Pars Plant

Plant Design and Management System

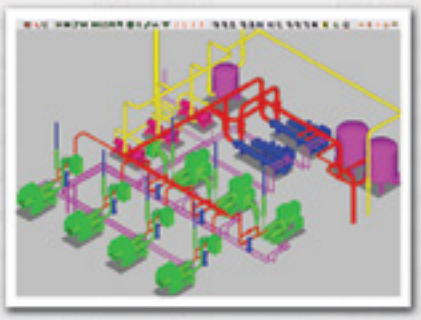
The Next Generation Of Plant Design

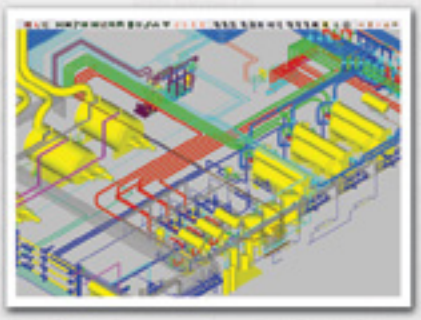
Introduction to Parla Sanaye Company (P.S.Co)

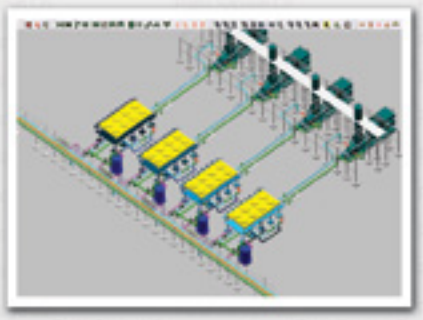
Parla Sanaye Company with more than 25 Years of experience in developing shop Drawings have succeeded in developing a state of art Plant 3D modeling software named: Pars Plant and a GIS software named: Pars Map. Pars Plant and Pars Map backed up with vast experience, lessons and Advanced Information Technology (AIT) are designed to facilitate 3D modeling Process for industrial Plants, in order to Provide Users with more user friendly software as well as compete with other software's in 3D modeling field.

Pars Plant and Pars Map Capabilities in facilitated design for Oil, Gas, Petrochemical, Chemical industry Plants as well as Hospital, Factory and Structures engine rooms resulted in countless domestic and international rewards.

Introduction to Pars Plant Software







Pars Plant is designed as a plug-in to AutoCAD software. With fair knowledge of AutoCAD, and using Pars Plant and its countless capabilities 3D Modeling facilitated, as well as ACAD is a Successful and commonly used software which will facilitate Pars Plants usage. Pars Plant contains a rich specification database of Pipes, Fittings and Joints, Pumps, Vessels, Valves and other Equipments, in different classes and in accordance with ANSI, ASTM, ASME, API, PIN, IGS and IPS standards. It is agreed by most of the user all around the world that in order to make the most of an engineering software, it should be accurate, reliable, fast and most importantly flexible with getting live feedbacks from end user during development phase, Pars Plant is designed in manner, that user can benefit from its capabilities with high accuracy and significance.

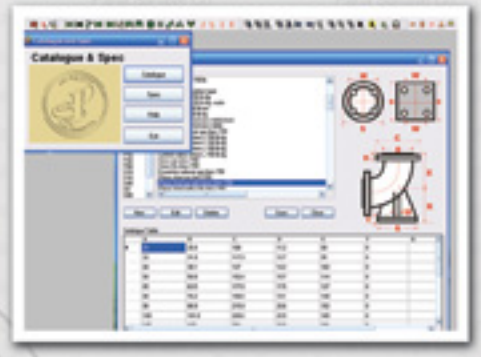
Regarding to Pars Plants capabilities in satisfying both Operator and users' needs in designing an elaborated complex plant, we highly recommend employing Pars Plant software for Plants' 3D modeling.

Pars Plant software modules

1- Catalogue Gen.
2- PMS Gen.
3- P&ID Gen.
4- Steel Structure
5- Equipment Editor
6- Pipe Rack
7- Pipe Routing line
8- Auto Clash
9- Pipe Arranging
10- Valves & flanges
11- Instrumentation
12- Pipe Support
13- Pipe 3D Modeling
14- Cable Tray
15- MTO
16- Inch / Dia.
17- Isometric Gen.
18- Orthography Gen.
19- Data writing
20- HVAC 3D Duct Design
21- Walk Through
22- Piping Plan Gen.
23- Special Item Gen.
24- Under Ground Piping
25- Obstruction
26- Data Sheet

Pars Plant's help

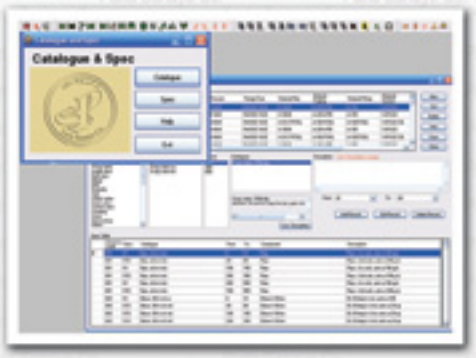
Pars Plant's help is available in both English and Persian and can be delivered in French, Spanish, Italian if requested. Pars Plant's help module is more of a tutorial module for better support and training. Although training courses and 24/7 customer support is available, its highly recommended to implement a tutorial as one of software modules.



Catalogue Gen.

This module is designed to create, edit and remove catalogues. Using this module user can create a catalog, modify or remove it rapidly.
A catalogue is a database of components, Pipes, Valves, Vessels, Pump and other equipment required to create PMS.

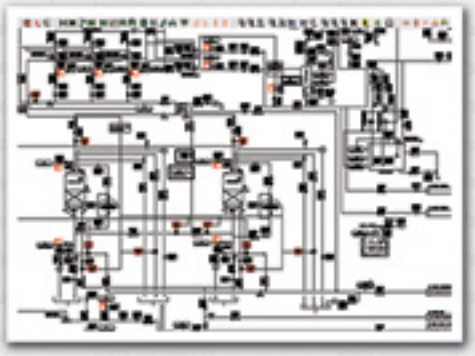
PMS Gen.



Categorizing Equipments, Pipe, Fitting and Joints, Valves and etc...according to their working class is called specification or in short spec.

Spec generator module is designed to create, modify and remove PMS. Spec generator enables users to create modify or remove their PMS in a short time using a defined catalogue.

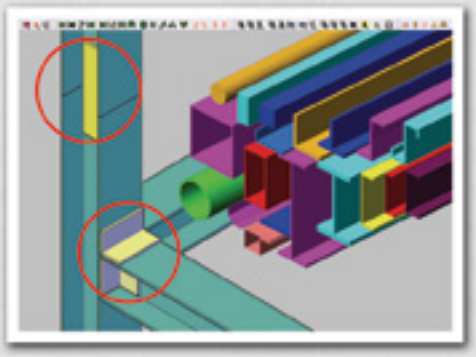
Pars Plant's spec archive is a rich library of catalogues in accordance with widely used and international standards.



P&ID

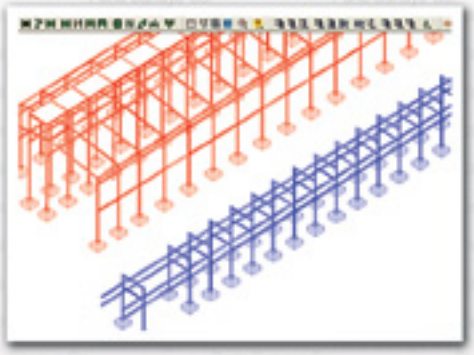
This module is designed to create P&ID designs. Using rich database of catalogue and specs, and employing Dynamic design, enables users to place each and every component in every place they planned, and tag related components with planned predefined tag numbers.

Pars Steel



This module is designed to create common Steel structures 3D models. As well as predefined models, users can model various structures parametrically and generate 3D models their structure using steel Profiles in DIN standard.

Also this module provides users with different types of joints such as rigid, hinge and pin joints. Predefined structured forms are: Trusses, Pipe Racks, Portal and etc... Pars Steel provides users with a wide range of choices from using predefined structures to model a completely user defined structure.

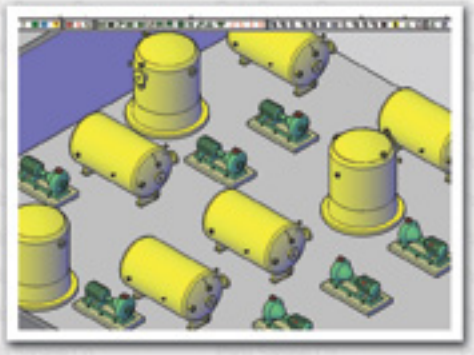


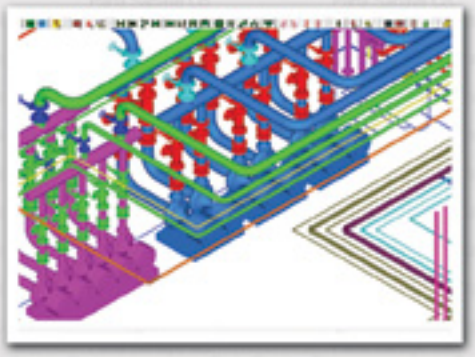
Pipe Rack

In order to model common steel structure such as ladders, platforms, stairs and Pipe Racks a module is designed with predefine parametric templates enabling user to modify pre-set model according to his/her needs.
This module also provides MTO and weight extraction for used components and materials.

Equipment Editor

This module is designed to facilitate creating modifying (according to primary data) pressure vessels, storages tanks, heat exchangers and pumps.
Users can either use predefined models existing in Pars Plants archive libraries or use template to make completely new model. In case the demanded equipment was not available in Pars Plant's archive, users can easily define them in order their needs.



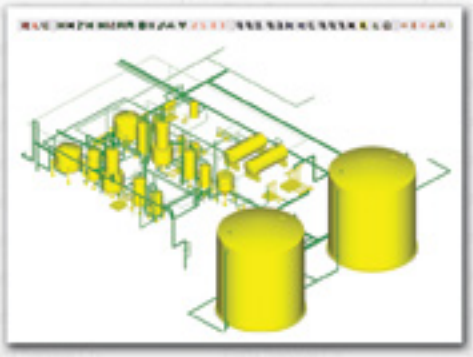


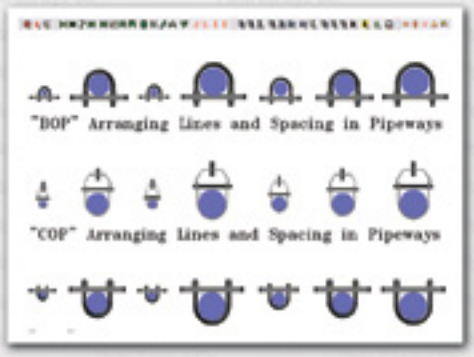
Pipe routing line Auto Clash Check.

Finding routes to connect between equipment is another of significant application of pars plant, it can easily and rapidly offer several ways of connection between equipments that user can pick the best one for his/her project.
In order to model a pipe its route has to be drown by user as a single line, considering elevation and route, Pars Plant will automatically check clashes between pipes, Structural parts and other equipment. If the distance between two pipes, pipe and structure element, pipe and equipment or two equipments are less than standard distance user will be informed to correct the clash or low maintenance distance.

3D modeling

This module provides users with an extraordinary 3D modeling capability by clicking an icon. This module is Pars Plants cutting edge capability and provides user with new ways of 3D modeling. Not only it will model Pipes, Fittings and Joints according to technical specification, but also it will model different fitting types such as threads, weld etc… It will also model every component in its real size, put in exact place.





Pipe Arrangement

In case there were two or more pipes in same plant, Pipe arrangement module can arrange those pipes with proper distance according to selected standard.

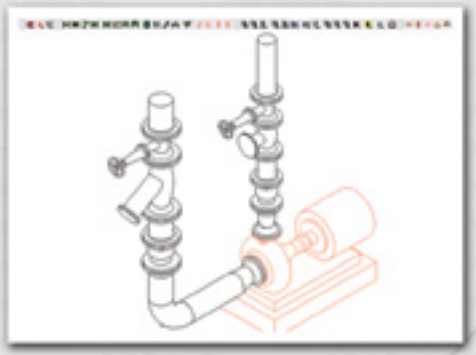
This module will provide user with three different options to select arrangement axis. These options are:

- Bottom Of Pipe (BOP).
- Center Of Pipe (COP).
- Top Of Pipe (TOP).

It should be noted, this module considers all pipe components such as insulation, flanges, difference in class and other pipe characteristics.

Valves and Flanges

In order to model different valves or flanges or any other piping component user just have to click on related icon and select its desired location on pipe. Selected valves will be placed considering pipes diameter, fitting type and other important considerations such as working class automatically without requiring user's concern.

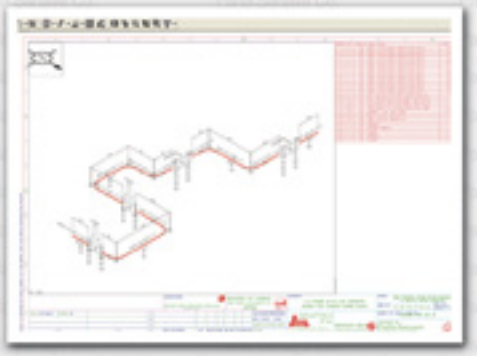


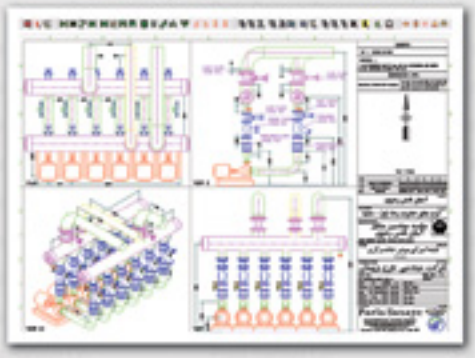
Instrumentation

Instrumentation is an important part in every plant. Considering its importance Pars Plant has provided a module with sole purpose of modeling instrumentation components such as Temperature, Pressure Level, Flow and etc... on every equipment/pipe, This will facilitate modeling process as well as increased accuracy.

Isometric Gen.

Preparing isometric plans and creating BOM list are two of the most complicated processes in design phase, this process is both time consuming and requires high amount of focus and accuracy and simple mistake may put the whole project in jeopardy. Using Pars Plant's isometric/BOM creation preparing isometric is based on line number and isometrics will be prepared with bill of material (BOM) Tagged with respected components.



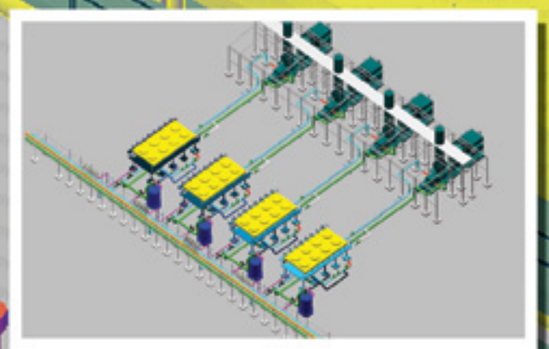


Orthography Gen.

Using this module of Pars Plant will provide user with a rapid and accurate orthography designs.

Capability Outline:

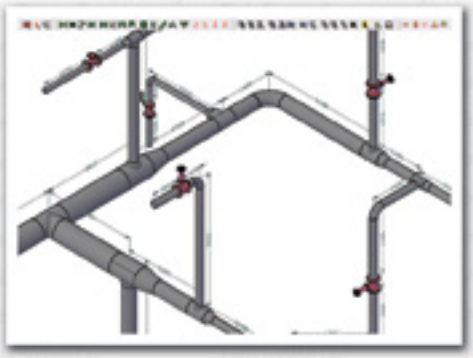
- Increased speed, accuracy and quality in piping design.
- Detailed Designs in real scale.
- User friendly and easy to learn.
- Includes comprehensive libraries of pumps, valves, fitting, etc. according (ANSI, ASTM, ASME, API, DIN, IPS, IGS).
- Catalogue and PMS generator.
- P&ID generator.
- Equipments modeling & obstruction.
- Special Item Gen.
- Steel structure modeling.
- Cable tray modeling.
- Supports modeling.
- Walkthrough inside the plant.
- Auto clash pipes, structures etc.
- Automatic extraction of isometric.
- Automatic extraction of orthography.
- Extraction of editable MTO.
- Automatic measuring of model.
- HVAC 3D Duct Design.

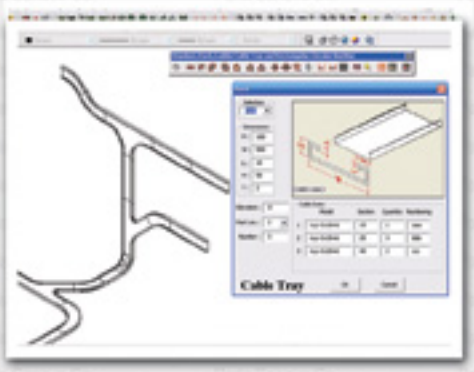


Model | Layout1 | Layout2

Data Writing

This module will automatically extract component information and place it as a text on the desired location. It also facilitates dimensioning and pipe elevation process; it will automatically add pipe Dimensions, Elevation, COP, BOP, TOP, Lineno, Terminal Points, Battery limits and Component Name on pipe.





Cable tray

Cable tray module is another Pars plant module, specified to model and design Cable tray components of a Plant.
This module supports these types of cable tray:

1- Standard
2- Rack
3- Ladder
4- Bus duct

And flowing components are provided for each type:

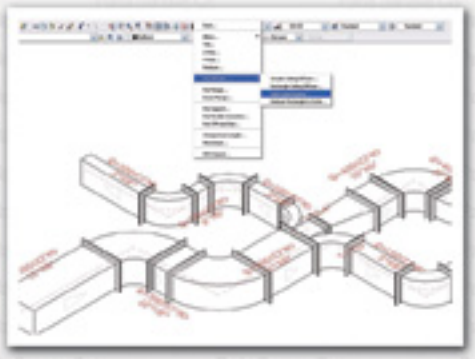
1- Bend
2- Elbow
3- Inside Riser up
4- Outside Riser Down
5- Straight Tee
6- Reducer Tee
7- Straight Cross
8- Reducer Cross
9- Reducers:
   - Center
   - Flat on Left
   - Flat on Right
10- Hanger and Slipper
11- Create Cable Section
12- Grating
13- Write Tray and cable Data
14- Search and Filter
15- Display Tray Data
16- Display Cable Data
17- Create Tray and Cable MTO

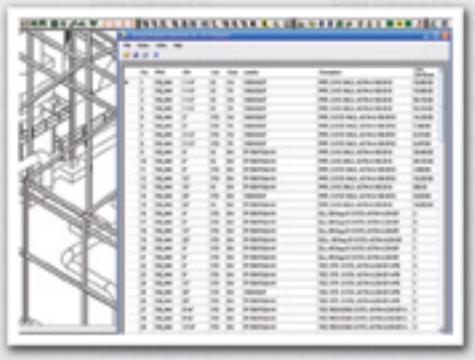
Pipe Support

This module contains over 130 types of supports, hangars, hinges and etc... in a form of a database, which will model selected support according to respected pipe size.
Placing supports on pipe can be done both manually with user definition and automatically by software based an related codes and standards.

HVAC 3D Duct Design

This module is designed for HVAC Duct Design and 3D modeling. This module is both easy to learn and user friendly. All needed are material specification, CFM, pressure loss, maximum allowable velocity, design slope and other easily accessible parameters, and specified start and end points. Ducts will be designed with all the joints required, according to selected parameters automatically.
In the end all the data writing and bill of material will be given automatically.



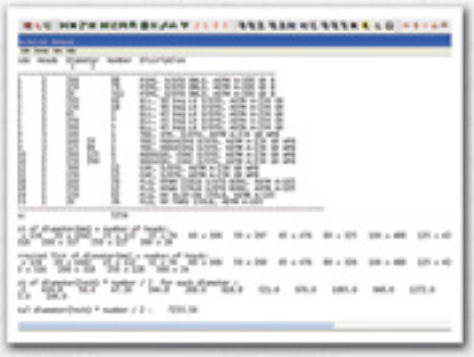


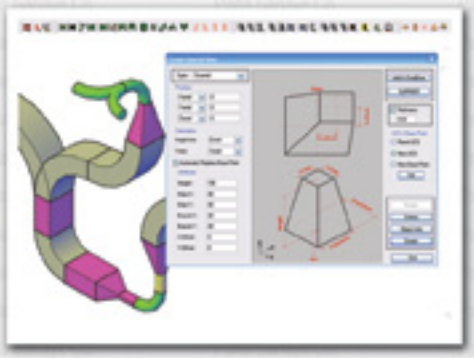
Material Take Off (MTO)

Preparing MTO is a time consuming effort, requiring a great amount of focus and also there are high risks of unwanted and unaccounted human errors. In order to decrease such risks, this module is designed to prepare project's MTO according to respected PMS automatically and rapidly.
Prepared MTO can be published as an editable MS excel or notepad file. MTO data can be in meter, inches or meter/inch as selected by user.

Calculating Inch/Dia.

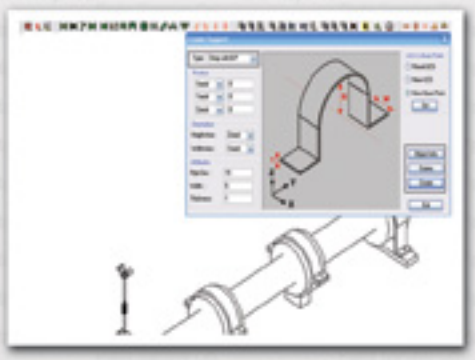
This module is designed to calculate amount of Electrode required for the modeled Plant. Required Electrode are reported as either MS excel or notepad file, Extracted reports are editable.





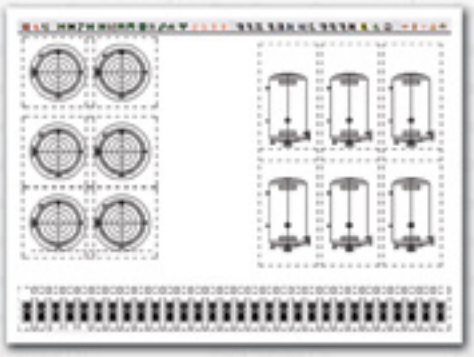
Special Item Generator.

This module is specified to create special items and facilitate special Valves, Supports and Equipments design. By modifying few parameters, user can easily and rapidly model a new special item which serves their modeling requirements best.



1- Cylinder
2- Elbow Circular
3- Tee Circular
4- Cross Circular
5- Reducer Concentric
6- Reducer Eccentric
7- Dished
8- Nozzle
9- Gasket
10- Sloped Cylinder
11- Box
12- Pyramid
13- Pyramid Frustum
14- Elbow Rectangular
15- Tee Rectangular
16- Cross Rectangular
17- Foundation
18- Supports

This module is capable of changing component's base point and User Coordinate System (UCS) both automatically and manually. Component's data are available as set, in design parameters, and can be viewed/extracted upon demand.
In the end the users can add designed equipment as a new object to PMS, and use it in other projects.

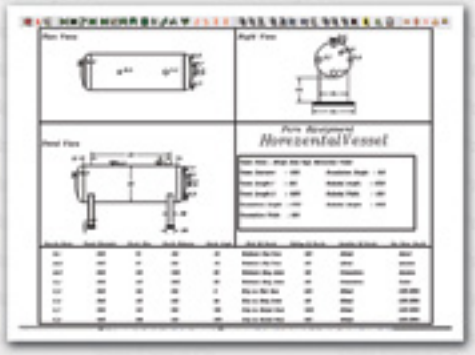


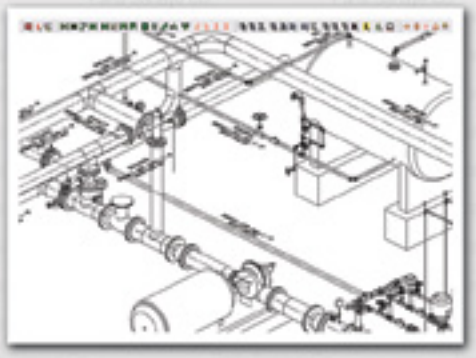
Obstruction

This module can be used in both arranging equipments while considering maintenance area, and check obstruction between two equipments. This module considers maintenance area and equipments dimensions and checks for every violation of codes with other equipments, pipes and structural elements.
This capability prevents rework and changes to plans.

Data Sheet

This module is specified to extract data sheet from used equipments in order to facilitate preparing Ready To Build plans for finalized equipments. Using data sheet module will provide user with an orthographic design from selected pump, vessel, tank and etc, both accurately and rapidly.



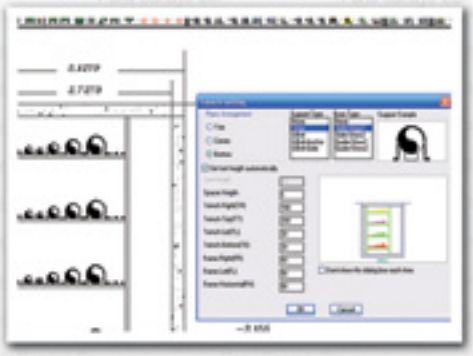


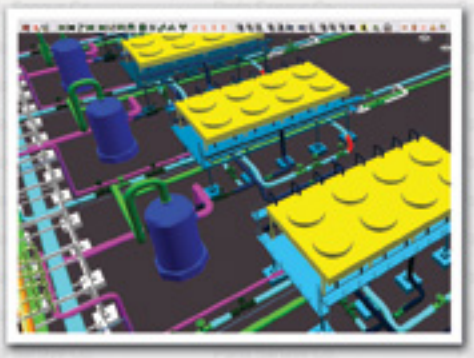
Piping Plan Generator

This module is developed to prepare piping plans from different viewpoints using this module will enable user to see whole plant or any desires area in any desired view point, with all data required.

Underground Piping

This module is designed to facilitate underground piping's shop drawings. This module provides users with many options in arranging and modeling underground piping.





Pars Viewer

This module is developed as a tool to model the whole plant in a virtual space enabling users to walk within plant. This module both gives a visualized model of the plant and provides user/owner with easier layout check. Having a virtually built plant will also prevent many changes way before procurement or construction begins to initiate and also prevents rework and misconceptions.

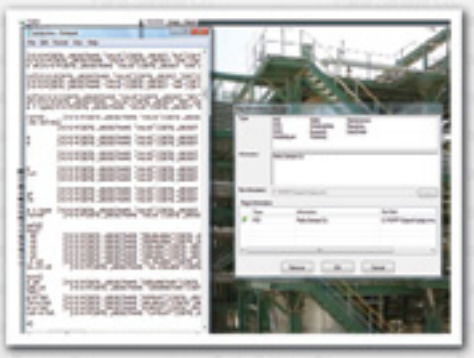
Pars Plant's Awards and nominees

- Winner of 14th International Kharazmi Award (Applied Research).
- Winner of the First Design in Oil Industry Innovations.
- Certificate of Scientific and Industrial Research Organization of Iran.
- Gold Medalist of Albasel International Inventors Festival, Syria.
- Certified by the First International Petrochemical Conference, Iran.
- Patent registry, in Iran's Registrar of Companies and Industrial Ownership.
- Registered in the Iranian High Council of Information.
- Recognized as the best Iranian technical and engineering software, CeBit 2004, Germany.

Pars Map

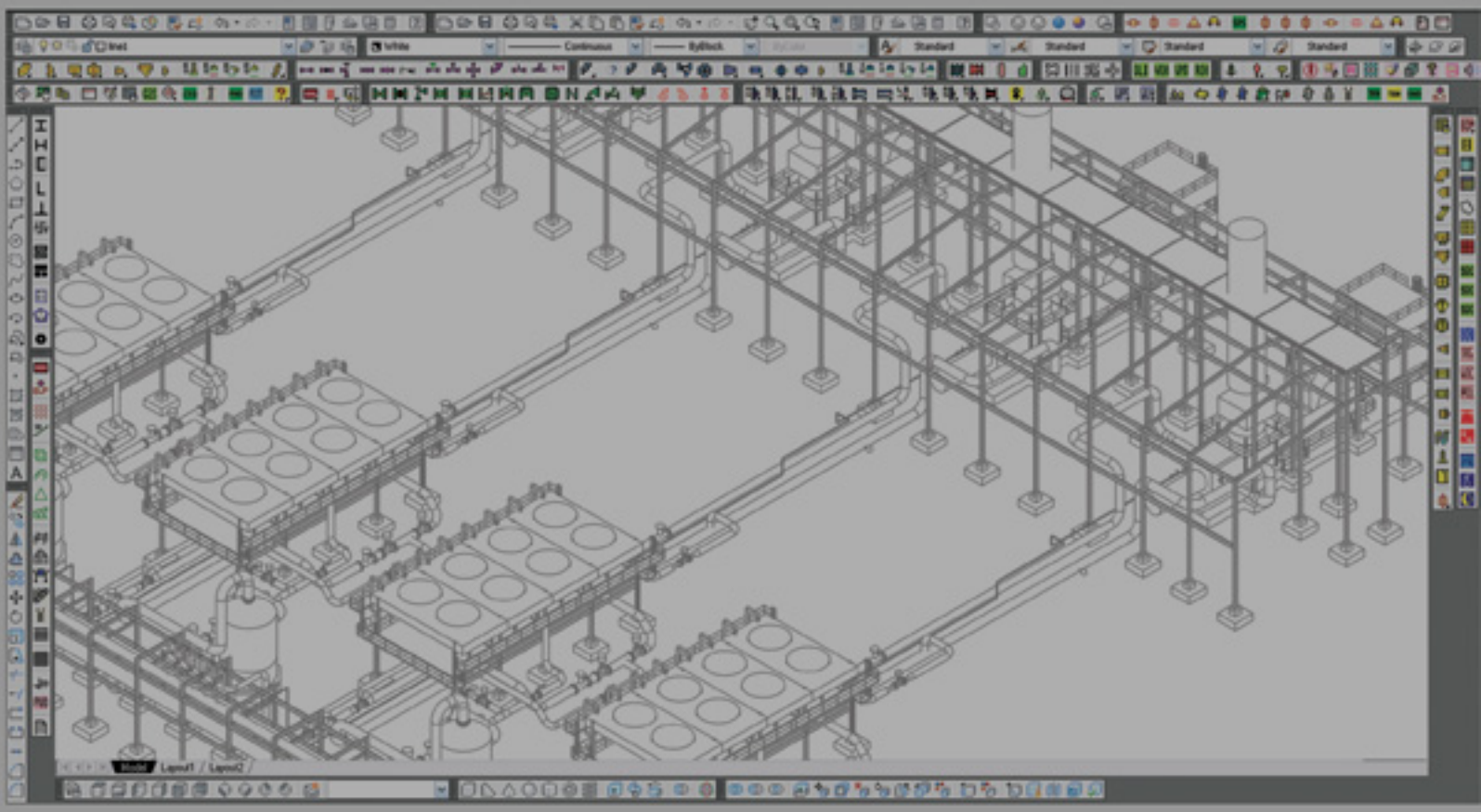
Pars Map is a GIS tool combined MIS capability in order to manage Technical, Maintenance, license, Warranty and any necessary data required to improve Plant management.
Users have the option to link any kind of data to plant's panorama Photos and are enabled to walk inside the virtual pants while having access to all plant related data.
Any kind of information can be linked to database, this information includes but not limited to:

1- Design documents, (Standards, Basic design, Detailed design Spec, Data sheet, etc).
2- Manufacture documents.
3- Erection documents.
4- Comisiming and Operation documents.
5- Maintenace documents.
6- lessons learned.



Minimum Requirements

Windows XP, Vista, 7, 2003, 2008.
Intel Pentium 4 or AMD Athlon, 3.0 GHz or greater.
Intel or AMD Dual Core, 2.0 GHz or greater.
1 GB Ram or greater.
1 GB free disk space available.
VGA: Geforce, 200 Series.
Supported AutoCad Versions: 2006, 7, 8, 9, 10, 11.



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