



What's New

PowerPack for Plant 3D 2024.1.1

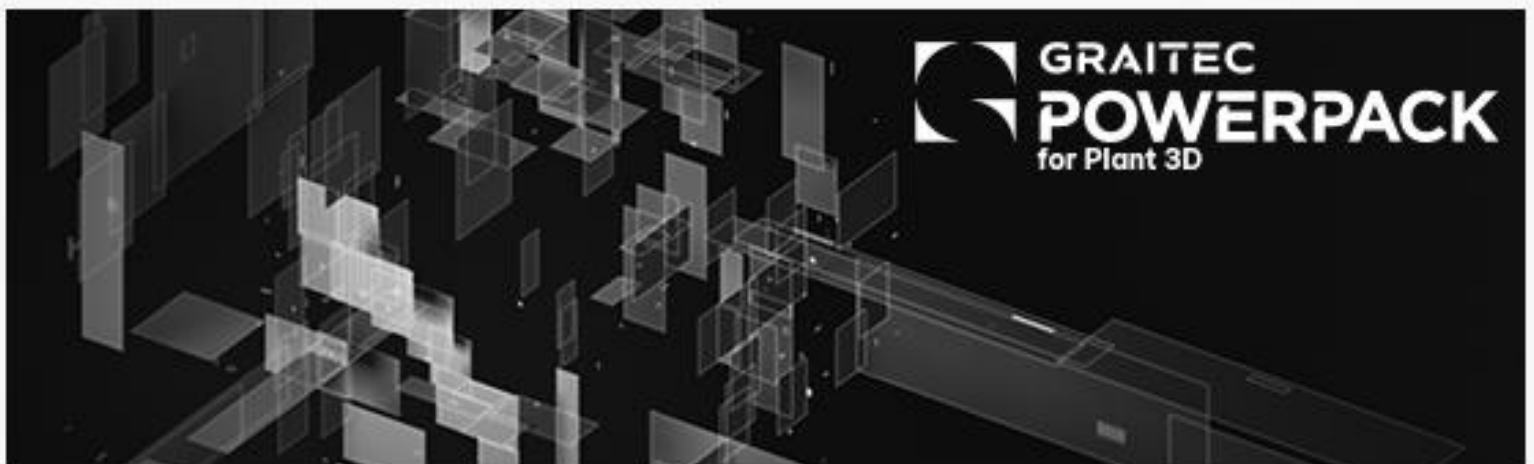
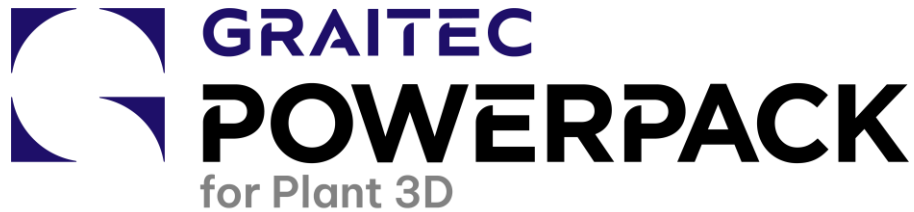


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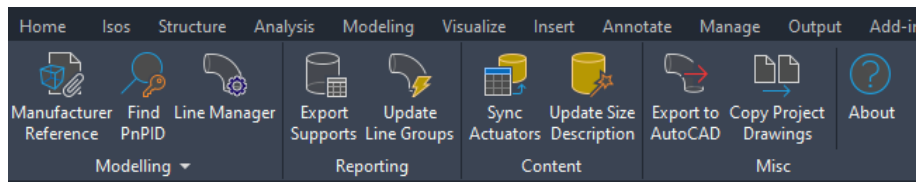
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1 INTRODUCTION



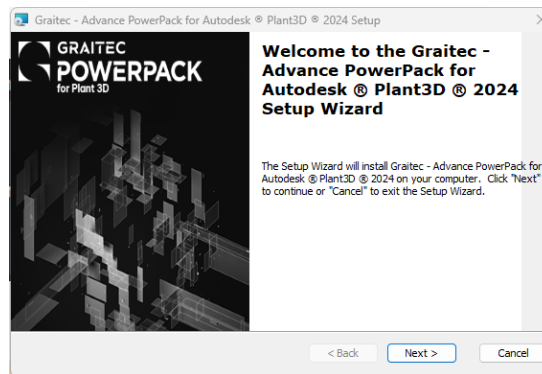
PowerPack for Plant 3D is a collection of add-ons for Plant 3D that will either fill gaps in the standard tools, simplify a current function or extend its capabilities. We are now pleased to announce that is available to all in the now 2024.1.1 version. This version supports both Plant 2023 and 2024. We have fixed a bug which caused Plant 3D to appear unresponsive, whilst processing P&IDs on large projects. We have also address some performance issues that were slowing Autodesk Plant 3D down.



1.1 INSTALLATION

The installation consists of a single .msi file.

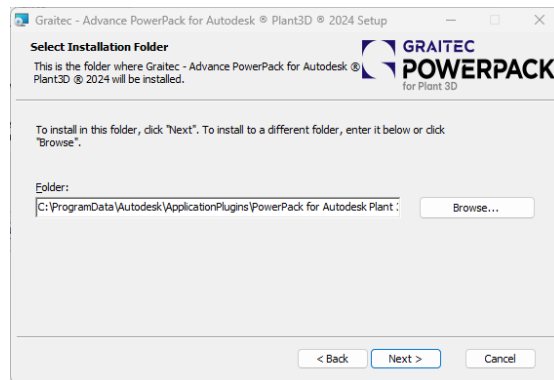
To install, double-click on the PowerPack for Plant 3D msi file.



Click next to proceed to the license agreement.



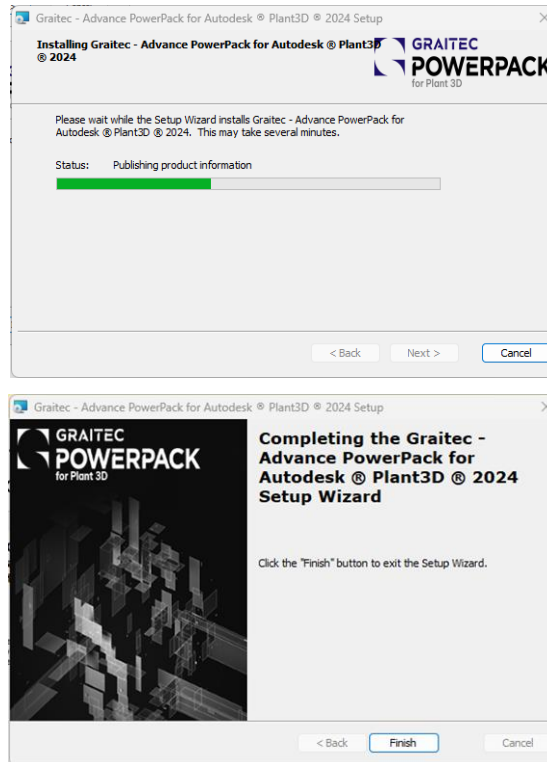
Click to accept the license agreement, then click next to proceed.



Accept the default install location or choose a different of your choice, then click next.



You have the option to click back and review your settings before clicking install. Once ready click Install.



The Install process will begin, you can monitor its progress with the status bar. Once the installation has completed click finish to complete the installation.

1.2 LICENSING GUI UPDATES

For the 2024.1.1 version there is an update to the GUI of the licensing process, the process is the same as previous versions, in that you will need your license number and activation codes, that are distributed to you via Graitec.

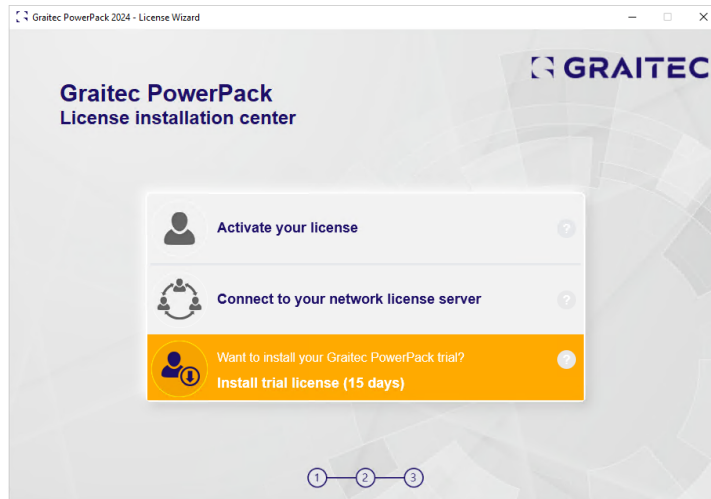
At the activation of any command within the Powerpack the user will now be greeted with the new licensing pop-up dialog, the enhancements seen here are an opportunity to set the tone for a positive journey on Graitec products and empowering you with an intuitive and user-friendly interface.

The License Wizard automatically pops up once any command in the Powerpack is opened and no license has yet been activated. It's the perfect setup to either:

1. Give the PowerPack a try by installing the free Trial version. The full product version will be available to you for 15 days once you fill out the registration form.
2. Activate the product if you already have a license with Serial Number and Activation Code.

1. Activating a Trial License

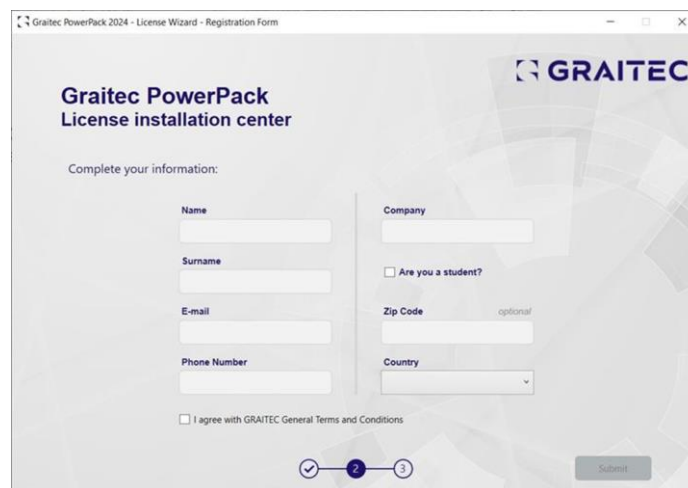
At the opening of the License Wizard, the user will see the default condition selected under the options available, the option is highlighted in Amber and is related to selecting the Graitec PowerPack trial, selecting this option with then move forward to a second popup to:



Trial license highlighted first step. 2024.1.1

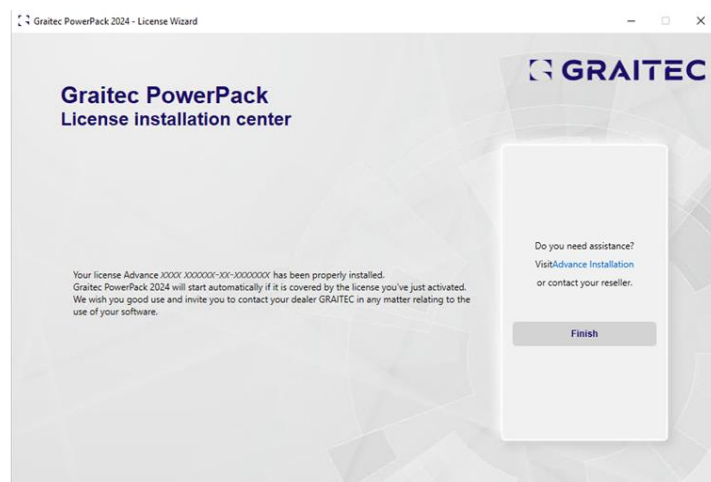
The user will then be prompted to:

- Give the PowerPack a try by installing the free Trial version. The full product version will be available to you for 15 days once you fill out the registration form.



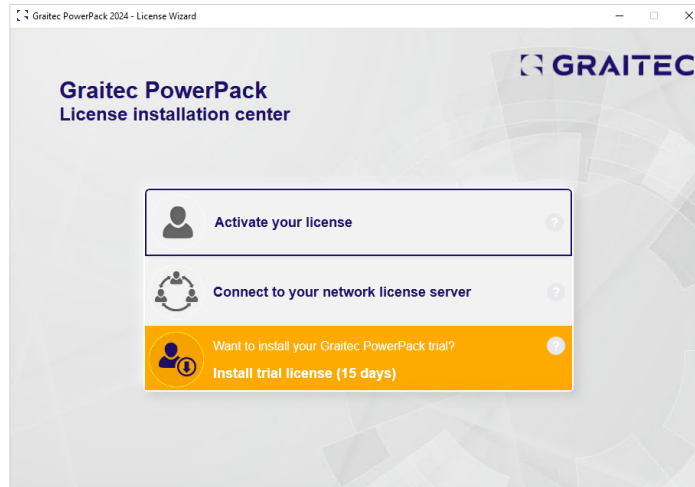
Trial License Registration form

The process will complete with a confirmation pop-up at the end of the activation process.



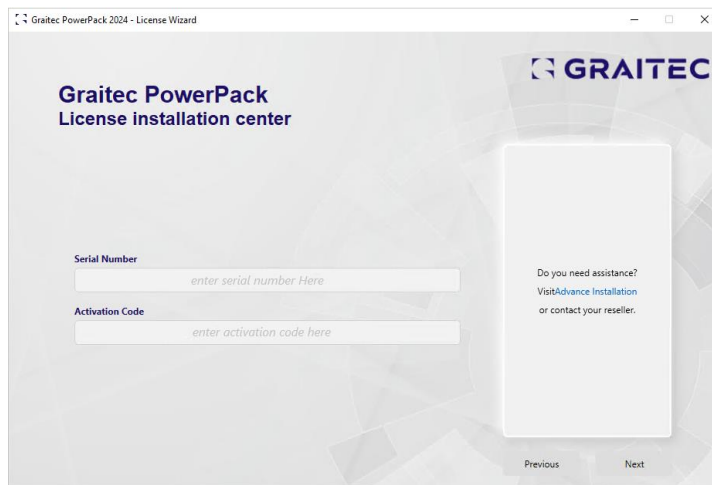
2. Activate your license

This option is for users you have received their Serial number and Activation code from Graitec, select this from the first popup, by changing from the Trial license option previously mentioned.



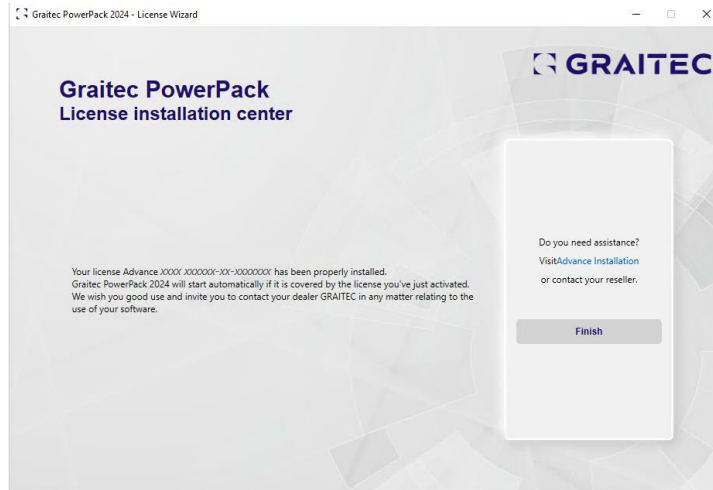
Activate license: select this option to move into activation process

The next dialog appears to enter you license details, copy the information from the Graitec entitlement email.



New Licensing pop up second Step entering licence details

The process will complete, and you will then receive a confirmation pop-up at the end of the activation process.

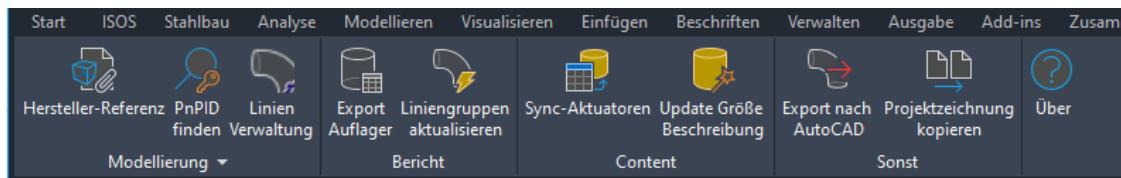


*New Licensing pop up
License activation installed notification*

The Powerpack license process is now complete, and you may start to use the tools available.

1.3 RIBBON LANGUAGE

In PowerPack for Plant3D 2024.1.1 the Ribbon is now available in multiple Languages. The Language of the Ribbon is based on the Install language of Plant 3D. The ribbon will automatically change to the language version of the Install.



2 EXPORT SUPPORTS

Create more accurate pipe support take-offs based on real model parameters.

Command Line = exportsupports.

2.1 DESCRIPTION

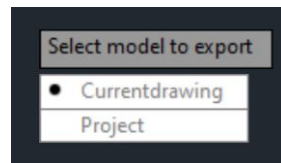
Exports pipe supports from a drawing or project to an Excel spreadsheet with a thumbnail and model dimensions. Supports drawn by the same script are listed on the same tab, and all dimensions are included. Included columns are Part Family Long Description, Short Description, Item Code, Line Number, Drawing Name, Support Detail, and then a column for each geometric parameter².

2.1.1 How it works

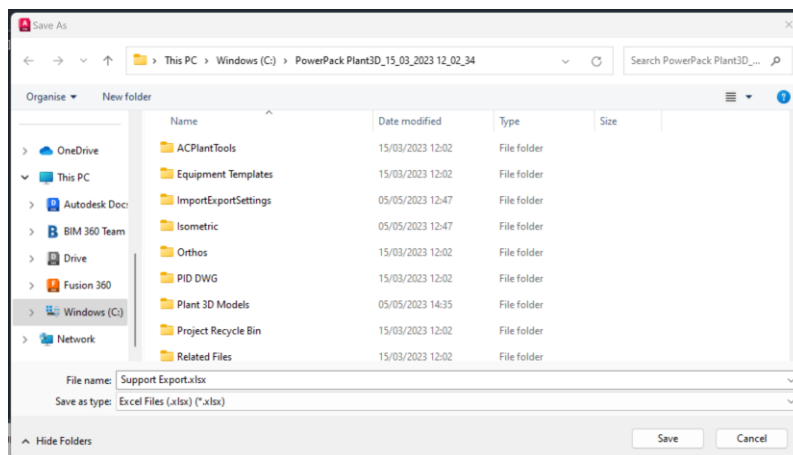


Click on the Export Supports command in the Reporting tab of the PowerPack ribbon.

You will be prompted to choose whether you want to export just from the Current drawing or from the entire Project.



You will then be asked for a location to save the exported excel file.



Once created the excel file will automatically open.

3 COPY PROJECT DRAWINGS

Save designer time by batch transfer drawings between projects.

Command Line = copyprojectdrawings.

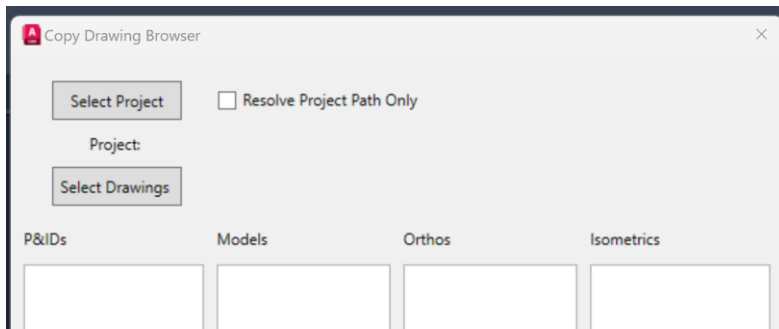
3.1 DESCRIPTION

Allows copying all project files with folder structure. Isometrics are also copied. Attempts to locate based on paths stored in project database and relative paths.

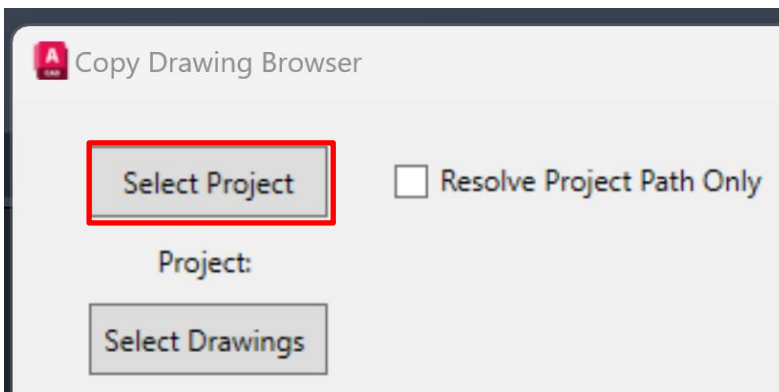
3.1.1 How it Works



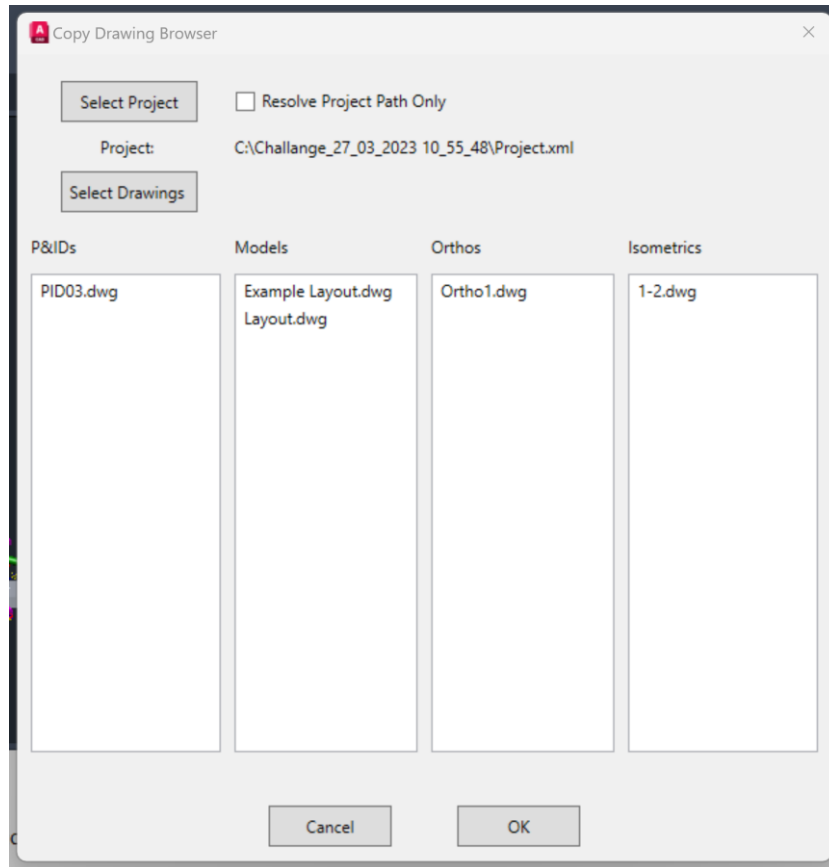
Click on the Copy Project Drawings icon on the Misc tab of the PowerPack Ribbon. This will Launch the Copy Drawing Browser.



You will first need to select the project that you want to copy the drawings from.



Once you have a project selected you can use the Select Drawings button, to copy P&IDs, Models, Orthos or Isometrics to your current project.



Once you have selected all the drawing that you would like to copy click OK to finish. An excel spreadsheet will be generated to show the drawings that have been copied and any errors that may occur during the transfer. The most common issue is transferring drawings with different units.

4 EXPORT TO AUTOCAD

Batch export all project files to native AutoCAD objects instead of opening/right-clicking each file. Scheduling the process enables a hands-off creation on a consistent basis saving designer time.

Command Line = exporttoautocad.

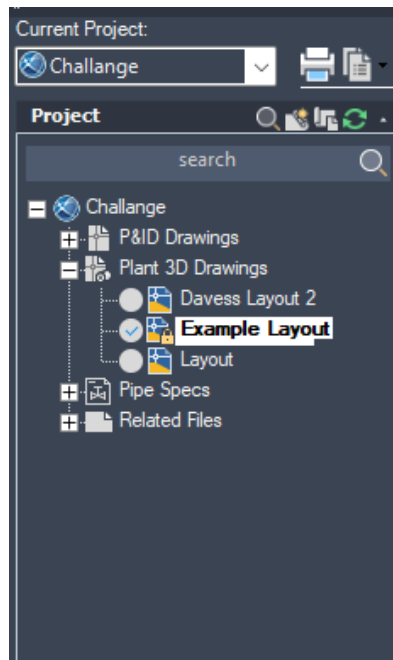
4.1 DESCRIPTION

Export to AutoCAD will process all project files and save them to the same folder as the original file with the “_acad” appended to the file name. More options available via command arguments for task scheduler.

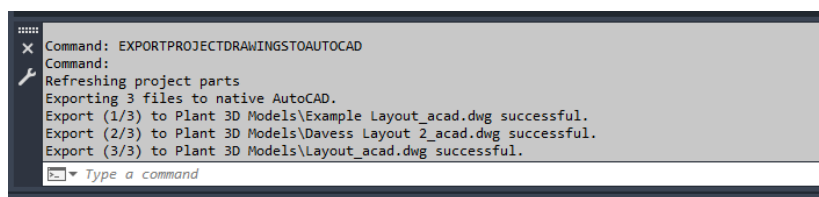
4.1.1 How it works



Clicking the Export to AutoCAD will automatically batch export all project drawing to plain AutoCAD. If a drawing has been previously exported, it will be automatically overwritten.



The command line will report any issues when exporting the drawings.



5 SYNC ACTUATORS

Sync spec operators back to their source catalogs avoiding manually re-adding affected valves.

Command Line = syncspecoperatorstocatalog.

5.1 DESCRIPTION

Process all valves in a spec and updated the assigned operator to match the source catalog.

5.1.1 How it Works



When run the command will ask you to first select the Spec sheet .pspx followed by the catalogue .pcat. The command line will report back how many valves have been updated.

```
Updated 0 valve sizes.  
Command:  
Command:  
Command: SYNCSPECOPERATORSTOCATALOG  
Command:  
Updating C:\AutoCAD Plant 3D 2023 Content\CPak Common\CustomPartsSpecs\CustomParts Imperial.psp  
Updated 0 valve sizes.  
Type a command
```

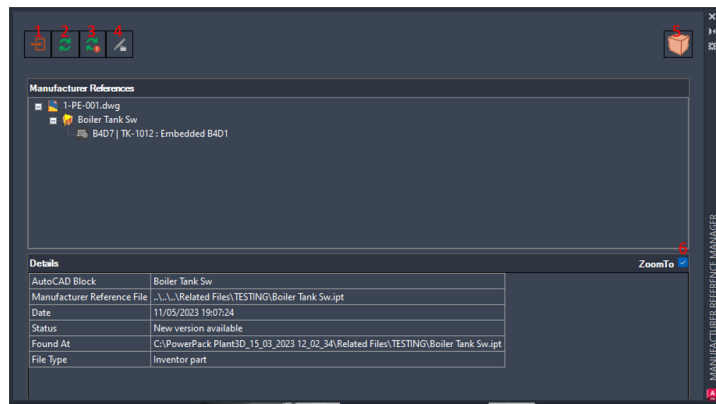
6 MANUFACTURER REFERENCE

Keep projects more closely connected between AutoCAD and Inventor/solidworks/catia by reloading files when they change.

Command Line = mref.

6.1 DESCRIPTION

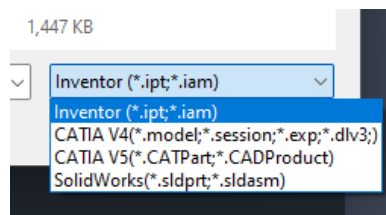
6.1.1 How it Works



1. Import a new manufacturer block.
2. Update all manufacturer blocks.
3. Update only the selected manufacturer block.
4. Locate missing source file for selected manufacturer block.
5. Replace an AutoCAD Block with a Manufacturer reference.
6. Auto zoom to selected block.

6.1.2 Import a New Manufacturer block

Clicking on the Import new Manufacturer Block button will open a browser window. Available file formats include. Inventor, Catia and Solidworks,



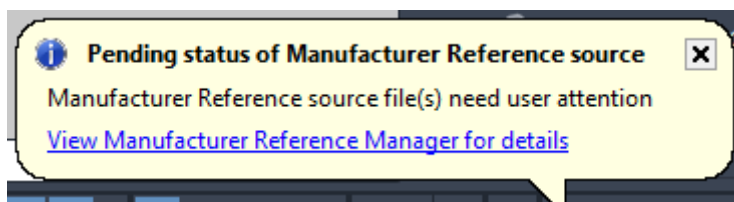
Once selected the Model will be placed into the Plant 3D project at the insertion point from the imported model. The location and rotation of the model can then be updated. You can then run the convert equipment as normal. This will only need to be done once as the Manufacturer Reference will allow of updating of the geometry without losing the equipment data.

6.1.3 Updating Manufacturer Reference



Buttons 2 and 3 allow for updating of the Manufacturer Reference. Pressing Update all will check all reference to see if and Update is available (2). Alternatively, you can select one or more references and force a check just on these models (3).

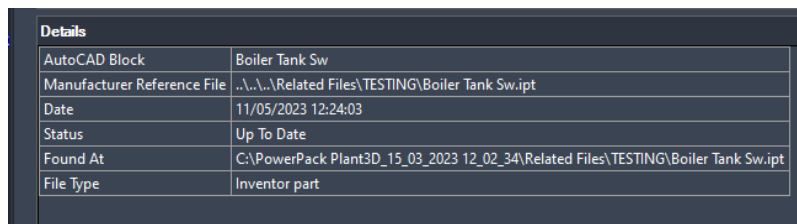
Each time a model is opened the PowerPack will check all Manufacturer references and display the below message to notify the user that updates are available.



It is possible to check the status of any reference by selecting it in the Manufacturer Reference Dialogue.



The status of the reference is seen in the “Status” Section under details. Below after and update.



6.1.4 Updating Missing Source Files



If a source is moved or deleted, then the status of the file will be set to unknown. Selecting the missing reference will activate the Locate Manufacturer Reference File (4).



Clicking this button will allow you to search for the File and update its location.

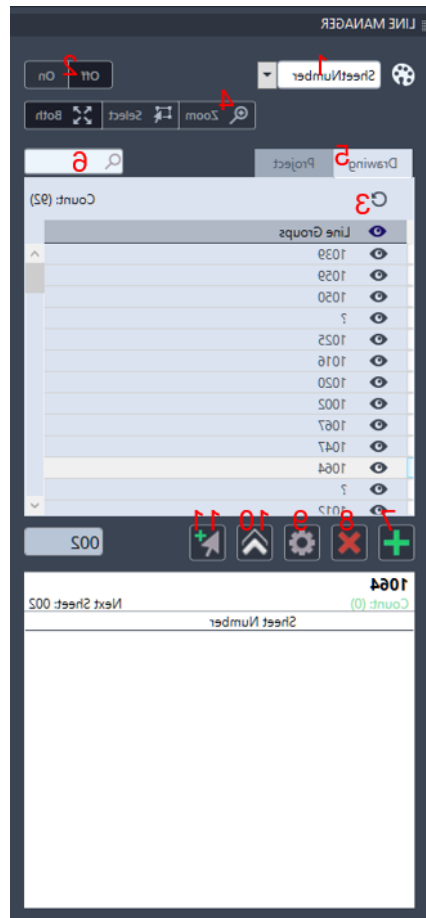
7 LINE MANAGER

Currently, users have very little control over iso sheet numbering. Plant 3D will auto-split them up, or the users can manually assign spool numbers in a model which is tedious and time consuming. Users often resort to control iso sheets by modifying the line group tag to include the sheet number wanted so that they can get consistency out of the product.

The Line Manager is a tool for interrogating a model to identify line numbers and quickly breaking down the Line groups to more manageable sizes.

Command Line = linemanager.

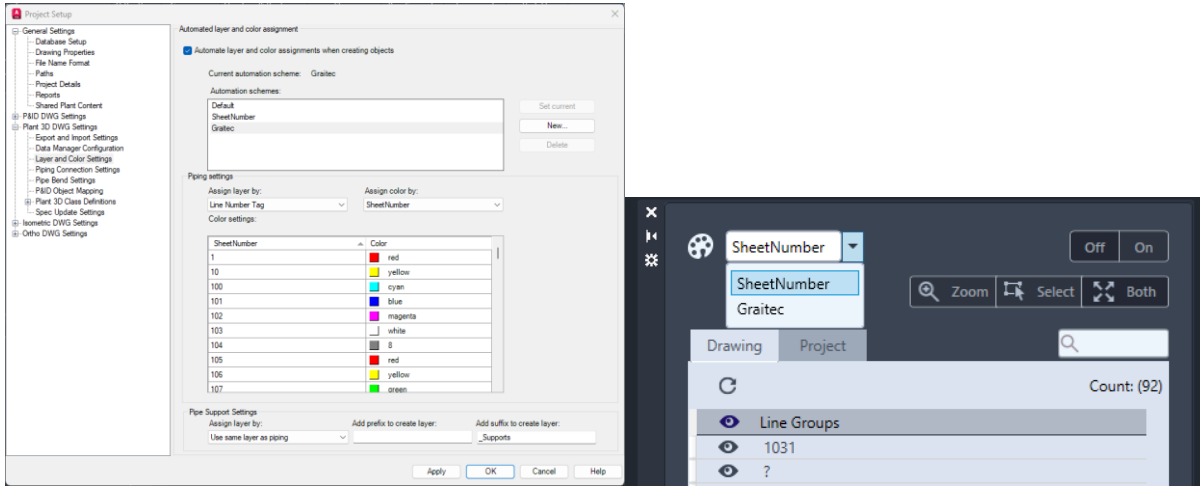
7.1 LINE MANAGER PALLETTE



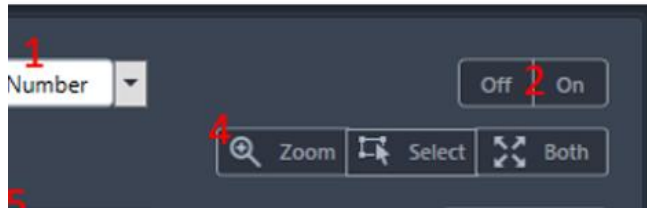
1. Colour Scheme allows users to switch between colour schemes applied to the current model. The selectable options will be defined in the project setup and are stored in the piping database.
2. Turn Colour scheme on or off for the current drawing.
3. Isolate/Un-Isolate selected line group.
4. Allows the user to Zoom to selected line group, Select selected line group of both.
5. Choose between showing line group for the whole project or just the current Drawing
6. Line group search box
7. Add Elements to sheet.
8. Remove Sheet.
9. Configuration
10. Create ISO
11. AutoSheet

7.2 COLOUR SCHEME(1)

The colour scheme dropdown allows users to select which colour scheme to use when adding sheet number in the line manager. Available colour schemes are added under project setup “Plant 3D DWG Settings/Layer and Color Settings”. Only colour schemes that have the colour assigned by Sheet Number will be shown.



7.3 TURN COLOUR SCHEME ON AND OFF(2)

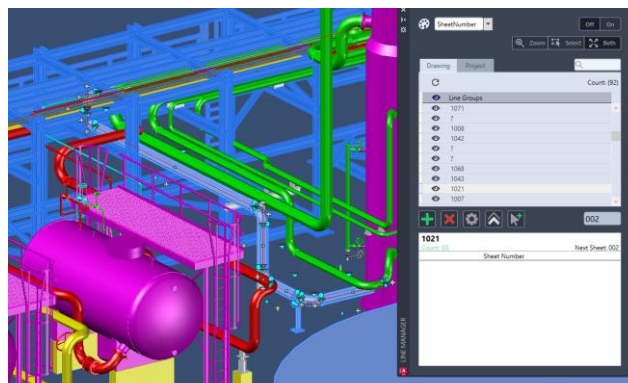


The on off toggle will allow the user to change the colour scheme back to layer settings and not the sheets assigned colour settings.

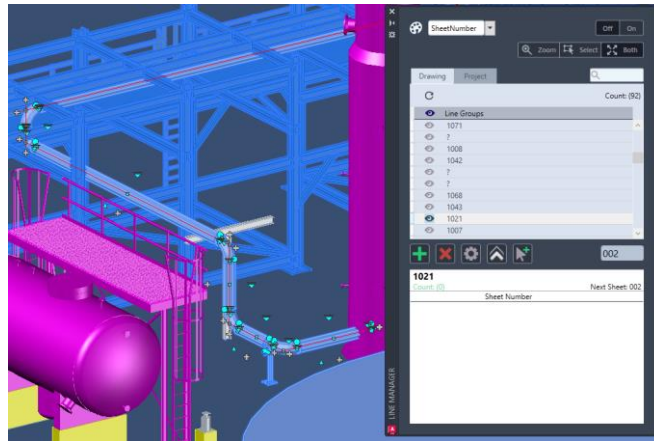
7.4 ISOLATE/UN-ISOLATE(3)

When you have selected a Line Group, sometimes it is necessary to Isolate it as other elements maybe blocking a clear view of the selected elements. This is where the isolate function becomes very useful.

In the blow example line group 1021 has been selected.



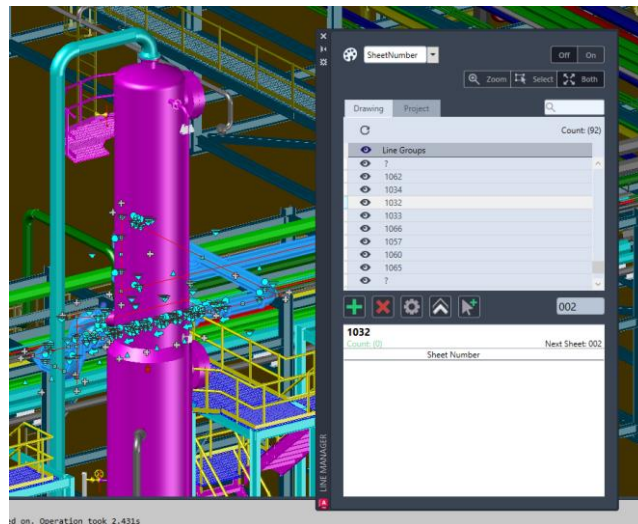
Part of the selection is obscured by other pipes. Clicking the Isolate button hides the other Line Groups.



Clicking on other greyed out line groups will turn them back on. To turn all groups back on click the Isolate icon at the top of the list next to Line Groups.

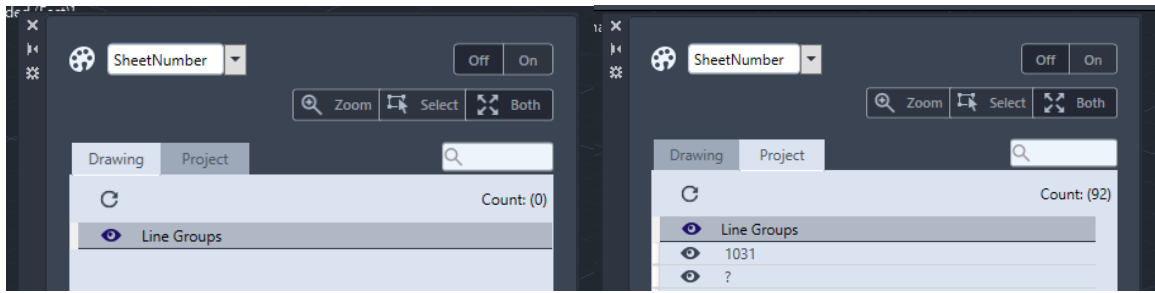
7.5 SELECTION MODE(4)

Selection mode, when selecting a line group in the list there are 3 selection modes. “Zoom”, this will zoom in to the line group, “Select”, this will select the elements in the line group, but will not zoom in to the line group, or “Both”, this will zoom and select the entire line group.



7.6 DRAWING/PROJECT(5)

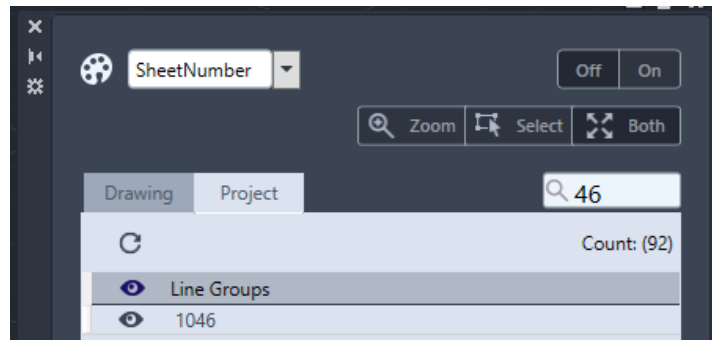
If you have line groups across multiple drawings you have the ability to switch between searching just the current drawing or the entire project, ion the example below I have selected a drawing with no Line Groups, changing the option to Project shows all Line Groups



Notice the count has changed from 0 to 92.

7.7 SEARCH(6)

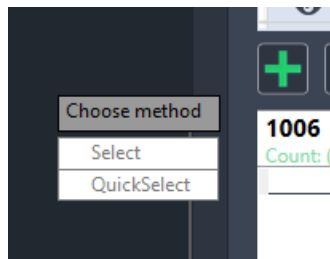
If you already know the number or part of the number of the Line Group you are looking for you can type the number into the search.



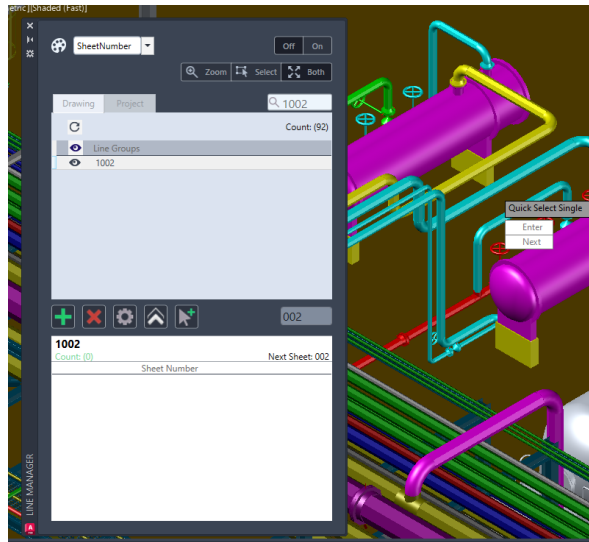
All Line Groups containing the search string will be displayed. The search string will search either the Current Drawing or the entire Project depending on what the current option is set Drawing/Project(5).

7.8 ADD DRAWING(7)

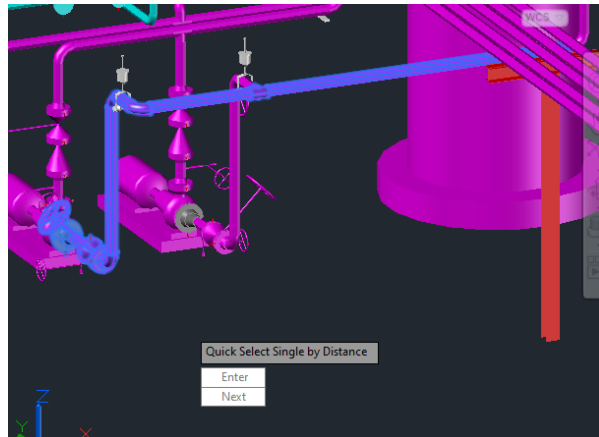
With a line group selected it is possible to add a sheet number. By clicking the Green Plus you will be given the option to “Select” the entire Line Group or “Quick Select” which will allow you to select part of the Line Group. This is very useful in the Line group is very long allowing for betting fabrication drawings.



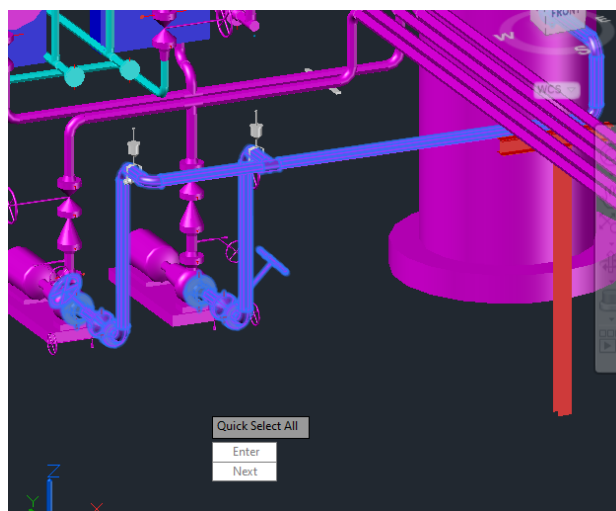
“Select will select all elements in the line Group. “Quick Select” will let you select an single element in the Line Group, on first click it will trace back to the nearest piece of equipment, using the next option will cycle though other routing options until the enter option is selected.



First click selecting pipe to vessel.

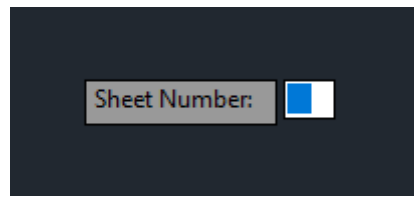


Clicking next a second time reverses the direction of the selection, tracing it back to the pump.

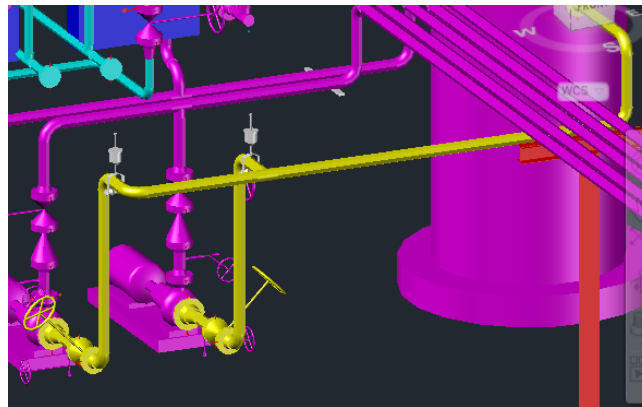


Clicking next a few more times will cycle through all selection options eventually selecting the entire pipeline.

Once you are happy with your selection click “enter” to finish, you will then be prompted for a sheet number.

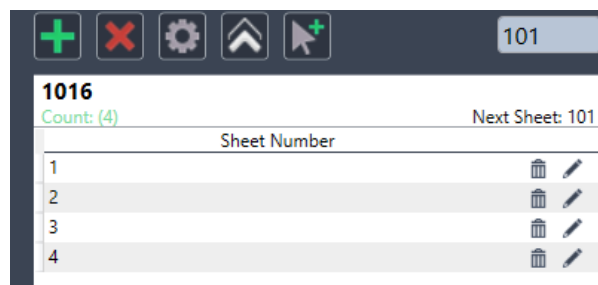


Enter a sheet number and press enter. If you have the colour scheme turned on the line items will change colour based on the selected Sheet Number Colour scheme.

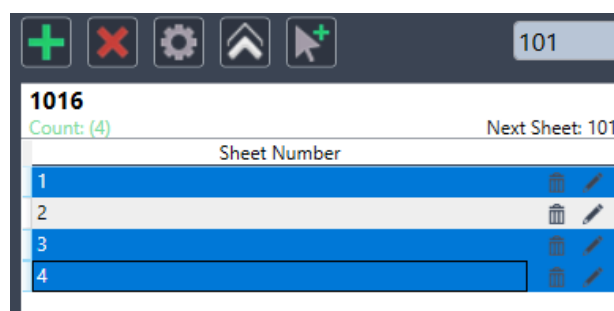


7.9 DELETING SHEETS / MODIFYING SHEETS(8)

Created Sheets can be modified using the “Pencil” icon. If you need to delete a sheet this can be done by highlighting the sheet and clicking the “Trash Can”.

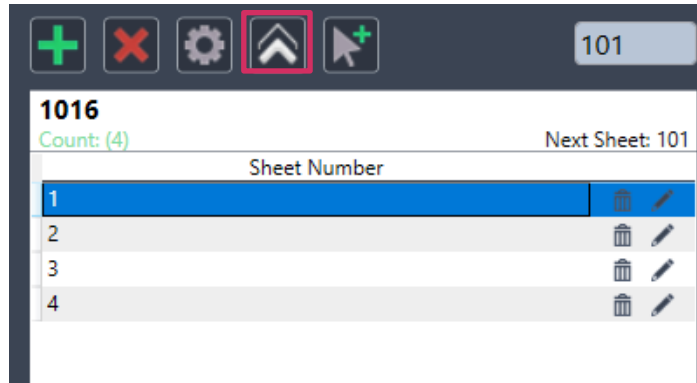


Multiple Sheets can be selected at the same time and Delete using the “Red X”.

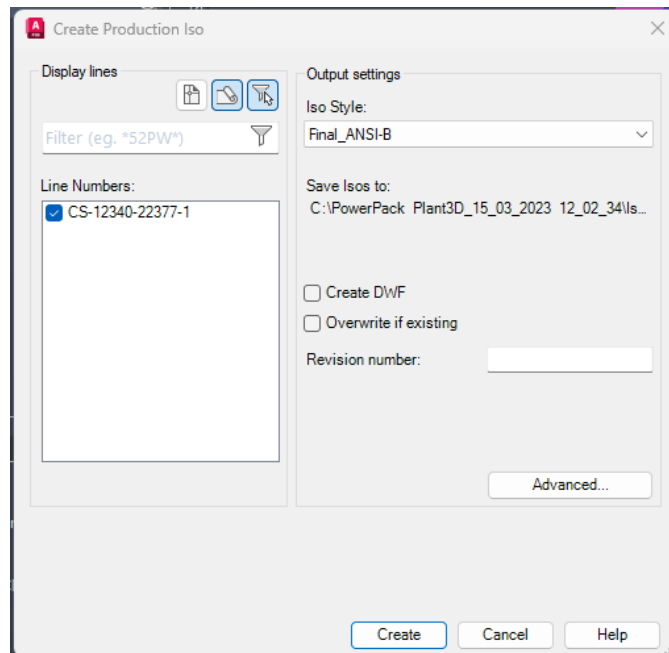


7.10 CREATING ISO's(9)

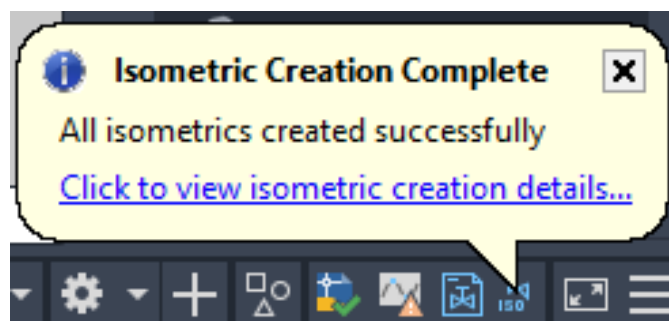
Select a drawing then click the Create Iso Button,



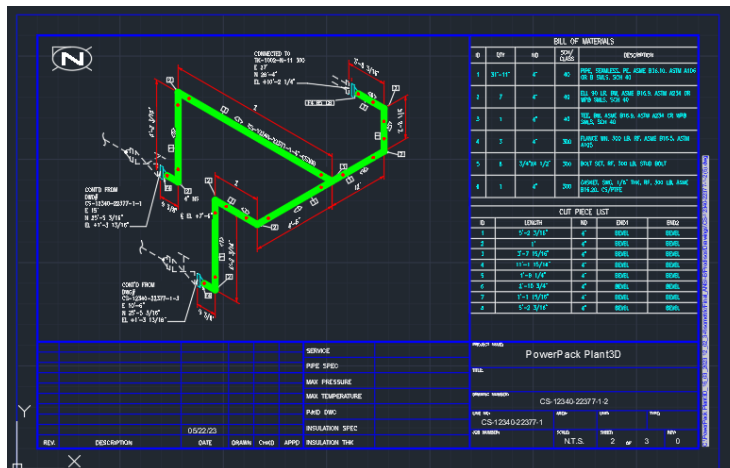
This will automatically launch the “Create Production ISO” tool.



Select your ISO Style and click “Create”, Drawings can then be viewed in the usual way once the notification appears in Plant 3D.

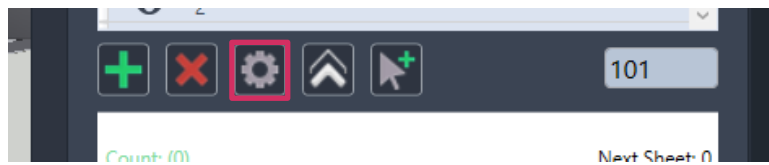


Here is the created output for the example we have used in this document.

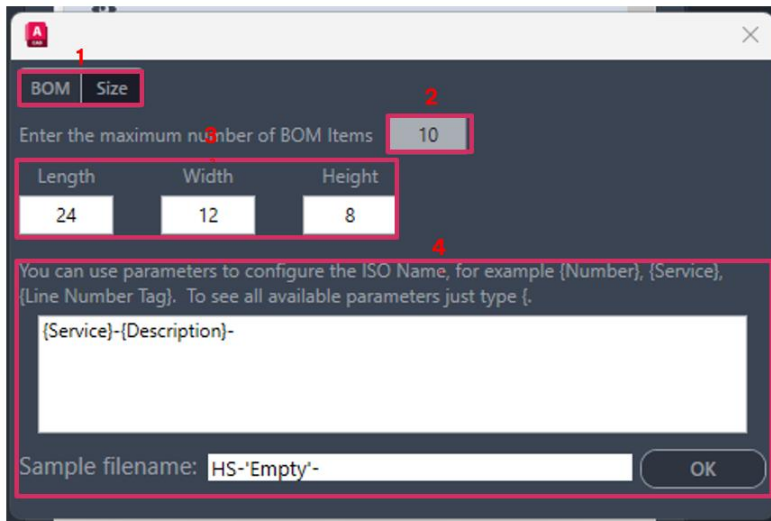


7.11 CONFIGURATION

A configuration button has been added to the Line Manger interface.



Clicking on the Cog will launch the configuration window.

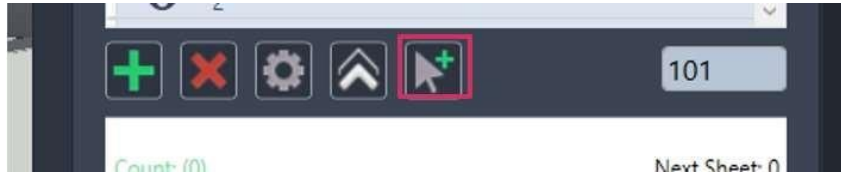


There are several sections in the Configuration Panel.

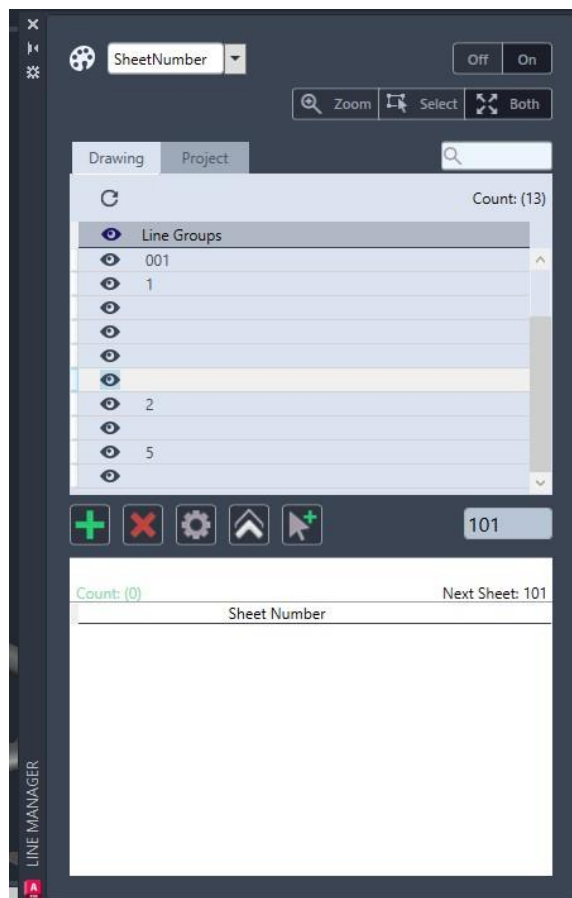
1. BOM/Size relates to the new Autosheet function (Feature Description Below) and allows the user to specify the method used when splitting pipe runs.
2. If Autosheet is using the BOM Method, the maximum number of items in the split
3. If Autosheet is using Size, what is the maximum size for the Split Length/Width/Height
4. ISO naming configuration. Typing the { bracket, will display a list of parameters to choice from. An example of the name will be displayed in the Sample filename dialog

7.12 AUTOSHEET

A new tool has been created to control how Line Groups are broken down into Sheets. Line Groups can now be split by BOM (Bill of Material) numbers or by size. Both Options are configured using the new Configuration tool Mentioned above.

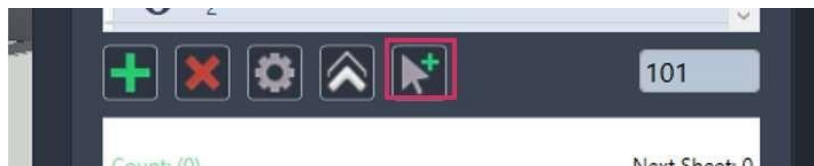


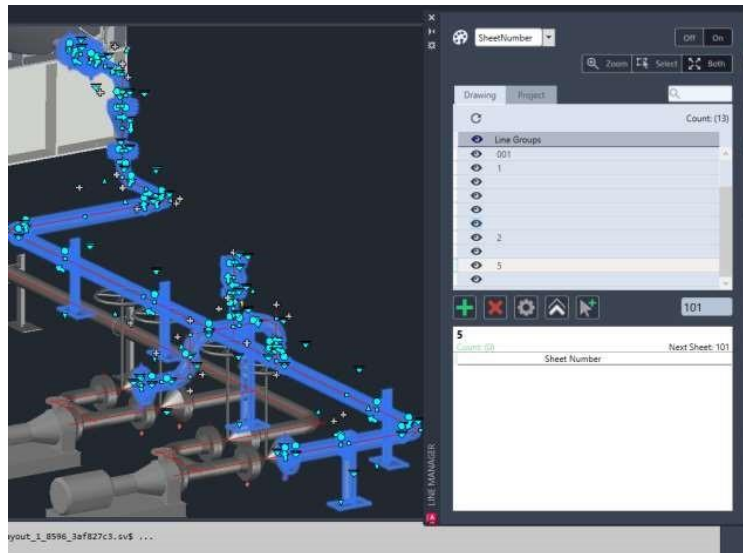
AutoSheet functionality allows for Automatic breakdown of the Line groups in a more controlled manner and is similar to the add sheet function.



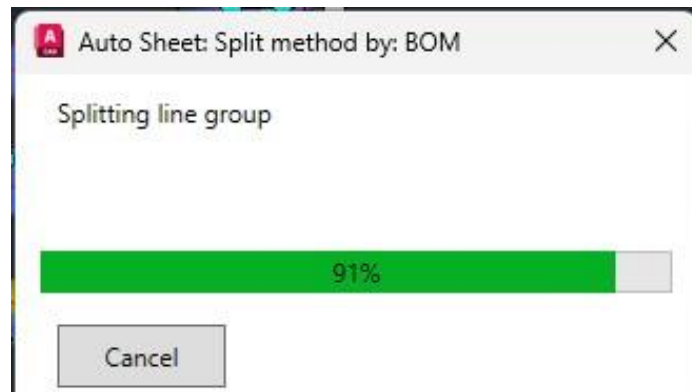
Before using Autosheet, use the configuration button to determine if you are going to split the Line Group by BOM or size. See the configuration tool above.

Now select the line group you want to split and click the Autosheet button.

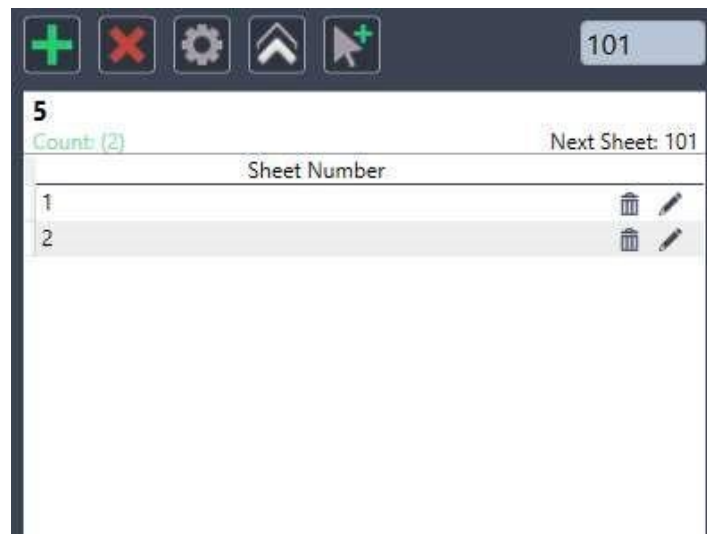




When you choose a splitting method, a corresponding dialog will appear.



In this case, 2 Sheets were auto-created for Line Group 5.



This tool can save hours of manual work by breaking models down into manageable fabrication sizes.

8 UPDATE LINE GROUP

Gain time lost to data entry by populating nominal size and spec properties in P&IDs and 3d models.
 Command Line = `updatelinegroupdefaults`.

8.1 DESCRIPTION

Fill in nominal size and nominal spec for line groups based on the longest line segment in a P&ID and the largest, longest pipe in a 3d model. Will auto-run when a drawing is open in a project to update blank line groups.

8.1.1 How it Works



As mentioned above this command will automatically run when opening a project. But can also be run manually by clicking the icon located on the reporting tab on the PowerPack Ribbon.

Number	Nominal Spec	Nominal Size	Service	Description	Insulation Thickness	Insulation Type	Comment	Locked Line Status	Lock Change By	Lock Change At	Tag
1526			CWR	PPE LINE GROUP				Unlocked			1526
1527			CWR	PPE LINE GROUP				Unlocked			1527
1528			CWS	PPE LINE GROUP				Unlocked			1528
1529			CWS	PPE LINE GROUP				Unlocked			1529
1530			SW	PPE LINE GROUP				Unlocked			1530
1531			PW	PPE LINE GROUP				Unlocked			1531
1532			CWS	PPE LINE GROUP				Unlocked			1532
1533			CWS	PPE LINE GROUP				Unlocked			1533
1534								Unlocked			1534
1535								Unlocked			1535
1536			P	PPE LINE GROUP				Unlocked			1536
1539			P	PPE LINE GROUP				Unlocked			1539
1540			P	PPE LINE GROUP				Unlocked			1540
1541			CWS	PPE LINE GROUP				Unlocked			1541
1542			CWS	PPE LINE GROUP				Unlocked			1542
1543			CWR	PPE LINE GROUP				Unlocked			1543
1544			P	PPE LINE GROUP				Unlocked			1544
1545			P	PPE LINE GROUP				Unlocked			1545
1546								Unlocked			1546
1547			P	PPE LINE GROUP				Unlocked			1547
1548			P	PPE LINE GROUP				Unlocked			1548
1549			P	PPE LINE GROUP				Unlocked			1549
1550			BFW	PPE LINE GROUP				Unlocked			1550
1551			BFW	PPE LINE GROUP				Unlocked			1551
1552			BFW	PPE LINE GROUP				Unlocked			1552
1553			BFW	PPE LINE GROUP				Unlocked			1553
1554			BFW	PPE LINE GROUP				Unlocked			1554
1555			P	PPE LINE GROUP				Unlocked			1555
1556			P	PPE LINE GROUP				Unlocked			1556

The changes can be seen in the Data Manager, Nominal Spec and Nominal Size, will be updated.

Number	Nominal Spec	Nominal Size	Service	Description	Insulation Thickness	Insulation Type	Comment	Locked Line Status	Lock Change By	Lock Change At	Tag
1526	CS150	12"	CWR	PPE LINE GROUP				Unlocked			1526
1527	CS150	12"	CWR	PPE LINE GROUP				Unlocked			1527
1528	CS150	8"	CWS	PPE LINE GROUP				Unlocked			1528
1529	CS150	12"	CWS	PPE LINE GROUP				Unlocked			1529
1530	CS300	6"	SW	PPE LINE GROUP				Unlocked			1530
1531	CS300	4"	PW	PPE LINE GROUP				Unlocked			1531
1532	CS150	12"	CWS	PPE LINE GROUP				Unlocked			1532
1533	CS150	10"	CWS	PPE LINE GROUP				Unlocked			1533
1534	CS150	4"						Unlocked			1534
1535	CS300	10"						Unlocked			1535
1536	CS300	4"	P	PPE LINE GROUP				Unlocked			1536
1539	CS300	4"	P	PPE LINE GROUP				Unlocked			1539
1540	CS300	4"	P	PPE LINE GROUP				Unlocked			1540
1541	CS300	4"	CWS	PPE LINE GROUP				Unlocked			1541
1542	CS300	3"	CWS	PPE LINE GROUP				Unlocked			1542
1543	CS300	3"	CWR	PPE LINE GROUP				Unlocked			1543
1544	CS300	3"	P	PPE LINE GROUP				Unlocked			1544
1545	CS300	3"	P	PPE LINE GROUP				Unlocked			1545
1546	CS300	3"						Unlocked			1546
1547	CS300	3"	P	PPE LINE GROUP				Unlocked			1547
1548	CS300	4"	P	PPE LINE GROUP				Unlocked			1548
1549	CS300	4"	P	PPE LINE GROUP				Unlocked			1549
1550	CS300	4"	BFW	PPE LINE GROUP				Unlocked			1550
1551	CS300	4"	BFW	PPE LINE GROUP				Unlocked			1551
1552	CS300	4"	BFW	PPE LINE GROUP				Unlocked			1552
1553	CS300	4"	BFW	PPE LINE GROUP				Unlocked			1553
1554	CS300	4"	BFW	PPE LINE GROUP				Unlocked			1554
1555	CS300	4"	P	PPE LINE GROUP				Unlocked			1555
1556	CS300	4"	P	PPE LINE GROUP				Unlocked			1556

9 COMMAND LINE ONLY FUNCTIONS

As well as the Functions available on the PowerPack Ribbon, several features are available in only in the command Line.

9.1 CHECK OUT CLOUD PROJECT SETUP (CHECKOUTCLOUDPROJECTSETUP)

Make project changes with the project setup dialog closed, so that the normal locking process doesn't prevent editing files.

On a Collaboration project, notifies the Plant 3d service that the project setup is checked out to a user.

9.2 CHECK IN CLOUD PROJECT SETUP (CHECKINCLOUDPROJECTSETUP)

Updates the cloud data services with local changes to the project.

On a collaboration project, notifies the cloud service to upload the current project and merge it with the cloud project configuration.

9.3 PURGE PNP STYLES (PURGEPNPSTYLES)

Clear out corrupt embedded DWG information to allow fixing data within in a model as if copying from a new project.

Removes named object dictionaries related to plant 3d so that they are forced to be created from scratch when copying or opening the drawing.

9.4 CACHE PROJECT FILES (CACHEPROJECTFILES)

Some workflows required up to date data from BIM 360 and manually checking out/updating all files is a tedious process.

Downloads all files and databases from BIM 360/ACC in the currently active plant 3d project.

10 UPDATE SIZE DESCRIPTION

The Part Size Long Description property is used during the part substitution process but filling it out can take many hours (days) of extra typing.

Command Line = updatepartsizealongdesc.

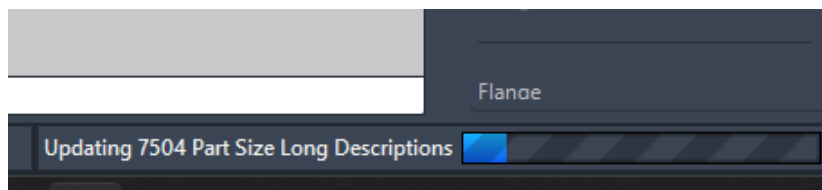
10.1 DESCRIPTION

Loops through a catalog and prepends the partsize long description based on the port sizes and part family long description. A 2" valve with the family description "BALL VALVE, FL 150 RF" would get "2" BALL VALVE, FL 150 RF". This works for reducing items as well.

10.1.1 How it Works



When the command is run a browser window appears where you can select the Plant 3D catalogue.



In the above example Over 7000 items are checked and updated where available. The number refers to the number of items in the selected catalogue.



10.2 ENHANCEMENTS

Along with the new functionality, several functions have been enhanced based on customer feedback.

10.2.1 Line Manager Colour Scheme

Line Manager Colour Scheme has been turned off by default. The colour scheme now only works in the model view and does not affect ISO's.

10.2.2 Copy Project Drawing

If no Drawings are selected after a project to copy drawings from has been defined. All drawings from the selected project will be copied.

10.2.3 Line Manager Scroll Bar

A scroll bar has been added to the line manager to better understand the total number of Line Groups. This is very useful when there is a large amount of un-named Line Groups.

10.2.4 Tag Field in Pipe Support Export

An additional column for the support TAG has been added to the Export Pipe Supports. This means it is very easy to identify the support in the Model when cross-referencing it against the Excel file.