

EUREKA D-SOFT PVT. LTD.

AUTOSPOOL[®]

SIMPLIFY ENGINEERING CONSTRUCTION

AUTOSPOOL is an automatic piping spooling software used for generating piping Fabrication / Erection Isometrics and related reports based on the convenience of Fabrication / Erection work, site requirements, spool transportability, etc. and to achieve the best international construction practices and clients requirement standard.

The program generates the Fabrication / Erection construction scope in Inch Dia., Inch Meter and tonnage. It also calculates piping cut length, piping bending length, spool weight and surface area as required in the project.

RECOMMENDED BY PIPING CONSTRUCTION ENGINEERS

Ease of Implementation

Imagine a software that makes your work life simple! A software that helps to save 75% of your work time. An efficient aid by your side that offers an organized module with systematic process, making the work easy, very precise, accurate and reducing the chances of costly errors while performing the task. From automatic spooling based on logic to the production of drawing and reports, can there be a software that takes care of it all?

This can be further extended to SPOOLMAN / ERMAN for activity level Project Management , Planning and Control , progress monitoring, Material Management and reporting at various stages of Piping Fabrication , Erection , Testing , Flushing , Box-Up , Warehouse, Pre-Commissioning of Systems and Commissioning of Units / Plants.

WHY USE AUTOSPOOL ?

AUTOSPOOL offers

- Automatic and accurate Spool / Erection drawings
- Reduction in the upright construction work by at least 15%
- Automatic reporting at spool-level, joint-level, component level & Insulation / tracing reports
- Systematized processes
- 75% saving in time
- Reduction of errors in the work process
- Complete control on the job
- Revision Management and Project Management
- Reliable in every aspect of the work



HOW DOES AUTOSPOOL WORK ?

AUTOSPOOL works interactively as per user defined settings & configurations. Graphics , Drawing templates , Reporting , Output Formats , Mode of Measurement etc. can be totally controlled based on user preferences. Neutral input files like *.idf, *.pcf, *.ipmf are automatically processed to generate desired outputs like automatic Spool / line wise drawing & reports , Scope In Inch Dia., Inch meter, tonnage etc. interactively.



WHAT DO YOU GET FROM AUTOSPOOL

- Automatic generation of Spool and Erection drawings
- Piping revision and Project Management
- Clear guidelines to decide field welds , planning of scaffolding based on access of nearest platform , floor , supportive structure
- Bill of materials and reports

AUTOSPOOL works with following inputs :

Neutral file *.idf, *.pcf, *.impf which are generated from leading plant design software but not limited to PDMS, E3D, PDS, SP3D, AUTOPLANT, PLANT3D, ISOMECA etc

PROJECT MANAGEMENT



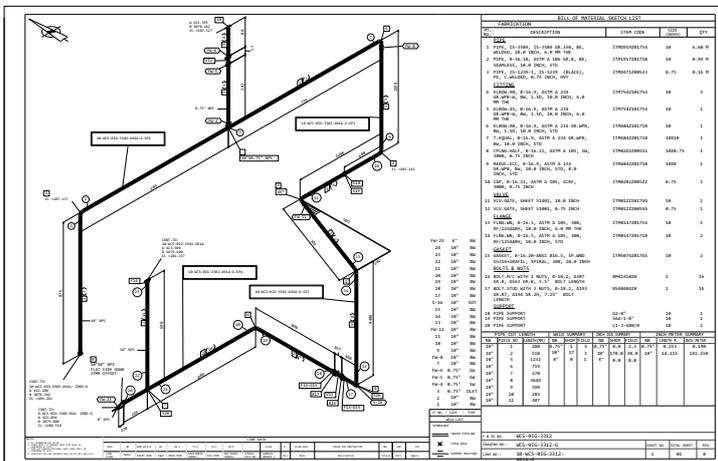
This software has been designed to handle multiple users and control the project at various stages of design revision. The Work breakdown structure (WBS) can be created based on the priority of construction.

This is further integrated with SPOOLMAN / ERMAN for Plant Construction Management and Control (Planning, Cost, Material, Progress, Analysis)

FLANGE JOINTS / FLANGE ASSEMBLY

AUTOSPOOL controls the tracking of flange joints, alignment of welding, the proper installation and approval of critical high rating flanges/flanged assemblies as per the project procedures.

The program addresses this requirement with a rule based provision to identify critical flanges & flange joint assembly which can be numbered / monitored / recorded / accounted in detail during the construction.



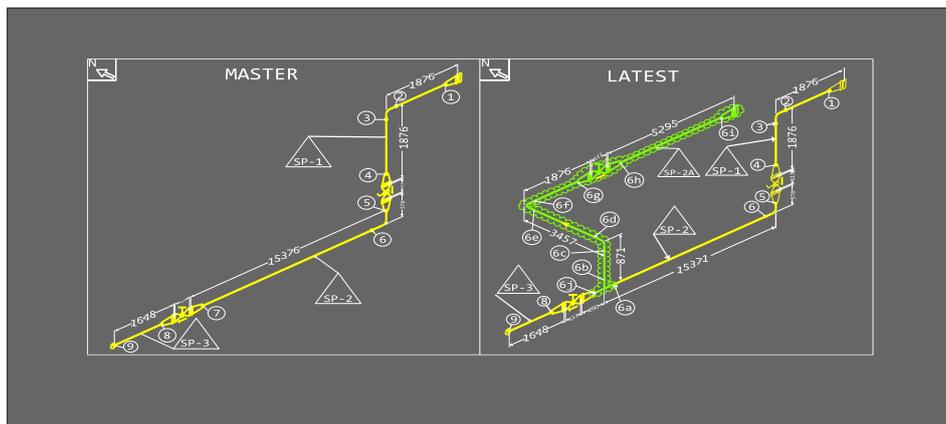
REVISION MANAGEMENT

Changes in engineering piping isometrics are continuous and must be taken care in various stages of project planning and execution.

The software has been designed to transfer changes from one revision to another by referring the work done in the old revision.

The change in information is automatically detected and the necessary changes are transferred to the fabrication /erection /management software (SPOOLMAN / ERMAN).

All revision changes are highlighted by cloud marking, color coding, revision annotation and the output of related reports. This facilitates easy execution of revised updates.



WELDING & SPOOLING

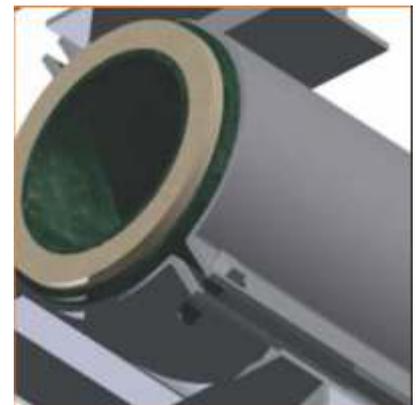
Welding is the most important activity at a construction site to be planned , it governs the whole project with respect to time, volume, progress, material, cost, project management and control. The project cost can be optimized by proper planning of welding at the site and fabrication shop. This software has several flexible options to take care of proper and efficient welding implementation on site.

The program is uniquely designed to combine multiple isometric and adapt a single isometric with respect to the company standard welding criteria. AUTOSPOOL helps to optimize field Inch Dia, locate field welds and fix field tolerance lengths to increase the efficiency of the shop & field weld management.

SUPPORT, WELD, INSTRUMENT & OTHER COMPONENTS

The software supports the detailing of the standard library including the support fabrication drawing and related MTO, planning for welding specific primary supports along with spools.

Welding preparation details, Instrument/special component installation, fabrication / erection details of instruments, supports, special tagged items etc. are managed.



ERECTION OF PIPING, PAINTING, INSULATION PROCESS AND HARDWARE ITEMS MEASUREMENT CONSIDERATION

Erection of pipes of different sizes

- Measurement of erection scope in Inchmeter with breakup of sizewise running meter (calculation of running lengths based on Length of the pipe + fittings + flanges in inch meter)
- Provision of considering curvilinear lengths / center line length for elbows 90 deg/45 deg
- Provision to include/exclude half OD of header pipe for calculation of running length at branch connection
- Provision to include/exclude length of flanged valves & special erection items in Inch meter calculation
- Consideration of flanged valves based on size, rating & counts
- Consideration of other special erection items/tagged items based on sizewise counts
- Provision to include/exclude instrument lengths in calculation of running meter & inch meter



Painting

Paint system based on base material, design temperature, operating temperature range & insulation requirement is considered for identification of different coats (primer/intermediate/finish), number of coats, thickness of coat (dry film thickness).

Measurement of painting is based on sizewise running meter, surface area in square meter as per project specifications like

- Paint system, size, running lengths
- Paint system & surface area of painting
- Paint system & volume of painting etc.

Insulation

Measurement of insulation based on different criteria like

- Size, insulation type, thickness and running lengths (running lengths is based on Length of the pipe + fittings)
- Size, count of Valve boxes, Flange boxes, bling flanges etc.
- Provision of measurement in surface area & insulation volume apart from running meter

Hardware items :

Reporting of hardware items like bolts, gaskets etc. can be completely customized / Modified as per the project requirement.

DRAWING GENERATION / DEVELOPMENT

AUTOSPOOL facilitates generation of customized spool drawing, erection drawing and related reports as per the project requirement. The user can configure construction measurements in the drawing/report in terms of Inch Dia, Inch meter, Spool weight, Surface area etc.

The process parameter, NDT and PWHT requirements can either be taken from the isometric attributes or can be externally \ mapped.

User can automatically generate various reports like

- Project level consolidated BOQ for fittings and pipes
- Project wise , line wise , spool wise , Inch Dia / Inch Meter
- Joint detailed summary for Shop weld joint, Field weld joint, Offshore weld joint
- Spool BOQ , Erection BOQ
- Surface area calculation
- Insulation & tracing measurements
- Other customized reports

ID/WH	Rev No	Spec	Spool No	NB1_Inch	NB2_Inch	End_Type	Insulation_Type	Insulation_Thk	Item_Type	Itemcode
0.5-MS-334-1055B-E4G-IT-PXCD-01	RO	E4G	SP01	0.5		WN	IT	45MM	FLANGE	FAC5289GYTYT4GHYTGSGG
0.5-MS-334-1055B-E4G-IT-PXCD-01	RO	E4G	SP01	0.5				45MM	PIPE	P12G49GH7GYTYT4GHYTGSGG
0.5-MS-334-1055B-E4G-IT-PXCD-01	RO	E4G	SP01	0.5		BW	IT	45MM	VALVE	53GH99GGYTYT4GGGGGGG
0.5-MS-334-1055B-E4G-IT-PXCD-01	RO	E4G	SP01	0.5		BW	IT	45MM	ELBOW	AA6664GGYTYT4GHYTGSGG
0.5-MS-334-1055B-E4G-IT-PXCD-01	RO	E4G	SP01	0.5		BW	IT	45MM	VALVE	5GH939GGYTYT4GGGGGGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP02	0.5		WN	IH	45MM	FLANGE	FAC5289GYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP02	0.5				45MM	PIPE	P12G49GH7GYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP02	0.5		BW	IH	45MM	ELBOW	AA6664GGYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP02	0.5		BW	IH	45MM	VALVE	52GHY26GGYTYT4GGGGGGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.5		WN	IH	45MM	FLANGE	FAC5289GYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.5				45MM	PIPE	P12G49GH7GYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.75	0.5	BW	IH	45MM	REDUCER	AUG684GGYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.75	0.5	BW	IH	45MM	REDUCER	AUG684GGYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.75				45MM	PIPE	P12G49GH7GYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.75	0.75	BW	IH	45MM	TEE	AEG684GGYTYT4GHYTGSGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.75		BW	IH	45MM	VALVE	5GHYTY26GGYTYT4GGGGGGG
0.5-MS-334-1056A-E2A-IH-PXCD-01	RO	E2A	SP01	0.75		BW	IH	45MM	ELBOW	AA6664GGYTYT4GHYTGSGG

AUTOSPOOL WORKS FOR YOU

AUTOSPOOL is an engineer's delight. It is a masterpiece software that takes care of your every need and offers you a solution at every platform. So, if you wish to simplify your work process, ask for an AUTOSPOOL demo today.

AUTOSPOOL is open for customization

AUTOSPOOL can be fully customized as per specified requirements for complete integration with the existing processes. All the outputs whether graphics, bill of materials, attributes or desired revision details, different lists like cut length, Inch Dia., Inch Meter, Weld etc. can be fully customized.

Drawing templates can be customized as per the requirement by using the backing sheet customization module. Any company specific formats / standards / logics can also be customized.

AUTOSPOOL can further be customized for the desired spool numbering, weld numbering, weld setting, weld identifier, weld categories, drawings, reporting and much more with Inch Dia. calculation considering reinforcement pad, branch connection, O-lets and other mode of measurement factors.

BARCODE COMPATIBLE

The program has the feature to have 1D / 2D barcodes on generated drawings.

A 1D / 2D barcode representing the spool can be automatically printed on drawing or generated separately from the barcode printer. The system has an inbuilt BARCODE printing language compatible with a ZEBRA printer. And these barcodes can be scanned directly by a barcode scanner for tracking the working status.



PIPING CUTTING OPTIMIZATION

The software can generate the most efficient way of pipe cutting based on the required cutting length and the pipe material available in the store. This way one can minimize the length of pipe wastage and effectively utilize the material. All cutting reports are generated and the data can be sent to the pipe cutting machine by additional customization.

CONSUMABLE ESTIMATE & MANPOWER ESTIMATE

The program can generate the consumable required like O2, DA, Grinding wheel, Cut of wheel, Argon Welding, Purging gas, Root / Final filler wire type and quantity. Root / final electrodes type and quantity, etc.

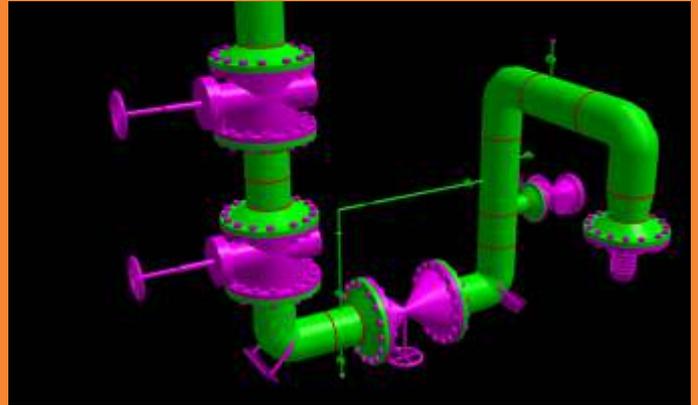
The program can generate manpower planning for the work to be done in fabrication and in erection based on the input available.

SPOOLING IN 3D MODEL

The program generates a 3D model of a piping isometric and the user can directly work on the 3D model for spooling operations. One can see proportionate spools and erection items in different colors. The planner can make a better decision by using these facilities.

PROGRESS UPDATION IN 3D MODEL

With the integration of SPOOLMAN/ERMAN the actual progress of the fabrication , material availability, erection can be shown in 3D model. Program generates 3D dwg file containing 3D model of the pipe with all associated progress status. This can be further viewed by any third party tool for review.



MATERIAL FRONT AVAILABILITY

The program can give material based information on the quantum of material available for fabrication / erection , material in Inch Dia., Inch / Meter etc. and material constrain list (material which need to be available in store in order to complete fabrication / erection).

INTEGRATION WITH THIRD PARTY SOFTWARE

The results from the AUTOSPOOL can be sent to a third party software for further communication to a CMM machine or to another in house customized software. We are open for creating an integration with the clients existing software. Kindly get back to us for more information on the same.

This program is integrated with other module of EPCROMAN like SPOOLMAN / ERMAN for further fabrication /erection / manufacturing and setting up of the material management.

FULFILMENT OF CODE REQUIRMENT

AUTOSPOOL generated Piping Isometric drawings are suitable for the requirement of design codes such as IBR (1950) , ASME section-I , ASME B 31.1 And ASME B31.3.

INCH DIA, INCH METER SCOPE CALCULATION

One can get Inch Dia, Inch Meter, joint size, joint quantity, joint type of the complete project with its area wise, unit wise, or line wise information. This helps in getting the right scope at specific time for the project.

UPDATING OF PROGRESS IN GRAPHICS

The actual progress of the fabrication / erection can be seen in isometric graphics with the difference in color, one can also generate isometric drawings with different color , stating the progress of execution.

TRAINING & CUSTOMER SUPPORT

We provide training & customer support on and off site for a successful implementation of the software. This is to ensure seamless integration with the clients work processes.

MINIMUM RECOMMENDED HARDWARE & SOFTWARES

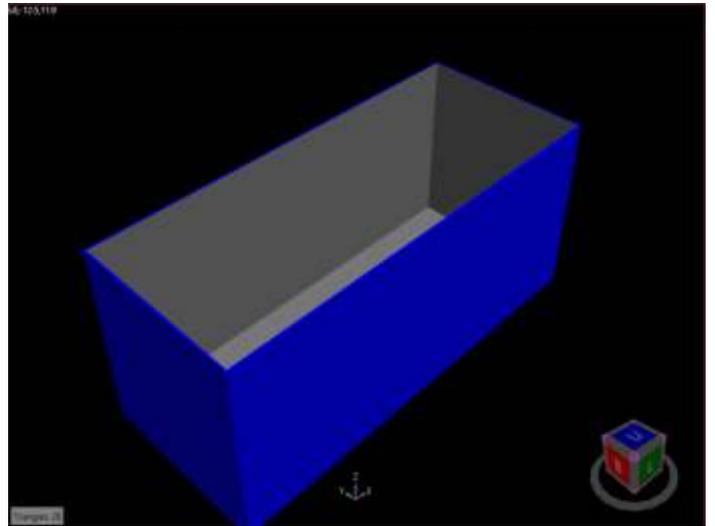
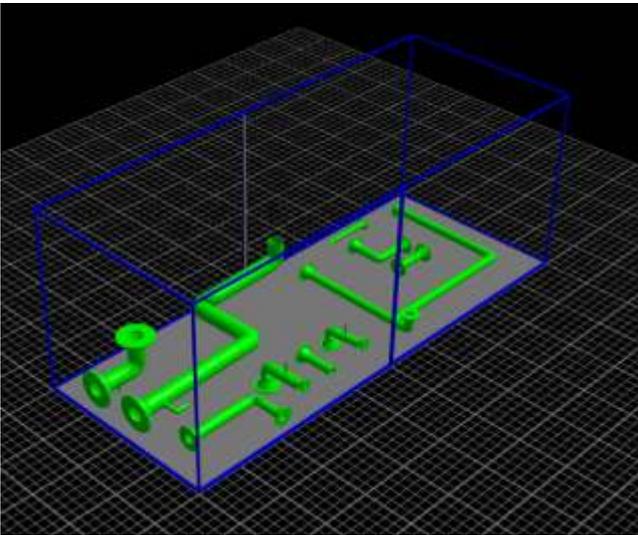
Machine I-7 onwards with 4 GB RAM. Operating system WIN 8.1 onwards(64 bit).

SPOOL TRANSPORT OPTIMIZER

Optimum utilization of container/pallet space for spool transportation by analyzing container / pallet free volume(M^3) & maximum capacity(MT) with respect to spool dimensions / weight is possible through SPOOL TRANSPORT OPTIMIZER. The software generates 3D graphics of spools which works interactively in optimizing the container space utilization in transportation.

The system generates following outputs:-

- Packing list for each container / pallet
(List of spools to be accommodated in a container / pallet(with Pallet no. reference) for transportation)
- Sequence of spools to be loaded in the container / pallet
- Sequence of spools to be loaded in first layer, second layer, etc. in the container / pallet
- Alignment of spools & position / location of spool w.r.t to container reference coordinates, to be loaded in the container / pallet
- Individual weight of spools & Total weight loaded in the container pallet



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