GstarCAD 2022 vs AutoCAD 2022

GstarCAD 2022

GstarCAD

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1. Comprehensive Evaluation

➤ GstarCAD 2022 provides a light installation package which is easy to install and boot. However, AutoCAD 2022 installs a large number of additional programs which boot slowly and occupy a lot of system resources.

➤ GstarCAD develops dozens of innovative features which can double the design efficiency for specific operations, but lacks parametric constraints, 3D rendering, etc. The functional richness of GstarCAD 2022 is equivalent to AutoCAD 2022.

➤ GstarCAD provides free training, technical support and solutions and comprehensive localization services, while AutoCAD services are provided by distributors and need to be purchased separately by users.

➤ GstarCAD not only supports the subscription, but also provides perpetual license with a lower price, while AutoCAD only supports subscription with a higher price and you have to pay for it annually.

➤ GstarCAD provides flexible licensing. Choosing stand-alone or network depends on your working environment, while AutoCAD does not support network so the floating license is impossible. That means the staffs have to own a license no matter the roles in the company, as long as you have the requirement to use CAD, you have to buy one.

2. Compatibility

GstarCAD drawing file and data are compatible with AutoCAD perfectly. GstarCAD can open the drawing with latest 2018 DWG/DXF file format, and is compatible with AutoCAD2.5-2022 versions. To open a drawing created by AutoCAD, you don't need any conversion, GstarCAD realizes both sides compatible with AutoCAD.

In order to ensure the drawing display and printing effect are consistent with AutoCAD, GstarCAD is compatible with AutoCAD kinds of data files, font file (*.shx), line type file (*.lin), hatch pattern file (*.pat), alias name file (*.pgp), sheetset file (*.dst), slide file(*.sld), script file(*.scr) and so on.

GstarCAD LISP、VBA、SDS、GRX interface is compatible with AutoCAD perfectly. The tools and plug-ins in AutoCAD can be transferred to GstarCAD platform easily.

The main compatible file formats and application development interface comparison:

Item	GstarCAD 2022
2.5-2018 version DWG/DXF	√
Template file (*.DWT)	√
Standard file (*.DWS)	√
Interface file (*.CUI/*.CUIX)	√
Old menu file (*.MNU)	√
Sheet set file （*.dst）	√
Hatch file （*.pat）	√
Font file （*.shx）	√
Linetype file （*.lin）	√
Alias file （*.pgp）	√
Script file （*.scr）	√
Print style file(*.CTB/*.STB)	√
LISP development interface	√
VBA development interface	√
Class ARX development interface	√
.net development interface	√

3. GstarCAD Innovative Features

Comparing the two software by features. GstarCAD not only has all common functions of AutoCAD, but also customized a large number of unique functions according to user needs. At present, GstarCAD only lacks parametric constraints and 3D rendering but the overall richness of GstarCAD features are comparable to AutoCAD.

The innovative features of GstarCAD:

GstarCAD Innovative Features

Features	Description
ALIGNTOOL	Allow you to align the selected objects along the X or Y axis coordinates.
AREATABLE	Automatically dimension and count the area of an enclosed object and export the result to a table in the current drawing area.
ARRANGETOOL	Adjust the arrangement of multiple objects. It can align multiple objects left, right, top, bottom and center and can also arrange vertical or laterally.
Attribute Increment (ATTINC)	Specify attribute of blocks with incremental value, and to modify attribute value of blocks according to the sort method.
AUTOLAYER	Customize and predefine the associated layer of a command to streamline drafting workflow.
AUTOXLSTABLE	Allow to insert excel, and static block quantity, area and length and auto update the data according to the changes of the object.
BARCODE	Allows inserting the barcode to objects to corresponding paper documents and electronic drawing file.
Batch Print(BP)	Batch Print the drawing frames by pages.
Batch Purge (BATPURGE)	Batch purge the redundant blocks, layers, linetype, dimensions and text, etc in drawings.
BLOCKBREAK	Allow you to wipeout or break an object that is overlapped by a reference block.
BREAKOBJECT	Break the intersected lines and allows you to set the gap value.
CAD table to EXCEL (GC_CTE)	Convert sheets, composed by line/Spline and text/Mtext in CAD, to EXCEL.
Change Base	Move the base point and keep objects staying in same position, or move objects and keep base point staying in same position.
CIRCLE(C) Parameter	CIRCLE(C) parameter; Draw multiple concentric circles with one radius.
Define Layout Viewport from Model Space （M2LVPORT）	Create a viewport on layout space by selecting objects in the model space.
Dimension Coordinate (DIMCORD)	Mark X, Y coordinate values of the point.

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Distance from Endpoint Snap	Allows to sap a certain distance from any endpoint of objects and the distance value can be modified at status bar at any time.
Divide Segments Snap	Allows snap the divided segment points of objects and the divided segment number can be modified at any time.
Drawing Lock (LOCKUP)	When locked, the drawing is not allowed to be modified.
Export Coordinate (COEXPORT)	Export the coordinate of the picking point to txt or xls files.
FILLET(I) Invert Parameter	Create a reverse fillet by this option.
Frame Automatically (FRAMEAR)	Multiply frame the drawings to print.
FREESCALE	Scale an object without restrictions under three modes; Non-Uniform, Rectangle and Free.
Graphic Compare (OCMP)	Compare graphic of two groups of objects or two files.
GstarCAD tools (12 functions)	Allow you to quickly draw the industry drawings with GstarCAD tools
Layer Draw Order (LAYDRAWORDER)	Change the order of the layers by bringing to front or sending to back.
MAGNIFIER	View a specific area of your drawing as a magnifier with the capability of snap points without performing zoom in/out on big drawings.
Total Area (MEASUREGEOM)	After selecting multiple closed regions, the sum area value can be shown in the command line.
Total Length (MEASUREGEOM)	Inquire total length of the selected lines.
OFFSET(B) Both Sides	Offset to both side, no need to operate twice.
OUTLINE	Generate the outline by clicking the closed region.
Pline Boolean (GC_BOOLOP)	Operate the closed pline with union, intersection and subtraction.
Print PLT(PRINTPLT)	Print the generated PLT file.
QRCODE	Extract data or input data to generate QRcode which can be scanned by mobile device to obtain data.
Rapid Distance	Measure distance and angle between 2D objects along X, Y axis rapidly by moving your mouse.
RECTANGLE(O) Parameter	RECTANGLE(O) parameter, Draw an rotate rectangle with (O)option
Region Scale (REGSCALE)	Select a region of a drawing to be cut and copied to a new location.
ROTATE（Multiple）Parameter	Copy many objects with different rotate angles, or draw circles array.
Spline to Pline (Sptpl)	Convert spline to polyline according to the accuracy (number of segments of the arc) that the user assigns.
Statistics Summation (KLL01)	Sum up the selected text or Mtext.

Symmetric Draw	Directly draw symmetrical shapes, it can omit the operation of the mirror.
Text Incremental Copy (GC_dztext)	Accomplish kinds of incremental methods for text.
TEXTALIGN	Align text along X or Y coordinates, or along a line of specific direction.
TEXTMATCH	Match both text and Mtext attributes in the current drawing, avoiding select and edit text attributes one by one.
TEXTONLINE	Distribute the text uniformly along a selected spline, polyline or arc. It can also create text online quickly for multiple curves.
WIPEOUT (supports circle and arc)	Generate wipeout by clicking circle or a pline object contains arcs.
……	

Besides developed plenty of innovative features, GstarCAD has improved the basic operations in order to simplify the operation steps. For example, Adds the angle parameter to line and spline, when drawing an object, you can not only set the value between object and X axis, but also allows to set the angle parameter between the selected line and the previous line; Adds the concentraic circle and rotated rectangle; Adds multiple copy in rotate command, realize the copy rotate and circle array; Adds divided by segment and distance from endpoint, layout by path, etc. to accomplish the liner array. As well as supports invert fillet option in fillet command.

Although GstarCAD lacks some features that AutoCAD supports, eg, parameter constraint, 3D rendering, etc, the abundant features are as rich as AutoCAD, especially for the regular features, GstarCAD is richer than AutoCAD to enhance your drawing efficiency.

4. GstarCAD Innovative Features Brief Introduction

From the list comparison above, we know GstarCAD has a lot of advantages compared with AutoCAD. For detailed introduction you can click Help tab or press F1 and found "Innovative Features", as shown below.
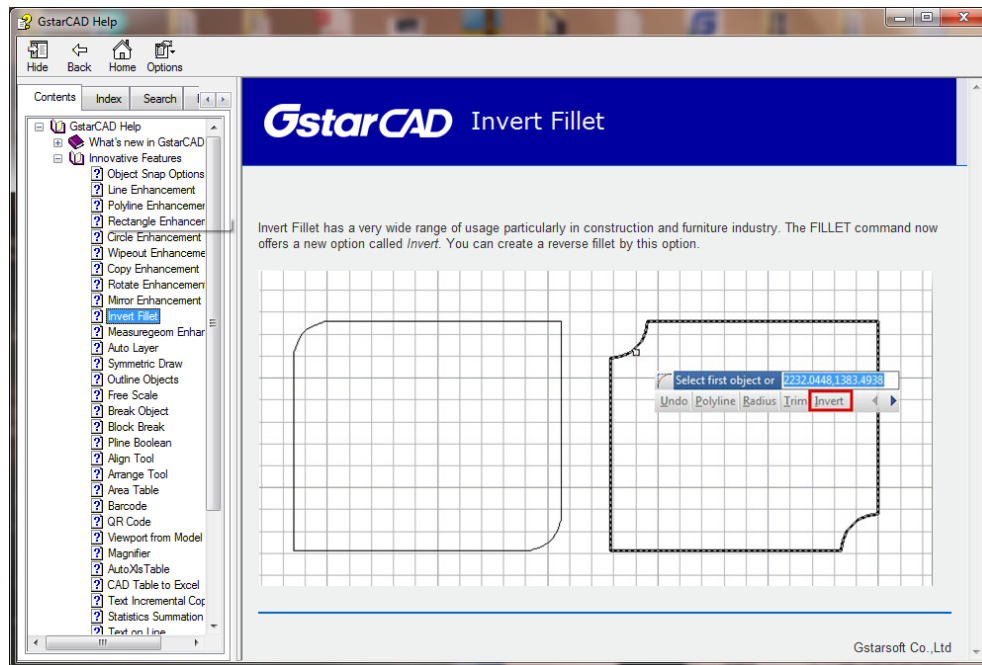

## Introduction for several main innovative features below:

● FREESCALE

FREESCALE command scales an object without restrictions under three modes; Non-Uniform, Rectangle and Free.

✓ The Non-uniform scale allows scaling X and Y coordinate axis separately.

✓ The RectScale allows scaling an object to match a rectangle frame. The rectangle does not need to be drawn, just specify two diagonal points.

✓ The FreeScale allows moving or copy and scale objects in a closed quadrilateral frame to another closed quadrilateral frame, which can be used to generate a tilting hatch pattern or perspective distortion graphic.
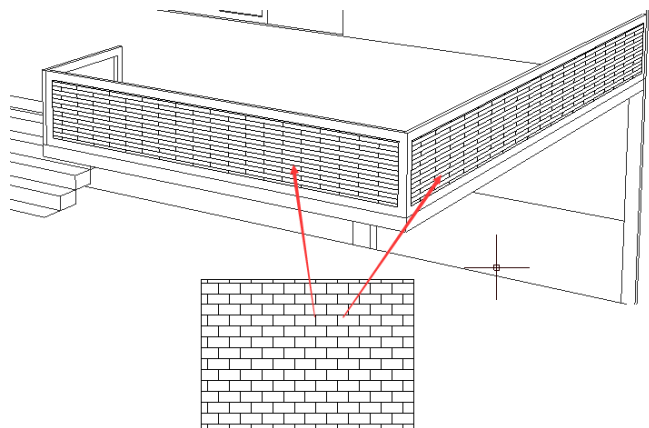
- Define Layout Viewport from Model Space (M2LVPORT)

M2LVPORT command creates a viewport on layout space by selecting objects in the model space. And then calculate the viewport size according to the set scale and locate the viewport in the layout space. You can quickly create and set a viewport of the current drawing. This command can be quickly invoked on the right-click menu of the model/layout tab.
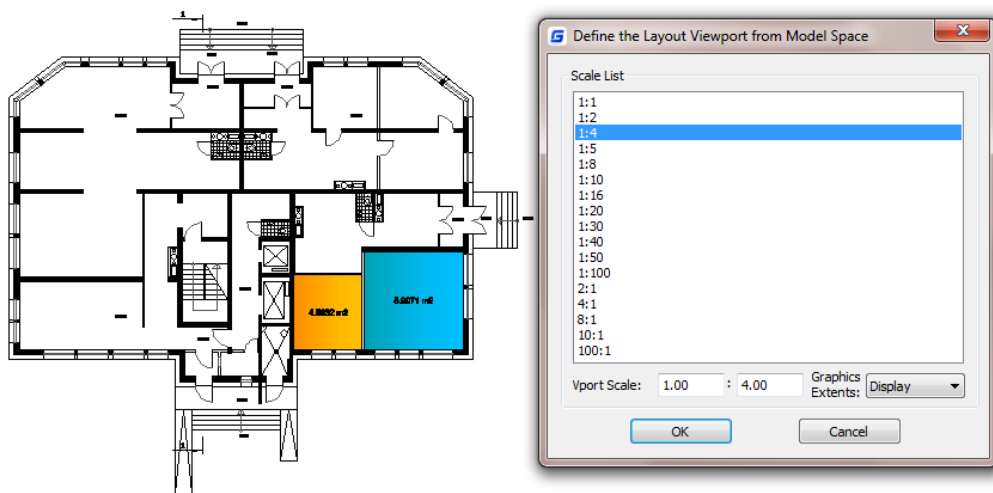
- Auto Layer （AUTOLAYER）

AUTOLAYER command allows you to customize and predefine the associated layer of a command to streamline drafting workflow.You can create as many layers as you want.   Each layer created must be a predefined command, which you can name its layer, select layer color, linetype and lineweight. After you execute the predefined command, its layer will be generated automatically. You can save, load and clear all layer settings from the AUTOLAYER dialog box. You can enable or disable the AUTOLAYER option from the status bar.
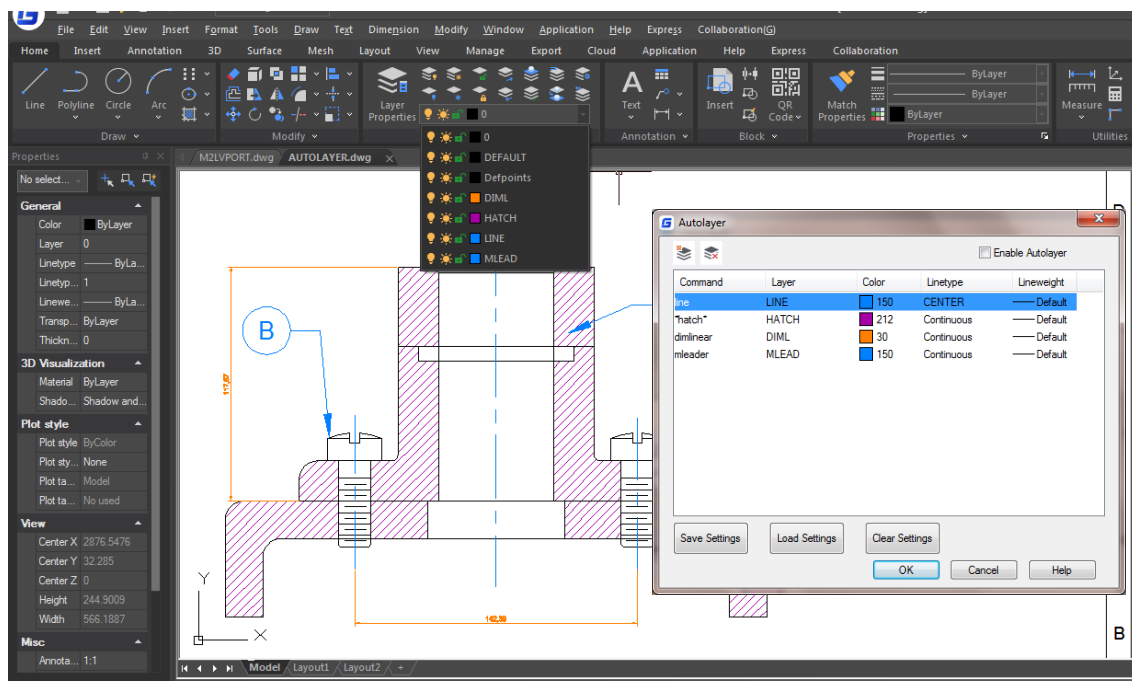
● Area Table （AREATABLE）

AREATABLE command can automatically dimension and count the area of an enclosed object and export the result to a table in the current drawing area.

➢ The enclosed area or object can be marked with a number or area symbol, and the area table data can be generated at the same time.

➢ The area data can be exported to a text or table file.

➢ The values in the table can be changed automatically when the number or area size is changed.
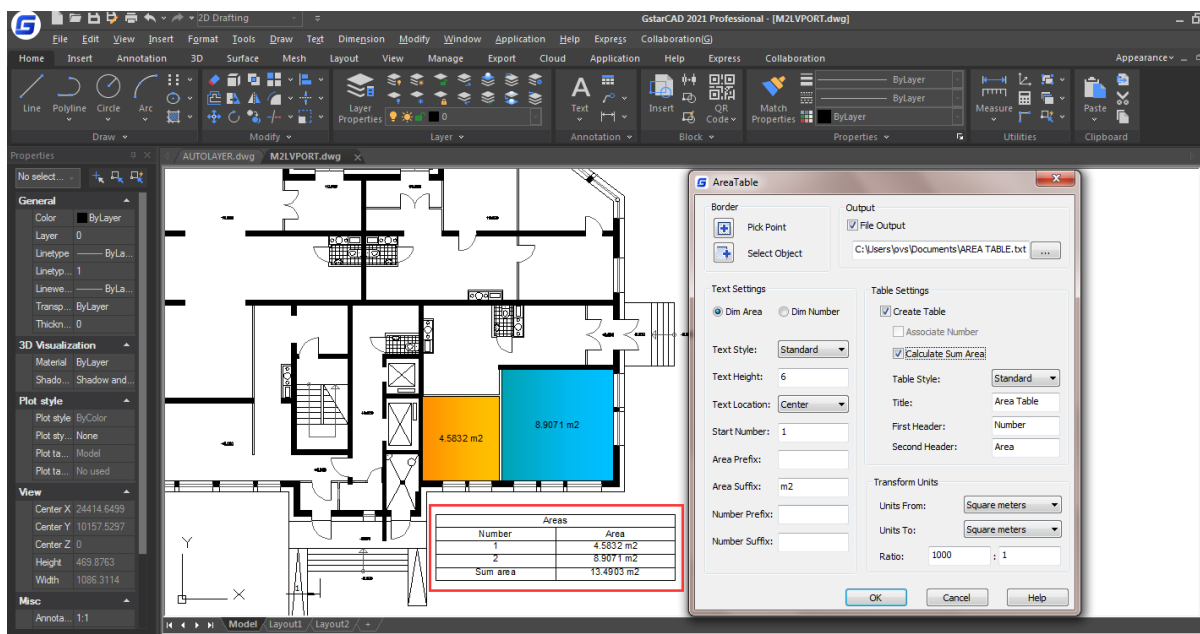
● AutoXLS Table Tools

AutoXLS Table Tools can not only create and edit Excel table and insert to GstarCAD. But also can update table whose original Excel spreadsheet was modified and manage the link relation between a table object and an external EXCEL file.
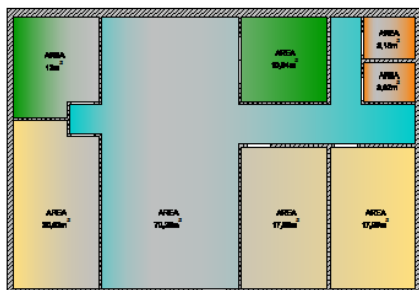
- **Attribute Increment (ATTINC)**

ATTINC command helps to specify attribute of blocks with incremental value, and to modify attribute value of blocks according to the sort method. This command can increase block attribute value that contains a number or letter. When ATTINC command is on, as long as the drawing is not closed, when copying, inserting and deleting a block attribute in the drawing, the property number or letter can be updated automatically.
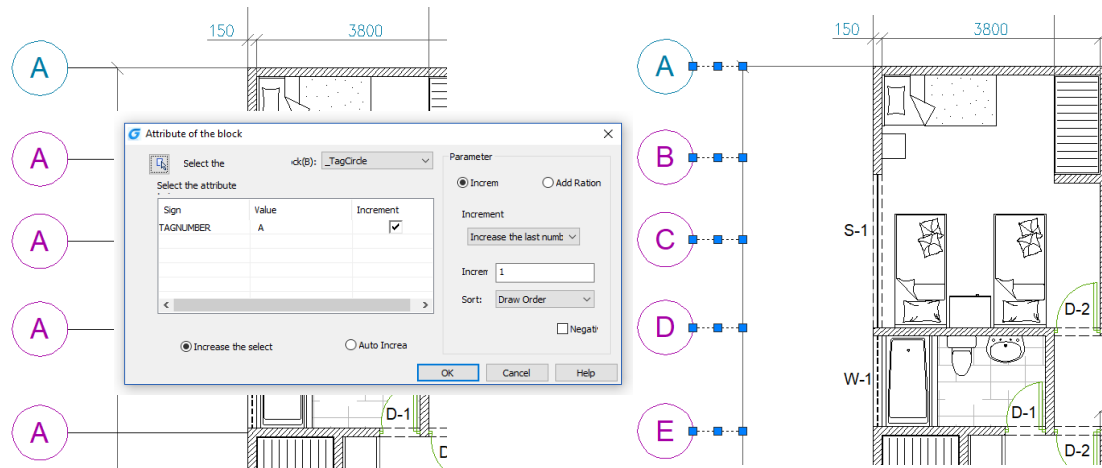

- **Symmetric Draw**

No matter it is AEC or MFG industry, there are many symmetric drawing shapes. The usual way to make a symmetric shape is to draw the first half of the shape and then get another symmetric half by copy or mirror.
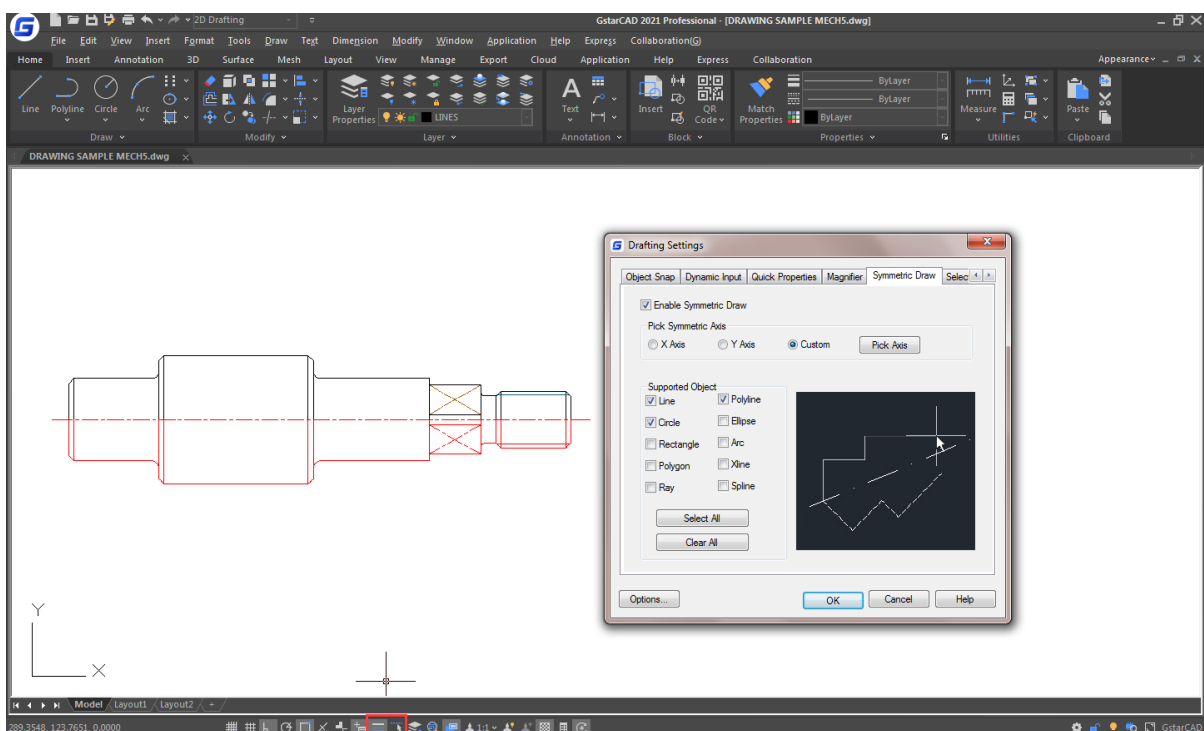
- Outline Objects (OUTLINE)

Outline Objects tool allows you to extract the outline shape of selected closed objects in a window selection method. This outlined shape is in fact a polyline object created on the current layer that you are working with.

For example, use this tool extract the outline shape of a floor plant house to later calculate its total area or to reference draw the roof of it.
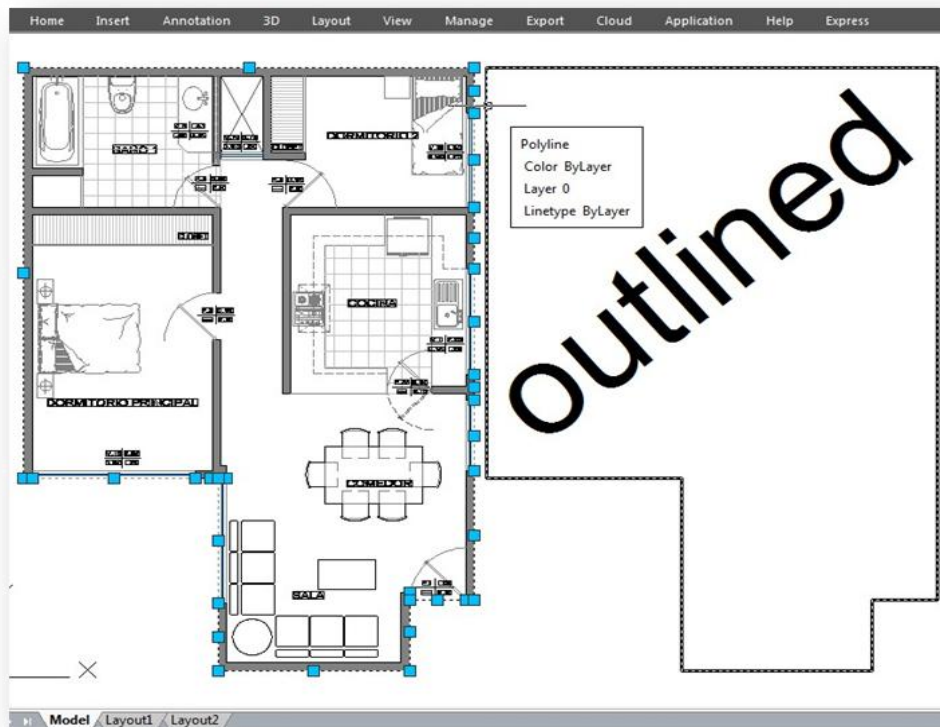
- **Block Break (**BLOCKBREAK**)**

Working with block references that represent symbols are essential in some industrial application drawings like electrical schematics, piping, etc.

But a headache comes when trying to place these blocks accurately overlapping or even breaking other objects on your drawing.

Now get rid of this headache with BLOCKBREAK command. This innovative tool is able to wipeout or breaks an object that is overlapped by a reference block.

For example, in some cases we may need to insert block symbols into a cable line in electrical schematic. And normally the cable line is required to be broken by the symbols at where the symbols are inserted. Similar request also exists in other application designs.
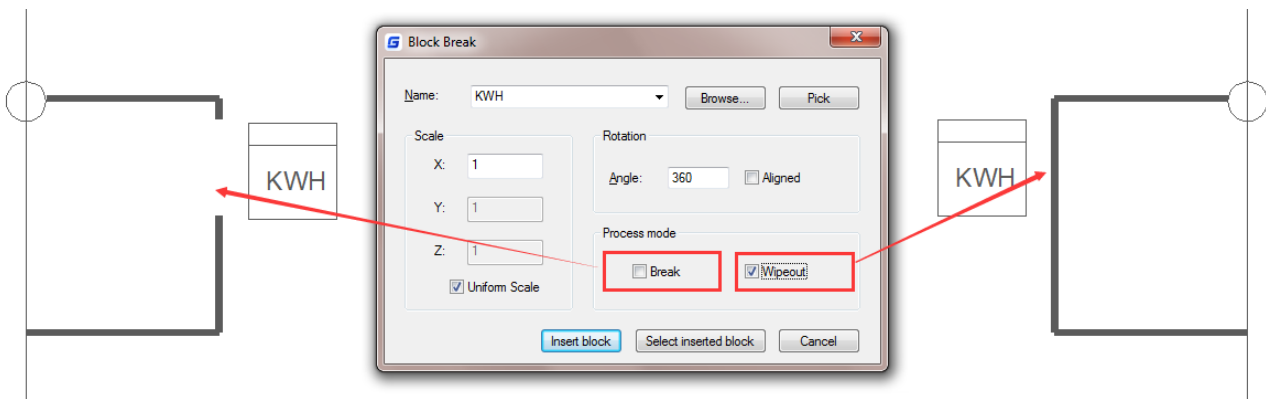
- **Object Snap Options**

Within Object Snap tab, you can find the option called *Distance from Endpoint*. This option allows snap a certain distance from any endpoint of objects like line, arc, spline, pline, ellipse arc, mline and any other lines. As long as you pass the cursor over an object from its endpoints, you will see a green snap point at accurate distance.
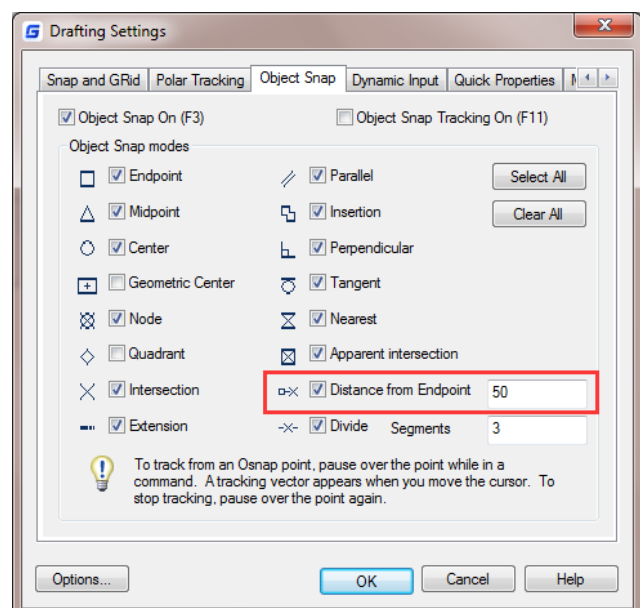
- **Divide Segments**

Divide Segments allows snap the divided segment points of objects like line, arc, spline, pline, ellipse arc, mline and any other lines. Before, if you want to find the divide point, first you need to generate the divided points object, then snap those points to draw. Now as long as you pass the cursor over an object mentioned above, you will see a green snap point at accurate distance.
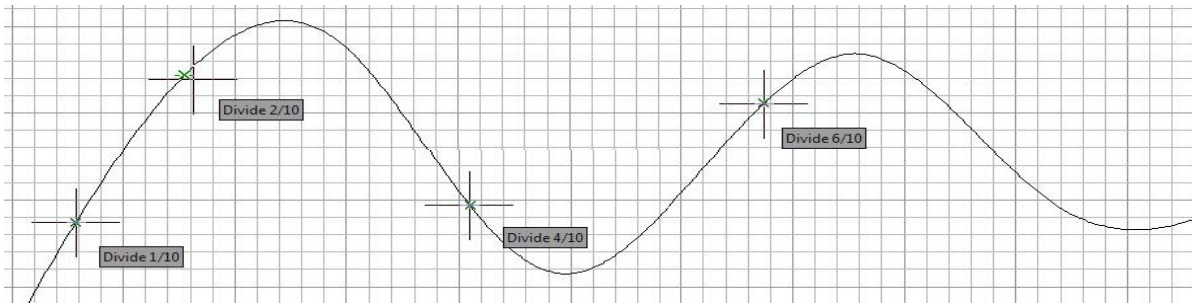

- **Align Tool (ALIGNTOOL)**

Simple and practical tool, allows to align selected objects such as: rectangle, circle, line, spline, arc, pline, block and even 3D model objects along the X or Y axis coordinates, avoiding performing select and move commands. This tool has different alignment methods, including an offset option for each axis and can be combined as well.
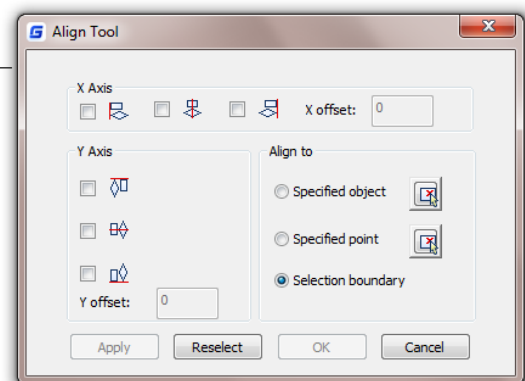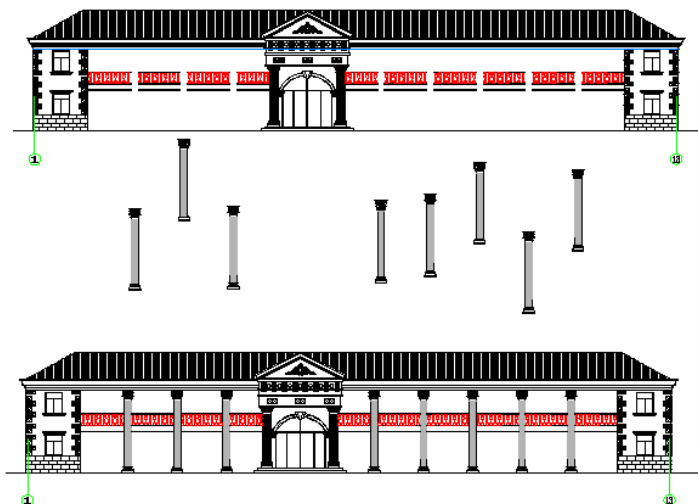
- ArrangeTool (ARRANGETOOL)

Arrange Tool can quickly adjust the arrangement of multiple objects. It can align multiple objects left, right, top, bottom and center and can also arrange them vertically or laterally.
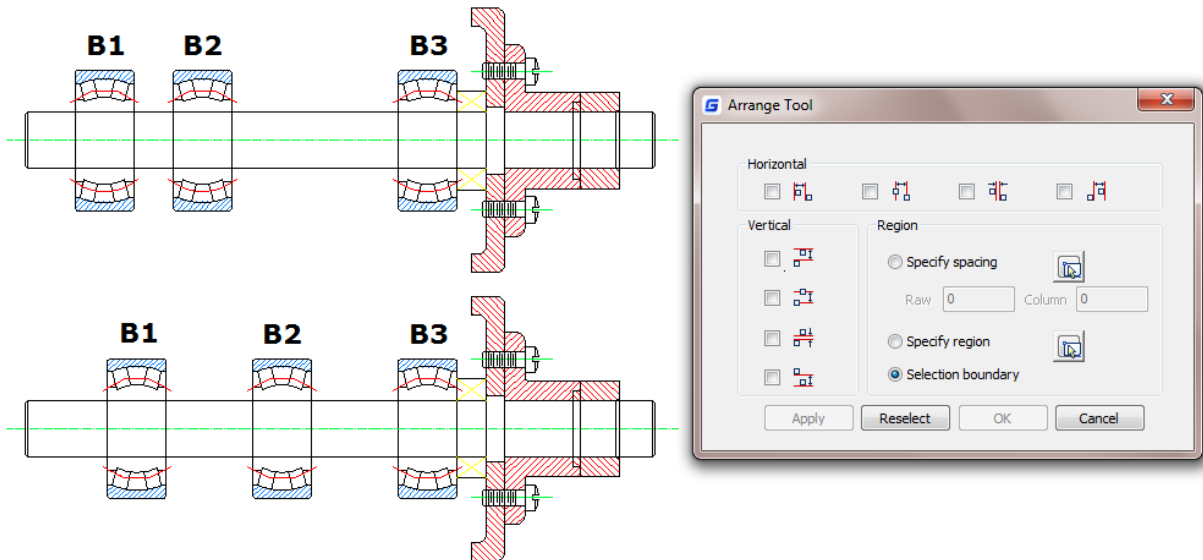
- Sum Area and Total Length (MEASUREGEOM)

Measuregeom command is more powerful in GstarCAD, not only adds tmeasure radius, measure angle, and measure volume, but also sum area and total length.

Sum area: Not only can calculate the area of a closed object but also can calculate a closed region area. If there are multiple objects need to be selected, window selection is available.
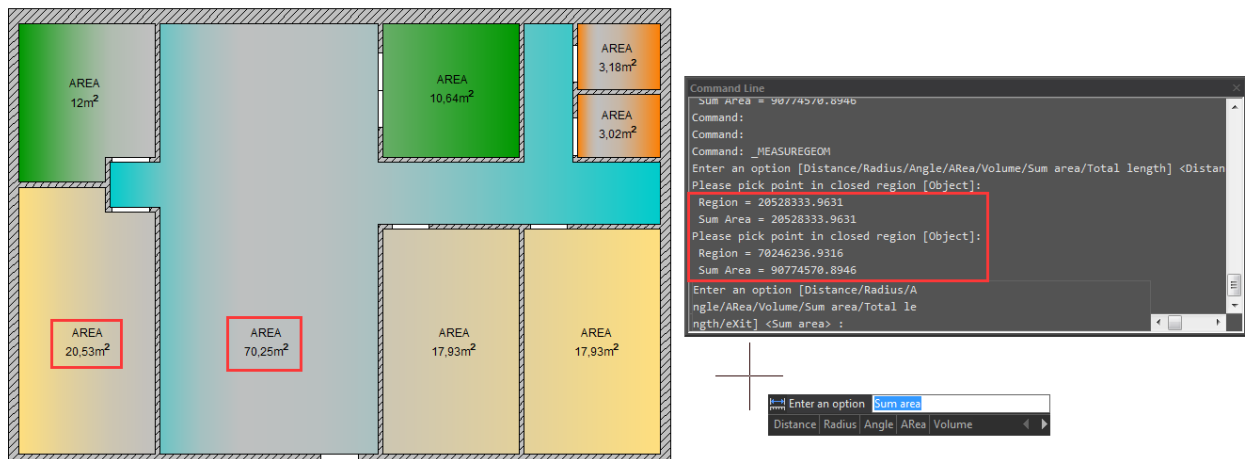
Total length: Calculates the object length and total length associated with selected arc, circle, polyline segments or line objects. You can either select the single object by clicking or select multiple objects with window selection.
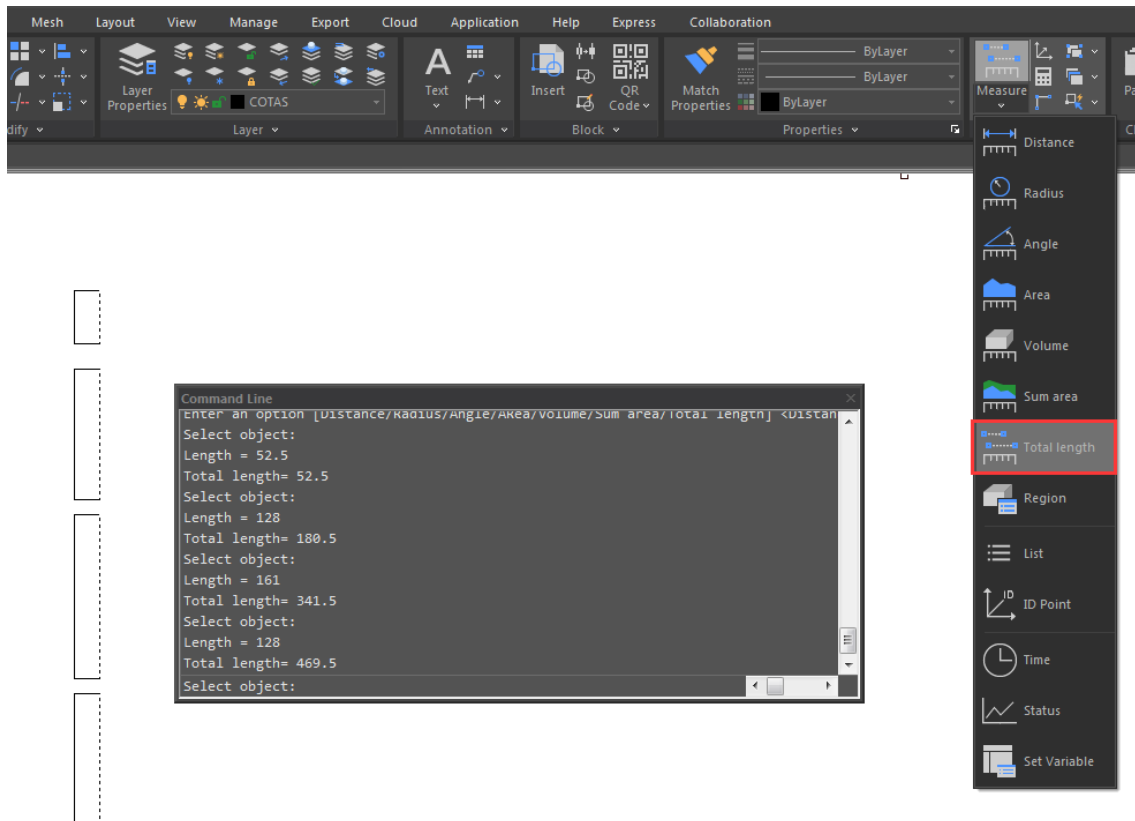
- **Magnifier**

MAGNIFIER (a real alternative to change the habit of viewing details and drafting over the most complex drawing at glance). This tool helps to view a specific area of your drawing as a magnifier with the capability of snap points without performing zoom in/out on big drawings like map or survey and also is practical to use and customize. Save time on exploring small details of your drawing or even drafting in a jungle of intersected objects easily and quickly.
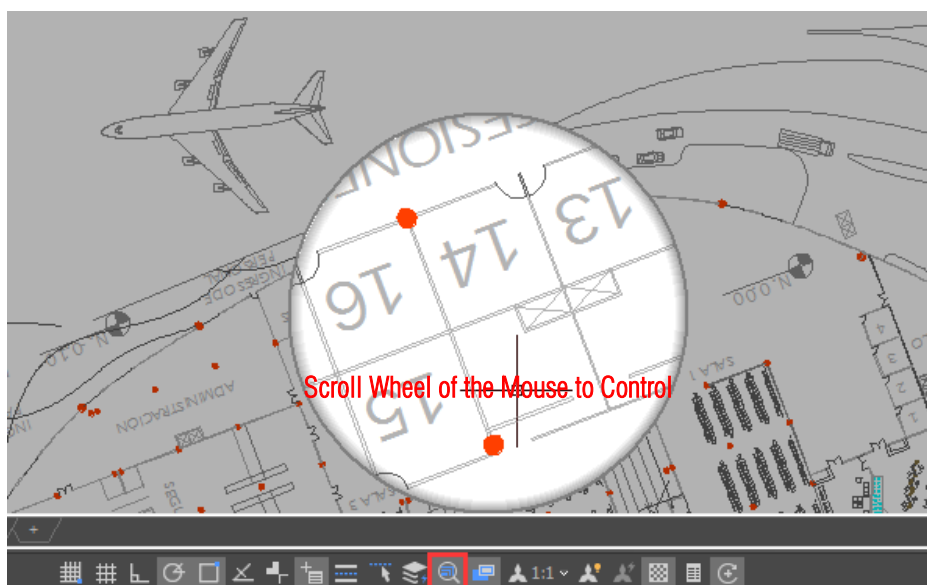
- CAD Table to EXCEL (_GC_CTE)

This command will convert sheets, composed by line/Spline and text/Mtext in CAD, to EXCEL.

- Drawing Lock (LOCKUP)

Sometimes a designer sends drawings to other people, but doesn't want others to modify the drawings. The "Drawing Lock" function can turn the drawing into a whole block. You can't explode it or modify the objects of the original drawing. It is a good way to prevent others from modifying the drawing.
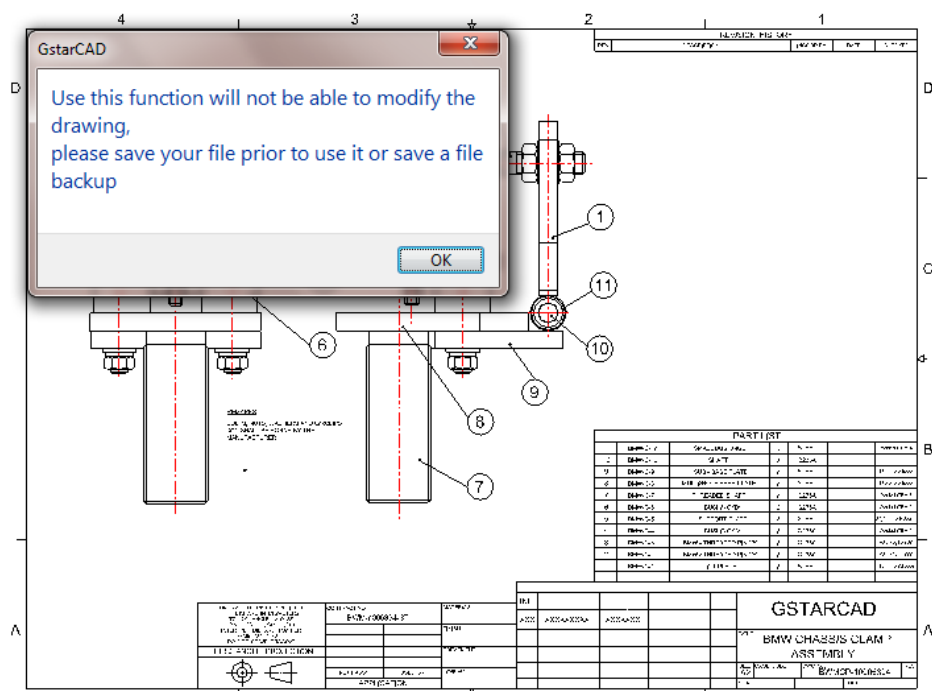
- GstarCAD Tools

GstarCAD Tools provides more practical functions for industry designers.

The following introduces some practical GstarCAD tools:

Drawing Scale: You can set the drawing scale before drawing, when you are using other tools (for example "Draw Axonometric line" and "Modify Line width"), GstarCAD will adjust the scale automatically.

Extension: Normally after extension, the extension effect will be displayed, but Visual Extension can display the effect in real time until you confirm the position.
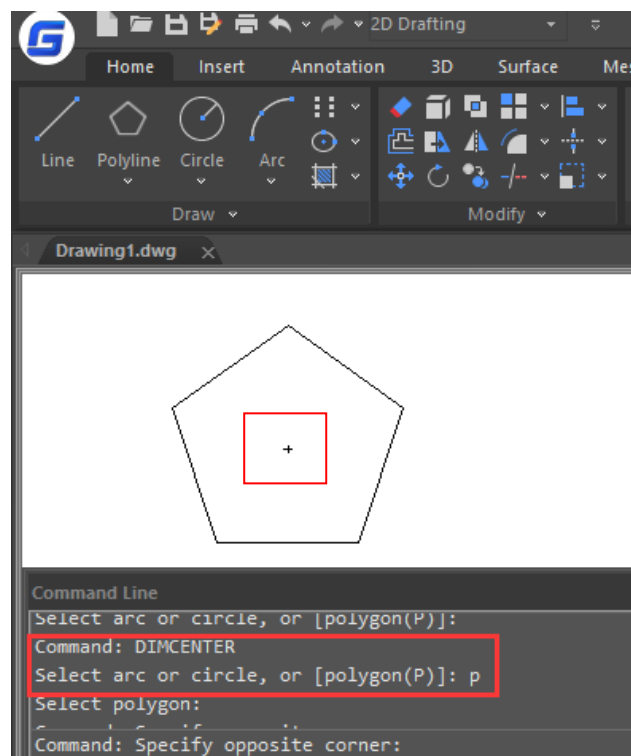
Cross to Break: In engineering drawings, many places need to break the cross line. If we do this the original way, it will be very complex. Using this function breaking lines can be easily done.

Super Axonometric: It is a quintessential function that can easily convert a plan drawing to an axonometric drawing.
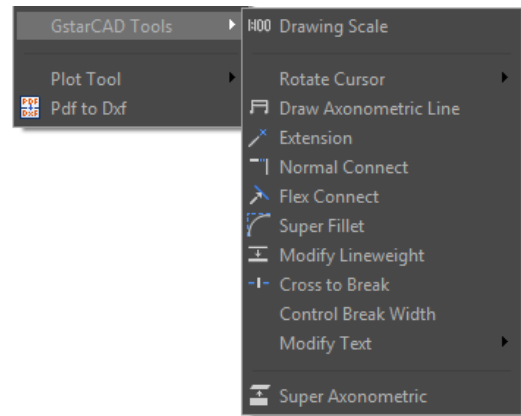
- Dimension Polygon Center

GstarCAD supports the option Polygon(P) in DIMCENTER command to mark the center of polygons.

- **Batch Purge (Batpurge)**

This new function allows to batch purge the excess objects such as blocks, layers, line type, dimension style or text style on several DWG files. The Batpurge tool doesn't need to open files. It executes the command of purge directly, which makes it run with very high efficiency.

GstarCAD 2022

https://www.gstarcad.net/

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