

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**.

The screenshot shows the 'Import' dialog box in CST CAD Navigator. The dialog has a dark blue sidebar on the left with several icons. The main area displays a list of files with 3D preview images. Callout boxes provide instructions:

- Open the Import panel**: Points to the top icon in the sidebar.
- Click the Browse button**: Select a file. Points to the 'Browse' button at the bottom right.
- Click the Import button**: Points to the 'Import' button at the bottom center.
- Double-click on a file preview image**: Points to the preview image of the file '3.72.051.sat'.

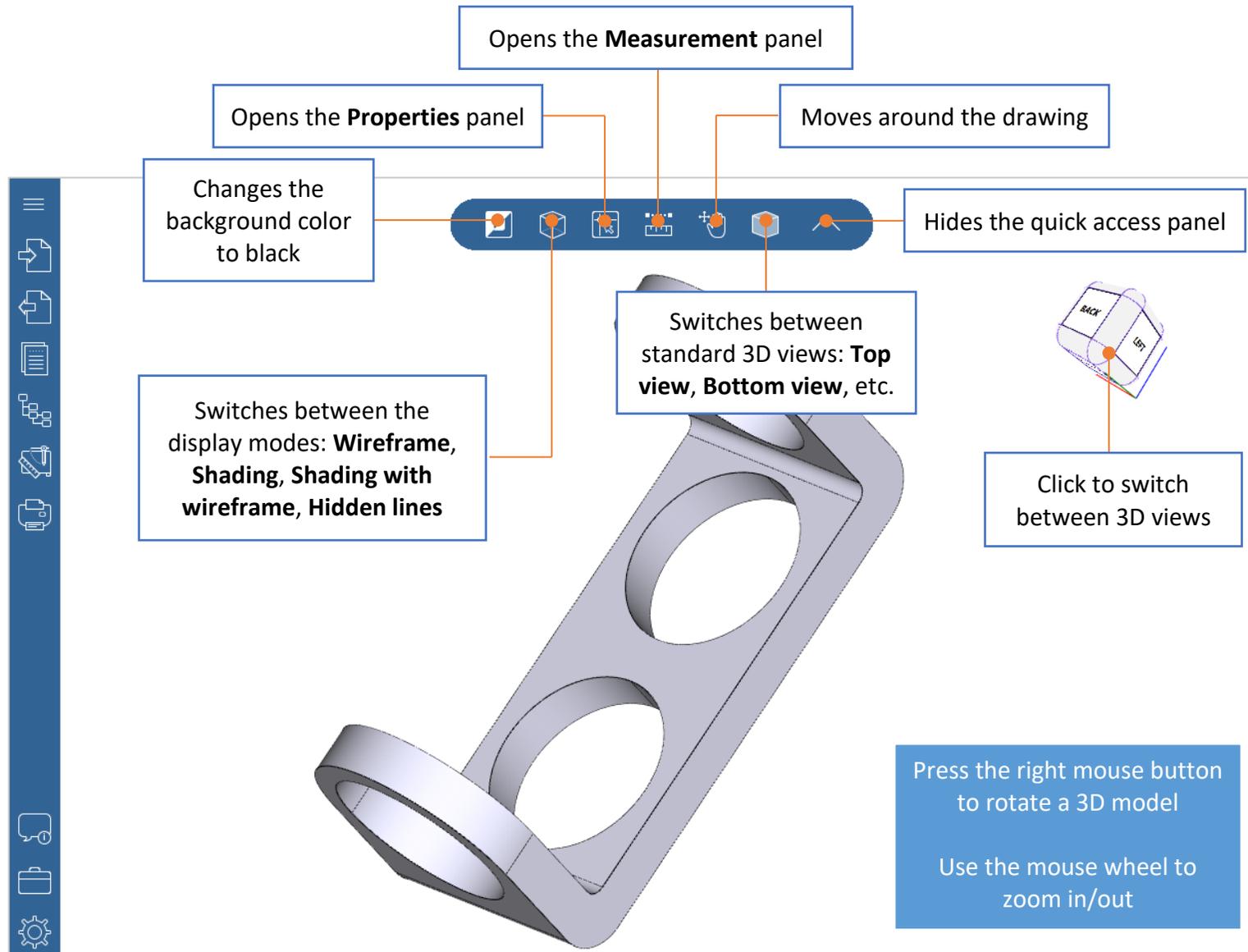
The file list contains the following entries:

| File Name | Path |
|--------------|--|
| 3.72.051.sat | C:\Users\softgold01\Documents\CADSoft Tools\cstCadNavigator 1\Samples\3.72.051.sat |
| 3.55.020.sat | C:\Users\softgold01\Documents\CADSoft Tools\cstCadNavigator 1\Samples\3.55.020.sat |
| gimbal.sat | C:\Users\softgold01\Documents\CADSoft Tools\cstCadNavigator 1\Samples\gimbal.sat |

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:

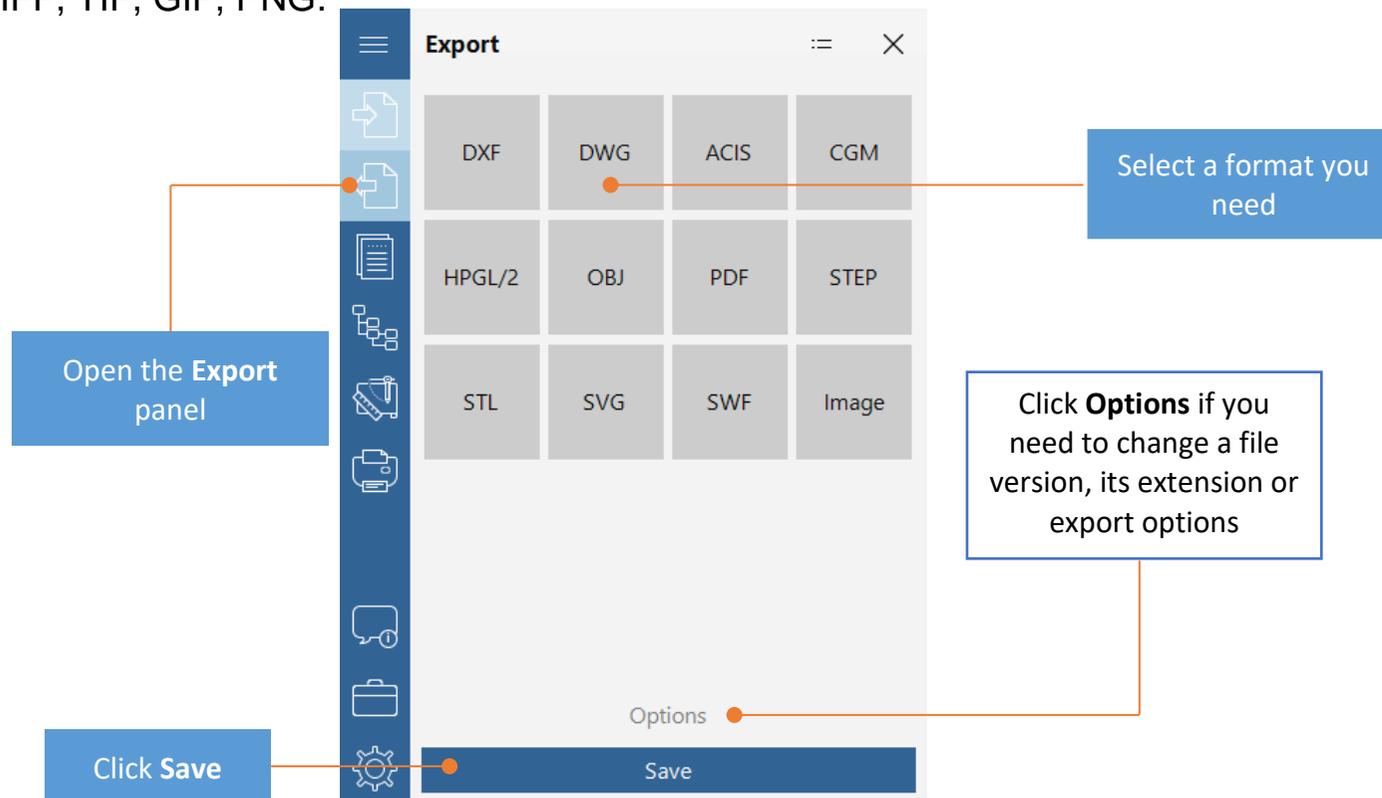
CAD FORMATS: DWG (versions 2000, 2004, 2010), DXF.

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 two panels from the CST CAD Navigator software interface. The left panel is the **Tools** panel, and the right panel is the **Export** panel. Both panels have a vertical toolbar on the left side with various icons. The **Tools** panel includes icons for Measurement, View, PDF Conversion, and a gear icon for Settings. The **Export** panel includes icons for file operations and a list of file formats: DXF (AutoCAD™ DXF), DWG (AutoCAD™ DWG), ACIS (Spatial files), CGM (Computer Graphics Metafile), HPGL... (HPGL files), and OBJ (Wave Front model file). At the bottom of the **Export** panel, there is an **Options** section and a **Save** button.

When conversion is complete, open the **Export** panel

Select a file format you need

Click **PDF Conversion**
(this tool is also available at the starting page of the application and on the **Import** panel)

Open the **Tools** panel

Click **Save**

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 a screenshot of the CST CAD Navigator software interface. The **Tools** panel is open, showing options for Sectioning, Measurement, and View. The **Measurement** tool is selected. The **Measurement** settings panel is also open, showing options for Measurement settings, Displayed units (Centimeters), Original units (Millimeters), Precision (0.0000), and Snap. The Snap panel is expanded, showing options for Line, First point, Second point, and Delta. The distance between two points is shown as 9,5094. Callout boxes provide instructions: 'Open the Tools panel' points to the Tools panel icon; 'Click Measurement' points to the Measurement tool icon; 'Distance' and 'Polyline Length' callouts point to the respective tool icons in the Measurement panel; and 'Open the Snap panel to turn on/off different types of snaps' points to the Snap panel.

Open the **Tools** panel

Click **Measurement**

Distance

Polyline Length

Open the **Snap** panel to turn on/off different types of snaps

Tools

- Sectioning
- Measurement
- View

Measurement

- Measurement settings
- Displayed units: Centimeters
- Original units: Millimeters
- Precision: 0.0000
- Snap
 - Line
 - ▶ First point
 - ▶ Second point
 - ▶ Delta

Distance: 9,5094

[X] Delete

HOW TO GET DIMENSIONS OF A 3D MODEL?

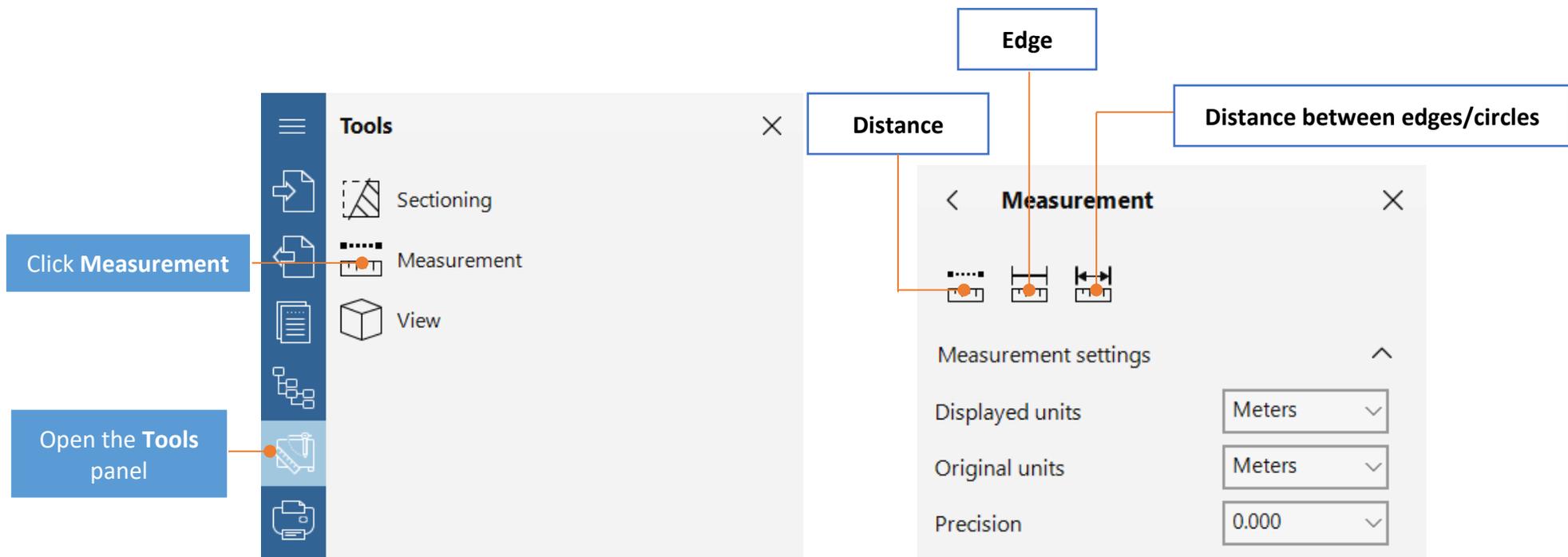


CST CAD Navigator provides three measuring tools to get dimensions of 3D models: **Distance**, **Edge**, and **Distance between edges/circles**.

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.

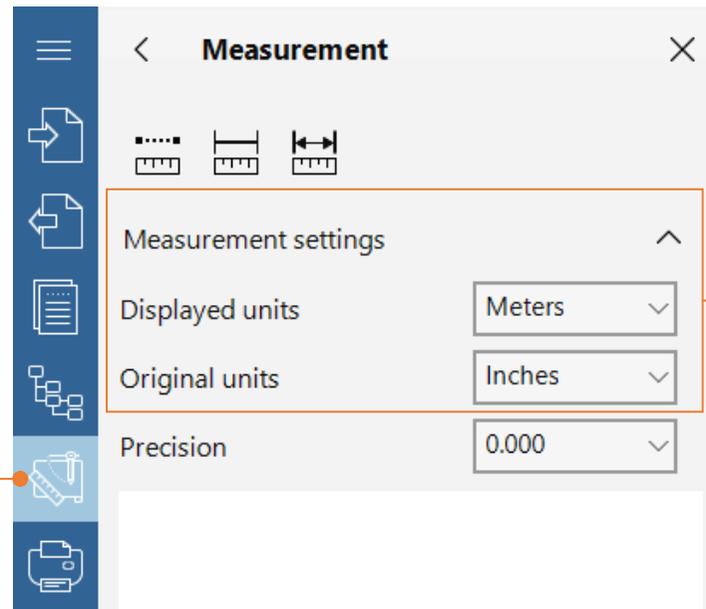


HOW TO CHANGE THE MEASURING UNITS?



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**

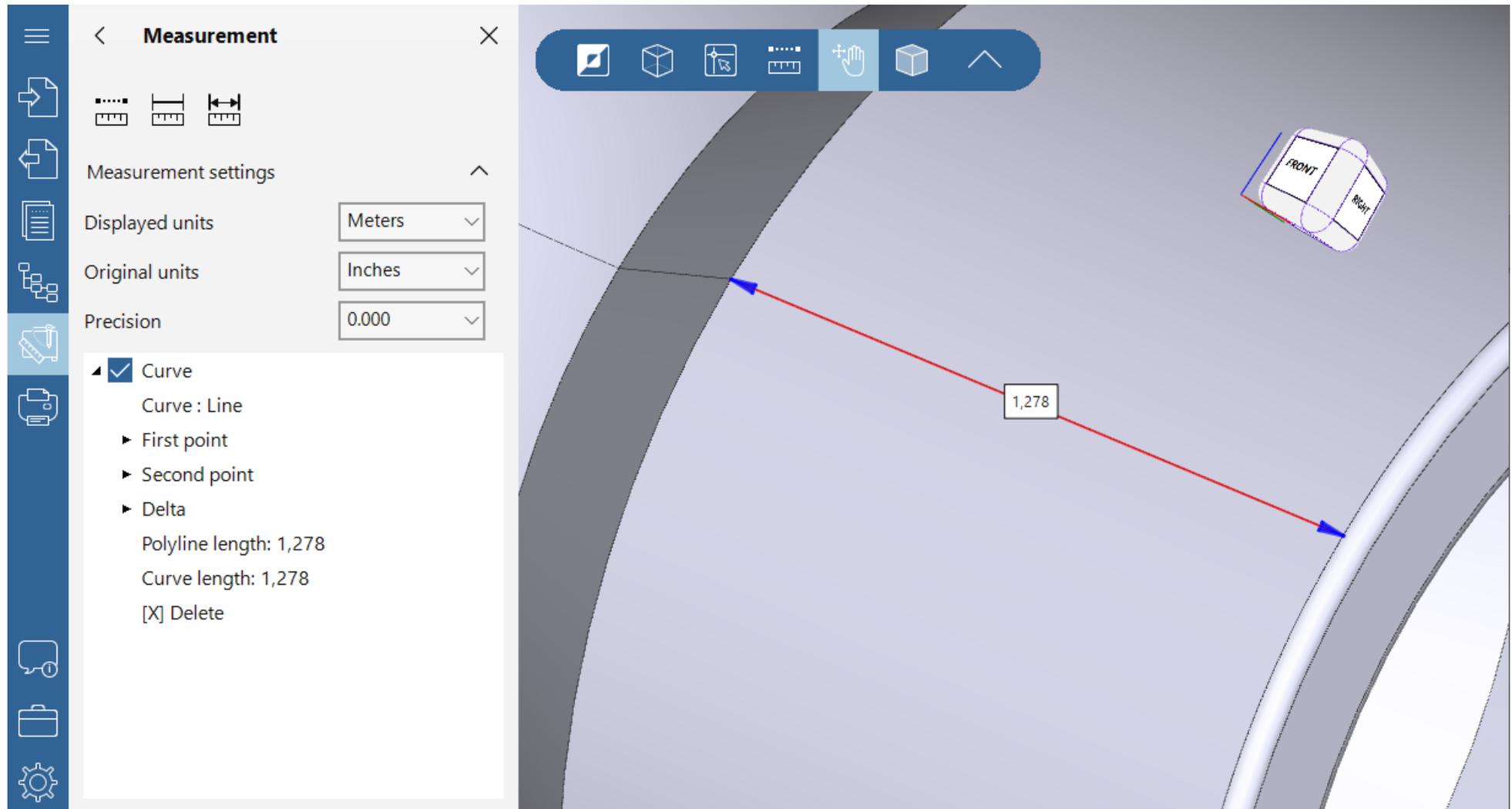


Set the units in the **Measurement settings** section

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' tool interface on the right.

Open the Tools panel: A callout points to the 'Tools' panel icon in the left sidebar.

Click Sectioning: A callout points to the 'Sectioning' tool icon within the 'Tools' panel.

Click the Add plane button: A callout points to the '+' icon in the 'Sectioning' tool interface.

Creates a section in one of the default planes: YZ, XZ, XY: A callout points to the 'YZ', 'XZ', and 'XY' icons in the 'Sectioning' tool interface.

Deletes a plane: A callout points to the 'X' icon in the 'Sectioning' tool interface.

Displays all the added section planes: A callout points to the 'Planes' list in the 'Sectioning' tool interface.

The 'Sectioning' tool interface includes the following sections:

- Planes**: A list showing 0, 1, and 2 planes, with 2 selected.
- Position**: Input fields for X (0), Y (0), and Z (0).
- Parameters**: 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 screenshot shows the 'Sectioning' tool interface. It includes a 'Planes' list with items 0, 1, and 2, where item 2 is selected. Below this is a 'Position' section with input fields for X, Y, and Z, all set to 0. At the bottom is a 'Parameters' section with sliders and input fields for Distance (0), Azimuth (90), and Inclination (0). Callouts provide instructions: 'Specify the coordinates of the central point' points to the X, Y, Z fields; 'Change the parameter values of the section by moving the sliders or entering the value' points to the Distance, Azimuth, and Inclination controls; 'Reverses the direction of the selected plane' points to a circular arrow icon; and 'Displays the 3D model parts that were cut' points to a 3D model icon.

Specify the coordinates of the central point

Change the parameter values of the section by moving the sliders or entering the value

Reverses the direction of the selected plane

Displays the 3D model parts that were cut

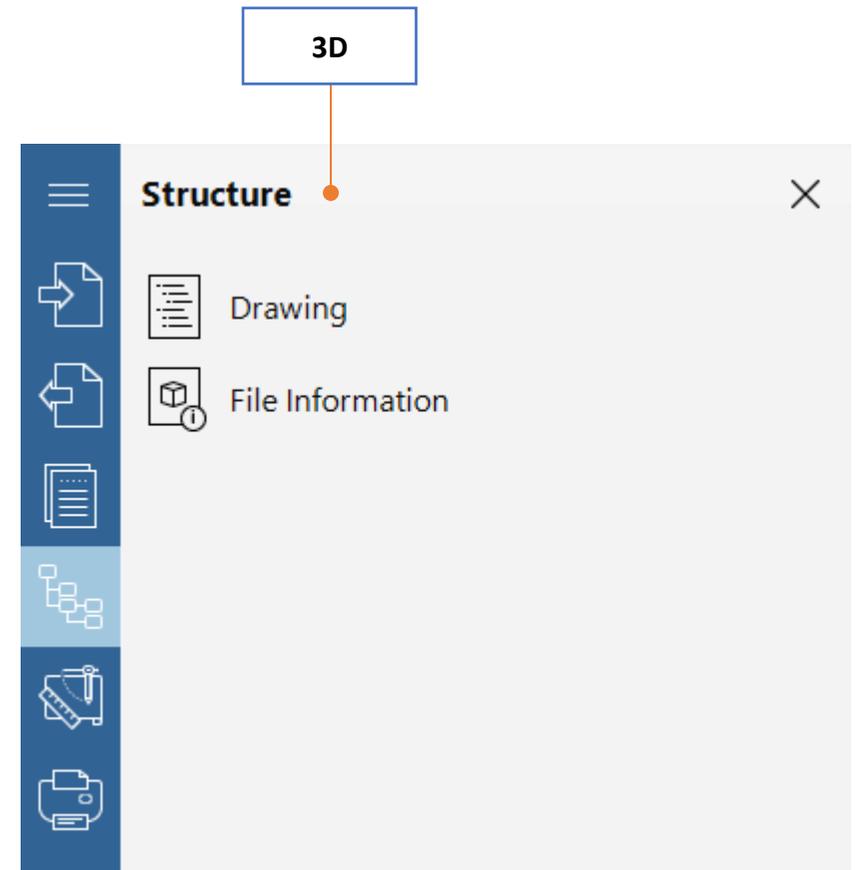
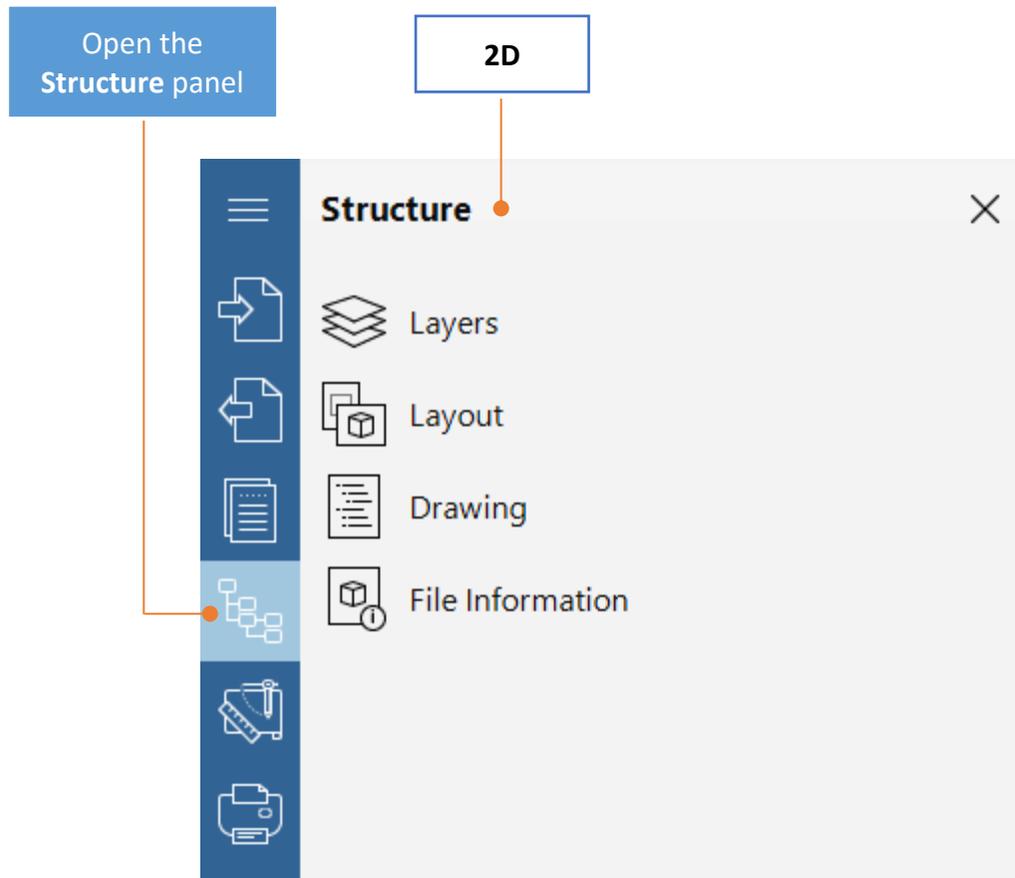
HOW TO SEE THE STRUCTURE OF A FILE?



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

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

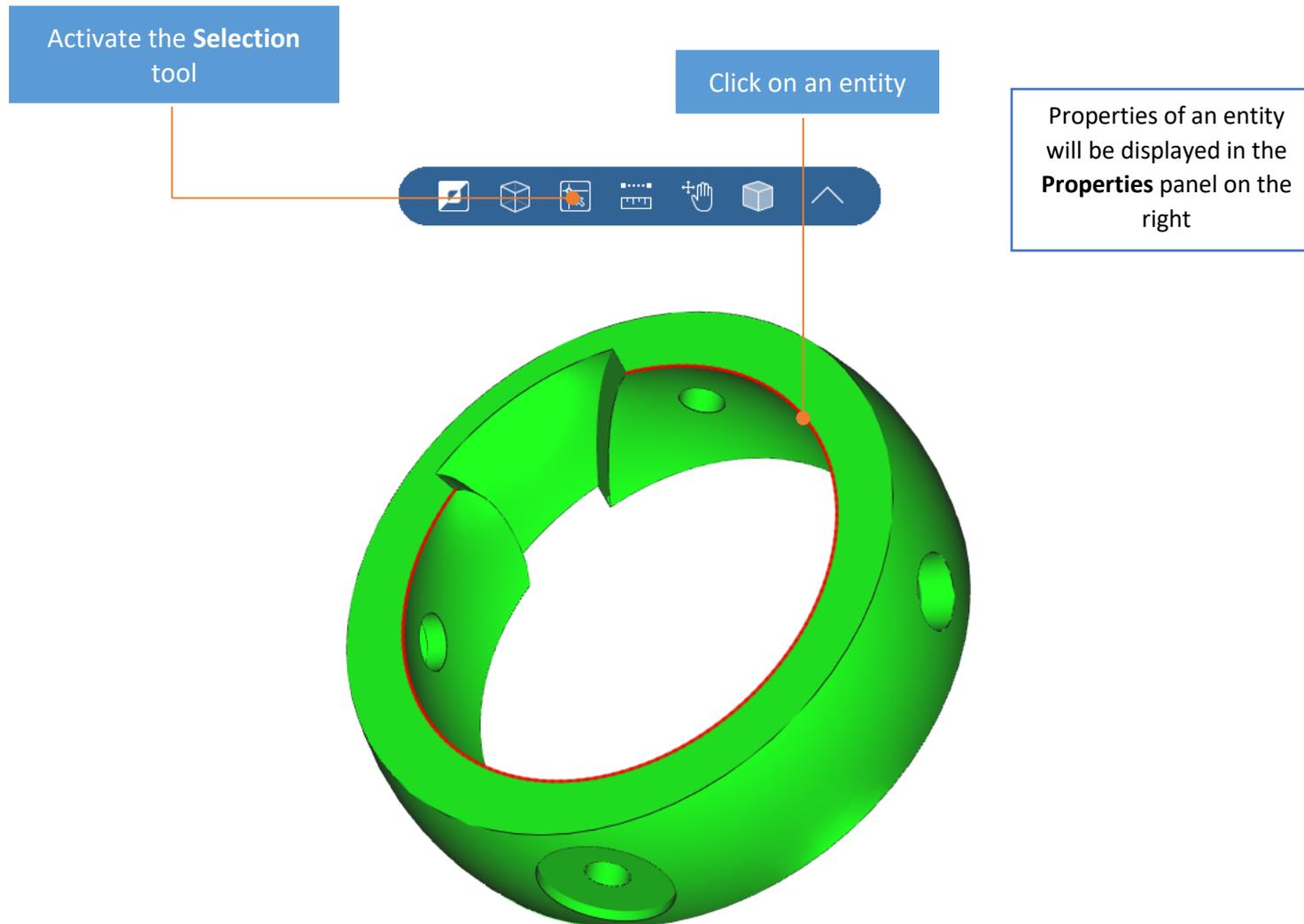
3D: **Drawing, File Information.**



HOW TO SEE PROPERTIES OF AN ENTITY?



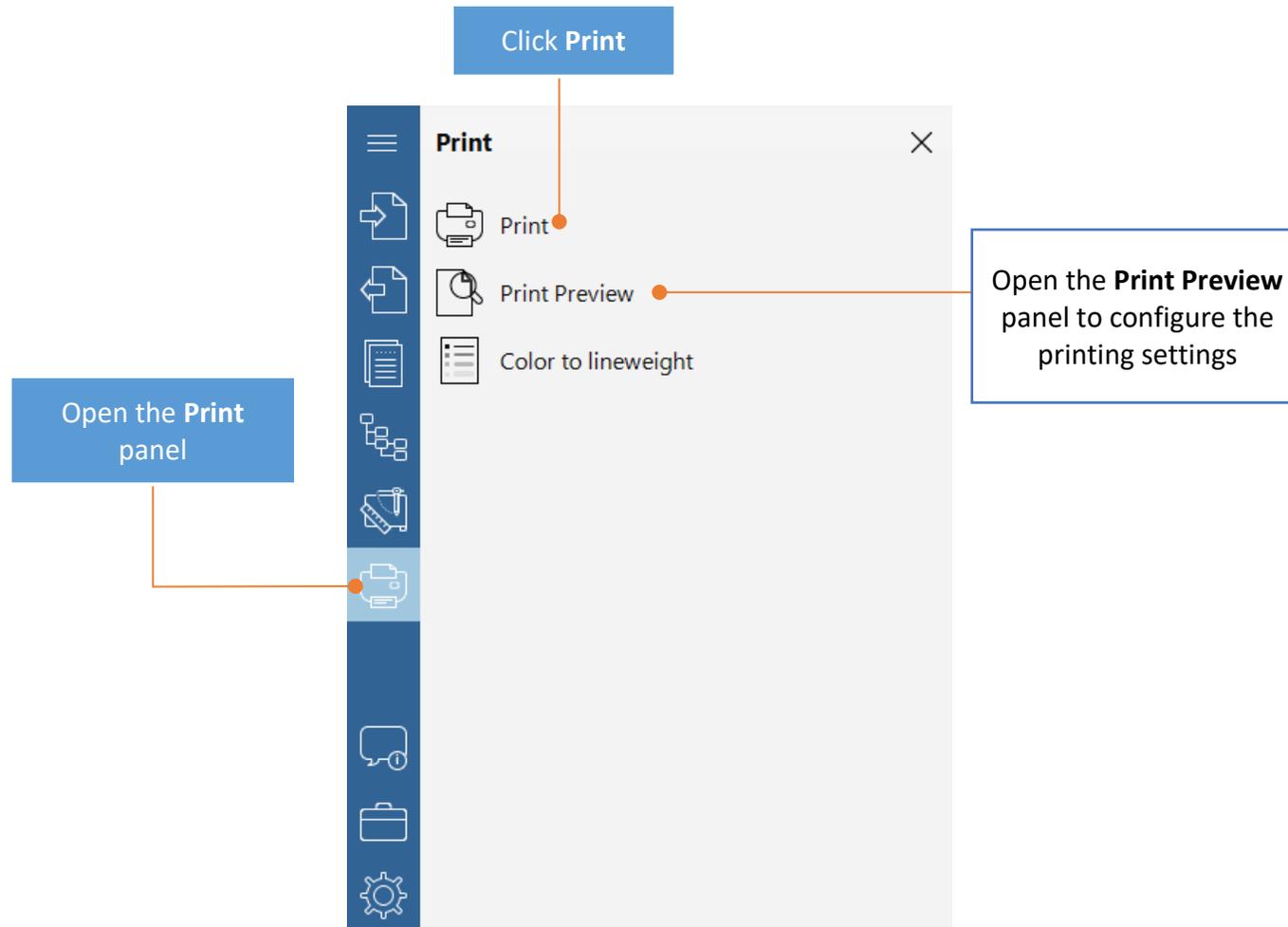
To see properties of an object, use the **Selection** tool from the quick access toolbar.



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 a software interface for generating G-code. On the left, a 'Tools' panel is open, listing various functions: Exploded view, Measurement, View, PDF Conversion, and G-code Generation. A callout box 'Open the Tools panel' points to the panel's header. Another callout 'Click G-code Generation' points to the G-code Generation icon. The main window displays a 'G-Code' dialog with a 'Settings' tab selected. A callout 'Set the required settings' points to the 'Settings' tab. The settings include: Machine type (Milling), Precision (0.001), Drawing units (mm), Machine units (mm), Feed along XY (450), Optimize code (checked), and Convert only visible layers (unchecked). A callout 'To get a G-code file, click Generate G-code' points to the 'Generate G-code' button. The dialog also shows a preview of a part with a green cutting path and a red tool tip.

Open the Tools panel

Click G-code Generation

Set the required settings

To get a G-code file, click **Generate G-code**

Generate G-code Close

HOW TO CONFIGURE SETTINGS?



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

The image shows a screenshot of the CST CAD Navigator interface. On the left is a vertical blue sidebar containing several icons: a hamburger menu, a document with an arrow, a document with a return arrow, a document with a list, a flowchart, a ruler and pencil, a printer, a question mark, and a gear icon. The gear icon is highlighted with a blue background and an orange dot. A blue callout box with the text "Open the Settings panel" has an orange line pointing to this gear icon. To the right of the sidebar is a large grey window titled "Settings" with a close button (X) in the top right corner. The "Settings" window contains a list of categories: "Common", "Import settings", "Export settings", "PDF conversion settings", "Visualization", "Measurement", "Snap", "Fonts", "Associations", and "Proxy server". The "Import settings" category is highlighted with a light blue background. A blue callout box with the text "Select a group of settings you need" has an orange line pointing to the "Visualization" category, which has a small orange dot next to it.