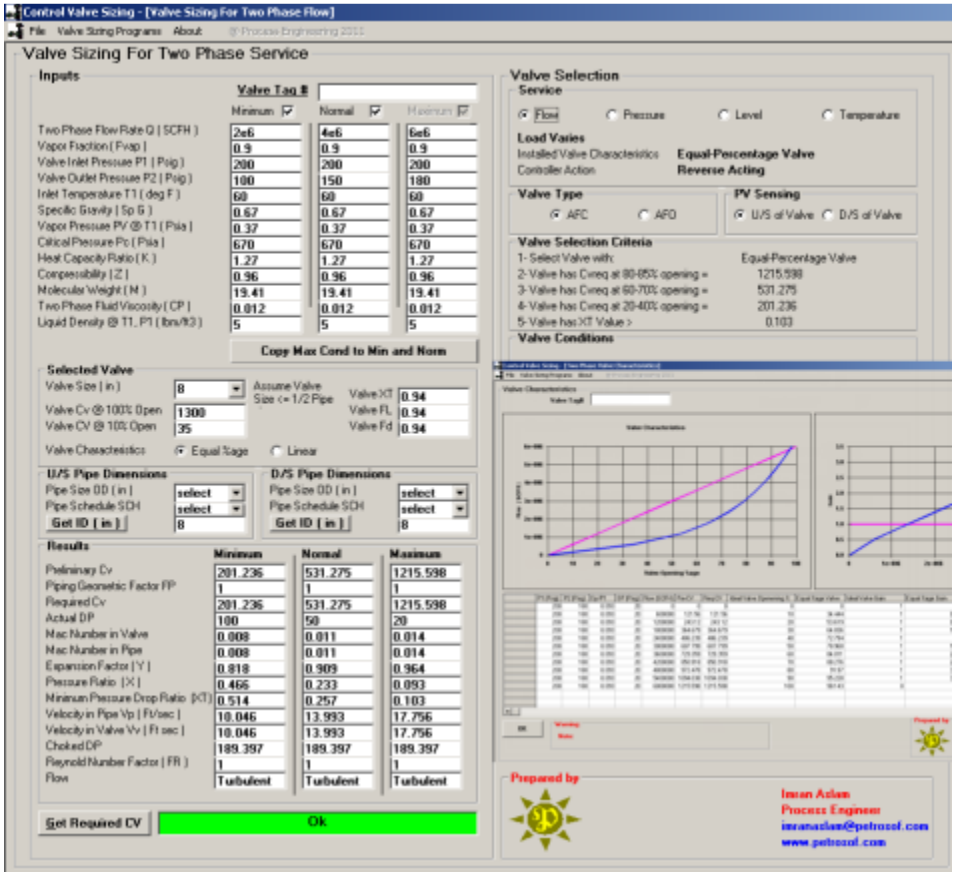
54- CONTROL VALVE SIZING [TWO PHASE SERVICE]

A comprehensive and detailed valve sizing software has been developed with great care and efforts to help out Design Engineers to appropriately size the valve for two phase service.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



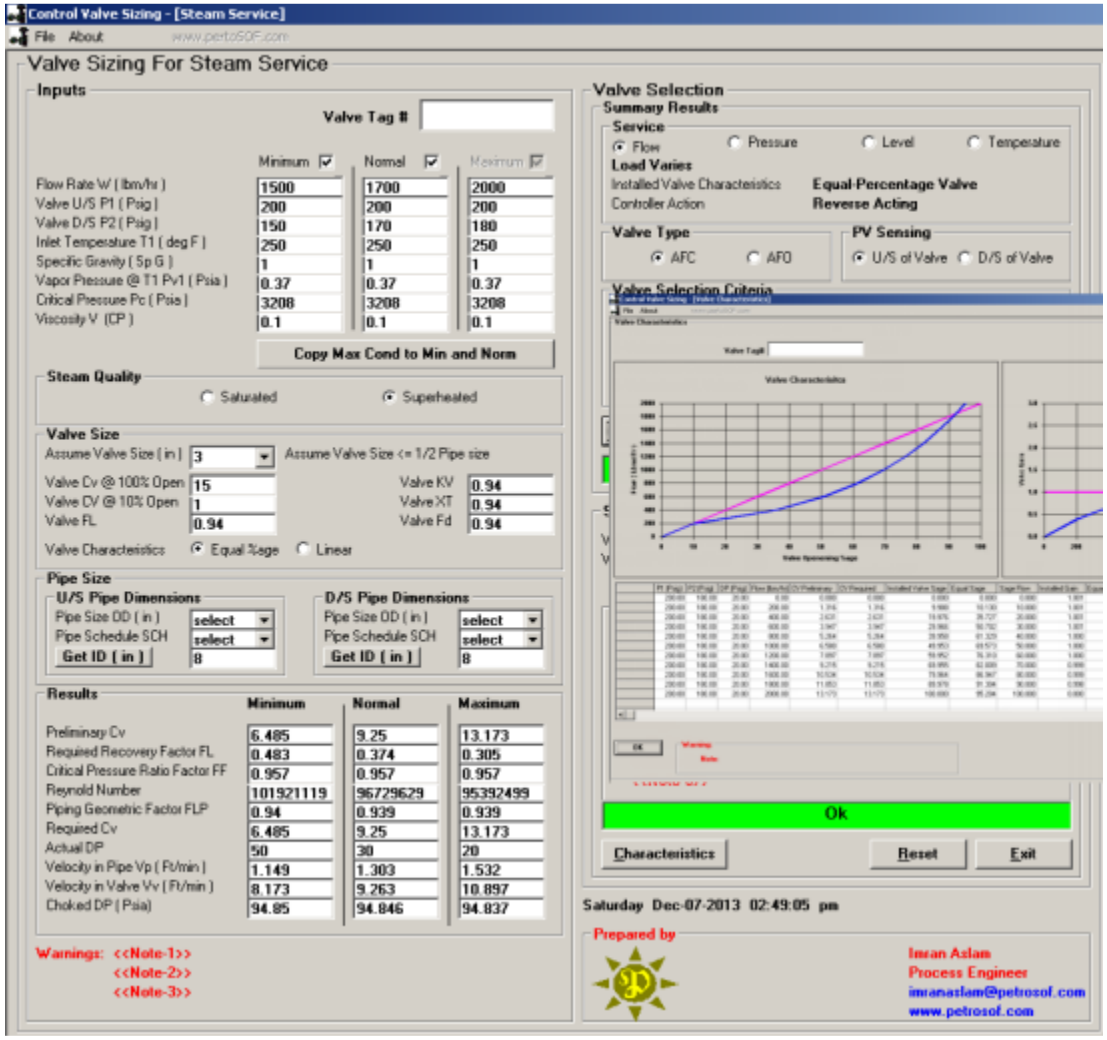
55- CONTROL VALVE SIZING [STEAM SERVICE]

A comprehensive and detailed valve sizing software has been developed with great care and efforts to help out Design Engineers to appropriately size the valve for steam service.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



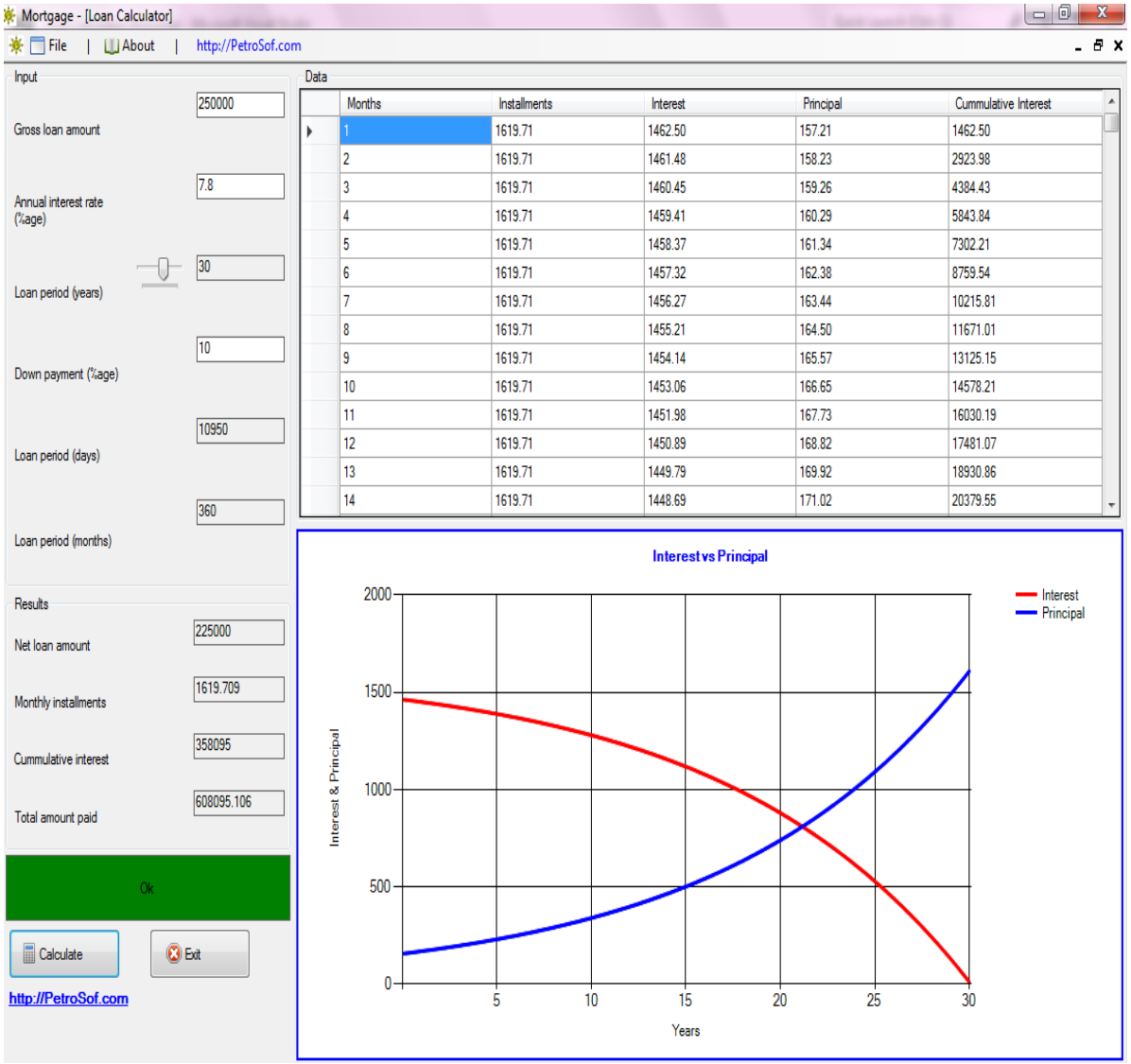
56- LOAN CALCULATOR

Loan calculator is a simple yet complete application to determine the mortgage. This is a simple application where user's define the basic information of amount of loan, installment period and down payment then by simply pressing calculate button a complete tabulated details of installment, principal and cumulative interest amount is calculated for the entire period of loan. Also, a graph between principal amount and interest amount is drawn.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



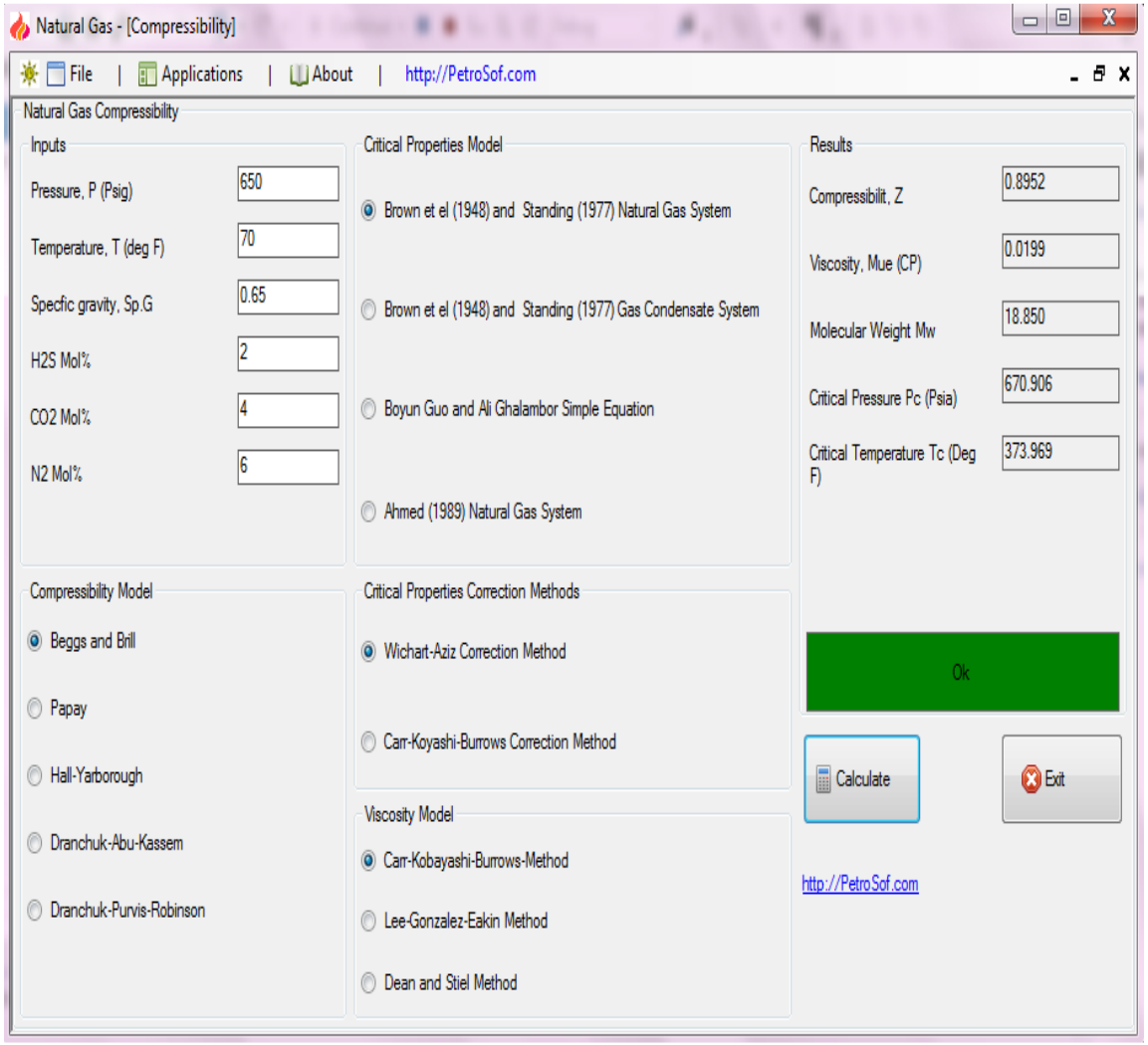
57- NATURAL GAS PHYSICAL PROPERTIES

This application is developed to calculate the natural gas properties such as compressibility, molecular weight, viscosity, critical pressure and temperature. Also, this application is combined with another utility to calculate the physical properties of hypothetical hydrocarbon components. The application used highly accurate empirical equation to model all the physical properties of natural gas and hypothetical hydrocarbons.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



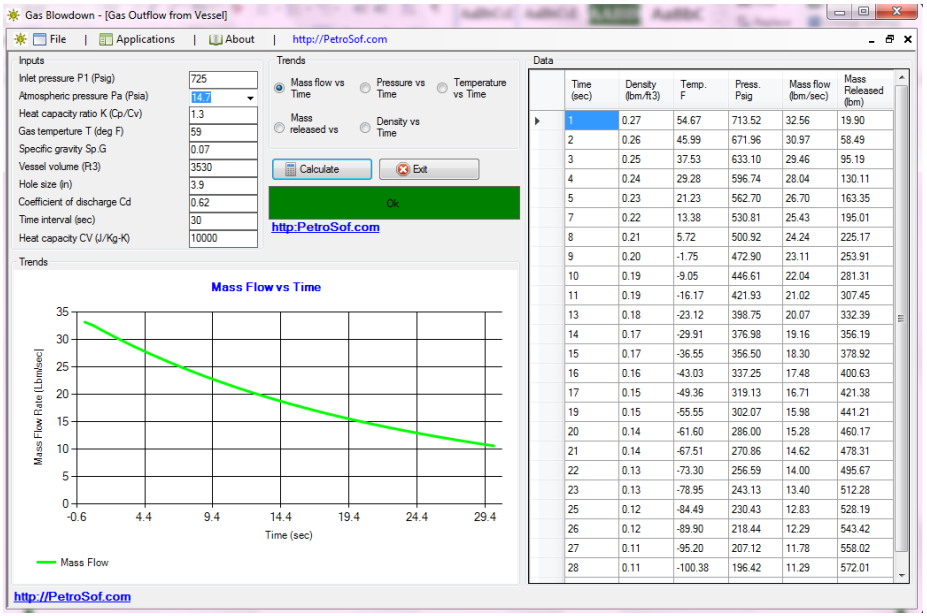
58- PIPELINE GAS BLOWDOWN

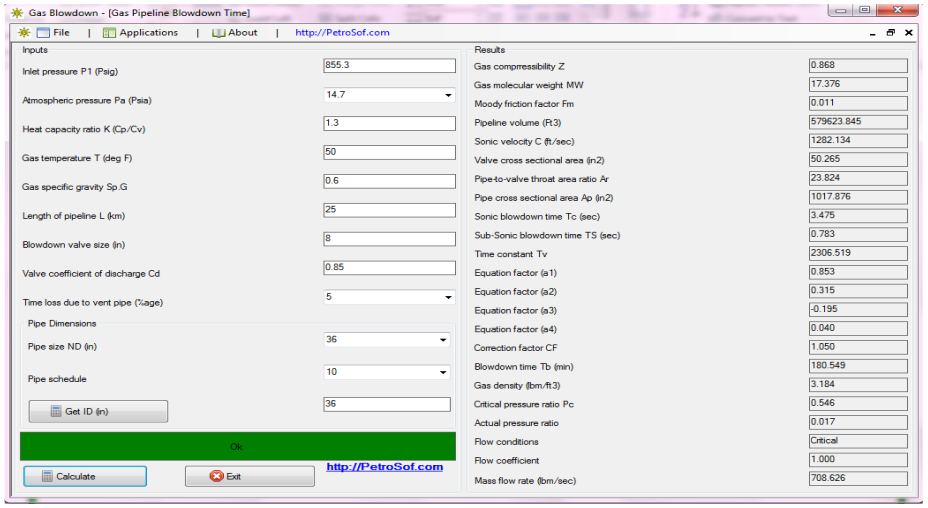
Gas blow down application is developed with high accuracy. This application comprised of two individual applications to calculate the gas blow down time from a pipeline and other application is developed to calculate the time rated gas depressurization rate through hole in the pipeline. Calculation details are enlisted in the tabulated form and graph for rated flow and temperature versus time is plotted.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





59- RESERVOIR ENGINEERING

This application is developed with high accuracy to determine the important parameters required in reservoir engineering applications. The program contains three sub applications within a main software as follows.

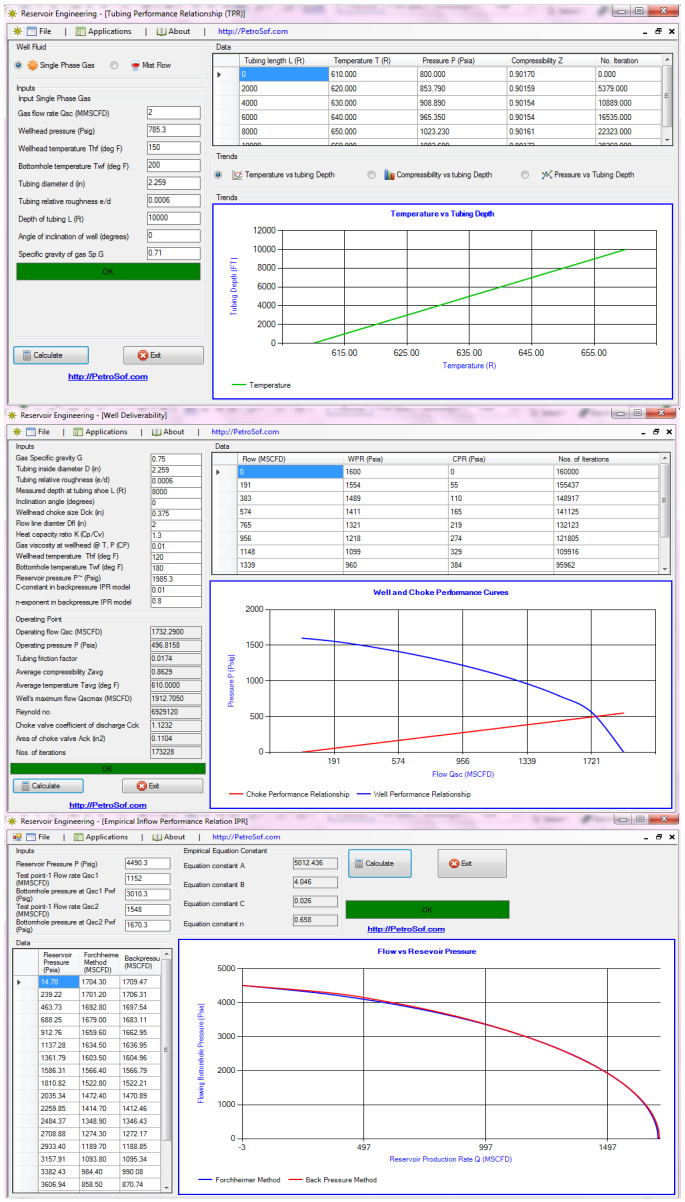
- **Well tubing performance relationship**
- **Well deliverability (choke and tubing)**
- **Empirical well inflow performance relationship**

Application is simple to user where users provide input in the input fields and remaining calculations are done by pressing the calculate button and results are displayed in graphical and tabulated form in the application.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



60- CENTRIFUGAL PUMP PERFORMANCE CURVES

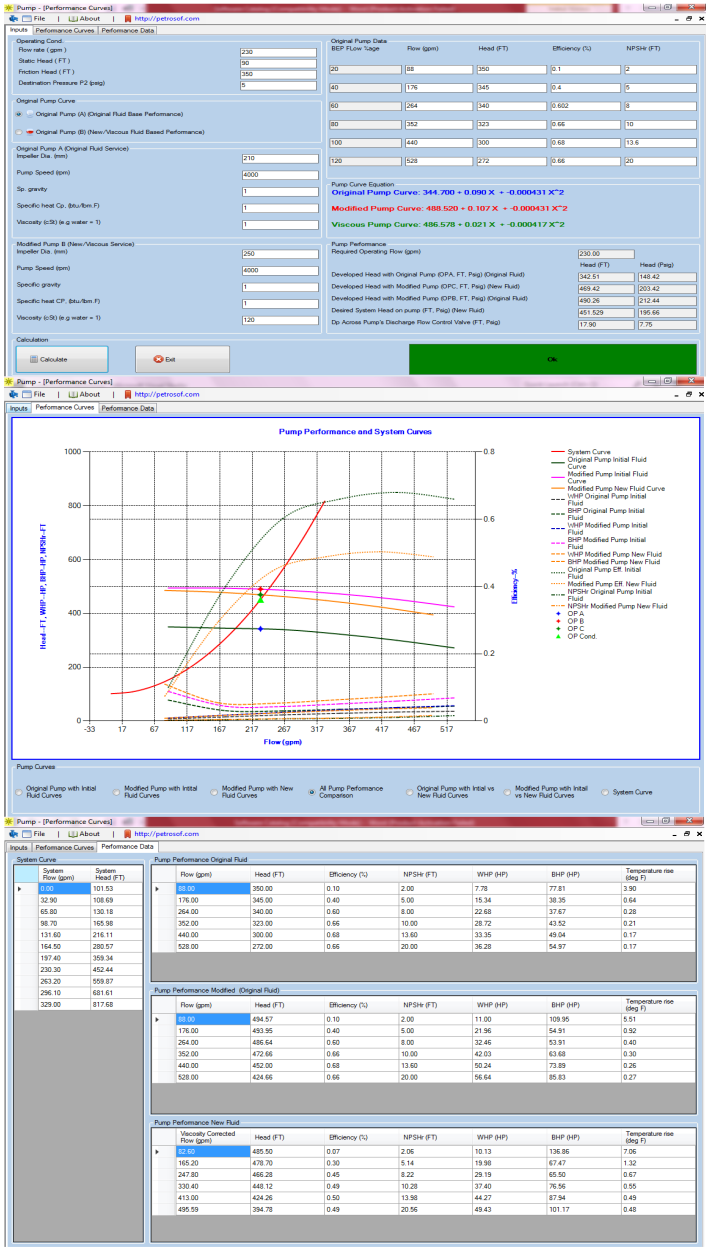
Centrifugal pump performance curve application is a highly accurate and a specialized application to model the pump curve. Application is designed to developed performance curves of centrifugal pump, modifying the performance curves of exiting pump. Also, to modify and calculate the performance of exiting pump in a new fluid service conditions.

Application is highly accurate the ANSI and API governing empirical relations are used as per governing standards to model the pump curves.

Application comes with variety of results where users will provide simple inputs of fluid in input fields and application will calculate entire range of performance curves and display tabulated results. Application warns the users for possible errors and display error messages to accurately use the application to obtain the desired results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



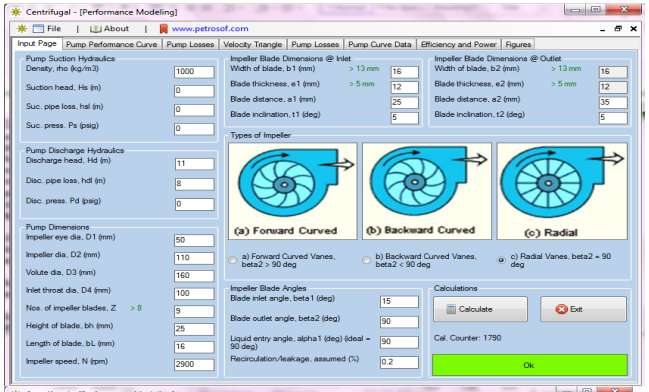
61- CENTRIFUGAL PUMP DESIGN

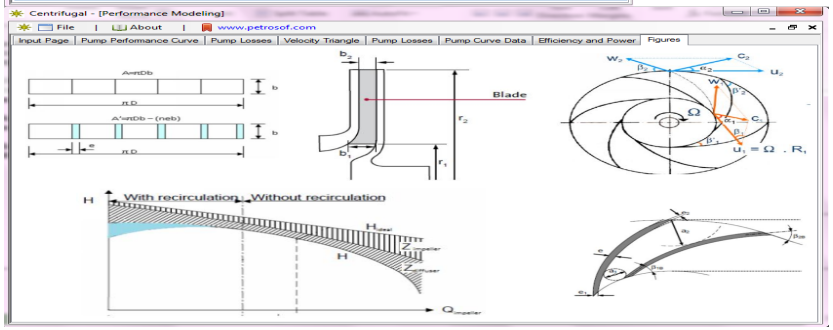
Centrifugal pump design application is a specialized software to design a centrifugal pump mechanical details to achieve the desired performance in the field. Application uses API and ANSI standard guidelines to model the pump. User can simply provide the information in the input fields and entire range of performance curves and mechanical details are calculated and shown in graphical form within the application.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





62- CHEMICAL INJECTION

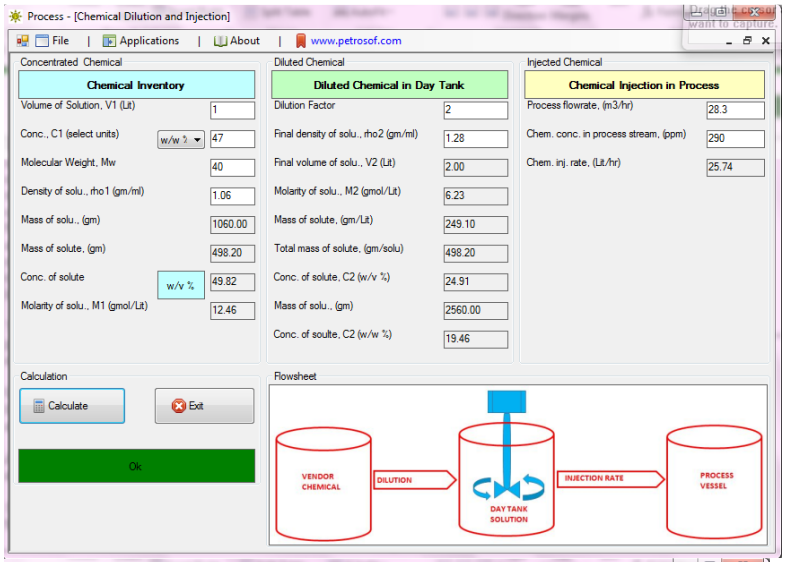
Chemical injection application is developed as a specialized tool to calculate the accurate injection rate of chemical in process fluid stream especially in steam system and boiler water treatment. The application comprised off two sub applications. One application is for chemical injection in process fluid and second application is developed to model the dilution schematic of caustic soda which is also an important chemical used in water treatment in oil and gas industry.

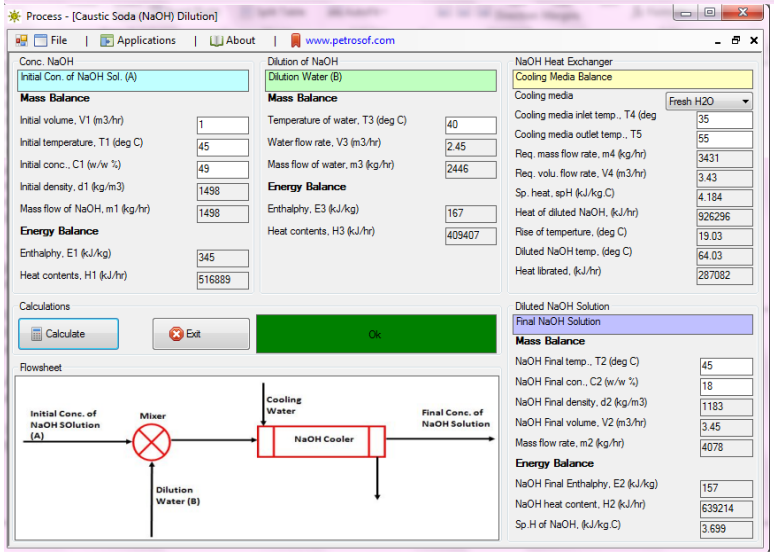
The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





63- CENTRIFUGAL COMPRESSOR PERFORMANCE CURVES

Centrifugal compressor curve application is a specialized application developed with high accuracy to evaluate, analyze and calculate performance curves of a centrifugal compressor based on all the speed variations and power requirement.

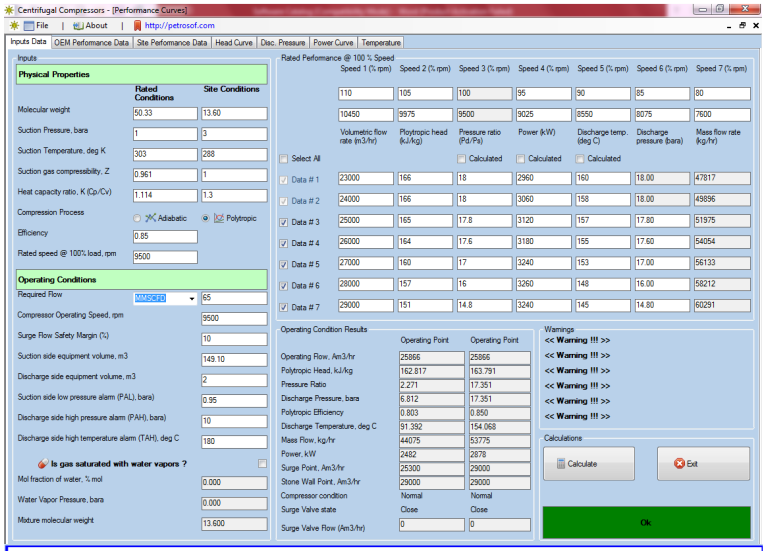
Application can develop entire envelop of performance curve for entire range of compressor for flow, temperature, head, power and pressure. Also, a detailed tabulated results of performance curves are displayed in the tables for evaluation. Further a unique feature of application is to develop stone-wall and surge curves of compressor for entire speed variations.

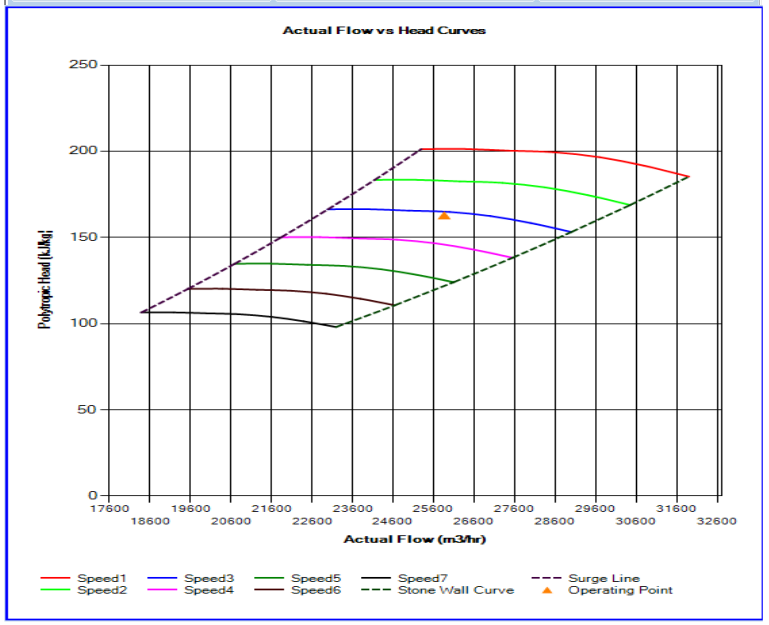
The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





64- GAS TURBINE CENTRIFUGAL COMPRESSOR

Gas turbine centrifugal compressor is highly specialized application to model the performance curve of centrifugal compressor driven by gas turbine. The application can be used to model the gas turbine performance along with centrifugal compressor. Also, a unique feature of application is to cover the performance of heat recovery steam generator (HRSG) which is a final element of gas turbine compressor unit.

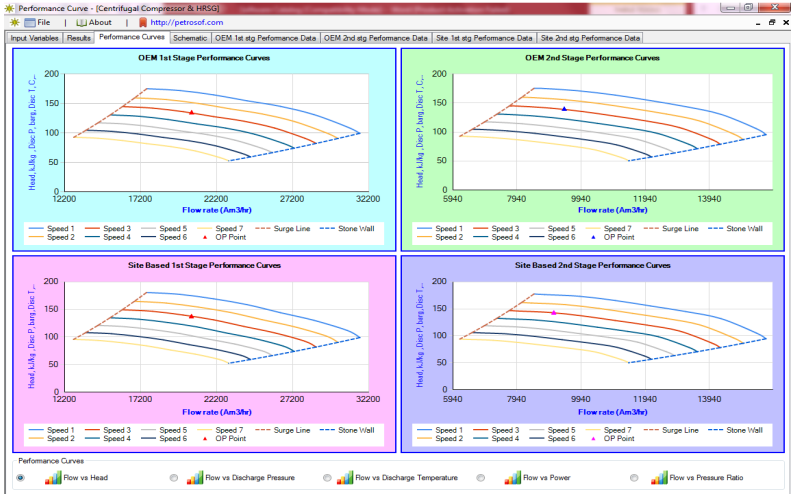
This application is develop with high accuracy to model correctly the complete unit including gas turbine, HRSG and centrifugal compressor. Application offers a complete details of tabulated results along with graphical presentation.

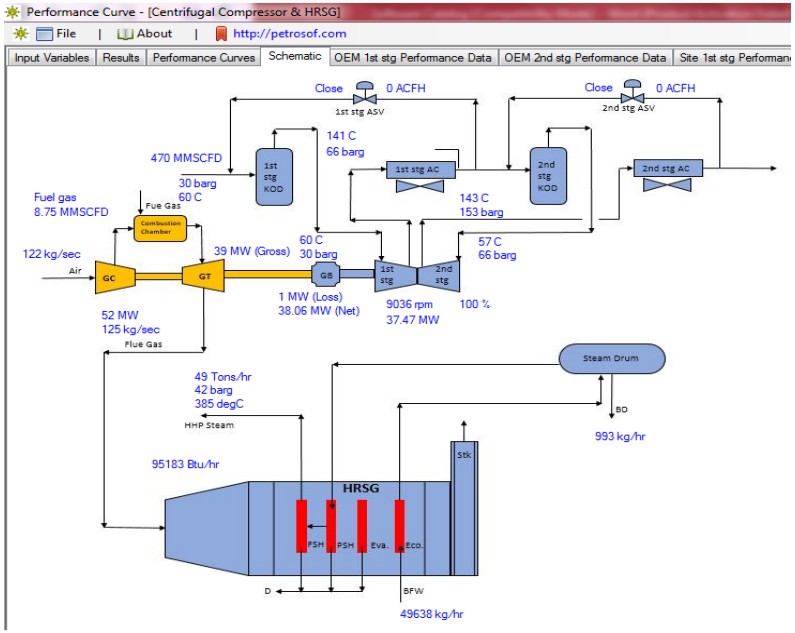
The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





65- COMPRESSOR SETTLEOUT PRESSURE

Compressor settle out pressure application is a unique and specialized application that can calculate the residual settle out pressure in a compressor loop after quick ort sudden shutdown scenario.

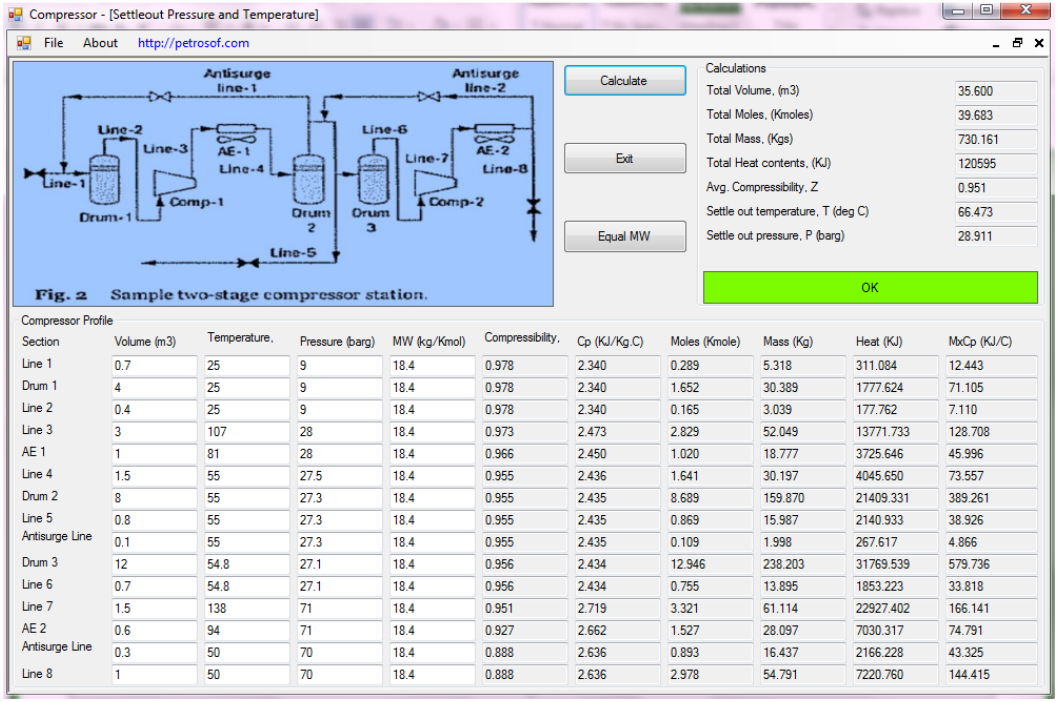
This application is developed with high accuracy to evaluate and calculate the emergency situation of compressor shutdown and pressure packing in the loop.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



Section	Volume (m3)	Temperature,	Pressure (barg)	MW (kg/Kmol)	Compressibility,	Cp (KJ/Kg.C)	Moles (Kmole)	Mass (Kg)	Heat (KJ)	MxCp (KJ/C)
Line 1	0.7	25	9	18.4	0.978	2.340	0.289	5.318	311.084	12.443
Drum 1	4	25	9	18.4	0.978	2.340	1.652	30.389	1777.624	71.105
Line 2	0.4	25	9	18.4	0.978	2.340	0.165	3.039	177.762	7.110
Line 3	3	107	28	18.4	0.973	2.473	2.829	52.049	13771.733	128.708
AE 1	1	81	28	18.4	0.966	2.450	1.020	18.777	3725.646	45.996
Line 4	1.5	55	27.5	18.4	0.955	2.436	1.641	30.197	4045.650	73.557
Drum 2	8	55	27.3	18.4	0.955	2.435	8.689	159.870	21409.331	389.261
Line 5	0.8	55	27.3	18.4	0.955	2.435	0.869	15.987	2140.933	38.926
Antisurge Line	0.1	55	27.3	18.4	0.955	2.435	0.109	1.998	267.617	4.866
Drum 3	12	54.8	27.1	18.4	0.956	2.434	12.946	238.203	31769.539	579.736
Line 6	0.7	54.8	27.1	18.4	0.956	2.434	0.755	13.895	1853.223	33.818
Line 7	1.5	138	71	18.4	0.951	2.719	3.321	61.114	22927.402	166.141
AE 2	0.6	94	71	18.4	0.927	2.662	1.527	28.097	7030.317	74.791
Antisurge Line	0.3	50	70	18.4	0.888	2.636	0.893	16.437	2166.228	43.325
Line 8	1	50	70	18.4	0.888	2.636	2.978	54.791	7220.760	144.415

66- DYNAMIC PRESSURE

Dynamic pressure tool is developed with high accuracy based on the TOTAL's design standards to evaluate the piping dynamic pressure considering the flow of process fluid.

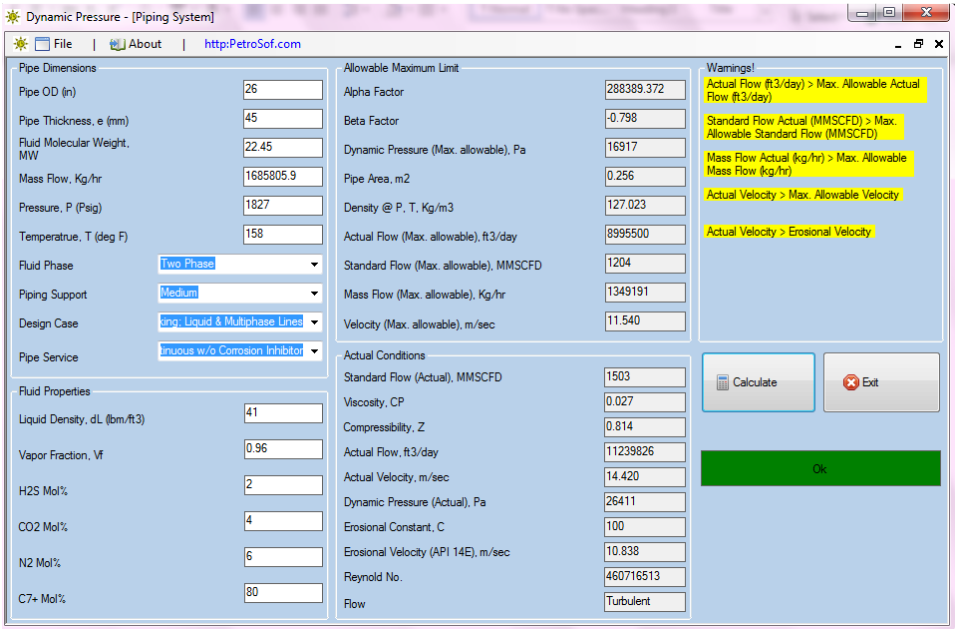
Dynamic pressure evaluation is an important phenomenon during the sizing of the process piping new or any modifications required in the existing piping system. This tool is highly recommended for the process engineering applications.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



67- GAS FLOW EQUATIONS

Gas flow equation is a tool developed to calculate the natural gas flow and associated process parameters in long pipelines. This tool is highly reliable and used in oil and gas industry for the evaluation of the gas flow through piping.

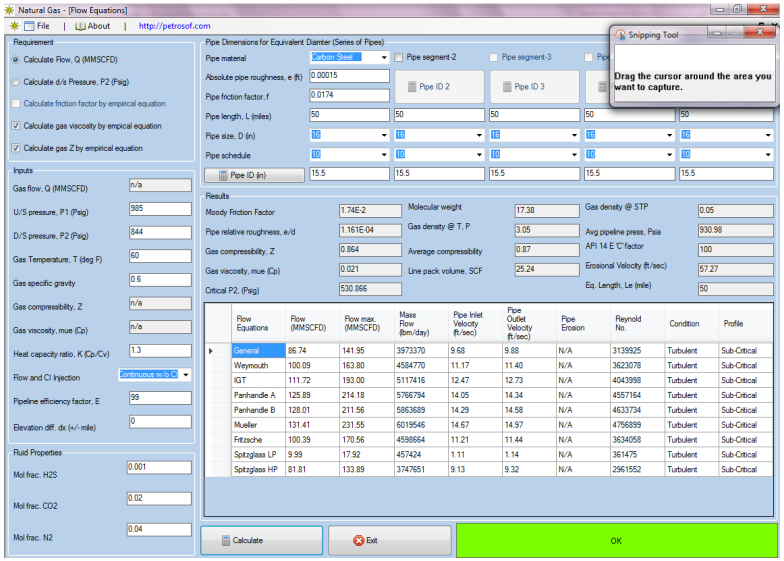
This application allow user to model flow through pipeline for eight (08) highly accurate flow equations available in the industry. User can model the flow through all the equations simultaneously for quick comparison and analysis.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



68- LIQUID PRESSURE DROP

Liquid pressure drop application is developed with high accuracy to model the pressure drop through series of pipes with varying size and lengths. Also, piping hydraulic details are calculated and shown in tabulated format for each section of the pipe and graphical presentation of the pipe hydraulic is developed and shown in the application for analysis.

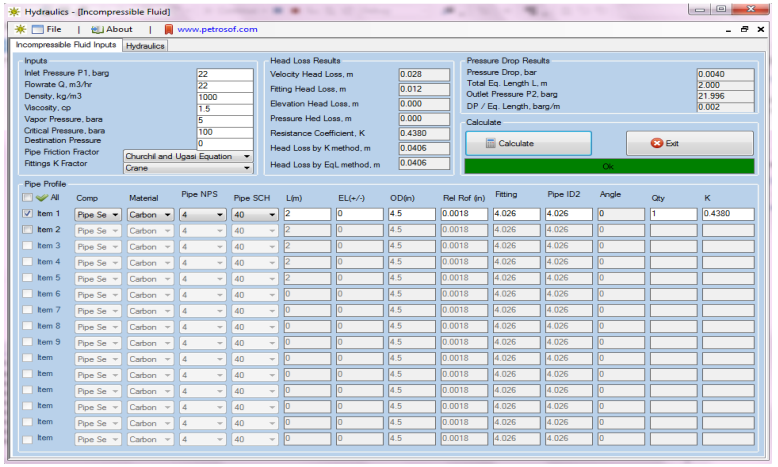
Application uses eight types of friction factor calculation options and three types of K-factor calculation models in the application.

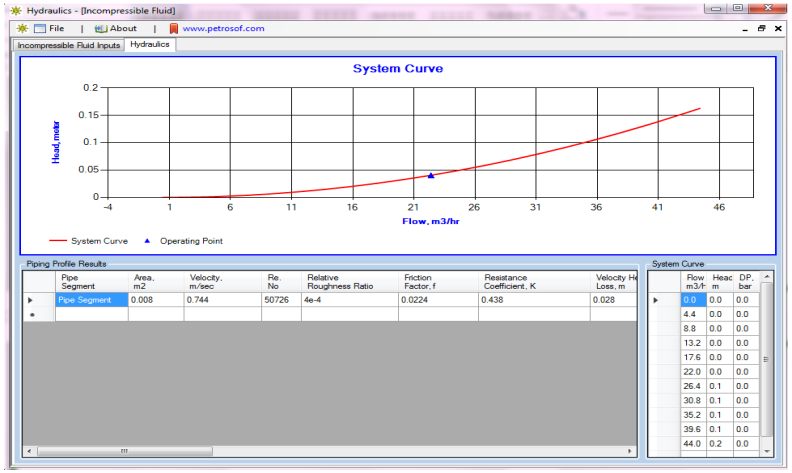
The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





69- LOOPED PIPING

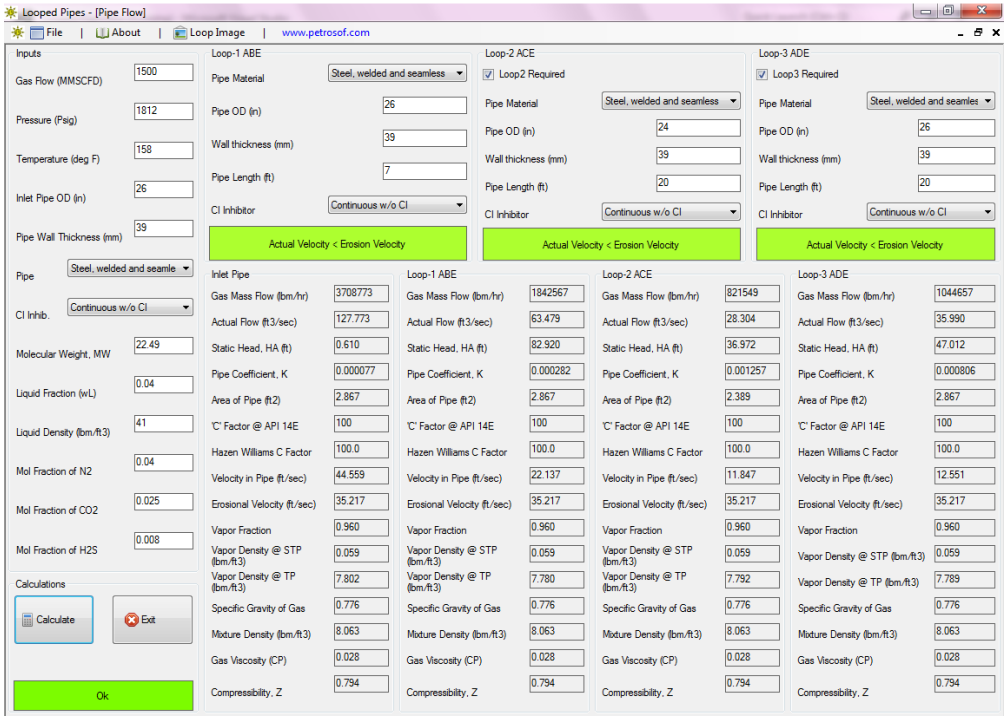
Looped piping application is a specialized software to model the flow of gas through a looped piping network. Looped flow piping scenario often exist in the oil and gas industry where process engineer require to determine the accurate flow through the system based on the natural resistance of the looped piping network.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

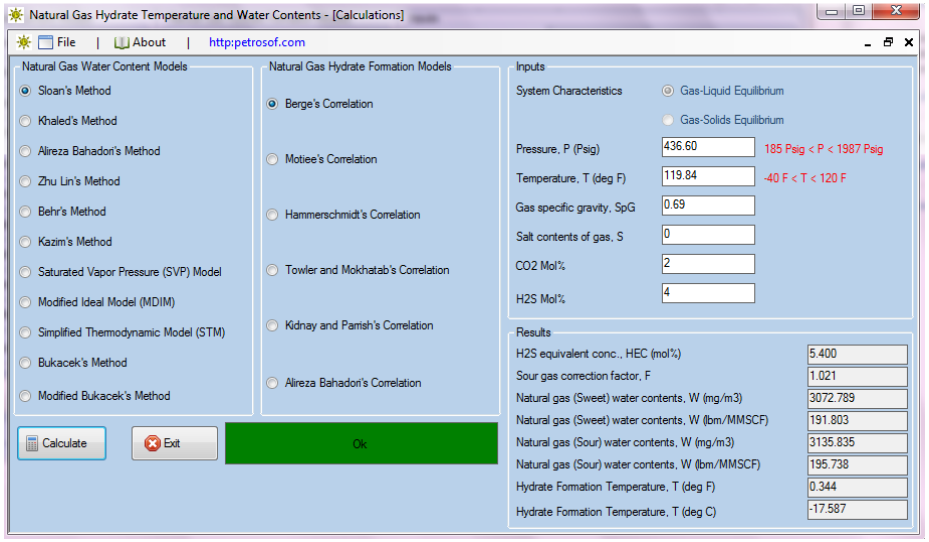
An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



70- NATURAL GAS HYDRATE

Natural gas hydrate application is a specialized application to model a very important phenomenon of hydrate formation in gas pipelines in oil and gas industry. Hydrate formation is critical phenomenon that must be prevented by managing the flow, temperature, pressure and injecting chemicals. This application allow users to accurately determine the scenario and further taken measures to prevent.



The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

71- PIPE EROSION MODEL

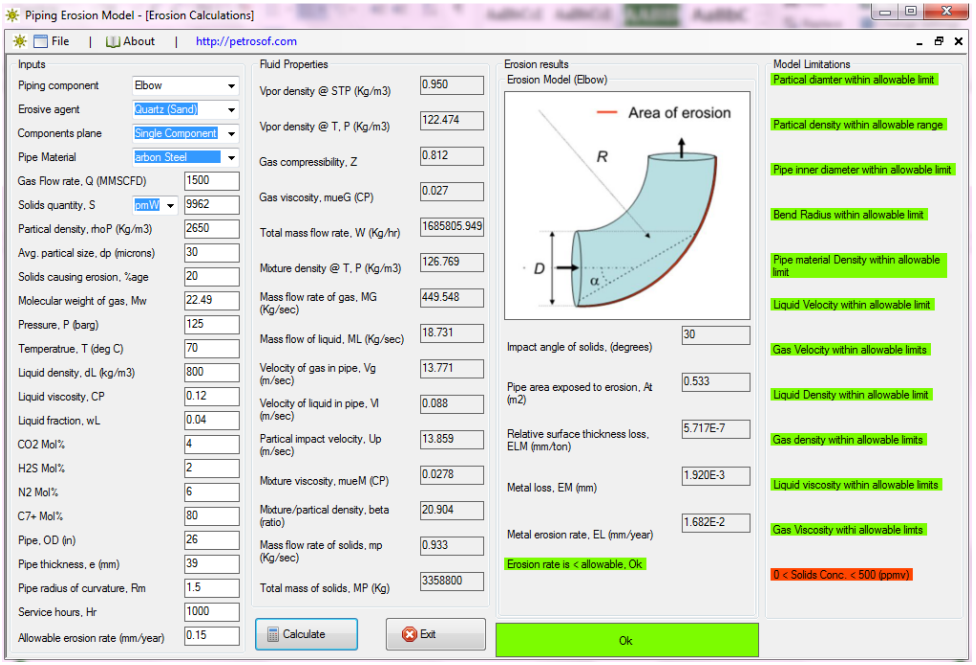
Pipe erosion model is a specialized application developed to model the erosion rate and assessment of the health of the piping components. The application is developed based on Norvegian piping erosion standard and determine highly accurate results of erosion rate calculation based on the process fluid.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



72- STEAM SYSTEM MODEL

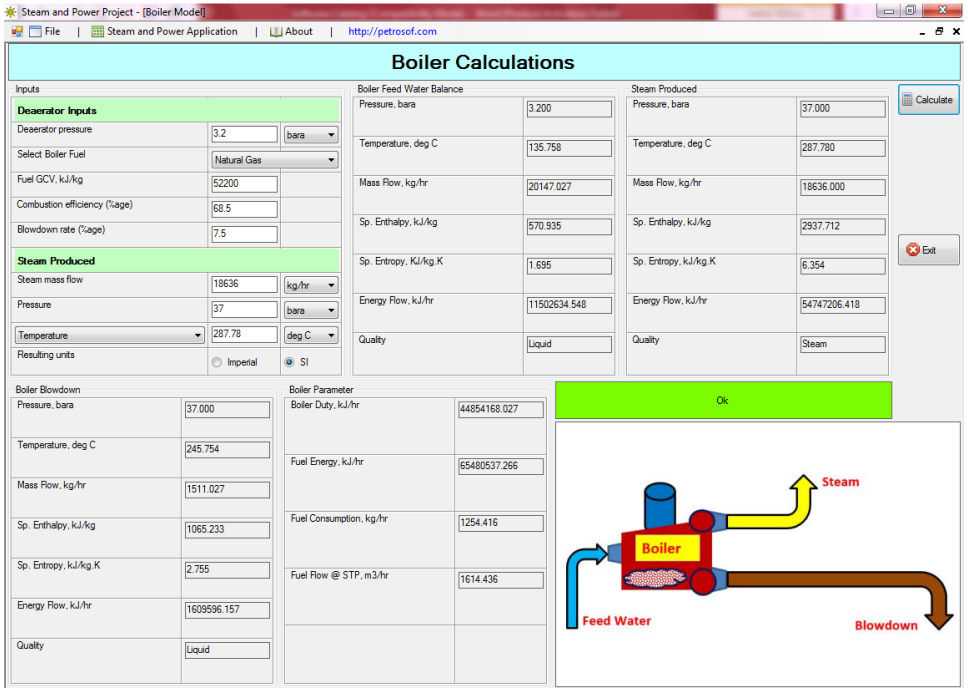
Steam system model is a specialized and highly accurate application developed based on the water and steam standards IFPS 97 guidelines. The application covers entire range of steam and boiler system components including steam turbines and boiler house. The application is a suite of entire steam and boiler system design calculations.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



73- TANK VOLUME

Application of tank volume is developed to calculate the volume of all (12) design types of tanks used in oil and gas industry. The application is design with high accuracy to determine the total tank volume also, partial filled tank volume at various levels.

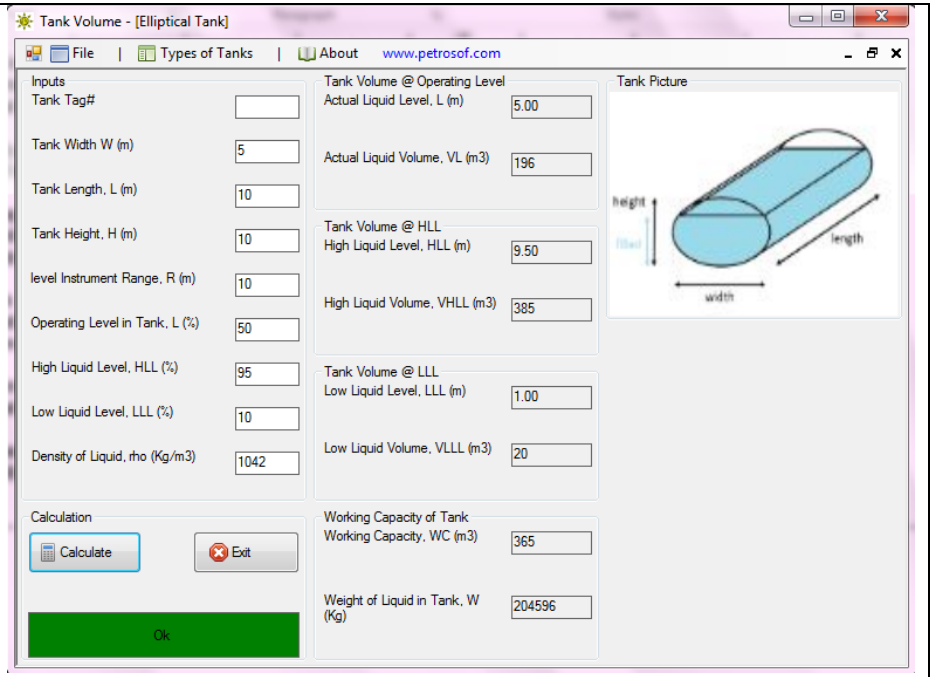
Highly accurate mathematical and differential equations are used within the application.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



74- TOTAL DYNAMIC HEAD OF PUMP

Total dynamic head of pump TDH is highly accurate and important application used by process engineers to model the dynamic head of the pump in service or design a new pump application in field.

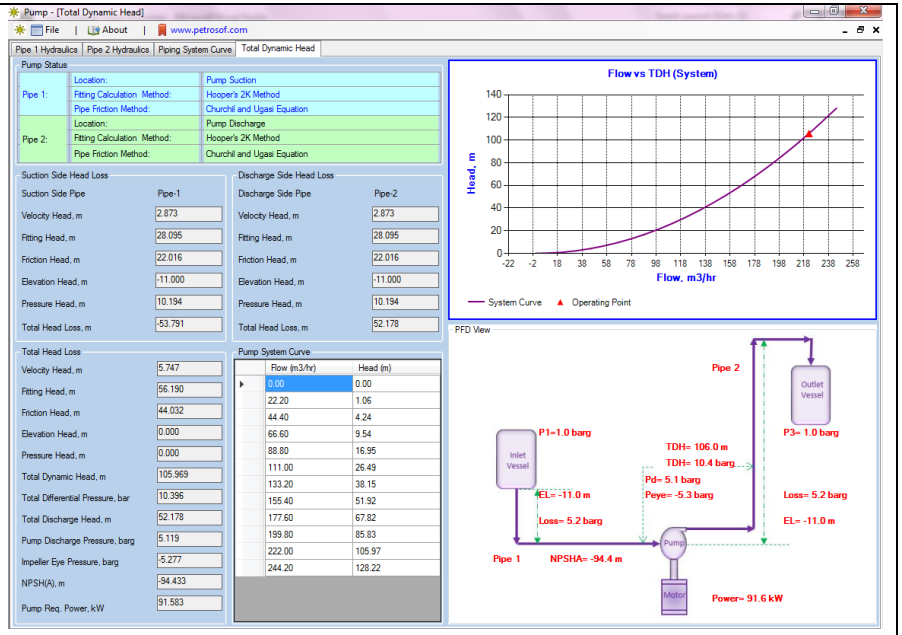
The application used highly accurate and most commonly used methods of friction factor calculations, resistance coefficients of the piping components. Application offers a complete analysis and provide detailed results of the entire pump system from suction side to discharge side. Also, a graphical presentation of the system resistance curve is plotted within the application.

The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.



75- TURBO EXPANDER RE-COMPRESSOR

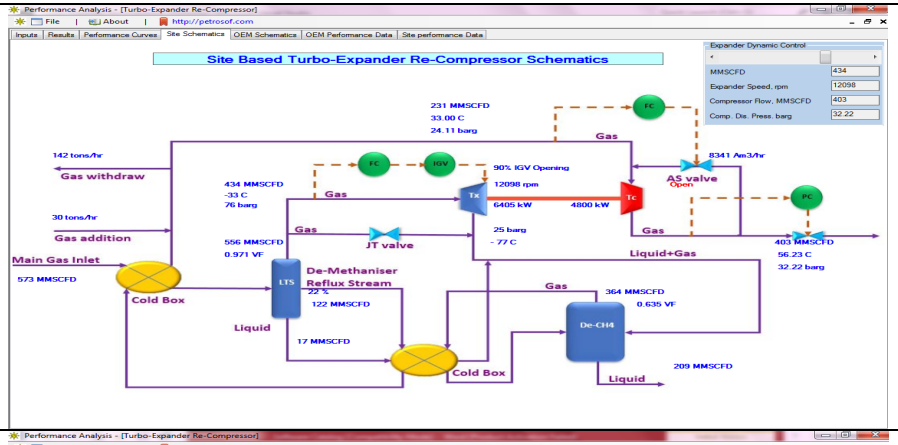
Turbo expander re-compressor is a highly specialized application developed to model the actual operation of turbo expander and associated re-compressor for natural gas system. Turbo expander is highly specialized equipment used in oil and gas industry in cryogenic system. Modeling of natural gas system, recovery and performance curve evaluation of compressor is highly demanding and a tedious manual calculation. The application uses accurate algorithm to model the machine and performance curves dynamically.

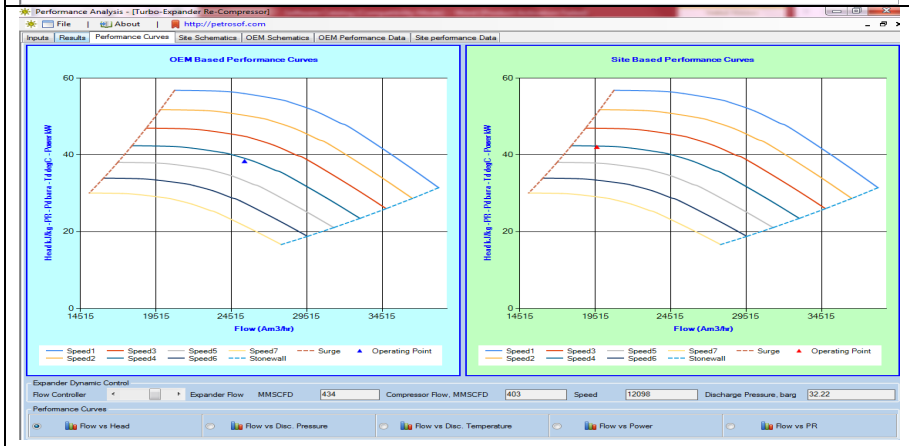
The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

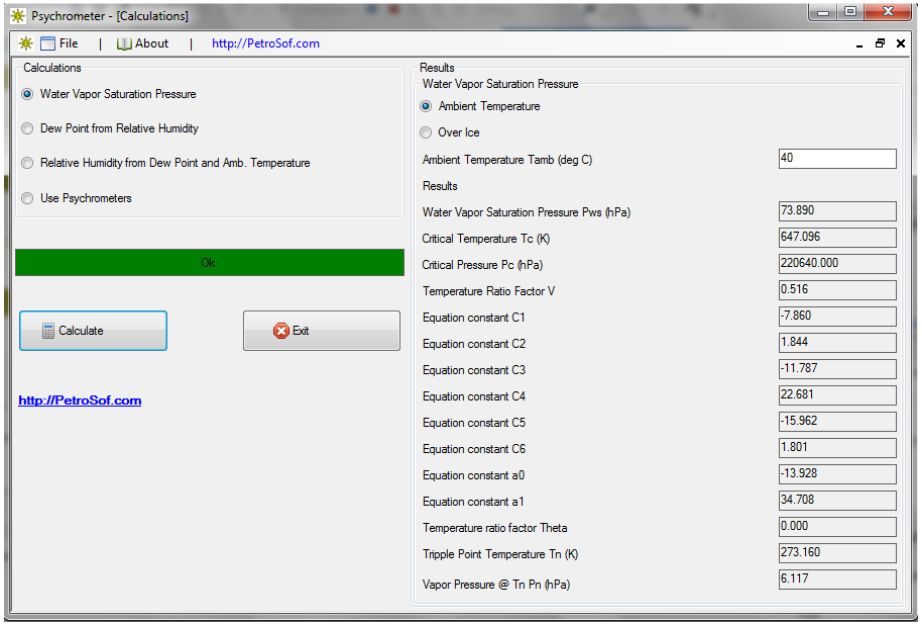
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





76- PSYCROMETER

Psychrometer application is developed to determine the psychrometric calculations of water and air. By this application user can calculate water vapor saturation pressure, dew point, relative humidity and complete psychrometer evaluation. User need to select the options as desired from the calculation section and by providing basic information of temperature and pressure complete psychromteric properties can be determined. A simple yet comprehensive application for engineers to perform desk calculation.



The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

77- OIL SKIMMER DESIGN

In oil and gas plants produced water is often stored in large tanks after treatment however, still a significant quantity of oil is separated in the tanks due to large residence time. So, large tanks in oil and gas plant often comes with oil skimmers to collect the oil from the tanks. Therefore, this application is developed to size and design the appropriate skimmer. User can also evaluate the existing skimmer design to be adequate for the need. The application allows to perform both task of sizing and evaluation of existing design.

The application consist of three most common types of skimmer designs user can select and perform calculations with;

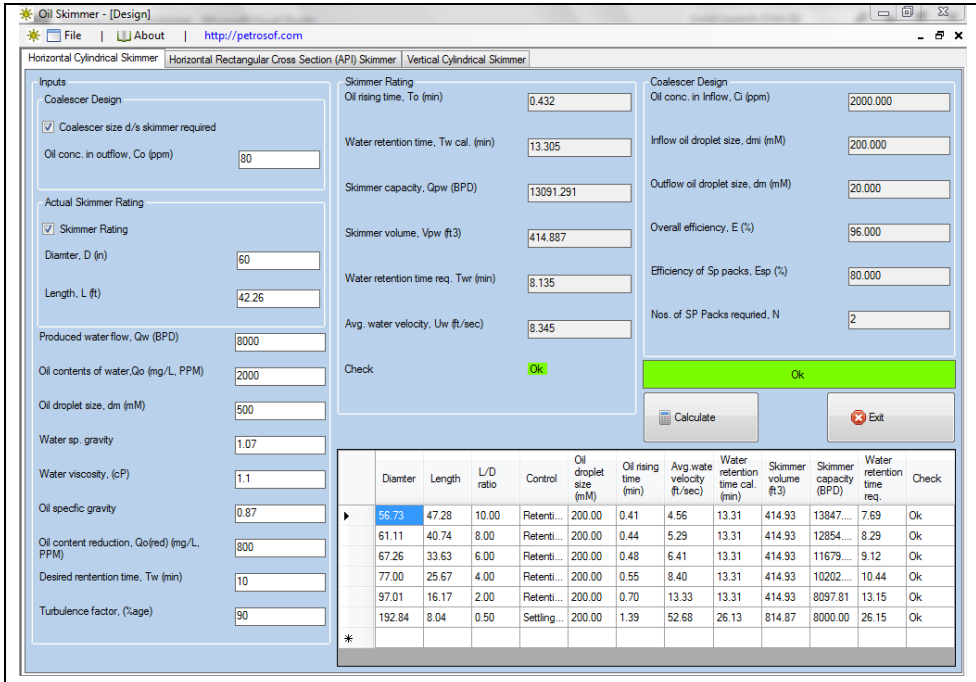
- **Horizontal cylindrical skimmer**
- **Horizontal rectangular API skimmers**
- **Vertical skimmer**

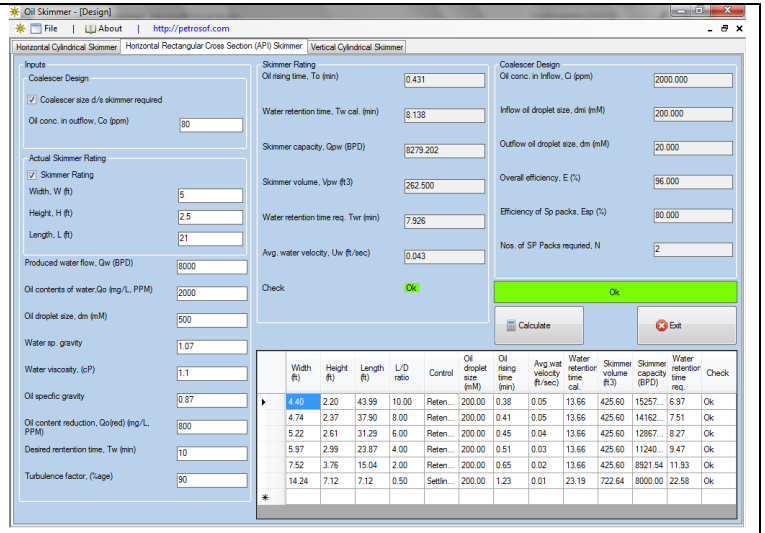
The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

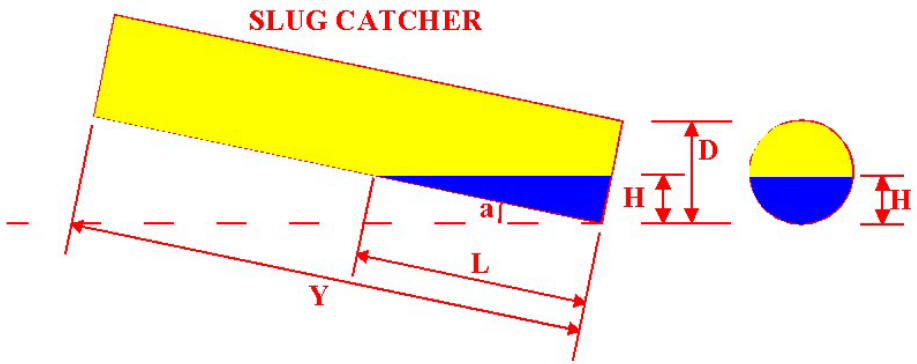
Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.


Oil Skimmer - [Design]
File | About | http://petrosof.com
Horizontal Cylindrical Skimmer
Horizontal Rectangular Cross Section (API) Skimmer
Vertical Cylindrical Skimmer
Inputs
Coalescer Design
Coalescer size d/s skimmer required
Oil conc. in outflow, Co (ppm) 80
Actual Skimmer Rating
Skimmer Rating
Diamter, D (in) 60
Length, L (ft) 42.26
Produced water flow, Qw (BPD) 8000
Oil contents of water,Qo (mg/L, PPM) 2000
Oil droplet size, dm (mM) 500
Water sp. gravity 1.07
Water viscosity, (cP) 1.1
Oil specfic gravity 0.87
Oil content reduction, Qo(red) (mg/L, PPM) 800
Desired rentention time, Tw (min) 10
Turbulence factor, (%age) 90
Skimmer Rating
Oil rising time, To (min) 0.432
Water retention time, Tw cal. (min) 13.305
Skimmer capacity, Qpw (BPD) 13091.291
Skimmer volume, Vpw (ft3) 414.887
Water retention time req. Twr (min) 8.135
Avg. water velocity, Uw (ft/sec) 8.345
Check Ok
Coalescer Design
Oil conc. in Inflow, Ci (ppm) 2000.000
Inflow oil droplet size, dmi (mM) 200.000
Outflow oil droplet size, dm (mM) 20.000
Overall efficiency, E (%) 96.000
Efficiency of Sp packs, Esp (%) 80.000
Nos. of SP Packs requried, N 2
Ok
Calculate
Exit
Diamter | Length | L/D ratio | Control | Oil droplet size (mM) | Oil rising time (min) | Avg.wate velocity (ft/sec) | Water retention time cal. (min) | Skimmer volume (ft3) | Skimmer capacity (BPD) | Water retention time req. | Check
56.73 | 47.28 | 10.00 | Retenti... | 200.00 | 0.41 | 4.56 | 13.31 | 414.93 | 13847.... | 7.69 | Ok
61.11 | 40.74 | 8.00 | Retenti... | 200.00 | 0.44 | 5.29 | 13.31 | 414.93 | 12854.... | 8.29 | Ok
67.26 | 33.63 | 6.00 | Retenti... | 200.00 | 0.48 | 6.41 | 13.31 | 414.93 | 11679.... | 9.12 | Ok
77.00 | 25.67 | 4.00 | Retenti... | 200.00 | 0.55 | 8.40 | 13.31 | 414.93 | 10202.... | 10.44 | Ok
97.01 | 16.17 | 2.00 | Retenti... | 200.00 | 0.70 | 13.33 | 13.31 | 414.93 | 8097.81 | 13.15 | Ok
192.84 | 8.04 | 0.50 | Settling... | 200.00 | 1.39 | 52.68 | 26.13 | 814.87 | 8000.00 | 26.15 | Ok


Oil Skimmer - [Design]
File | About | http://petrosof.com
Horizontal Cylindrical Skimmer
Horizontal Rectangular Cross Section (API) Skimmer
Vertical Cylindrical Skimmer
Inputs
Coalescer Design
Coalescer size d/s skimmer required
Oil conc. in outflow, Co (ppm) 80
Actual Skimmer Rating
Skimmer Rating
Width, W (ft) 5
Height, H (ft) 2.5
Length, L (ft) 21
Produced water flow, Qw (BPD) 8000
Oil contents of water,Qo (mg/L, PPM) 2000
Oil droplet size, dm (mM) 500
Water sp. gravity 1.07
Water viscosity, (cP) 1.1
Oil specfic gravity 0.87
Oil content reduction, Qo(red) (mg/L, PPM) 800
Desired rentention time, Tw (min) 10
Turbulence factor, (%age) 90
Skimmer Rating
Oil rising time, To (min) 0.431
Water retention time, Tw cal. (min) 8.138
Skimmer capacity, Qpw (BPD) 8279.202
Skimmer volume, Vpw (ft3) 262.500
Water retention time req. Twr (min) 7.926
Avg. water velocity, Uw (ft/sec) 0.043
Check Ok
Coalescer Design
Oil conc. in Inflow, Ci (ppm) 2000.000
Inflow oil droplet size, dmi (mM) 200.000
Outflow oil droplet size, dm (mM) 20.000
Overall efficiency, E (%) 96.000
Efficiency of Sp packs, Esp (%) 80.000
Nos. of SP Packs requried, N 2
Ok
Calculate
Exit
Width (ft) | Height (ft) | Length (ft) | L/D ratio | Control | Oil droplet size (mM) | Oil rising time (min) | Avg.wat velocity (ft/sec) | Water retention time cal. | Skimmer volume (ft3) | Skimmer capacity (BPD) | Water retention time req. | Check
4.40 | 2.20 | 43.99 | 10.00 | Reten... | 200.00 | 0.38 | 0.05 | 13.66 | 425.60 | 15257... | 6.97 | Ok
4.74 | 2.37 | 37.90 | 8.00 | Reten... | 200.00 | 0.41 | 0.05 | 13.66 | 425.60 | 14162... | 7.51 | Ok
5.22 | 2.61 | 31.29 | 6.00 | Reten... | 200.00 | 0.45 | 0.04 | 13.66 | 425.60 | 12867... | 8.27 | Ok
5.97 | 2.99 | 23.87 | 4.00 | Reten... | 200.00 | 0.51 | 0.03 | 13.66 | 425.60 | 11240... | 9.47 | Ok
7.52 | 3.76 | 15.04 | 2.00 | Reten... | 200.00 | 0.65 | 0.02 | 13.66 | 425.60 | 8921.54 | 11.93 | Ok
14.24 | 7.12 | 7.12 | 0.50 | Settlin... | 200.00 | 1.23 | 0.01 | 23.19 | 722.64 | 8000.00 | 22.58 | Ok

78- SLUG CATCHER SIZING

In oil and gas plants slug catcher is an important and often the very first three phase separator to receive the associated gas from offshore or onshore reservoir. The orientation of slug catcher is often makes a challenge for the engineers to determine the volume of liquid inventory inside. This application is specifically developed to determine the correct volume of slug catcher by simple field inputs given by user.



The application is simple to use where user needs to provide required information in input fields and results are obtained with simple pressing calculate button.

Users are cautioned about incorrect inputs and limitations during valve sizing and guide them to achieve the correct results.

An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.

79- HOT OIL SYSTEM

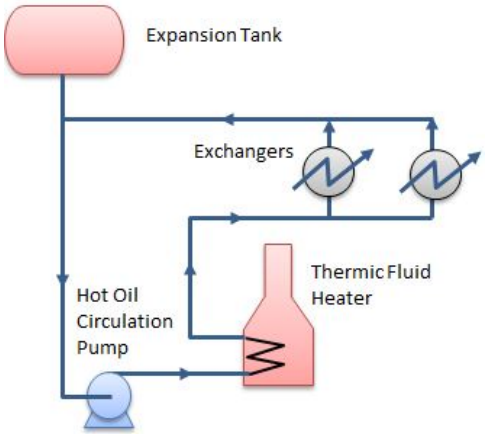
Hot oil is a vital element in oil and gas plants as heating media in process heat exchangers. Sizing of hot oil vessel for inventory management during start up and commissioning phases is an important task.

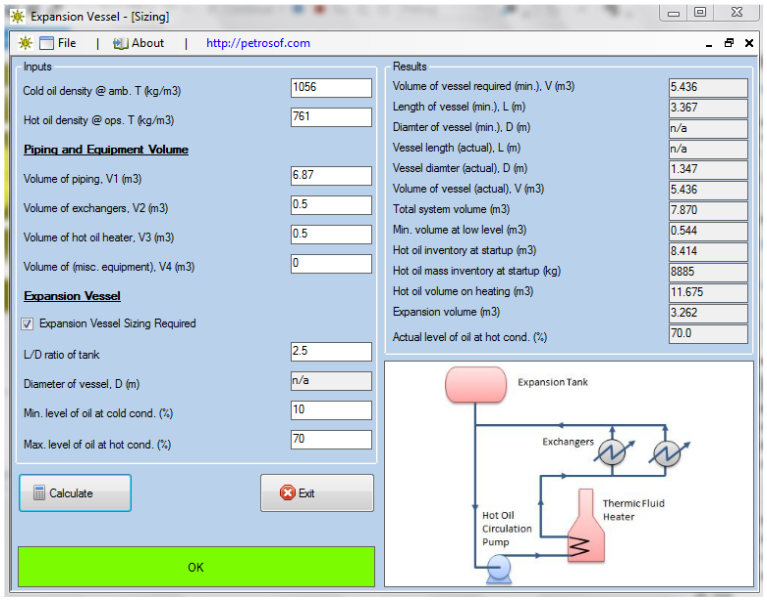
Process engineers often need to determine the fluid hydraulics of hot oil system and associated piping and vessel which can be a tedious task. this application offers an accurate and quick estimation of hot oil hydraulics to save time and effort.

In this application user's are required to provide basic process information in the input section and results are calculated and displayed in the result section by simply pressing "calculate" button.

Users are prompted about the limitations of the programs in the message bar on the screen.
An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





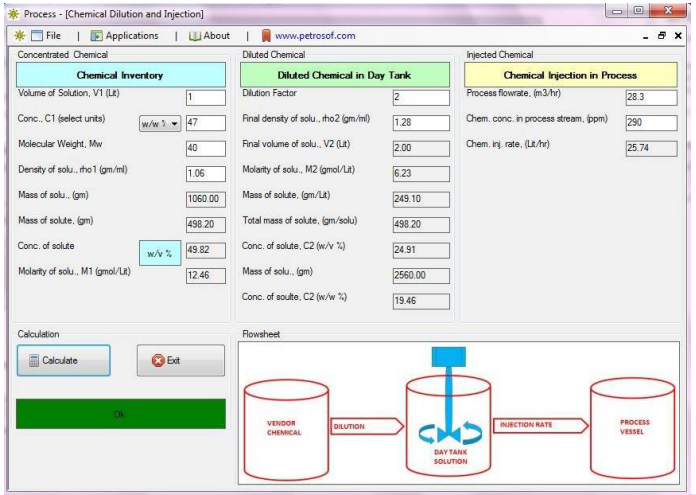
80- CHEMICAL INJECTION

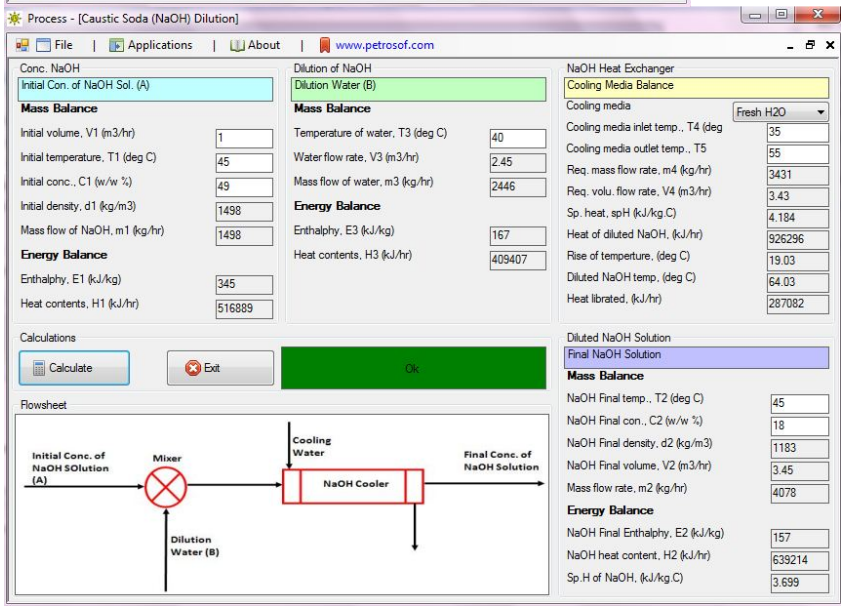
Chemical injection in process stream is essential part of the operation to control the quality and maintain the product specifications. Estimations of chemical injection in process stream, dilution and concentration and accurate injection rate management can be critical task.

This application is developed specifically to estimate the accurate injection rate, dilution and concentration of chemical and other critical parameter. This application is simple to use where user's need to provide basic information then application will calculate the required results quickly.

Users are prompted about the limitations of the programs in the message bar on the screen.
An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.





81- CENTRIFUGAL PUMP MODELING

Centrifugal pump modeling is a specialized application developed with great care and accuracy for designing a new pump and its performance curves.

This applications is a unique type especially for pump manufacturers and designers. In this application engineer can define the boundaries and dimension of the pump for a system and determine the performance curves of the pump.

In this application users can select the basic design of the pump by selecting the given options in the application and at the end by pressing the calculate button a complete design configuration and performance curves of the pump will be determined. Users can simply alter the inputs to vary the results as wish to achieve the desire performance and then order the pump to vendors to supply the pump with matching characteristics.

Users are prompted about the limitations of the programs in the message bar on the screen.
An introductory demonstration of this software is available online at www.petrosof.com

Software is compatible to install and run on Windows 95-2000, Windows XP, Windows 7 and Windows 8.