

CST CAD NAVIGATOR USER GUIDE

by CADSOFTTOOLS

CST CAD Navigator is the CAD application compatible with Windows, macOS, and Linux. Under its user-friendly interface, there is a powerful kernel enabling quick viewing of 2D drawings and 3D models. The software makes it easy to import and export files, get dimensions, and create section views.

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WHAT FILE FORMATS ARE SUPPORTED?



CST CAD Navigator supports both 2D and 3D file formats. It enables to open:

CAD FORMATS

DWG (up to Autodesk AutoCAD® 2024), DXF.

VECTOR FORMATS

PDF, SVG, CGM, PLT, HPGL, HGL, HG, HPG, PLO, HP, HP1, HP2, HP3, HPGL2, HPP, GL, GL2, PRN, SPL, RTL, PCL.

3D FORMATS

IGES, IGS, STEP, STP, STL, X_T, X_B, SLDPRT, SAT, FSAT, SAB, OBJ, BREP, SMT, IPT.

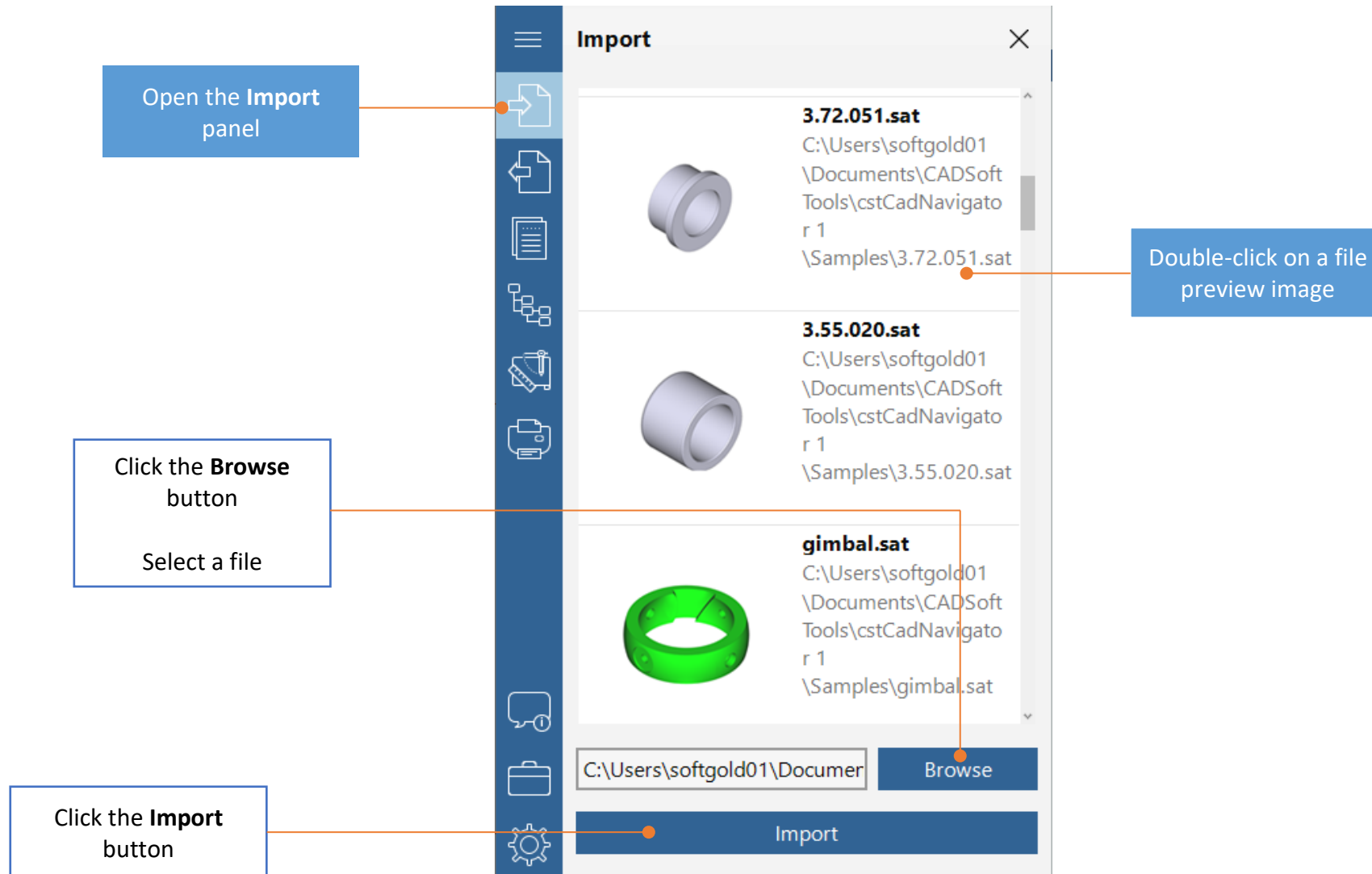
RASTER FORMATS

PNG, BMP, JPG, JPEG, TIF, TIFF, GIF.

HOW TO OPEN A FILE?



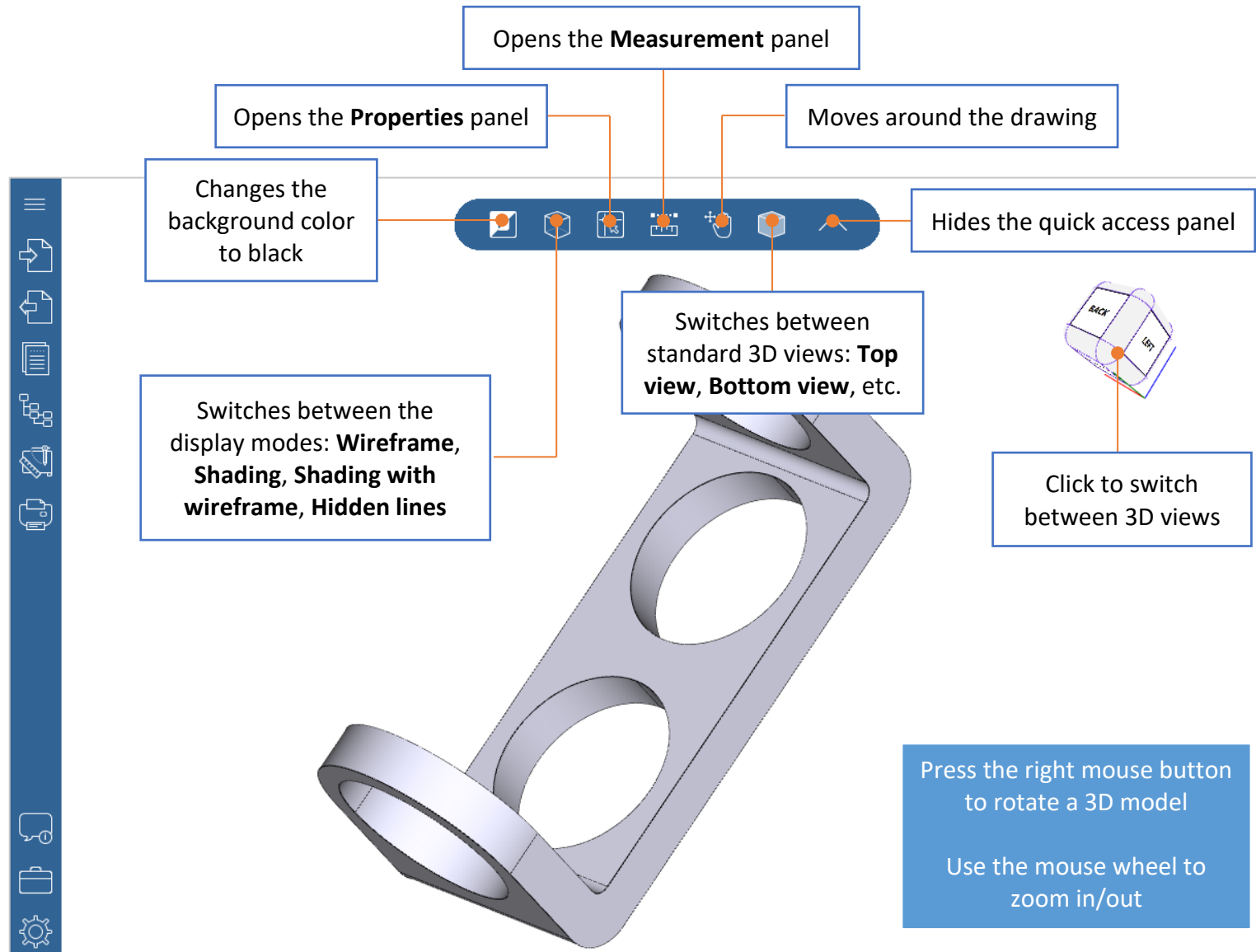
When you run CST CAD Navigator for the first time, click **Browse**, select your file and then click **Open**. On subsequent run of the application, your recent files are displayed. To view one of them, double-click on it or select it and click **Import**.



HOW TO NAVIGATE AROUND A FILE?



CST CAD Navigator enables to quickly navigate around your 2D drawing or 3D model.



WHAT ARE THE EXPORT FORMATS?



CST CAD Navigator enables to save files to the following formats:

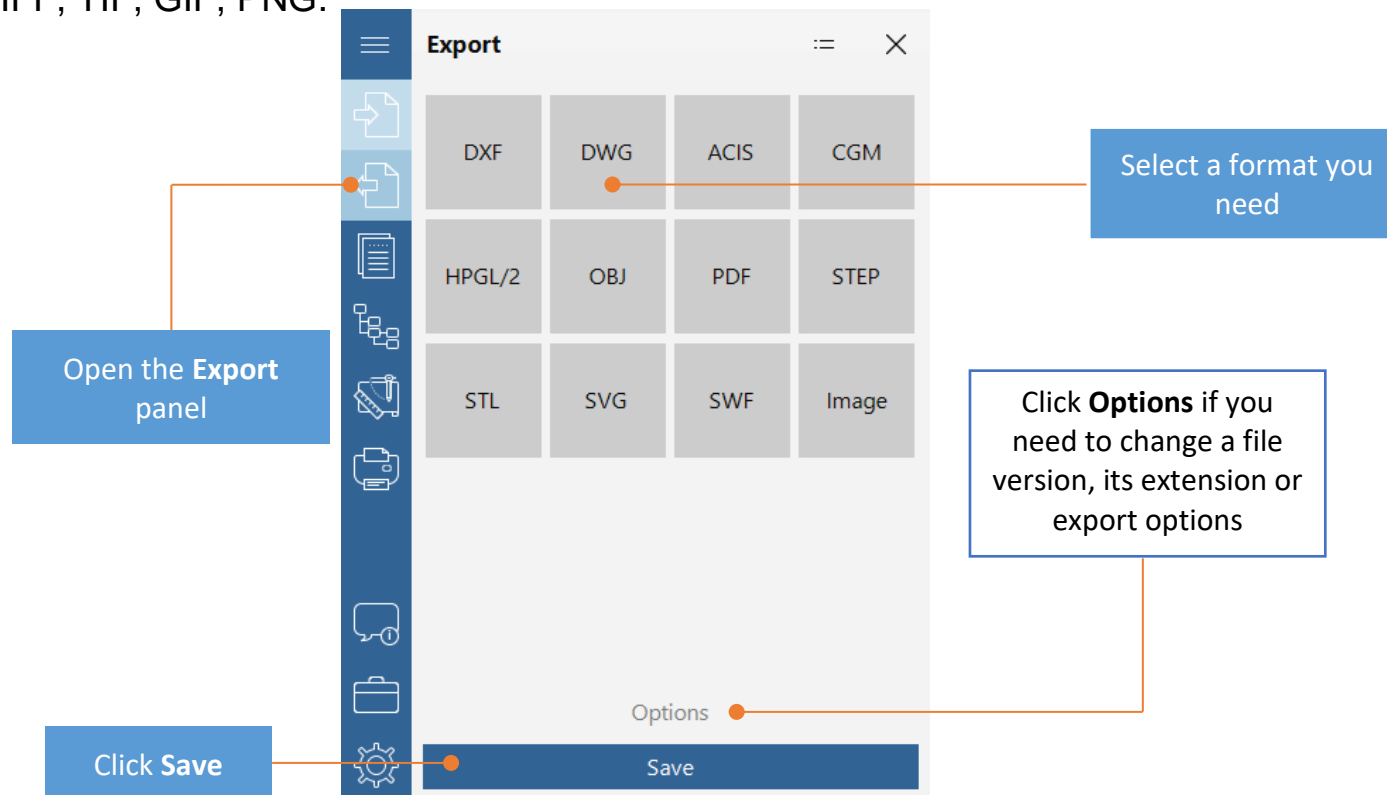
CAD FORMATS: DWG (versions 2000, 2004, 2010), DXF.

VECTOR FORMATS: PDF, CGM, SVG, SWF, HPGL/2.

3D FORMATS: IGES, STEP, STL, OBJ, ACIS.

RASTER FORMATS:

JPG, JPEG, BMP, TIFF, TIF, GIF, PNG.



HOW TO CONVERT PDF TO DWG/DXF?



Using CST CAD Navigator, it is possible to convert PDF files to editable DWG or DXF files. To change the conversion settings, go to the [Settings panel](#).

The image shows the CST CAD Navigator interface with two panels open: **Tools** and **Export**. Instructional callouts guide the user through the conversion process:

- Open the Tools panel**: Points to the Tools panel icon in the left sidebar.
- Click PDF Conversion** (this tool is also available at the starting page of the application and on the **Import** panel): Points to the PDF Conversion tool in the Tools panel.
- When conversion is complete, open the Export panel**: Points to the Export panel icon in the left sidebar.
- Select a file format you need**: Points to the DWG and DXF options in the Export panel.
- Click Save**: Points to the Save button at the bottom of the Export panel.

The **Tools** panel contains the following tools: Measurement, View, PDF Conversion, and a ? (Help) icon.

The **Export** panel contains the following file formats: DXF (AutoCAD™ DXF), DWG (AutoCAD™ DWG), ACIS (Spatial files), CGM (Computer Graphics Metafile), HPGL... (HPGL files), and OBJ (Wave Front model file). It also includes an **Options** section and a **Save** button.

HOW TO MEASURE A 2D FILE?



CST CAD Navigator provides two measuring tools to measure 2D files: **Distance** and **Polyline Length**.

Using the **Distance** tool, you can get the distance between two points.

Using the **Polyline Length** tool, you can get the length of a polyline part, its total length, or area.

The image shows the CST CAD Navigator interface with two panels open: **Tools** and **Measurement**. Annotations with blue boxes and orange lines point to specific elements:

- Open the Tools panel:** Points to the Tools panel icon in the left sidebar.
- Click Measurement:** Points to the Measurement tool icon within the Tools panel.
- Distance:** Points to the Distance tool icon within the Measurement panel.
- Polyline Length:** Points to the Polyline Length tool icon within the Measurement panel.
- Open the Snap panel to turn on/off different types of snaps:** Points to the Snap dropdown menu in the Measurement panel.

The **Tools** panel contains icons for Sectioning, Measurement, and View. The **Measurement** panel displays the following settings:

- Measurement settings:** Includes icons for Distance and Polyline Length.
- Displayed units:** Centimeters
- Original units:** Millimeters
- Precision:** 0.0000
- Snap:** A dropdown menu showing options: ☒ Line, First point, Second point, and Delta. Below these options, it displays "Distance: 9,5094" and "[X] Delete".

HOW TO GET DIMENSIONS OF A 3D MODEL?

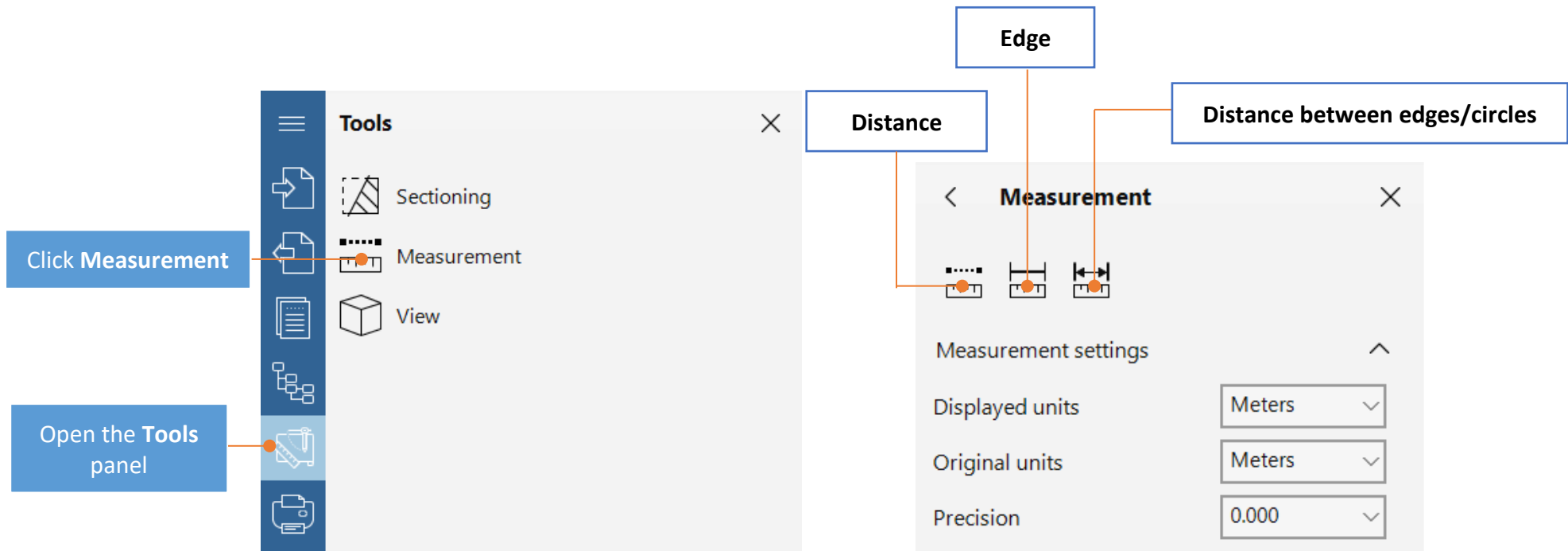


CST CAD Navigator provides three measuring tools to get dimensions of 3D models: **Distance**, **Edge**, and **Distance between edges/circles**.

Using the **Distance** tool, you can get the distance between two points, between a point and surface, between two parallel surfaces.

Using the **Edge** tool, you can get the length of an edge and the radius of a circle or a circular arc.

Using the **Distance between edges/circles** tool, you can get the distance between two parallel edges or between two circle centers.

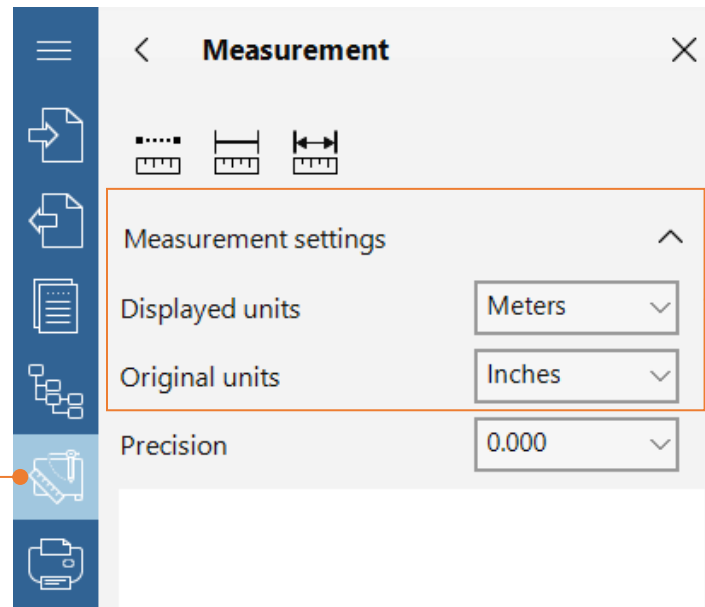


HOW TO CHANGE THE MEASURING UNITS?



You can change the measuring units in the **Measurement settings** section. Set the original units of a drawing/3D model (units in which it was created) and the units in which you want the measurement results to be displayed.

Open the **Tools** panel and click **Measurement**

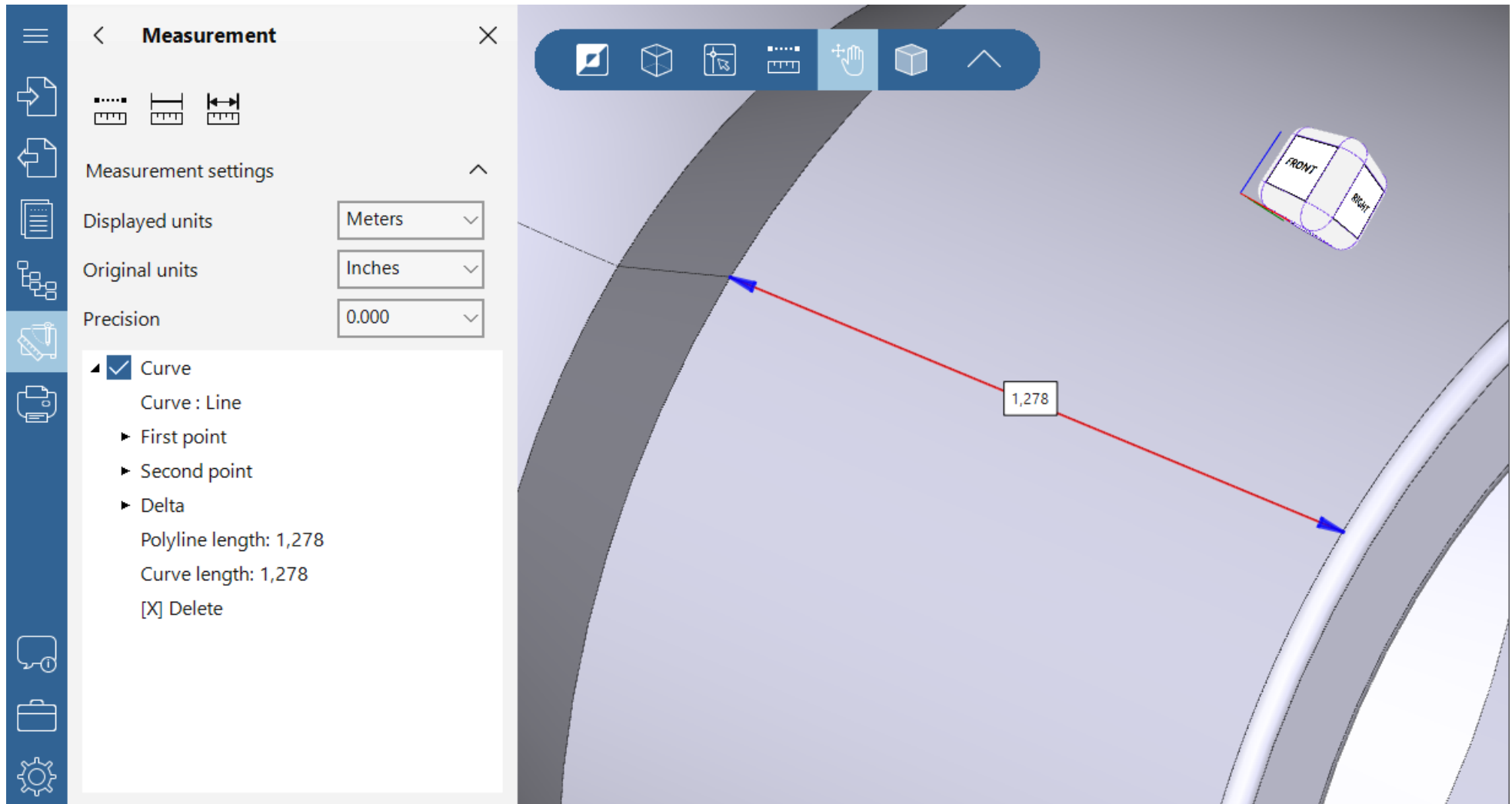


Set the units in the **Measurement settings** section

HOW TO GET THE DISTANCE BETWEEN TWO POINTS?



Activate the **Distance** tool, then click to specify the first and the second points on a 3D model. The result will be shown in **Measurement** panel on the left and on a 3D model itself.



HOW TO CREATE A SECTION VIEW OF A MODEL?



CST CAD Navigator has a dynamic section tool. With its help, you may create a section view of a 3D model and see its hidden elements. Sections do not modify geometry and are fully customizable.

The image illustrates the steps to create a section view in CST CAD Navigator. It shows the 'Tools' panel on the left and the 'Sectioning' dialog box on the right.

Tools Panel:

- Open the Tools panel:** Points to the 'Tools' panel icon in the left sidebar.
- Click Sectioning:** Points to the 'Sectioning' tool icon in the 'Tools' panel.

Sectioning Dialog Box:

- Click the Add plane button:** Points to the '+' icon in the 'Sectioning' dialog.
- Creates a section in one of the default planes: YZ, XZ, XY:** Points to the 'YZ', 'XZ', and 'XY' plane selection buttons.
- Deletes a plane:** Points to the '-' icon in the 'Sectioning' dialog.
- Displays all the added section planes:** Points to the 'Planes' list box, which shows a list of planes (0, 1, 2).
- Position:** Points to the 'Position' section, which includes input fields for X (0), Y (0), and Z (0).
- Parameters:** Points to the 'Parameters' section, which includes sliders and input fields for Distance (0), Azimuth (90), and Inclination (0).

HOW TO ADJUST A SECTION PLANE'S POSITION?



To adjust a section plane's position, move the sliders or specify the coordinates of the central point in the X, Y, Z fields.

The image shows the 'Sectioning' tool interface with several callouts explaining its features:

- Specify the coordinates of the central point:** Points to the X, Y, and Z input fields in the 'Position' section, which are currently set to 0.
- Change the parameter values of the section by moving the sliders or entering the value:** Points to the 'Parameters' section, which includes sliders and input fields for Distance (0), Azimuth (90), and Inclination (0).
- Reverses the direction of the selected plane:** Points to the 'Reverse' button (a circle with a cross) in the top right corner.
- Displays the 3D model parts that were cut:** Points to the '3D View' button (a cube icon) in the top right corner.

The interface also includes a 'Planes' list with items 0, 1, and 2, where item 2 is selected. The top bar shows icons for different plane orientations (YZ, XZ, XY) and a 'Sectioning' title.

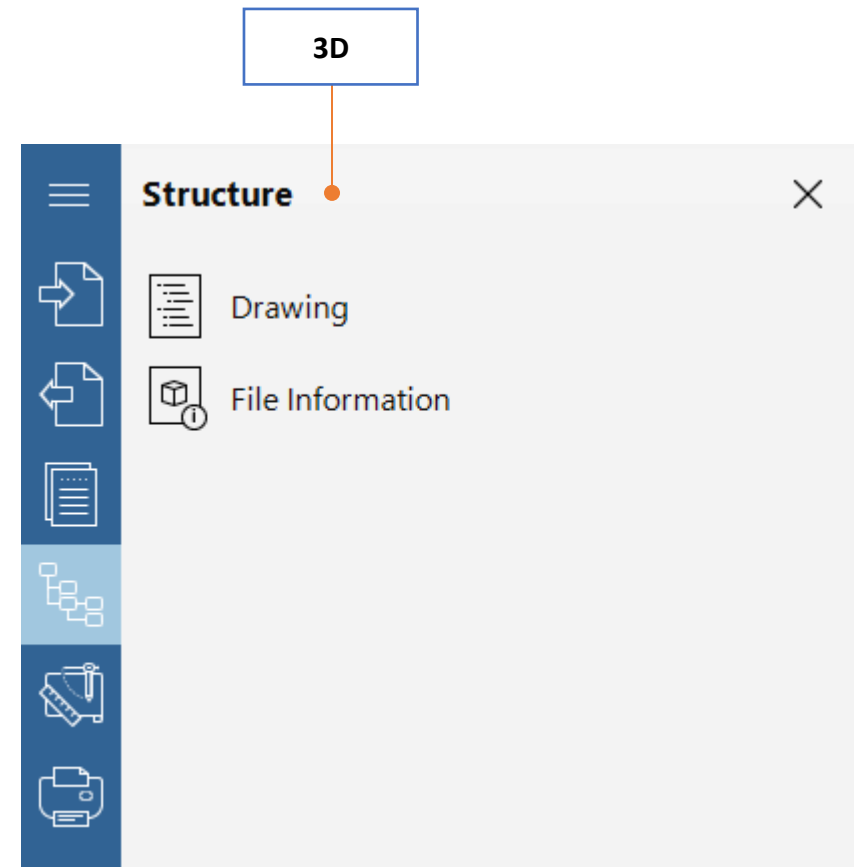
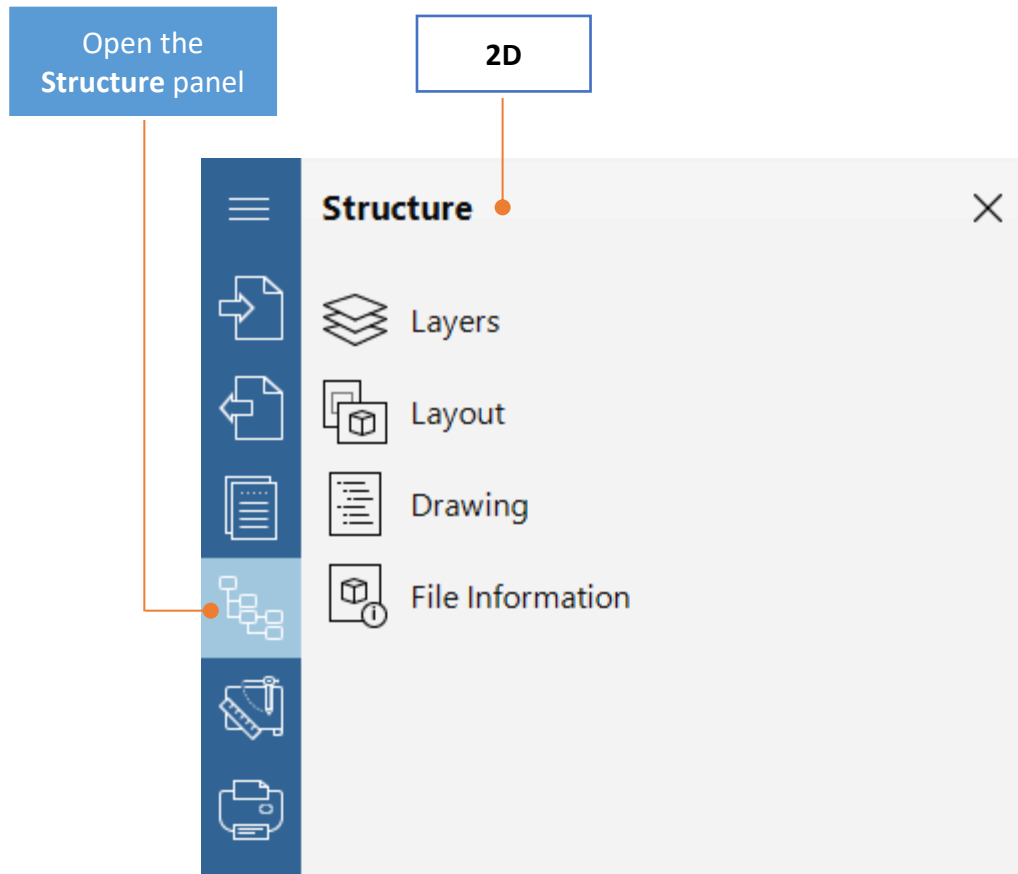
HOW TO SEE THE STRUCTURE OF A FILE?



The **Structure** panel includes the following sections:

2D: **Layers, Layout, Drawing, File Information.**

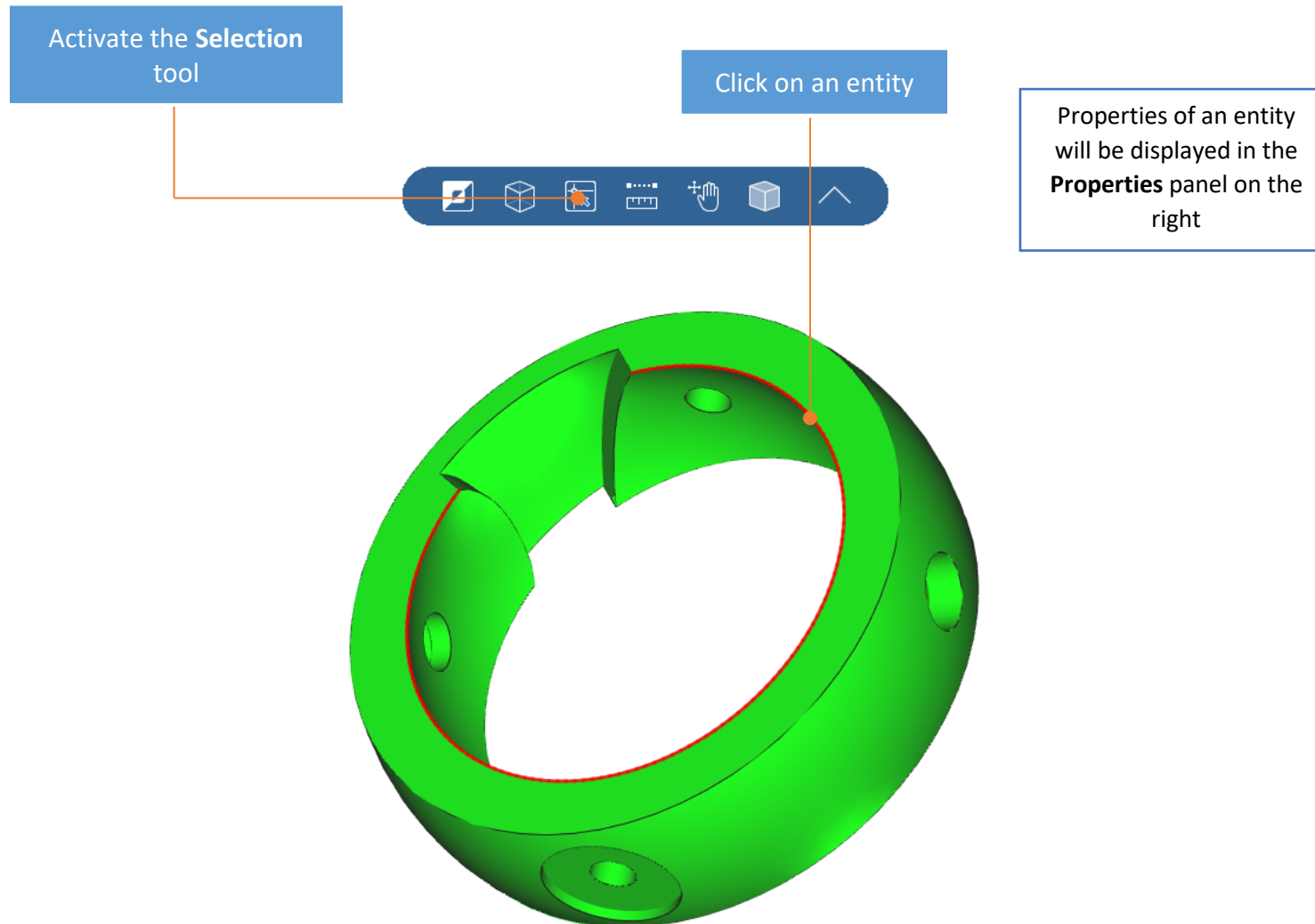
3D: **Drawing, File Information.**



HOW TO SEE PROPERTIES OF AN ENTITY?



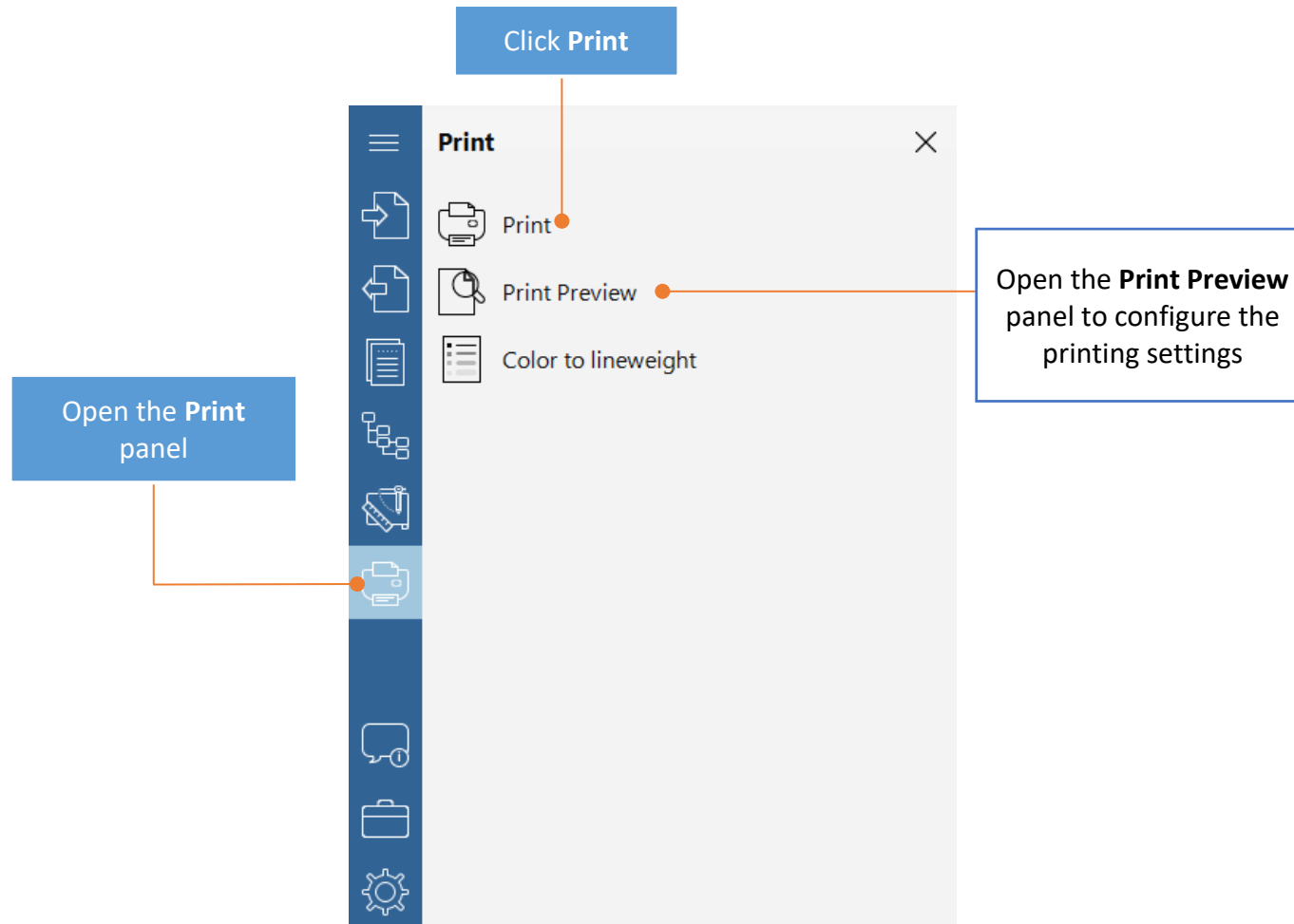
To see properties of an object, use the **Selection** tool from the quick access toolbar.



HOW TO PRINT A FILE?



CST CAD Navigator enables to configure the printing settings and print files.



HOW TO GENERATE G-CODE FROM DWG/DXF?



CST CAD Navigator generates universal G-code compatible with a wide range of CNC machines. It provides numerous settings to customize and optimize G-code to meet your specific requirements.

The image shows the CST CAD Navigator software interface for generating G-code. It includes a 'Tools' panel on the left and a 'G-Code' settings window on the right. Instructional callouts are provided for each step:

- Open the Tools panel:** Points to the 'Tools' panel on the left side of the interface.
- Click G-code Generation:** Points to the 'G-code Generation' icon in the 'Tools' panel.
- Set the required settings:** Points to the 'Settings' tab in the 'G-Code' window.
- To get a G-code file, click Generate G-code:** Points to the 'Generate G-code' button at the bottom of the 'G-Code' window.

The 'G-Code' window displays a preview of a part (a 2x6 grid of holes) and the following settings:

- General**
 - Machine type: Milling
 - Precision: 0.001
 - Drawing units: mm
 - Machine units: mm
 - Feed along XY: 450
 - Optimize code: ☒
 - Convert only visible layers: ☐
- Block numbering**
- Passes direction**
- Formatting**

Buttons at the bottom of the 'G-Code' window include 'Generate G-code' and 'Close'.

HOW TO CONFIGURE SETTINGS?



You can customize CST CAD Navigator to make it better fit your needs.

