GstarCAD 2024 vs BricsCAD 2023

GstarCAD 2024
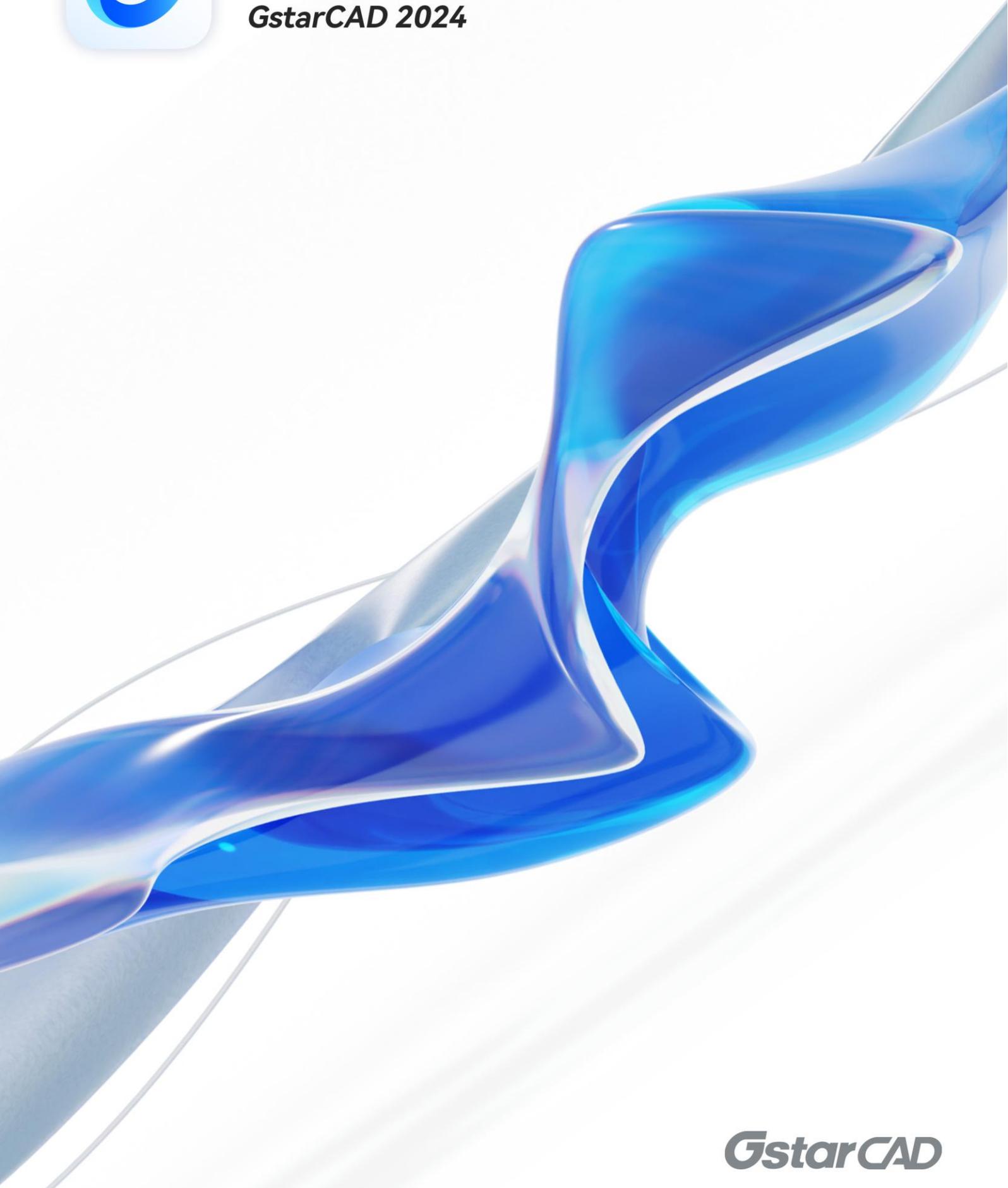
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GstarCAD 2024 VS BricsCAD 2023

With accelerated performance, enhanced compatibility and elevated user experience, GstarCAD 2024 takes design productivity to new heights. Experience our optimized operation speed and quality, enjoy the expanded compatibility for more file formats and APIs, and discover a new level of design satisfaction with upgraded Dynamic Input tool and adjustable viewports, etc.

1. Comprehensive Evaluation

- **Compatibility**

GstarCAD 2024 is not only compatible with all versions of AutoCAD data such as DWG formats, fonts, hatch, and linestyles, but also can support 3D Studio file, DXBIN, WMFIN and IMPORTHPGL that BricsCAD does not support.

- **Performance**

Higher performance plays an important role in GstarCAD. GstarCAD not only constantly provides users with more useful functions, but also delivers great performance in both 2D and 3D operations. GstarCAD is especially outstanding in dealing with the big size drawings that contain a large number of entities. The basic operations, such as move, copy, rotate, scale and so on are significantly enhanced to boost the working efficiency of designers.

- **Functionalities**

GstarCAD 2024 is better than BricsCAD in function details and number of functions. BricsCAD does not support some importing features such as match properties across drawings, Mline editing tools, dynamic grips, selection cycling and so on, and features detail is not as good as GstarCAD. In BricsCAD, the command is terminated after switching to other drawings, and then back to the original drawing. BricsCAD supports parameter constraint and the 3D function is better than GstarCAD.

- **User Experience**

GstarCAD brings you a better user experience in many aspects, such us concise interface, easy-to-use features, and flexible licensing. BricsCAD puts a large number of settings such as text style, dimension style, table styles, snap settings to Drawing Explorer and Settings dialog boxes, the hierarchy is complicated and the operation is inconvenient.

2. Compatibility Comparison

The main compatible file formats and application development interface comparison:

Item	GstarCAD 2024	BricsCAD 2023
2.5-2018 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	√	√
Print style file CTB	√	√
Import/export WMF	√	√
Import/export SAT	√	×
Import 3DS	√	×
Import PDF	√	√
Import DGN	√	√
Export DWF/DWFX	√	√
Import IFC	√	×
Import SVG	√	×
STEP/IGES File	√	×
Export STL	√	√
Export EMF	√	√
DWF Underlay/Import	√	×
Open DWF/DWFX	×	√
DGN underlay	√	×
PDF underlay	√	√
Load LISP program	√	√
Load FAS program	√	×
Load VLX program	√	×
VBA develop interface	√	√
Class ARX develop interface	√	√
.net develop interface	√	√

Import and Export DAE File	×	√
Import HPGL/2 Format	√	×
Import SKP File	×	√
Insert Drawing Exchange Binary File DXBIN	√	×
Insert WINDOWS Metafile WMFIN	√	×

3. Performance Comparison

The performance of most common-use operations like "OPEN", "SAVE, "Zoom", "Select", "Delete" are a little faster than BricsCAD 2023, but "Move", "CTRL＋C", "Paste" are significantly faster than BricsCAD 2023.

The chart below provides an overview of the the performance. We build an operation speed comparison of the basic features between GstarCAD and BricsCAD. To make sure the data validation, same operations will be tested twice and get the average value.
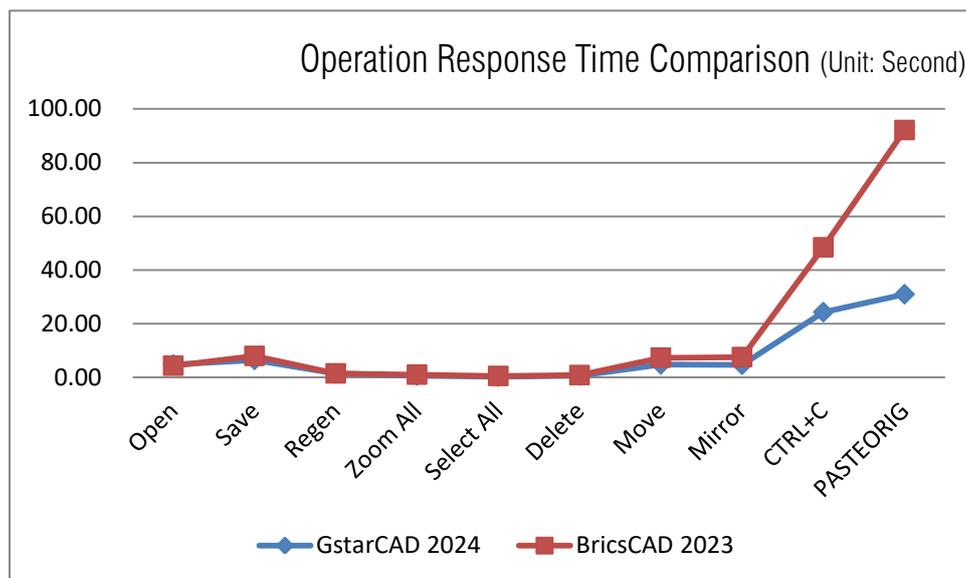
Operation Time Comparison between GstarCAD 2024 and BricsCAD 2023 (Unit: Second)
Testing environment:
WIN11 Professional 64bit; 16G storage; CPU: 11th Gen Intel(R) Core(TM) i5-11400 @ 2.60GHz 2.59 GHz; Graphic Card: Intel(R) UHD Graphics 730
Drawing size:
● We tested other operations with two 48MB and 114MB drawings, and got the average time.

It's obvious that GstarCAD 2024 is faster than BricsCAD for most of the operations; GstarCAD provides the perfect performance to enhance your working speed. No doubt that GstarCAD is a better choice.

4. Comparison Table

GstarCAD 2024 takes design productivity to new heights. It optimizes operation speed and quality, expands the compatibility for more file formats and APIs, and upgrades Dynamic Input tool and adjustable viewports, etc. BricsCAD lacks many important functions such as dynamic block editing, match properties across drawings, selection cycling, System variable monitor, and Closeline, etc. The drawing editing function in BricsCAD is also weak, it doesn't support dynamic preview when trimming, extending and hatching, nor does it support dynamic grip of arc, 3D edition grips, etc.

3.1. Key Function Comparison Table between GstarCAD and BricsCAD:

Features	GstarCAD 2024	BricsCAD 2023
DWF Underlay	√	×
3D Constraints	×	√
3D Edition Grips	√	×
Array Panel	√	×
Breakpoint Check (CLOSELINE)	√	×
Block Authoring Palettes (BAUTHORPALETTE)	√	×
Block Properties Table(BTABLE)	√	×
Built-in Print Driver	√	×
Change Text	√	×
Check Spelling in Mtext	√	×
CONVTONURBS	√	×
COPYGUIDED	×	√
CUI Import & Export	√	×
DAE import/export (XML 3D data)	×	√
Design Intent	×	√
Batch Digital Signing Tool	√	×
2D Geometric Constraints	×	√

DIMINSPECT	√	×
DIMJOGGED	√	×
DIMJOGLINE	√	×
Drag and Drop Customization	√	×
DWG Convert	√	×
Dynamic Block Editor (BEDIT)	√	×
Dynamic Dimensions	×	√
Extended Quad Cursor 2D/3D	×	√
EXTRACTBLOCKS	×	√
Get Started Page	×	√
Hidden Message Settings	√	×
Import Layout as Sheet	√	×
Layout Viewport Settings	√	×
Make Shape	√	×
Match Properties Across Drawings	√	×
MLEDIT	√	×
MOVEBAK	√	×
Multifunctional Grips	√	×
Multi-language Character Set	√	×
New Dynamic Input	√	×
Parametric Blockify	×	√
PLANESURF	√	×
Pline Boolean	√	×
Publish to DWF 2D & 3D	√	×
Quick Dimension	√	×
Real Time Boundary Detection	×	√
Reverse	√	×
Right-Click + Drag Method	√	×
SELECTIONCYCLING	√	×

Superhatch	√	×
Surface Entity Creation	×	√
SURFOFFSET	√	×
Symmetric Draw	√	×
Text Align / Text Match	√	×
Visual Menu Customization	√	×
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From the commonly used functions comparison table above, you can see GstarCAD 2024 provides richer functions than BricsCAD 2023.

3.2. GstarCAD Innovative Features

GstarCAD has customized a large number of unique functions according to user needs.

The innovative features of GstarCAD:

GstarCAD Innovative Features

Features	Description
Align Tool (ALIGNTOOL)	Allows you to align the selected objects along the X or Y axis coordinates.
ACAD Tool Palettes Import Tool	Import AutoCAD© customized Tool palettes in the WINDOWS Start menu easily.
Area Sum (AREASUM)	Displays the current closed region value and area sum sequence in command line.
Area Table (AREATABLE)	Dimensions and counts the area of an enclosed object and exports the result to a table in the current drawing area.
Arrange Tool (ARRANGETOOL)	Aligns multiple objects left, right, top, bottom, center, vertical or laterally.
Attribute Increment (ATTINC)	Attributes values increment automatically or manually according to specified method.
Auto Layer (AUTOLAYER)	Customizes and predefines the associated layer of a command to streamline drafting workflow.
AUTOXLSTABLE	Allows to insert excel, and static block quantity, area and length and auto update the data according to the changes of the object.
Barcode (BARCODE)	Allows inserting the barcode to objects to corresponding paper documents and electronic drawing file.
Batch Print(BP)	Batch prints the drawing frames by pages.
Batch Purge (BATPURGE)	Batch purges the redundant blocks, layers, linetype, dimensions and text, etc in drawings.
Block Break (BLOCKBREAK)	Allows you to wipeout or break an object that is overlapped by a reference block.
Break Object (BREAKOBJECT)	Breaks the intersected lines and allows you to set the gap value.
CAD table to EXCEL (GC_CTE)	Converts sheets, composed by line/Spline and text/Mtext in CAD, to EXCEL.
Change Base (CHANGEBASE)	Modifies the base point position of the block.
Change Text (CHANGETEXT)	Modifies several texts simultaneously.
CIRCLE(C) Parameter	CIRCLE(C) parameter; Draws multiple concentric circles with one radius.
Collaboration	The GstarCAD Collaboration Tool is an embedded plugin available for

	GstarCAD platform aimed to help CAD designers work together among a single referenced drawing file at the same time, control drawing revisions and manage medium, big or complex projects with ease and reliability, reducing communication barriers across different industries.
Define Layout Viewport from Model Space(M2LVPORT)	Creates a viewport on layout space by selecting objects in the model space.
Dimension Coordinate (DIMCORD)	Marks X, Y coordinate values of the point.
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.
Export Coordinate (COEXPORT)	Exports the coordinate of the picking point to txt or xls files.
FILLET(I) Invert Parameter	Creates a reverse fillet by this option.
Frame Automatically (FRAMEAR)	Automatically searches for the frame, calculates according to the frame size, and arranges multiple drawings on a large-format drawing reasonably.
Free Scale (FREESCALE)	Scales an object without restrictions under three modes; Non-Uniform, Rectangle and Free.
Freeze Other Layer (LAYFRZOTHER)	Freezes other layers except the layer where the selected object is located.
Graphic Compare (OCMP)	Compares graphic of two groups of objects or two files.
GstarCAD tools (12 functions)	Allows you to quickly draw the industry drawings with GstarCAD tools
Import HPGL/2 (IMPORTHPGL)	Imports a PLT files.
Get Selection by Block Name (GETBLKSEL)	Multi-selects objects with the same name in specified area.
Get Selection by Object Type (GETENTSEL)	Multi-selects objects with the same entity type in specified area.
Get Selection by Layer (GETLAYSEL)	Selects all the objects in specified layer and specified region at one time.
Get Selection by Color (GETCOLSEL)	Quick selects the objects with the same color.
Get Selection by Object/Layer (GETENTLAYSEL)	Selects entities by entity type and layer.
Get Selection by Object/Color (GETENTCOLSEL)	Selects entities by entity type and color.
Get Selection by Layer/Color (GETLAYCOLSEL)	Selects entities by color and layer.

Dimension Coordinate Position (HCZZBD)	Dimensions the coordinate position.
Layer Draw Order (LAYDRAWORDER)	Changes the order of the layers by bringing to front or sending to back.
Lock Other Layers (LAYLCKOTHER)	Locks other layers except the layer where the selected object is located.
Layer Unlock All (LAYULKALL)	Unlocks all layers.
Off Other Layers (LAYOFFOTHER)	Turns off other layers except the layer where the selected object is located.
Magnifier (MAGNIFIER)	Views a specific area of your drawing as a magnifier with the capability of snap points without performing zoom in/out on big drawings.
OFFSET(B) Both Sides	Offsets to both side, no need to operate twice.
Outline (OUTLINE)	Generates the outline by clicking the closed region.
Pline Boolean (GC_BOOLOP)	Operates the closed pline with union, intersection and subtraction.
Print PLT(PRINTPLT)	Prints the generated PLT file.
QR Code(QRCODE)	Extracts data or inputs data to generate QRcode which can be scanned by mobile device to obtain data.
Rapid Distance (RAPIDDIST)	Measures distance and angle between 2D objects along X, Y axis rapidly by moving mouse.
RECTANGLE(O) Parameter	RECTANGLE(O) parameter, Draws an rotate rectangle with (O)option
Region Scale (REGSCALE)	Selects a region of a drawing to be cut and copied to a new location.
ROTATE(Multiple)Parameter	Copies many objects with different rotate angles, or draw circles array.
Shortcut Customization (CUSTACC)	Customizes the shortcut key.
Spline to Pline (Sptpl)	Converts spline to polyline according to the accuracy (number of segments of the arc) that the user assigns.
Statistics Summation (KLL01)	Sums up the selected text or Mtext.
Symmetric Draw	Directly draws symmetrical shapes, it can omit the operation of the mirror.
Text Incremental Copy (GC_dztext)	Accomplishes kinds of incremental methods for text.
Text Align (TEXTALIGN)	Aligns text along X or Y coordinates, or along a line of specific direction.
Text Match (TEXTMATCH)	Matches both text and Mtext attributes in the current drawing, avoiding select and edit text attributes one by one.

Text Online (TEXTONLINE)	Distributes the text uniformly along a selected spline, polyline or arc. It can also create text online quickly for multiple curves.
Total Length (MEASUREGEOM)	Inquire total length of the selected lines.
WIPEOUT (supports circle and arc)	Generates wipeout by clicking circle or a pline object contains arcs.
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The innovative features simplify your operation steps and enhance your drawing efficiency greatly.

3.3. Function Detail Comparison

GstarCAD 2024 not only has more commands than BricsCAD 2023, it is also better in the details of interfaces and some functions. The following is a comparison of important functions.

- **Set Password When Saving**

GstarCAD allows you to set the password for current drawing when saving. It is very convenient for user to encrypt the important drawing when saving.
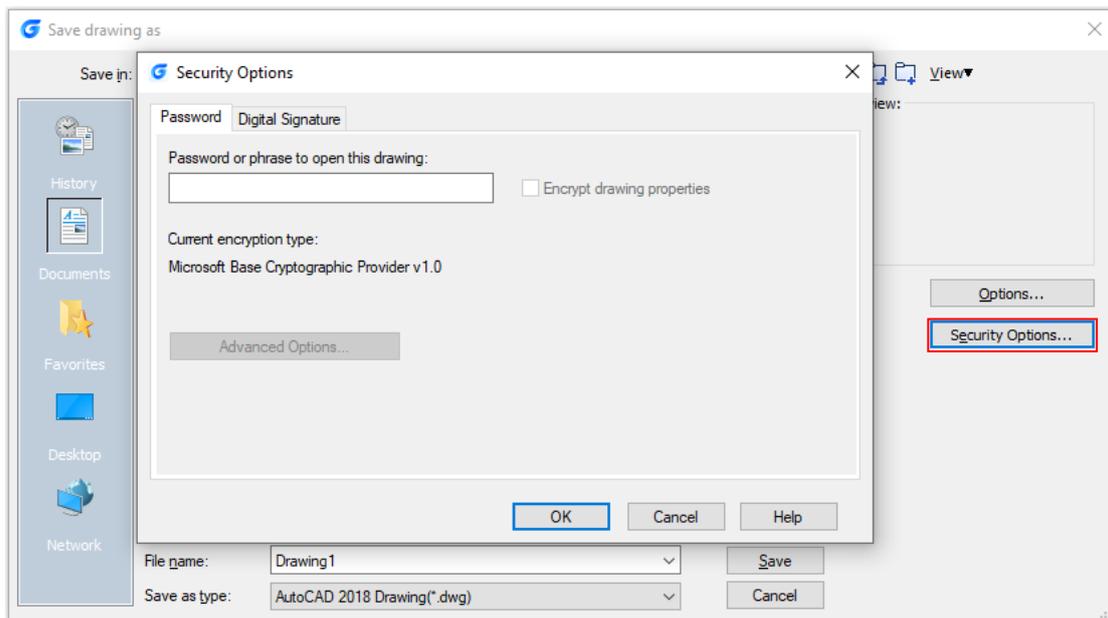
BricsCAD does not support security option when saving, you have to access this feature from file tab and click drawing utilities, which reduces design efficiency.
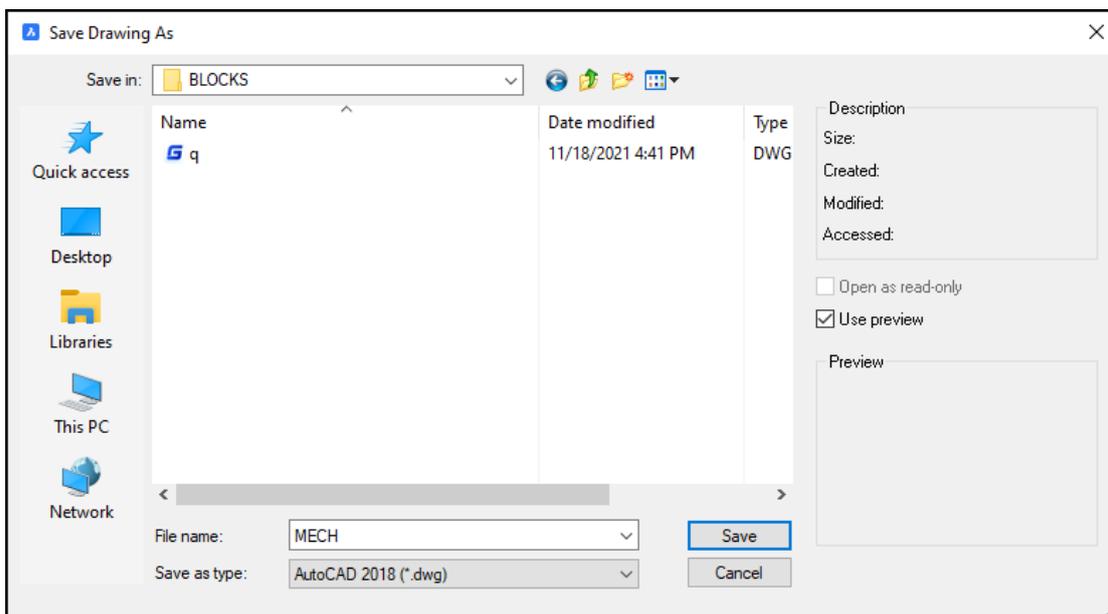
- **Hatch**

GstarCAD provides rich hatch patterns for users to meet more requirements.

What's more, GstarCAD supports pattern color preview which you can ensure your preference ahead of time.
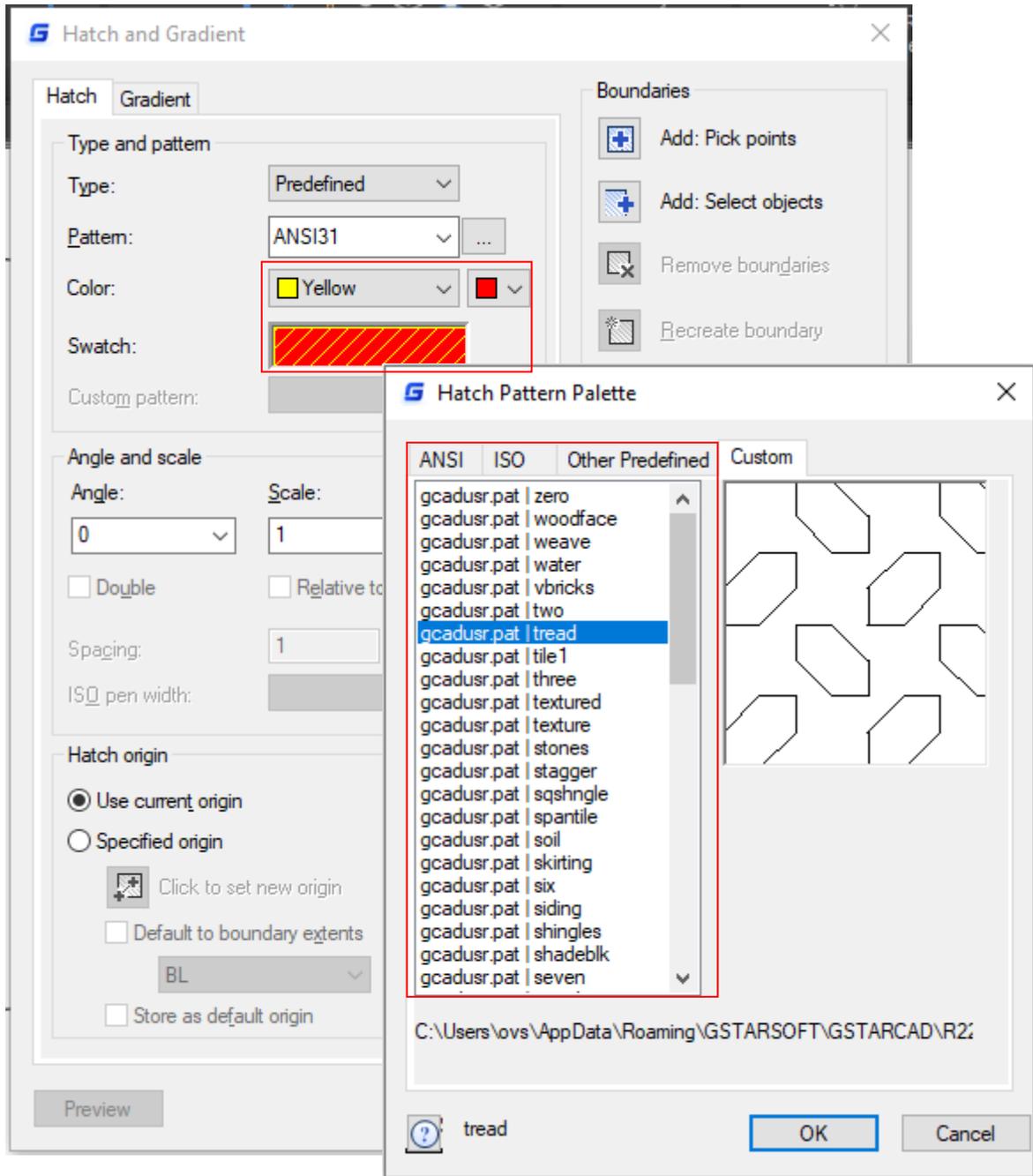
BricsCAD offers few hatch patterns and it does not support patterns color preview, you have to check from the

workspace, which wastes a lot of time.
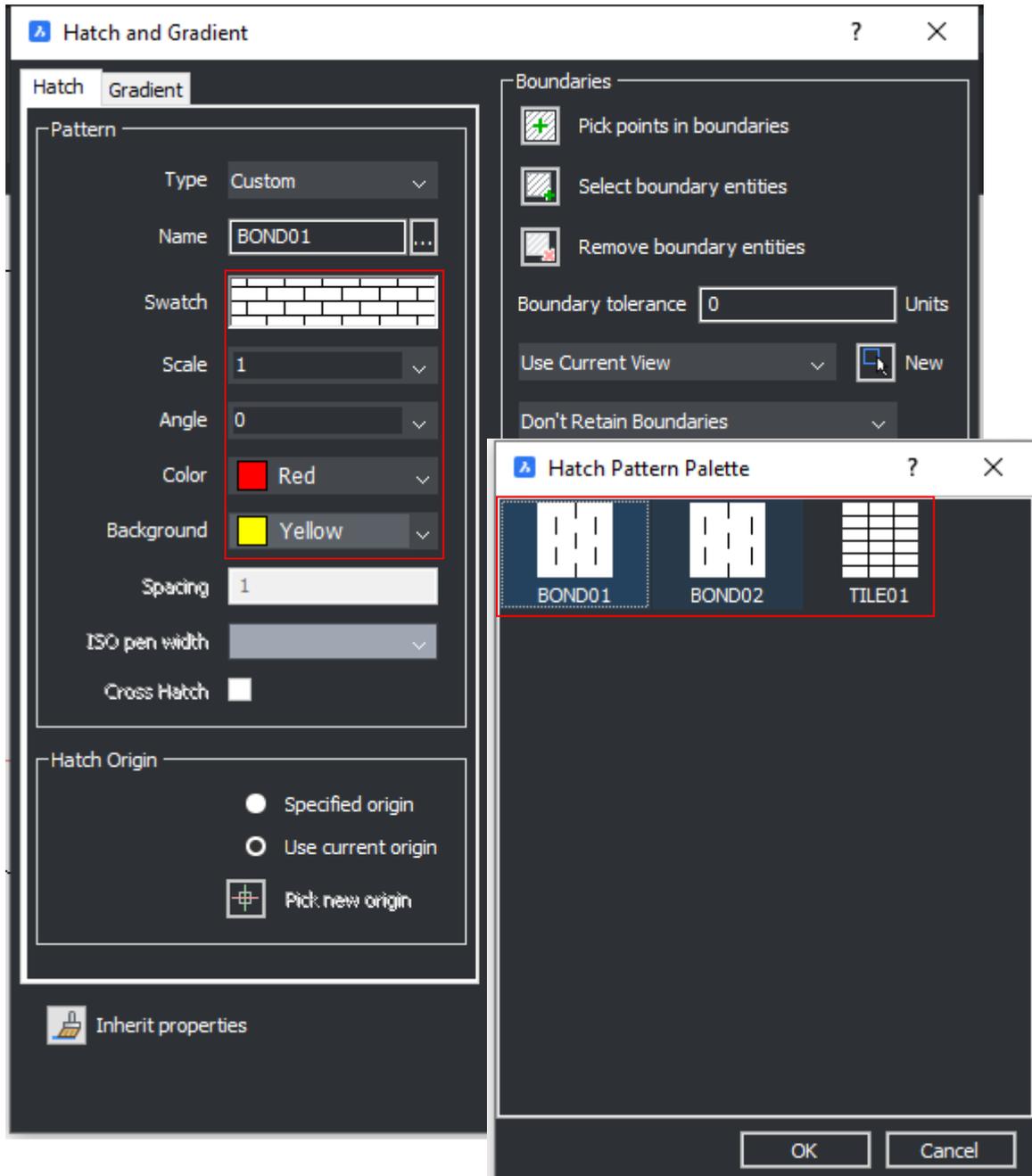
- Color books

Color books specify a custom color from a color book installed on your system. GstarCAD supports ACAD alike color books. However, the color books in BricsCAD is empty.
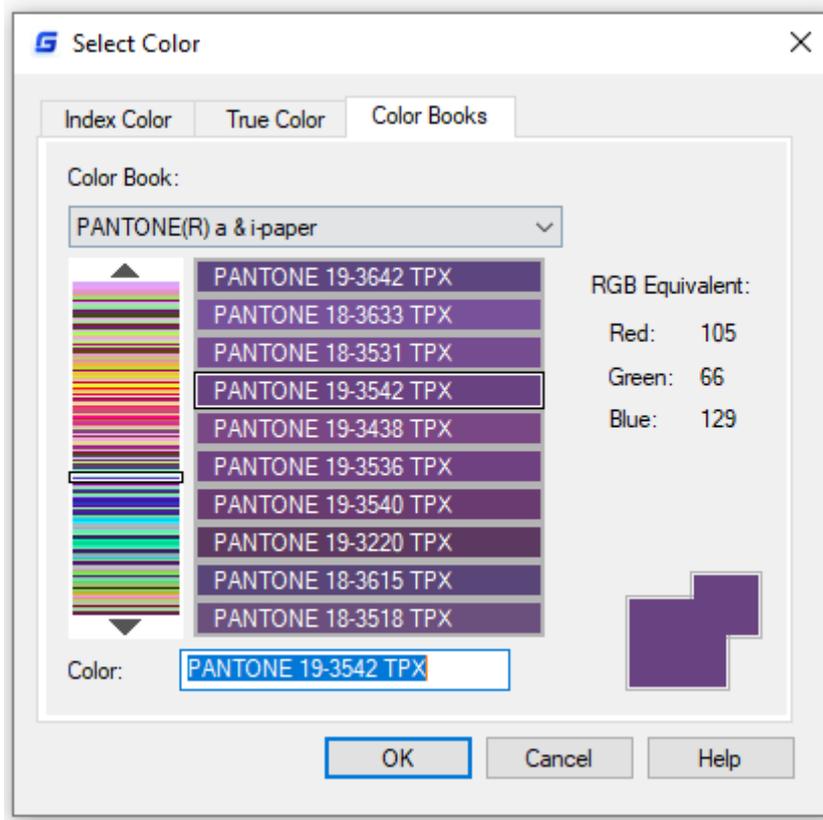
GstarCAD
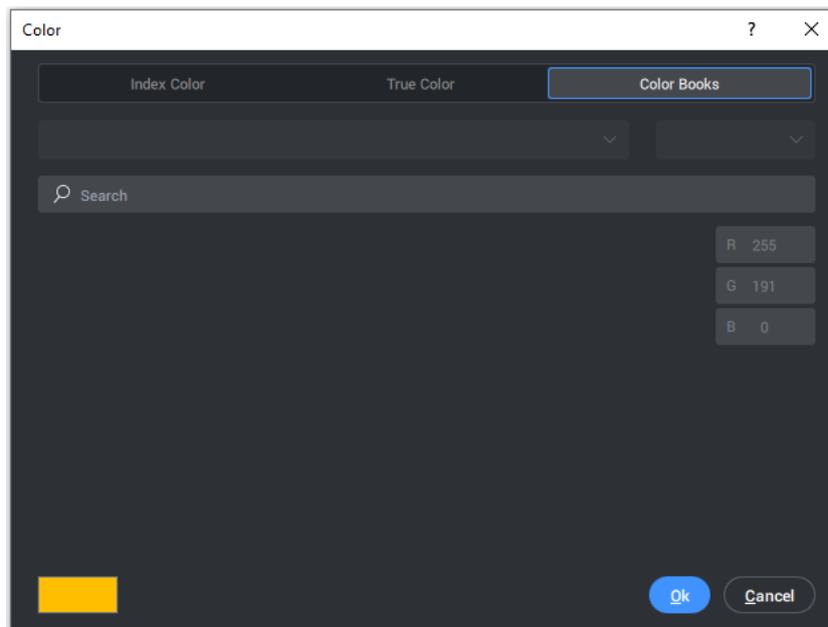
BricsCAD

- Hatch and Gradient Dialog Box

In progeCAD, some of the content in Hatch and Gradient dialog box are not displayed clearly.
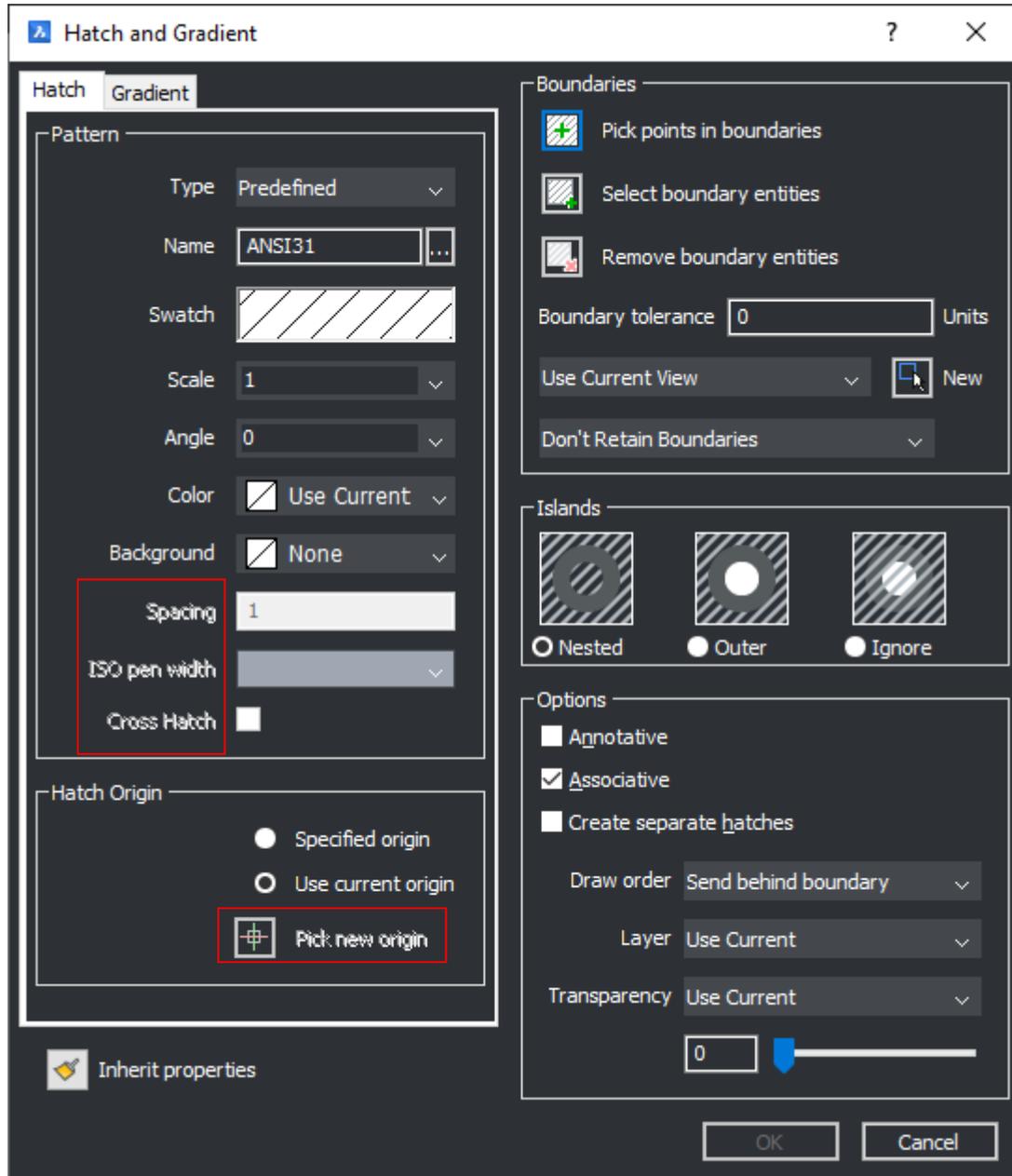
- **Quick Access Toolbar**

In GstarCAD, the commands displayed on the quick access toolbar can be customized directly in the drop-down menu and more commands can be added, and can be set to display below the ribbon.

What's more, you can add to or delete the command from the quick access toolbar by right clicking the command icon.
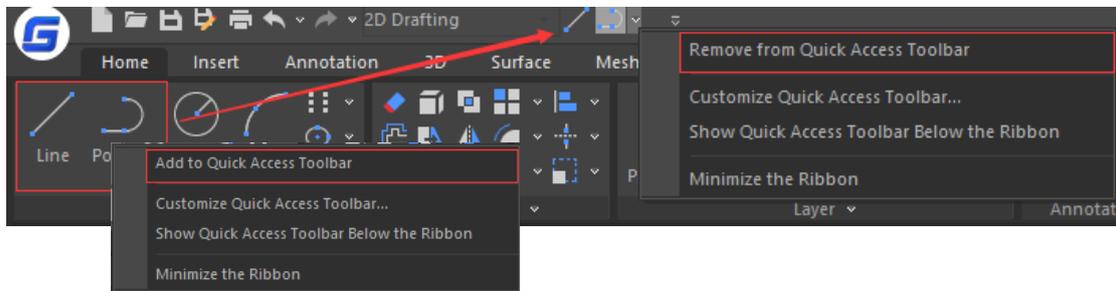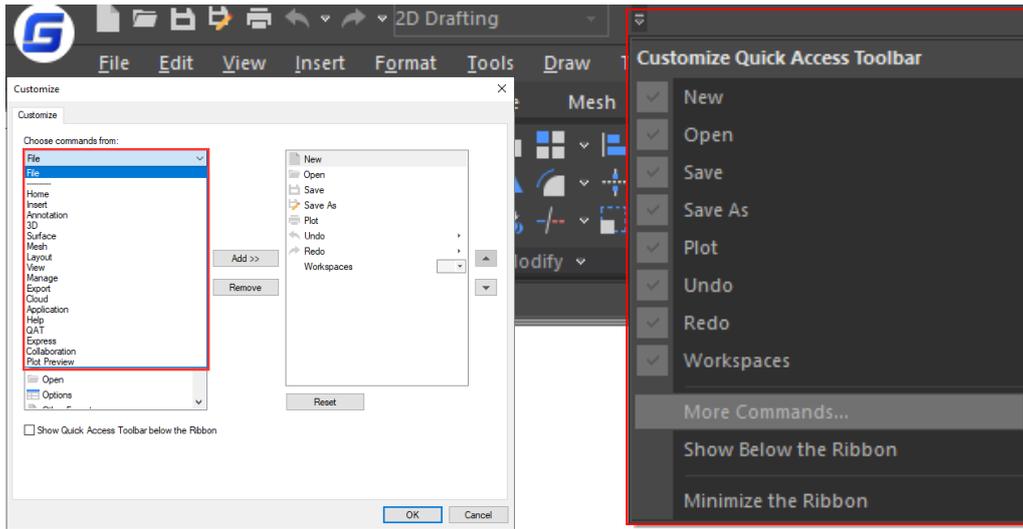
BricsCAD does not support customize the quick access toolbar.

- **Options in Table**

GstarCAD supports more options in table editor such as field, insert formula, match cell, edit data link, and download changes from source file.
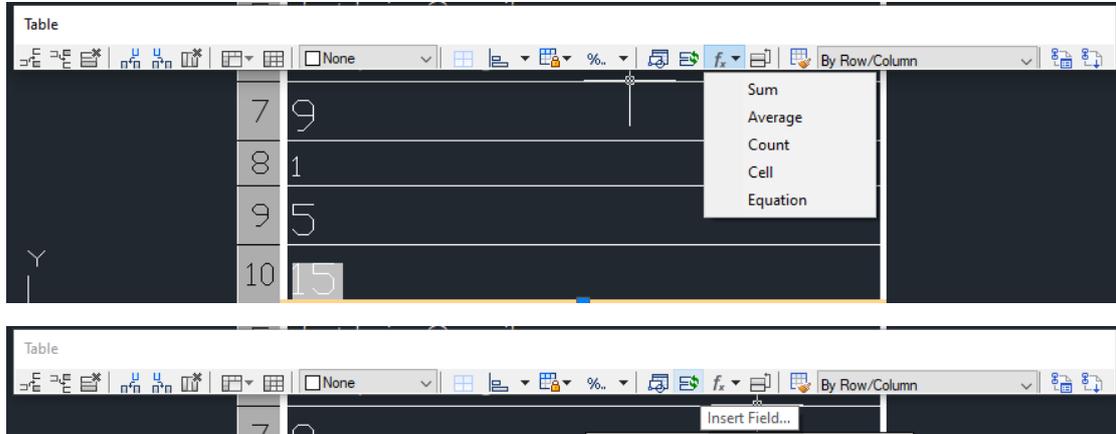
BricsCAD does not support these options in table editor.
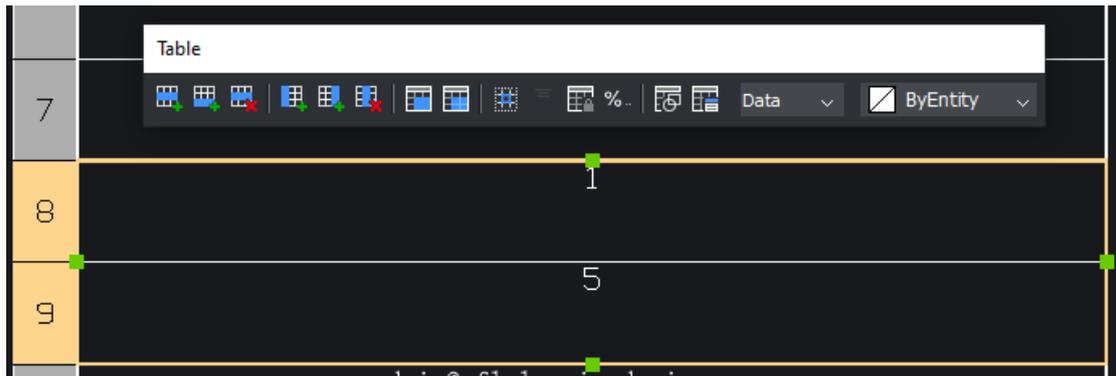
- **Tool Palettes**

GstarCAD supports tool palettes that are tabbed areas within the Tool Palettes window. You can create a tool by dragging an object onto the tool palette. Blocks can be dragged onto the tool palette. You can also hatch objects with hatch patterns from tool palettes by clicking and moving the mouse on the object. You can easily modify the properties of the hatch patterns as well.
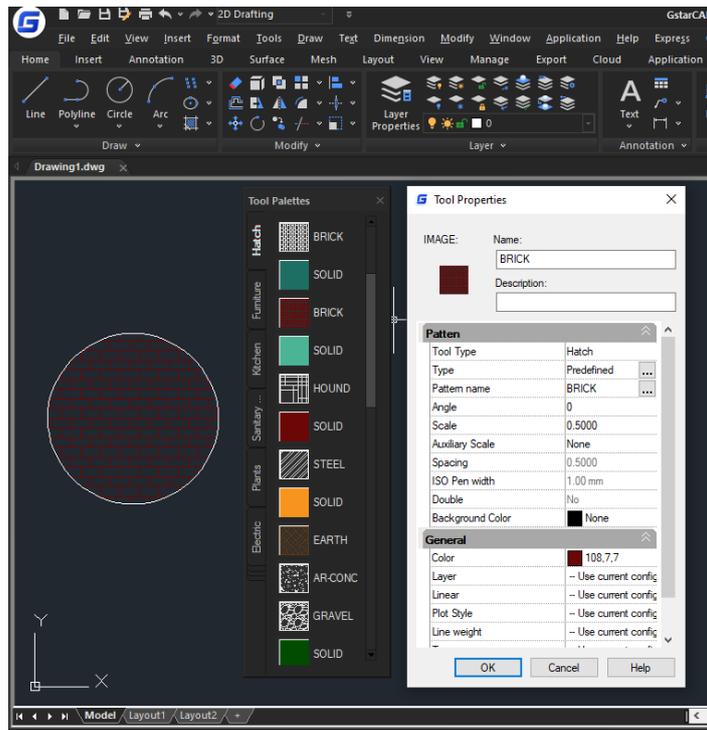
However, BricsCAD Tool Palette manages and classified the features, it nether supports drag the blocks to toolpalettes, and nor the practical tools.
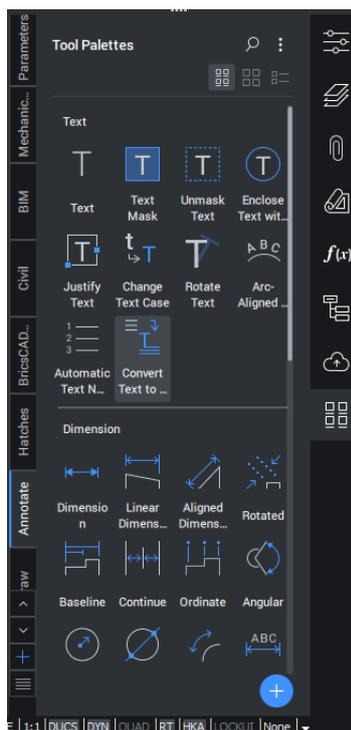
- **Array Tab**

GstarCAD array options provide dynamic adjustments to the number of ranks, spacing and other related parameters through Ribbon Panel, Properties and Grip which is easier to create and edit.
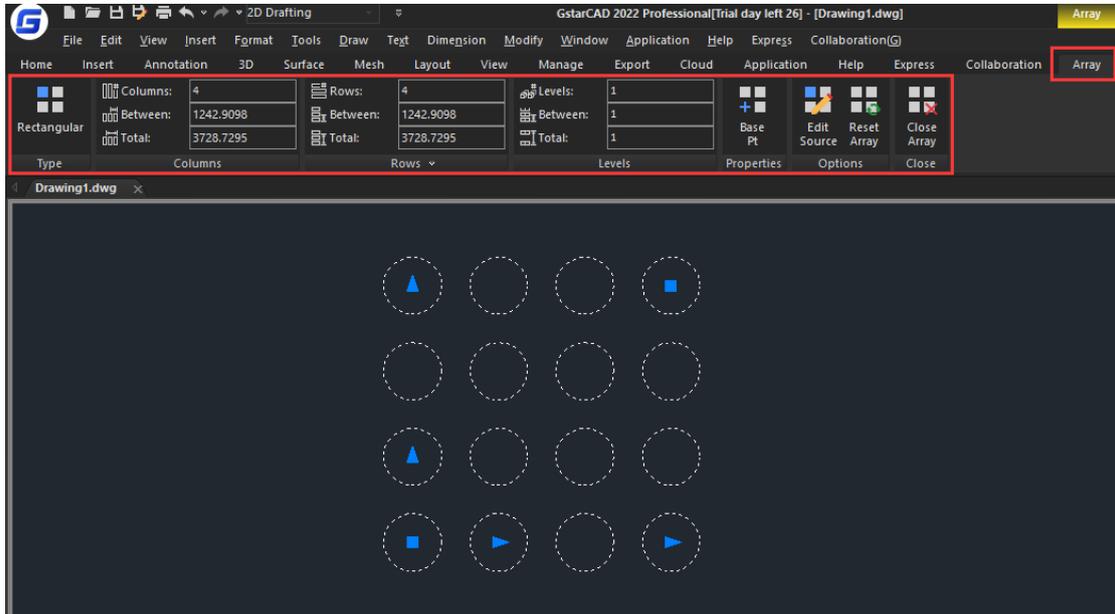
BricsCAD doesn't support array panel, dialog box or grips; you have to set through the command line. As shown below:
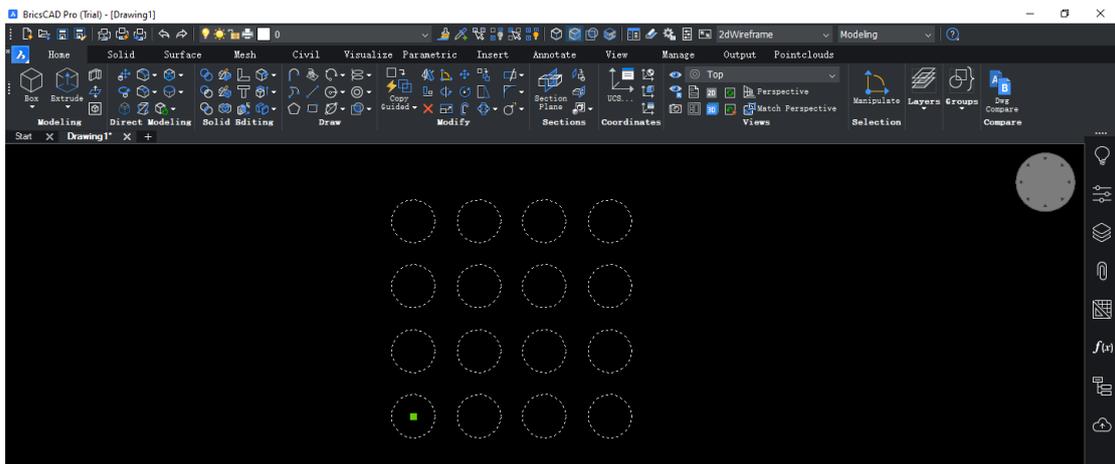
- **MEASUREGEOM (Sum Area and Total Length)**

GstarCAD not only supports the Measure Area and Measure Distance, but also supports Measure Radius, Measure Angle, Measure Volume, Sum Area and Total Length.
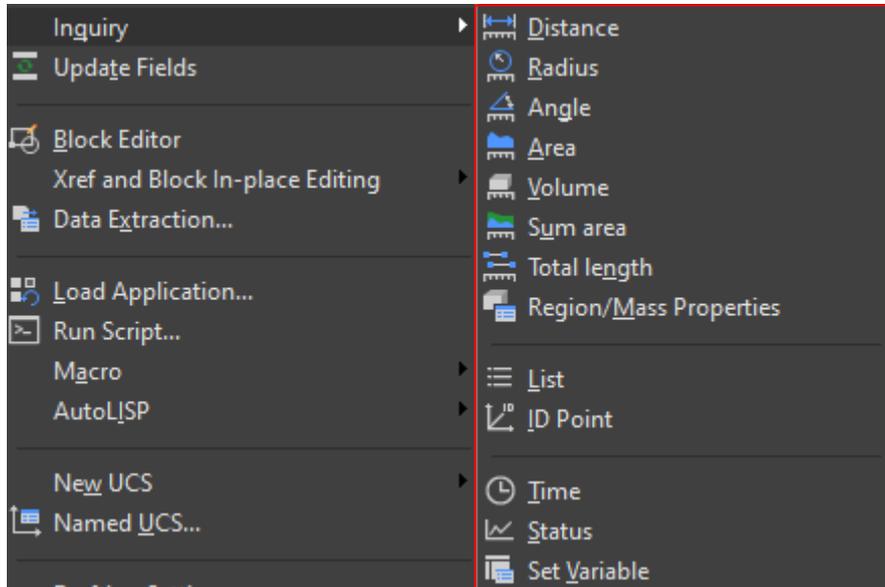
BricsCAD supports fewer options to measure.
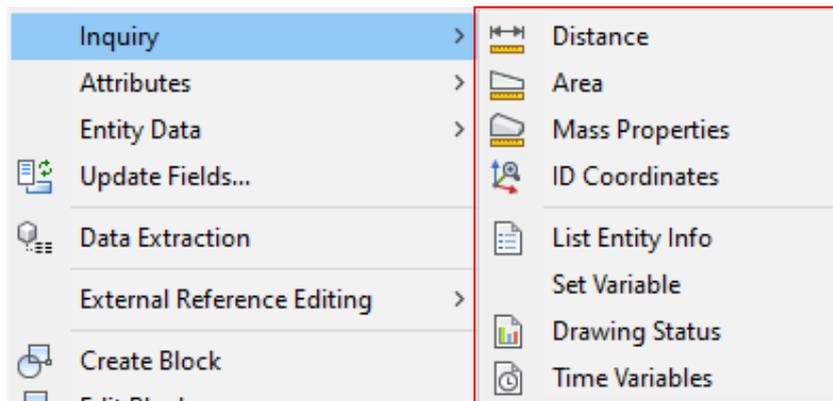
- **Hatch, Trim, Extend Preview**

GstarCAD supports preview effects when trimming, extending and hatching, which can help users judge the correctness of the operation.

BricsCAD does not support preview effects when trimming, extending, and hatching.
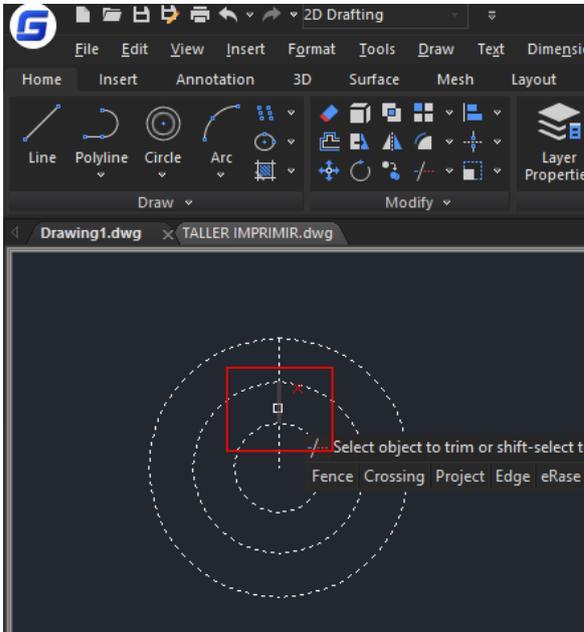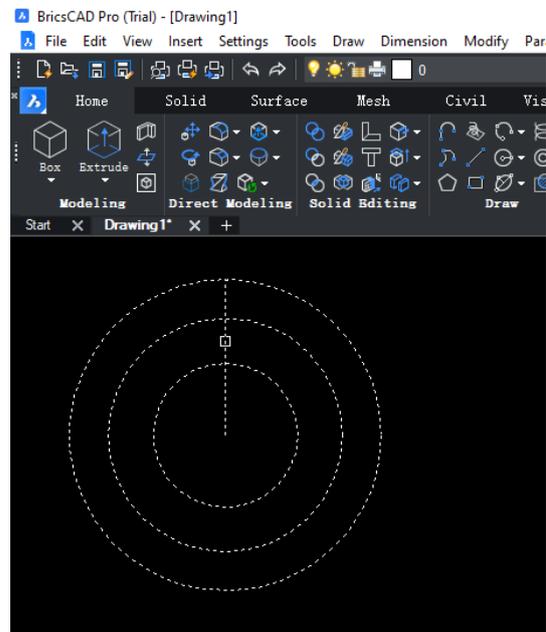
GstarCAD   BricsCAD

- **Line Options**

GstarCAD can set the reference angle or included angle with the reference object or the previous section when setting the angle. You can take other line as reference to input the angle value and you can even input the angle value directly referring to previous line.


```
Command: LINE
Specify first point:
Specify next point or [Angle/Length/Undo]:
Specify next point or [Angle/Length/Undo]: A
Specify angle [Reference/reference to Previous/Included angle] <0>:
3818.761, 5937.2365, 0
```

BricsCAD does not support these options.


```
Angle of line:
Length of line:
Set end point or [Angle/Length/Follow/Close/Undo]:
Cancel
: Enter command
Ready
```
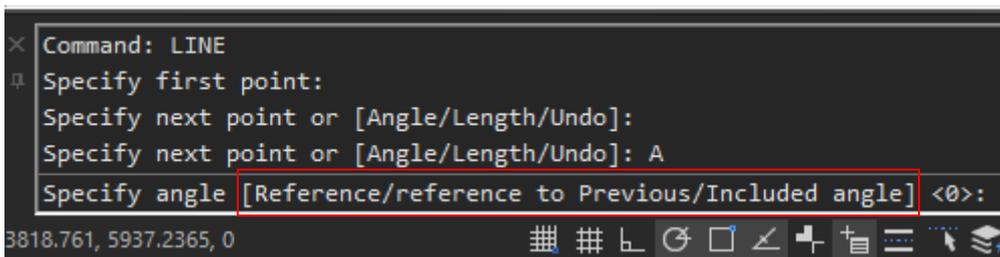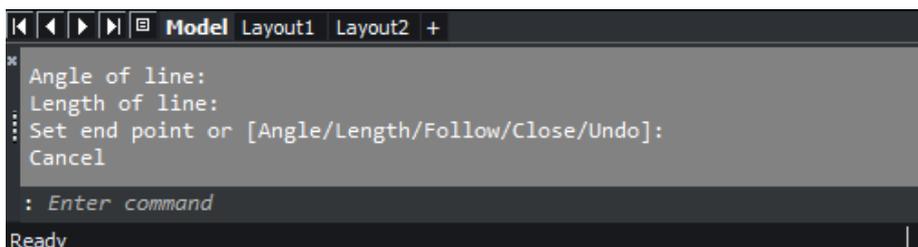
- **Linetype Manager**

GstarCAD provides the Linetype Manager. With it, users could not only load line types, but also adjust the Global/Current Scale Factor and use Filters.
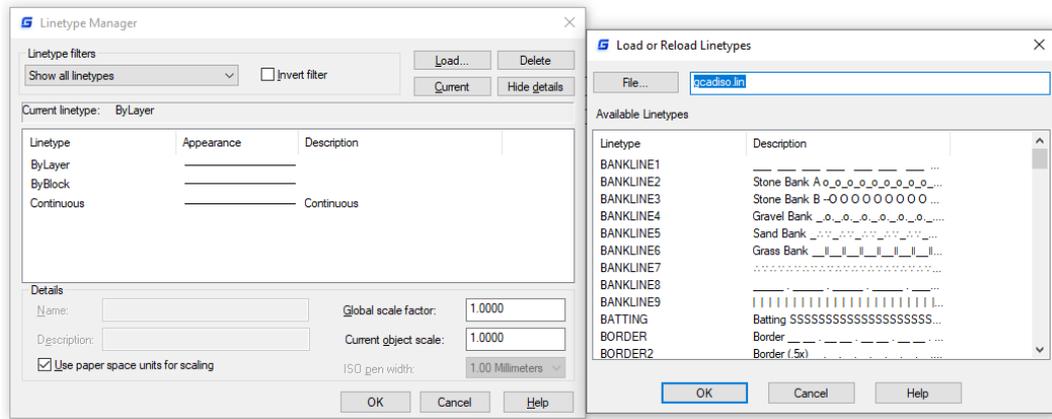
BricsCAD only provides the dialog box to load line types, doesn't support Linetype Manager.
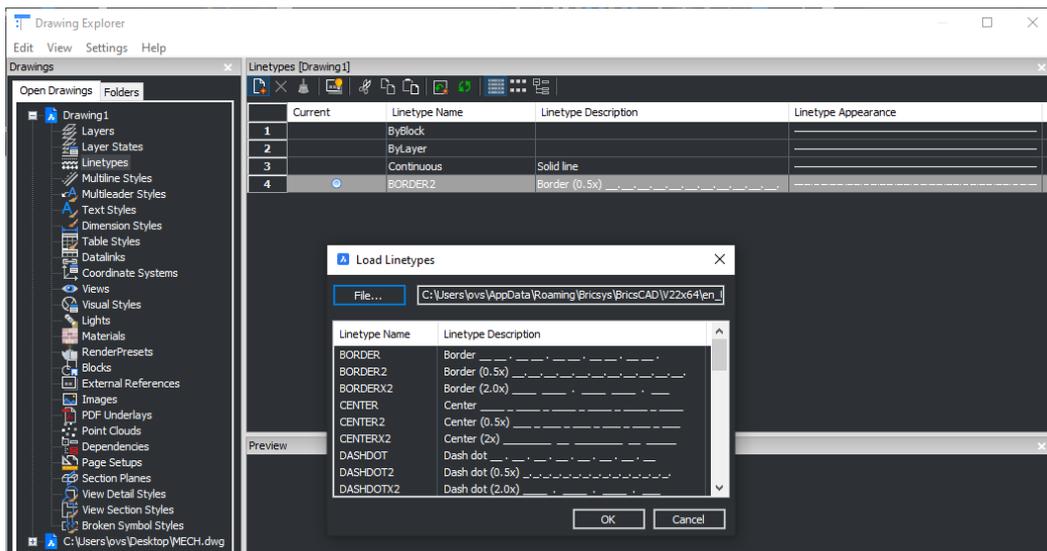
- **Concentric Circle**

GstarCAD supports concentric option which can easily draw concentric circle when executing CIRCLE command.
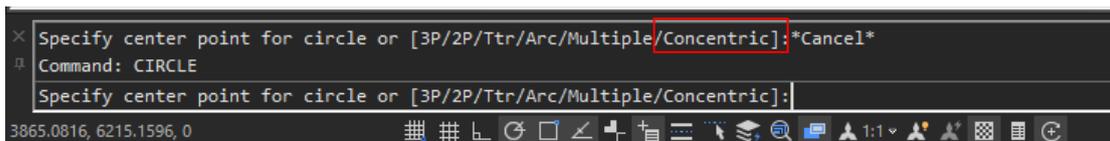
BricsCAD does not support the drawing of concentric circles.

- **Invert Fillet**

Invert Fillet has a very wide range of usage particularly in construction and furniture industry. GstarCAD can create the normal fillet and reverse fillet.
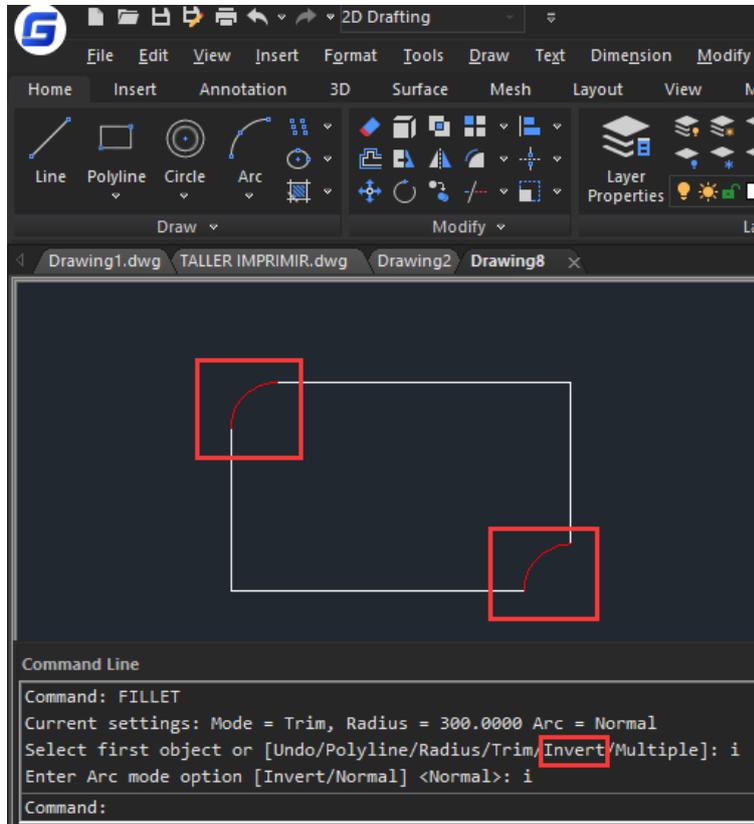
BricsCAD only supports the normal fillet.
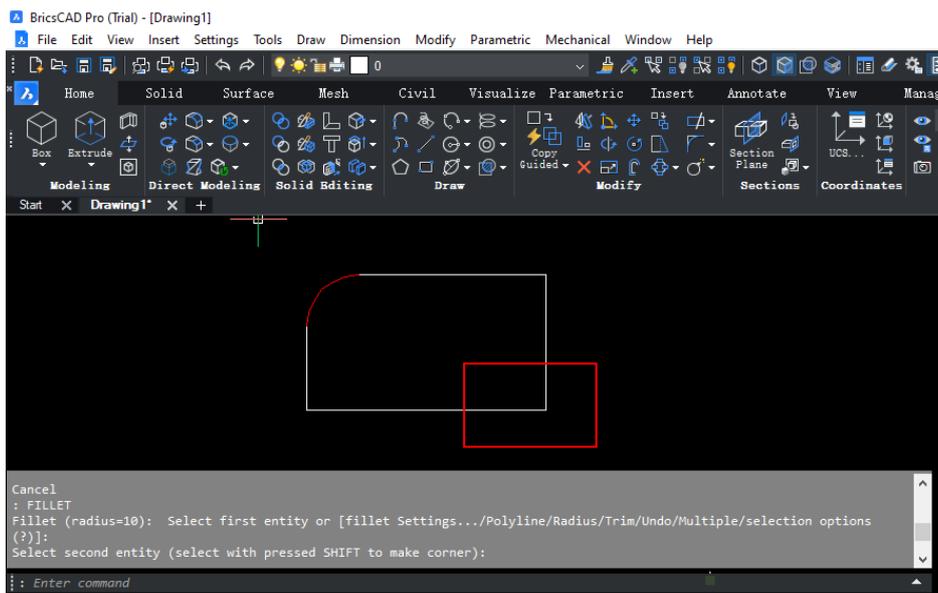
● **Copy Array Mode**

GstarCAD provides three array modes for copy command: measure, divide and path which can be copied along

a straight line or curve.

GstarCAD

BricsCAD does not support these options.

BricsCAD

- **Rotate Multiple Option**

With Multiple option, you can either copy many objects with different rotate angles, or you can draw circles array.
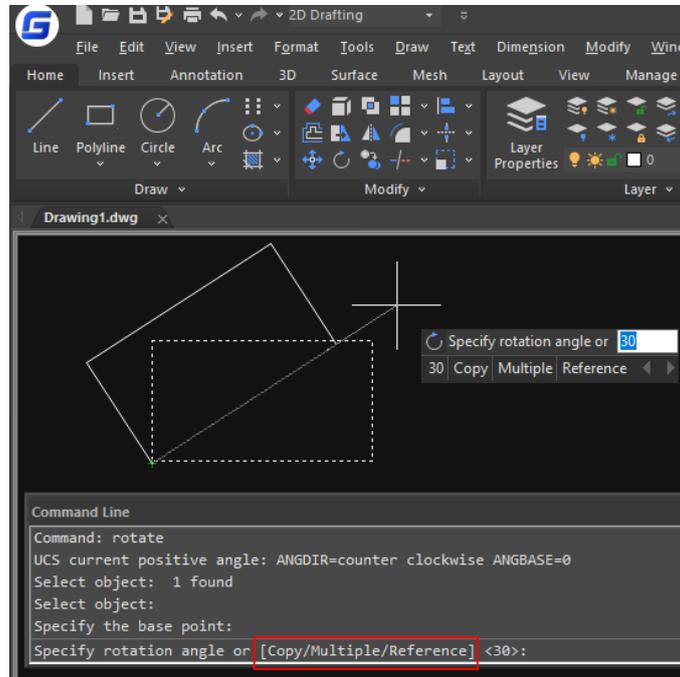
However, BricsCAD does not support multiple option in rotate command.
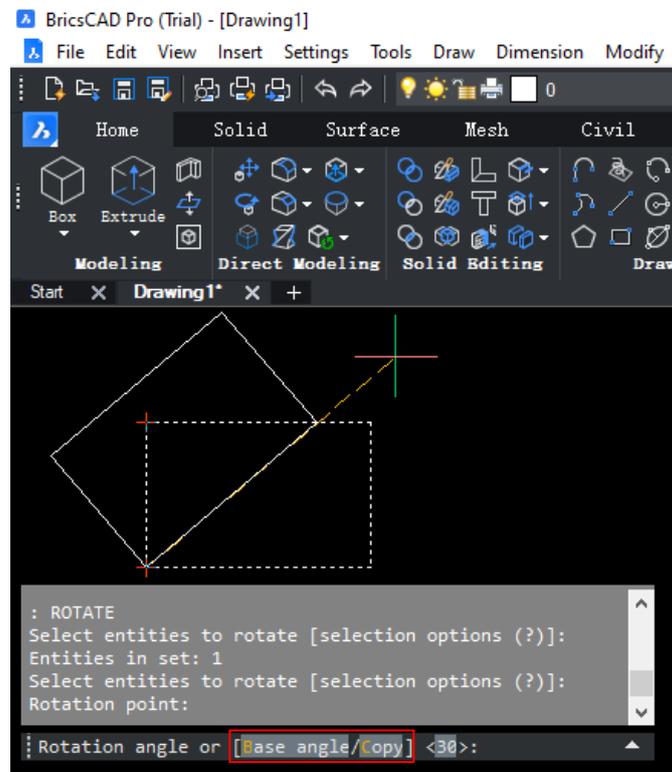
- Mirror

In GstarCAD, besides picking start and end point to define mirror axis, you can also directly select objects as mirror axis like a line, polyline, a line of block, or an external reference drawing.
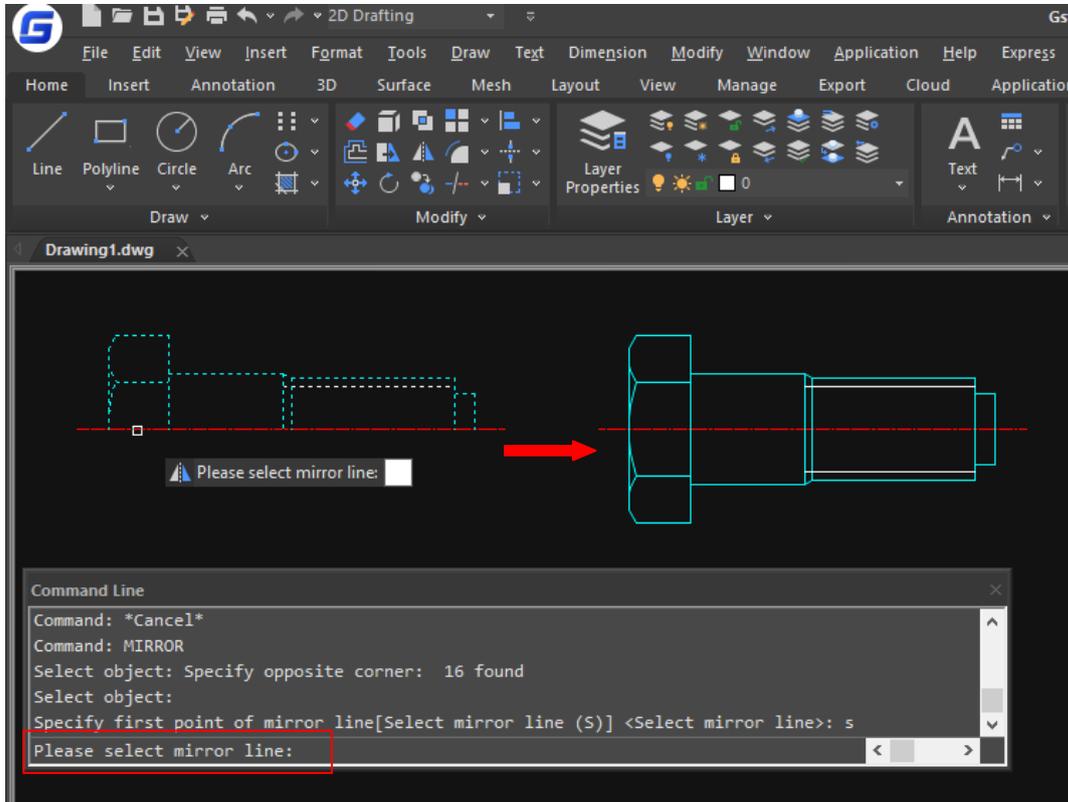
BricsCAD does not support select mirror line for mirror command, and you have to select the two points of the mirror line.
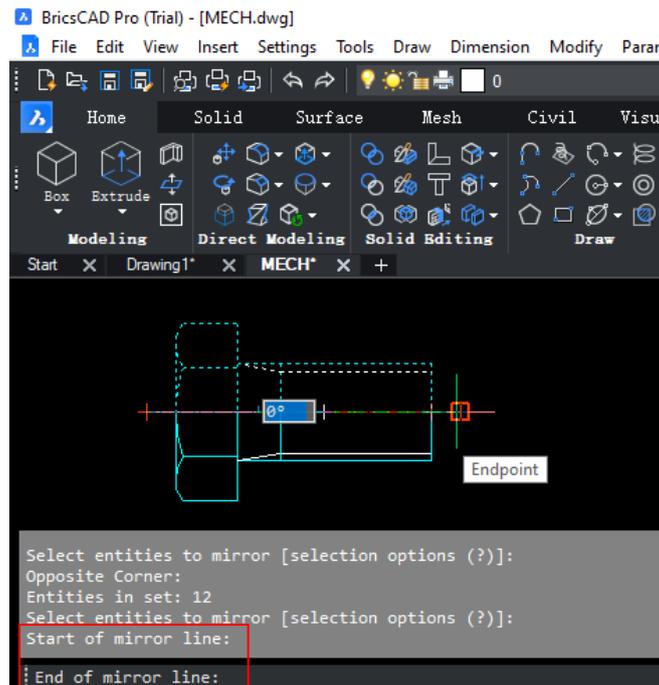
- **Mtext**

GstarCAD provides rich options in Mtext, such as Match text formatting, Superscript /Subscript, Check spelling settings and dictionary as well as other text options.
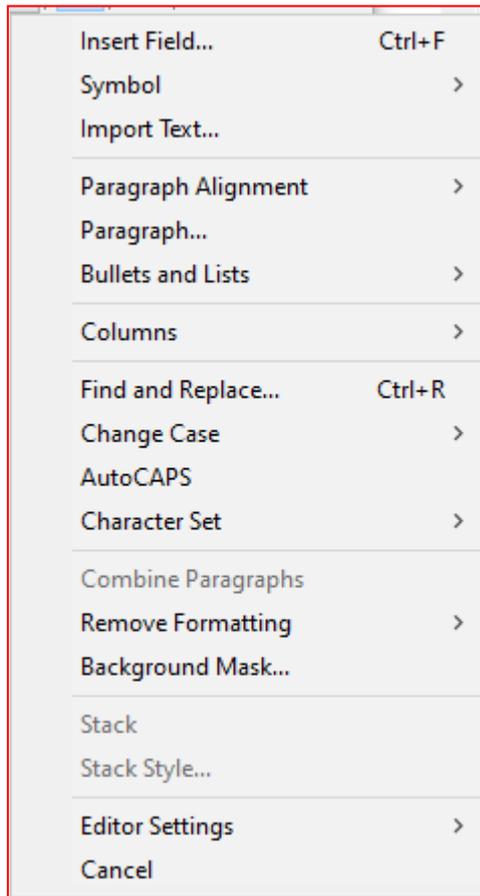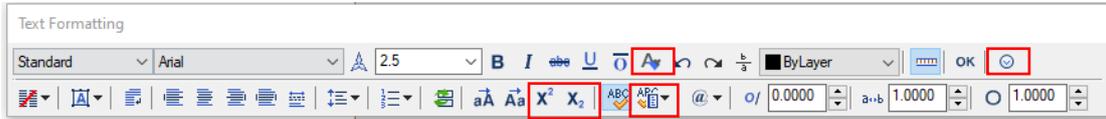
GstarCAD

BricsCAD not only lacks these above important functions, but also hides some of the frequently used options, such as the paragraph alignment, you have to click the drop-down list to choose, which reduces the operation speed.
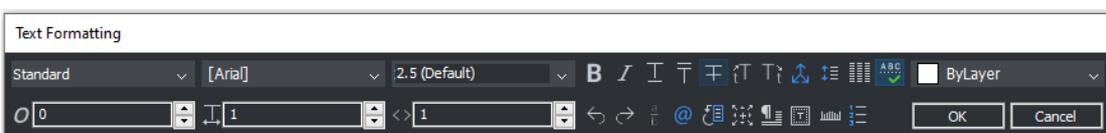
BricsCAD

- **Snap Options**

GstarCAD supports Distance from Endpoint and Divide Segments snap options.
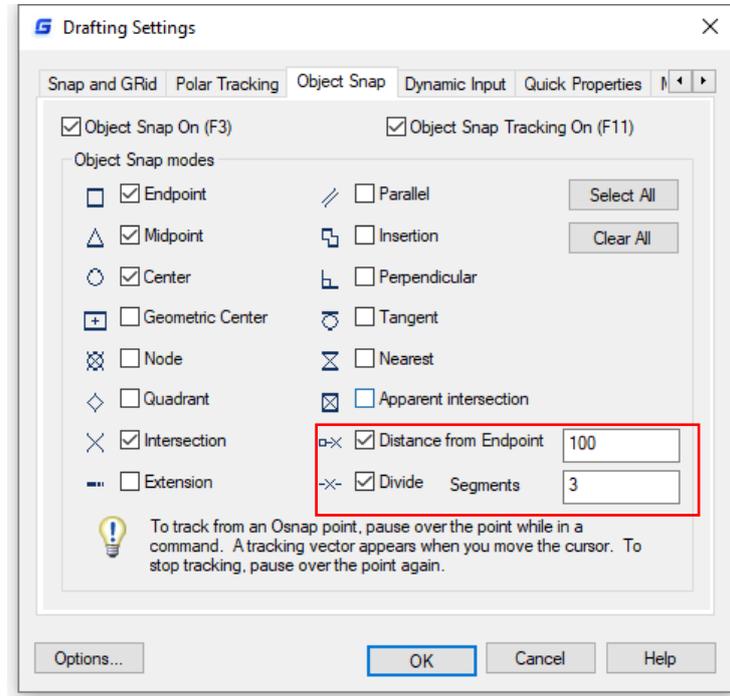
BricsCAD does not support Distance from Endpoint and Divide Segments snap options,
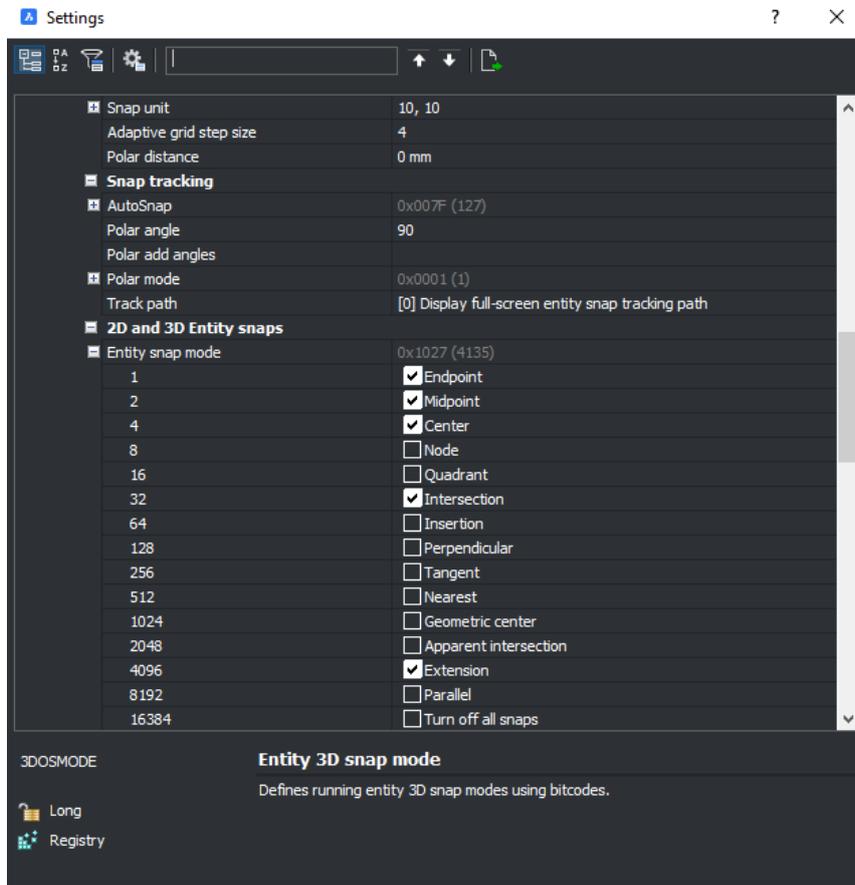
- Dimension Polygon Center

GstarCAD supports the option Polygon (P) in DIMCENTER command to mark the center of polygons. While BricsCAD only supports dimension center of arc and circle instead of dimension polygon.
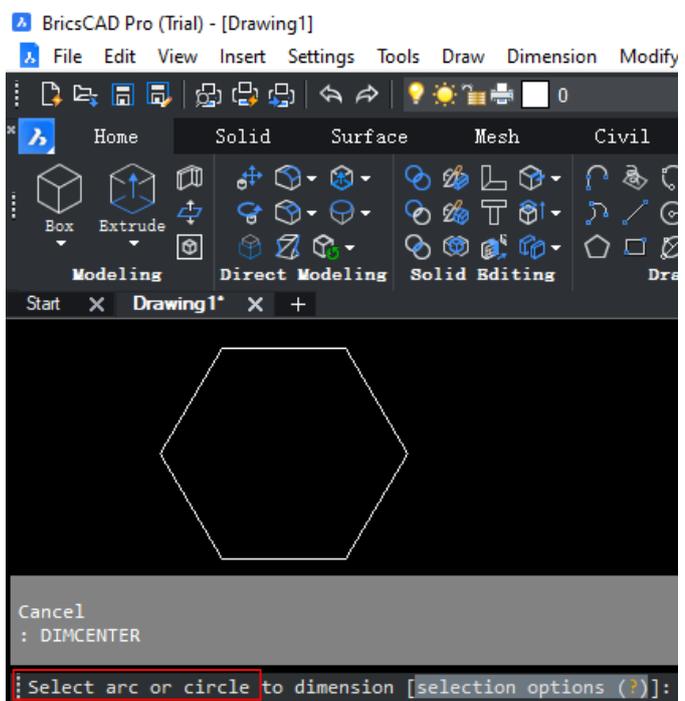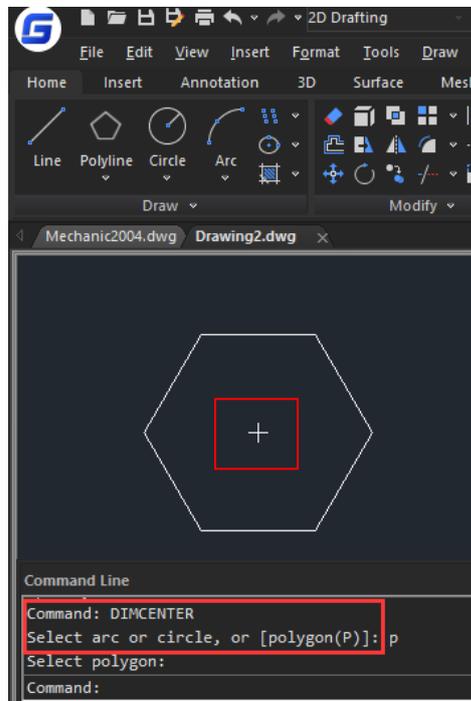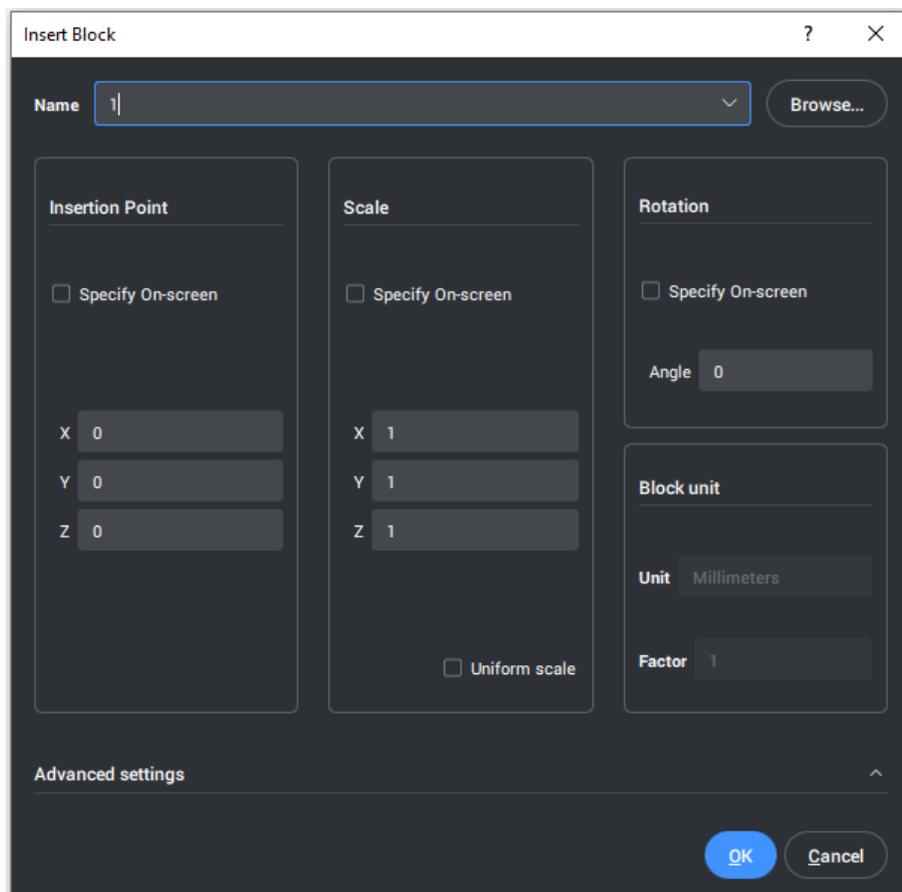
- **Create and Insert blocks**

GstarCAD supports the block preview when inserting the blocks. You can see what you will insert directly.
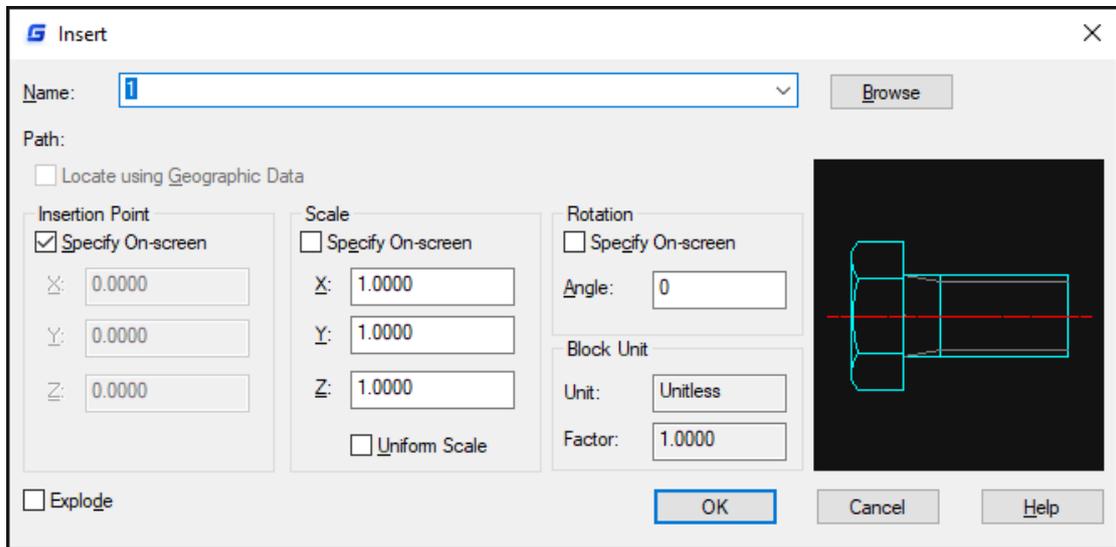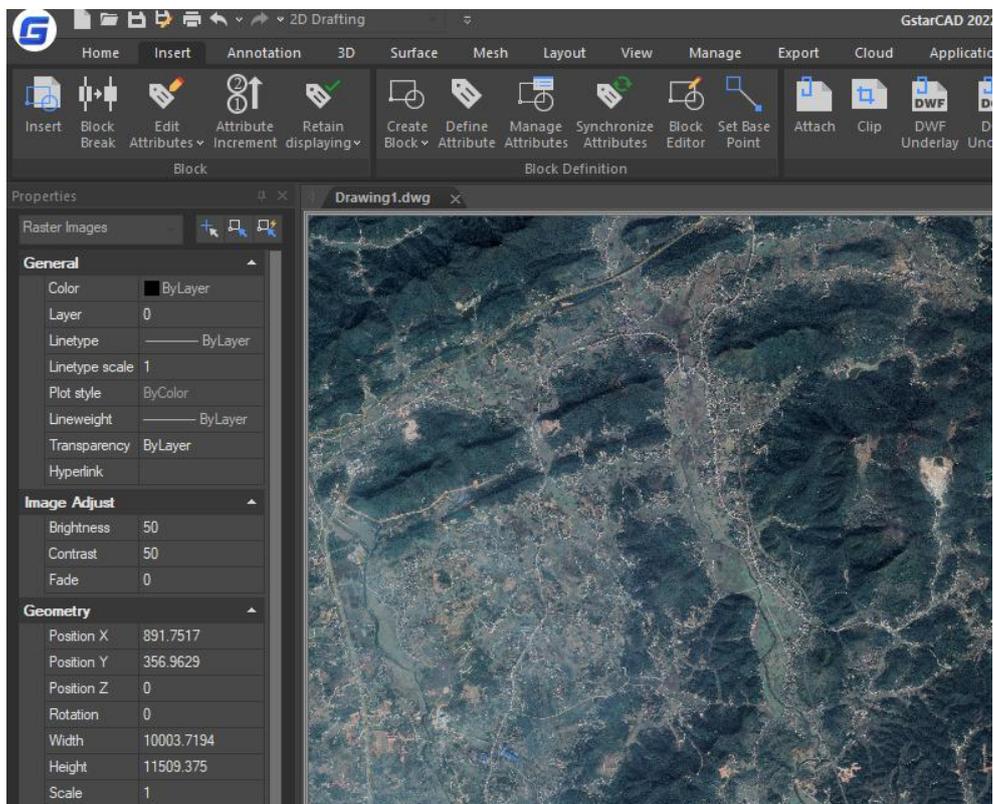

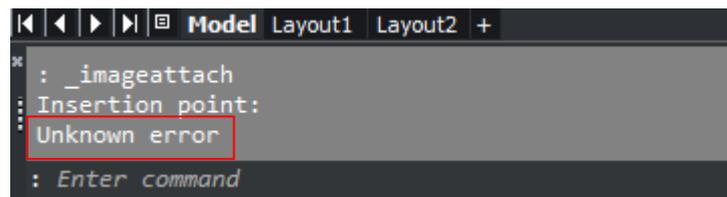BricsCAD does not support preview when inserting the blocks.

- **Large Raster Image Processing**

GstarCAD is excellent in dealing with large raster image.

GstarCAD

However, BricsCAD cannot open it.

BricsCAD

- **NAVICUBE**

The NaviCube is a navigation tool that is displayed when you are working in 2D model space or 3D visual style, which allows switching between standard and isometric views easier. It consists of a cube, compass and options, is draggable and clickable, and supports switching to any available preset views, rolling the current view, or setting the current view as the Home view.
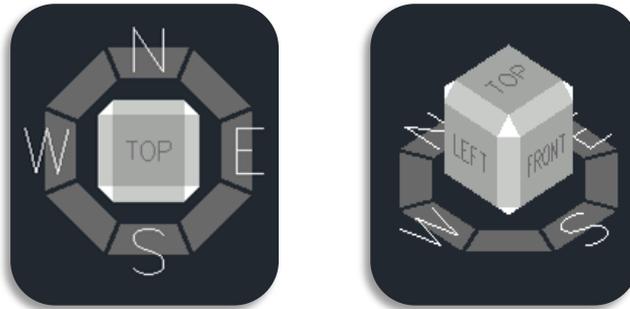

GstarCAD

The view navigation tool in BricsCAD is called LookFrom and there are two rotation modes: Isometric (isometric) and Twist (rotation).

In isometric mode, there is a chair in the middle of the navigation tool, which has the similar function as GstarCAD cube, but it can only be rotated to vertices, prisms and faces, and cannot be rotated at a custom angle. Continuous click to rotate is not supported, and drawings cannot be rotated synchronize by dragging. The angle changes in real time as you drag, and the drawing will rotate only after the drag is complete. At the bottom is a disc with eight directions, which is equivalent to our gossip steering wheel. Click on different direction points to quickly switch and jump to the corresponding face.

In twist mode, each 15° as a gear and the entire model can be rotated 15°-180° clockwise/counterclockwise.
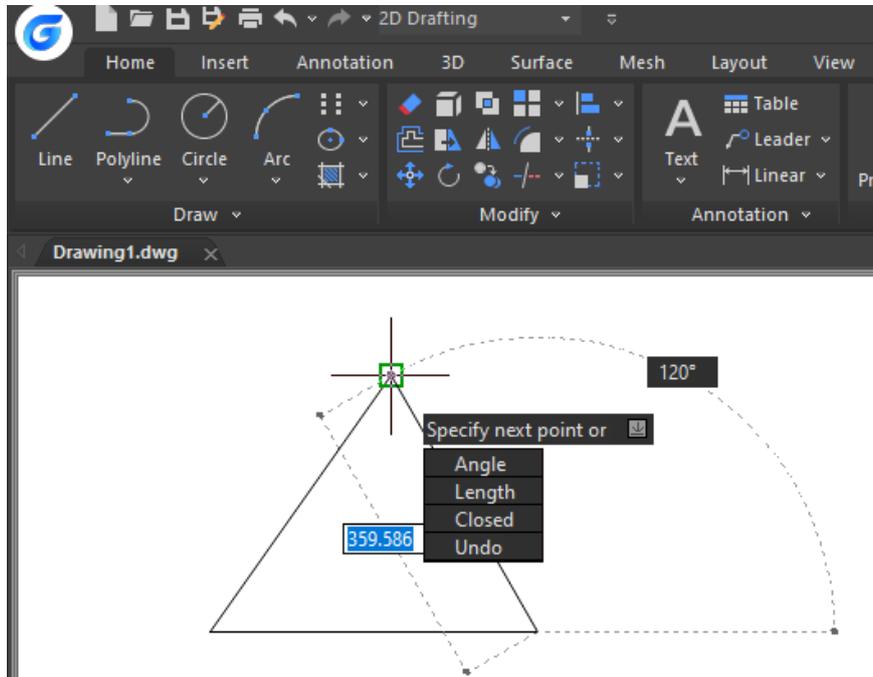
GstarCAD provides more powerful navigation tool than BricsCAD.
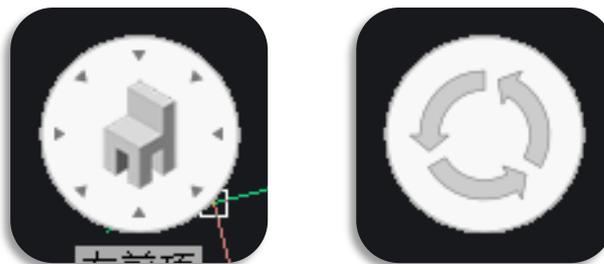
BricsCAD

● Vertical Dynamic Prompts List

Dynamic Prompts List is displayed vertically by default, which allows you to see all the prompts at once and simplifies drawing operations.


BrcisCAD doesn't support the vertical dynamic prompts list, and you have to find the options related to the

command at the command line which is not convenience.
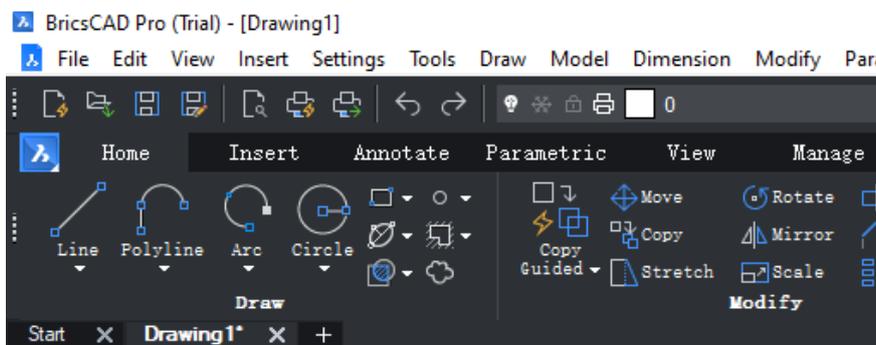
- **Multifunctional Grips for Spline**

GstarCAD supports multifunctional grips. Multifunctional grips provide options that include adding vertices and changing the tangent direction of the spline at its endpoints. Display a menu of options by hovering over a grip.
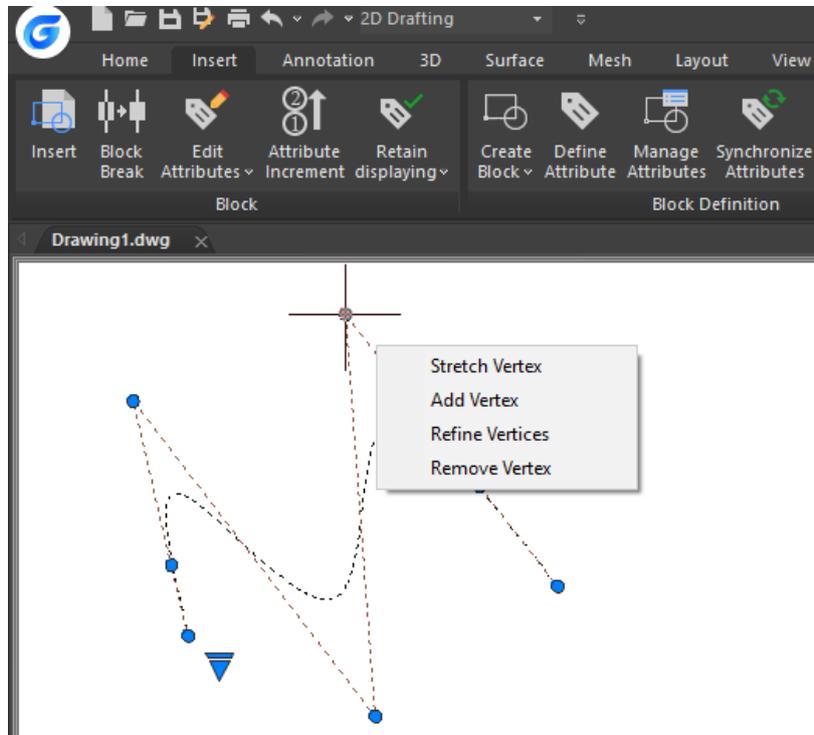

BricsCAD doesn't support Multifunctional Grips.
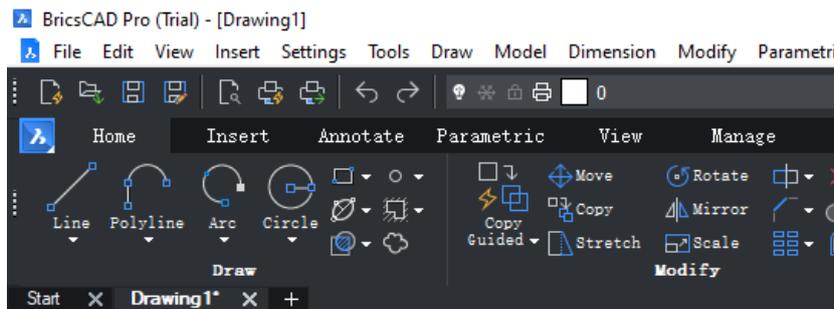
5. User Experience

GstarCAD not only supports richness features, but also gives you a better user experience in many inspects.

4.1. Color Scheme

GstarCAD provides more interface choices, users could choose and switch the interface color based on their needs. BricsCAD doesn't provide Color Schemes and it only supports dark and light interfaces.
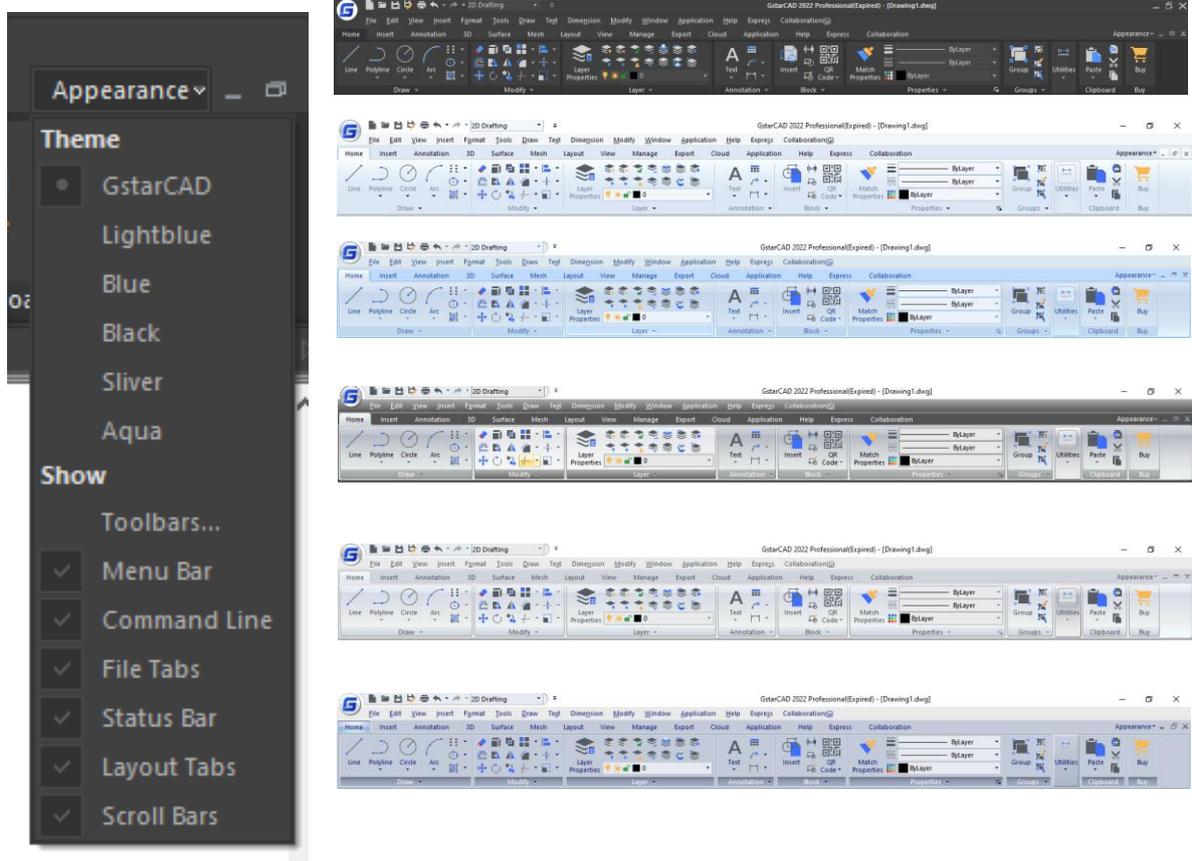
4.2. Drafting Settings

GstarCAD uses dialog box and tab which are clearer, easy to find and customize. The Units, Layer, Text style, Dimension style, Options and Drafting settings are all provided in independent dialog box in GstarCAD. BricsCAD puts most of the settings in the Drawing Explorer and Settings dialog box, and the tree structure and the complex levels bring extra difficulties to the users in setting options and parameters.

The comparison between GstarCAD and BricsCAD Snap settings:
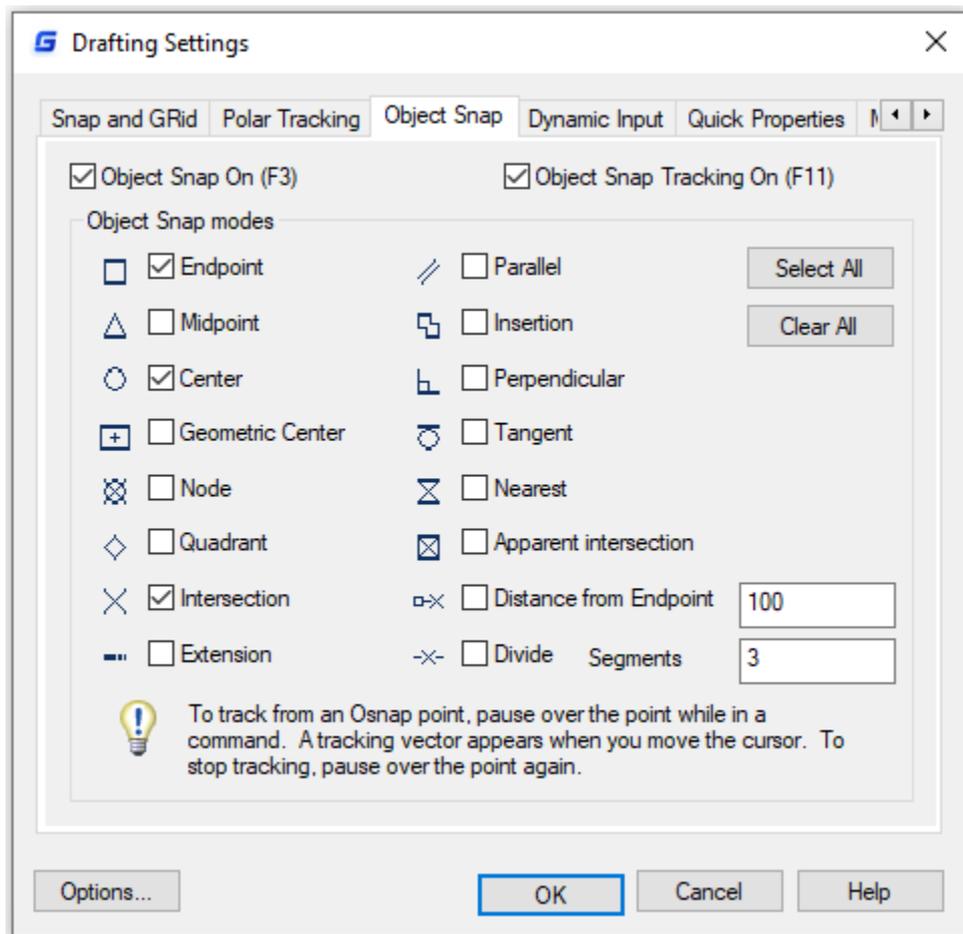
GstarCAD

BricsCAD uses tree structure with the complex hierarchy and users have to use the scroll bar to find the options.
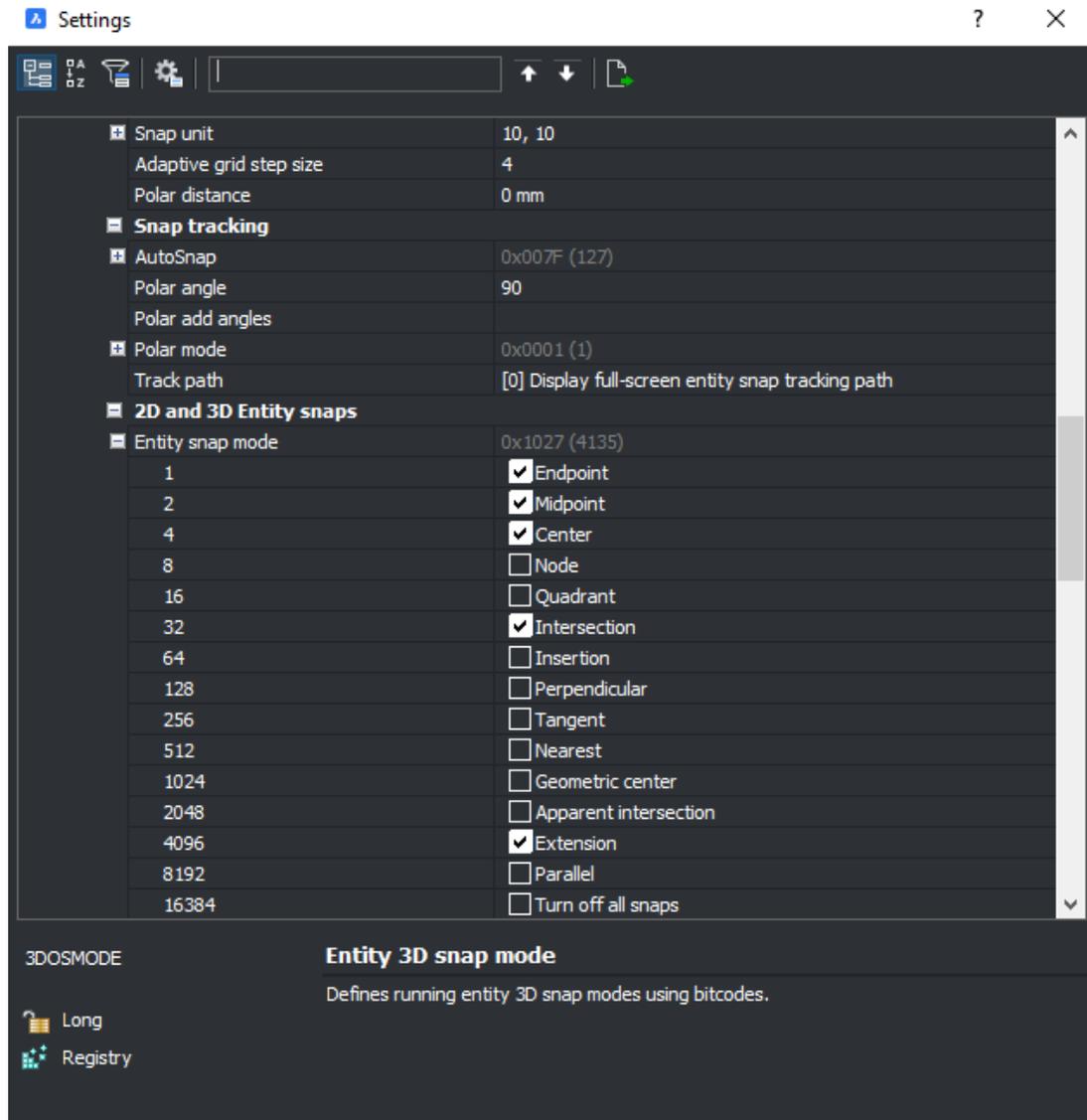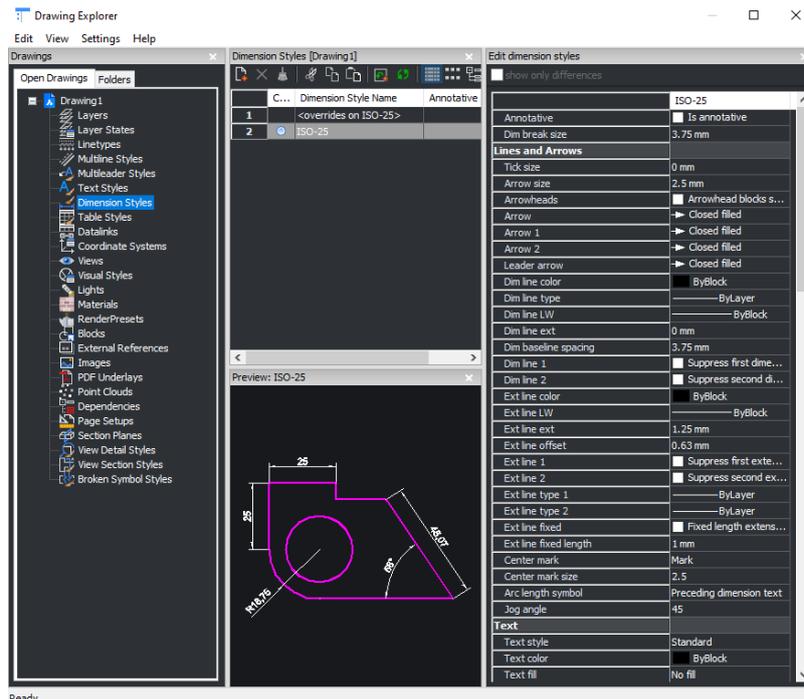

BricsCAD

4.3. Feature Options

The Dimension style setting in GstarCAD has independent dialog box, and the parameters have been classified into different tabs. So it is very convenient for the users to make the settings. As shown below:
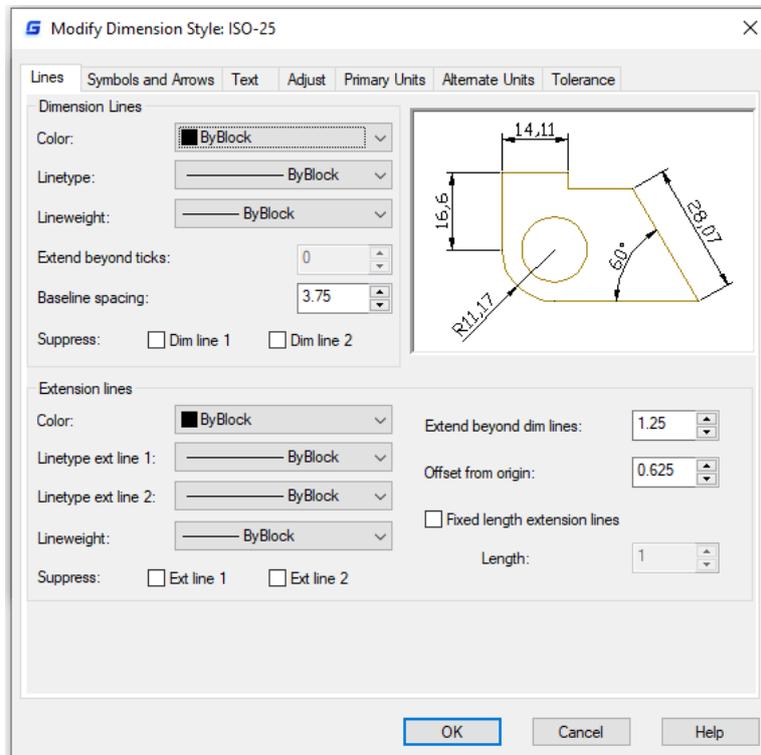

BricsCAD puts Text style, Dimension style, Line type and other features into the Drawing Explorer which almost occupies the whole interface. For some features which contain many parameters, such as Dimension Style, users need to drag the scroll bar to find them from the hundreds of parameters. So it is not convenient at all. As shown below:
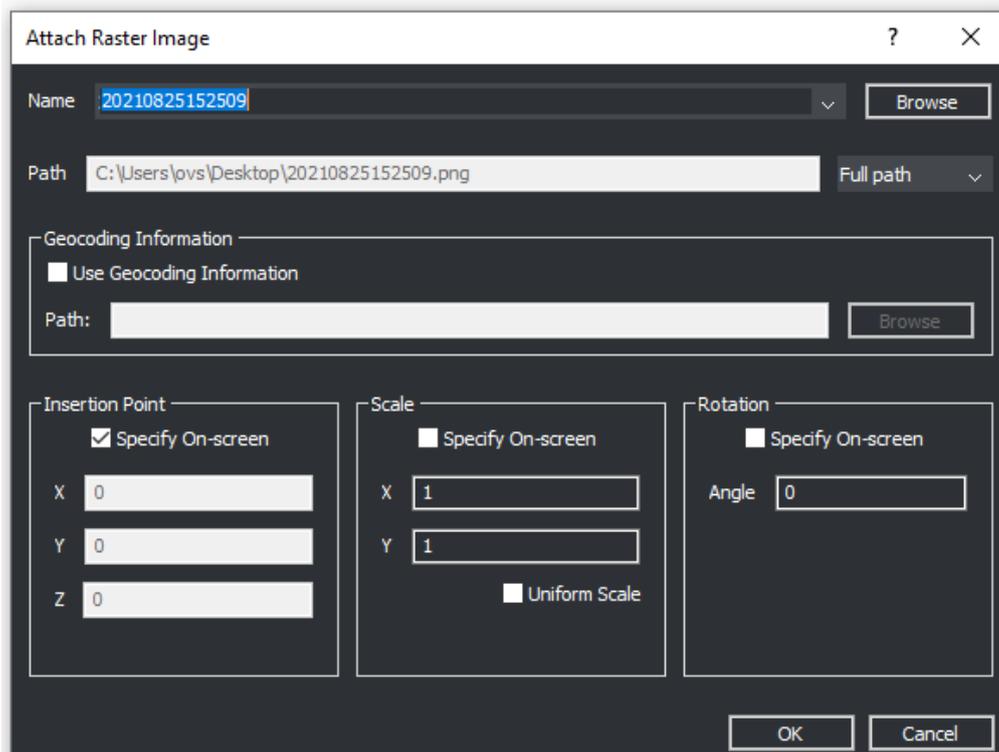
4.4. Image Preview

GstarCAD supports image preview which is more intuitive for users.
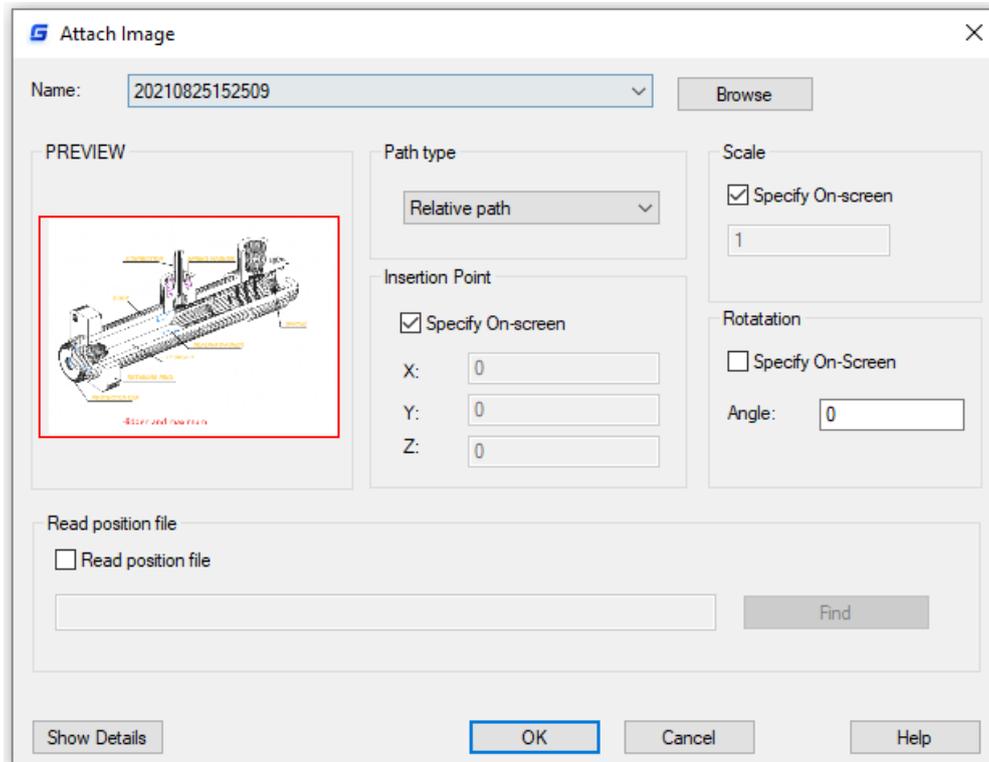
BricsCAD does not support image preview.

4.5. Context Menu for Object Snapping

The snapping options are listed in the right-click menu of the object snap button in GstarCAD. You can multiple select the snapping options at one time.

BricsCAD supports the right-click menu of the object snap button, but allow you to select one option at a time.

GstarCAD   BricsCAD
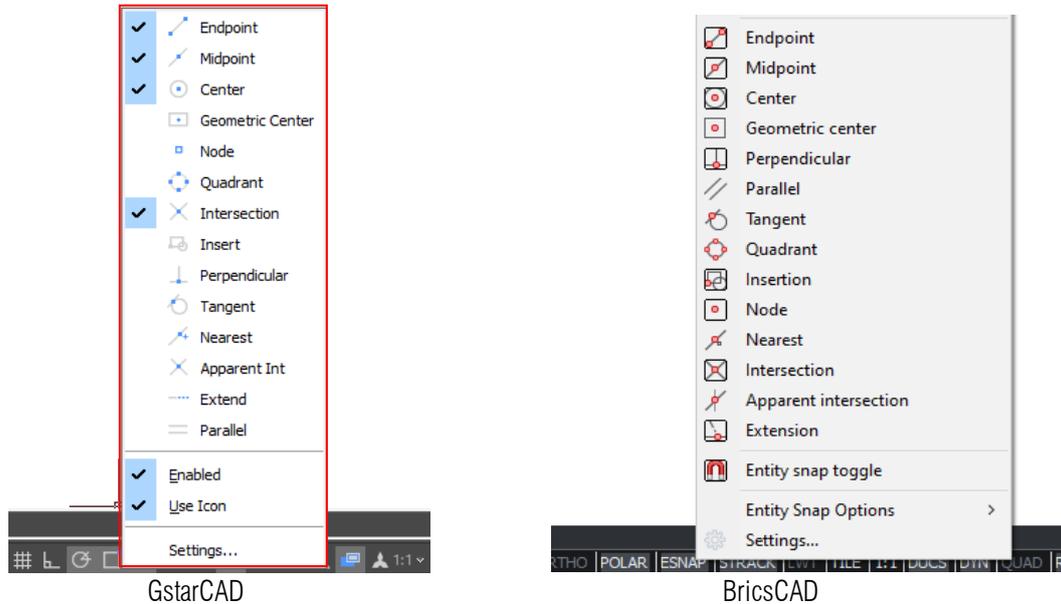
4.6. Context Menu for Polar Tracking

GstarCAD provides commonly used polar axis incremental angles in the right-click menu, and users can directly select them in the menu without opening the Draft setting dialog box.

However, you have to open the Draft settings dialog box to choose options or set the incremental angles in BricsCAD.

GstarCAD   BricsCAD
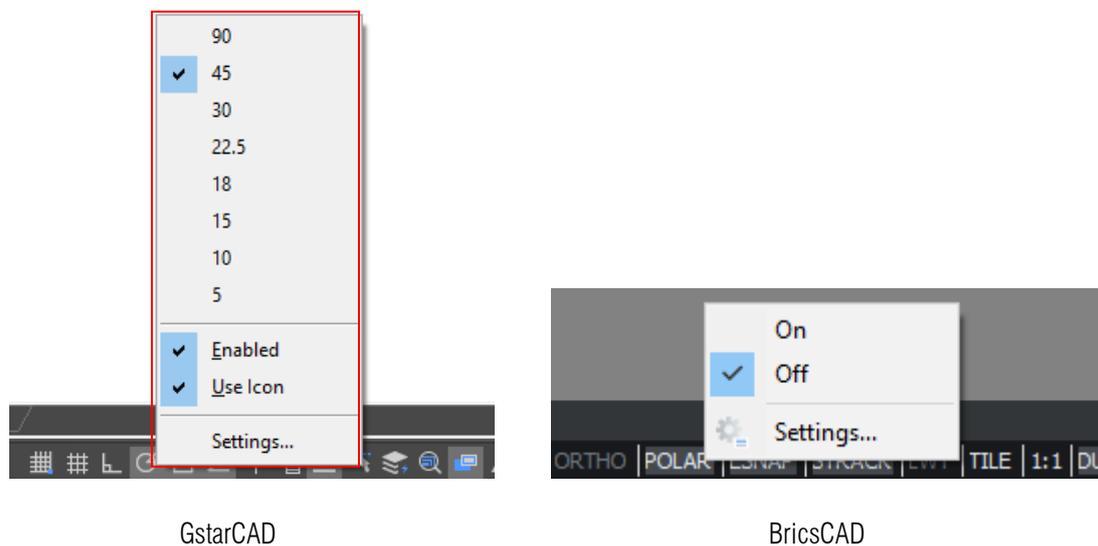
4.7. Licensing

GstarCAD not only provides the flexible licensing policy (subscription and perpetual), but also provides the flexible licensing Options. GstarCAD offers Stand-alone and Network licenses, both are available with Soft key (Serial number) and Dongle (USB-key).

	Stand-alone License-key Serial number	Stand-alone USB-key Dongle	Network License-key Serial number	Network USB-key Dongle
Perpetual license	√	√	√	√
Rental license	√	×	√	×
License borrowing	×	×	√	×
Connection to license server	×	×	√	√

Although, BricsCAD supports Stand-alone and Network licenses, it does not support Dongle (USB-key).
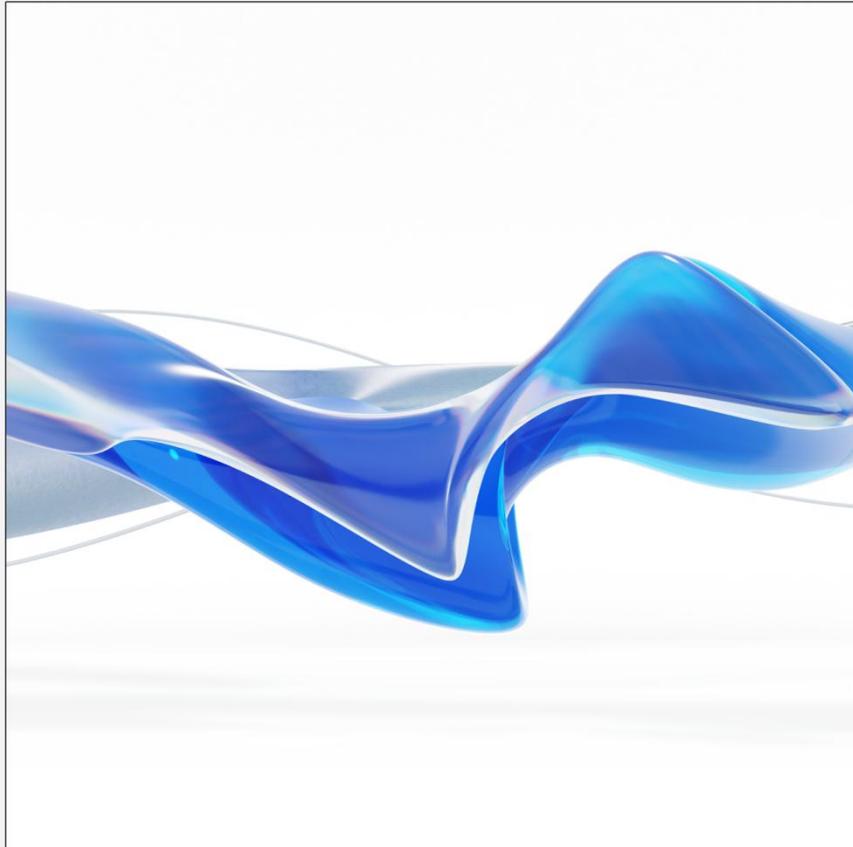
5. Conclusion

In general, GstarCAD provides users with a simpler and more user-friendly drawing environment, which helps users design quickly and comfortably. However, BricsCAD uses the tree structure, users need more time to adapt to it and options and format settings are inconvenient as well. Although BricsCAD has advantage in 3D, it still has gap with other professional 3D software. GstarCAD is far ahead than BricsCAD in 2D and more friendly in function detail.

■ https://www.gstarcad.net/