Cadmatic

Cadmatic eShare

User Guide | 2026H2

docs.cadmatic.com

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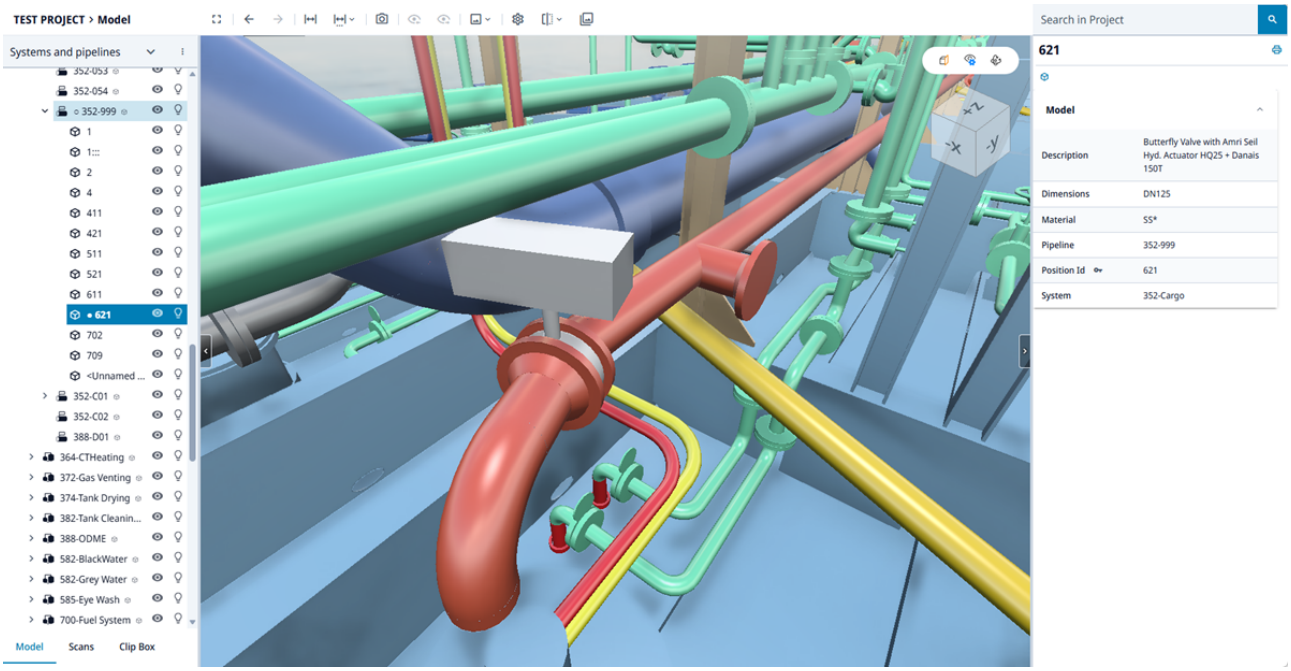
1. Model

The 3D model of Cadmatic eShare is a design review and collaboration tool for construction and revamping projects in plant and marine industries. You can use it to open the 3D model of a complex design such as a power plant or passenger ship, and then move around anywhere in the model, inspecting the individual objects, checking dimensions between entities, and adding Markups to comment on the design.

EBMX models published with Cadmatic Plant Modeller 2026H2 are not compatible with older eShare versions. eShareshould be updated to 2026H2 to support all file versions.

- To view the model, select **Model** in the menu.





1.1. View cube

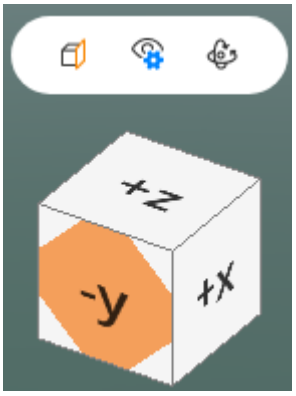
The view cube is in the top-right corner of the 3D view. It shows the current view direction, and you can use it to rotate the model or to switch to a specific view direction. Above the cube is a toolbar with icons for the clip box, visualization, and navigation options.

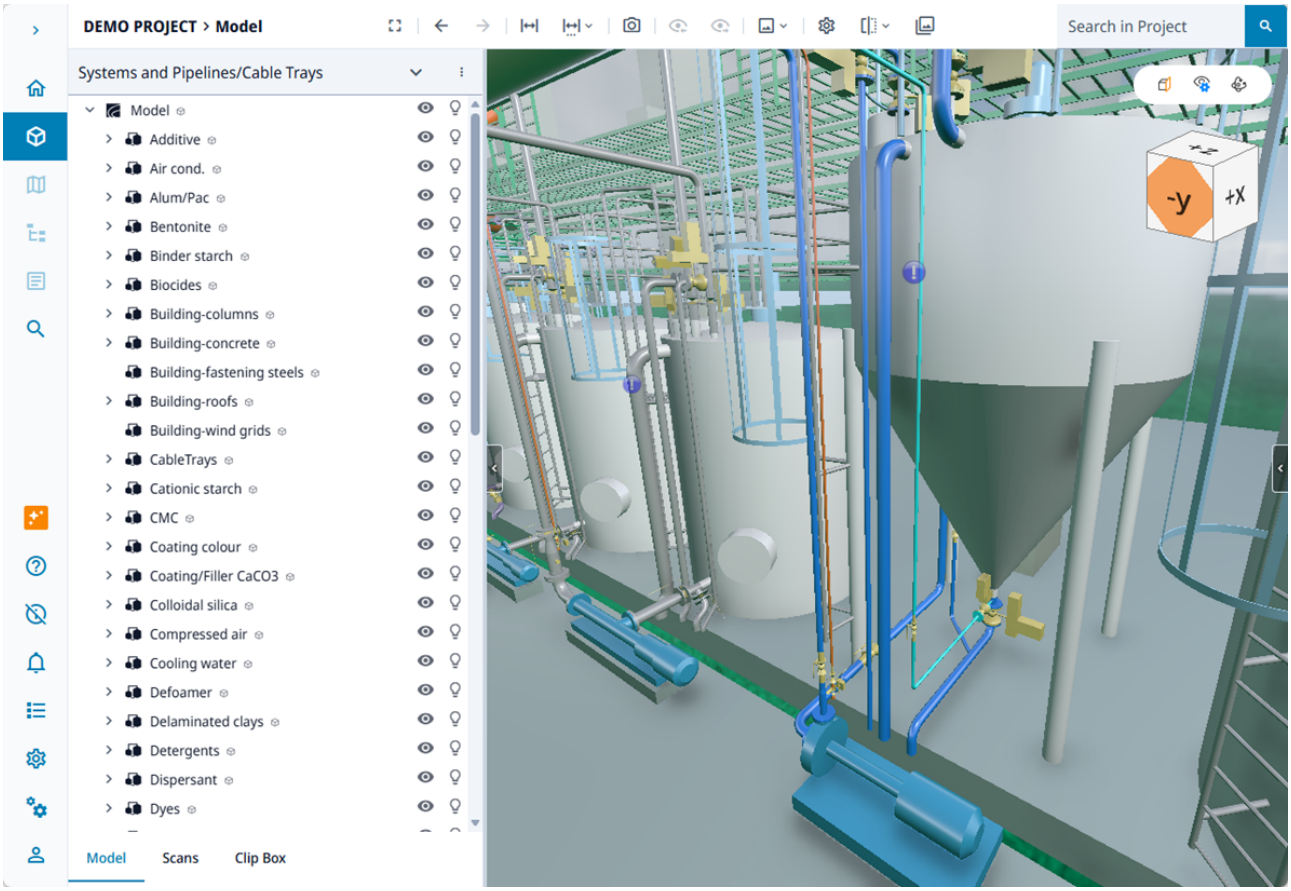
With a mouse

- To rotate the model, drag the view cube.
- To view the model from a specific direction, click a face or corner of the cube.

With touch

- To rotate the model, drag the view cube.
- To choose a view direction more precisely, first tap the cube once. The cube is enlarged in the center of the screen. Then you can drag it to rotate the model, or tap a face or corner to view the model from that direction.





1.1.1. View cube toolbar

This section describes the commands that are available in the view cube toolbar in **Model**view.



Note: The availability of toolbar commands depends on the current context, such as whether a markup is open, a 4D animation is playing, or bubble view is open. Commands that cannot be used in the current context are dimmed.

1.1.2. Clip box



1.1.2.1. Enable clip box

Enables the clip box and opens the clip box tab. When enabled, you only see the area defined by the clip box. When disabled, you see the complete model. See Clip box tab.

1.1.2.2. Show clip control box

Enables the control box that allows you to resize the clip box by dragging the clipping planes in the 3D view. See Clip box tab.

1.1.2.3. Show clipped as wireframe

When enabled, the objects outside the clip box will be shown as wireframe. See Clip box tab.

1.1.3. Visualization



1.1.3.1. Visual styles

Opens a menu of visual styles to select from, including smart points.

1.1.3.2. 4D animations

Select 4D sequence from the menu.

1.1.3.3. Refresh visual styles and hierarchies

Select to update visual styles, object colors and hierarchies in 3D view and model tree.

1.1.3.4. Show insulation

- **Hide** – Insulations are not visible.
- **Show transparent**– Insulations are transparent. Objects that are inside or behind the insulation are clearly visible.
- **Show opaque** – Insulations are completely rendered. Objects that are inside or behind the insulation cannot be seen.

1.1.3.5. Welds

If selected, welds are visible.

1.1.3.6. Coordinates under cursor

Shows the coordinates of the point under the cursor. If the cursor is near a point it can snap to, the coordinates of that point are shown. The first line shows the Cartesian coordinates. If the model has named coordinates, the lines below show, for each axis, the nearest named plane and the distance and direction from it.

Named coordinates are available in models that have been published with Plant Modeller version 6.0 or newer.

1.1.3.7. Markups

- **Show markups** – Enable showing markups in the 3D view. If they are shown, you can select which markup types and statuses to display.

1.1.3.8. Point clouds

- **Scale points by distance** – Adjusts the size of each point according to its distance from the scanner. Points close to the scanner are drawn larger and distant points smaller, which gives the point cloud a stronger sense of depth and reduces visible gaps between points when you view surfaces up close. When this option is off, all points are drawn at the same size regardless of distance.
- **Show more clouds when idle** – Displays additional point cloud data when the view is not moving. While you navigate, the program shows a reduced amount of point cloud data to keep movement smooth. When you stop, it loads and displays more data to show the point clouds in greater detail. Turn this option off, if you want consistent display density, or if loading extra data slows down your computer.
- **Scanner points** – If selected, the point cloud scanner points are visible. Point at a marker to see the name of the scan, and click it to open the scan in bubble view.

1.1.3.9. Reference coordinate grid

- **Show grid** – Enables the reference coordinate grid in the model. Coordinate planes must be defined in the model using Cadmatic Plant Modeller. By default you can toggle z plane grid visible by clicking the plane label in 3D view. If the selection in 3D view does not work, in **Grid settings** you can select which planes are visualized by first disabling **Toggle z planes from 3D view** and selecting the planes. This is helpful if the model contains a lot of reference planes and toggling labels from 3D view becomes complicated.

- **Grid settings** – Opens settings for coordinate grid settings.
  The color of the grid line can be configured in **Settings > Visualization**. See Visualization.
  Measure can be enabled to be used with the coordinate grid in the Measure tool options. See Measure.

1.1.3.10. Smart points

- **Show smart points** – Enable showing smart points in the 3D view and map. If they are shown, you can select which types to display.

1.1.4. Navigation



1.1.4.1. Flip model upside down

Toggles the 3D view upside down and back to normal.

1.1.4.2. Turn to look

- **Horizontal** – Aligns the view with the horizon.
- **Down** – Turns the view directly downward.
- **Up** – Turns the view directly upward.
- **X+** – Turns the view to point to the positive direction of the X axis.
- **X-** – Turns the view to point to the negative direction of the X axis.
- **Y+**– Turns the view to point to the positive direction of the Y axis.
- **Y-** – Turns the view to point to the negative direction of the Y axis.

1.1.4.3. Zoom extents

- **Top view** – View the model from the top.
- **Bottom view** – View the model from the bottom.
- **Right view (Fore)** – View the model from the right.
- **Left view (Aft)** – View the model from the left.
- **Front view (SB)** – View the model from the front.
- **Back view (PS)** – View the model from the back.
- **Isometric view** – View the model from isometric direction.

1.1.4.4. Zoom to area

Zoom to a specific area in the model. To define the area, hold down the left mouse button and drag the rectangle to the required size.

1.1.4.5. Projection

- **Perspective** – View the model using the traditional projection way.
- **Orthographic** – View the model using orthographic projection. Orthographic projection preserves distances in the view and objects further away are not rendered smaller than objects which are closer as in perspective projection. In orthographic view, you cannot fly with the left mouse button or the arrow keys. Use the mouse wheel to zoom. Other navigation commands are available. Creating or opening a markup switches the view to perspective projection.

1.2. Sidebar and tabs

The sidebar of the Model displays tabs that you can use for example to define object visibility.

You can control the visibility of the sidebar by adding the parameter **treeVisibility** to the eShare URL and setting it to either "show" or "hide". This example URL hides the sidebar but shows the properties pane:

*https://<domain>:<port>/#/p/<project id>/model?**treeVisibility=hide**&attributePaneVisibility=show*

For more information on URL parameters, see URL parameters.

1.2.1. Model tab

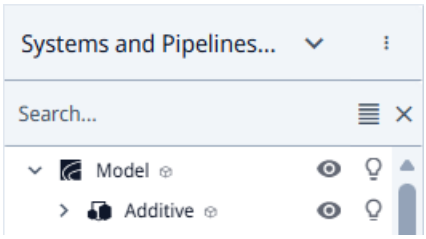
The **Model** tab allows you to navigate to specific parts of the model and to select what the 3D view shows, using a drop-down menu and a hierarchical tree.

- **Hierarchy Menu** – Use the hierarchy drop-down menu to arrange the model tree using a hierarchy that an eShare administrator has defined.

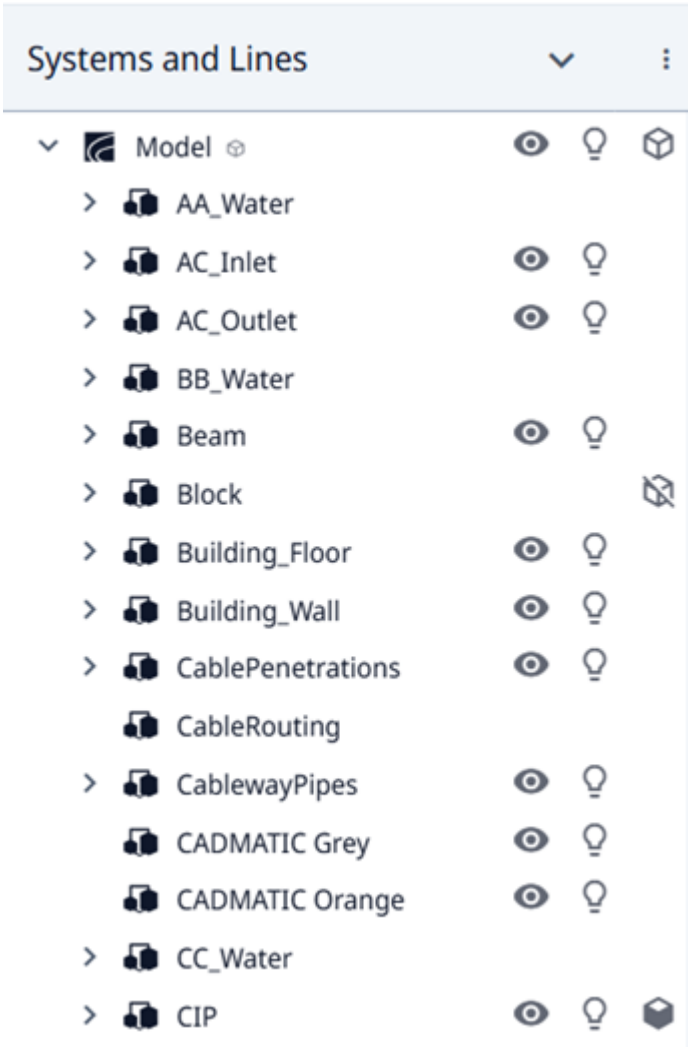
  In the hierarchy menu, the ⋮ button shows the following options:

- **Search in tree** — Opens a search field for searching within the model tree.



  - Select the search type by selecting and then **Starts with**, **Contains** (default), **Ends with**, **Exact match**, or **Regular Expression (JS)**. The button reflects the current selection.
  - Type the search entry and select .
  - Use the arrow buttons to move between the results or select to select all the results.
  - Pressing Enter key in the search field advances from the current search result to the next, looping to the beginning when end of the list is reached.
  - To return to your previous search, select to undo the search entry.
  - To clear the search, select . The search field is cleared, and search type is set to default type Contains. Clearing can be undone.
  - Close the search field with .
- **Collapse all** — Collapses all tree levels.
- **Expand selected** — Expands all the tree levels under the selected items.
- **Locate in tree** — Finds the selected object from the currently active hierarchy and shows its location in the model tree.
- **Show all tree levels** / **Compact tree levels** — **Show all tree levels** shows all tree levels in the model tree, **Compact tree levels** removes "unnecessary" tree levels such as <Objects not in the pipeline> or <Unnamed objects>, and relocates children to their parents.

- **Model Tree** – The model tree lists the objects of the model as a hierarchical entity tree; the displayed hierarchy is defined by the hierarchy menu.



1.2.1.1. Model tree

In the model tree you can do the following:

- Select one or more objects or object groups, as described in Selecting Objects and Changing Their Visibility.
- Right-click the selection and select a command from the context menu to perform some action on the specified entities. Some of these commands are also available from the context menu of the 3D view. See Context Menu.
- Double-click a single object to examine the object in the 3D view. To examine a group, select the **Examine** command from the context menu.
- Click the eye icon to hide objects, and click the closed eye to show them again.

Note: If you make changes to the visibility of examined objects in the model tree using the eye icons while in Examine Mode, the visibility changes will take effect only after exiting examine mode.

- Click the light bulb to turn highlighting of objects on, and click to turn it off.
- Click to hide 3D spaces. Click to show 3D spaces.
- Right-click a point cloud to open it in a bubble view.

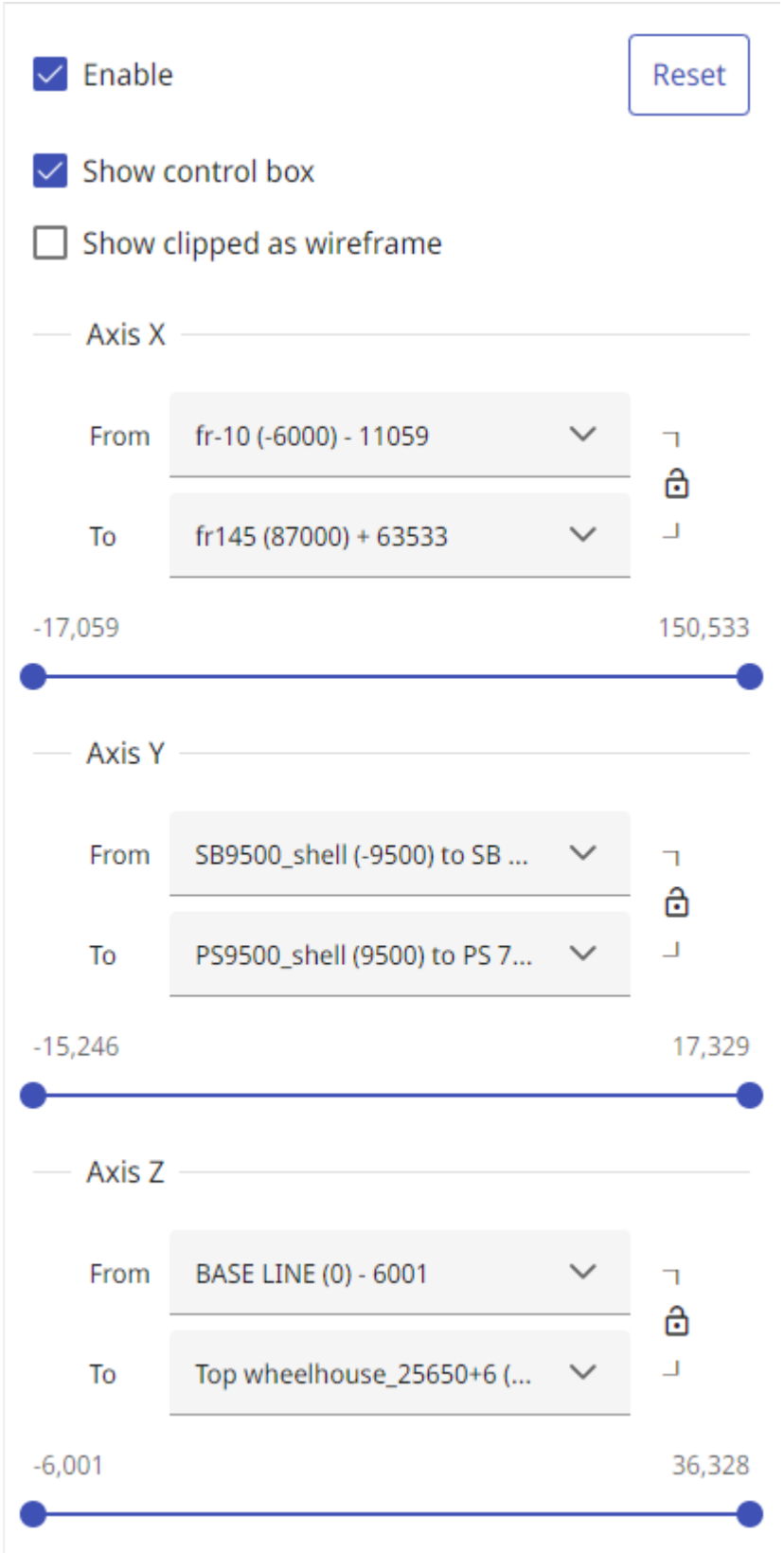
1.2.2. Clip box tab

The **Clip Box** tab allows you to resize the visible area of the model so that you can easily review all the objects inside a specific block or compartment.

You can clip the model using the sides of the clip box parallel to the model's main planes (normal to main axis X, Y, and Z). If the boundaries of the clip box intersect with an object, you will not see those parts of the object that are outside the clip box.

You can store the currently visible clip box by creating a new scene. When you return to the scene, it shows the clip box. See Scenes.

In **Settings > Visualization** you can select whether clipped objects should be visualized as solid or hollow—see Visualization.



On the **Clip Box** tab you can perform the following.

- Enable the **Enable** selection to enable or disable the clip box. When enabled, you only see the area defined by the clip box. When disabled, you see the complete model.
- When the clip box is enabled, enable the **Show control box** selection to enable or disable the control box that allows you to resize the clip box by dragging the clipping planes in the 3D view.

  You should only enable the control box when you want to adjust the clipped view, because some other functions of the 3D view such as measuring might not be available or function as expected while the control box is enabled. See Adjusting the clip box with the control box.

- **Show clipped as wireframe** – When enabled, the objects outside the clip box will be shown as wireframe.
- **Axis X, Y, Z** – Use the Axis X, Y, Z settings to specify the size of the clip box. You can relocate a clipping plane in all three directions (normal to axis) in several ways, as described in Adjusting the size of the clip box. The distance between the planes in a given direction can be locked by clicking the lock button between the sliders, so that adjusting one slider automatically adjusts the other one as well.

In addition to defining the clip box on the **Clip Box** tab, you can enable the clip box as described in Other ways to set the clip box.

1.2.2.1. Adjusting the size of the clip box

There are a number of ways in which you can adjust the clip box by moving an individual clipping plane to a different location:

When **Enable**is enabled, drag the appropriate slider on the **Clip Box** tab, as described in Adjusting the clip box with the control box.

When **Show control box**is enabled, drag the appropriate clipping plane with the *right* mouse button pressed down, as described in Adjusting the clip box with the control box.

Select a predefined plane from a drop-down menu on the **Clip Box** tab.

Write the distance into the edit field using Cartesian coordinates or type the position using named planes. For example, **CL –X 995** means that the clipping plane is 995 mm from the CL plane in –X direction (CL plane and –X direction are defined in Plant Modeller‘s coordinate reference).

Note: Named coordinates are supported only if the model has been published with Plant Modeller version 6.0 or newer.

Note: Only the planes that are inside the model's bounding box are shown in the drop-down menus.

1.2.2.2. Adjusting the clip box with the control box

The Control Box function visualizes the clipping planes in the 3D view. Move the cursor in the 3D view to highlight the clipping plane that you want to adjust, and then press down the *right* mouse button and drag the highlighted side of the box to adjust its location. When sides are dragged, they snap to named planes exported from Plant Modeller's coordinate system (if present).

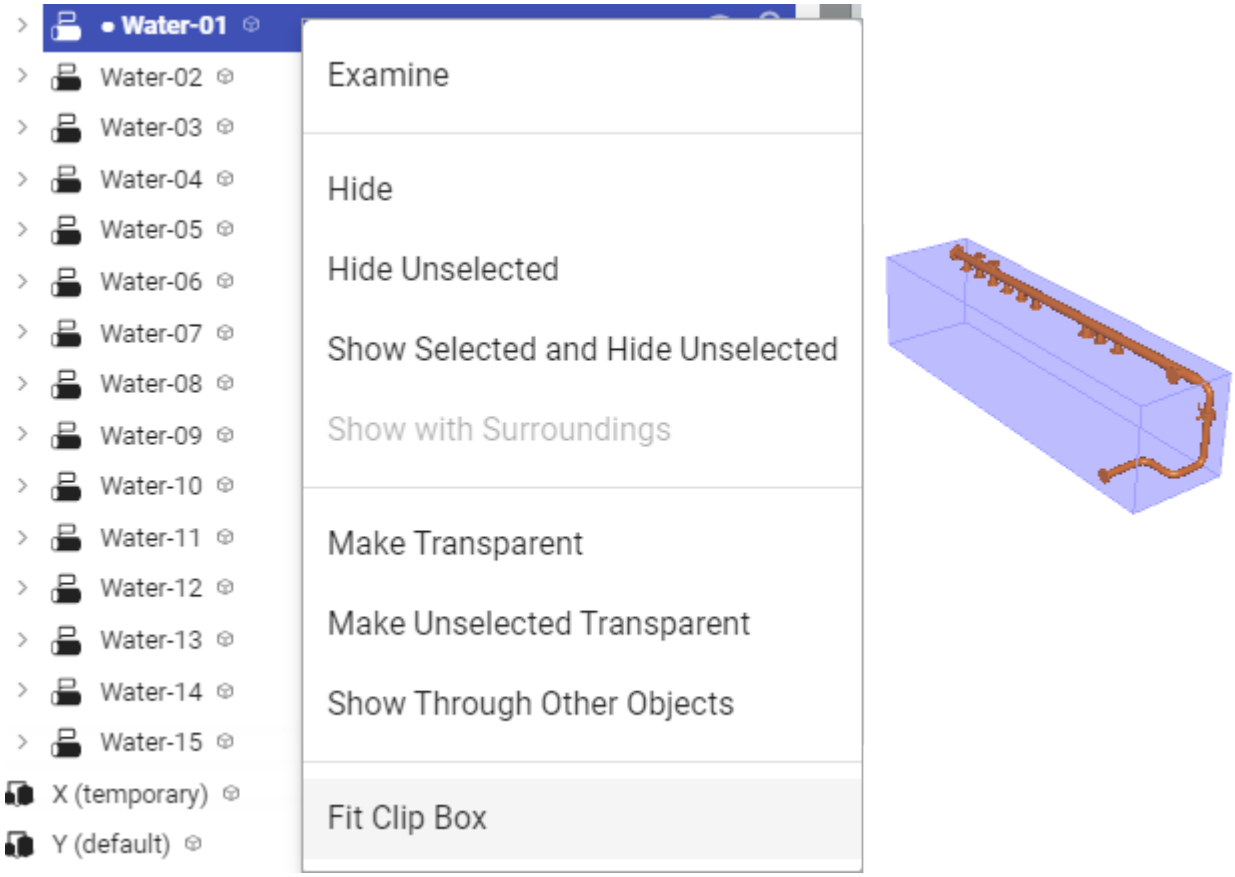
1.2.2.3. Other ways to set the clip box

- Enabling clip box from the model tree
- Enabling clip box from the 3D view
- Enabling clip box in examine mode

1.2.2.3.1. Enabling clip box from the model tree

On the **Model** tab, you can right-click an entity in the model tree and select to fit the clip box to the specified object or object hierarchy such as pipeline, system, or cable tray. The sidebar automatically switches to the **Clip Box** tab.

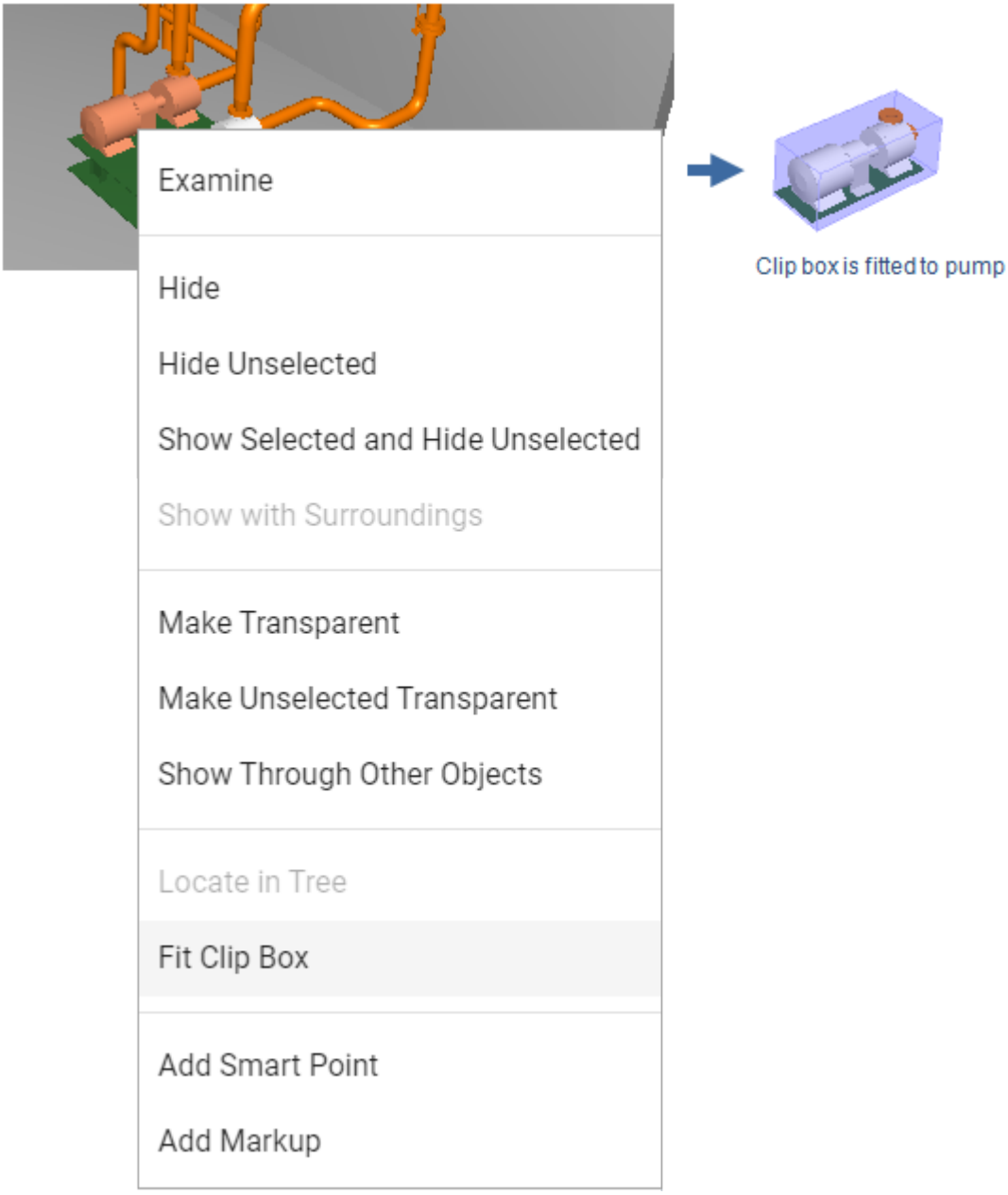
In the picture below, the clip box is fitted to pipeline Water-01 and all other objects are hidden so that the 3D view only shows the pipeline.



Use the **Clip Box** tab to disable the clip box.

1.2.2.3.2. Enabling clip box from the 3D view

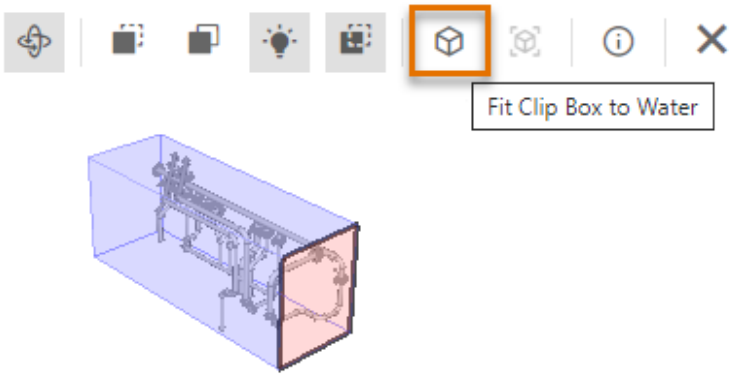
In the 3D view, you can right-click an object and select to fit the clip box to it.



Use the **Clip Box** tab to disable the clip box.

1.2.2.3.3. Enabling clip box in examine mode

When you are examining an object, you can click the fit button of the Examine toolbar to fit the clip box to the examined object.



Click the fit button again to remove the clip box.

1.3. Main toolbar

This section describes the commands that are available in the main toolbar in **Model** view.



1.3.1. Toggle full screen

Views eShare in full screen mode or closes full screen mode.

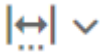
1.3.2. Previous/next camera position

When you are navigating in the 3D model, the **Previous and Next Camera Position** buttons allow you to revisit the viewing locations where you were standing still.

1.3.3. Measure

Activates or deactivates the measuring tool. See Measure.

1.3.4. Measure settings



Opens a menu for specifying measuring options. See Measure.

1.3.5. Take snapshot image



Saves a snapshot image of the currently displayed view on the clipboard.

1.3.6. Undo/redo last visibility change



The **Undo/Redo Last Visibility Change** buttons undo or redo recent object visibility changes that you have made using either the model tree or the context menu.

You cannot undo or redo object transparency changes.

1.3.7. Scenes



Opens a menu of predefined scenes that have been specified in the application that published the model, or defined for the project or by the user. See Scenes.

1.3.8. Settings



Opens the **Settings** menu. See Settings.

1.3.9. Split screen



Opens the **Split Screen** menu. See Split Screen.

1.3.10. Select submodels



Opens the **Select Submodels** view. See Submodels.

1.3.11. Measure



The **Measure** button activates or deactivates the measuring tool. You can use this tool to measure the distance between two points, the distance and angle between two lines, or the length and angle of a single line.

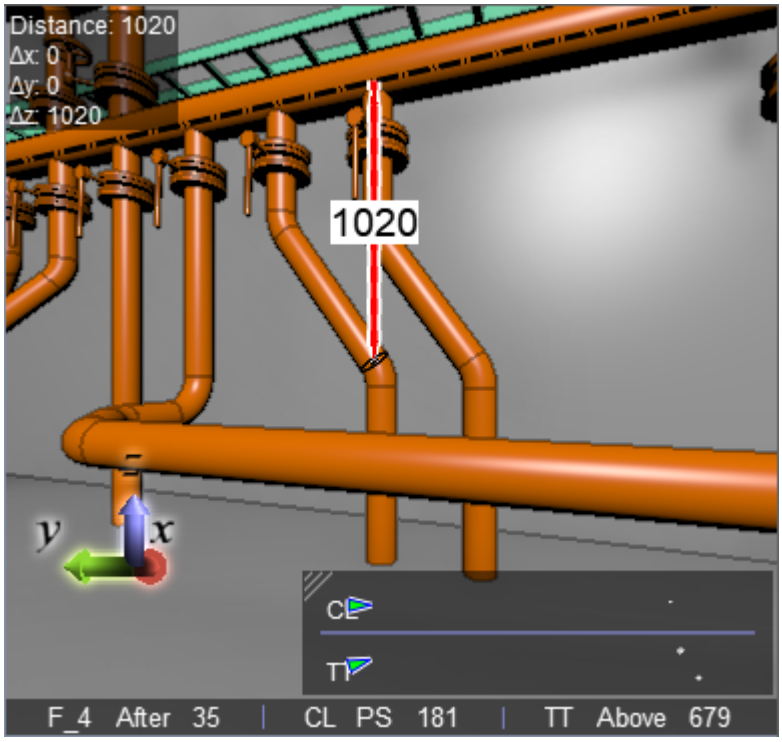
1.3.11.1. Using the measure tool

Do the following:

1. In the toolbar, select **Measure** to activate the measuring tool.
2. Enable or disable measuring options as needed. See Measure Tool Options.
3. Right-click the location from which to start measuring. This can be any point or line in the 3D model; if relevant snapping options are enabled, you can first snap the cursor for example to a connection point (node point) to start the measuring from there.

   The top-left corner of the 3D view displays the straight distance from the starting point to the current cursor location, as well as the traveled distance in X, Y and Z direction. The straight distance is also shown next to the measurement line.

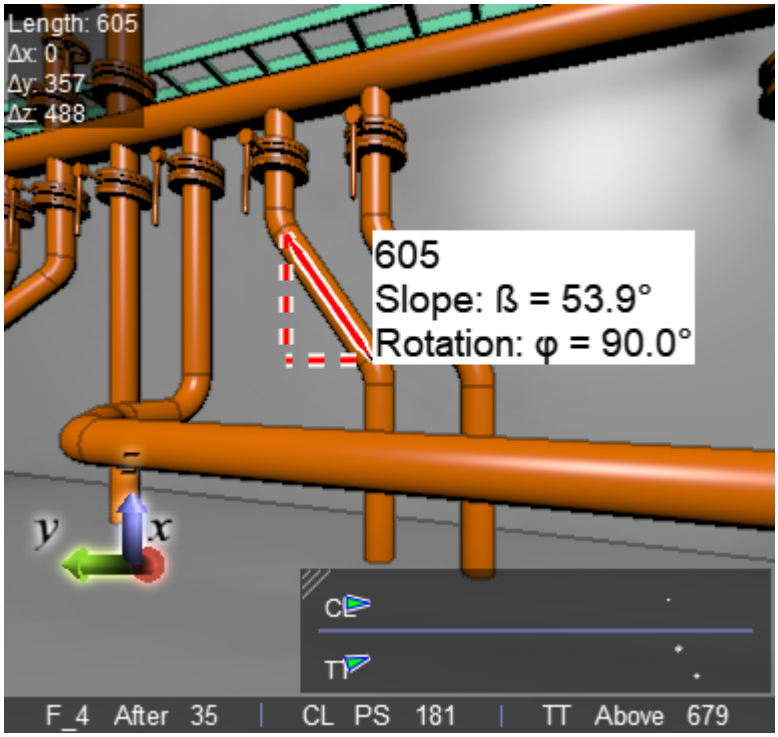
   In this example, a pipe connection point is 1020 mm from the centerline of another pipe.



4. Right-click the target location, which again can be any point or line in the model. The measurement information is shown next to the measurement line, and it stays on the screen until you start a new measurement or deactivate the measuring tool.

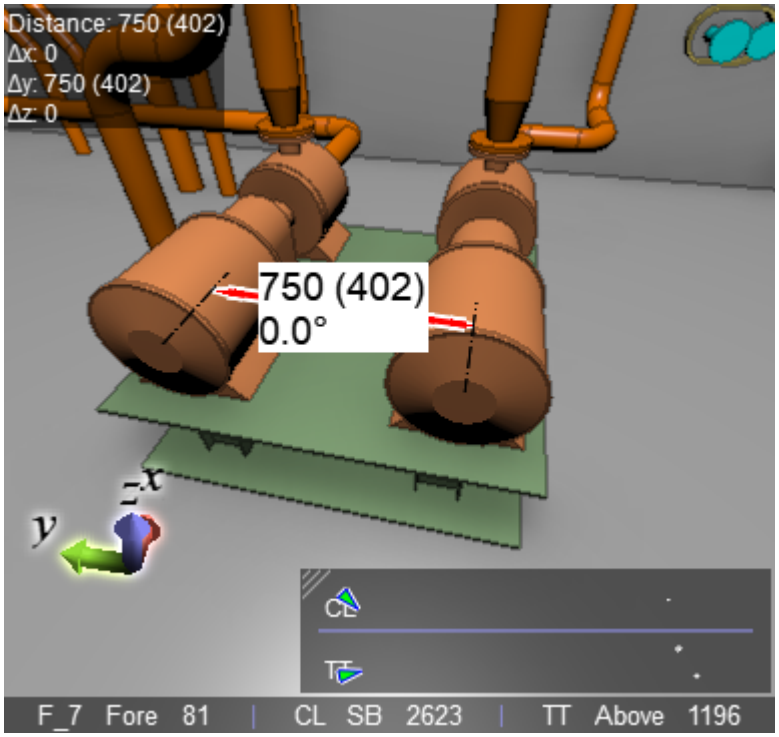
   If you selected a single line (such as a pipe centerline) as both the starting point and the end point, the tool displays the length of the line. If the **Show Angle for Lines** option is enabled, it also shows angle information for that line.

   In this example, the slope angle between the pipe and the XY-plane is 53.9°, and the pipe is rotated from the X-axis by 90°.



If you measured the distance between two pipes or cylinders, the tool displays the distance between their centerlines. If the **Distance to Pipe Surface** option enables measuring of free distance, the tool also shows the amount of free space between the two objects in parenthesis.

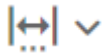
In this example, the distance between the centerlines is 750 mm, and the free distance between the objects is 402 mm.



5. Do another measurement, or select **Measure** to deactivate the measuring tool.

Note: The **Take Snapshot Image** tool does not include measurement information in the snapshot image.

1.3.11.2. Measure settings



Use the **Measure Settings** button to specify measuring options. You can toggle these options anytime—also during measuring.

- **Show Angle for Lines** — If selected, the measuring tool shows angle information. This can be the angle between two lines or the angle of a single line in reference to the XY-plane.
  - "Slope: **b**" shows the angle between the line and the XY-plane. The value can be between 0° and 90°.
  - "Rotation: **F**" shows the angle between the line's projection in the XY-plane and the X-axis. The value can be between -90° and 90°, with counter-clockwise rotation as a negative value and clockwise rotation as a positive value. If slope is 90°, rotation is not displayed.

- Distance to Pipe Surface — Opens a submenu for selecting whether measurements taken from pipe centerline should also show what is the distance from the surface of the pipe.
  - Disabled – Measuring tool does not show free distance from pipe surface.
  - Direct Line of Sight – Measuring tool shows free distance from pipe surface to the other measurement point in parenthesis, but only if the line of sight is clear from other objects.
  - Direct or Obstructed Line of Sight – Measuring tool shows free distance from pipe surface to the other measurement point in parenthesis, even if the line of sight is obstructed by some other object.

Note: Free distance is not calculated if objects are insulated, or if the measurement point is on a pipe centerline that is projected outside the pipe object.

- Multiple Measures — If selected, multiple measures can be selected at the same time. The sum of all measures is shown in the top left corner.
- Chain Measures — If selected, a continuous point-to-point measure line can be drawn. Can be used to measure, for example, the diameter of objects.

Note: Chain measures mode is not available with markups.

- Baseline Measures — If selected, the first measure point fixes the axis directional plane and the following points calculate the distance to this fixed base plane in axis direction. This mode resembles baseline measuring familiar in drawings. The axis direction of baseline can be changed from Baseline direction or using short cut keys 'x', 'y' and 'z' when measure is active.
- Baseline direction — Specifies the used axis direction of baseline measures.
  - X axis (x)
  - Y axis (y)
  - Z axis (z)

Note: Baseline measures mode is not available with markups.

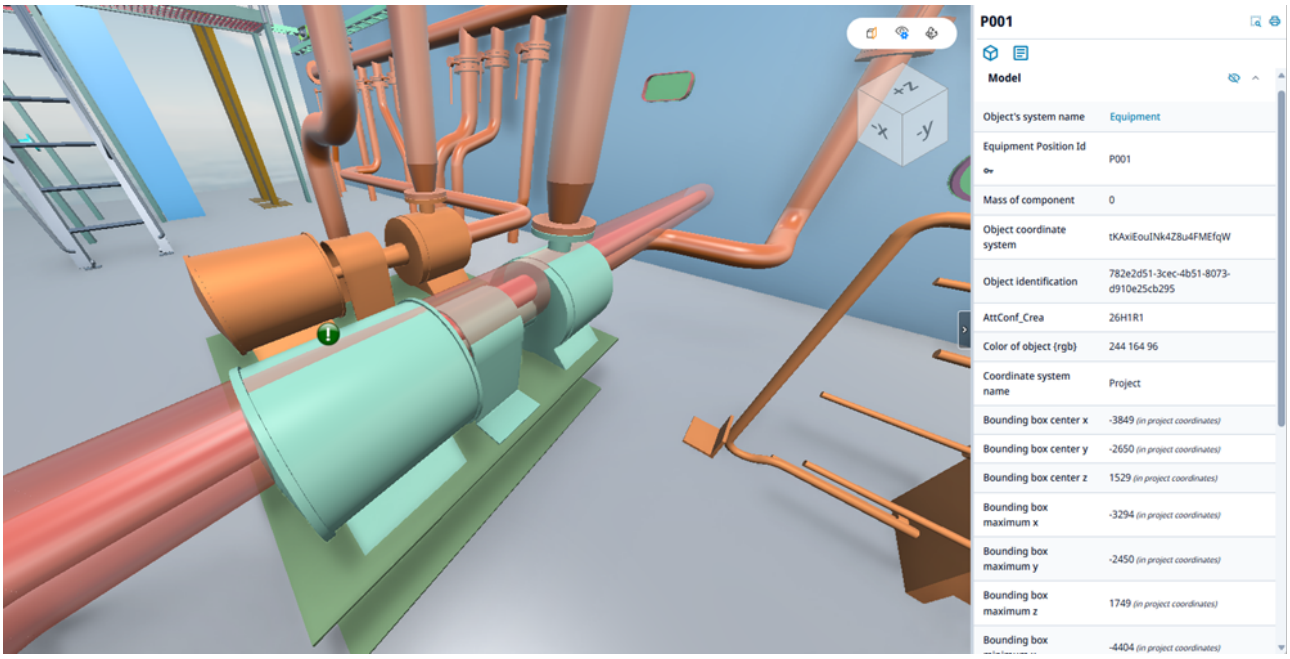
- Enable Snapping — If selected, you can choose the entities that the cursor of the measuring tool can snap to.

  Snap to
  - Cylinder Ends
  - Cylinder Center Lines
  - Sharp Edges

- Sharp Corners
- Point Clouds
- Polygon Sets
- Connection Points
- Coordinate Grid Lines

1.4. Properties pane

The properties pane on the right side of the Model view, Search, and the Documents Viewer shows information about the selected item, such as its name and attributes. Depending on the data sources that the administrator has enabled for the project, the pane can also show additional information, such as links to related documents and drawings, or to manufacturers' online catalogs.



1.4.1. What the pane shows

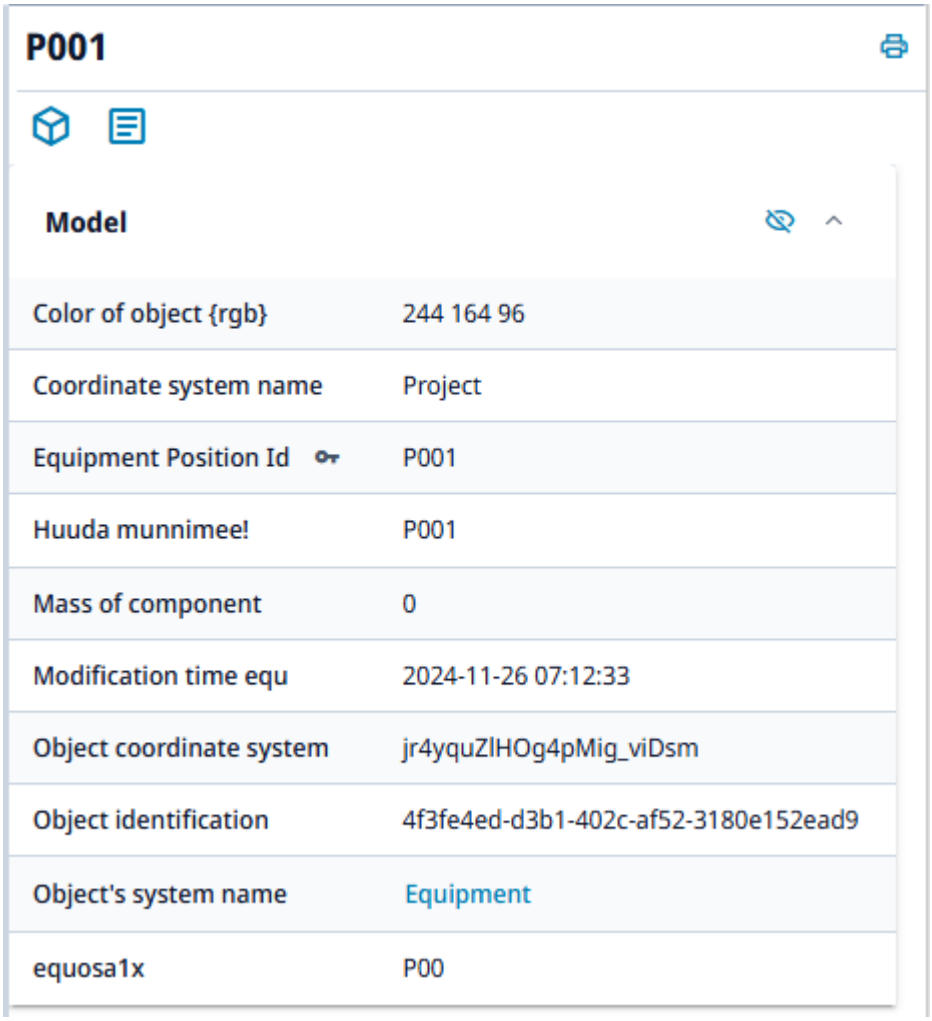
The content of the pane depends on what you select.

1.4.1.1. Model object

When you select a single model object, the pane shows the object's name, attributes, and any additional information available for the object. If the coordinate system is defined in the EBM/EBMX file, the pane also shows the coordinate system.

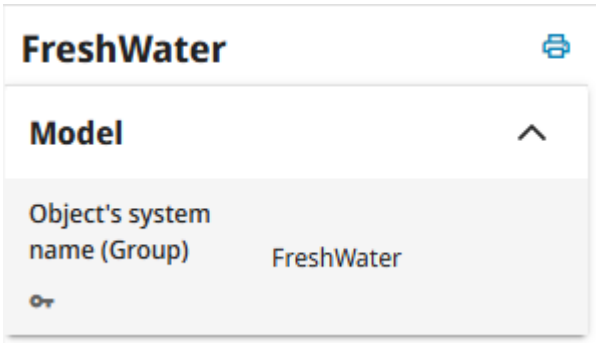
To show attributes that are hidden by default, select **Show hidden attributes** at the top of the pane. The hidden attributes are visible. To hide them again, select **Remove hidden attributes from view**.

If you select a cable segment or a cable node, the pane shows the cable's details in a collapsed category. If the object has related nodes, their details are also shown in a collapsed category.



1.4.1.2. Object group

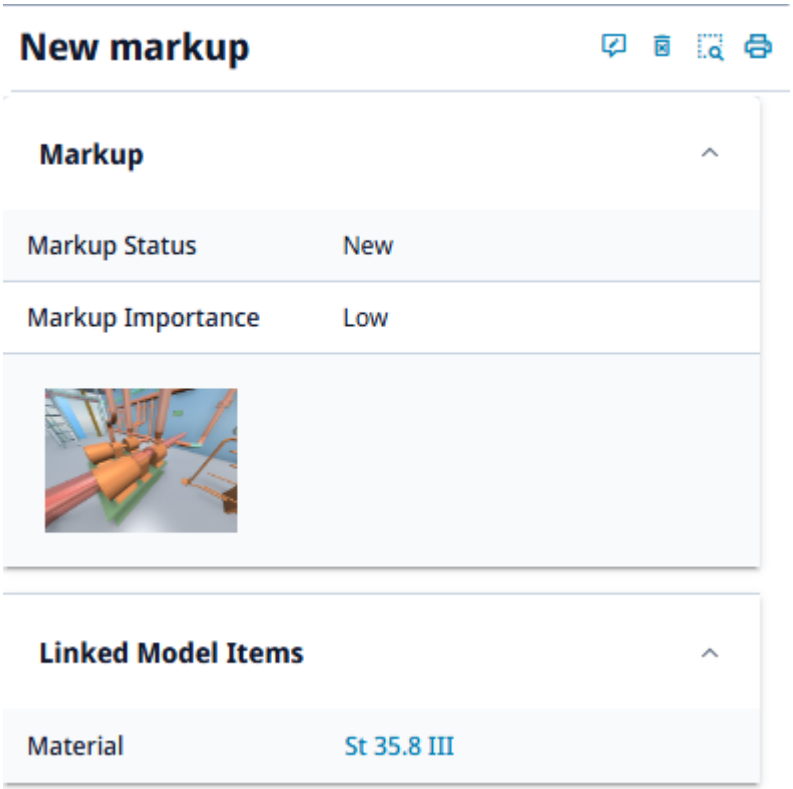
When you select an object group, such as a system, the pane shows the group's name and attributes. If the project uses status tracking, you can change the status of the group.



1.4.1.3. Markup

When you select a markup in the model, the pane shows its name, type, status, importance, latest comment, and thumbnail. It also shows any additional properties defined in the markup type, such as the assignee. The model items linked to the markup are shown in a collapsed category.

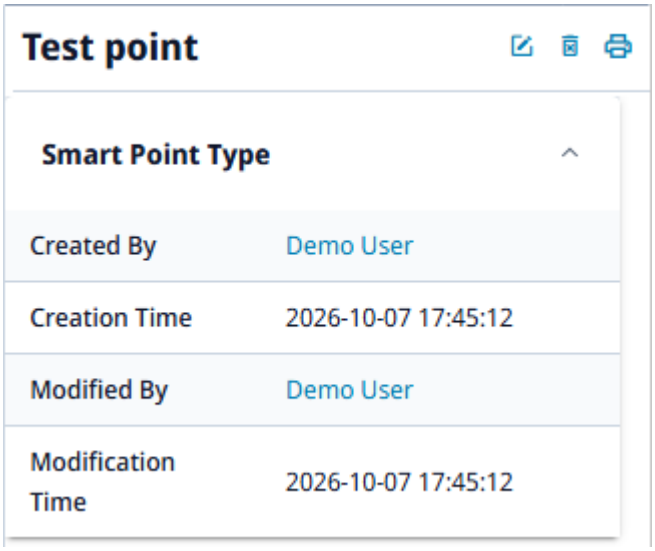
- – Edit the markup.
- – Delete the markup.



1.4.1.4. Smart Point

When you select a Smart Point in the model, the pane shows its name, type, and attributes.

- – Edit the attribute values.
- – Delete the Smart Point.



1.4.2. Working with the properties pane

- To see an attribute's tag, hover over the attribute.

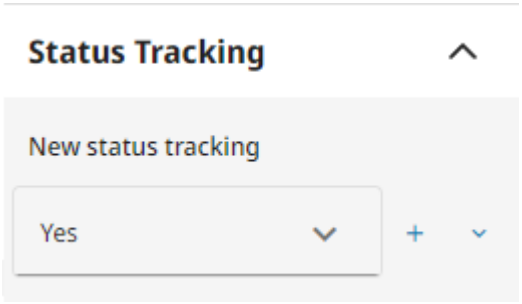


- To print the information in the pane together with a snapshot of the current 3D view, select . Collapsed sections are also included in the printout. If the printout contains a QR code, you can scan it with Cadmatic eGo to open the same item in eGo, with the same camera position and viewing direction.
- To open a linked web page, select the link. Depending on the hyperlink adapter settings, the page opens in a new tab or always in the same tab.
- To go to the linked documents, select . To open a document, select its name. The document opens and zooms to the location of the item.
- In the Model view, select to scroll back to the model object information at the top of the pane. In Search and Documents Viewer, the same icon opens the item in the Model view.

1.4.3. Changing status tracking values

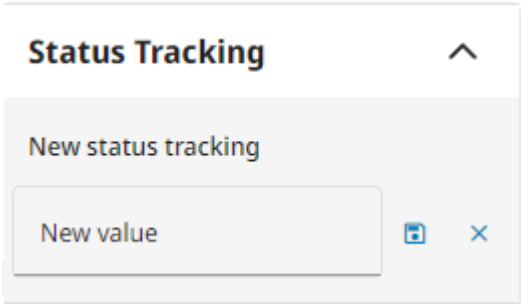
If the pane shows status tracking values, you can change them:

- To change a status, select the value field and select the new status. Only the allowed status changes are listed.
- To see a history of previous status changes, select the blue arrow next to the value field.

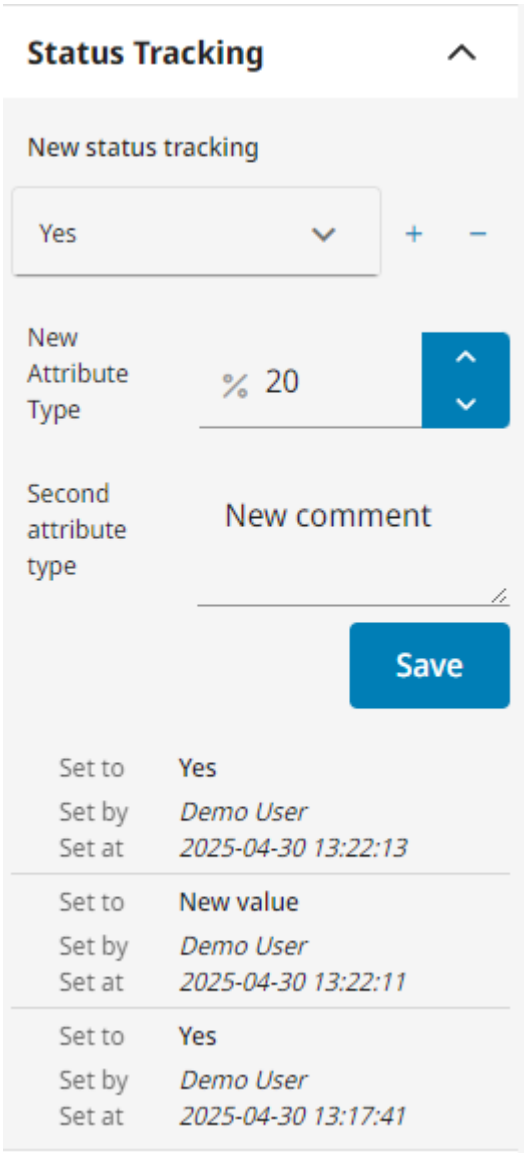


You can also select multiple objects and change them to the same status, even if their current statuses are different.

To add a status tracking value, select + and type the value, or select one from the drop-down menu. Then select **Save**. The + button is shown only if adding values is enabled.



When you expand the status tracking section, you can change or add attribute types. Select **Save** to save the changes.

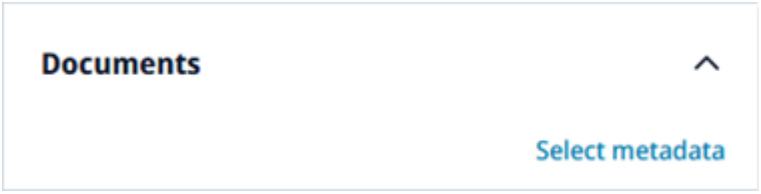


Note: If you are examining an object and the visual style menu is set to color objects according to status, the 3D view shows the new color only after you close the examination mode.

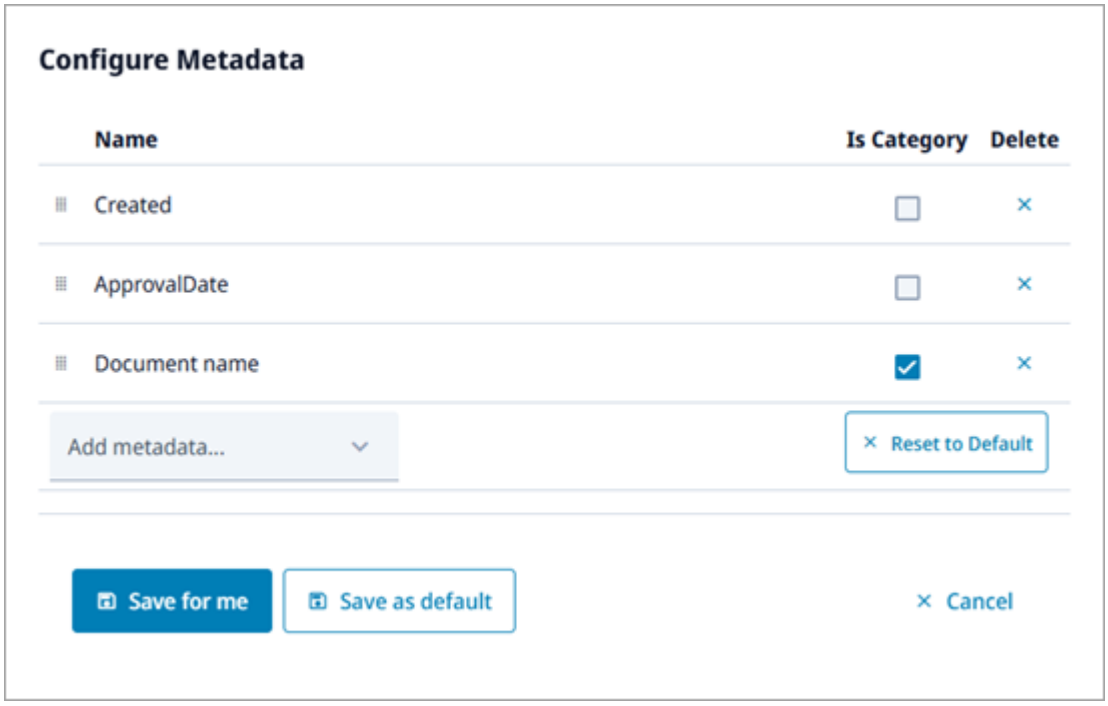
1.4.4. Configuring document metadata

If the linked documents include, you can choose which document metadata is shown in the pane.

1. In the documents section, select **Select metadata**.



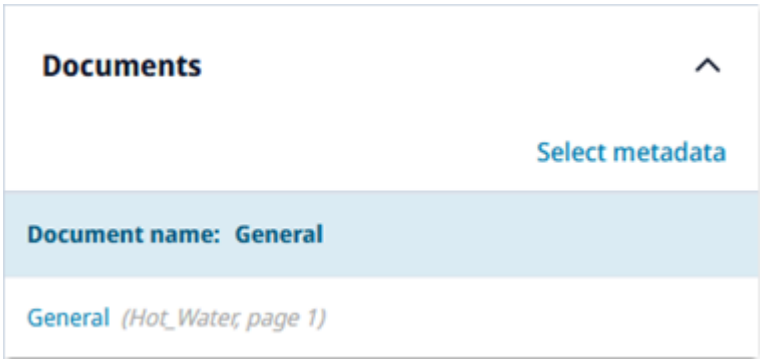
The Configure metadata dialog opens.



2. Select metadata from the Add metadata drop-down menu. To change the order, drag the rows. To remove metadata, select ✕.
3. Select one of the following:
   - **Save for me** – Saves the configuration for you only. It replaces the default configuration for you.
   - **Save as default** – Saves the configuration as the default for all users. Available only for system and project administrators.

   To go back to the default configuration, select **Reset to default**.

Metadata that has **Is Category**enabled is shown in the properties pane.



1.4.5. Showing center of gravity markers

If the pane shows weight and center attributes, you can show the center of gravity as a marker in the 3D view. Select . The marker has a label with the attribute description, and each attribute tyoe has its own marker color.

When you add new items to the selection or remove items from it, the existing markers stay in the 3D view. Their labels get and index, such as [1], to show that they are no longer current. The markers are cleared when you clear the selection or select a new object without holding down Ctrl key.

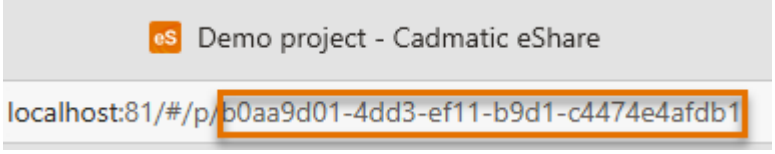
- To clear the markers of an attribute type, select .
- To show or hide the attributes of a type, select or . You cannot use a hidden attribute type until you show it again.

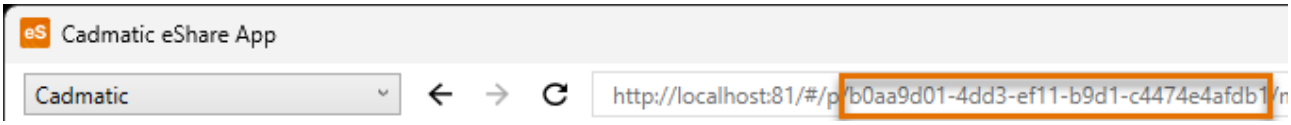
Hiding the properties pane with a URL parameter

You can show or hide the properties pane by adding the parameter *attributePaneVisibility=show* or *attributePaneVisibility=hide* to the eShare URL. For example, this URL shows the sidebar but hides the properties pane:

https://<domain>:<port>/#/p/<project id>/model?treeVisibility=show&attributePaneVisibility=hide

<project id> is the unique project ID of the project, which is visible in the URL field of the browser or eShare App.





For more information on URL parameters, see URL parameters.

Related topics

Documents Viewer

Markups

Smart Points

Status tracking and object grouping

URL parameters

1.5. Smart Points

Smart Points are specialized markers that are linked to an object or object group and display information about that entity. The information that a Smart Point contains can be user-defined or obtained from an external system or database—as defined in the Smart Point Type configuration in eShare. Smart Points can be seen as icons in the 3D model, and the user can select a Smart Point to see the information that it contains. If the Smart Point uses attributes, the user can also add information by editing the attribute values. Smart Points can be created and modified in both eShare and eGo, and the changes can be synchronized from one program to the other. Smart Points can be downloaded also to Cadmatic Plant Modeller. Accordingly, Smart Points can be used to quickly add status information or other comments during a meeting or an on-site visit.

Smart Points are available if project administrator has enabled them for your project. In the 3D model, hovering the mouse over the Smart Point icon you can also see the Smart Point's name. Normally, points that are further away display a smaller icon to indicate distance. But, selecting to examine an object or object group always displays its icons in full size, to make it easier to see all the Smart Points of a large object, such as a long pipeline.

You can select a Smart Point that is fairly close to you by clicking it. The Smart Point is highlighted and its details are displayed in the properties pane on the right. You can see its standard attributes such as name, type and external ID, as well as any user-definable attributes or attributes obtained from an external data source. Also a change log is available if project administrator has enabled this function in the Smart Point Type settings. When viewing a Smart Point that uses a PI Adapter, the data is constantly updated from the PI database, and there is a chart that you can click to expand the chart view.

In addition to finding Smart Points by browsing the model, you can use the search function of eShare to locate Smart Points. See Search.

Depending on the Smart Point Type configuration, you might or might not have permission to see or modify Smart Points of a specific type.

1.5.1. Adding a Smart Point

In the 3D model viewer you can add Smart Points to objects and object groups.

Prerequisites

- Project administrator has created one or more Smart Point Types for this project.
- Depending on Smart Point Type configuration, you might need permissions to be able to create Smart Points. If you do not have sufficient permissions to create Smart Points, the **Add Smart Point** option is not available.

Do the following:

1. In the 3D model viewer, locate the object to which you want to add a Smart Point.
2. Right-click the location in the object where the Smart Point is to be placed, and select **Add Smart Point** from the right-click menu. The **New Smart Point** pane is displayed on the right.
3. In the **New Smart Point** pane, enter the following information.
    - **Type** – Select the Smart Point Type. This determines the color and the icon of the Smart Point in the 3D view, and whether the Smart Point Type has attributes.
    - **Name** – Enter a display name for the Smart Point.
    - **External ID** – If the Smart Point Type requires an external ID, enter the required value. For example, if the Smart Point Type uses a hypertext adapter to perform a web search, enter the search string in this field.
    - **Link to Model Item** – Select the attribute, such as Equipment ID, to which to link the Smart Point. Only attributes of type "Key" and "Group" are listed.
    - **[attribute name]** – If the Smart Point Type has any attributes, you can select or enter a value for each attribute.
4. Click **Save**.

Results

The Smart Point is added to the object and the Smart Point icon displays near the object.

1.5.2. Editing a Smart Point

In the **Model** view you can edit the properties of existing Smart Points, but not their location or object link. Edit the properties for example to set the value of a Smart Point attribute. Attributes that a Smart Point gets from an external data source, however, cannot be edited.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to edit Smart Points. If you do not have sufficient access rights, the Smart Point is in view-only mode and the **Edit Smart Point** button is not available.

Do the following:

1. In the 3D model viewer, select the Smart Point to edit.
2. In the properties pane, click the **Edit Smart Point** button .
3. Edit attribute type, name (or external identifier), and values as appropriate, and then click **Save**.

1.5.3. Deleting a Smart Point

In the 3D model viewer you can delete a Smart Point to remove it from the target object.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to delete Smart Points. If you do not have sufficient permissions, the **Delete Smart Point** button is not available.

Do the following:

1. In the Model view, select the Smart Point to delete.
2. In the Smart Point properties pane, click the delete button . You are prompted to confirm the action.

1.5.4. Displaying objects with Smart Points as a visual style

In the view cube toolbar, **Visualization > Visual styles**lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to highlight objects that contain Smart Points of that type.

Do the following:

- In the **Model** tab, in view cube toolbar select **Visualization > Visual styles** and select the required Smart Point Type from the menu.

  Objects and object groups that contain Smart Points of the specified type are highlighted in the 3D view. The color legend is displayed at the bottom of the model view. You can hide or show the legend using the arrow on the right side of the legend. If an object has several Smart Points that relate to different attributes, for example one Smart Point for Valve Position and another for Pipeline, the object is highlighted with the "Multiple Categories" color.

Related Actions

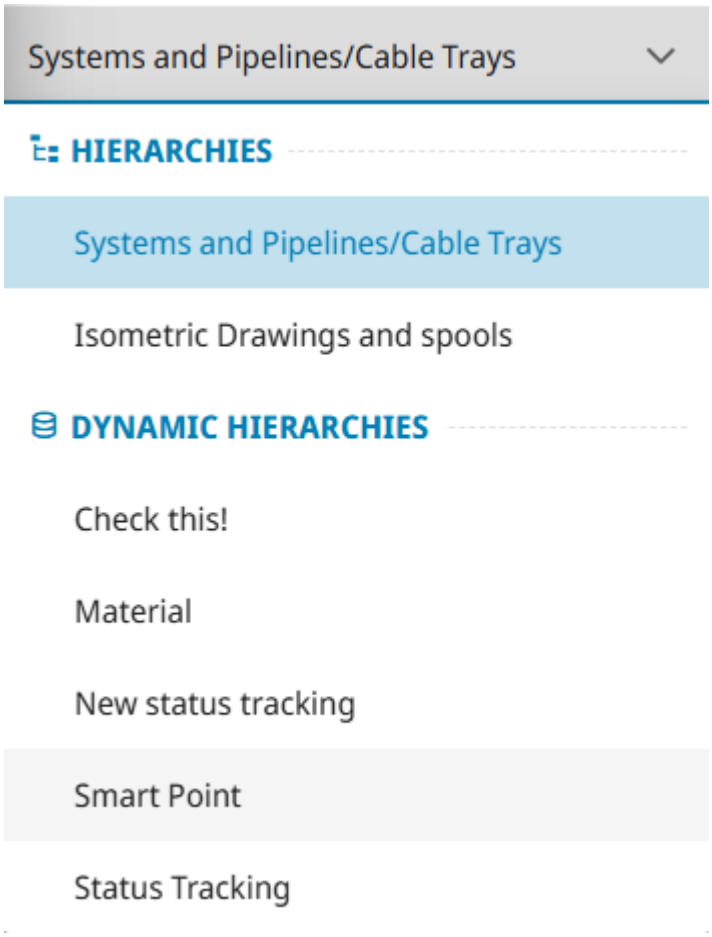
- After selecting a visual style, if you add, edit, or delete Smart Points, select in the view cube toolbar **Visualization > Refresh visual styles and hierarchies** to update the object colors in the 3D view.

1.5.5. Displaying objects with Smart Points as a hierarchy

The **Hierarchy** drop-down menu of the 3D model viewer lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to list the objects and object groups that have Smart Points of that type.

Do the following:

- On the **Model** tab, open the **Hierarchy** drop-down menu, and select the required Smart Point Type from the list.



The **Model** tab displays a hierarchical list of entities that contain Smart Points of the specified type, and you can right-click an object to examine it or to hide all other objects, for example. Select in the view cube toolbar **Visualization > Refresh visual styles and hierarchies** to update the hierarchies.

1.6. Markups

The Markups functionality of Cadmatic eShare allows the participants of a design project to add comments and status information to a model, and then share the information with each other. Markups synchronized from Cadmatic eGo can also contain photos.

All projects have one default Markup Type that you can use to create Markups. In addition, project administrator can create additional custom Markup Types, and define which users have permission to view, create, update, upload, and delete Markups, as described in Markup types. Markups can be assigned to a specific user, if project administrator has enabled this function in your project.

Markups can be viewed in any coordinate system and the reference coordinates shown match the currently active coordinate system.

1.6.1. Adding new markups

In the 3D model viewer, users can add Markups manually by navigating to the location where the Markup should be placed, and then selecting **Add Markup** from the right-click menu. You can add Markups also in the bubble view of a point cloud.

This opens the Markup editor where you can add comments and simple graphics to the Markup, or email the Markup as a picture, for example. See Markup Mode or Rectangle, ellipse, cloud for details.

If you do not have permissions to create Markups, the **Add Markup** option is not available.

1.6.2. Uploading a markup file

In the front page of a project, click **Upload Markups** to upload Markups from an .ebx, .bcfzip, or .bcf file.

If you do not have permissions to create or update Markups, the **Upload Markups** option is not available.

1.6.3. Accessing markups from the project's home view

The latest Markups are listed as thumbnail images in the home tab of the project. Clicking the thumbnail image opens the Markup in the model viewer. Clicking the thumbnail image of a Document Markup opens it in Documents Viewer. Use the search links on the page to see more items. If you have sufficient permissions, you can update the Markups. If you do not have permissions to update Markups, the Markups are displayed in view mode.

You can configure in the recent markups widget, if the mode is to show markups for the current user or for all users.

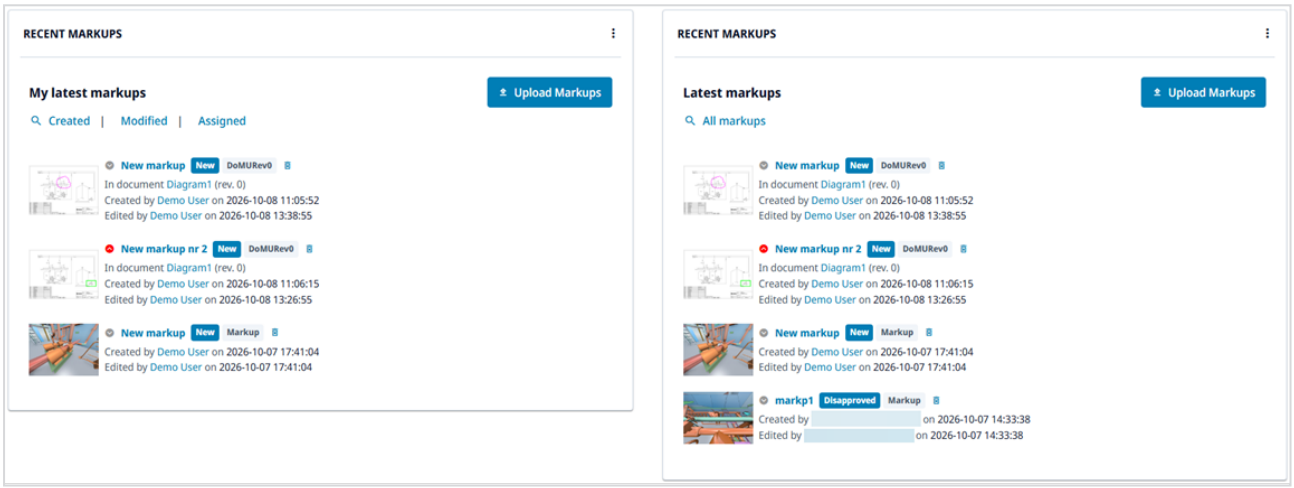


My latest markups – Lists the Model and Document Markups that the current user has recently added or modified or that have recently been assigned to the current user.

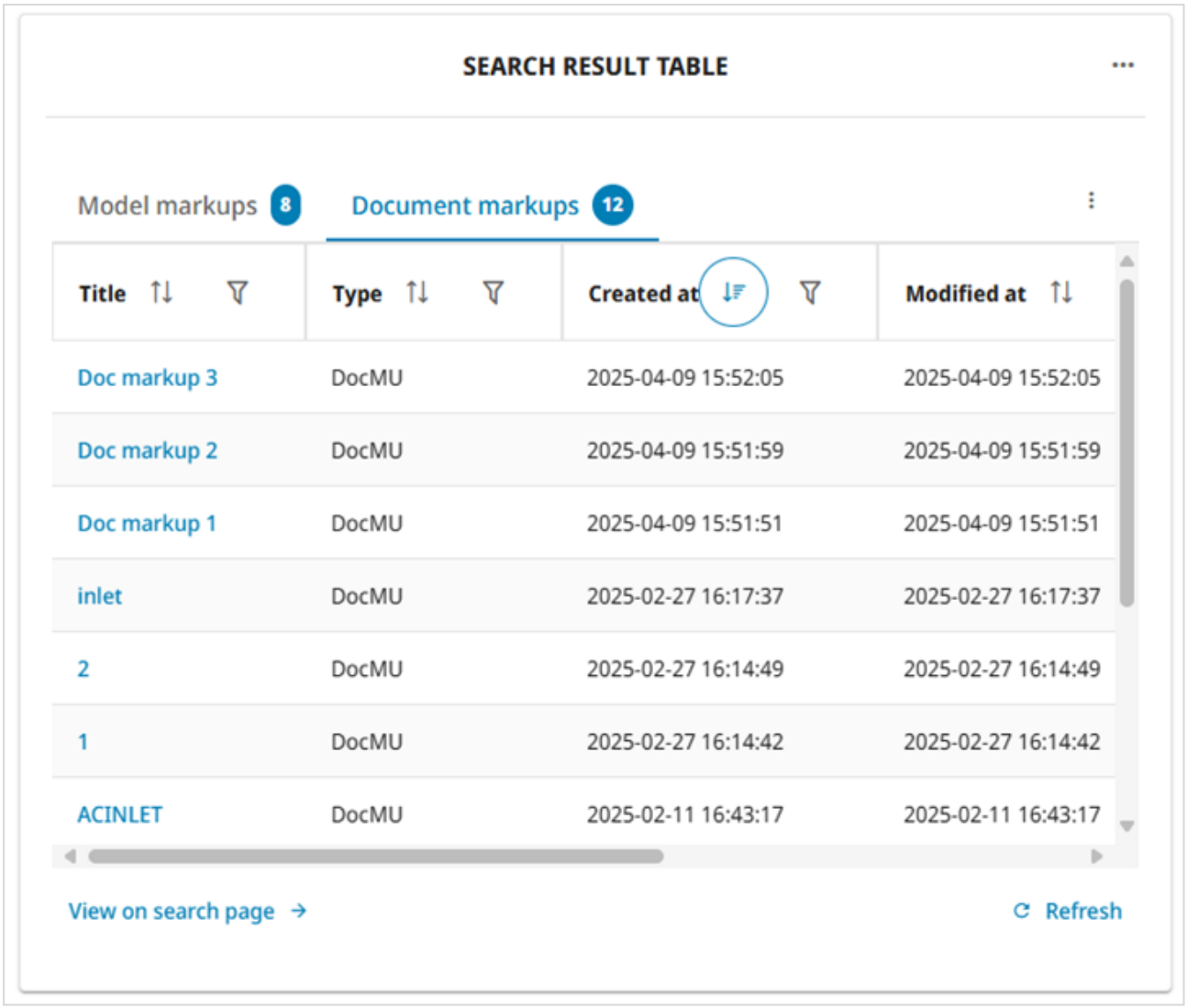
- **All Created by Me** – Opens the **Search** view and lists all Model Markups that the current user has created.
- **All Modified by Me** – Opens the **Search** view and lists all Model Markups that the current user has modified.
- **All Assigned to Me** – Opens the **Search** view and lists all Model Markups that are assigned to the current user.

Latest markups – Lists the Markups that any user has recently added or modified.

- **All Markups** – Opens the **Search** view and lists all Model Markups in the project.



Search Result Table widget – If a search result table widget with a markup search has been configured to a tab in Home view, Model markups are visible there.



1.6.4. Finding markups with search

In the **Search** view, you can use the "Smart points and Markups" search to find specific Markups. After performing a search, you can save the search for future use, and you can export Model Markups from search results to a Microsoft Excel file, a Microsoft Word file, or an .ebx, or .bcfzip file.

When Markups are configured to support assignees, you can use the search to find Markups based on their current or previous assignee.

See Search methods for details.

1.6.5. Exporting markups

You can export a Markups file (.ebx, or .bcfzip) from the **Search** view and then open it, for example, with Cadmatic eBrowser. See Exporting a model markup file (.ebx) or Exporting a model markup file (.bcfzip).

1.6.6. Deleting markups

Markups can be deleted in the following ways:

- In the front page of a project, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In the properties pane when viewing the Markup in 3D Model, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In search results when viewing the results in list view, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.

1.7. URL parameters

You can build an eShare URL with URL parameters, for example, when you want to link to eShare from an external system. Separate the parameter and the value with an equals sign (=), and separate the parameters with an ampersand character (&). The order of the parameters does not affect the result.

For example: https://<server>:<port>/#/p/<project id>/model?<urlParameter>=<urlParameterValue>&<urlParameter2>=<urlParameter2Value>&...

The maximum length of the URL is 2048 characters. Note that some characters, for example, vertical line and space character, are encoded by the browser and take the space of three characters instead of one.

Parameter	Description	Value range
positionId&tag	Examine	Position ID of the object.

	an object by using its position ID. Examine an object based on the object's tag. An object's tag is the abbreviation of the object's attribute. A tag is needed to differentiate objects, if two or more objects share the same	Example: https://<server>:<port>/#/p/<project id>/model?positionId=722-PS1 Tag of the object. Example: https://<server>:<port>/#/p/<project id>/model?positionId=722-PS1&tag=.n5

	position ID. To examine an object based on the object's tag, you also need to provide the object's position Id parameter. Used only with key attributes.	
groupParentTag&groupChildTag&groupId	Examine a group object by specifying the parent and child	Example: https://<server>:<port>/#/p/<project id>/model?groupParentTag=[sys]&groupChildTag=sys&groupId=Air

	object's attribute abbreviation, and the group's ID. groupParentTag is the abbreviation of the group's attribute in brackets []. groupChildTag is the abbreviation of the group's attribute. groupId is the value of the group's attribut	

	e.	
attributeValue&tag	Used with tag to locate any object or group of objects by attribute abbreviation and value.	If the following string finds only one instance, it opens the object in examine mode: Example: https://<server>:<port>/#/p/<project id>/model?tag=len&attributeValue=1950 If the following string finds multiple instances, the search page opens: Example: https://<server>:<port>/#/p/<project id>/model?tag=len&attributeValue=619 --> Multiple hits opens search page If the following string finds a group, it opens in examine mode: Example: https://<server>:<port>/#/p/<project id>/model?tag=[pli]&attributeValue=177-035
attributePaneVisibility	Defines the visibility of the properties pane.	Show – shows the properties pane Hide – hides the properties pane. Example: https://<server>:<port>/#/p/<project id>/model?attributePaneVisibility=Show
examineBranchPath	Opens the defined branch in the model tree. Can be combined with	Define the complete path to the branch in the model tree, starting from "Models". Separate the branches with three semicolons (;;;). Use the hierarchyName parameter to define the source hierarchy of the given path. Examples: https://<server>:<port>/#/p/<project id>/model?examineBranchPath=Models;;;Branch1;;;Branch2&hierarchyName=Isometric%20Drawings%20and%20Spools

	visibleBranchPath.	https://<server>:<port>/#/p/<project id>/model?visibleBranchPath=Models;;;Branch1;;;&examineBranchPath=Models;;;Branch2;;;&hierarchyName=Isometric%20Drawings%20and%20Spools
examineFlags	Enables modifying the examine parameters when examining an object with a URL parameter. Combine the examineFlags parameter with the multiExamine parameter to include multiple objects in the URL.	0 = Disable orbiting, show all objects 1 = Enable orbiting, show all objects 2 = Disable orbiting, hide other objects 4 = Dim all objects that are not being examined 8 = Turn off highlighting for the examined objects 16 = Turn off the X-ray mode for the examined objects 32 = Open the examined objects in clip box 64 = Clear the selection highlight of the examined objects and show the objects according to the applied visual style For example, if the position ID of an object in the 3D model is "P001", you can use the following kind of URL to start examining that object so that orbiting is enabled and also all other objects are visible: Example: https://<server>:<port>/#/p/<project id>/model?positionId=P001&examineFlags=1

	You can also combine the flags. For example, flags 1 + 2 = 3, which enables orbiting and hides other objects.	
hierarchyName	Changes the active hierarchy.	Name of the hierarchy. Example: https://<server>:<port>/#/p/<project id>/model?hierarchyName=Isometric%20drawings%20and%20spools sets the hierarchy to "Isometric drawings and spools".
guidId	Allows examining an object or a group based on its GUID id. This is useful when	GUID id of the object or group. Example: https://<server>:<port>/#/p/<project id>/model?guidId=A491C908-AFF2-4369-BE2E-D7BB1F3A974A

	the original 3D model imported to eShare contained GUID id data.	
pointCloud	Enter a point cloud view by using its GUID id.	GUID id of the point cloud. Example: https://<server>:<port>/#/p/<project id>/model?pointCloud=3d60ec73-117e-ef11-a2eb-00144d151290
pointId	Examine a Smart Point by using its ID.	Smart Point ID. Example: https://<server>:<port>/#/p/<project id>/model?pointId=654321
pointReference& poiKind	Locate a point in the model and show its properties by using the point's External	pointReference should be given the desired point's exact External Id, and poiKind can be used to specify the type of the point. pointReference can be used without poiKind, but poiKind cannot be used on its own. Example: https://<server>:<port>/#/p/<project id>/model?pointReference=ID1234&poiKind=SmartPointType1

	Id	
markupId	Examine a Markup by using its ID.	Markup ID Example: https://<server>:<port>/#/p/<project id>/model?markupId=123456
multiExamine	Enables examining multiple objects. Can be used only with key attributes.	Objects' attribute abbreviation and value. In case of group objects, use the parent attribute abbreviation. Separate the objects with a vertical bar (|) and the attribute abbreviations and values with a colon (:). Example: http://<server>:<port>/#/p/<project id>/model?multiExamine=.n5:AE-SW-P001|.n5:722-PS1|.n5:722-PS2|[sys]:722-SWC|.ne:R110202
searchFor&searchScope	searchFor takes a string which is matched directly to the entities of the given scope. searchScope takes a	With searchScope the types are separated with a comma, and are case-insensitive. If searchScope is not given in the URL, but searchFor is, the default scope used is "objects, groups, points". Available types are: objects – search through the objects in the model; searchFor tries to match to the object's key attribute's value groups – search through the groups in the model; searchFor tries to match to the group's key attribute's value points – search through the points of interest (smart points, markups) in the model; searchFor tries to match the point's name value. If unsuccessful, it tries to match the point's external ID value. smartPoints – search through the smart points in the model; searchFor tries to match the smart point's name value. If

	string which lists the types of entities that searchFor goes through.	unsuccessful, it tries to match the smart point's external ID value. smartPointsByName – search through the smart points in the model; searchFor tries to match the smart point's name value only smartPointsById – search through the smart points in the model; searchFor tries to match the smart point's external ID value only markups – search through the markups in the model; searchFor tries to match the markup's name value The scope is iterated in the given order when finding a match. If a match or multiple matches is found in one type, the search is stopped, which means that possible other matches found in other types will not be found. If there is a single match, eShare Model view will examine it. The parameter examineFlags can be used to alter the way an object is examined, but it will not do anything if the match is a Smart Point. If there are multiple matches,eShare will take the user to search, where all found matches will be shown. The parameters searchFor and searchScope can be combined with following old parameters: tag – narrows down the search with objects and groups poiKind – narrows down the search with points of interests Examples: <domain:port>/model?searchFor=exampleName&examineFlags=17 <domain:port>/model?searchFor=exampleName&searchScope=objects,smartPoints <domain:port>/model?searchFor=exampleName&searchScope=points&poiKind=PoiKindName <domain:port>/model?searchFor=exampleName&tag=sys

submodels	Specifies which submodels are loaded using either submodel name or a combination of submodel name and a rule.	submodelName – specifies the name of the submodel ruleName – specifies the name of the submodel rule **Note:** When a link needs submodels that are not open, eShare shows the submodel selection view first and applies the rest of the link (hierarchy, visible scope and the examine) after the submodels are loaded. If the user cancels the selection, the link is not applied and it should be opened again. Examples: https://<server>:<port>/#/p/<project id>/model?submodels=<submodelName> https://<server>:<port>/#/p/<project id>/model?submodels=<ruleName1>;;;<submodelName1>&submodels=<ruleName2>;;;<submodelName2>
treeVisibility	Specifies the visibility of the model tree sidebar.	Show – shows the sidebar. Hide – hides sidebar. Example: https://<server>:<port>/#/p/<project id>/model?treeVisibility=Show
visibleBranchPath	Specifies which objects are set visible, others being hidden. Same as examin	Any objects that are ordered to be examined by some other URL parameter should be visible also. In other words, the visible objects in 3D is the union of visible objects and examined objects. Examples: https://<server>:<port>/#/p/<project id>/model?visibleBranchPath=Models;;;Branch1;;;Branch2&hierarchyName=Isometric%20Drawings%20and%20Spools https://<server>:<port>/#/p/<project id>/model?visibleBranchPath=Models;;;Branch1;;;&examineBranchPath=Models;;;Branch2;;;&hierarchyName=Isometric%20Drawing

	eBranch Path but controls the visibility only.	s%20and%20Spools
visualStyleName	Specifies the visual style that is applied to the 3D model.	Name of the visual style, can be the predefined or project-specific visual style. Example: https://<server>:<port>/#/p/<project id>/model?visualStyleName=Normal visual style
x&y&z&r&s	Moves the camera to the specified location (x, y, z coordinates), with the optional rotation and slope (r and s coordinates).	Coordinates of the location. Example: https://<server>:<port>/#/p/<project id>/model?x=23131&y=-5079&z=10208

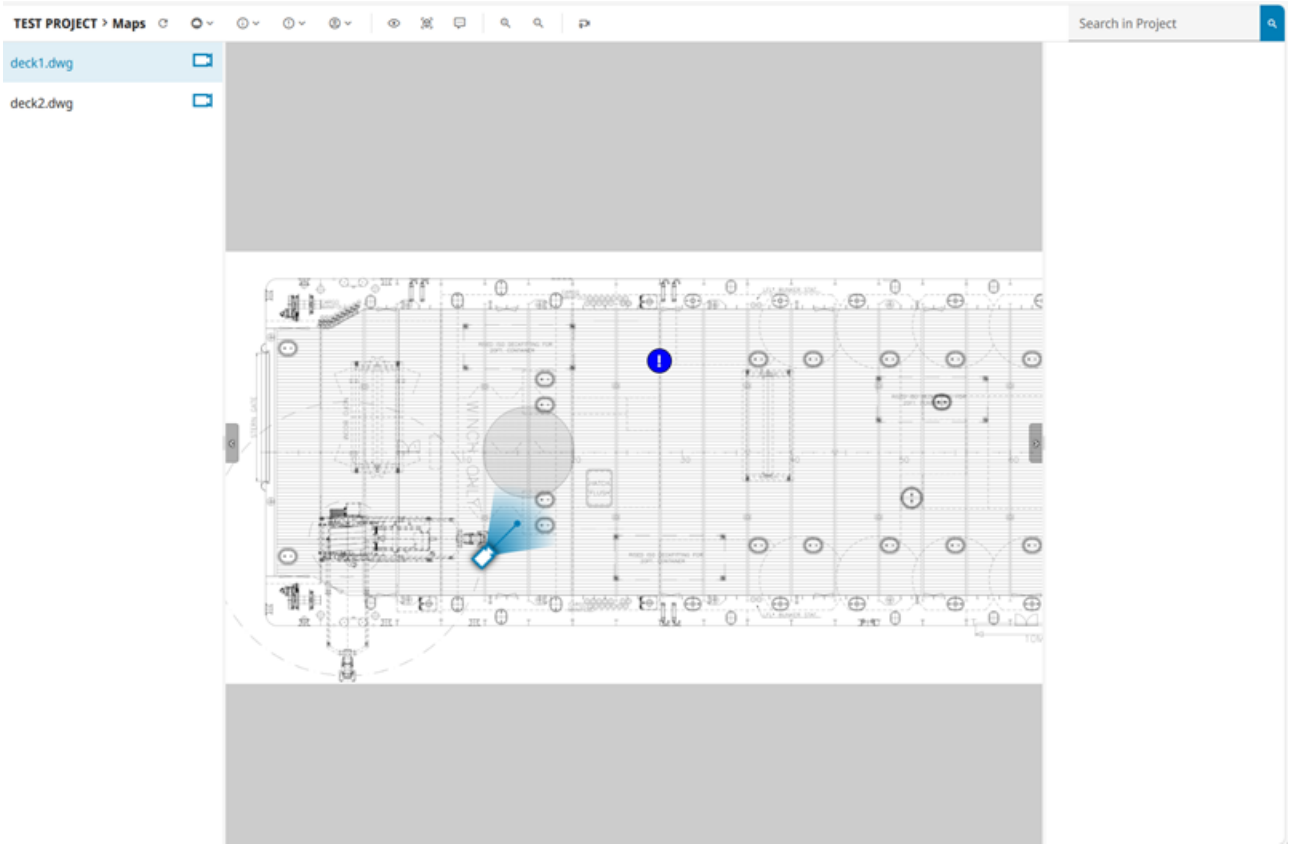
2. Map

The **Map** view of Cadmatic eShare allows you to navigate the model in a 2D view. A map provides the layout of the floor or deck, and helps you move to a certain location in the model.

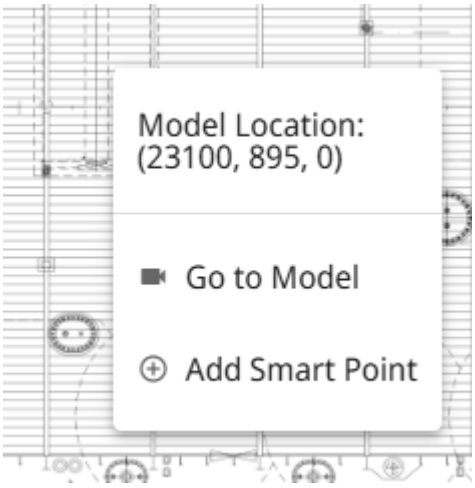
The **Map** view is available only if the eShare administrator has uploaded one or more maps for the project.

You can access a certain location in the 3D model from the map by double-clicking the location in the map, or right-clicking and selecting **Go to Model**. The map shows the camera location in the 3D view. You can also see the model's point cloud scanner locations, Smart Points, and Markups in the map, and access Smart Points and Markups to view their details.

The map indicates the camera location and direction with the camera icon.



You can view the exact location of a point in the model by right-clicking the point in the map. The coordinates of the point are shown.



The menu has also the following options:

- **Go to Model** – opens the 3D model in that exact location.
- **Add Smart Point** – **New Smart Point** pane opens for adding a new Smart Point to that location. See Adding a Smart Point from a Map.

2.1. Viewing maps

In the **Map** view, you can select the map, and define if you want to see the model's point clouds, Smart Points, and Markups. You can change the map's zoom level to view more details or the whole map. You also define if you want to see point cloud scanner locations, Smart Points, and Markups on the map.

2.1.1. Opening the map

- To view the map, select **Map** from the menu.

  Note: Map or its icon is disabled, if the project does not have any maps.

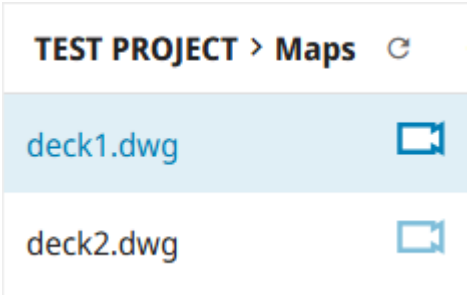
  

2.1.2. Selecting the map

A map can equal, for example, a ship's deck. A project can have more than one map. You can view only one map at a time.

Do the following:

1. In the **Map** view, select the map that you want to use from the left pane. The selected map appears in the map pane.



2. To refresh the list of available maps, click the **Refresh** button on top of the **Maps** list.

2.2. Viewing point cloud scanner locations, Smart Points, and markups

In **Map** view, define if eShare should display the point cloud scanner locations, Smart Points, and Markups on the map. If you do not want to see all Smart Points or Markups, you can select the Smart Points based on their type, and the Markups based on their status. By default, markups with status *Done* are hidden, unless other visibility settings have been saved to the web browser.

Do the following:

1. To see point cloud scanner locations, select **Point Clouds** button and select **On**. The point cloud scanner locations on the map correspond to the location where they are in the model. eShare shows the point cloud's name in a tooltip, and you can click the point cloud symbol to enter the scan in bubble view.

   To hide all point clouds, select **Point Clouds** button and select **Off**. See also Saving visibility settings in Map view.

2. To see Smart Points, select **Smart Points** button and select **All**. By default, eShare has selected all Smart Point Types. If you want to see only some Smart Point Types, select **Smart Points** button and select Smart Point type(s) from the menu.

   To hide all Smart Points from the map, select **Smart Points** button and select **None**. See also Saving visibility settings in Map view.

   To open a Smart Point, click the Smart Point on the map. Smart Point properties are shown on the pane. To open the 3D model at the Smart Point's location, select **View in Model**.

3. To see Markups, select **Markups** button and **All**. By default, eShare has selected all Markups, except Markups with status *Done* are hidden. If you want to view only Markups that have a certain status, select **Markup Status** and the status(es) from the menu. If you want to view only markups with a certain importance, select **Markup Importance** and the desired importance(s) from the menu. There can also be other options available, if other Markup attribute types have been defined by the administrator.
   If you want to view only Markups with a certain assignee, select **Markup Assignee** button and select the assignee(s) from the menu.
   To hide all Markups from the map, select **Markups** button and **None**. See also Saving visibility settings in Map view.
   To open a Markup, click the Markup on the map. Markup properties are shown on the pane. To open the 3D model at the Markup's location, select **View in Model**.

Related topics

Smart Points

Markups

Scans tab in eShare

Point clouds

2.3. Accessing the 3D model from a map

You can navigate to the correct location in the map and then open the 3D view.

In the map view, the **Camera location** icon indicates the camera location in the 3D model. The camera pointer indicates the direction of the camera. When the map covers a different level than your current position, that map's camera marker is shown dimmed at your actual location, instead of the view jumping to the map's level, allowing to continue working in the same position.

Do the following:

1. Navigate to the desired location in the map.
2. Double-click the location, or right-click and select **Go to Model**. The location opens in the **Model** view.
3. Return to the **Map** view by selecting **Map** from the menu.
4. If you have moved in the **Model** view, eShare updates the camera location accordingly.

2.3.1. Setting the view direction in the model view

The view direction for the model view can be set in the map.

Do the following:

1. If the camera is not on the map, select **Move Camera to Map** button and then the desired location in the map.
2. Set the cursor on top of the camera and when the move cursor is visible, the camera can be moved to the desired location.



3. To change the direction of the camera, move cursor on top of the camera pointer and when a hand cursor is visible, the view direction can be changed.



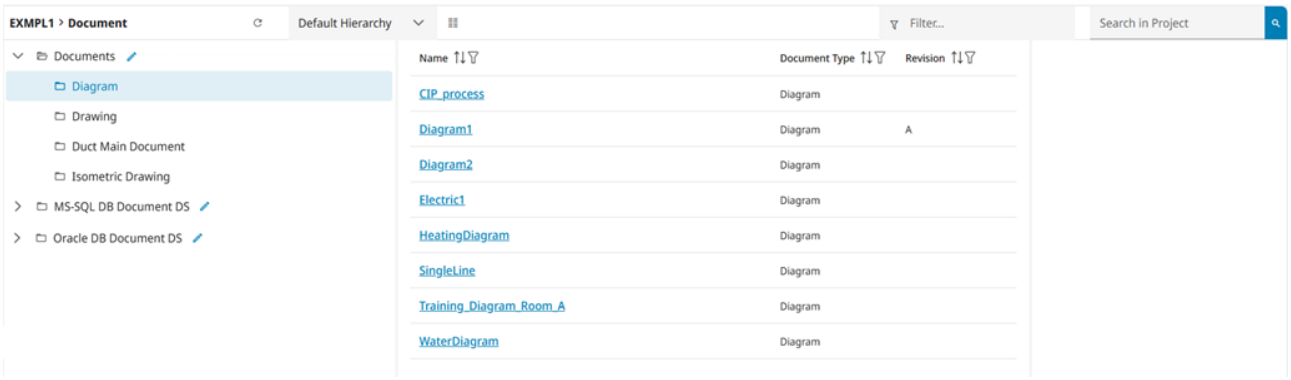
4. Double-click the map to move to the model or right-click and select **Go to Model**.

3. Documents Browser

In the **Documents Browser** you can browse, filter, and select which documents to open in Documents Viewer.

- To open the Documents Browser, select **Documents Browser** in the menu.

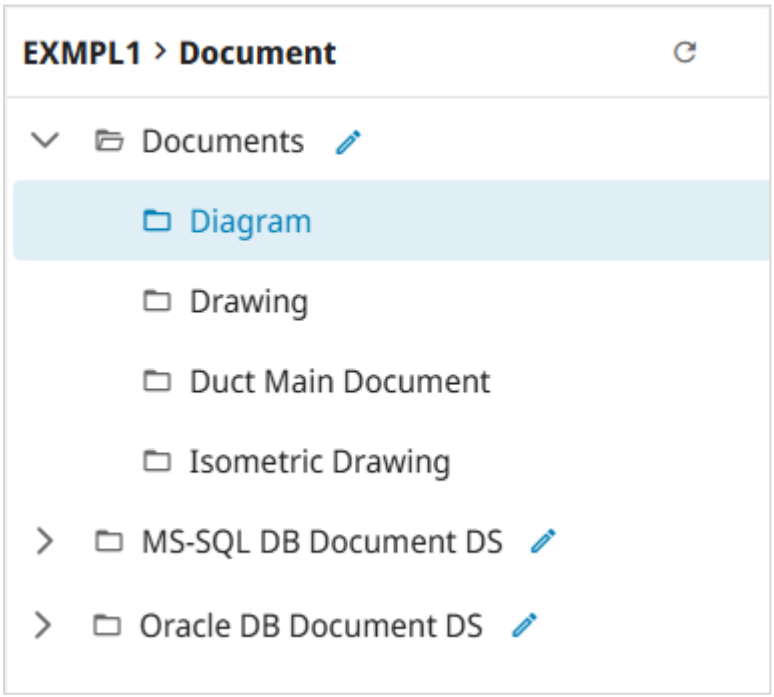




- The *document tree* on the left displays the available document folders.
- The *document list* in the middle lists the documents that are in the selected folder. Document's name must always be visible, the other columns you can select whether to show or hide. You can select an individual document from the list.

3.1. Using the document tree

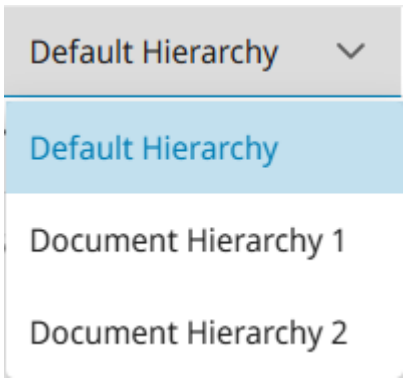
There can be several different document trees that you can browse.



You can do the following:

- Reload all trees from the server by clicking .
- Expand a tree by clicking **>**.

- Select a folder by clicking its name. The documents in that folder are listed in the document list pane.
- If document tree is provided by a document adapter, open the data source configuration view by clicking the edit button (visible only to administrators).
- If additional document hierarchies have been defined as described in Document hierarchies, select how to arrange the document tree published by Cadmatic design tools.

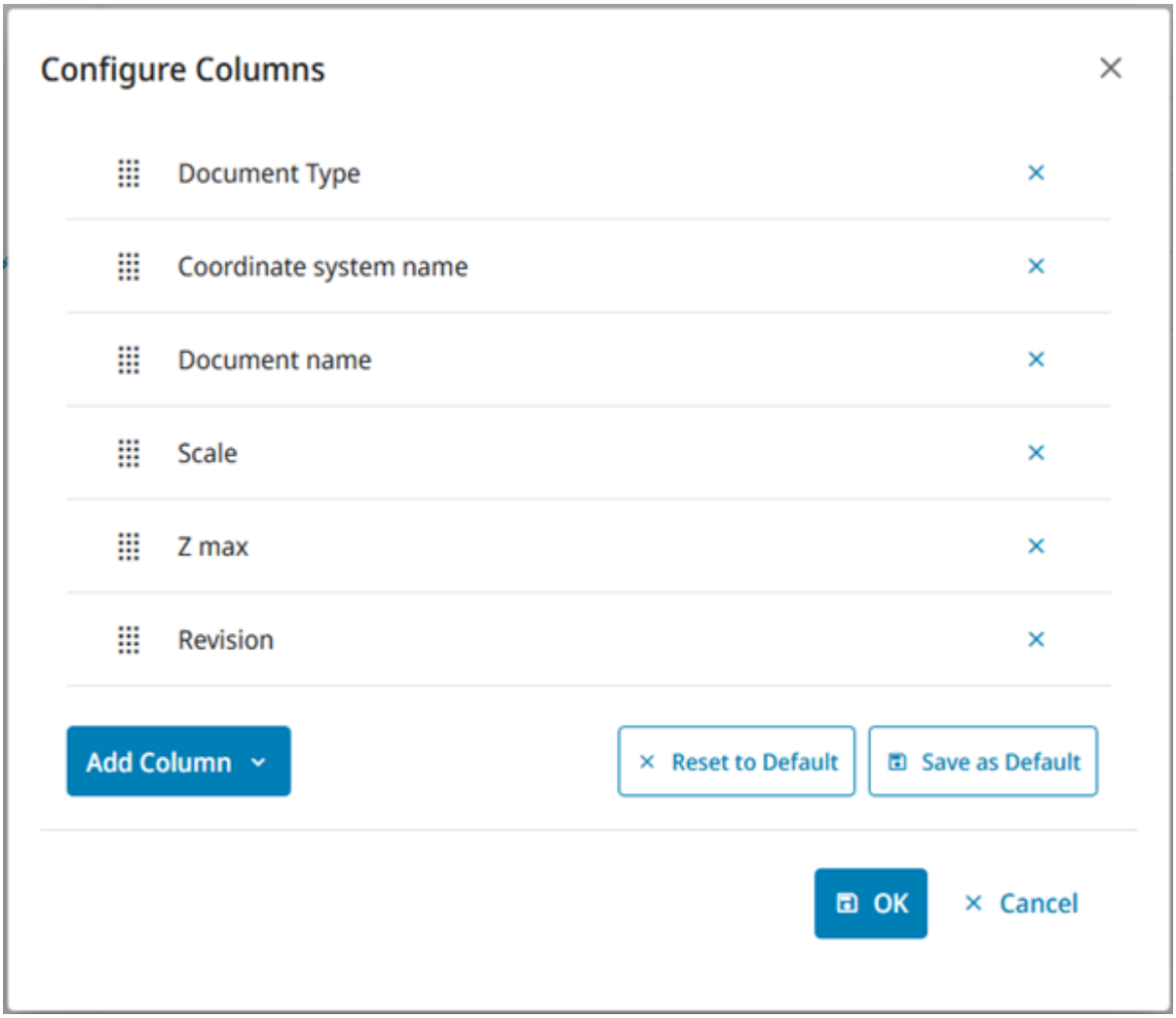


3.2. Using the document list

When you have selected a document folder from the document tree, the document list shows the documents that are in that folder. You can select which columns to show in the list. You can filter the list to show only specific documents from the selected folder.

3.2.1. Configuring the columns

You can select which document properties to display in the document list pane. Click the **Columns** button to open the **Configure Columns** dialog.



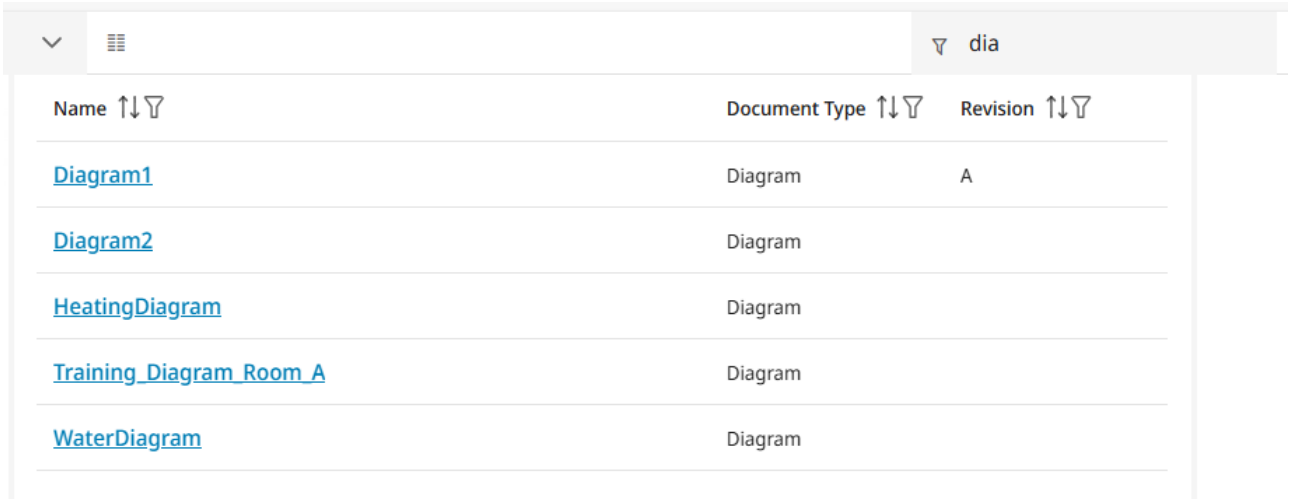
In this dialog you can do the following:

- Add a column by selecting the column from the **Add Column** men.
- Remove a column by clicking its **X** button.
- Specify the column order by dragging the column blocks.
- Click **Save as Default** to save the current column list as your personal default.
- Click **Reset to Default** to restore your default column list.

3.2.2. Filtering the document list

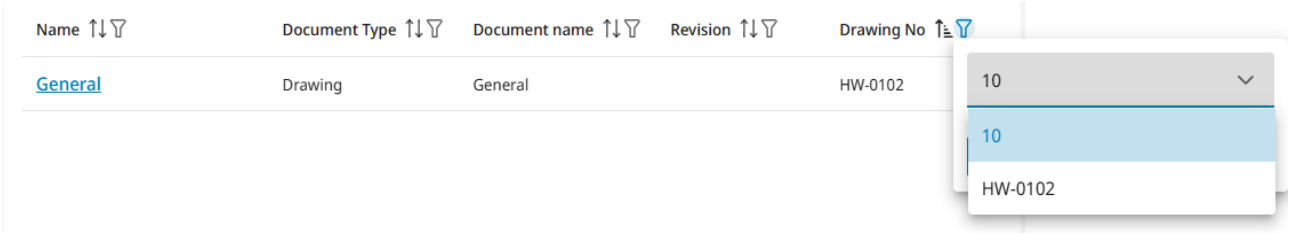
You can enter a filter string in the filter box to quickly find specific documents. The filtering is applied to the values of both visible and hidden columns. Clear the filter box to remove the filtering.

In this example, we filter the list to show only documents whose metadata contains the string "dia".



You can filter the list further, based on an individual column's values. Click the column filter button to open the filter pane.

In this example, we use the "DrawingNumber" column's values to select which individual documents to show in the list.



4. Documents Viewer

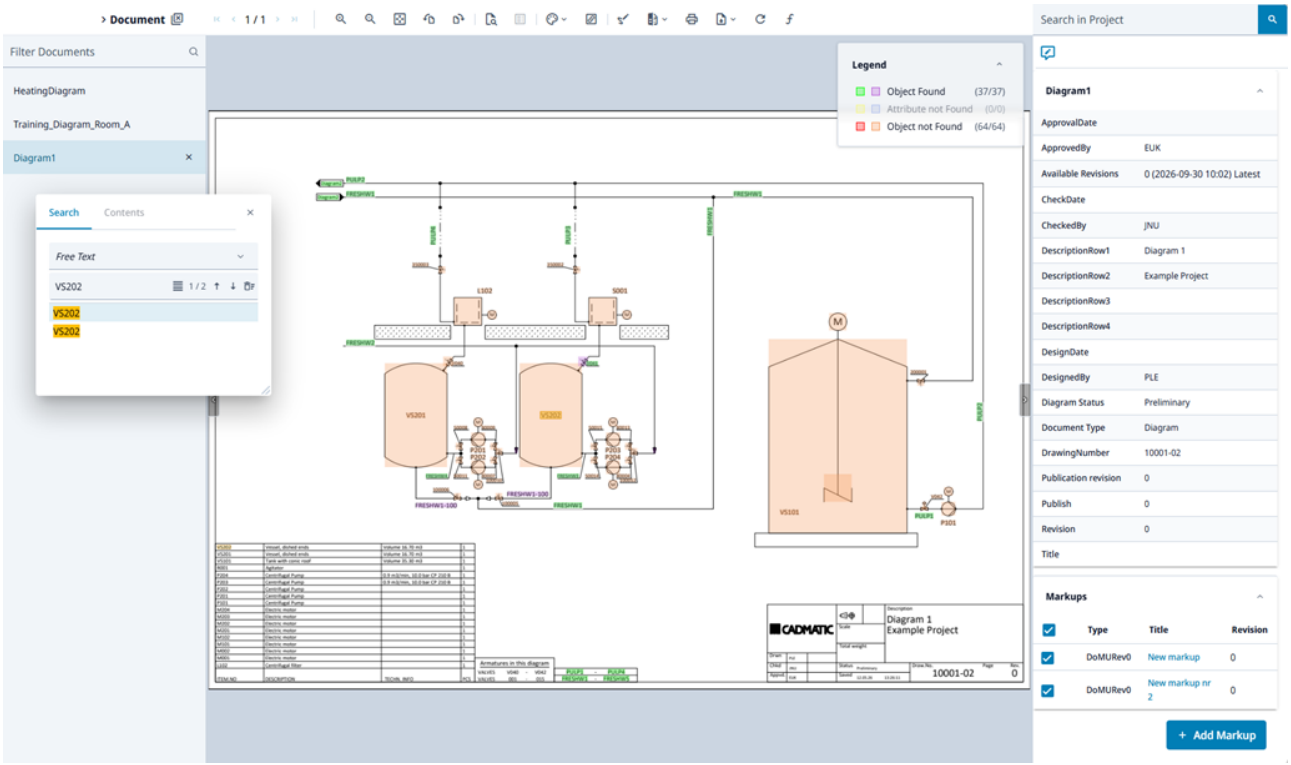
In the **Documents Viewer** of Cadmatic eShare, you can open documents, view document metadata, and add document markups to documents. This view is available if the project contains documents in DGN, DXF, DWG or PDF format, or if the project has been configured to access documents stored in an external system.

Documents accessed via Cadmatic eShare can be intelligently linked with the 3D model, or other documents; the user can, for example, click the 2D label of a valve in a piping drawing to jump to the 3D representation of that valve, or click a link in the properties of the 3D object to jump to the documents viewer and display the drawing of the object, or click a connector in a document to jump to another document. When using Cadmatic Plant Modeller to publish documents and their 3D model to eShare, the objects in the drawings are automatically linked to their associated object

in the 3D model. If documents are retrieved from some other system, project administrator can configure eShare to inject these links based on document handler specific rules.

- To open the Documents Viewer, select **Documents Viewer** in the menu.





4.1. Main toolbar

This section describes the commands that are available in the main toolbar in **Documents Viewer**. Buttons that cannot be used for the current document are dimmed. For example, Search in document is dimmed if the document has no text or links. While a document is loading, buttons are dimmed until the data they need is available. In a narrow window, the buttons on the right are moved to a More menu.

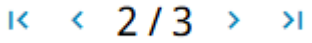


4.1.1. Close all documents



Closes all open documents.

4.1.2. Move to first/previous/next/last page



To move between pages, use the arrow buttons to move to the previous or next page, or jump to the first or last page of the document. To go to a specific page, click the page indicator, for example 3 / 12, and type the page number. You can also use Page Up and Page Down, and Home and End for the first and last page.

4.1.3. Zooming



Use the zoom buttons to zoom in/out in the document. You can also use the mouse wheel or the + and − keys. The mouse wheel zooms toward the cursor.

4.1.4. Fit page



Fit the document page in the window.

Keyboard shortcut: 0.

4.1.5. Rotate counterclockwise/clockwise



Rotate the document page counterclockwise or clockwise.

Keyboard shortcuts: r and Shift + R.

4.1.6. Search in document



Opens the search panel, where you can search for text or links in the currently displayed document. You can also press Ctrl + F. The button is dimmed if the document has no searchable text or links, and it is not shown while you are editing a markup. See Using search in Documents Viewer.

4.1.7. Table of contents

Opens the Contents tab of the search panel, showing the table of contents of the document. Click a heading to go to its page, and click the arrow next to a heading to show or hide its subheadings. The heading for the current page is highlighted. The button is dimmed if the document has no table of contents.

If the search panel is already open on the Search tab, the button switches to the Contents tab without closing the panel, so your search is kept.



4.1.8. Change link coloring

Opens a drop-down menu for selecting link coloring configuration, if there are multiple link coloring configurations available. You can also turn link coloring off. When link coloring is on, a legend shows the colors and how many link areas of each color there are.

4.1.9. Examine all links in the document in the project model



Opens the project model to examine all links in the document. The button is dimmed if there are not any links.

4.1.10. Add markup



A new markup is created and markup editor toolbar opens.

The button is dimmed while the document is loading and for users who are not allowed to create document markups.

The page must be visible in the window when you create a markup. See Document markups.

4.1.11. Old markups



Only available when the first page of a document is on screen and it has document markups saved by an older version (2025H1 or older) you are allowed to edit.

The menu has two options:

- **Correct old markups** — Opens a dialog with the document markups with their title, author, date, and drawing format version. The document markups last saved by a version that embedded the legend are selected, deselect any document markup that already sits where it belongs, then select **Correct**. The selected document markups are rescaled so they sit where they were drawn, and each document markup's history gets an entry recording the change.
- **Undo correction of old markups**— Opens a dialog with the document markups that have been corrected and puts the selected ones back as they were.

See Correcting old document markups.

4.1.12. Compare



Dropdown menu has the following options:

- **Compare with revision** – Select another revision of the displayed document if available.
- **Compare with document** – Select another document for comparison with the current document.
- **Exit comparison**– Closes the comparison mode and returns to original document.

4.1.13. Print this document



Creates a print view of what you see in the window: the current page at the current zoom and position, with any visible document markups. The print view also contains the document attributes and a QR code. Scanning the QR code opens eShare at the same view. Set up the view you want before you print.

4.1.14. Download



Downloads the currently displayed document, including link coloring according to the selected configuration. The drop-down menu has the following options:

- **Download PDF with links (this document)** – Downloads the currently displayed document, including link coloring according to the selected configuration.
- **Download PDF without links** – Downloads the currently displayed documents as a PDF file without links.
- **Download original document** – Downloads the original of the currently displayed document. Download original document is dimmed when the original document is already a PDF.

4.1.15. Reload current document



Reloads the current document.

4.1.16. Fonts in this document



Opens a list of fonts used in the current document. There are separate tabs for **Page fonts**, **Document fonts**, **Available fonts**, and **Font aliases**.

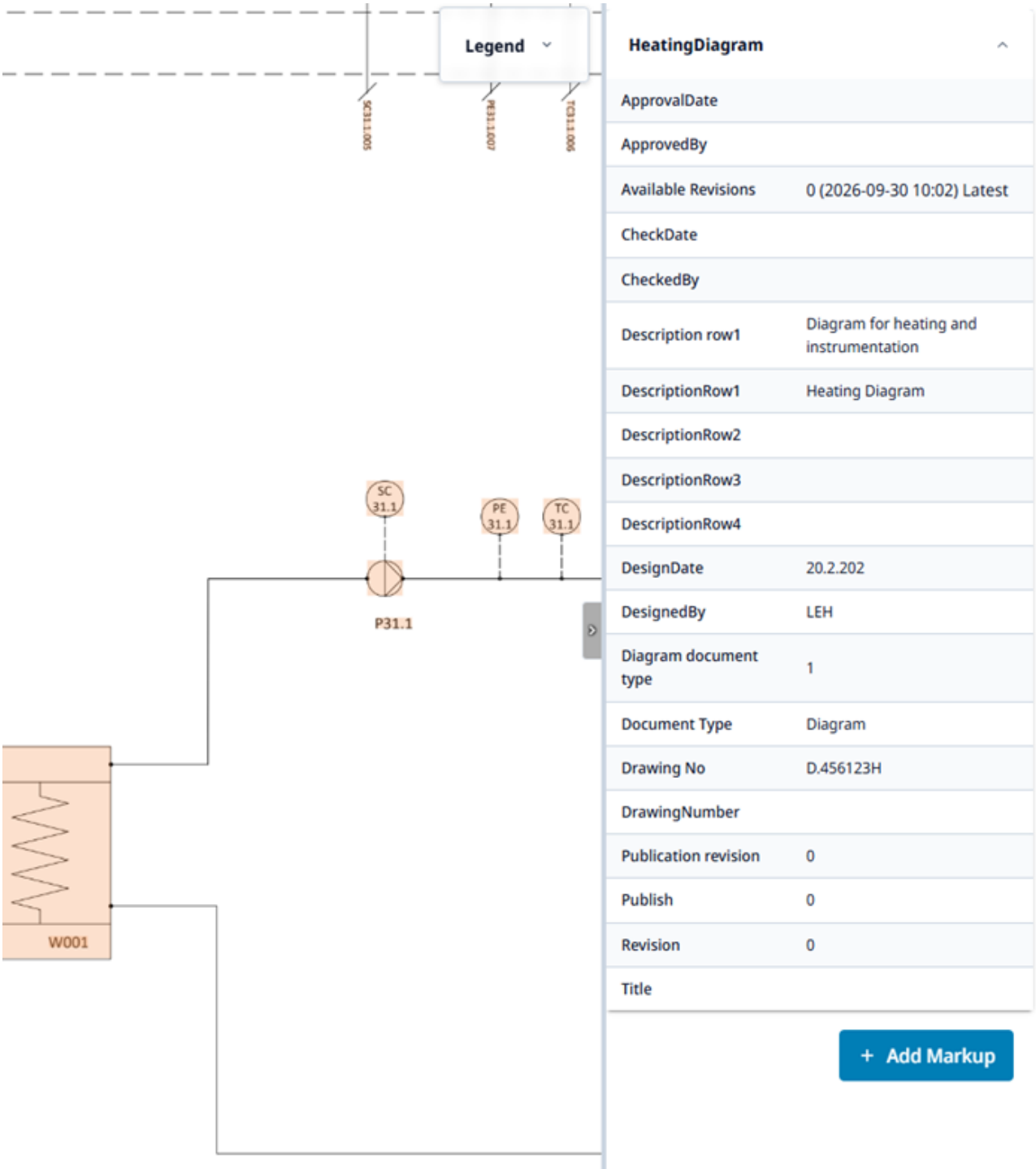
The fonts report with the document's details and font information can be downloaded as a JSON file by selecting **Export support bundle**.

On the Page fonts tab, click the eye button next to a font to highlight all text on the page that uses that font. The report closes and the page is fitted to the window. While the highlight is shown, the Fonts in this document button appears pressed. Click it, press Esc, or change page to remove the highlight.

4.2. Properties pane

When you are viewing an opened document, the properties pane on the right displays all the metadata fields of the currently displayed document, as provided by the document data source. Documents obtained from the file system only display their creation and modification date.

If the project has document markups configured and you have permission to create them, the properties pane will also have **Add markup** button.



4.2.1. Markups

The Markups section lists the document markups in the currently displayed document. Use the checkboxes to show or hide markups on the document. Hover over a markup title to highlight its

markup area in the document, and click the title to open the markup. See Document markups.

4.3. Using Documents Viewer

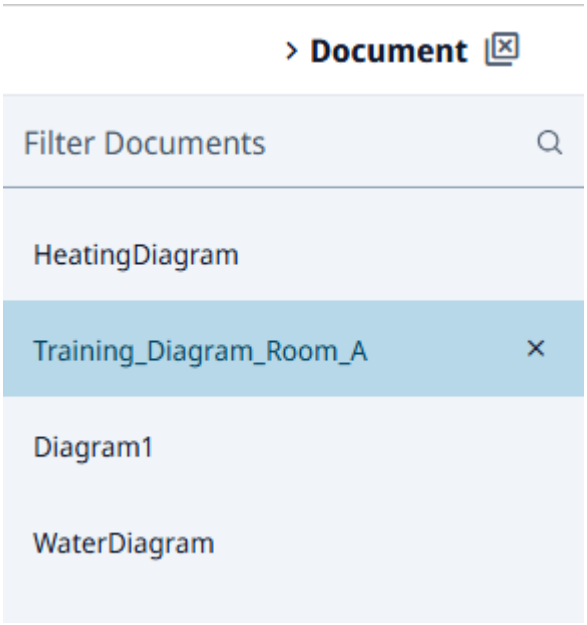
4.3.1. Opening a document

You can open a document in the following ways:

- Click a document link in the properties pane of the **Model** view. The document automatically zooms to the object. See Properties pane.
- Click a document link in search results. See Search.
- Click a document link in the document list of the Documents Browser. See Documents Browser.

While the document opens, a progress bar shows what eShare is doing. Select **Cancel** to stop. Some documents are read with text recognition the first time they are opened, which can take a while. If eShare cannot display the document format, you can select **Download original** instead, if you have permission to download the document.

When you have opened one or more documents, the document list on the left shows the currently open documents, and you can click a document name to view that document. Each document you open stays loaded, so you can switch between documents and the model view without waiting. eShare keeps up to six documents loaded on a computer and three on an iPad. When you open more, the document you have not viewed for the longest time is unloaded. When you return to it, it opens at the same page, zoom and position. A markup with unsaved changes is never unloaded.



4.3.2. Moving around the page

To	Do this
Zoom	Mouse wheel, the zoom buttons, or the + and − keys
Zoom toward a point	Point at it and use the mouse wheel
Pan	Drag with the mouse, or use the arrow keys
Fit the page in the window	Fit page button, or the 0 key
Rotate the page	Rotate buttons, or r (clockwise) and Shift+R (counterclockwise) [verify direction]
Change page	Page buttons, or Page Up and Page Down. Home and End go to the first and last page
Go to a page	Click the page indicator, for example 3 / 12, and type the page number

Rotation only turns the view. Links, markups and points turn with the page, and icons stay upright. Each open document remembers its own page, zoom, position, and rotation.

4.3.3. Links in document

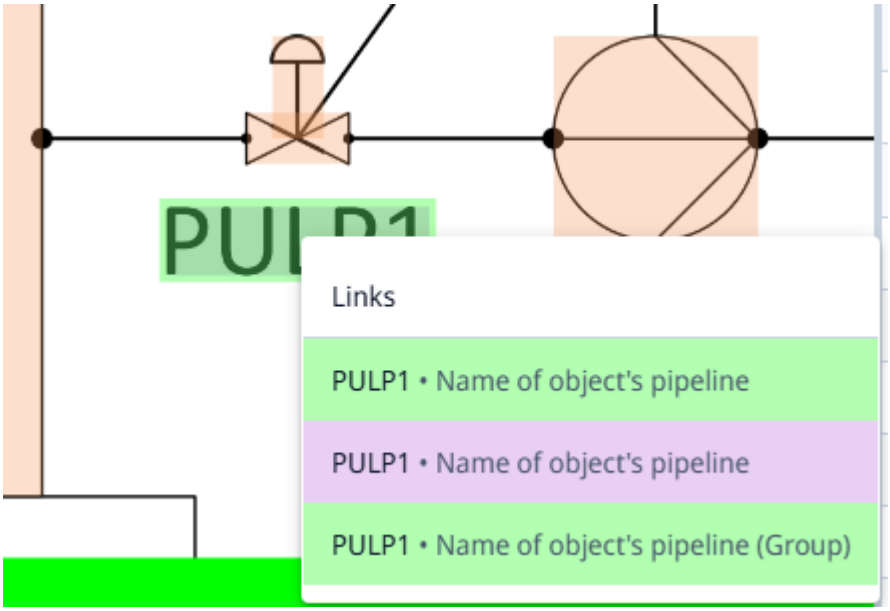
Hovering a link area highlights it. Dragging from a link area pans the document, the same way as dragging anywhere else.

Hovering a link area shows a tooltip of where the link leads:

- for a model object, a point of interest, or a GUID link, the object's address in the model view (for example */p/<project>/model?positionId=P100&tag=EQ*)
- for a document link "Document link <name>"
- for an area with several links "N Links in Area".

Clicking on a point with a single link will immediately follow the link. If a point in the document has multiple links, hovering over the point will show, for example, "2 links in area". Selecting the point opens a drop-down menu with all the available links.

Some PDF documents have their own internal links, for example a clickable table of contents or a cross-reference to another page. These links are shown only when you hover over them. Clicking one moves to the target page in the same document. If an internal link is under an eShare link area, clicking opens the eShare link. Links to web addresses or other files are not supported.



If the same text is indexed under several attributes, the menu has an entry for each, for example, "Name • Attribute". A group attribute is shown as "Attribute name (Group)".

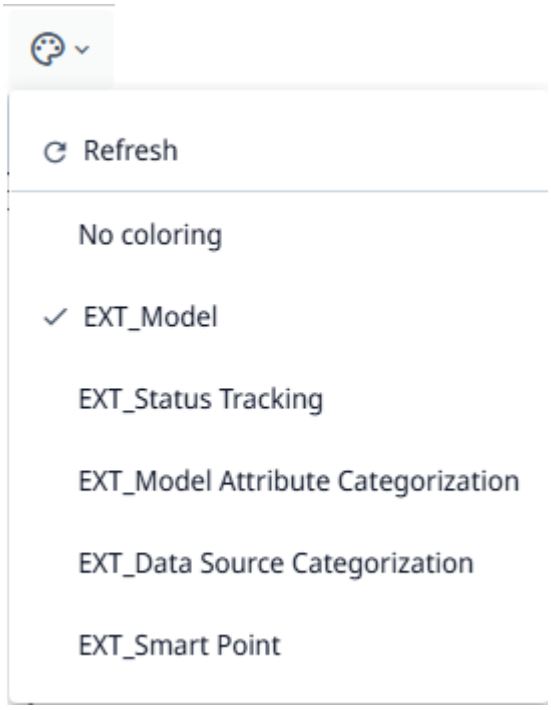
4.3.4. Viewing revisions

If there is more than one revision of the document in eShare, you can select to view an older revision by clicking in the toolbar and selecting **Compare with revision** and then the revision. To enable comparing revisions, saving revisions must be enabled in Managed Documents options. See Managing document revisions.

Note: Comparing revisions is available only for Managed Documents.

4.3.5. Selecting link coloring

If there are multiple link coloring configurations for the documents, you can select **Change link coloring** button in the toolbar and select from the drop-down menu which link coloring configuration to use.



You can also turn link coloring off from the same menu. When link coloring is on, a legend shows each color and how many link areas have it on the current page and in the whole document. Hover over a legend row to highlight those link areas, or hover over a link area to highlight its legend row.

4.3.6. Comparing document revisions

Note: Comparing revisions is available only for Managed Documents.

Prerequisites

- Saving revisions is enabled in Managed Documents options. See Managing document revisions.

You can compare different revisions of the same document, if there are other revisions available.

Do the following:

1. Open the document from the **Model** view, search results, or Documents Browser.
2. If the there is more than one revision of the document in eShare, click . Select **Compare with revision** and which revision to view from the drop-down menu.
3. A comparison document opens in the Documents Viewer. Differences in the documents are highlighted in the following way:
    - Purple: Content still in the current document but changed (drawn in different color, shade or weight)
    - Red: Content only in the other revision, which has been removed from the current revision.
    - Green: Content only in the current revision.

4.3.7. Comparing documents

You can compare different documents.

Do the following:

1. Open the document from the **Model** view, search results, or Documents Browser.
2. Click . Select **Compare with document**. A dialog opens.
3. Select the other document in **Compare with** dialog and select **Compare** button.
4. A comparison document opens in the Documents Viewer. Differences in the documents are highlighted in the following way:
    - Green: content only in the document you are viewing
    - Red: content only in the other document
    - Purple: content in both documents, but drawn in a different color, shade or line weight

- Peach (whole page): the page has a different size in the two documents and cannot be compared

During comparison, the document is shown in gray so that the comparison colors stand out. Thick, dark lines produce strong colors and thin, light lines produce faint colors.

If the revisions have a different number of pages, all pages are included. A page that exists only in the current revision is tinted green, and a page that exists only in the other revision is tinted red. You cannot create or edit markups on a page that exists only in the other revision.

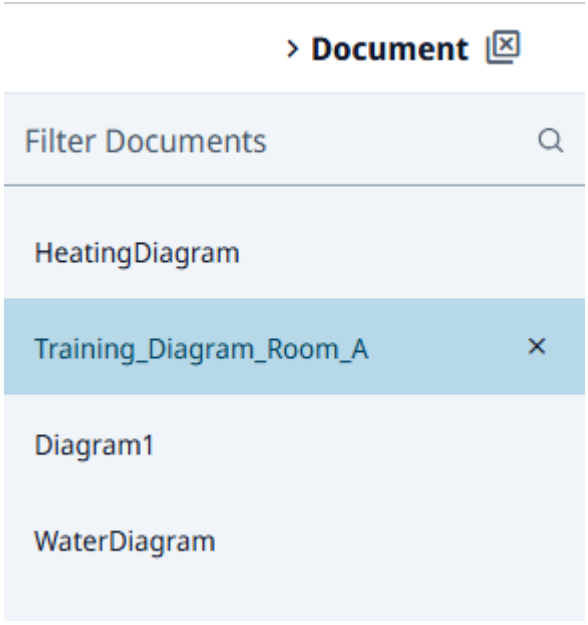
Comparison does not show moved content as moved. A moved line appears in green at its new position and in red at its old position.

To exit the comparison, select **Exit comparison** in the Compare menu, or click the green entry in the legend.

4.3.8. Closing a document

You can close currently open documents in the following ways:

- When viewing documents, close an individual document by clicking the **x** button next to the document name in the document list.



- When viewing documents, close all documents by clicking the **Close all** button .
- When you exit the application all documents are automatically closed.

4.3.9. Troubleshooting

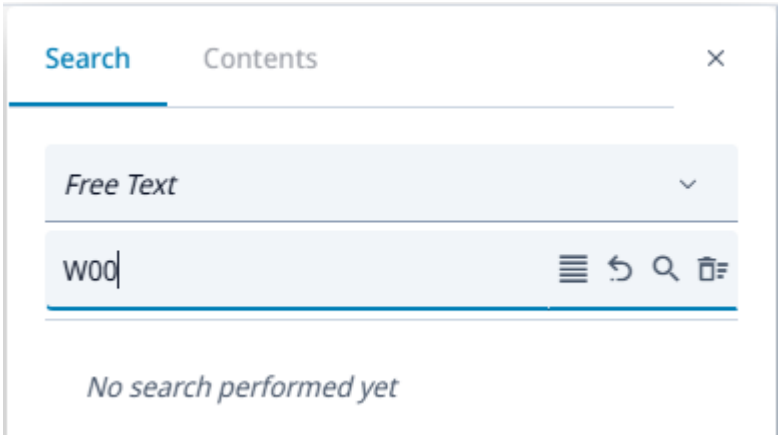
Problem	Solution
A spinner keeps running after the page appears	eShare is still adding detail to a complex page. You can keep working.
A warning says the page is complex	The first display of a very large drawing takes a while. The warning does not appear again when you pan or zoom.
You cannot pan or zoom	A markup is open. Close the markup.
The document looks out of date	Select Reload.
Compare is not available	The document has only one revision.

4.4. Using search in Documents Viewer

To search the currently displayed document, select the Search in document button in the toolbar or press Ctrl + F . The search panel opens in the top-right corner of the document. You can search for text in the document, all links, only document links, or links with a specific attribute.

The search button is dimmed if the document has no searchable text or links. Search is not available while you are editing a markup.

You can move the panel by dragging its header and resize it from the lower-right corner. The panel opens in the same place and size next time. Press Esc to close the panel. Your search is kept and shown again when you reopen the panel. Press Ctrl + F at any time to go back to the search box and select its contents.



To perform a search, do the following:

- Select the search type by selecting and then **Starts with**, **Contains** (default), **Ends with**, **Exact match**, or **Regular Expression (JS)**. The button reflects the current selection.
- Type the search entry and select .
- Use the arrow buttons to move between the results.
- Click on a row in the results to open it in the Documents viewer.
- Pressing Enter key in the search field advances from the current search result to the next, looping to the beginning when end of the list is reached.
- To return to your previous search, select to undo the search entry.
- To clear the search, select . The search field is cleared, and search type is set to default type Contains. Clearing can be undone.

4.4.1. Search results

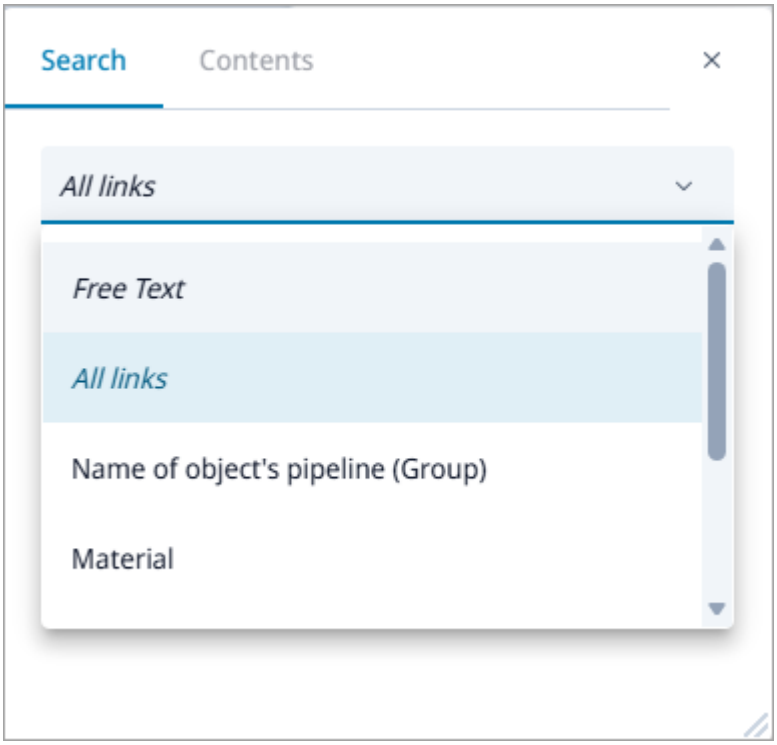
Each result row shows the matching text with the search term highlighted. On a document with several pages, a column shows the page of each result. Results are ordered by page, and on each page from top to bottom and left to right. The counter next to the search box shows the current result and the total, for example 3 / 12.

All results are highlighted in the document, and the current result is highlighted more strongly. Use Enter, the arrow buttons, or the Up and Down arrow keys to move between results. After the last result, the search continues from the first.

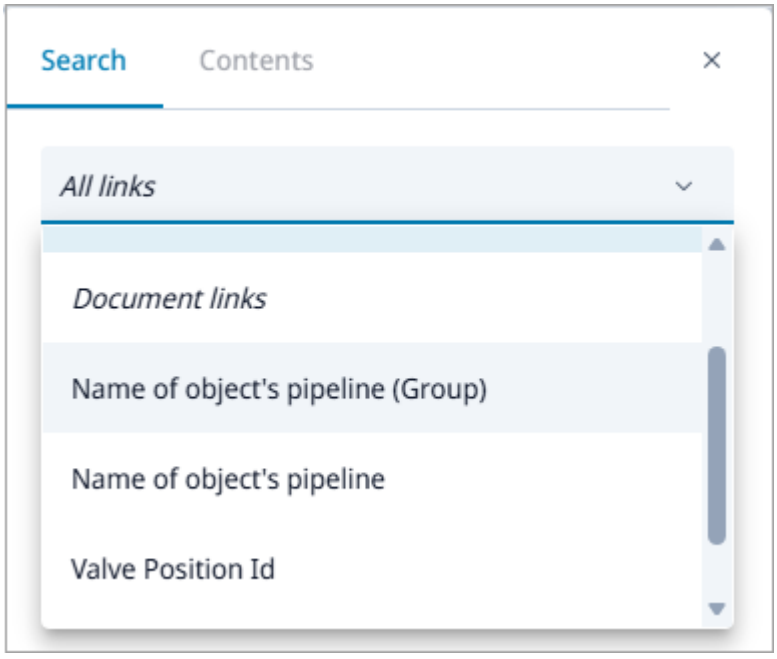
Each open document keeps its own search. When you switch documents and come back, the search term, settings, and results are still there.

Free Text, All links and Document links are shown in italics, above the attribute names. If you change the scope while a search is active, the search runs again with the new scope.

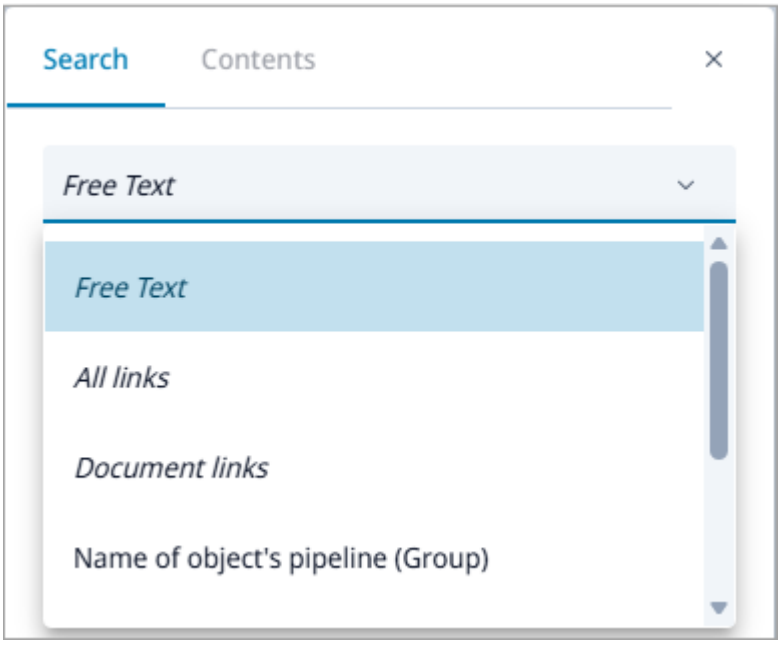
The default search scope is **All links**, meaning that the text string can be found from any part of a link.



If you select an attribute from the drop-down menu, the search tries to find the text string from the values of that attribute. For example, if you use the attribute **Position Id**, the search returns all links that have the attribute **Position Id**.



If you select **Free text**, the document viewer searches from all text content. If the document does not contain links, the document viewer provides only the search scope "Free text".



4.4.2. Limitations

- Text that is split into separate pieces in the document, for example at a line break or in a table cell, is not found as one word. Search for a shorter part of it.
- Text that is part of an image, such as a scanned stamp, cannot be found.
- When you compare documents, search covers only the document you are viewing.
- Search does not find text in markups.

4.5. Document markups

Document markups functionality of Cadmatic eShare allows the participants of a design project to add comments, drawings, and areas of interest in documents viewed in eShare, and then share the information with each other.

In project administration markup types are divided to model markup Types and document markup types. A document markup type has to be defined to a project before users are able to create document markups in that project. Project administrator also defines which users have permission to view, create, update, upload, and delete document markups, as described in Markup types.

Document markups can be assigned to a specific user, if project administrator has enabled this function in your project.

Created markups are visible on the properties pane of the opened document. The information that is contained in this table is the type, title, revision (if any) and page (if multi-page document) of the markup. Clicking on the title of the markup lets the user to view, edit, or delete the markup. The left side of the table contains checkboxes, with which the user can toggle the visibility of the document markup drawings overlaid on top of the document. Drawings are overlaid on top of the document automatically, if the document markup revision is the same as the revision of the current document, and if the document markup does not have the Markup Status attribute set to "Done".

If the document has visible document markups when printing of the document is initialized, the printed document has the document markups overlaid the same way as on the screen.

Document markups can be viewed in Home view in Home tab and search result table widget. In search (and the search result table widget) the document markups are found in their own **Document Markups** tab. It is also possible to search for "Any document markup" in the advanced search view. The "Recent markups" widget shows both document and model markups. Search and widgets in Home view will only show document markups if the user has both view permission to the document markup type and the document that the document markup is linked to.

4.5.1. Adding new document markups

In Documents Viewer, users can add document markups by opening any document, and then selecting **Add markup** button at the bottom of the properties pane or  button in the Documents viewer toolbar.

The document view freezes and allows you to draw on the document. You cannot pan, zoom, rotate, or change page while the markup is open, so set up the view before you select Add markup. The page must be visible: if no part of the page is on screen, eShare asks you to bring it into view first. When the markup opens, eShare may fit and center the visible part of the page, so that you draw on exactly the view other users will see.



The toolbar has buttons for the following: rectangle, ellipse, freehand cloud, line, arrow, text, and highlight. There are also buttons for undo and redo, remove shapes or text, selecting line width and color. The active tool is highlighted in the toolbar.

The color and line width controls follow the selection. When a shape is selected, they show and change that shape. When nothing is selected, they set the color and line width for the next shape you draw. Line width is not available for text, which uses font size, or for clouds.

The opacity slider fades the snapshot of the document that is shown under the markup. It does not fade the markup drawing.

The properties pane has fields for entering the following information:

- **Type** — Select the document markup type.
- **Title** — Enter a descriptive title (required).
- **Assignee** — Allows assigning the document markup to a specific project user. As you start typing the name in the field, the matching user names are listed and you can select the correct assignee from the list.

  In **Search > Smart points and Markups** you can search document markups based on a previous assignee.

  Assignee is not visible, if it has not been enabled by the project administrator.

The properties pane contains also fields for all the custom attribute types, if the project administrator has added any to the selected document markup type.

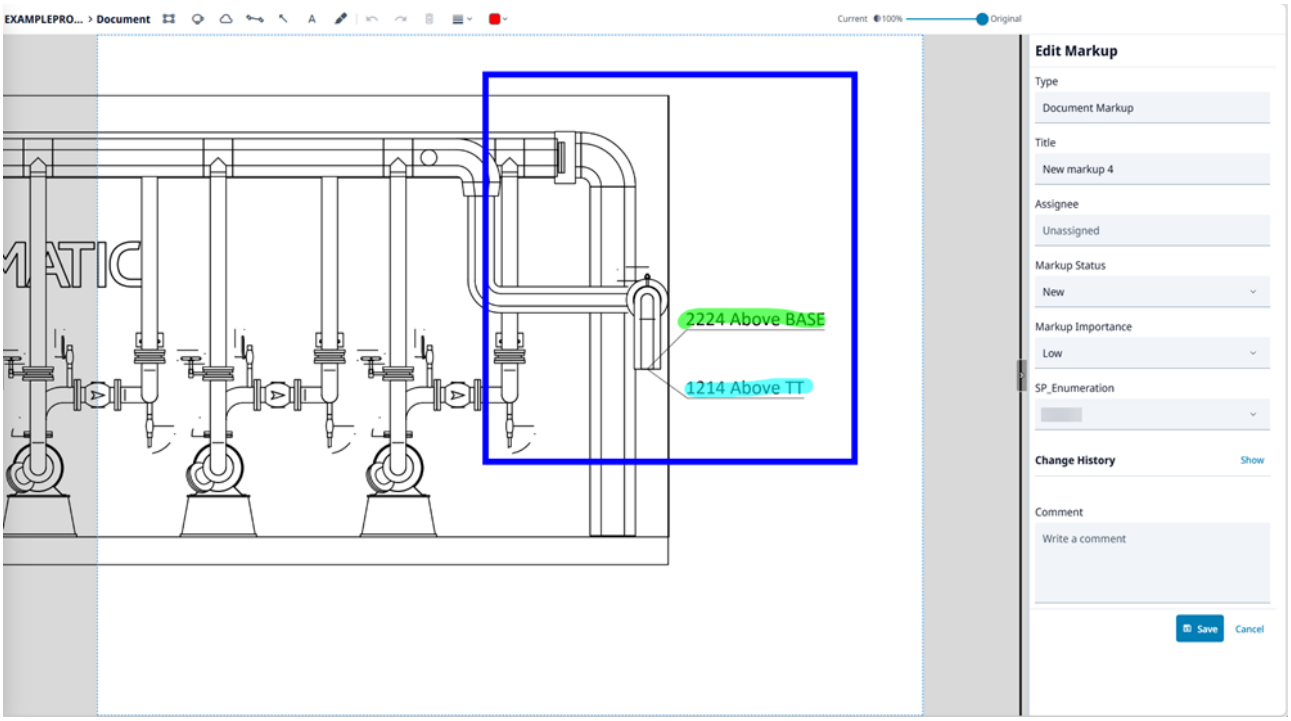
If you do not have permissions to create document markups, the **Add markup** option is not available.

4.5.2. Markup area

When you create a markup, the part of the page you are looking at becomes the markup area. The area cannot be changed later. If you need to mark up another part of the document, create a new markup.

The markup area is always inside the page. If the whole page fits in the window, the markup area is the whole page, and does not include the empty space around it.

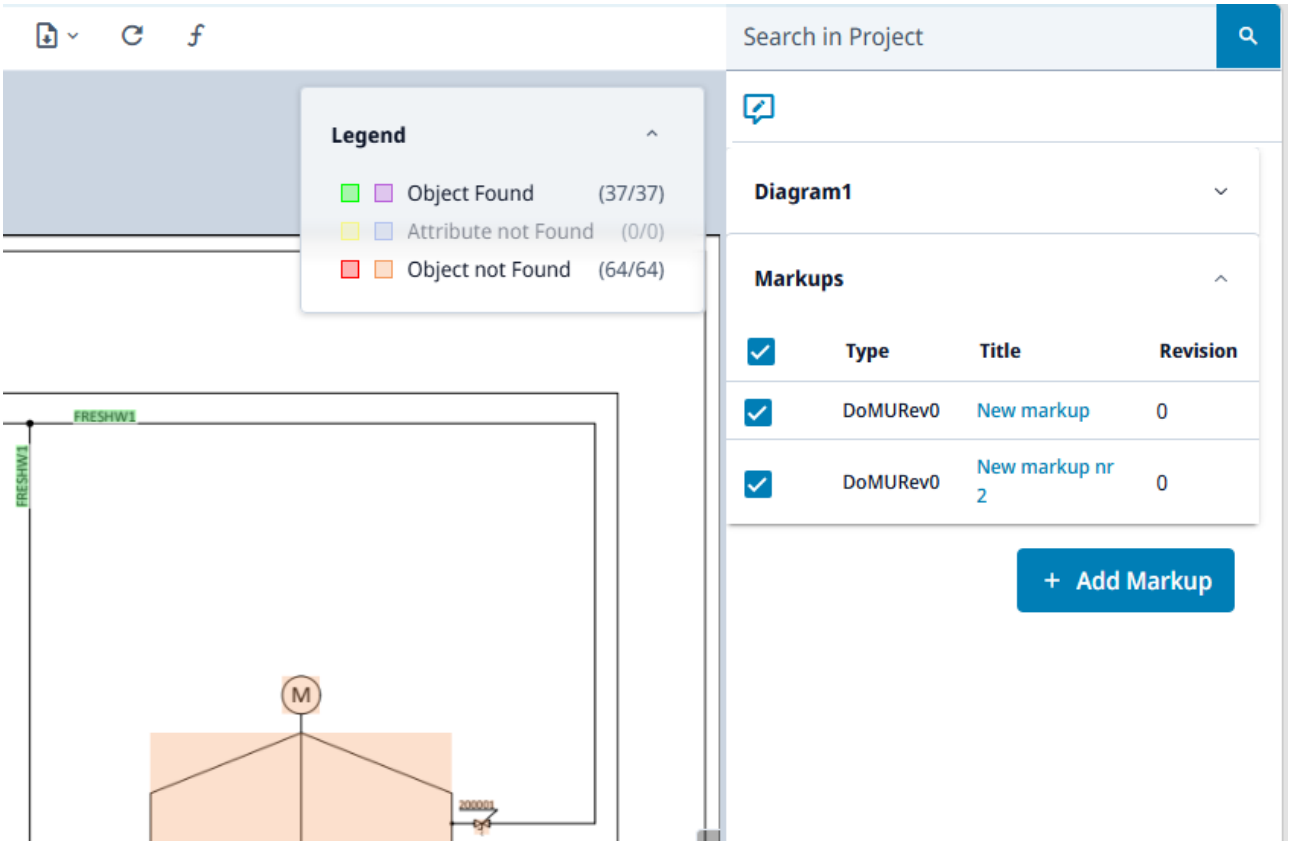
When a markup is open, a dashed blue line shows the markup area and the rest of the page is shaded light gray. The line and the shading are guides only. They are not saved in the markup and do not appear in printouts, downloads or thumbnails.



You must start drawing inside the markup area. You can finish a shape outside it, or move a shape partly outside it. While you edit, the whole shape is shown. When you view the markup, only the part inside the area is shown. When you save, shapes that are completely outside the area are removed.

4.5.3. Viewing document markups

When you open a document containing document markups in Documents Viewer, the document markups are listed in the properties pane in **Markups** section.

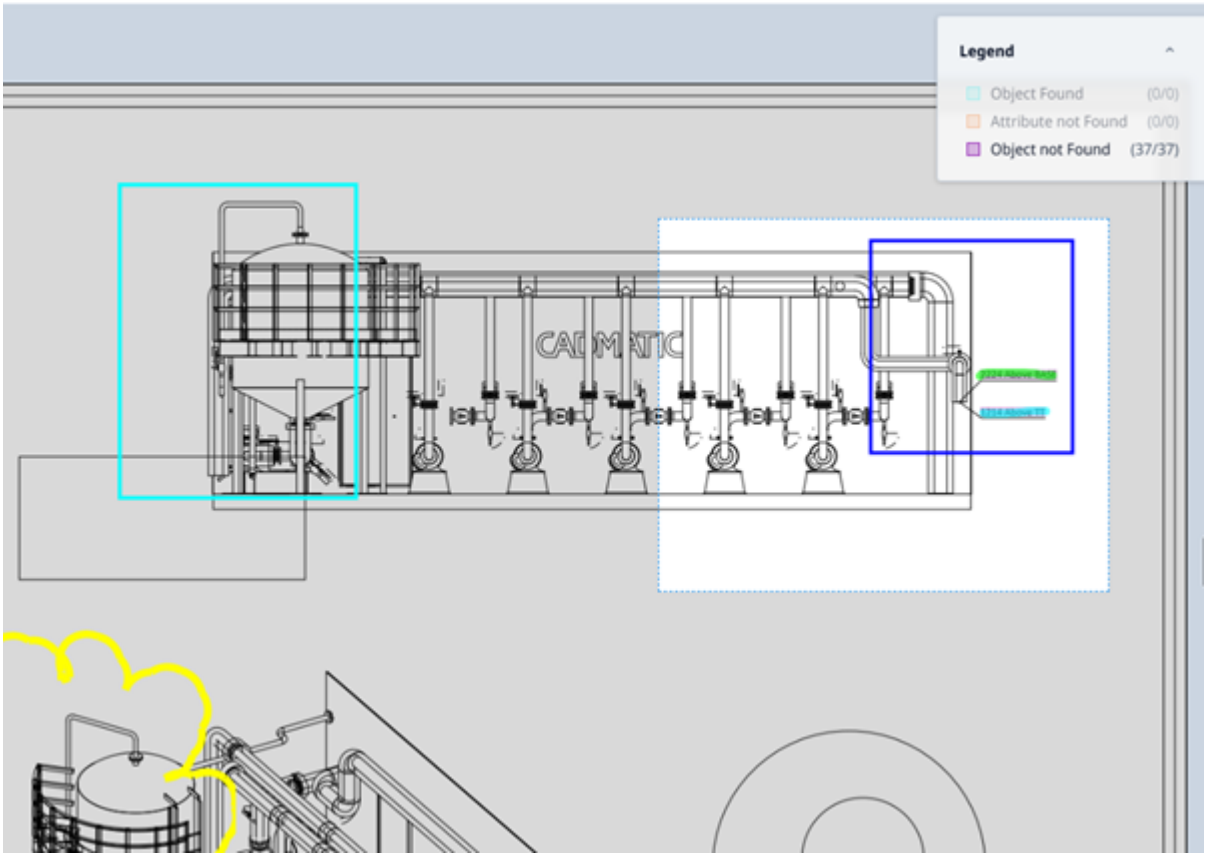


The Markups section displays the following information for the document markups: Document markup type, Title of the markup, Document markup revision (if any), Page in the document (if a document with multiple pages).

You can use the checkboxes to select which document markups are overlaid and visible in the document. When a document is opened, document markups in the document matching all of the following are visible:

- the document markups with the same revision as the currently open document revision
- the document markups, which do not have Status attribute set to *Done*.

Hover over the title of a document markup in the Markups section of properties pane to highlight its markup area in the document. This shows where the markup is before you open it.



If the document is printed when there are visible document markups, these document markups are visible also on the printed document.

Clicking on the title of the document markup opens the markup and displays its information. eShare centers the markup and locks the view: you cannot pan, zoom, rotate or change page while the markup is open. The markup is shown on a snapshot of the document as it looked when the markup was created, so it stays readable even if the document has been revised since. In this view you can select to view change history, edit or delete the document markup. Select **Close** to close the document markup.

4.5.4. Editing document markups

Open the document with the document markup and click on the title of the document markup. Click **Edit** to open the document markup in edit mode. When you have made modifications, select **Save** to save changes and exit edit mode.

If you close a markup that has unsaved changes, **eShare** asks you to confirm.

When you save, the markup thumbnail is updated. The thumbnail shows the markup area, not the whole window.

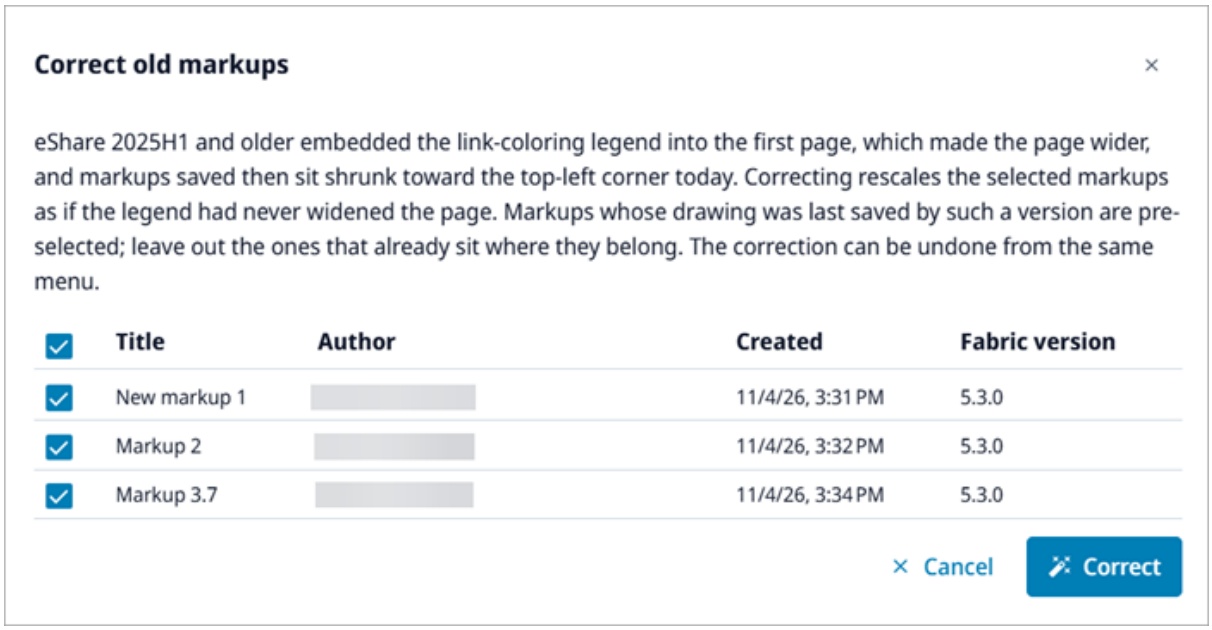
To delete a document markup, select **Delete**.

4.5.5. Correcting old document markups

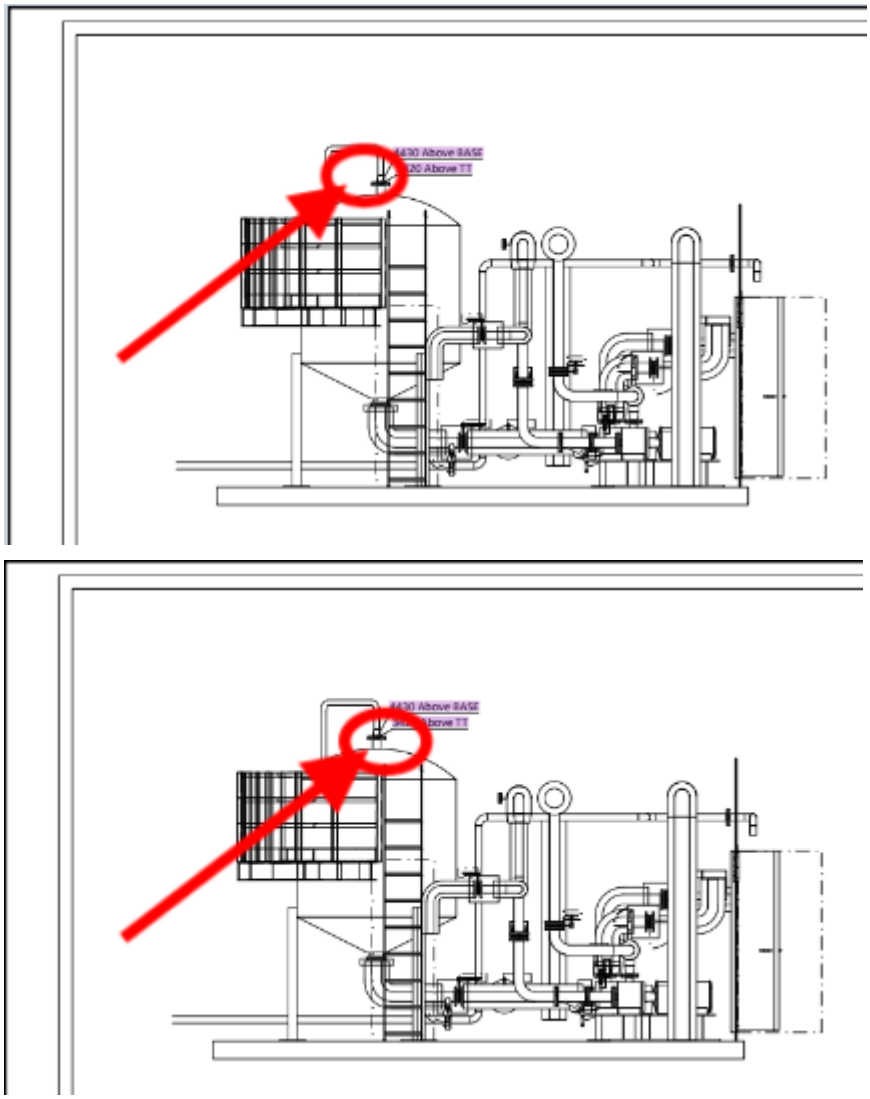
eShare version 2025H1 and older embedded the link coloring legend into the first page of a document whenever a legend was shown. That made the first page wider, and document markups drawn on it were saved against the wider page. Starting from version 2025H2, the page is shown with its real width, so those markups appear too small and too close to the top-left corner of the page. The document markup snapshot still shows them where they were drawn.

These document markups can be corrected in Documents Viewer. When the first page of a document is on screen and it has document markups saved by an older version you are allowed to edit, the toolbar shows an **Old markups** button with a drop-down menu with two options:

- **Correct old markups** — opens a dialog with the document markups with their title, author, date, and drawing format version. The document markups last saved by a version that embedded the legend are selected. Deselect any document markup that already sits where it belongs, then select **Correct**.

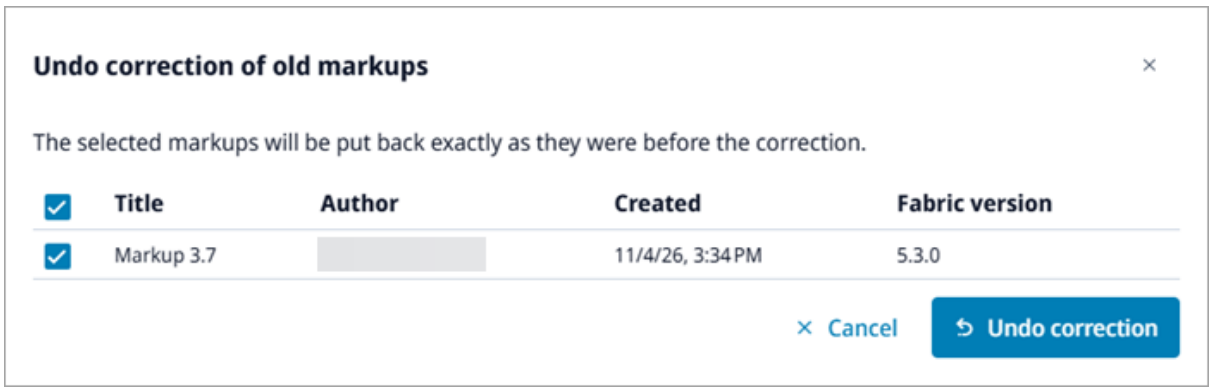


  The selected document markups are rescaled so they sit where they were drawn, and each document markup's history gets an entry recording the change.



- Undo correction of old markups — opens a dialog with the document markups that have been corrected and puts the selected ones back as they were.

  Select the document markups and then Undo correction.



The menu is not shown on later pages, in offline mode, or for document markups you do not have permission to edit. Document markups created with version 2025H2 or newer are not listed. A document markup that could not be changed is named in a message; the others are still corrected. Editing and saving a corrected document markup keeps the correction, also when the document markup is saved from eGo.

4.5.6. Accessing markups from the project's home view

The latest model and document markups are listed as thumbnail images in the home tab of the project. Clicking the thumbnail image of the model markup opens it in the model viewer. Clicking the thumbnail image of a document markup opens it in Documents Viewer. Use the search links on the page to see more items. If you have sufficient permissions, you can update the markups. If you do not have permissions to update markups, the markups are displayed in view mode.

You can configure in the recent markups widget, if the mode is to show markups for the current user or for all users.

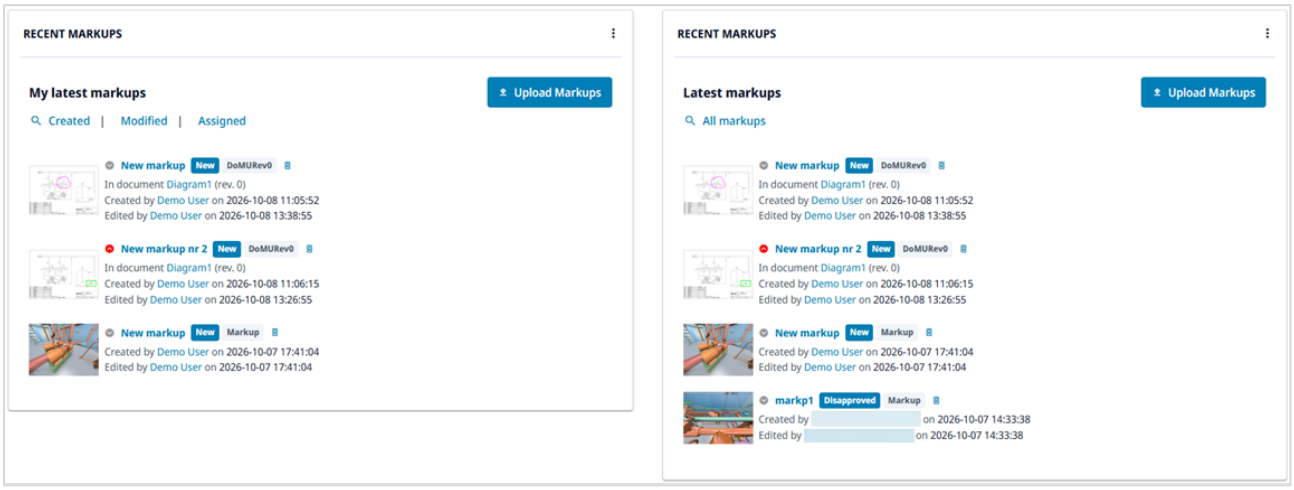


My latest markups – Lists the model and document markups that the current user has recently added or modified or that have recently been assigned to the current user.

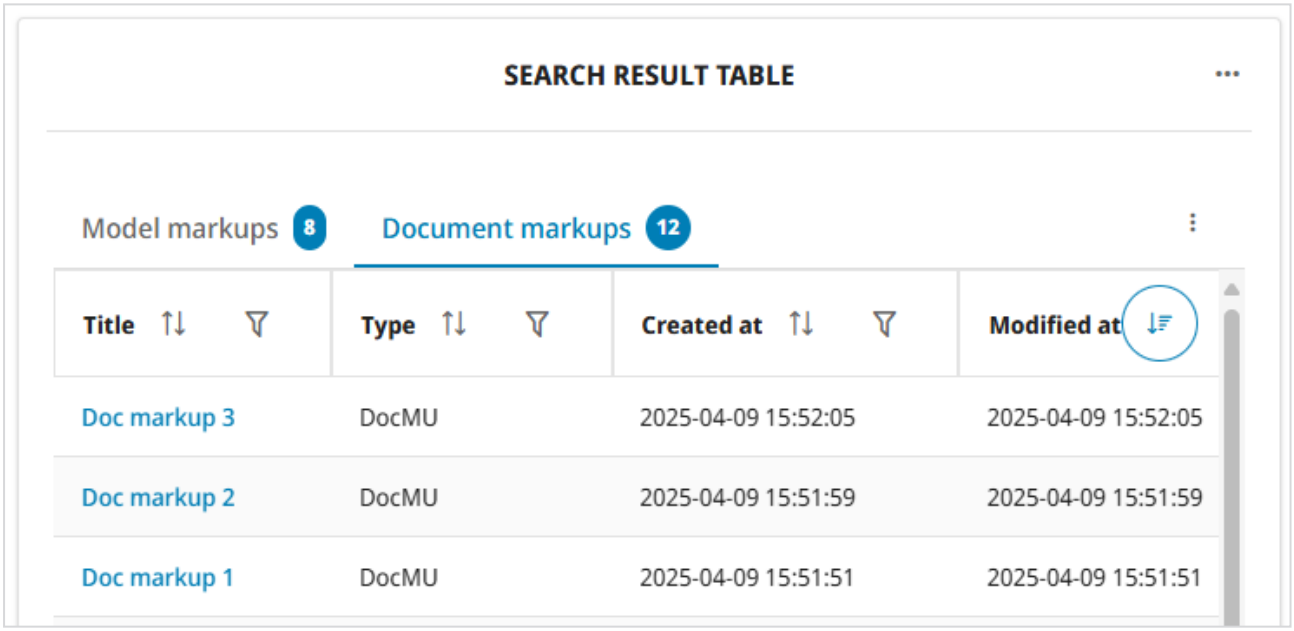
- All Created by Me – Opens the Search view and lists all model markups that the current user has created.
- All Modified by Me – Opens the Search view and lists all model markups that the current user has modified.
- All Assigned to Me – Opens the Search view and lists all model markups that are assigned to the current user.

Latest markups – Lists the model and document markups that any user has recently added or modified.

- All Markups – Opens the Search view and lists all model markups in the project.



Search Result Table widget – If a search result table widget with a markup search has been configured to a tab in Home view, document markups are visible there.



4.5.7. Deleting document markups

Markups can be deleted in the following ways:

- In the front page of a project, the delete button next to the markup's title deletes the markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.

- In the properties pane when viewing the markup in Documents Viewer, the button at the bottom of the properties pane deletes the markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In search results when viewing the results in list view, the delete button next to the markup's title deletes the markup, even if it was created by another user.. The delete button is not available if you do not have the required permissions.

4.5.8. Finding markups with search

In the **Search** view, you can use the "Smart points and Markups" search to find specific model or document markups. After performing a search, you can save the search for future use, and you can export model markups and document markups from search results to a Microsoft Excel file, or a Microsoft Word file.

When model and document markups are configured to support assignees, you can use the search to find markups based on their current or previous assignee.

See Search methods for details.

Note: Markups created before 2026H2 may include empty space outside the page in their markup area. They keep the area they were saved with.

Note: When you compare documents, you cannot create or edit markups on a page that exists only in the other revision.

5. Search

The **Search** view of Cadmatic eShare allows you to find specific items from the 3D model.

In the search results for model items, Smart Points, and documents, only the first 200 items are listed, but each type are divided on individual tabs. If there are too many results, try to limit the search for example by searching only for a specific attribute value. From search results you can jump directly to the model items, Smart Points, Markups, and documents that the search finds.

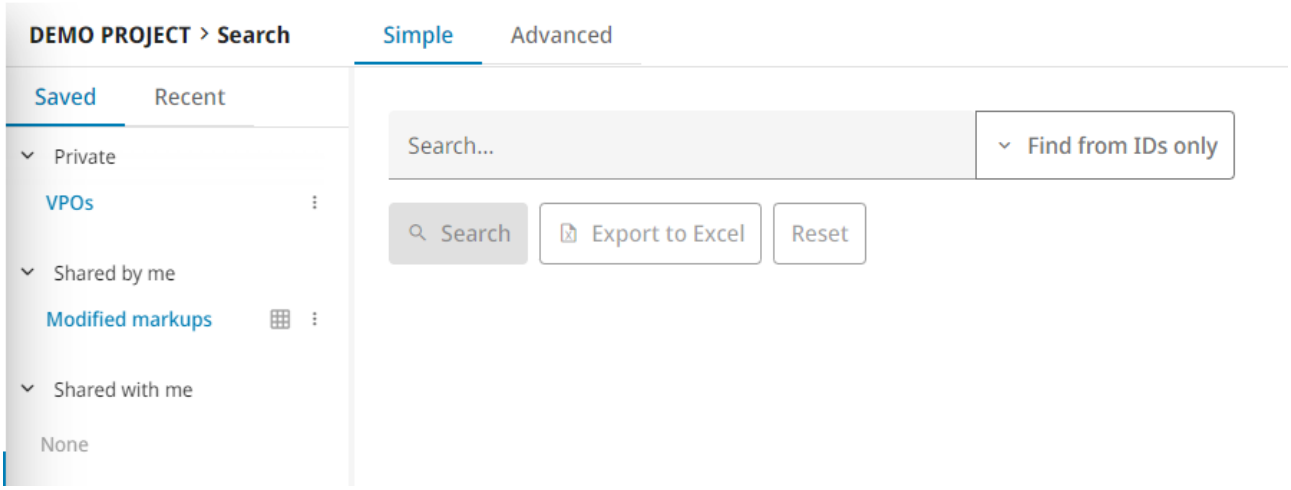
In the search results for Markups, all the results are shown. If there is a large number of results, they are divided into multiple views with 100 items per view.

You can export search results to a Microsoft Excel file. Model markups and document markups found via search can be exported as a Microsoft Word file. Model markups can also be exported to an .ebx or .bcfzip file and imported, for example, to Cadmatic eBrowser.

You can save the searches that you need to perform frequently, and share them with other users. These are visible in the **Saved** pane. **Recent** pane shows the 50 most recent searches performed in the current browser or client.

- To open Search, select **Search** in the menu.





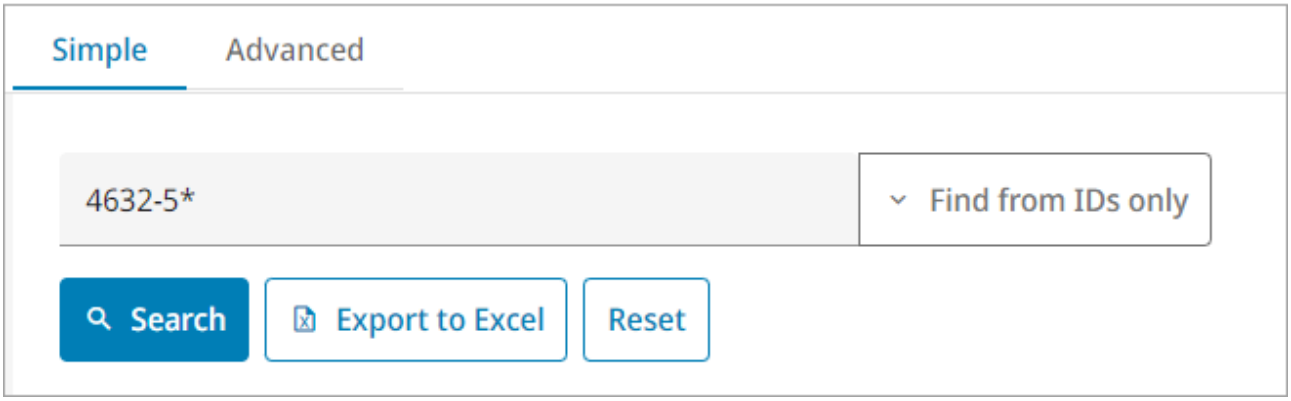
5.1. Search methods

In the Search view of Cadmatic eShare you can perform a simple search, or an advanced search that can find specifically model items, or Smart Points and markups using attributes.

As wildcards, you can use the question mark '?' to represent a single character, and the asterisk '*' to represent any number of characters, in any part of a search string.

5.1.1. Simple search

Use the **Simple** search tab to find Smart Points or model items based on ID or any attribute. To search based on ID, select **Find from IDs only**. To search based on any attribute, select **Find from all attributes**.

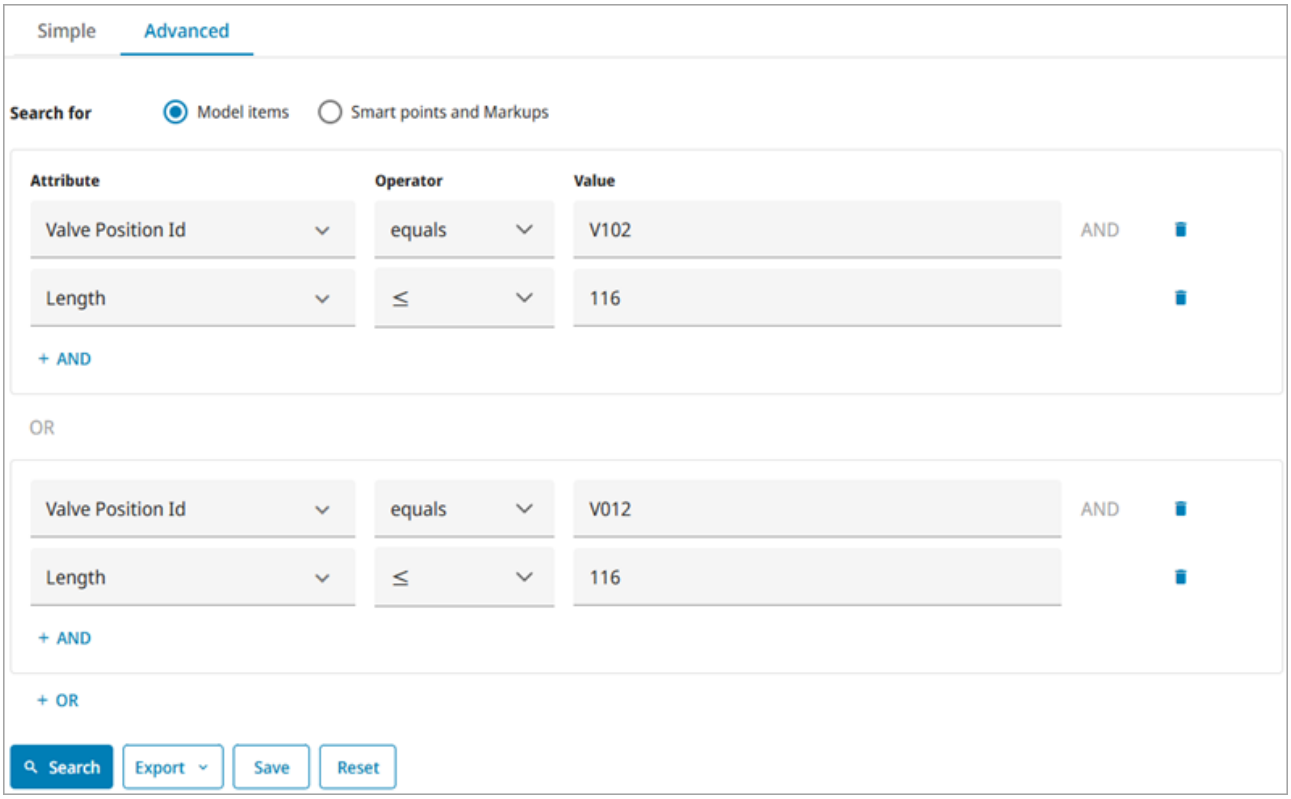


5.1.2. Model items search

Use the **Advanced** search tab and select **Model items** to find objects and groups, or status trackings based on specific attributes.

You can use the following operators: *equals*, *not equal to*, *exists*, *does not exist*, >, <, ≥, or ≤.

You can add search terms using **+ AND** or **+ OR**. Using AND adds a new search term below the previous search term, and creates a query where the previous and the new search term(s) must match. Using OR creates a new group of search terms, which is a OR query with the previous group of search terms. The search terms inside the search term groups create an AND query.



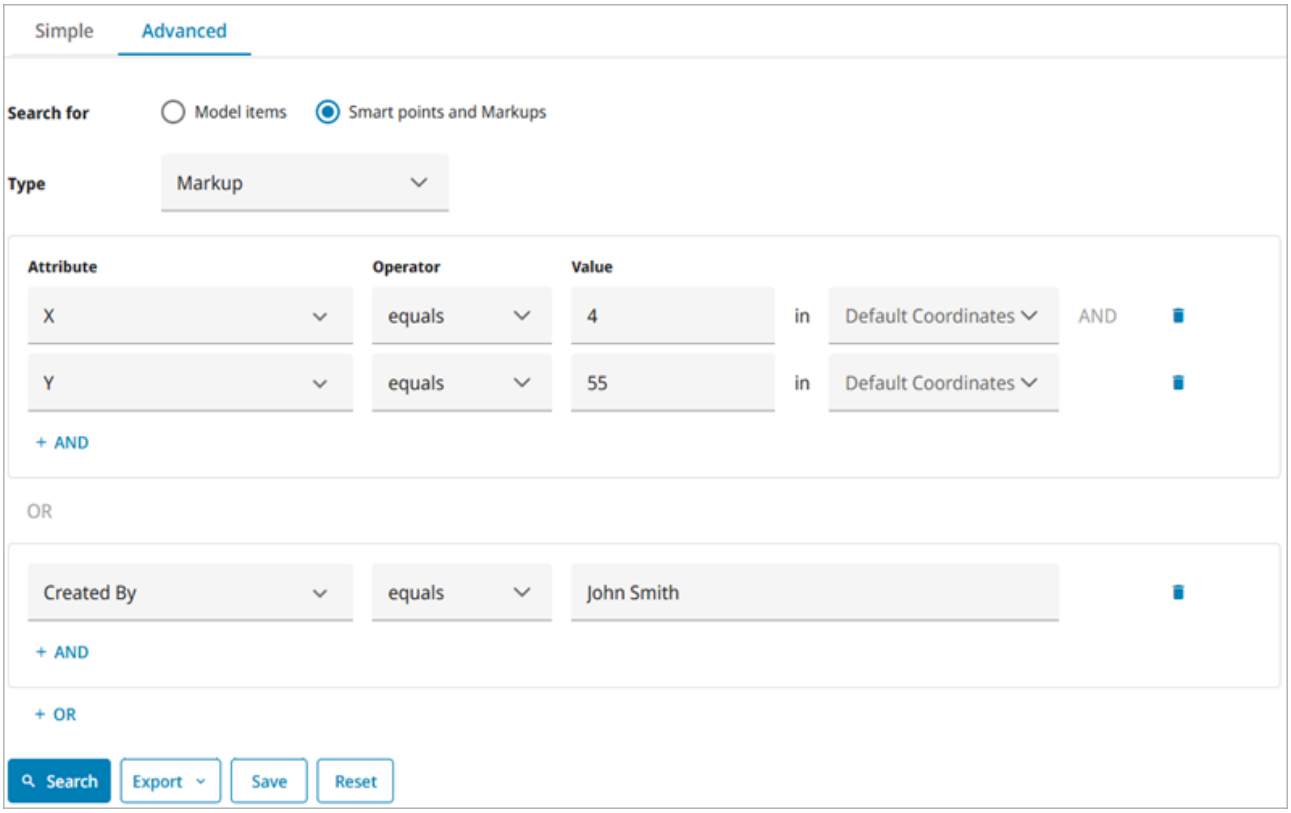
5.1.3. Smart Point and markup search

Use the **Advanced** search tab and select **Smart points and Markups** to find Smart Points, Model Markups, or Document Markups. Select the type and then the search attributes.

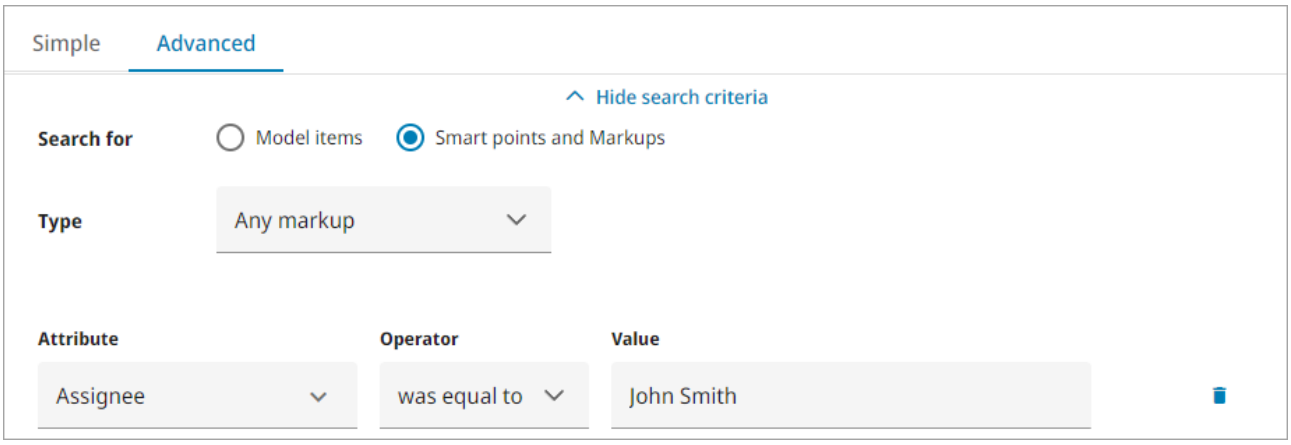
You can use the following operators: *equals*, *not equal to*, *was equal to*, >, <, ≥, or ≤.

You can add search terms using **+ AND** or **+ OR**. Using AND adds a new search term below the previous search term, and creates a query where the previous and the new search term(s) must match. Using OR creates a new group of search terms, which is a OR query with the previous group of search terms. The search terms inside the search term groups create an AND query.

If you select X, Y, Z for Smart Points, or Camera X, Camera Y, or Camera Z as the attributes for Markups, you can enter the name of the plane. Note that eShare assumes that the plane covers the whole model. To search within a subsection of a plane, restrict the area with other axis attributes. If the project contains multiple coordinates, select which coordinates to use.



If you select Assignee as the attribute, you can enter the name of the current assignee or a previous assignee.



Related topics

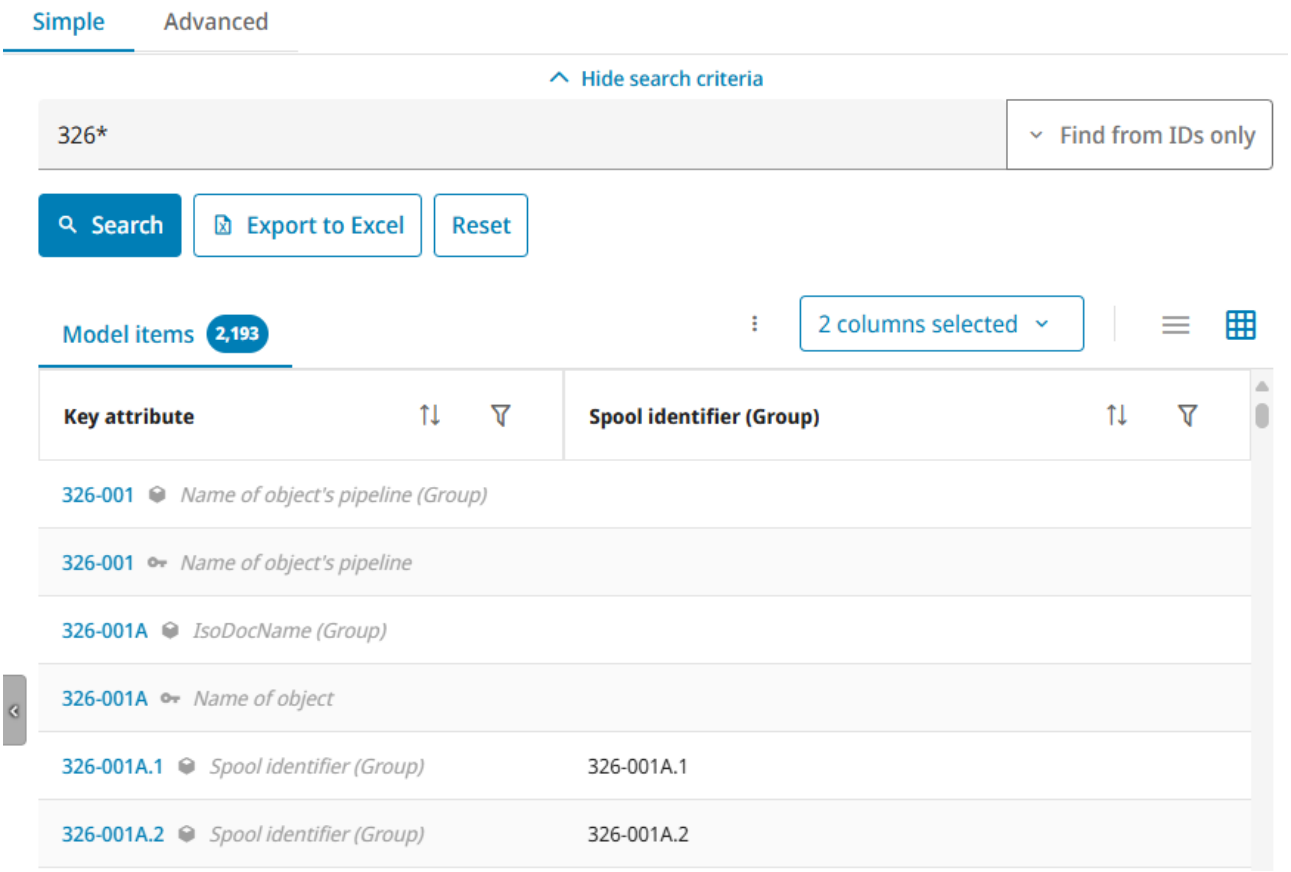
Search results

Saving a search

5.2. Search results

Performing a search in the **Search** view of Cadmatic eShare shows how many entities were found in total and lists the found entities. In list view, all the results are shown, except for model items and documents, for which only the first 200 results are shown. In table view, all the results are shown, except for model items, which are not shown at all if there are over 100 000 results. The different entities are shown on separate tabs Model items, Smart Points, Model Markups, Document Markups, Documents, and External References each indicating the number of found entities.

Select **Hide search criteria** to show only the search results. Select **Show search criteria** to show the search options again.



5.2.1. Organizing search results

When you have performed a search, which has returned results, you can organize the search results.

- Click the View as a list button to view the search results as a list.
- Click the View as a table button to view the search results as a table.
- When the results are shown as a table, you can select and filter from the drop-down menu which columns are included in the table. The options are:
  - Model items – model attribute definitions, types of status tracking, status tracking attributes, the key attribute, linked Smart Points, linked markups, and data from a data source.
  - Documents – document name and data source
  - Smart Points – Smart Point attributes and data from a data source.
  - Model markups and document markups – markup attributes and markup thumbnail images
- The data in the columns can be organized using the Sort by and Filter by buttons in the column header.
- The columns can be re-ordered by dragging and dropping.

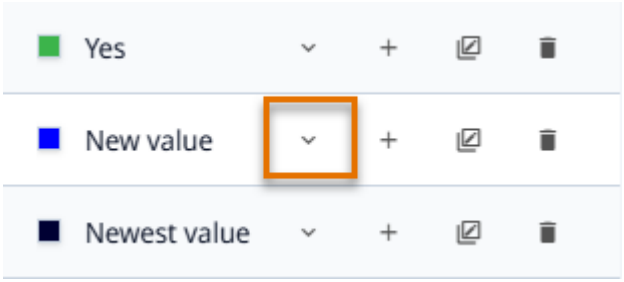
During a search, some columns are selected for the table by default (e.g. Title, Type, Status, Importance, Created by, Created at, Modified by, and Modified for the markups). Document markup columns include also Document name (for managed and external indexed documents) and Revision for managed documents.

If the user selects new columns for the table, a new search request is made to the server if even one of the selected columns was not included in the initial subset of columns. Columns that will require a new search request are marked with a Requires reload icon in the columns drop-down menu. If none of the newly selected columns require reload, no additional search requests are made to the server, and the desired data is displayed in the table instantly.

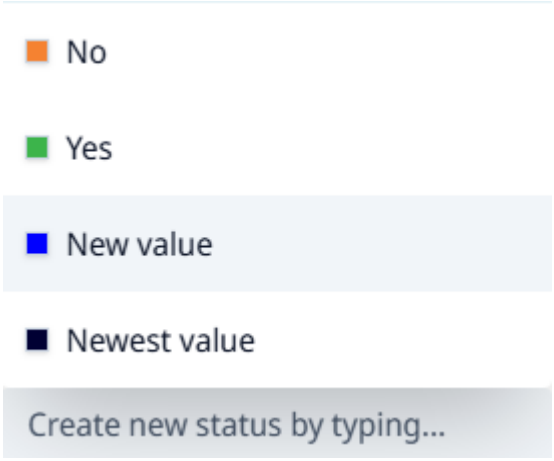
5.2.2. Editing status tracking values in search results

When the model items in search results have status tracking values, you can update the status in the corresponding column by selecting the Change status button. You can also select multiple model items by checking the checkbox at the beginning of each row and selecting the Change status button of one selected row.

Note: The status of multiple model items can be updated only, if all the selected model items share such status value(s) to which their current status value can be updated to.

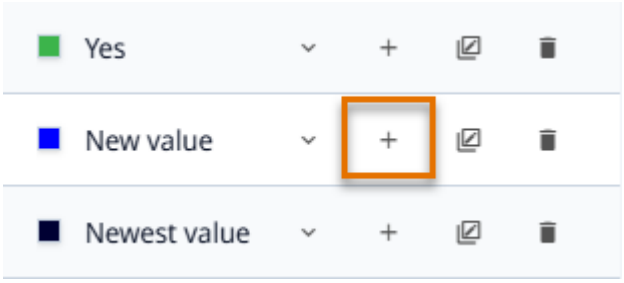


Select the status value from the list, and after it is updated, the visual styles will be updated accordingly in Model view.

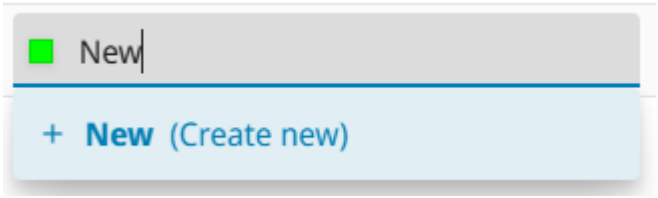


5.2.3. Adding new status tracking values in search results

If adding new values has been enabled in status tracking configuration, you can add values to model items in the search results. Select Add new button in the corresponding column. You can also select multiple model items by checking the checkbox at the beginning of each row and selecting the Add new button of one selected row.



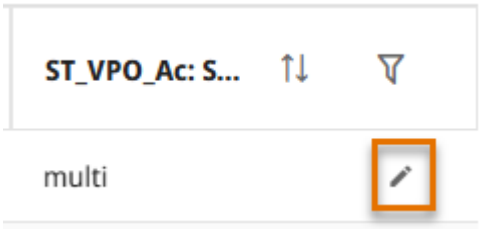
Enter a name for the new value and select **Create new** in the list. If the status tracking has templates enabled for new values, the template will be populated to the input.



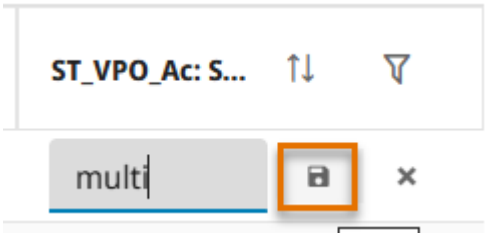
The new status value is added and a color is assigned for it.

5.2.4. Editing status tracking attributes in search results

If you have permission to modify a status tracking, you can edit the status tracking attributes in the search results. Select Edit attribute button in the corresponding column.

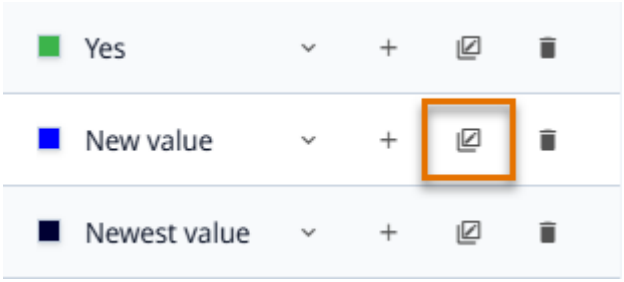


Edit the attribute value and select Save.

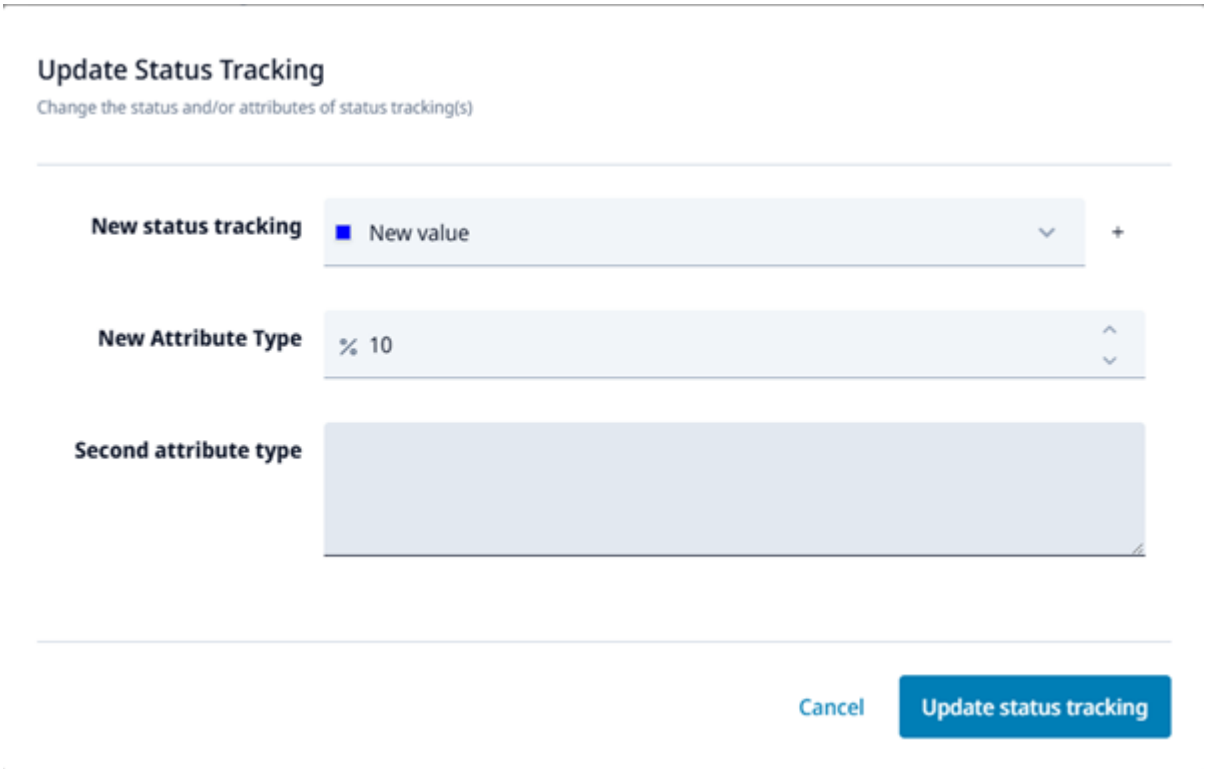


5.2.5. Editing both status tracking values and attributes in search results

If you have permission to modify a status tracking, you can select to edit both the status values and status tracking attributes in one dialog. Select Update status and attributes button in the column. You can also select multiple model items by checking the checkbox at the beginning of each row and selecting the Update status and attributes button of one selected row.



In Update Status Tracking dialog, you can change the status, or add a new status. You can also edit or add status tracking values in the corresponding fields.



Select **Update status tracking** to save your changes.

5.2.6. Deleting a status tracking value in search results

If you have permission to delete a status tracking, you can delete the status tracking in the in the search results. Select Delete status tracking button in the corresponding column. You can also select multiple model items by checking the checkbox at the beginning of each row and selecting the Delete status tracking button of one selected row.

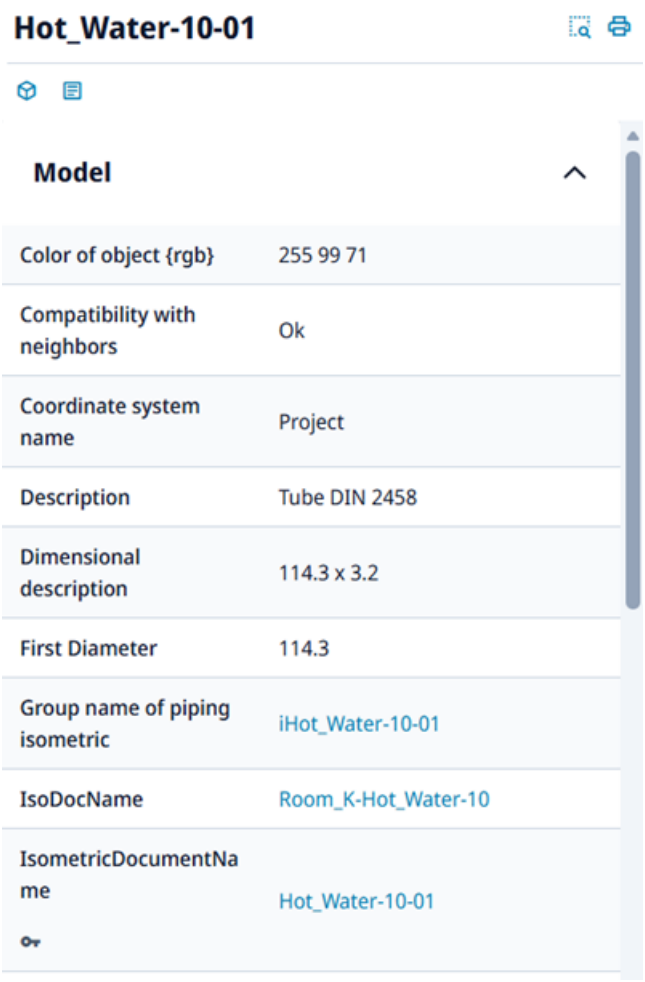


A confirmation dialog opens, select **Delete status tracking** to delete it.

5.2.7. Examining objects and groups found by search

When you have performed a search that found objects or groups, you can select to examine them in the Model view—directly from the search results.

- Click the object ID in the search results. The properties of the object open in properties pane, unless you have enabled to open model objects directly in model view in My account. Depending on the object, there is a Go to model view button for opening the object in Model view and Documents button to scroll to the documents section of the properties pane.
- If you select to open the object in Model view, it opens in examine mode. You can examine all the found objects or groups by selecting Examine search results button .



You can then use the navigation buttons in the properties pane to jump to the next or previous item.



- To examine all the found objects or groups, you can select **Examine objects** in the search results.

Related topics

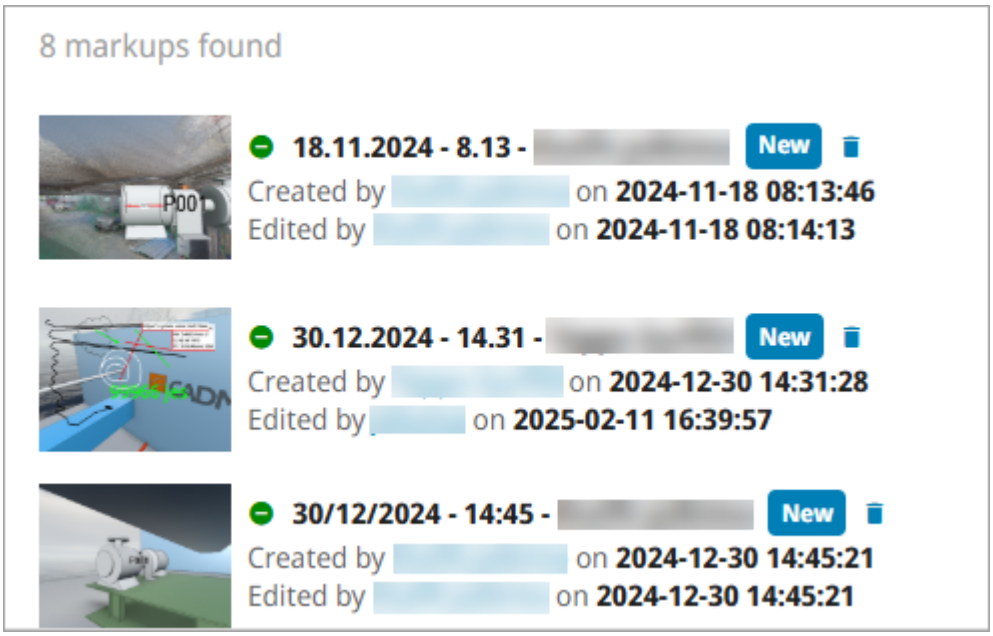
Examine Mode

5.2.8. Opening other entities found by search

When you have performed a search that found markups, Smart Points or documents, you can open a found entity directly from the search results.

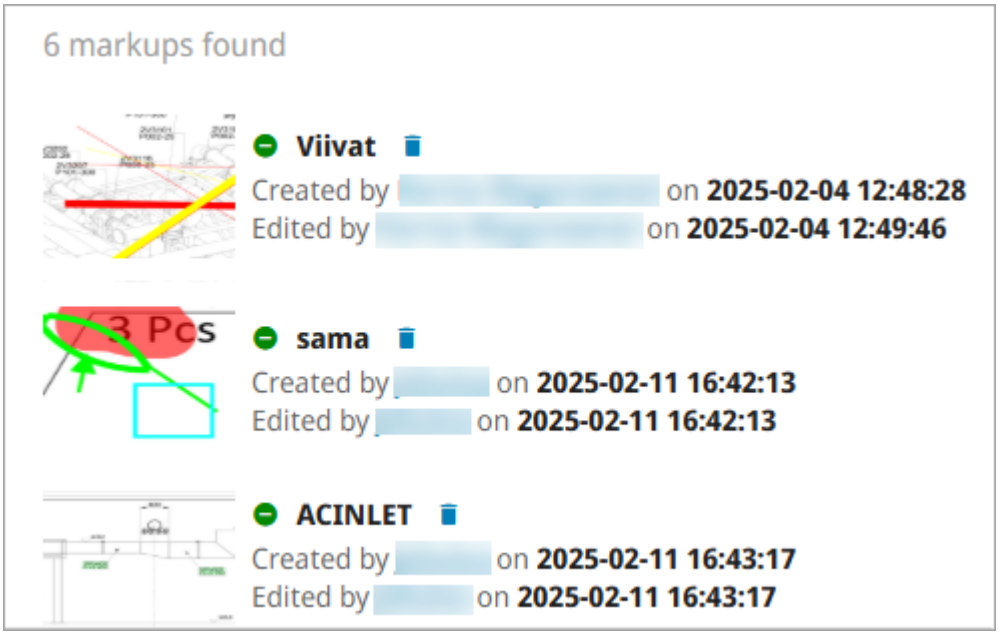
Model markups

If the search found model markups, click the markup thumbnail to open the model markup in the Markup editor. Note that you must always close the editor properly, or you will not be able to open another markup.



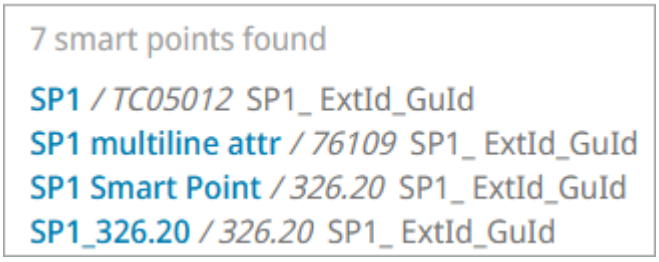
Document markups

If the search found document markups, click the markup thumbnail to open the document markup in editing mode in the Documents Viewer. Note that you must always close the markup properly, or you will not be able to open another markup.



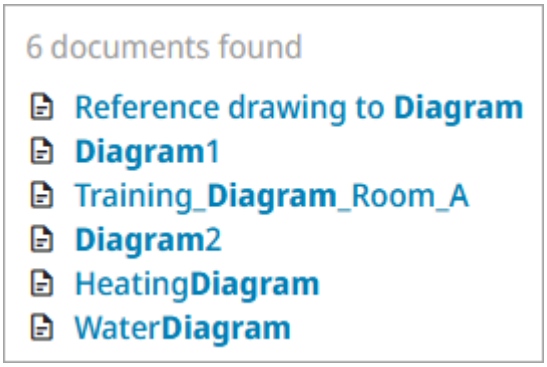
Smart Points

If the search found Smart Points, click the Smart Point name to show the Smart Point and its properties in the Model view.



Documents

If the search found documents, click a document name to open the document in the document viewer.



Related topics

Markup Mode

Smart Points

Documents Viewer

5.2.9. Exporting results to Microsoft Excel

You can export search results of model items, Smart Points, model markups, or document markups to a Microsoft Excel file. In the Excel file, different entity types are listed in separate sheets, and on each sheet the entity identifiers (such as object IDs, Smart Point names, model markup names, or document markup names) function as links to the entity in the Model view.

Do the following:

1. In the **Simple** tab, select **Export to Excel**, or in the **Advanced** tab, open the drop-down menu of the **Export** button and select **Excel**.
2. In the **Export to Excel** dialog, select the following:
   - Object, markup, point, and external data attributes included in the Excel file. The attributes available depend on the used search. Click on the arrow to expand the options for each group.

   To save the export selections for later use, select **Save** in the dialog. Enter a name for the saved export and select **Save**. Saved export is available in the **Saved exports** drop-down menu in the **Export to Excel** dialog. To delete a saved export, select it on the list and select **Delete**.
3. In **Conflict Detection Options** (visible when exporting a model object search), select used export mode:

- **None** – Exports all search results and does not check for conflicts. Selected by default.
- **Automatic** – Automatic conflict detection mode, which finds the attributes with same names and compares the values in them per object basis. If the values in these attributes differ from each other the object is exported.
    - **Skip Empty Values** – Specifies if missing/empty attribute values are not compared for conflicts. The default is Yes.
- **Custom** – Custom conflict detection mode, which works in the same way as the automatic detection but instead of detecting attributes with same names, it compares the attributes in the configured attribute pairs.
    - **Skip Empty Values** – Specifies if missing/empty attribute values are not compared for conflicts. The default is Yes.
    - **Attributes to Compare** – Configure the attribute pairs to be used in comparing the detected attributes. To add a new attribute pair, select **Add new pair**.

The conflicting cells are highlighted in red in the resulting Excel file.

4. Select **Export**.
5. You are prompted whether to open or save the Excel file.

Note: In the Excel file, you can configure the links to open the examine mode with specific settings. See Defining examine mode settings in URLs for details.

5.2.10. Exporting model markups and document markups to Microsoft Word

You can export model markups or document markups found via search to a Microsoft Word file. The report uses a default Word template (*Markup Word Report Template.docx*) included in the eShare installation. The template is located in the installation directory (*<installation directory>\App_Data\markupReportTemplates*). The default template can be customized and additional templates can be created in Word.

Note: In order to use a custom attribute in the Word template, you must remove any spaces, hyphens, underscores, and invalid XML characters from the attribute name, and convert it to camelCase.
For example, to use a custom attribute called "My custom_attribute - 123 / ABC" in the template, you must specify <# <Content Select="./myCustomAttribute123Abc"/> #> in the template.

Note: eShare will not display the template if it used by another process (such as Microsoft Word). Close the template before exporting the report.

Do the following:

1. Open the drop-down menu of the **Export** button, and select **Word**.
2. You are prompted whether to open or save the Word file.

5.2.11. Exporting a model markup file (.ebx)

You can export model markups found via search to a markup file (.ebx). Photos that have been added to markups are included in the export.

Features that are specific to eShare, such as the names of users the markups have been assigned to, are included in the export as special attributes. If the file is imported to some other application, this data can be viewed as regular markup comments.

Note: Document markups cannot be exported.

Do the following:

1. Open the drop-down menu of the **Export** button, and select **Markups (EBX)**.
2. You are prompted whether to open or save the markup file. If you have Cadmatic eBrowser installed, selecting to open the markup file typically opens it in eBrowser.

5.2.12. Exporting a model markup file (.bcfzip)

You can export model markups found via search to a markup file (.bcfzip).

The exported file includes all markup information, for example title, type, status, importance, when the markup was created and last modified, and who by, assignee, all comments, and photos.

Note: Document markups cannot be exported.

Do the following:

1. Open the drop-down menu of the **Export** button, and select **Markups (BCF)**.
2. You are prompted whether to open or save the markup file.

Related topics

Search methods

Saving a search

Uploading a markup file

5.3. Saving a search

You can save the currently displayed search for future use, for example when the search is more complex or if you will need to repeat the same search often. Saved searches are listed in the **Saved Searches** pane of the **Search** view, and you can click a search name in the list to perform the search.

Searches are saved per user—your saved searches are not visible to other users or administrators. Project or system administrator can select saved searches to be visible to selected user groups.

Prerequisites

- You have performed a search on the **Advanced** tab. Simple searches cannot be saved.

Do the following:

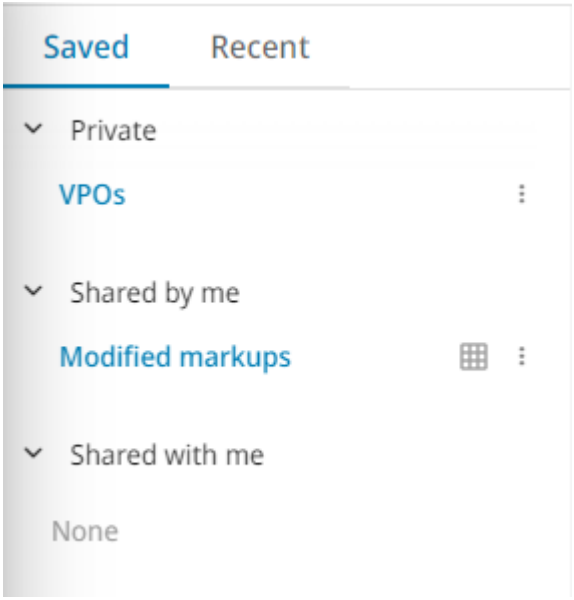
1. Select **Save** in the search view. **Save Search** dialog opens.
2. Enter a descriptive name for the search.
3. Select if the search is private to you (**No one**), shared to selected **User groups** or to **All Users**.

   Note: Only project or system administrators can share saved searches to other users.

4. Select if the saved search results are by default shown as a list or a table. If you select table, you can select which columns to include.
5. Select **Save**.

Results

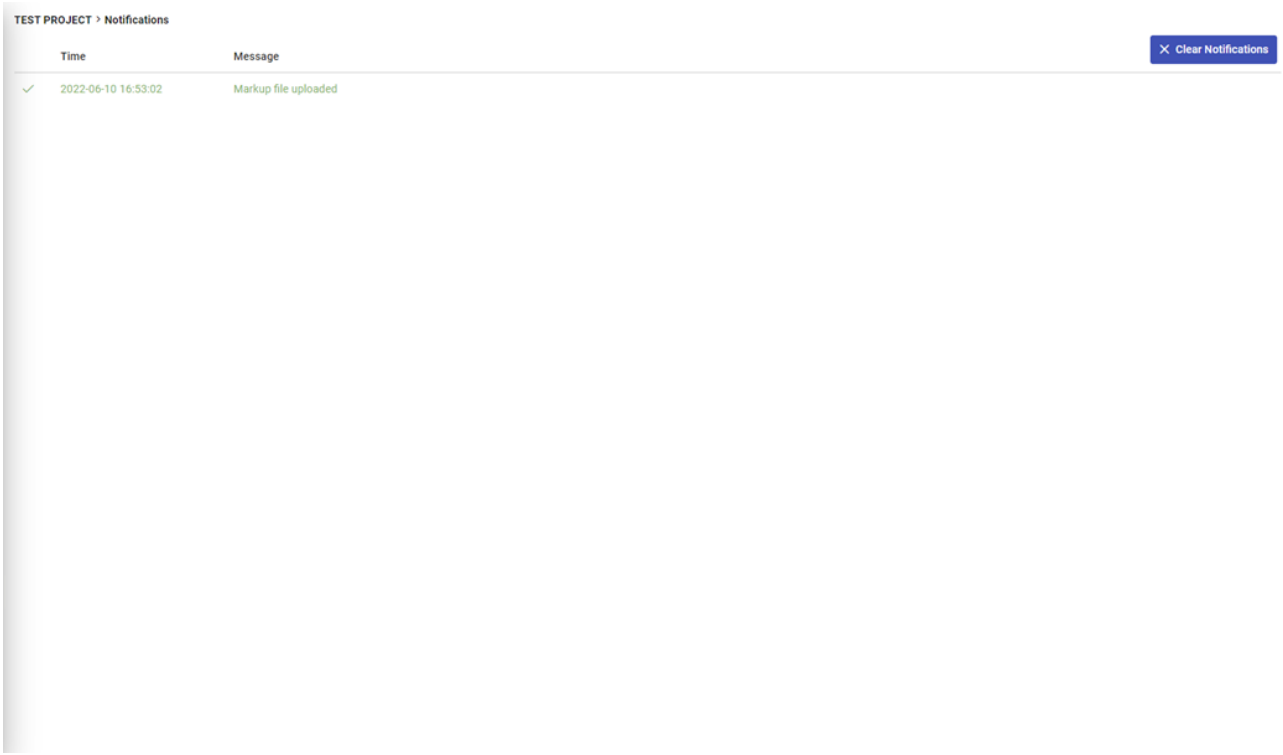
The **Saved** pane displays your saved searches. Select options button ⋮ to edit or delete a saved search. You cannot edit or delete a search shared with you.



6. Notifications

To view notifications, select **Notifications** in the menu.

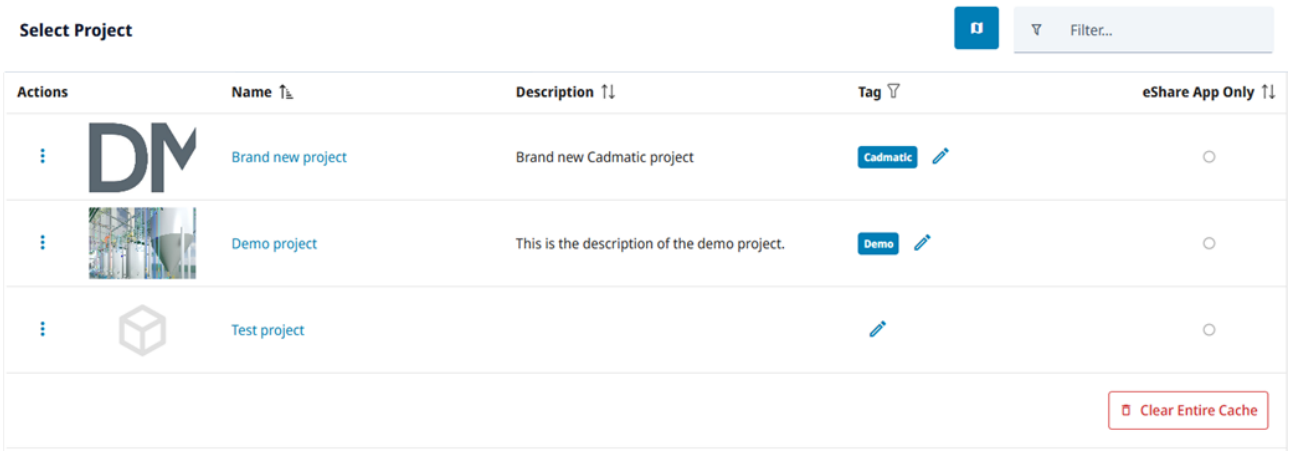




7. Projects

To open Projects, select **Projects** in the menu.





To open a project, select it from the list.

You can filter the projects using keywords in the **Filter** field or in the **Tag** column using filters. There are two selections in the filtering menu:

- **Includes** – Selection for tags, which the projects must have. It will include all the projects that have all of the selected tags. For example, selecting tags *one* and *two* means that projects which have both of these tags will be shown, so for example *one, two* or *one, two, three* will be visible, but *one, three* will not.
- **Excludes** – Selection for tags, which the project cannot have. It will exclude all the projects that have any of the selected tags. For example, selecting tags *one* and *two* means that it will not show projects that have either of these tags. So for example projects with tags *one, three* or *two*, or *one, two*, will not be visible.

The filters can then be either cleared or applied from the footer of the filter menu. These filters are saved locally.

If system administrator has enabled map support,  opens a map with the project locations visible. If the projects were filtered on the projects list, only the projects visible from the selected filters are visible on the map. See Project map.

If you have administrator rights, you can add or remove project tags by first selecting the edit button . Click the cursor in the field to select from existing tags or enter a new one. To remove a tag, select .

To clear the model cache for a project, in **Actions** column select the More button , and select **Clear Model Cache**.

To clear entire local cache, select **Clear Entire Cache** in the bottom right. A confirmation dialog opens and if you confirm, all locally cached eShare files will be removed, and the page will reload.

Make sure that nothing is using the local file system when the entire cache is cleared, for example, that there is not a project loading. Failing to do so will result in a partially cleared cache, and the operation will need to be performed again.

8. My account

To view user account information, select user name in the menu.



My account view has tabs for **Basic settings**, **My groups**, and **AI settings**.

8.1. Basic settings

In Basic settings view, you can:

- view user details and edit full name
- change the color theme of the user interface
- Enable/disable **Open model links directly in model view**– Specifies if model links are opened directly in model view or object properties shown first in properties pane. If set to **No**, the links open properties pane showing the object details. If set to **Yes**, links open directly in model view.

8.2. My groups

In My groups view, you can:

- view groups you belong to

8.3. AI settings

In AI settings view, you can:

- view chat history with Cadmatic AI
- select to open a chat thread
- select to export a chat thread
- select to remove a chat thread
- select **Delete chat history** to delete all stored sessions and their information

---

Note: Chats are deleted after 30 days.

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9. eShare App

Cadmatic eShare App is a 64-bit Windows application that can be installed on an eShare client computer and connected to the required eShare server.

The advantages of using eShare via the application instead of a web browser include support for very large 3D models and improved 3D visualization.

The computers where eShare App is to be installed must run a 64-bit Microsoft Windows operating system.

eShare App does not support JavaScript based integration.

These topics provide information on using eShare App.

9.1. Installing the eShare App 115
9.2. Opening the eShare App 117
9.3. Configuring the eShare App 118
9.4. Using the eShare App 120

9.1. Installing the eShare App

Note: The *eShareApp.msi* installer contains all the needed dependencies for running the eShare App, including Microsoft .NET 10 Runtime and Microsoft Edge WebView2. If you have these already installed, see Installing the eShare App without dependencies

Perform the following to install eShare App on your computer.

Do the following:

1. Open eShare normally with a web browser, and click "Get eShare App" at the bottom of the front page. The *eShareApp.msi* installer is downloaded to your computer.

2. Launch *eShareApp.msi*and follow the instructions of the wizard to complete the installation.

   Note: If you want to install eShare App for all users of this computer, open a command prompt window with the "Run as administrator" option, and launch *eShareApp.msi* from the command prompt window.

9.1.1. Installing the eShare App without dependencies

Perform the following to install eShare App without the dependencies on your computer.

Do the following:

1. Download the *eShareApp_NoDeps.msi* installer from *<eShare address>/files/eShareApp_NoDeps.msi*.
2. Launch *eShareApp_NoDeps.msi* and follow the instructions of the wizard to complete the installation.

> **Note:** If you want to install eShare App for all users of this computer, open a command prompt window with the "Run as administrator" option, and launch *eShareApp_NoDeps.msi* from the command prompt window.

9.1.2. Installing the eShare App using command line

You can install or uninstall eShare App using the `msiexec` command in a command prompt window.

> **Note:** If you want to install the application for all users of the computer, you must start the command prompt as an administrator.

Command-line installation supports these parameters:

Parameter	Description
ALLUSERS="1"	Installs eShare App for all users. If the parameter is not used, eShare App is only installed for the current user.
INSTALLDIR="<path>"	Specifies the installation folder. If the parameter is not used, the 64-bit application version is installed in *C:\Users\<user>\AppData\Local\Apps\Cadmatic\eShare(x64)*, and the 32-bit application version is installed in *C:\Users\<user>\AppData\Local\Apps\Cadmatic\eShare*.
LOCALPATH="<path>"	Specifies the location where temporary user data such as imported

Parameter	Description
	models can be saved. If the parameter is not used, temporary user data is stored in *C:\Users\<user>\AppData\LocalLow\Cadmatic\eShare\cache*.

You can use standard Windows Installer options in the command. For example, you can run the command with the option */quiet* to install or uninstall eShare Appin silent mode so that no user action is required during the operation. Run the command with the option */?* or */help* to list all the options.

Here are examples, using *eShareAppinstaller.msi* as the name of the installer file:

- This command would install eShare App for all users in *D:\Programs\eShare*, and user data would be stored in *D:\UserData\eShare*:
  ```
  msiexec /i eShareAppInstaller.msi ALLUSERS="1"
  INSTALLDIR="d:\Programs\eShare" LOCALPATH=”d:\UserData\eShare”
  /quiet
  ```
- This command would install eShare App for the current user:
  ```
  msiexec /i eShareAppInstaller.msi /quiet
  ```
- This command would uninstall the application in silent mode:
  ```
  msiexec /x eShareAppInstaller.msi /quiet
  ```

9.2. Opening the eShare App

You can open eShare App from the Start menu of Microsoft Windows.

- Select **Start > Cadmatic > eShare App**.

  The application automatically connects to the eShare server that you used the last time.

  Or, if opening eShare App for the first time, the configuration dialog opens for defining the server(s) to connect to, as described in Configuring the eShare App. After configuring the eShare server(s), the application automatically connects to the first server on the list of configured servers.

You can also open eShare App from a hyperlink in a third-party application, using the eShare redirector.

- Use the proprietary *eshareapp* protocol in the URL when you open eShare from an application that is not a web browser, such as Microsoft Excel. For example, if eShare server is running at *https://eshare:81/*, you can open it with *eshareapp:https://eshare/*. The protocol supports two URL formats:
  - *eshareapp:https://eshare**/r?/**p/…*—use this format in links embedded to Excel files where the pound sign # cuts the link. eShare redirector replaces *r?* with # when opening the link.
  - *eshareapp:https://eshare**/#/**p/…*—use this format in other applications.
- In a web browser, use the normal URL to access the eShare server, but replace # in the URL with *r?* (r followed by a question mark). This opens 32-bit projects in web browser and 64-bit projects in eShare App.

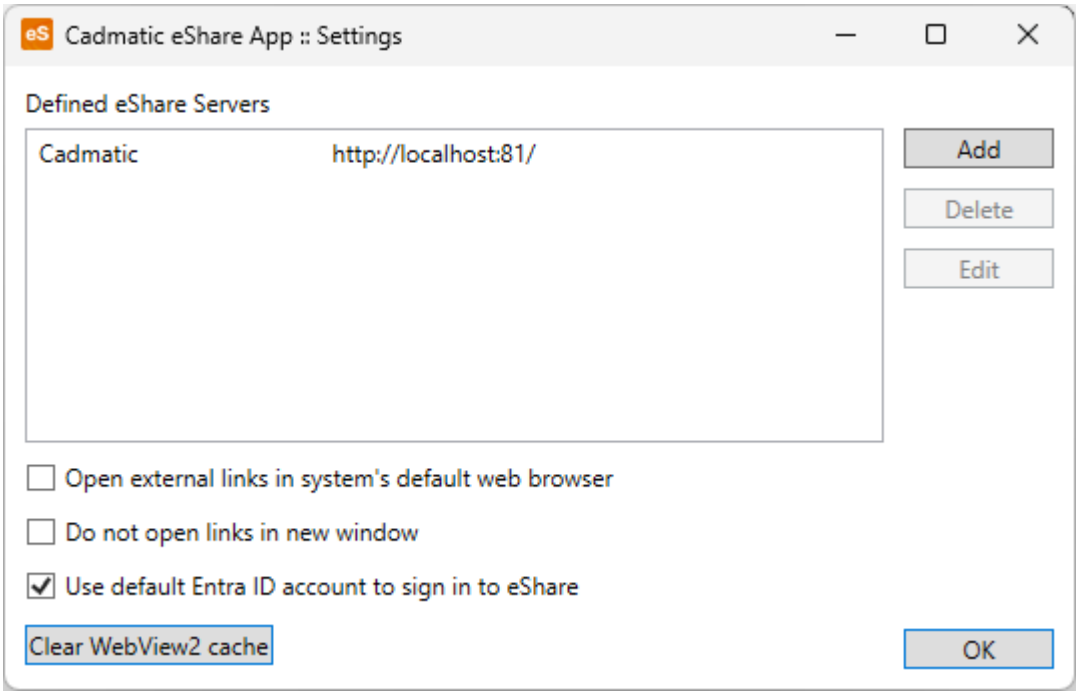
  For example, if the URL of a specific view starts with *https://eshare/#/p/…*, you can open it with *https://eshare/r?/p/…*.

Related topics

URL parameters

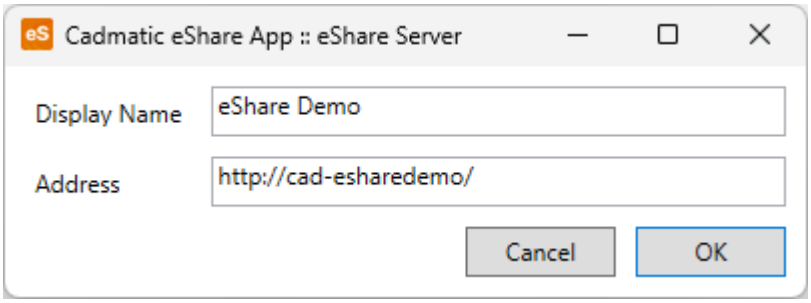
9.3. Configuring the eShare App

The settings button ⚙ opens the **Cadmatic eShare App Settings** dialog where you can define the eShare server or servers that you want to use.



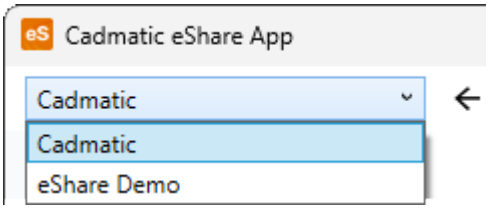
- To add a server to the list, click **Add**, and then define the name to display and the server address.

  Both the names and the addresses must be unique. The address must start with *http://* or *https://*, and port must be defined if it is not the default port.
- To edit an existing server name or address, select the server from the list and click **Edit**.



- **Open external links in system's default web browser** – If selected, the external hyperlinks are opened in the system's default browser. If disabled, the hyperlinks are opened in Details window.
- **Do not open links in new window** – If selected, all links are opened in the current window.
- **Use default Entra ID account to sign in to eShare** – if selected, the default Entra ID account is used for signing in to eShare. Enabled by default.
- **Clear WebView2 cache** button empties the WebView2 cache.

When you close the settings, the configured eShare servers are listed in the server drop-down menu of the application.

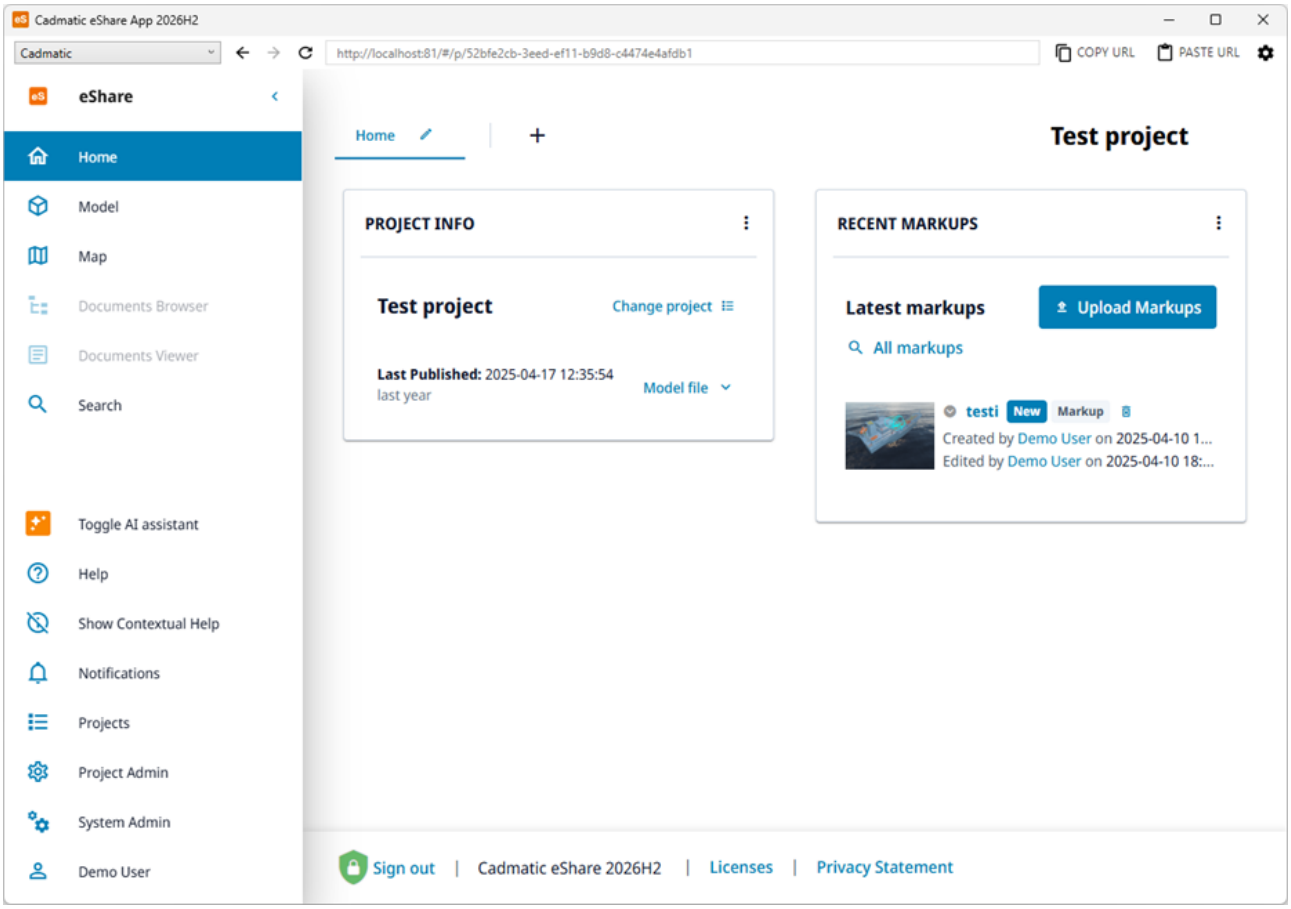


9.4. Using the eShare App

The eShare App application shows eShare data in the same way as when eShare is used via a web browser. Starting the application automatically connects it to the last used eShare server.

In the application toolbar you can perform the following:

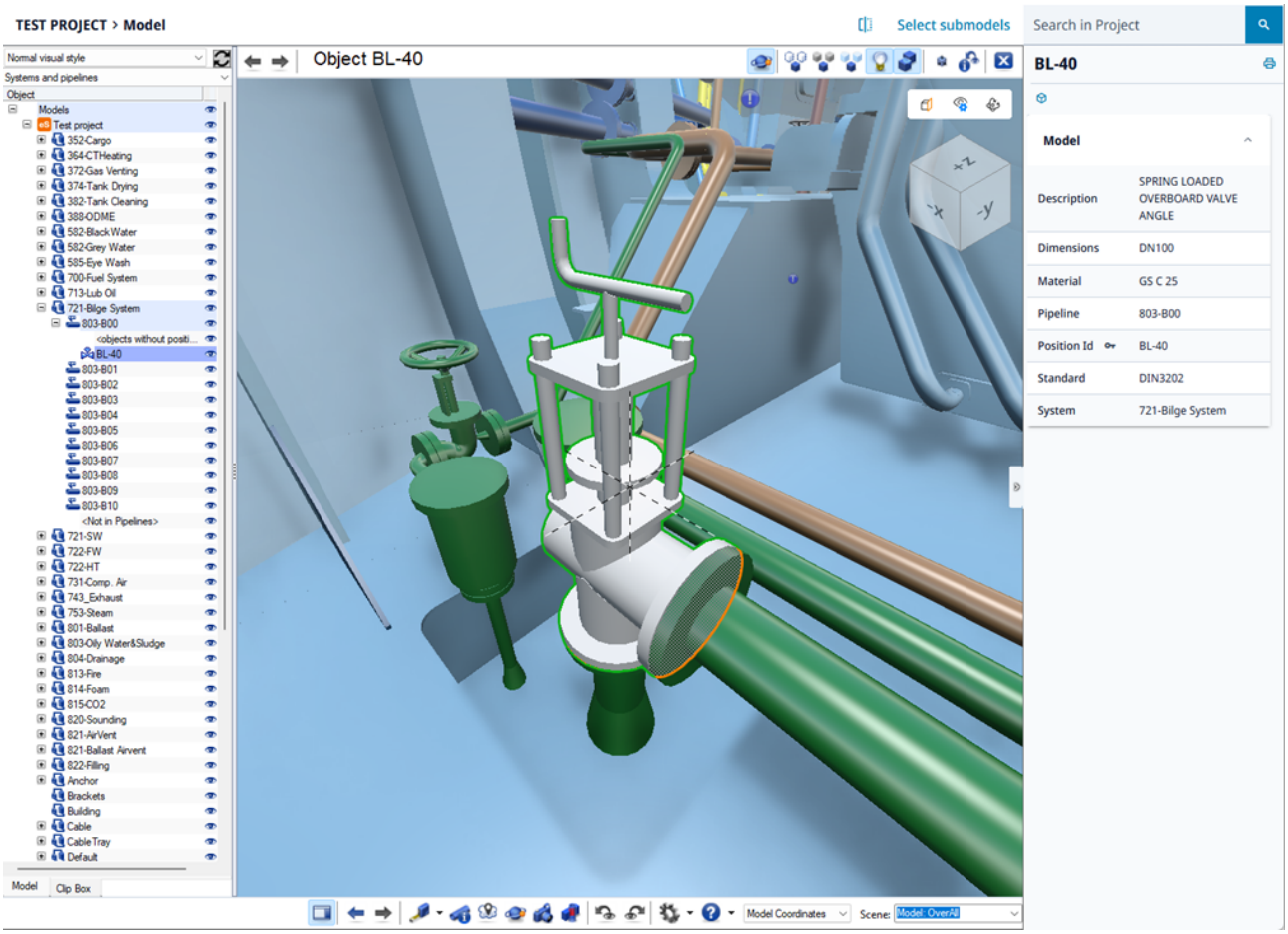
- You can connect the application to a server defined in the application settings by selecting the server from the drop-down menu. Cadmatic
- You can move to previous or next page by clicking the arrow buttons.
- You can reload the current page by clicking the reload button.
- You can copy or paste a server URL. COPY URL PASTE URL
- You can define the list of eShare servers to use by clicking the settings button.
- You can run collision checks in the 3D view. See Collision checking.
- You can open point clouds, if available in the project. See Point clouds.



9.4.1. Model viewer

The 3D model viewer of Cadmatic eShare App is a design review and collaboration tool for construction and revamping projects in plant and marine industries. You can use it to open the 3D model of a complex design such as a power plant or passenger ship, and then move around anywhere in the model, inspecting the individual objects, checking dimensions between entities, and adding markups to comment on the design.

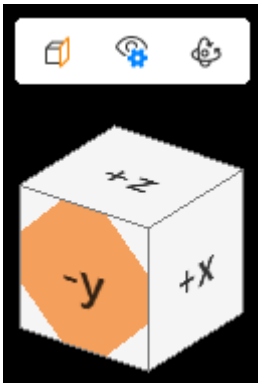
EBMX models published with Cadmatic Plant Modeller 2026H2 are not compatible with older eShare versions. eShareshould be updated to 2026H2 to support all file versions.

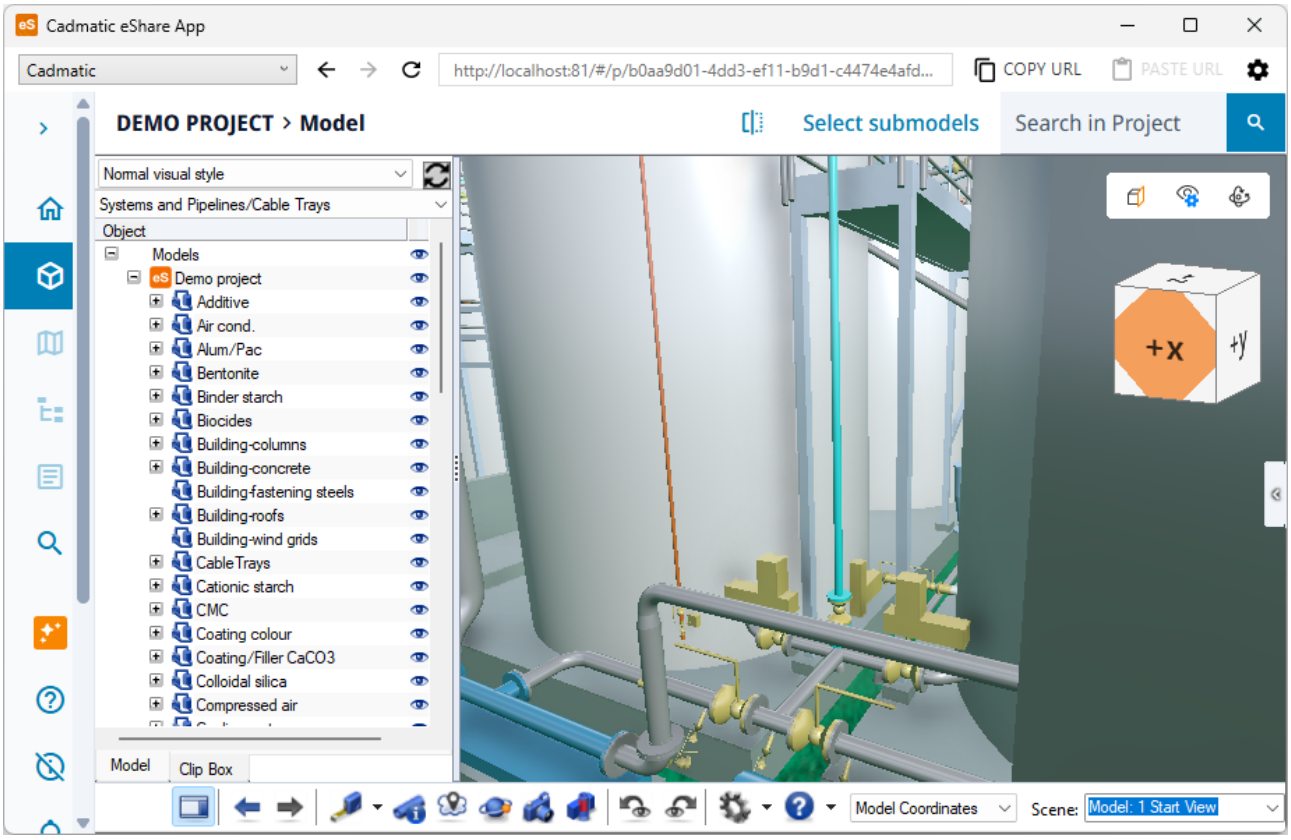


9.4.1.1. View cube

The view cube is in the top-right corner of the 3D view. It shows the current view direction, and you can use it to rotate the model or to switch to a specific view direction. Next to the cube is a toolbar with icons for the clip box, visualization, and navigation options.

- To rotate the model, drag the view cube.
- To view the model from a specific direction, click a face or corner of the cube.





9.4.1.1.1. View cube toolbar

This section describes the commands that are available in the view cube toolbar in 3D view.



Note: The availability of toolbar commands depends on the current context, such as whether a markup is open, a 4D animation is playing, or either presentation mode, or bubble view is open. Commands that cannot be used in the current context are dimmed.

9.4.1.1.2. Clip box



9.4.1.1.2.1. Enable clip box

Enables the clip box and opens the clip box tab. When enabled, you only see the area defined by the clip box. When disabled, you see the complete model. See Enabling clip box from the model tree.

9.4.1.1.2.2. Show clip control box

Enables the control box that allows you to resize the clip box by dragging the clipping planes in the 3D view. See Enabling clip box from the model tree.

9.4.1.1.2.3. Show clipped as wireframe

When enabled, the objects outside the clip box will be shown as wireframe. See Enabling clip box from the model tree.

9.4.1.1.3. Visualization



9.4.1.1.3.1. Visual styles

Opens a menu of visual styles to select from, including smart points.

9.4.1.1.3.2. 4D animations

Select 4D sequence from the menu.

9.4.1.1.3.3. Refresh visual styles and hierarchies

Select to update visual styles, object colors and hierarchies in 3D view and model tree.

9.4.1.1.3.4. Show cable routing objects

If selected, cable routing objects are visible.

9.4.1.1.3.5. Show connection points

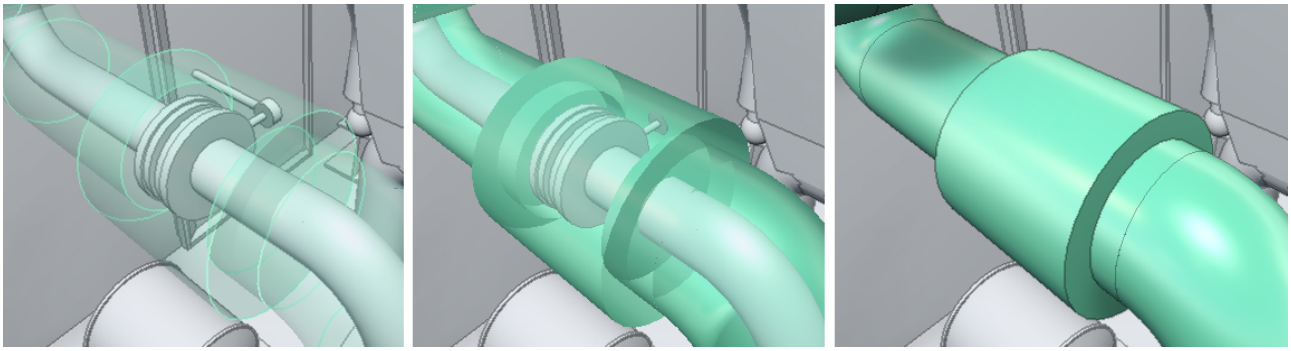
If selected and the model contains connection points, the connection points that are near the camera are visualized. When in Examine Mode only the connection points of the examined object are shown. Moving the cursor over a connection point displays the node number.

Note: Snapping to connection points can be toggled on or off—see Measure.

9.4.1.1.3.6. Show insulation

- **Hide** – Insulations are not visible.
- **Show transparent**– Insulations are transparent. Objects that are inside or behind the insulation are clearly visible.
- **Show semitransparent** – Insulations are semi-transparent. Objects that are inside or behind the insulation are at least partially visible.
- **Show opaque** – Insulations are completely rendered. Objects that are inside or behind the insulation cannot be seen.

In this example, the left image displays transparent insulation, the middle image displays semitransparent insulation, and the right image displays opaque insulation:



9.4.1.1.3.7. Welds

If selected, welds are visible.

9.4.1.1.3.8. Coordinates under cursor

Shows the coordinates of the point under the cursor. If the cursor is near a point it can snap to, the coordinates of that point are shown. The first line shows the Cartesian coordinates. If the model has named coordinates, the lines below show, for each axis, the nearest named plane and the distance and direction from it.

Named coordinates are available in models that have been published with Plant Modeller version 6.0 or newer.

9.4.1.1.3.9. Maps

- **Show map** – Enable showing the model's navigation map in the lower-right corner of the 3D view. Depending on the model, there might be a number of different map types that allow you to choose whether to display blocks, compartments, service spaces, and so on.

  When the navigation map is displayed, you can click the map to move the camera to the specified location. You can drag the upper-left corner of the map to resize the navigation map.

  Smart Points and markups that are at the same floor or deck level as the user and inside the map area are shown in the navigation map.

  For more information on maps, see Navigation map.
- **Show reference planes** – Enable showing the deck or floor levels (horizontal reference planes) in the side view at the top of the map. When you point at the side view, the level under the cursor is highlighted.

9.4.1.1.3.10. Markups

- **Show markups** – Enable showing markups in the 3D view and map. If they are shown, you can select which markup types and statuses to display.

9.4.1.1.3.11. Object identification labels

Enables displaying an identification label for the objects that cover the largest area of the view. Pipes display the label along the centerline of the pipe, and other objects display it next to the center point of the bounding box.

In application settings you can list the attributes that these labels can use. Each label displays the value of the highest-priority attribute (or set of attributes) that can be found from the object in question. See Other options.

9.4.1.1.3.12. Point clouds

- **Scale points by distance** – Adjusts the size of each point according to its distance from the scanner. Points close to the scanner are drawn larger and distant points smaller, which gives the point cloud a stronger sense of depth and reduces visible gaps between points when you view surfaces up close. When this option is off, all points are drawn at the same size regardless of distance.

- **Show more clouds when idle** – Displays additional point cloud data when the view is not moving. While you navigate, the program shows a reduced amount of point cloud data to keep movement smooth. When you stop, it loads and displays more data to show the point clouds in greater detail. Turn this option off, if you want consistent display density, or if loading extra data slows down your computer.
- **Scanner points** – If selected, the point cloud scanner points are visible. Point at a marker to see the name of the scan, and click it to open the scan in bubble view.
- **Cloud differences** – Activates difference mode comparing the 3D model and the point cloud in visualization. The tool is not accurate and is only meant for visualization purposes. By default, the parts where the model and the point cloud differ less than the set tolerance value are highlighted with green. The parts found only in the point cloud are highlighted with red, and the parts found only in the 3D model are highlighted with blue. Differences of 1-2 times the tolerance are shown in a mix of green and red or blue. Grey areas are too far away from the camera and cannot be compared by visualization. The tolerance value and colors can be changed in **Settings > Point clouds**. See Point clouds.

9.4.1.1.3.13. Reference coordinate grid

- **Show grid** – Enables the reference coordinate grid in the model. Coordinate planes must be defined in the model using Cadmatic Plant Modeller. By default you can toggle z plane grid visible by clicking the plane label in 3D view. If the selection in 3D view does not work, in **Grid settings** you can select which planes are visualized by first disabling **Toggle z planes from 3D view** and selecting the planes. This is helpful if the model contains a lot of reference planes and toggling labels from 3D view becomes complicated.
- **Grid settings** – Opens settings for coordinate grid settings.
  The color of the grid line can be configured in the Settings menu. See Visualization.
  Measure can be enabled to be used with the coordinate grid in the Measure tool options. See Measure tool options.

9.4.1.1.3.14. Smart points

- **Show smart points** – Enable showing smart points in the 3D view and map. If they are shown, you can select which smart point types and statuses to display.

9.4.1.1.4. Navigation



9.4.1.1.4.1. Flip model upside down

Toggles the 3D view upside down and back to normal.

9.4.1.1.4.2. Turn to look

- **Horizontal** (H) – Aligns the view with the horizon.
- **Down** (Shift + Z) – Turns the view directly downward.
- **Up** (Z) – Turns the view directly upward.
- **X+** (X) – Turns the view to point to the positive direction of the X axis.
- **X-** (Shift + X) – Turns the view to point to the negative direction of the X axis.
- **Y+** (Y) – Turns the view to point to the positive direction of the Y axis.
- **Y-** (Shift + Y) – Turns the view to point to the negative direction of the Y axis.

9.4.1.1.4.3. Zoom extents

- **Top view** (Shift + 1) – View the model from the top.
- **Bottom view** (Shift + 2) – View the model from the bottom.
- **Right view (Fore)** (Shift + 3) – View the model from the right.
- **Left view (Aft)** (Shift + 4) – View the model from the left.
- **Front view (SB)** (Shift + 5) – View the model from the front.
- **Back view (PS)** (Shift + 6) – View the model from the back.
- **Isometric view** (Shift + 7) – View the model from isometric direction.

9.4.1.1.4.4. Zoom to area

Zoom to a specific area in the model. To define the area, hold down the left mouse button and drag the rectangle to the required size.

9.4.1.1.4.5. Projection

- **Perspective** – View the model using the traditional projection way.
- **Orthographic** – View the model using orthographic projection. Orthographic projection preserves distances in the view and objects further away are not rendered smaller than objects which are closer as in perspective projection. In orthographic view, you cannot fly with the left mouse button or the arrow keys. Use the mouse wheel to zoom. Other navigation commands are available. Creating or opening a markup switches the view to perspective projection.

Related topics

9.4.1.2. Sidebar and tabs

The sidebar of the model viewer displays tabs that you can use for example to define object visibility and create markups.

In **Settings > Other Options** you can define whether the sidebar is on the left side or the right side of the 3D view. See Other options.

You can temporarily hide the sidebar to allow more space for the 3D view by clicking the Hide sidebar / Show sidebar  toolbar button.

You can control the visibility of the sidebar by adding the parameter **treeVisibility** to the eShare URL and setting it to either "show" or "hide". This example URL hides the sidebar but shows the properties pane:

*https://<domain>:<port>/#/p/<project id>/model?**treeVisibility=hide**&attributePaneVisibility=show*

For more information on URL parameters, see URL parameters.

9.4.1.2.1. Model tab

The **Model** tab allows you to navigate to specific parts of the model and to select what the 3D view shows, using two drop-down menus and a hierarchical tree.

- **Visual Style Menu** – Use the visual style drop-down menu to highlight objects in the 3D view using a color scheme that an eShare administrator has defined. For example, objects can be colorized according to their installation status. You can click the refresh button to reload the currently selected visual style, and refresh the selection of available visual styles.

  Note: You can select whether the color legend at the bottom of the 3D view lists all categories in the selected visual style or just those that currently visible objects are using. You can hide or show the legend using the arrow on the right side of the legend.

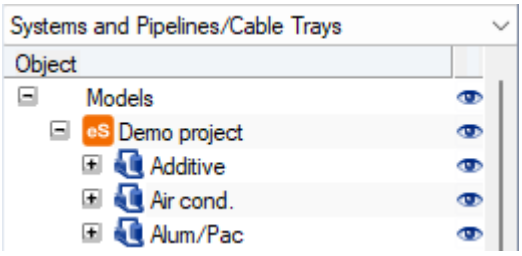
  If there are 4D sequences configured for the project, these sequences can be selected from the visual style drop-down menu. The sequences can be identified from the *4D* tag in the name. See Viewing 4D sequences.

- **Hierarchy Menu** – Use the hierarchy drop-down menu to arrange the model tree using a hierarchy that an eShare administrator has defined.

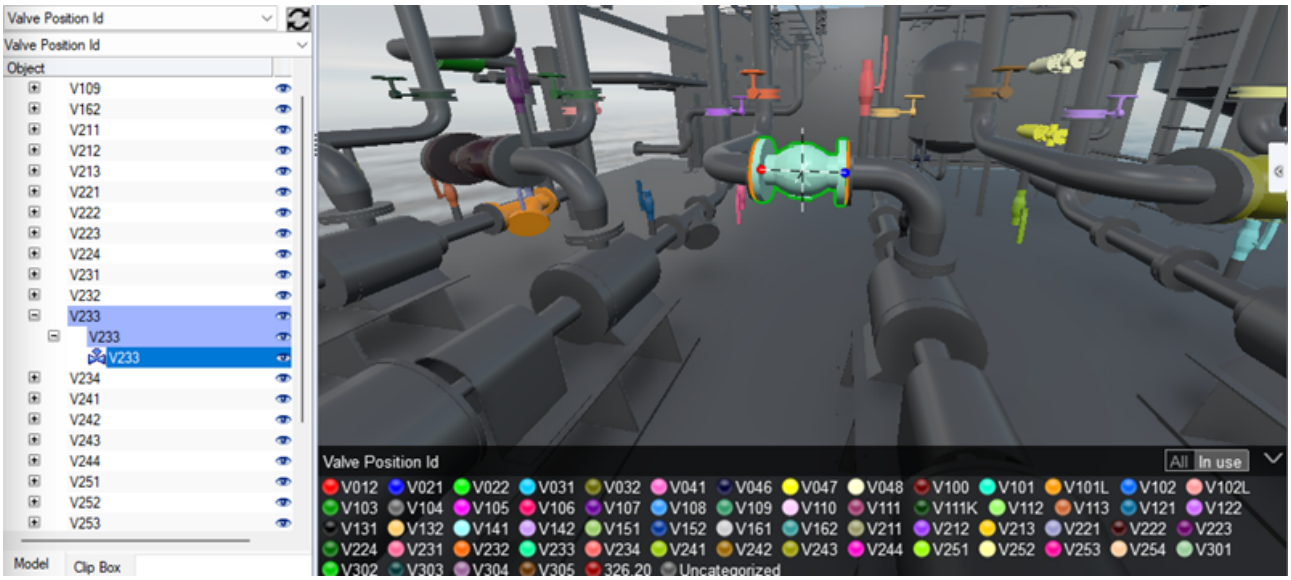
  

  You can refresh the selection of available hierarchies using the refresh button next to the visual style menu. If dynamic hierarchies are used, the currently selected hierarchy will be refreshed to show any recent changes.

- **Model Tree** – The model tree lists the objects of the model as a hierarchical entity tree; the displayed hierarchy is defined by the hierarchy menu.

In the example below, visual style and hierarchy is set to Valve Position Id.



9.4.1.2.1.1. Model tree

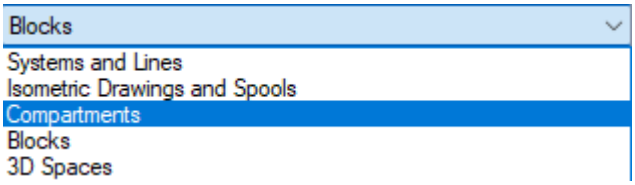
In the model tree you can do the following:

- Select one or more objects or object groups, as described in Selecting objects and changing their visibility.

- Right-click the selection and select a command from the context menu to perform some action on the specified entities. Some of these commands are also available from the context menu of the 3D view. See Context menu.
- Double-click a single object to examine the object in the 3D view. To examine a group, select the **Examine** command from the context menu.
- Click the eye icon to hide objects, and click the closed eye to show them again.
- *Right-click* the eye to enable x-ray mode, and click the x-ray icon to disable the x-ray mode.
- Click the light bulb to turn highlighting of objects on, and click to turn it off.
- Click to show the containment areas of blocks, compartments, or 3D spaces. Click to hide containment areas.
- Right-click a point cloud to open it in a bubble view.

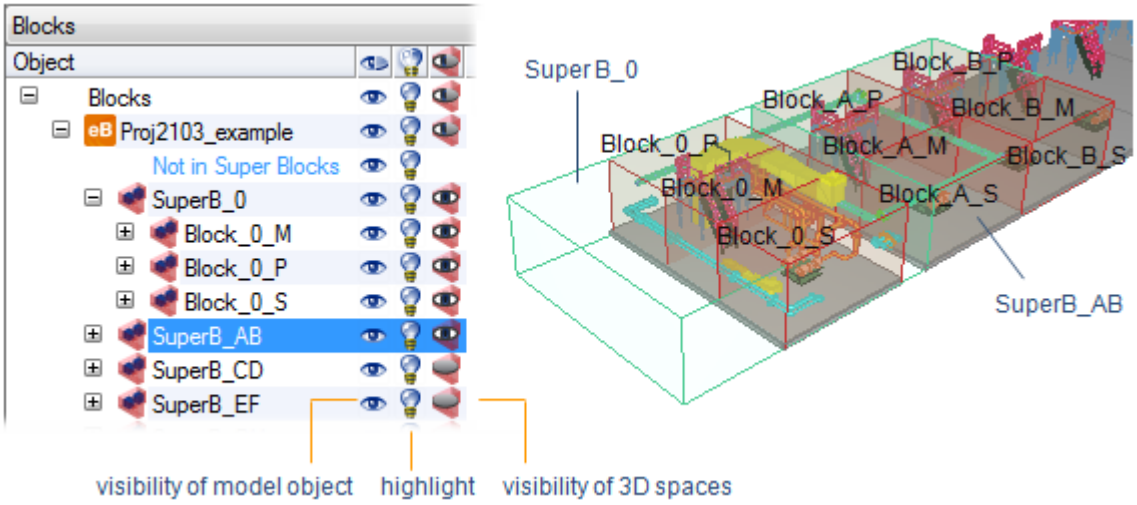
9.4.1.2.1.2. Containment hierarchies

The hierarchy menu of the **Model** tab can list containment hierarchies such as Compartments and Blocks that you can select to review the model one containment area at a time.



A containment consists of the 3D space object that defines the geometrical volume of the containment area and the model objects that belong to the containment. In Cadmatic Plant Modeller, the available containment hierarchies are defined in the Default.xcf file.

In the picture below, we see the containment hierarchy **Blocks**. In the object tree, the super block *SuperB_0* has been expanded to show that it contains three blocks: *Block_0_M*, *Block_0_P*, and *Block_0_S*. In the 3D view, we see this super block as well as super block *SuperB_AB* which contains six other blocks.



The visibility of a 3D space and the model objects it contains can be controlled using the visibility icons in the model tree.

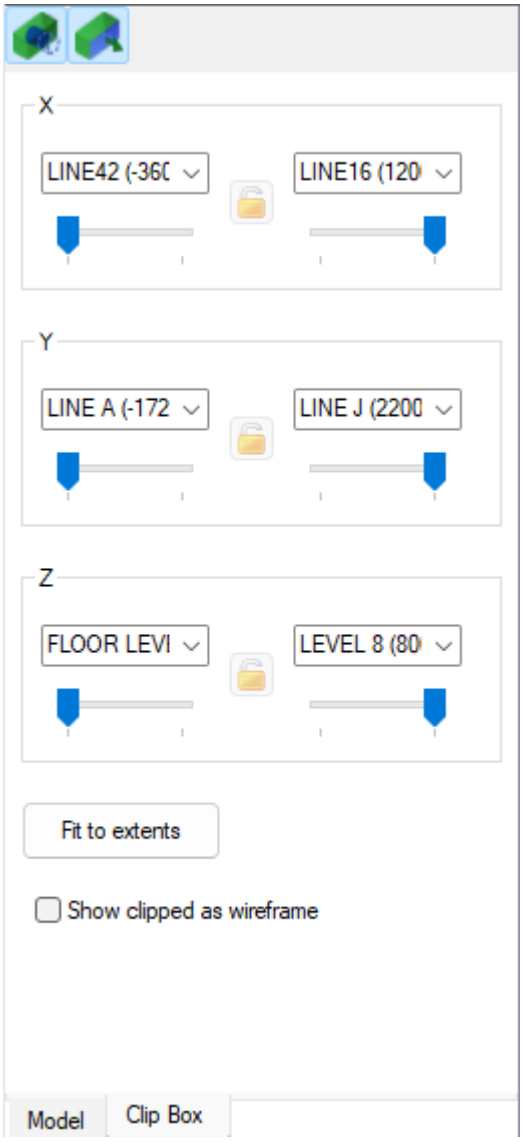
9.4.1.2.2. Clip box tab

The **Clip Box** tab allows you to resize the visible area of the model so that you can easily review all the objects inside a specific block or compartment.

You can clip the model using the sides of the clip box parallel to the model's main planes (normal to main axis X, Y, and Z). If the boundaries of the clip box intersect with an object, you will not see those parts of the object that are outside the clip box.

You can store the currently visible clip box by creating a new scene. When you return to the scene, it shows the clip box. See Scene.

In **Settings > Visualization** you can select whether clipped objects should be visualized as solid or hollow—see Visualization.



On the **Clip Box** tab you can perform the following.

-  – Click the **Enable Clip Box** button to enable or disable the clip box. When enabled, you only see the area defined by the clip box. When disabled, you see the complete model.
-  – When the clip box is enabled, click the **Enable Control Box** button to enable or disable the control box that allows you to resize the clip box by dragging the clipping planes in the 3D view.

You should only enable the control box when you want to adjust the clipped view, because some other functions of the 3D view such as measuring might not be available or function as expected while the control box is enabled. See Adjusting the clip box with the control box.

- **X, Y, Z** – Use the X, Y, Z settings to specify the size of the clip box. You can relocate a clipping plane in all three directions (normal to axis) in several ways, as described in Adjusting the size of the clip box. The distance between the planes in a given direction can be locked by clicking the lock button between the sliders, so that adjusting one slider automatically adjusts the other one as well.
- **Fit to extents** – Click the **Fit to extents** button to set the clip box to the size of the bounding box of the model.
- **Show clipped as wireframe** – When enabled, the objects outside the clip box will be shown as wireframe.

In addition to defining the clip box on the **Clip Box** tab, you can enable the clip box as described in Other ways to set the clip box.

9.4.1.2.2.1. Adjusting the size of the clip box

There are a number of ways in which you can adjust the clip box by moving an individual clipping plane to a different location:

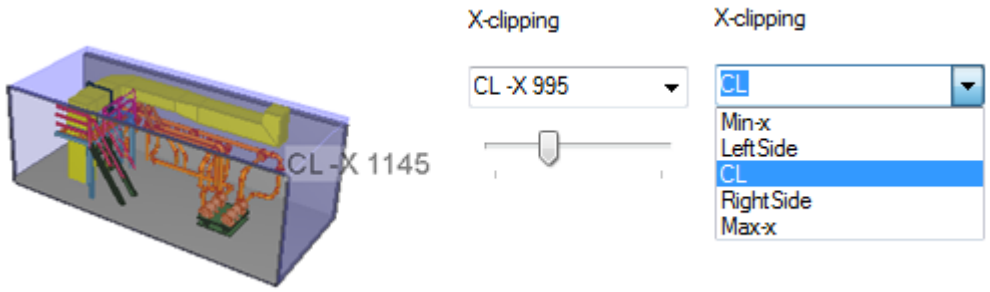
When the **Enable Clip Box** button  is enabled, drag the appropriate slider on the **Clip Box** tab, as described in Adjusting the clip box with the control box.

When the **Enable Control Box** button  is enabled, drag the appropriate clipping plane with the *right* mouse button pressed down, as described in Adjusting the clip box with the control box.

Select a predefined plane from a drop-down menu on the **Clip Box** tab.

Write the distance into the edit field using Cartesian coordinates or type the position using named planes. For example, **CL –X 995** means that the clipping plane is 995 mm from the CL plane in –X direction (CL plane and –X direction are defined in Plant Modeller's coordinate reference).

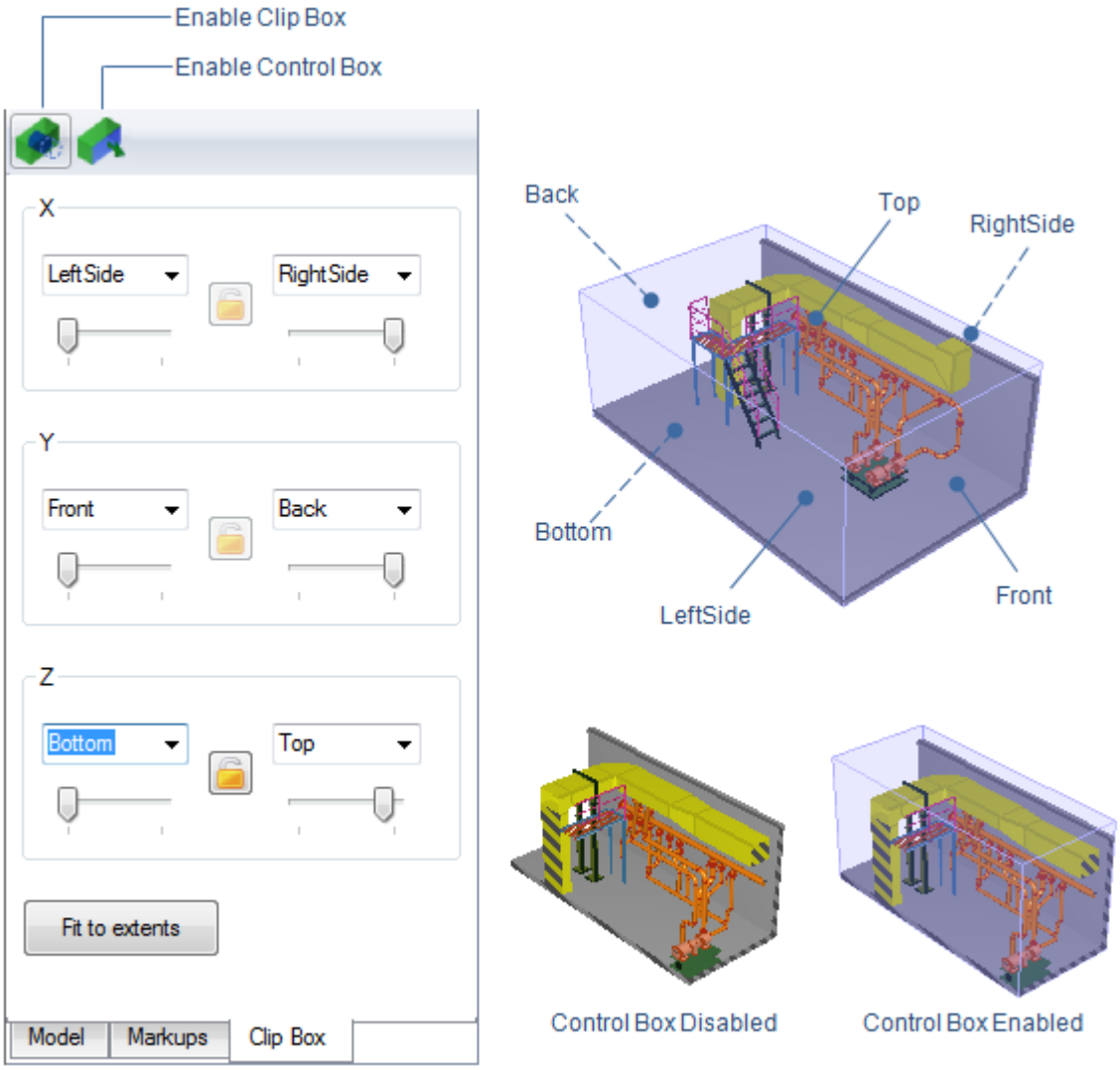
Note: Named coordinates are supported only if the model has been published with Plant Modeller version 6.0 or newer.



Note: Only the planes that are inside the model's bounding box are shown in the drop-down menus.

9.4.1.2.2.2. Adjusting the clip box with the control box

The Control Box function visualizes the clipping planes in the 3D view. Move the cursor in the 3D view to highlight the clipping plane that you want to adjust, and then press down the *right* mouse button and drag the highlighted side of the box to adjust its location. When sides are dragged, they snap to named planes exported from Plant Modeller's coordinate system (if present).



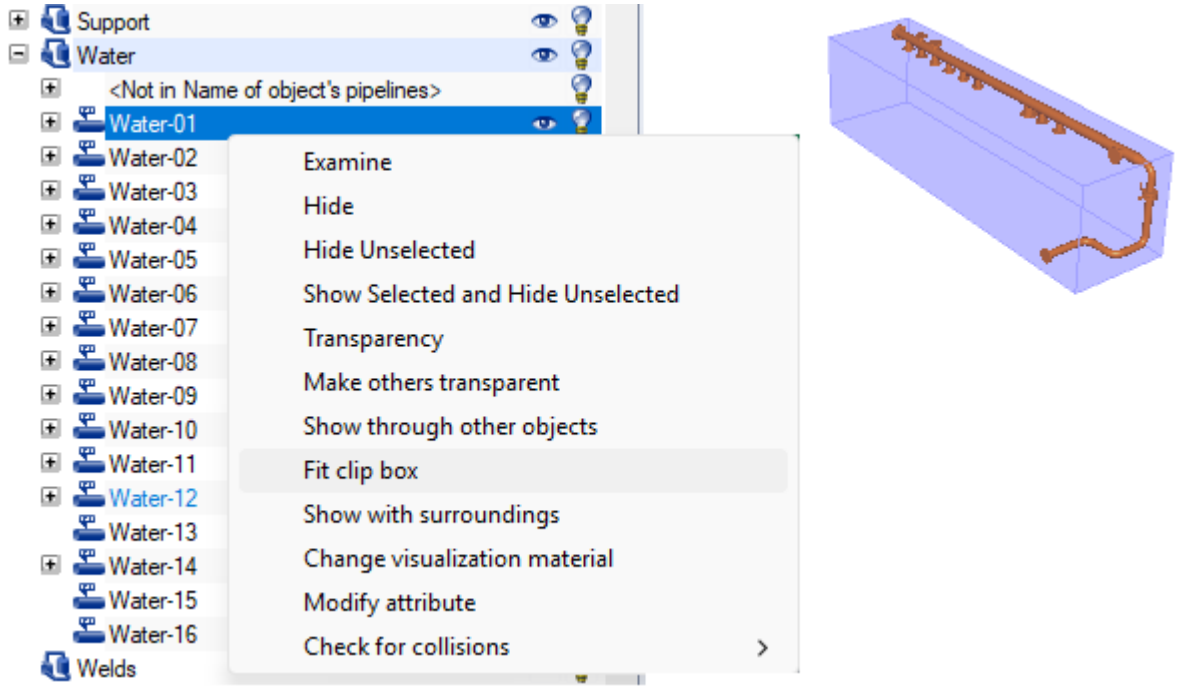
9.4.1.2.2.3. Other ways to set the clip box

- Enabling clip box from the model tree
- Enabling clip box from the 3D view
- Enabling clip box in examine mode

9.4.2. Enabling clip box from the model tree

On the **Model** tab, you can right-click an entity in the model tree and select to fit the clip box to the specified object or object hierarchy such as pipeline, system, or cable tray. The sidebar automatically switches to the **Clip Box** tab.

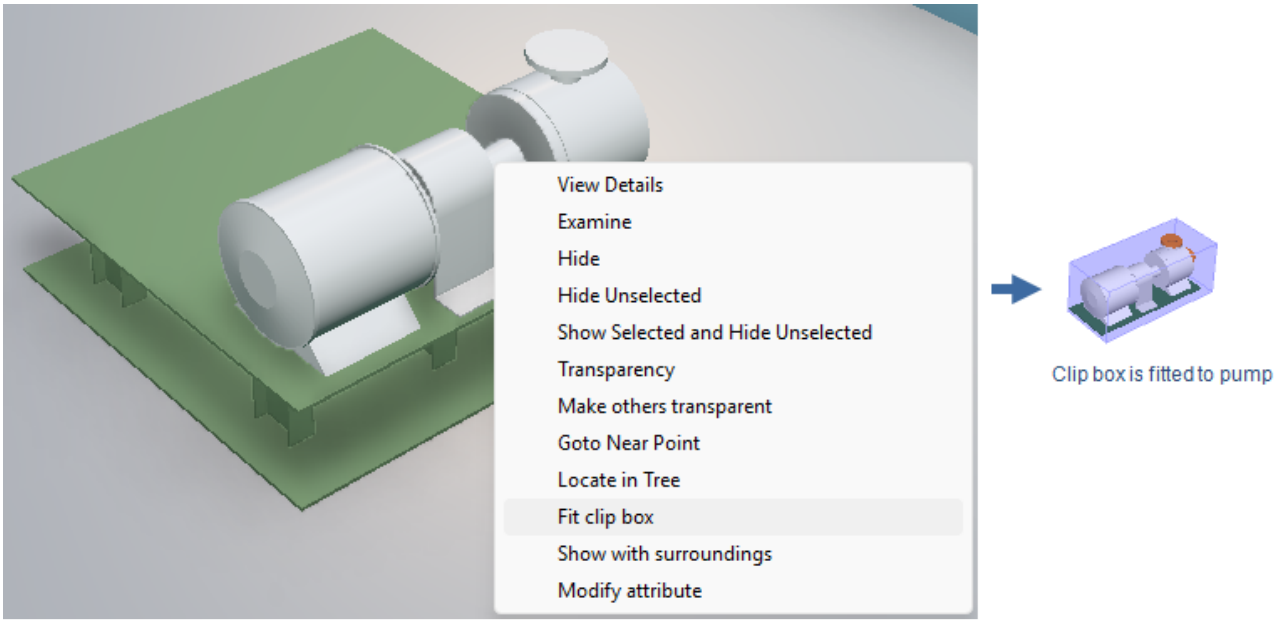
In the picture below, the clip box is fitted to pipeline Water-01 and all other objects are hidden so that the 3D view only shows the pipeline.



Use the **Clip Box** tab to disable the clip box.

9.4.3. Enabling clip box from the 3D view

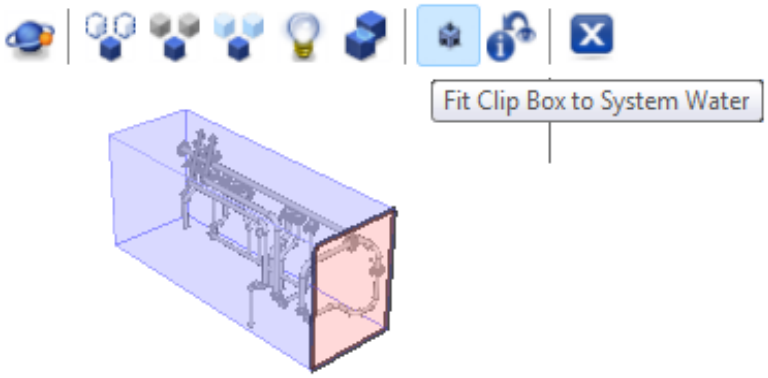
In the 3D view, you can right-click an object and select to fit the clip box to it.



Use the **Clip Box** tab to disable the clip box.

9.4.4. Enabling clip box in examine mode

When you are examining an object, you can click the fit button of the Examine toolbar to fit the clip box to the examined object.



Click the fit button again to remove the clip box.

9.4.4.1. Main toolbar

This section describes the commands that are available in the main toolbar below the 3D view.

9.4.4.1.1. Hide or show sidebar



The "Hide toolbar" / "Show sidebar" toolbar button toggles the visibility of the sidebar of the 3D viewer.

You can use this to temporarily hide the tabs so that there is more space for the 3D view.

When the sidebar is visible, you can adjust its width by dragging its right edge.

9.4.4.1.2. Move back or forward in navigation sequence



When you are navigating in the 3D model, the Back and Forward toolbar buttons allow you to revisit the viewing locations where you were standing still.

9.4.4.1.3. Enter nearest bubble view



When the project contains point clouds, in eShare App you can select the "Enter nearest bubble view" toolbar button to navigate to the nearest scanning location and open the associated bubble view. (Not available in standard eShare.)

Related topics

Bubble view mode

9.4.4.1.4. Measure



The Measure button in the main toolbar and the Markup editor toolbar activates or deactivates the measuring tool. You can use this tool to measure the distance between two points, the distance and angle between two lines, or the length and angle of a single line.

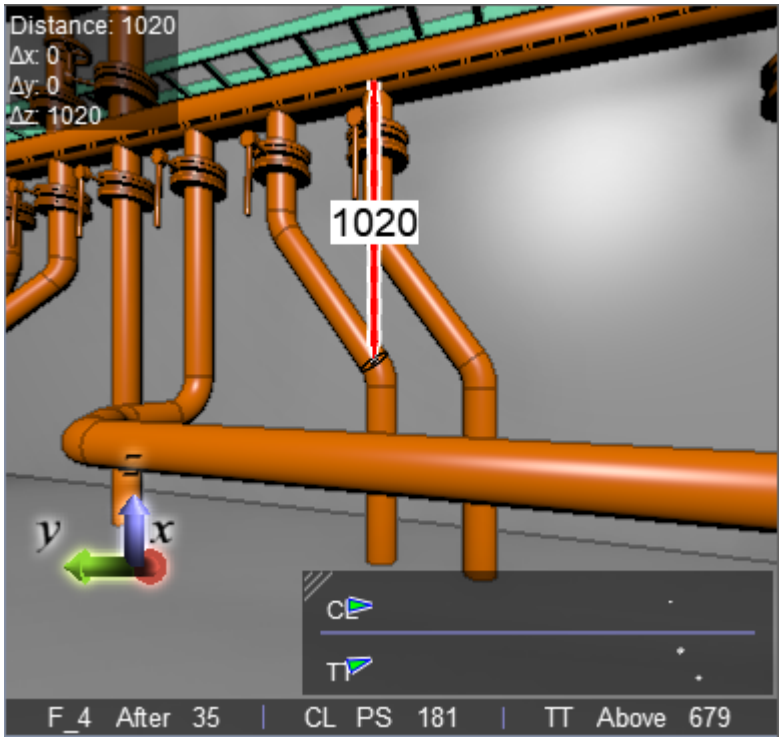
9.4.4.1.4.1. Using the measure tool

Do the following:

1. In the toolbar, select **Measure** to activate the measuring tool.
2. Enable or disable measuring options as needed. See Measure Tool Options.
3. Right-click the location from which to start measuring. This can be any point or line in the 3D model; if relevant snapping options are enabled, you can first snap the cursor for example to a connection point (node point) to start the measuring from there.

   The top-left corner of the 3D view displays the straight distance from the starting point to the current cursor location, as well as the traveled distance in X, Y and Z direction. The straight distance is also shown next to the measurement line.

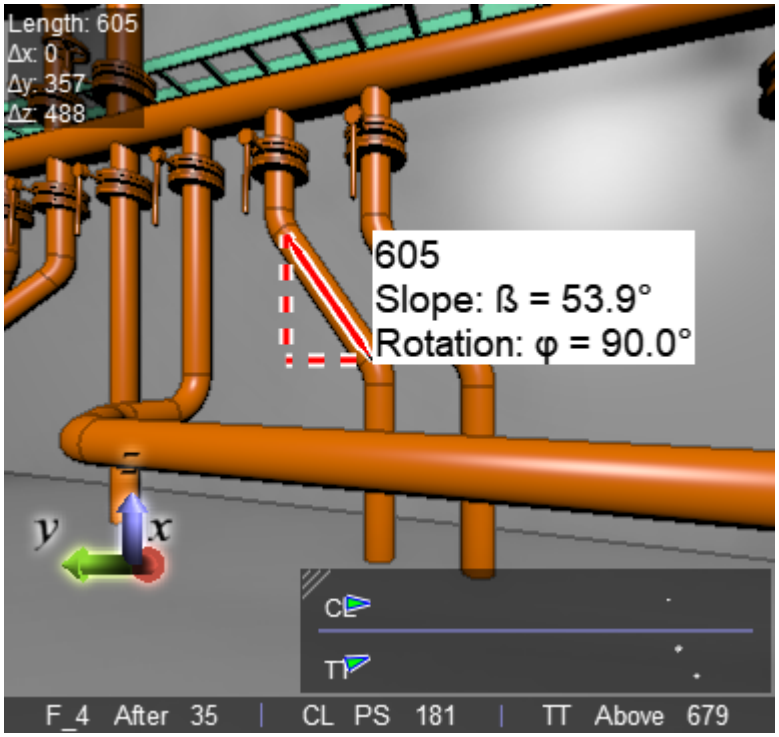
   In this example, a pipe connection point is 1020 mm from the centerline of another pipe.



4. Right-click the target location, which again can be any point or line in the model. The measurement information is shown next to the measurement line, and it stays on the screen until you start a new measurement or deactivate the measuring tool.

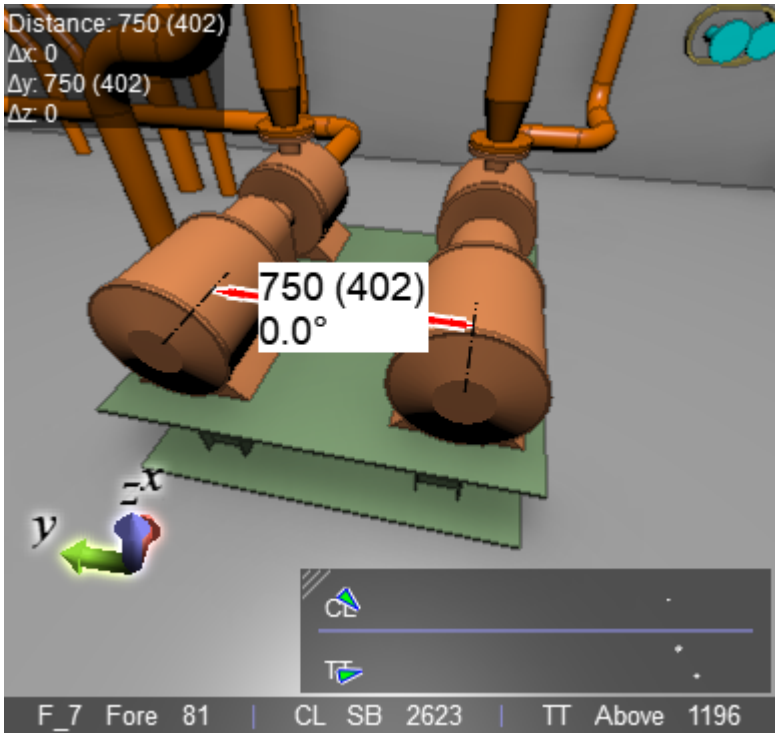
   If you selected a single line (such as a pipe centerline) as both the starting point and the end point, the tool displays the length of the line. If the **Show Angle for Lines** option is enabled, it also shows angle information for that line.

   In this example, the slope angle between the pipe and the XY-plane is 53.9°, and the pipe is rotated from the X-axis by 90°.



If you measured the distance between two pipes or cylinders, the tool displays the distance between their centerlines. If the **Distance to Pipe Surface** option enables measuring of free distance, the tool also shows the amount of free space between the two objects in parentheses.

In this example, the distance between the centerlines is 750 mm, and the free distance between the objects is 402 mm.

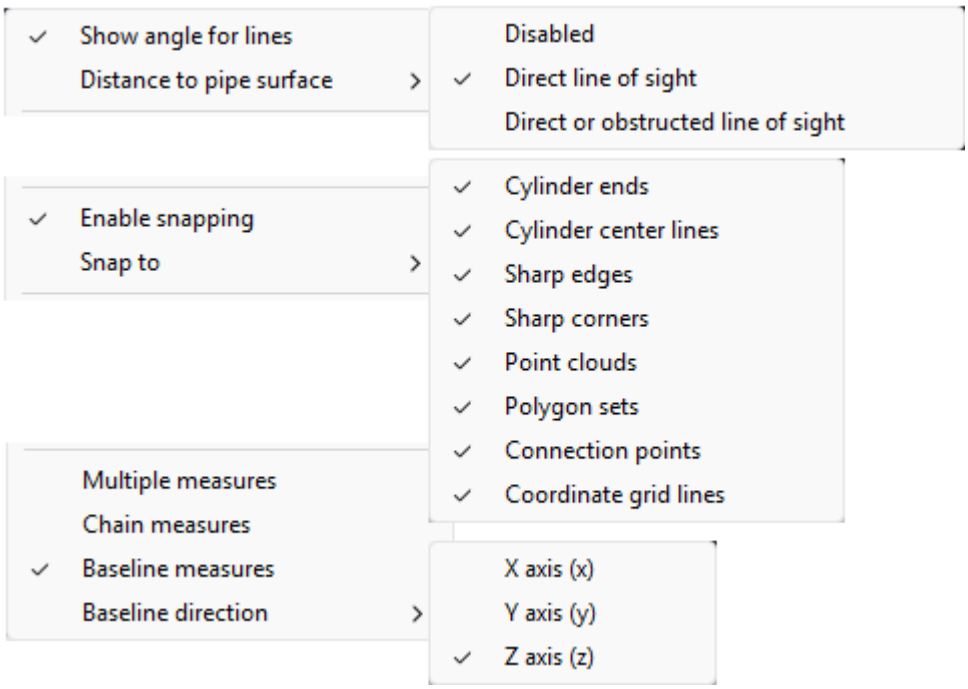


5. Do another measurement, or select **Measure** to deactivate the measuring tool.

Note: The **Take Snapshot Image** tool does not include measurement information in the snapshot image.

9.4.4.1.4.2. Measure tool options

Use the menu of the **Measure** button to specify measuring options. You can toggle these options anytime—also during measuring.



- Show angle for lines — If selected, the measuring tool shows angle information. This can be the angle between two lines or the angle of a single line in reference to the XY-plane.
    - "Slope: b" shows the angle between the line and the XY-plane. The value can be between 0° and 90°.
    - "Rotation: F" shows the angle between the line's projection in the XY-plane and the X-axis. The value can be between -90° and 90°, with counter-clockwise rotation as a negative value and clockwise rotation as a positive value. If slope is 90°, rotation is not displayed.
- Distance to pipe surface — Opens a submenu for selecting whether measurements taken from pipe centerline should also show what is the distance from the surface of the pipe.
    - Disabled – Measuring tool does not show free distance from pipe surface.
    - Direct line of sight – Measuring tool shows free distance from pipe surface to the other measurement point in parentheses, but only if the line of sight is clear from other objects.
    - Direct or obstructed line of sight – Measuring tool shows free distance from pipe surface to the other measurement point in parentheses, even if the line of sight is obstructed by some other object.

Note: Free distance is not calculated if objects are insulated, or if the measurement point is on a pipe centerline that is projected outside the pipe object.

- **Enable snapping** — If selected, you can choose the entities that the cursor of the measuring tool can snap to.

  Snap to
  - Cylinder ends
  - Cylinder center lines
  - Sharp edges
  - Sharp corners
  - Point clouds
  - Polygon sets
  - Connection points
  - Coordinate grid lines
- **Multiple measures** — If selected, multiple measures can be selected at the same time. The sum of all measures is shown in the top left corner.
- **Chain measures** — If selected, a continuous point-to-point measure line can be drawn. Can be used to measure, for example, the diameter of objects.

  Note: Chain measures mode is not available with markups.
- **Baseline measures** — If selected, the first measure point fixes the axis directional plane and the following points calculate the distance to this fixed base plane in axis direction. This mode resembles baseline measuring familiar in drawings. The axis direction of baseline can be changed from Baseline direction or using short cut keys 'x', 'y' and 'z' when measure is active.
- **Baseline direction** — Specifies the used axis direction of baseline measures.
  - X axis (x)
  - Y axis (y)
  - Z axis (z)

  Note: Baseline measures mode is not available with markups.

Related topics

Rectangle, ellipse, cloud

9.4.4.1.5. Piperun properties



The **Piperun Properties** tool allows displaying information on the length, surface area, and inner volume of pipe runs.

Click the **Piperun Properties** button to enable the function, and then use the *right* mouse button to select the first and last part of the pipe run, and the system displays estimated values for that pipe section.

The calculations are based on object geometry and actual object dimensions, using the shortest possible path between the start and end point. eShare can obtain this information from the 3D model if the model has been created using Cadmatic design applications, or if the model contains piping made with the ASME standard. Both types of models require additional configuration, as described below.

Click the **Piperun Properties** button again to disable the function.

9.4.4.1.5.1. Enabling piperun properties in Cadmatic models

If the 3D model has been created with Cadmatic Plant Modeller, you can enable piperun calculations by publishing the following attributes, using any display names, to the model:

- Attribute with tag D21.
- Attribute with tag D11.
- Pipeline with tag pli.

Note: Make sure the attribute abbreviations are D11, D21, and pli.

9.4.4.1.5.2. Enabling piperun properties in ASME standard piping

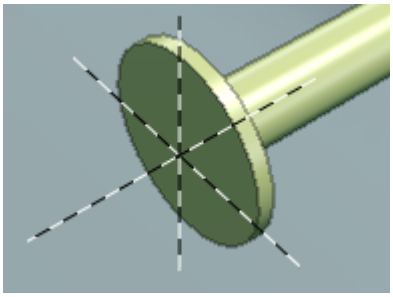
If the 3D model contains piping made with the ASME standard, you can enable piperun calculations by publishing the following attributes to the model:

- Sch/Thk, describing the schedule of an object.
- NPD, describing the nominal pipe dimension of an object.
- P&ID Line no (or Pipeline), describing the pipeline of an object.

9.4.4.1.6. Orbit point



The Orbit Point toolbar button allows setting an orbit point by right-clicking the 3D view. A dashed-line marker is displayed at the location of the orbit point, as shown below, and you can rotate the 3D view around this point until you click the Orbit Point button again to exit the orbit mode.



Related topics

Navigation in orbit mode

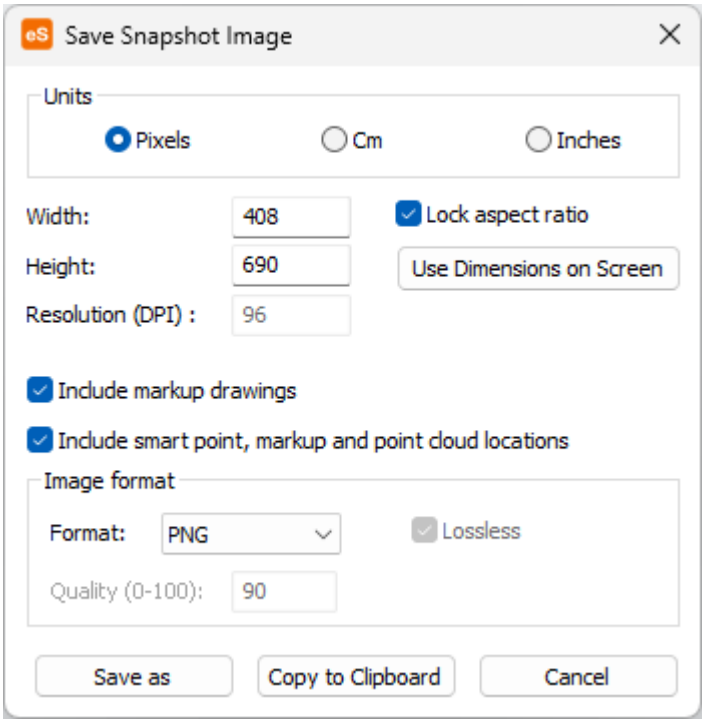
9.4.4.1.7. Take snapshot image



The Take Snapshot Image toolbar button opens the Save Snapshot Image dialog where you can take a snapshot image of the currently displayed view.

You can select image size and resolution, and you can select whether to include markup drawings, Smart Point, Markup, and point cloud locations in the image. Markup drawings include measurements and measurement lines in the snapshot image.

After defining the required snapshot settings, you can copy the snapshot image to the clipboard or select to save it in the selected image format file (JPEG, PNG, WebP, JPEG XL).



9.4.4.1.8. Check for collisions



The Check for Collisions toolbar button opens the Check for Collisions dialog where you can run collision tests between specified sets of objects, also between models. For more details, see Performing collision checks.

9.4.4.1.9. Undo or redo last visibility change



These toolbar buttons undo or redo recent object visibility changes that you have made using either the model tree or the context menu.

You cannot undo or redo object transparency changes.

9.4.4.1.10. Settings



The Settings toolbar button opens a menu for accessing the 3D viewer and camera settings, and for updating the 3D model if it has changed on the disk after loading it into the 3D viewer.

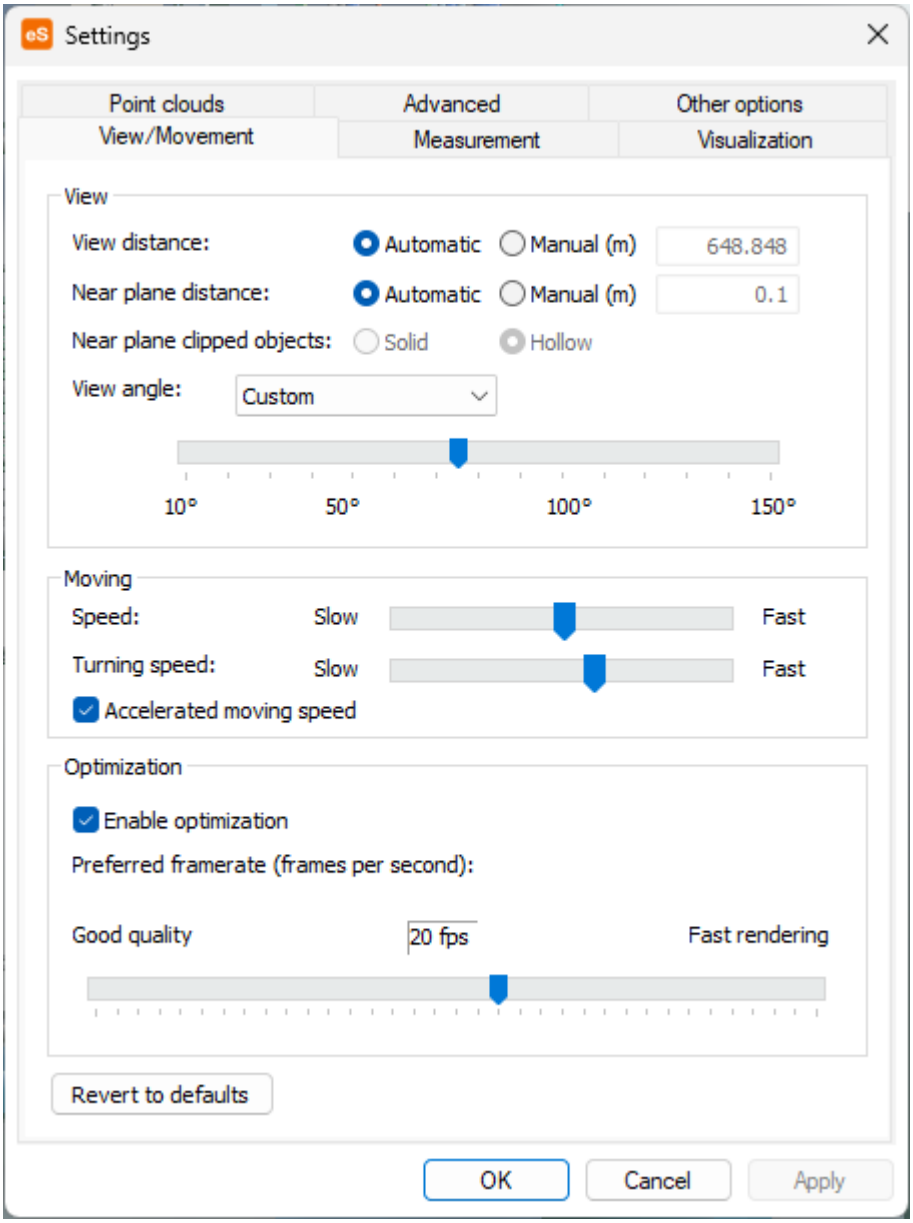
9.4.4.1.10.1. Settings

In the **Settings** menu, select **Settings** to change the following viewer settings.

View/Movement | Measurement | Visualization | Point clouds | Advanced | Other options

9.4.5. View/Movement

On the **View/Movement** tab, you can change settings that affect viewing the model and moving in it.



- The **View distance** setting controls the distance at which objects become visible to the user. If set to automatic (default), all objects are visible regardless of distance. You can try to improve performance by limiting the view distance, especially if you already tried to adjust the frame rate in optimization settings and it did not help.
- The **Near plane distance** setting controls the distance from the camera to the plane from which the objects start to be visualized. If set to automatic (default), the distance is set automatically. To manually define the distance, select **Manual** and enter the desired distance.

- The **Near plane clipped objects** setting controls how the objects are rendered. If set to **Hollow**, the back faces of objects are drawn. If set to **Solid**, a solid surface is created on top of the clipped area.
- The **View angle** setting controls the view angle of the camera. Adjust this setting if needed. The default view angle is defined in Plant Modeller, in the **Walkaround** tool, and the setting is saved in the Scene.
- The **Moving** settings allow you to adjust the speed of moving in the model and turning the view. You can try different speed settings to find a level where it feels natural to control the movements. Slower computers and larger models typically require a smaller speed because slow visualization makes it more difficult to move around. Note that you can also try to affect the visualization speed by selecting a smaller subset of objects to display or by changing the view distance.

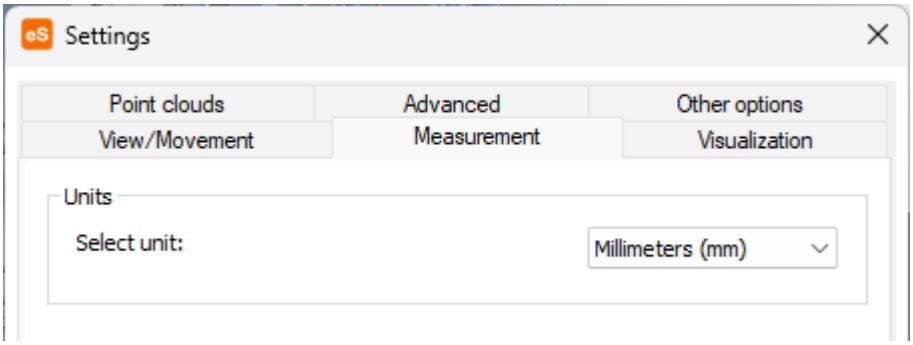
  If "Accelerated moving speed" is not selected, the moving speed is linear (not accelerated).
- The **Optimization** settings control the frame rate at which the view is updated when the user moves around in the model. You can select the target frame rate with the slider bar. If optimization is enabled, the system tries to reach the specified frame rate by decreasing the detail level of rendered images. Disabling the optimization forces every frame to be fully rendered, and this might cause performance issues especially in large models.

Related topics

Scene

9.4.6. Measurement

On the **Measurement** tab, you can select the unit to use in measurements. It can be one of the following: millimeters, centimeters, meters, inches, feet+inches.

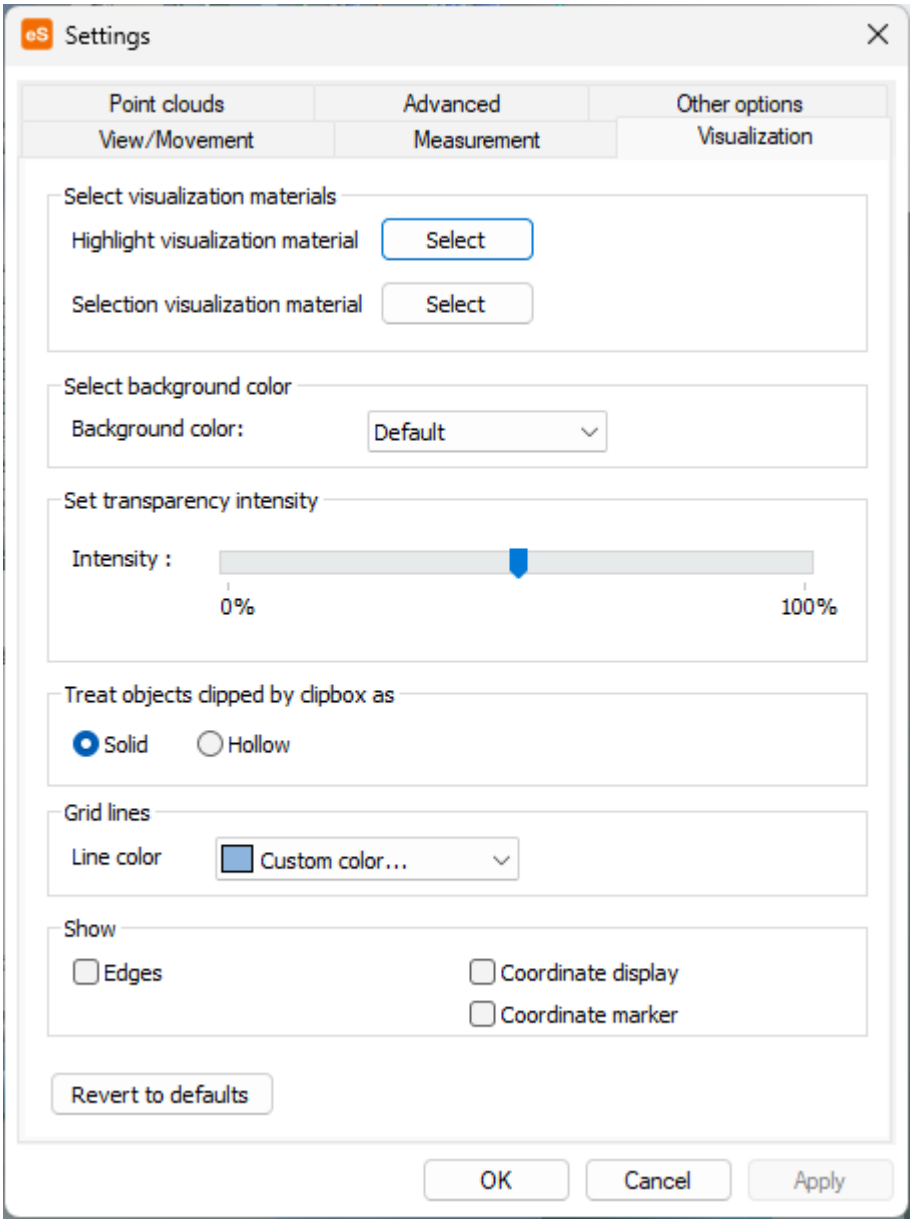


Related topics

Measure

9.4.7. Visualization

On the **Visualization** tab, you can set visualization settings.



- You can select the materials used to highlight objects and to indicate that an object is selected.

The default materials depend on the model's publisher, but you can change them for the current session. The changes are not saved to the model.

- You can select the background color/image; see Background visualization for details. The background color setting is saved to the model.
- You can specify transparency intensity.
- You can define how objects clipped by clipbox are handled.
- You can define the line color for reference grid lines.
- You select to show:
  - **Edges** – Objects display feature edges (sharp edges and seams, such as welding joints). If not selected, objects have no distinct edge line. This is the fastest visualization mode and recommended for very large models.
  - **Coordinate display** – If selected, the current camera coordinates are displayed at the bottom of the 3D view. By default it shows named coordinates, but if named coordinates are not available, Cartesian coordinates are shown instead.

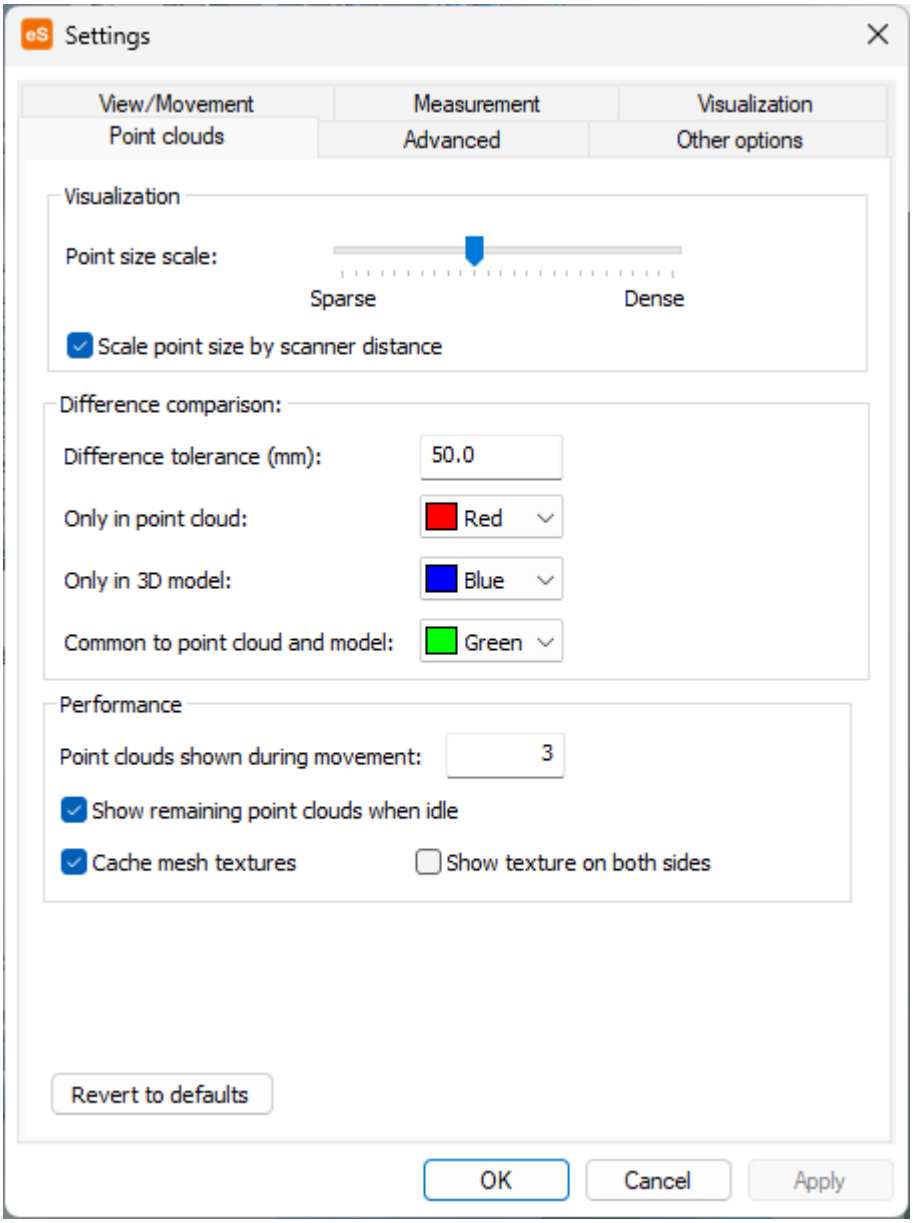
    

  - **Coordinate marker** – If selected, a main axis marker is displayed in the bottom-left corner of the 3D view.

9.4.8. Point clouds

On the **Point clouds** tab, you can set point cloud details.

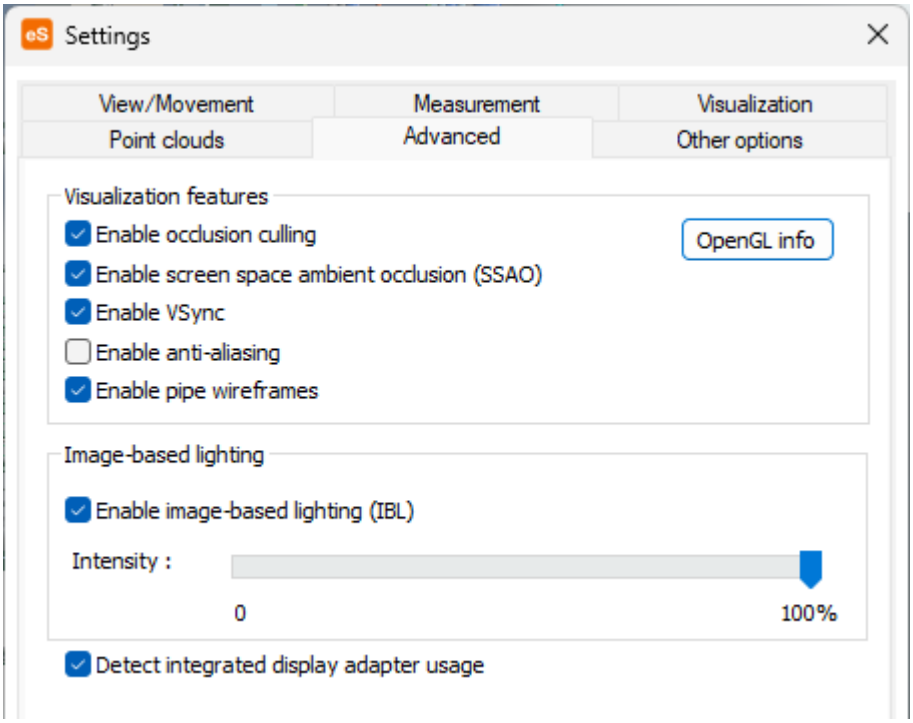


- You can define the scale size of the point clouds. This setting configures the base size for each point. The size of the scale has an effect on the rendering performance.
- Scale point size by scanner distance – Adjusts the size of each point according to its distance from the scanner. Points close to the scanner are drawn larger and distant points smaller, which gives the point cloud a stronger sense of depth and reduces visible gaps between points when you view surfaces up close. When this option is off, all points are drawn at the same size regardless of distance.

- You can define the tolerance for the difference comparison, which is given in millimeters determining how much the 3D model and the point cloud are allowed to differ while still colored as common to both. The default value is 50.0 mm. You can also specify the colors used for highlighting the differences.
- You can specify the number of detailed clouds shown while navigating.
- **Show remaining point clouds when idle** – Displays additional point cloud data when the view is not moving. While you navigate, the program shows a reduced amount of point cloud data to keep movement smooth. When you stop, it loads and displays more data to show the model in greater detail. Turn this option off, if you want consistent display density, or if loading extra data slows down your computer.
- You can select to cache mesh textures (dds files) to eShare App project cache on client. This will take some disc space. If mesh textures are not cached, after eShare App is closed the texture cache will be cleared and disc space is freed.
- If textured meshes are included, you can enable showing the texture on both sides.

9.4.9. Advanced

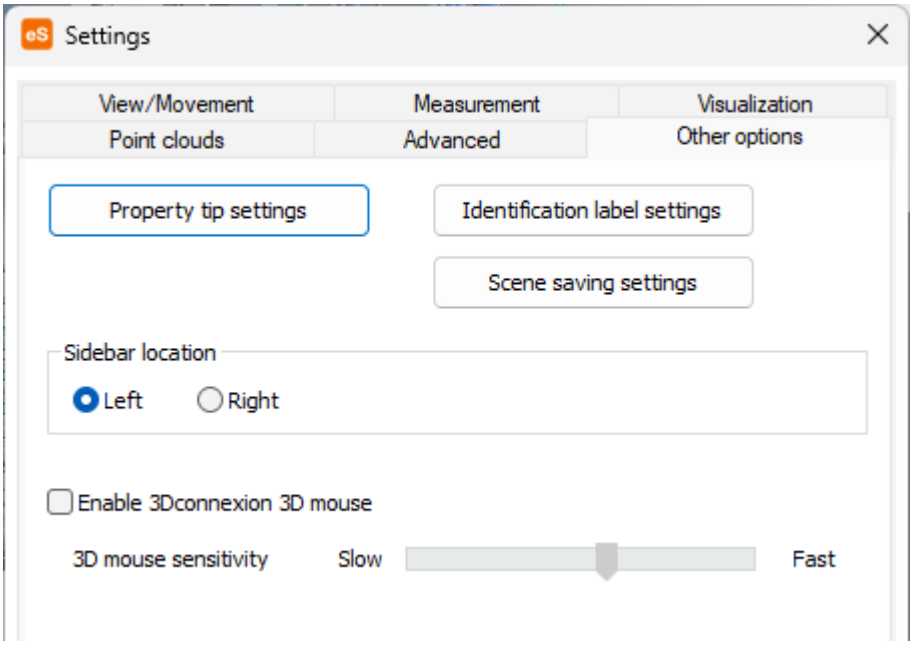
On the **Advanced** tab, you can specify advanced visualization settings.



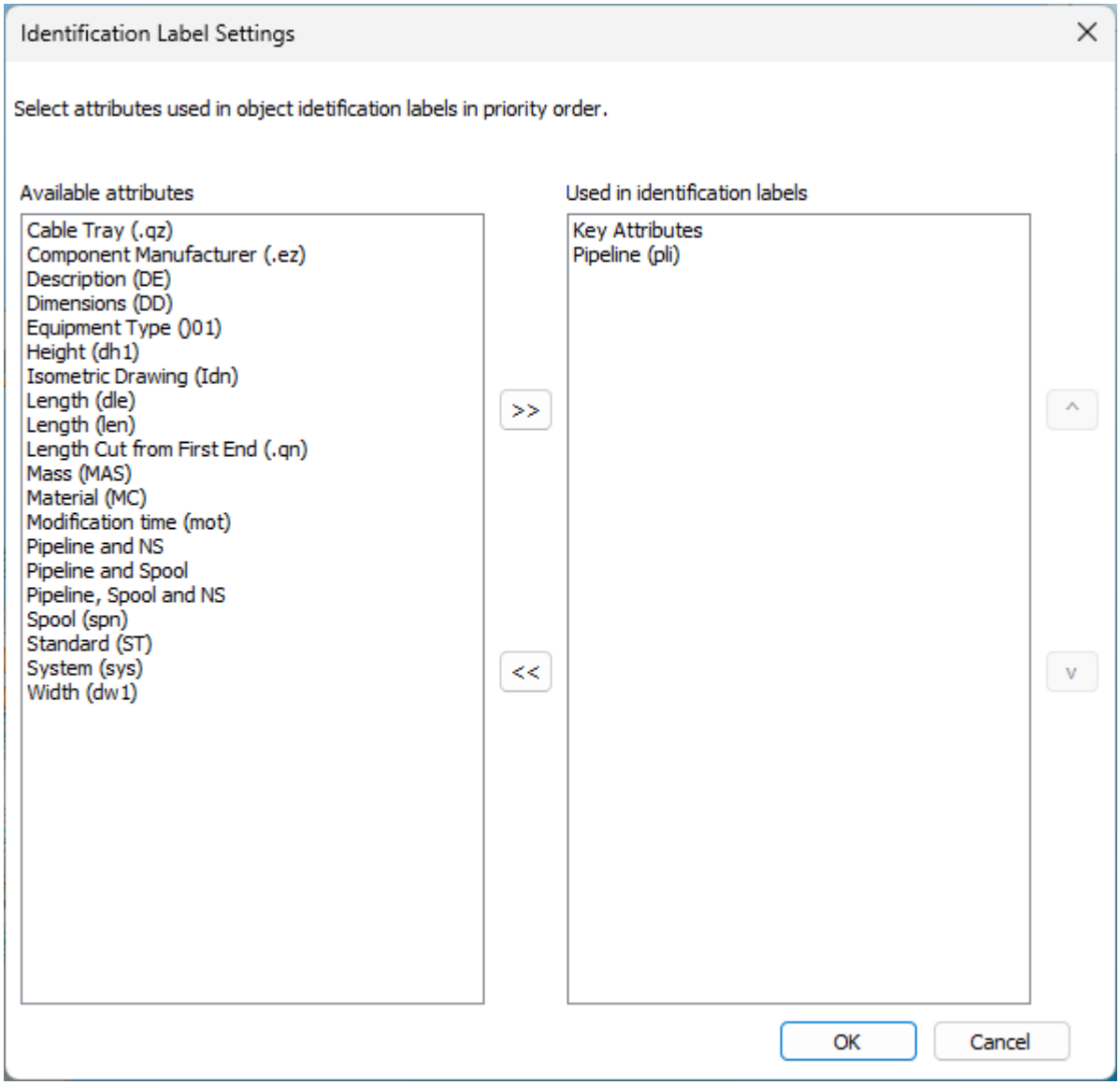
- The **OpenGL info** button opens a text file that displays information about your system's support for OpenGL based visualization.
- **Enable occlusion culling** – If selected (default), occlusion culling is enabled.
- **Enable screen space ambient occlusion (SSAO)** – If selected (default), the screen space ambient occlusion technique is used to approximate the occlusion (diminishing) of light on objects in shaded views. This technique provides realistic, real-time shading effects without putting too much stress on the hardware.
- **Enable Vsync** – Enables Vsync. When vsync is enabled GPU can smoothen the moving image and uses the best refresh rate for the current display. Disabling vsync might help if navigation causes image to stutter. Vsync is controlled by Windows and GPU setting and they might overrule this application setting.
- **Enable anti-aliasing** – Anti-aliasing smoothens lines in rendered image and tries to fade jagged edges. Enabling this option adds workload to GPU.
- **Enable pipe wireframes** – If selected (default), pipe wireframes are included. If disabled, some GPU memory is saved but pipe wireframe representation will be missing some core feature lines.
- **Enable image-based lighting (IBL)** – If this option is selected (default), the background image is used for applying lighting effects to shaded views; use the slider to adjust the intensity of lighting. If this option is disabled, the more realistic background images cannot be used; on the Visualization tab you can set the background to be blue gradient, solid black, or solid white.
- **Detect integrated display adapter usage** – If selected (default), the note about using software with integrated display adapter is shown.

9.4.10. Other options

On the **Other options** tab you can specify the following settings.



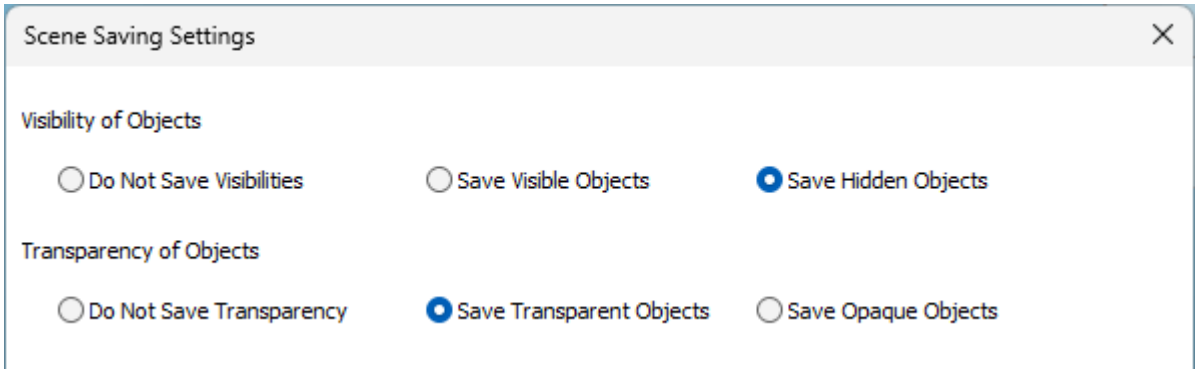
- **Property tip settings** – Opens the Property Tip Settings dialog where you can define which model attributes are displayed in the tooltip of an object or disable the function. See Property tip settings.
- **Identification label settings** – Opens the Identification Label Settings dialog where you can define which object attributes can be displayed in object identification labels. By default the labels are set to use key object attributes and the *pli* attribute.



Move attributes from the left pane to the right pane to allow the attributes to be shown in object identification labels. The order of the items in the list defines their priority; each label shows the value of the attribute that is highest in this list, and if the object does not have any of the listed attributes the label is not displayed.

The displaying of labels can be enabled or disabled, as described in Object identification labels.

- **Scene saving settings** – Opens the Scene Saving Settings dialog where you can define how the visibility of objects and transparency of objects is saved in scenes.



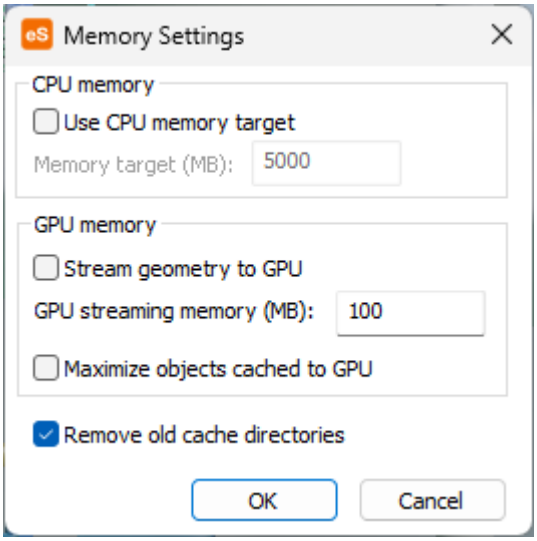
- Sidebar location – Select whether the sidebar is located on the left or right.
- Enable 3Dconnexion 3D mouse – If selected, you can use a 3Dconnexion 3D mouse to move in the 3D view. Use the slider to adjust mouse sensitivity.

9.4.10.0.0.1. Memory settings

In the Settings menu, select Memory Settings to define how much memory the application can use when loading the model.

If you limit the memory, the application loads objects that are further away as simple geometrical elements. When the user moves in the model and the objects get closer, the application loads the details of the object.

To activate the memory settings, click the Use CPU memory target checkbox and define the memory target. The minimum value is 500 MB. Refresh the browser window for the new settings to take effect.



If CPU memory target is not used, GPU memory can be used. **Stream geometry to GPU** controls the streaming of triangulated geometry to GPU. Enabling or disabling this option requires refreshing the browser window for the new settings to take effect.The memory limit can be adjusted while viewing the model.

If **Maximize objects cached to GPU** is enabled before loading, the model tries to cache as much objects to GPU as possible, which improves the rendering performance. If disabled, only the largest objects are cached to GPU.

Note that the system may slightly exceed the memory limit for a short time if the system must work close to the target memory value.

To save hard disk space, the system automatically removes cache directories that have not been used for over 30 days. The option has been set on by default, but you can turn it off by deselecting the **Remove old cache directories** checkbox. If you open the model again, the system will automatically recreate the removed cache folders.

9.4.10.0.0.2. Show in VR

Show in VR opens the current eShare view in a separate Virtual Reality window. The window only shows the objects that are currently visible in eShare.

Note: VR view is available only in eShare App.

9.4.11. Using the VR view

You can open the eShare application window's view to a Virtual Reality headset (VR glasses) connected to the computer.

Prerequisites

- The Steam client and the SteamVR application by Valve. You can review the system requirements and download the application from the Steam store: https://store.steampowered.com/app/250820/SteamVR/.
- OpenVR headset such as HTC Vive, Oculus Rift, or Windows Mixed Reality.

Do the following:

1. Only the visible objects are displayed in VR. Showing fewer objects can make it easier to navigate and improves the performance—for best performance, send as few objects as possible to VR. Trying to open too many objects in VR at the same time shows a performance

warning.

You can limit the number of objects to be shown by hiding the unnecessary objects or by using a clip box in eShare.

2. Navigate to the position from where you want to open the VR view.
3. Select **Visualization Control > Show in VR**. The CadmaticVR window opens and the active 3D objects are converted to the VR format (this can take some time).

> Tip: If the VR does not seem to open, start the SteamVR application manually and then click **Show in VR**.

Now you can put on your VR headset.

4. You can use the VR controller to navigate in the model and select objects.

> **Note:** Use the VR menu to switch between teleport mode (default) and normal movement.

Teleportation:

- Step forward by pushing the touchpad forward (shows a parabolic pointer) and then releasing it.
- Step backward by tapping the bottom of the touchpad.
- Rotate camera by pressing the side of the touchpad.

Movement:

- Move to a direction by tapping the touchpad. Move up or down by pressing the touchpad up or down.
- Rotate camera by pressing the side of the touchpad.

Object selection:

- Point the object with the VR controller and press the trigger button.

5. You can use a keyboard and mouse to navigate in the model and select objects.

Teleportation:

- Teleport to an object by right-clicking.

Movement:

- Move horizontally with W–A–S–D or arrow keys.
- Move up by pressing R or Space.
- Move down by pressing F or the left Ctrl key.
- Rotate camera with Q–E or by holding down the middle mouse button while dragging.

Tip: Default movement speed can be adjusted from the VR menu. Hold down the left Shift key to temporarily double your movement speed.

Object selection:

- Point and click with the mouse.

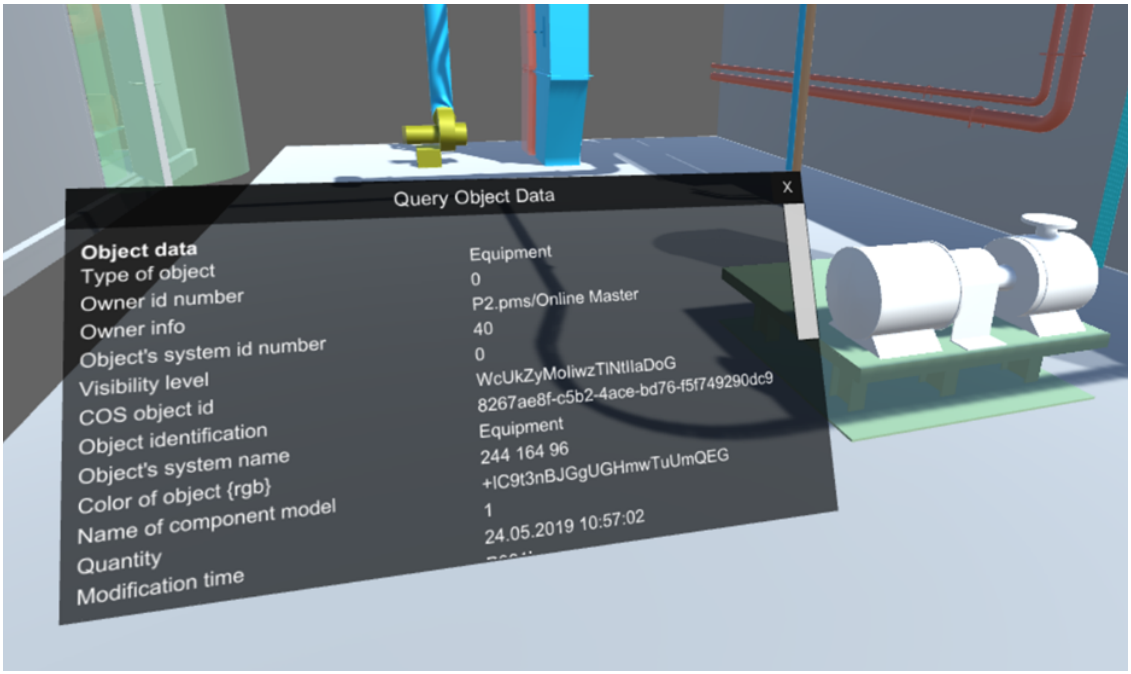
6. You can open the VR menu by pressing the VR controller's menu button or the Tab key.



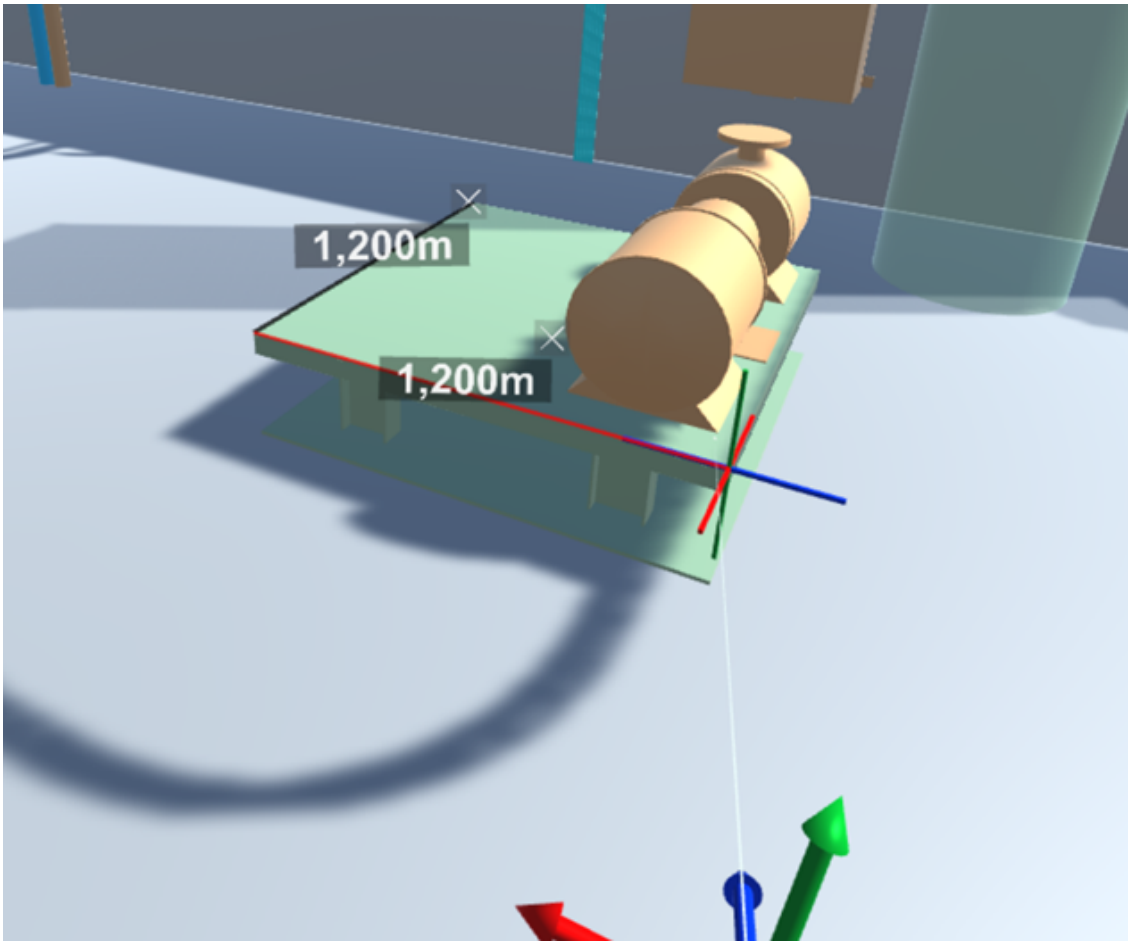
The menu contains the following items:

- **Query Tool** – Allows viewing object data by pointing at an object and clicking. The **Query Object Data** dialog opens, showing the object attributes.

  Note: Not all object attributes are shown in VR.



- Measure – Allows taking measurements from the model by first pointing at an object and then clicking to select the first and the second measurement point.

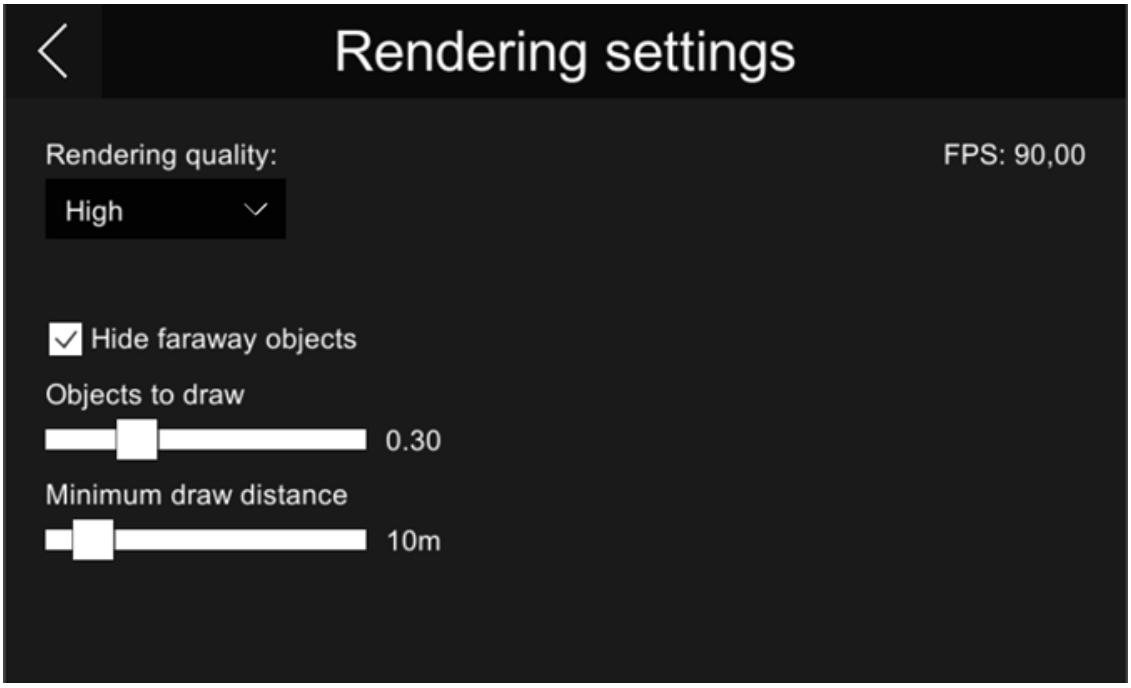


You can specify the following settings:

- **Snap to vertices** – If selected, the measuring tool snaps to vertices.
- **Snap to perpendicular** – If selected, the measuring tool snaps to perpendicular lines.

Click **Clear all measurements** to remove all measurements from the VR view.

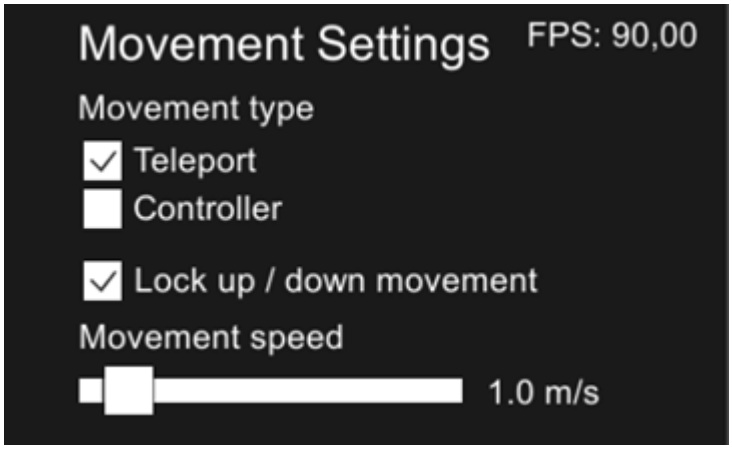
- **Rendering settings** – These settings should be configured so that navigation is smooth at approximately 90 frames-per-second.



- **Rendering quality** – Specify how detailed the VR view should be. Selecting higher rendering quality enables advanced features such as more detailed shadows, but it might decrease the performance.
- **Hide faraway objects** – Hiding objects that are far away might improve the performance.
  - **Objects to draw** – Each model object is drawn using small triangles. This setting specifies the maximum amount of triangles to draw in "Hide faraway objects" mode. You can set the slider to a value between 0.1 – 1.0, where 1.0 means one million triangles.
  - **Minimum draw distance** – Objects that are closer than this value are always drawn, regardless of the "Objects to draw" setting.

- **Key Mappings** – Allows changing the keyboard mappings.
- **Exit VR** – Closes the CadmaticVR window.

Movement Settings



- **Movement type** – Specifies movement type when using the VR controller (does not affect keyboard/mouse).
  - **Teleport** – If selected, using the touchpad teleports the view forward or backward.
  - **Controller** – If selected, using the touchpad moves the view in the specified direction.
- **Lock up / down movement** – Locks the movement to be horizontal only. When disabled, you can move freely in the model.
- **Movement speed** – Specifies movement speed when using the VR controller or the W–A–S–D keys.
- **FPS** – Displays the current frames-per-second count.

7. If you change object visibilities or move to a different camera position in eShare, you can update the open VR view by selecting the **Show in VR** command again.
8. Close the CadmaticVR window by selecting **Exit VR** from the VR menu. You can also press Esc to show the exit dialog.

9.4.11.0.0.1. Show in presentation mode

Presentation mode is a visualization mode deploying live-rendered ray tracing. Using it requires meeting certain system requirements. See Presentation Mode.

Note: Presentation mode is available only in eShare App.

Showing/hiding or selecting objects in presentation mode is not supported, so if any parts of the model need to be hidden in the model in presentation mode, this needs to be done in normal visualization before launching presentation mode.

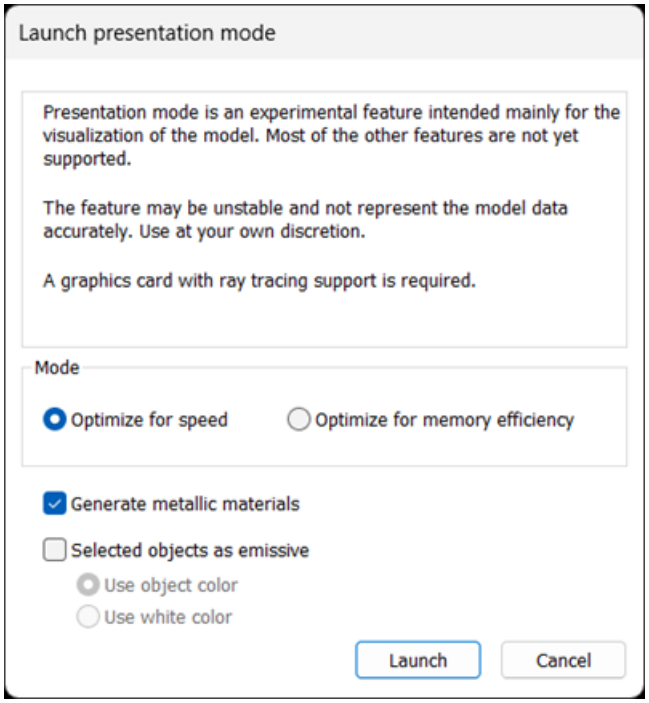
Panning by holding the middle mouse button down or zooming with the mouse wheel do not work.

Many of the user interface features are disabled in presentation mode. The following features work in presentation mode:

- In the sidebar **Clip box tab** is available.
- In the main toolbar:
  - Move back or forward in navigation sequence
  - Navigation menu: all features except projection selection (Perspective projection is used) and Zoom to area
  - **Settings**:
    - **Settings > View/Movement**: only View angle and Moving speed have any effect.
    - **Camera Location**
    - **Update Model** works but reverts back to normal visualization
  - **Scenes**

Do the following:

1. Select **Visualization Control > Show in Presentation Mode**. Launch presentation mode dialog opens.



2. In the Launch presentation mode dialog, specify the following:

- Select the mode:
  - **Optimize for speed** – The speed mode is the default and recommended choice, because it runs much faster (around 2x the frame rate when compared to the memory efficiency mode), but uses higher amount of VRAM.
  - **Optimize for memory efficiency** – Memory efficiency mode should be used if the user's GPU has a low amount of VRAM and are opening a large model. This mode runs much slower, but it allows opening larger models when limited by VRAM.

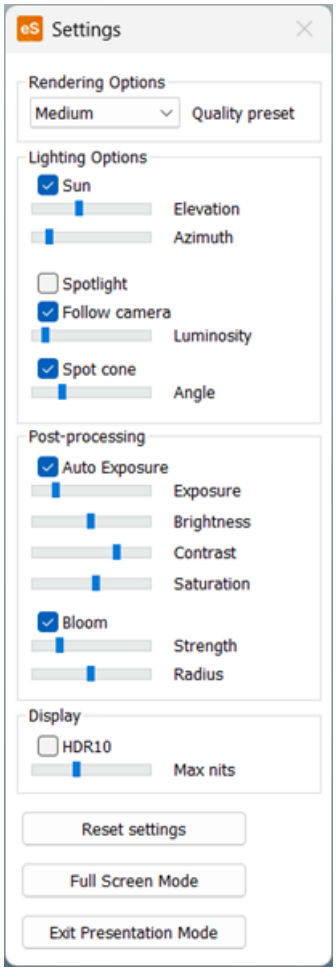
Note: The mode selection has no effect on the system RAM usage, only the GPU memory usage.

- **Generate metallic materials** – This setting is used to control if some objects have shiny/mirror-like/metallic material. Some objects like cylinders, toruses, cones, and spheres are given metallic materials and the saturation of the original color controls the shininess. This means that the objects with metallic materials and the level of shininess may vary.
- **Selected objects as emissive** – This setting allows any object to produce light and illuminate its surroundings. First select some objects in model view, then launch Presentation Mode with the option **Selected objects as emissive** enabled. If the **Use object color** option is enabled, then the emissive color for each object will be the same as the object's normal color. If **Use white color** is enabled, all emissive colors are set to white.

3. Select **Launch**. The dialog closes and the current model will start loading in presentation mode. The loading status is shown in a separate dialog. If all of the system requirements are not met, the loading will stop and display an error message. If the application runs out of GPU VRAM, first a warning is given, and then an error message if loading the model fails due to VRAM being full.
4. The presentation mode opens with a floating **Settings** dialog.



The **Settings** dialog has the following options specific to presentation mode:



- Rendering options
  - **Quality preset** – Quality selection for the presentation mode. The options are **Low**, **Medium**, **High**, and **Ultra**. Lower values increase performance with the cost of rendering quality, and higher values increase rendering quality with the cost of performance, respectively.

    Ambient occlusion produces a clear visualization with higher quality and high performance and allows seeing the interiors of a model without any incoming light. When ambient occlusion is selected, none of the options in Lighting options will have an effect.
- Lighting options
  - **Sun** – If enabled, the direct light from the sun is visible.

    Note: Even when sun light is disabled, the atmosphere remains unchanged and provides some illumination that depends on the position of the sun.

- **Elevation** – The elevation of the sun, measured from the horizon to the middle of the sun. The range is -10 - 90 degrees. A negative value means the sun is below the horizon.
- **Azimuth** – The direction of the sun in xy-plane, where 0 is in direction of positive y-axis. The range is 0 - 360 degrees.
- **Spotlight** – If enabled, a secondary light source is used.
- **Follow camera** – If enabled, the spotlight is attached to the camera and moves with the camera. If disabled, the spotlight will remain in the current position when the camera is moved.
- **Luminosity** – Controls the brightness of the spotlight. The brightness is exponential.
- **Spot cone** – If enabled, the spotlight illuminates only in a conical direction. If disabled, it acts as a point light radiating in all directions.
- **Angle** – Adjusts the angle of the spot cone (angular diameter). The range is 1 - 180 degrees.

- Post-processing
  - **Auto Exposure** – If enabled, automatically adjusts the exposure of the current scene to become brighter or darker. It increases the brightness of the image in dark lighting conditions to make the environment more visible, and in bright conditions lowers the brightness to prevent clipping.
  - **Exposure** – Adjusts the overall lightness or darkness of the colors. Primarily affects highlights.
  - **Brightness** – Alters the overall light level of the colors more evenly across shadows and highlights. Gentler adjustment than exposure.
  - **Contrast** – Increases or decreases the difference between the dark and light areas. Higher contrast makes the shadows darker and the highlights brighter, and lower contrast makes the view look flatter.
  - **Saturation** – Controls the intensity of the colors. Increasing saturation makes colors more vivid, and decreasing it moves colors toward gray.
  - **Bloom** – If enabled, a bloom effect is added to bright highlights to add to the perceived realism of the image.
  - **Strength** – Scales the intensity of the whole bloom effect.
  - **Radius** – Scales the size of the bloom effect around bright highlights.

- Display
  - **HDR10** – If enabled, enables output in High Dynamic Range (HDR) displays' HDR10 format with Rec. 2020 color space. This offers features such as higher contrast and a wider color gamut. To use this feature you must have a display with HDR support. Additionally, you must enable HDR in Windows display settings for the active display.
  - **Max nits** – Sets the maximum peak brightness for the outputted image in nits (cd/m²). You should set this value to the maximum peak nits of your display to avoid clipping or under exposure.

  To reset settings, select **Reset settings**.

  To view presentation mode in full screen mode, select **Full Screen Mode**. Click **Esc** key to exit full screen mode.

5. Select **Exit Presentation Mode** in Settings dialog to return to normal visualization.

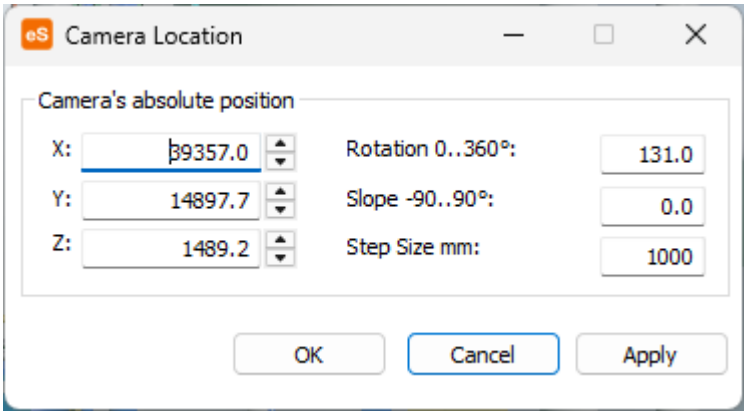
9.4.11.0.0.2. Full screen mode

Opens the 3D view in full screen mode for model browsing. Click **Esc** key to exit full screen mode.

9.4.11.0.0.3. Camera location

In the **Settings** menu, select **Camera Location** to view the absolute coordinates of the camera position in millimeters.

You can move the camera by adjusting the X, Y, and Z coordinates, rotate the camera horizontally, and tilt the camera vertically by specifying the slope angle (90 degrees is straight down, -90 degrees is straight up).



9.4.11.0.0.4. Update model

In the **Settings** menu, select **Update Model** to reload the model into the 3D viewer. Models are cached locally, and when you open a model the system checks whether the model has been updated. If the model is being loaded over the Internet, you are prompted to confirm the updating, while locally stored models are automatically updated.

Typically, you perform this if you know that the model has been updated while you were browsing it. If the 3D viewer is embedded on a web page, refreshing the web page also updates the model.

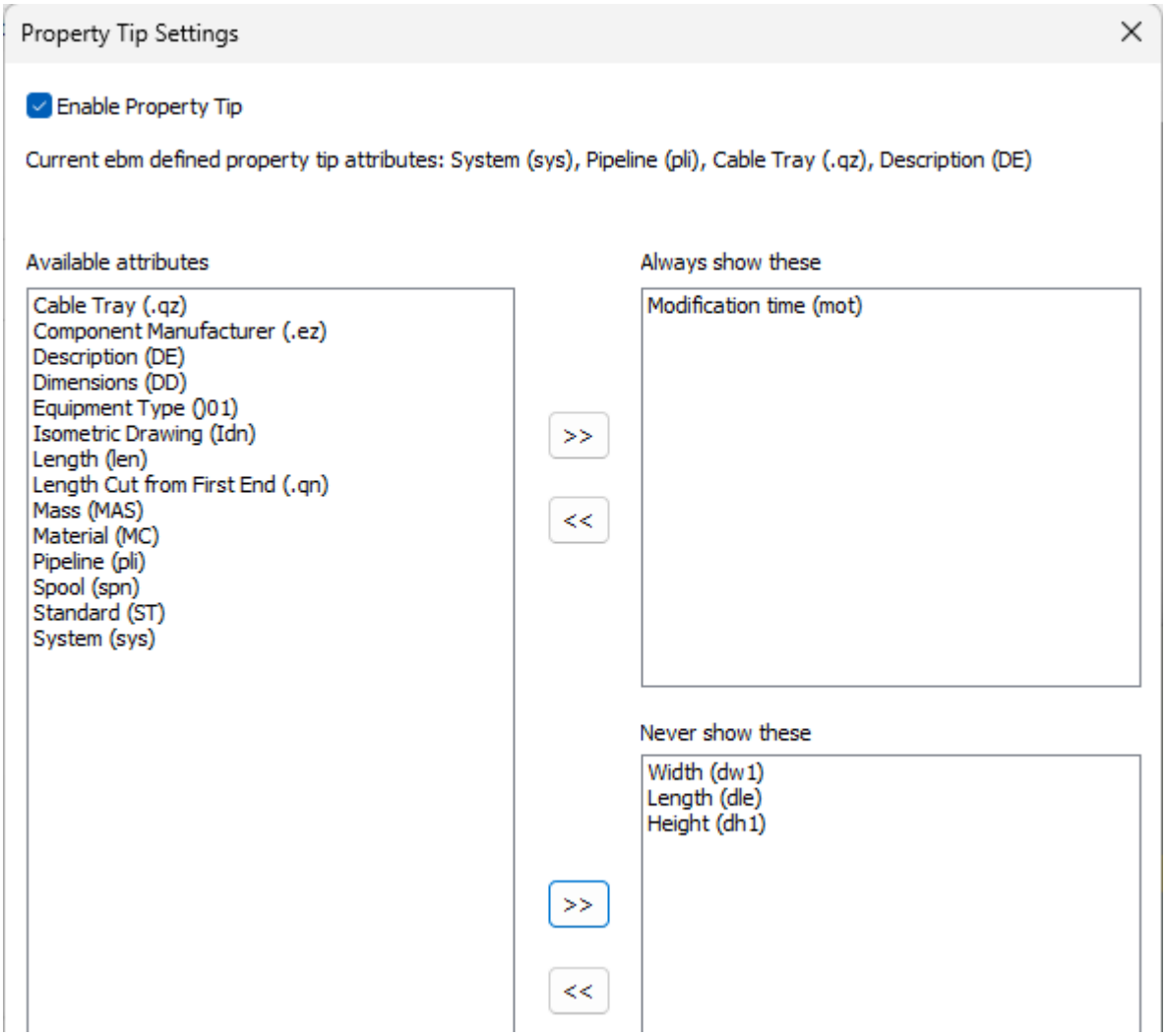
9.4.11.0.1. Property tip settings

"Property tip" is the ability to display additional information about an object when the user moves the mouse cursor on an object in the 3D view. The tooltip is enabled by default; you can select which object attributes the tooltip should display, or you can disable the tooltip if it is not needed.

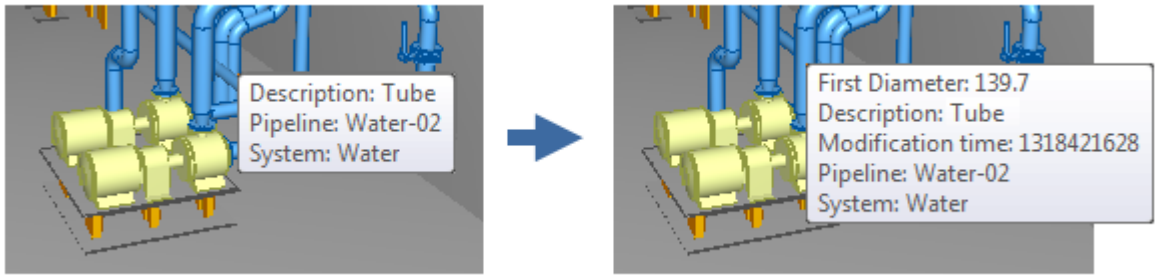
To customize the property tip, select **Settings > Other Options > Property Tip Settings**.

At the top of the Property Tip Settings dialog you can select whether the property tip should be enabled or not.

If the property tip is enabled, specify which attributes it should show. Object name, system name, pipeline, cable tray, and description are shown by default. Add other attributes that you want to see to the "Always show these" list. If there are attributes that you do not want to see in the property tip, add them to the "Never show these" list.

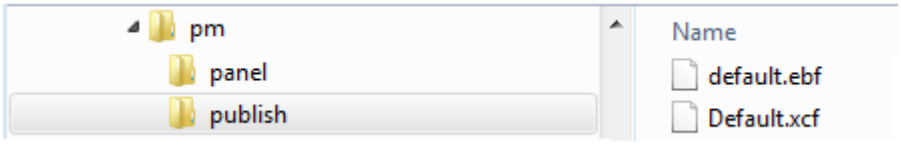


In the examples below, the picture on the left shows the property tip with default attributes, and in the picture on the right the attributes **First Diameter** (D21) and **Modification Time** (mot) have been added to the list of always shown attributes.



9.4.11.0.1.1. Default attribute settings in Plant Modeller

In the Plant Modeller, the default attributes to be shown in the property tip of a published .ebm/.ebmx model are set in the Default.ebf file, and the available attributes are listed in the Default.xcf file. These files can be found in the project folder …/site/pm/publish, and they are created when the model is first published.



Default.ebf

The *Default.ebf* file specifies the default attributes shown in the property tip. The default attributes are **sys** (system), **pli** (pipeline), **.qz** (cable tray) and **DE** (description). If Default.ebf is not modified, these four attributes are always shown in the property tip.

You can configure the default attribute settings by editing this row in Default.ebf and then publishing the model:

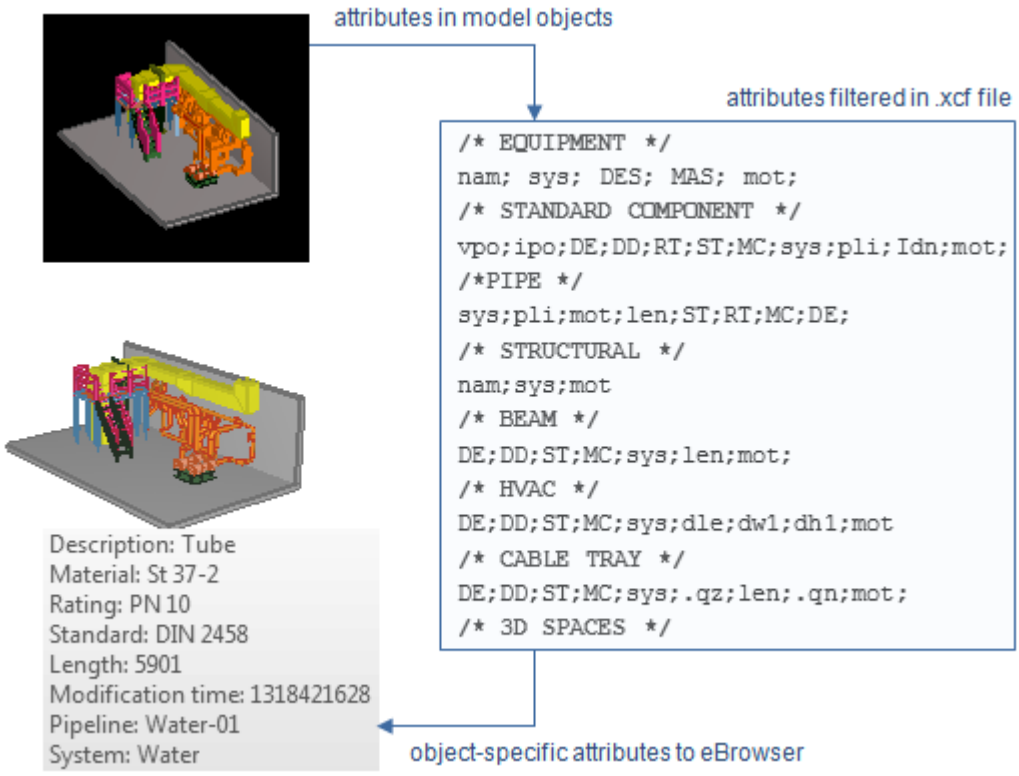
```
cnf objectTipAttributes;ott sys;ott pli;ott .qz;ott DE;;
```

Default.xcf

The *Default.xcf* file defines the attributes that are included in the available list in property tip settings. Those attributes are object-specific, so for example the attribute **mot** (modification time) must be included for every object type separately.

To include an attribute in the .ebm/.ebmx model, the attribute must be assigned to the model object in Plant Modeller. Then it must be listed for the object type as shown in the example row below. Finally, it must be added to the “Always show these” list in **Property Tip Settings**.

```
/* STANDARD COMPONENT */
obt 2;abr vpo;dsc Position Id;key 1;;
```



Related topics

View/Movement

9.4.11.0.2. Help

The Help toolbar button provides information about the 3D viewer.

9.4.11.0.2.1. About eShare App

Opens a dialog that displays 3D component version information as well as the address of the eShare server.

9.4.11.0.3. Coordinate system

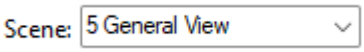
You can select the coordinate system that is used to view the 3D model from the Coordinate System drop-down menu in the main toolbar. These local coordinates can be defined in Plant Modeller. If the Plant Modeller project, where the EBM/EBMX is published from has local coordinates, all of

them are shown in the published EBM/EBMXs regardless of which coordinate system the published model is using.

When selecting a coordinate system, all geometry is transformed to the selected coordinate system and all the coordinates shown are in the selected coordinate system like Measure, Coordinate tool, Coordinate display and Clip Box.

Models without local coordinates: If the 3D model has reference planes defined, the coordinate system called "modelname coordinates" has these reference coordinates defined. If multiple models are loaded to eBrowser, you can select the used reference planes from the drop down menu by selecting the desired model coordinates.

9.4.11.0.4. Scene



The **Scene** field in the toolbar lists predefined scenes that have been specified in the application that published the model.

Primarily a scene defines the camera location, but also other settings such as lights, camera properties, a clip box area, and hidden objects. It could be that all scenes use the same settings and only the camera location changes, or all scenes could be using the same location and only the settings are different. The scene name is preceded by scene type: Model, Personal or Project.

- You can create a new scene in the current location simply by typing the scene name in the **Scene** field and pressing Enter. The custom scenes are stored in the eShareserver for the current user.
- You can create a new scene that contains a clip box. First create the clip box, and then with the clipping still enabled type the scene name in the **Scene** field and press Enter. The clip box is saved in the scene and displays when you open the scene.
- The scene saves the coordinate system in use and will change the coordinate system when the scene is opened, if the currently active coordinate system is different.
- You can delete a scene by selecting it from the list and pressing Delete. You are prompted to confirm the action.
- Settings for scene saving can be configured in Other options.

9.4.11.1. Navigation and shortcut keys

You can use a mouse and/or keyboard to move in the 3D view.

9.4.11.1.1. Shortcut keys

In the model viewer you can use the following shortcut keys.

Key	Alternative	Action
Function Keys		
F1		Help
F5	U	Update Model
Object Visibility		
Delete		Hide all selected visible objects
Insert		Show hidden objects
Visualization Control		
1		No Edges
2		Edges
4		Hide Insulations
5		Show Transparent Insulations
6		Show Opaque Insulations
Markups		
7		"Original" view
8		"Mixed" view
9		"Current" view
Delete		Remove selected shape
Views		
Backspace	Mouse Button 4	Return to Previous View

Key	Alternative	Action
H		Restore Horizontal
X		Turn to Look X+
Shift + X		Turn to Look X-
Y		Turn to Look Y+
Shift + Y		Turn to Look Y-
Z		Turn to Look Up
Shift + Z		Turn to Look Down
Shift + 1		Top view
Shift + 2		Bottom view
Shift + 3		Right view
Shift + 4		Left view
Shift + 5		Front view
Shift + 6		Back view
Shift + 7		Iso view

Related topics

Mouse navigation in orbit mode

9.4.11.1.2. Navigation keys

9.4.11.1.3. Navigation and gestures

In the 3D view, you can use a mouse or keyboard to move around in the model, pan the view, rotate the camera, and so on. Here, the term "pan" is equal to "strafe" or "sidestep", meaning movement parallel to the view plane. You can also mix the navigation methods—for example, use arrow keys for movement and mouse for adjusting the viewing angle.

In normal navigation mode you can walk (fly) freely anywhere in the model, whereas in orbit mode you can inspect a specific location by viewing it from different directions.

Note: You can adjust the viewing angle, movement speed, and screen frame rate in the application settings—see View/Movement.

9.4.11.1.3.1. Mouse navigation

You can use a mouse to move around in the model.

Button	Action
Left button	Hold down left mouse button to turn the camera left or right and to move forward or backward by dragging. Hold down Ctrl and left mouse button to turn the camera to any direction by dragging. Hold down Shift and left mouse button (or hold down left and right mouse button) to pan the model by dragging. Hold down Ctrl, Shift and left mouse button to turn the camera left or right and to move forward or backward in the XY-plane by dragging.
Middle button (mouse wheel)	Scroll the wheel to move forward or backward. Hold down middle button to pan the model by dragging. Hold down the Shift key (or the right mouse button) and the middle mouse button to orbit the camera around the cursor location. While moving forward or backward with keys, you can scroll the wheel to turn the camera up or down and press middle button to restore the horizontal level.
Right button	Hold down right mouse button to turn the camera to any direction by dragging.

9.4.11.1.3.2. Keyboard navigation

You can use the following keys to move around in the model.

You can use these keys in eShare App but not in standard eShare.

Key	Arrow Key	Action
W	⇧	Move forward. • W moves forward in the XY plane. • Up arrow key moves toward the center of the screen.
S	⇩	Move backward. • S moves backward in the XY plane. • Down arrow key moves away from the center of the screen.
Q	⇦	Turn the camera left.
E	⇨	Turn the camera right.
A	Shift + ⇦	Pan the model left.
D	Shift + ⇨	Pan the model right.
R	Shift + ⇧	Pan the model up.
F	Shift + ⇩	Pan the model down.
Page Up	Ctrl + ⇧	Turn the camera up.
Page Down	Ctrl + ⇩	Turn the camera down.
Shift		Holding down Shift triples the movement speed ("run mode") of the keys described above.
Ctrl + Shift		Holding down Ctrl + Shift locks the Z coordinate, which allows moving at a fixed height regardless of the viewing direction.

9.4.11.1.3.3. Navigation in orbit mode



Use the following methods to move around in the model when orbiting is enabled either from the main toolbar or from the toolbar of examine mode.

9.4.12. Mouse navigation in orbit mode

You can use a mouse to move around the orbit point or to move the orbit point itself.

Button	Action
Right/Left button	Hold down mouse button to rotate the view around the orbit point at a fixed distance by dragging.
Middle button (mouse wheel)	Hold down middle button to pan the model and the orbit point by dragging. Scroll the wheel to move toward or away from the orbit point. Hold down Shift and middle button to rotate the camera around the orbit point at a fixed distance by dragging.

9.4.13. Keyboard navigation in orbit mode

You can use the keyboard to move around the orbit point or to move the orbit point itself.

Key	Arrow Key	Action
W	⇧	Move toward the orbit point.
S	⇩	Move away from the orbit point.
Q	⇦	Rotate left around the orbit point.
E	⇨	Rotate right around the orbit point.
A	Shift + ⇦	Pan the model and the orbit point left.
D	Shift + ⇨	Pan the model and the orbit point right.
R	Shift + ⇧	Pan the model and the orbit point up.
F	Shift + ⇩	Pan the model and the orbit point down.
Page Up	Ctrl + ⇧	Turn the camera up.
Page Down	Ctrl + ⇩	Turn the camera down.

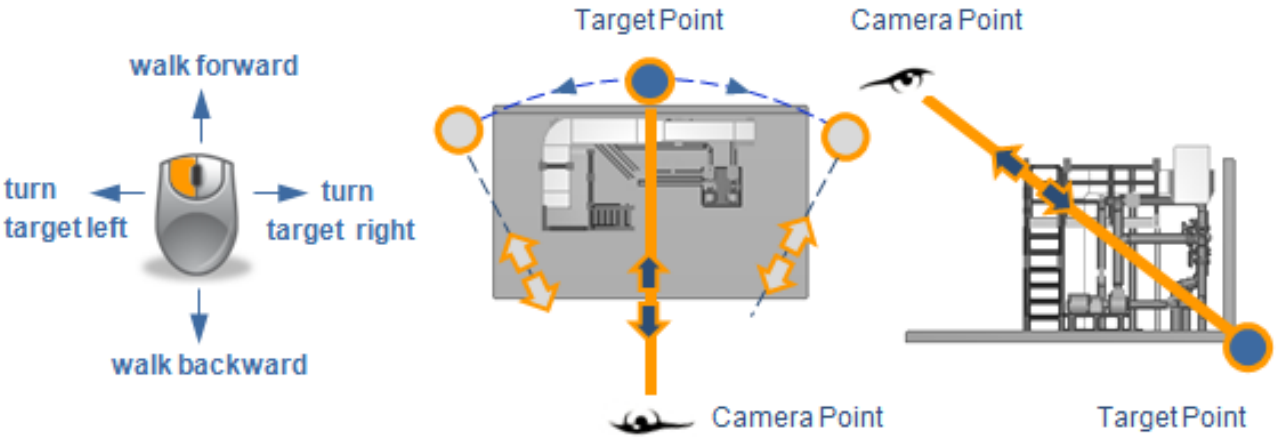
Related Topics

Orbiting

9.4.13.0.1. Walking

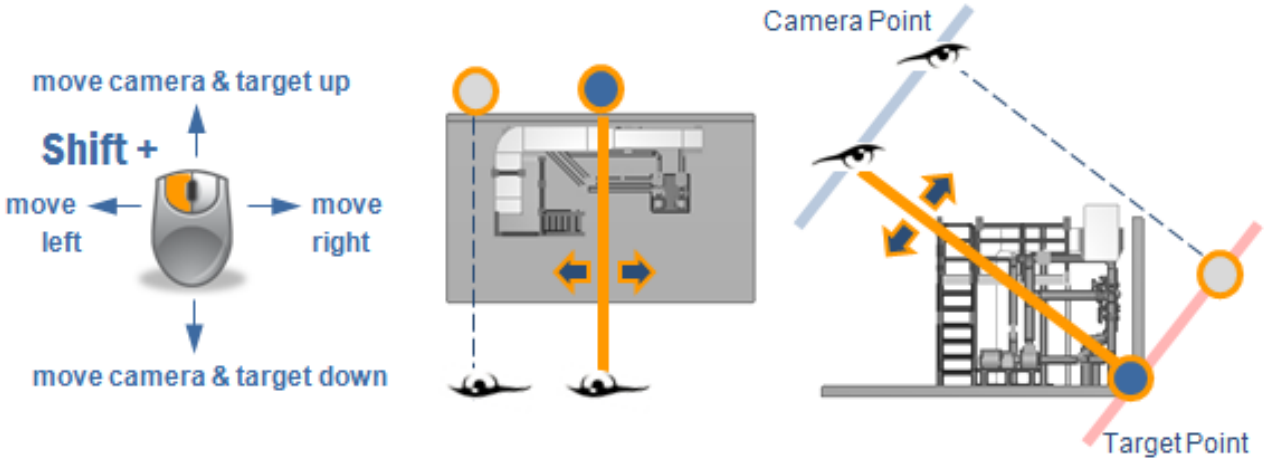
9.4.13.0.1.1. Basics

Hold down the left mouse button to move around in the model. You can move forward or backward by dragging the mouse up or down, respectively, and turn by moving the mouse cursor left or right. The cursor's distance from the center of the 3D view controls the movement speed. While holding down the left mouse button, you can start panning the view by holding down also the right mouse button. And if you then release the left mouse button, you can start turning the camera.



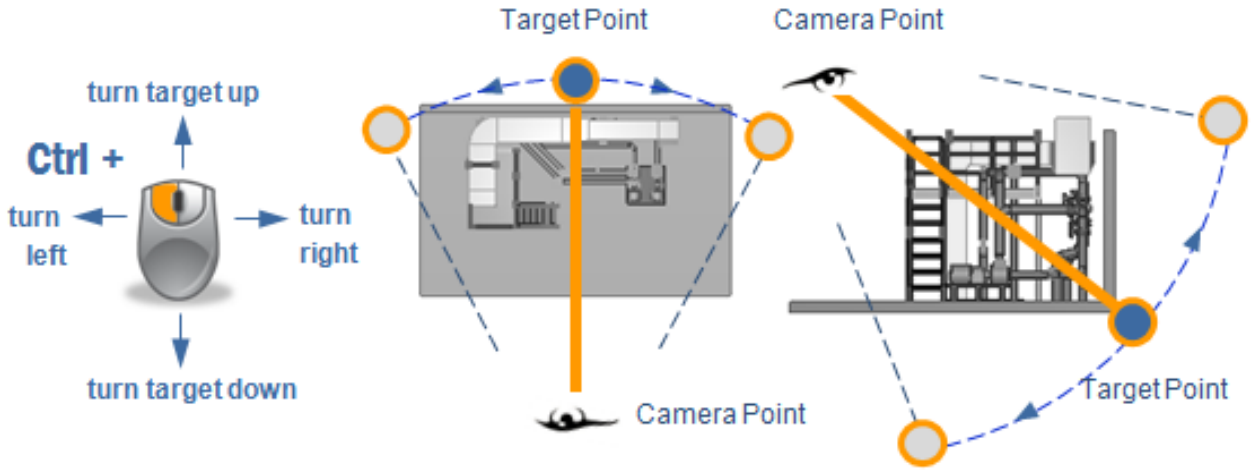
9.4.13.0.1.2. Pan the view

Holding down Shift while moving pans the view in the direction the mouse moves (movement is perpendicular to the view direction).



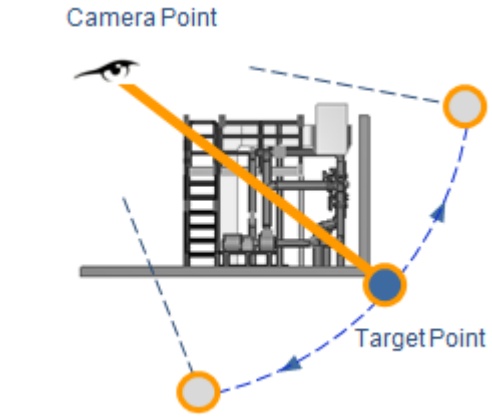
9.4.13.0.1.3. Look around

To look around your current position, hold down the Ctrl (Control) key and move the mouse to the required direction.



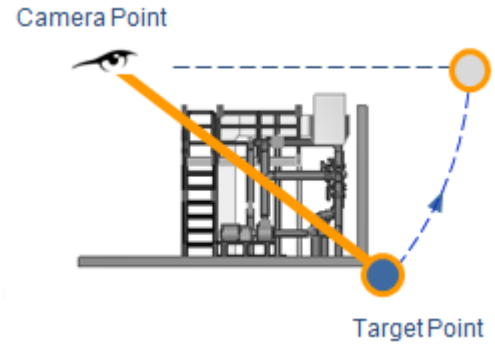
9.4.13.0.1.4. Look up or down

Hold down the Ctrl key and press arrow up or arrow down to rotate the viewing direction up or down.



9.4.13.0.1.5. Restore horizontal view

Select **Navigation Menu > Restore Horizontal** to restore the viewing direction to horizontal level.



Related topics

Mouse navigation in orbit mode

9.4.13.0.2. Orbiting a point

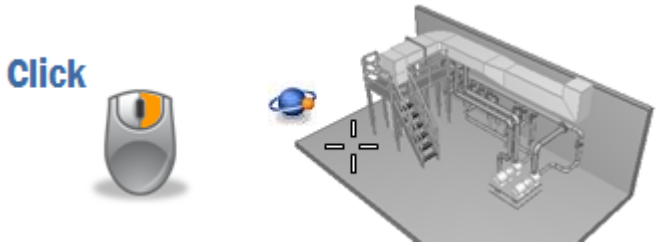
In normal navigation mode, the camera rotates around the user's viewpoint, to simulate an actual person walking around a facility and looking in different directions to see the surrounding objects.

In orbiting mode, you can rotate the camera around a specific point in the coordinate system of the 3D model, to observe an object of interest from different directions.

9.4.13.0.2.1. Specifying the orbit point

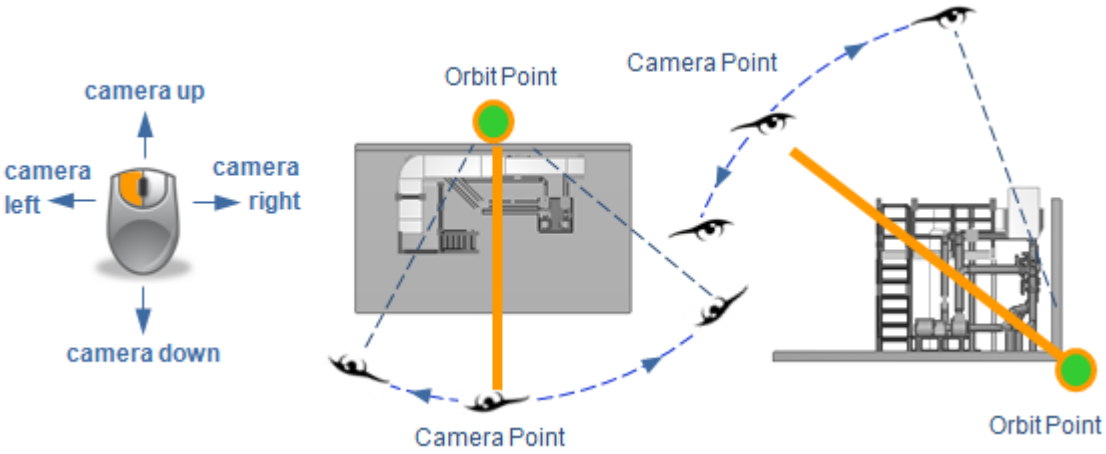
To orbit the camera around a specific point, first click the **Orbit Point** button  in the toolbar.

Then, navigate close to the location where you want the orbit point to be, and **right-click** that location. This will be the orbit point around which the camera will rotate until you click the orbit button again.



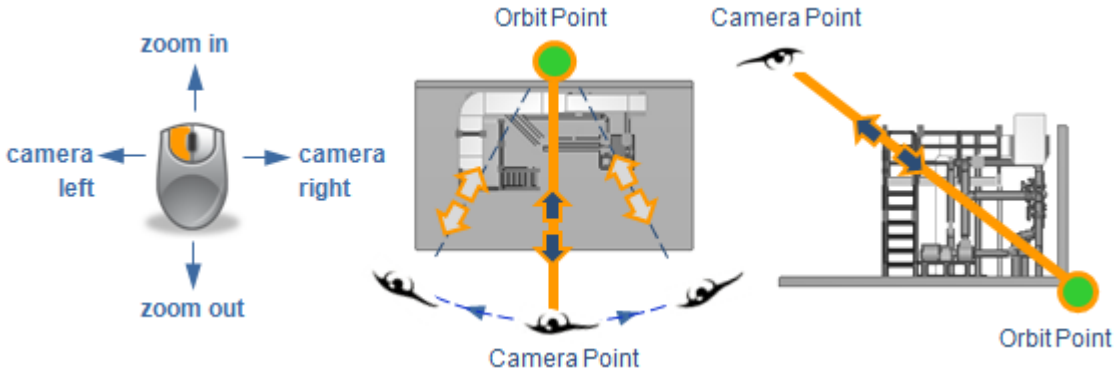
9.4.13.0.2.2. Basic orbiting

When you press down the left mouse button and move the mouse horizontally or vertically, the camera rotates around the orbit point in the specified direction. You can move the view 360 degrees horizontally, and 180 degrees vertically.



9.4.13.0.2.3. Zooming while orbiting

You can zoom the view by scrolling with the mouse. (Horizontal movement still performs orbiting.)



9.4.13.0.2.4. Restoring default orbiting

To make the camera orbit around the user's viewpoint again, click the **Stop Orbiting** button  in the toolbar.

9.4.13.0.3. Navigation map

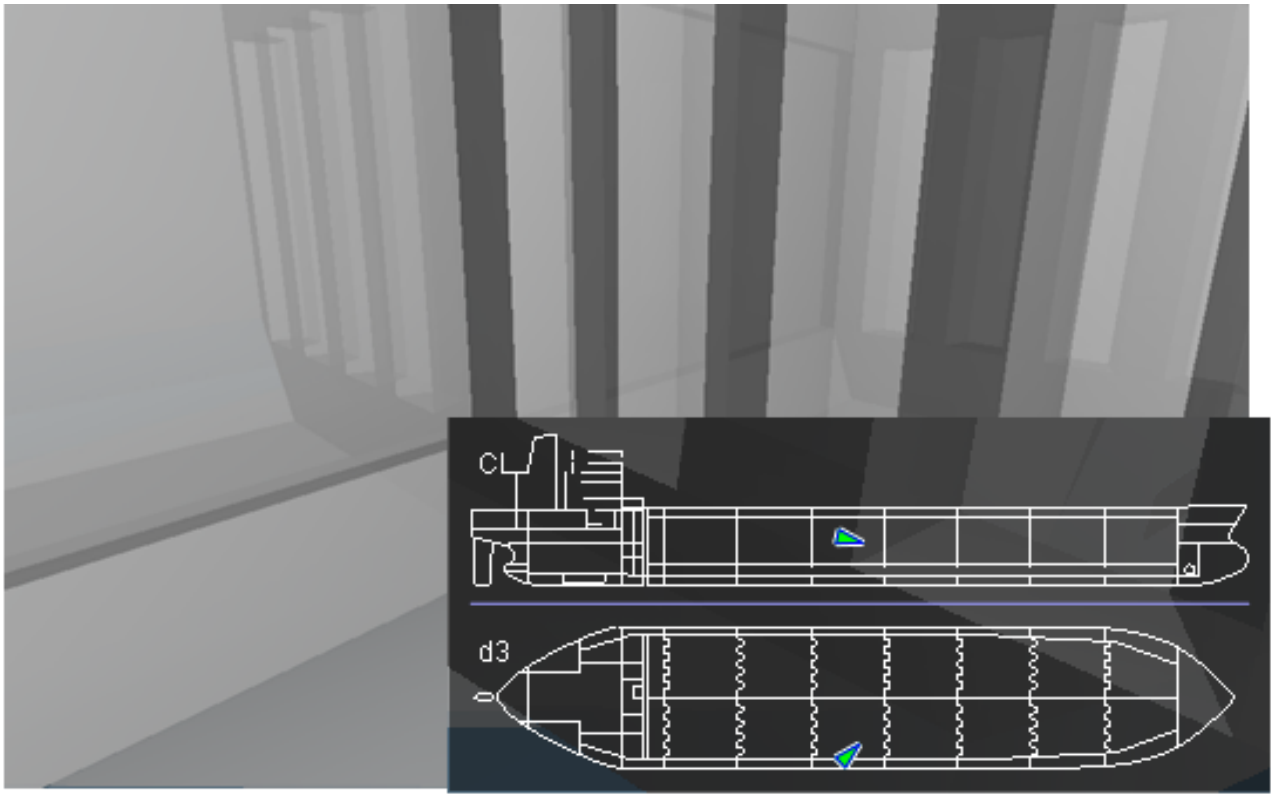
In Cadmatic Plant Modeller, designers can define 3D spaces that contain for example compartments, flooded volume, or blocks. These 3D spaces, together with planes defined by coordinate references, can be published to 3D models and shown in the 3D model viewer as a map of the model.

In a ship design project the map is generated by cutting the chosen 3D Space objects from CL (or y = 0 if CL does not exist) to produce a profile picture, and by cutting along each deck level to generate deck layout maps. The nearest deck below the camera is shown as the top view.

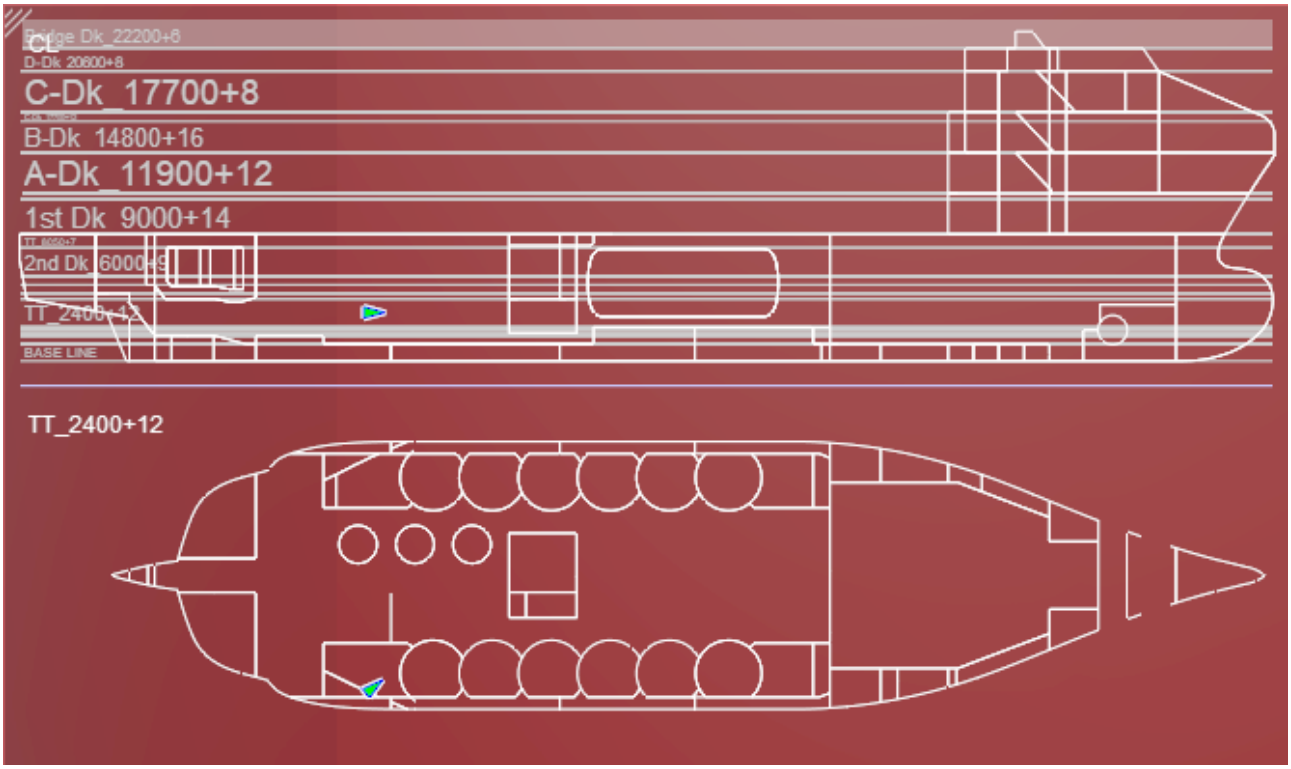
You can show or hide the navigation map and its reference planes from the view cube toolbar **Visualization > Show map**. The settings are saved; if you hide the map and close the model, the map is not shown the next time you open the model viewer.

When displaying the map, the small triangles indicate your current camera location and viewing angle within the model. You can click anywhere in the map to change the camera location. If the triangle icon is not filled with color, you are outside the area covered by the map.

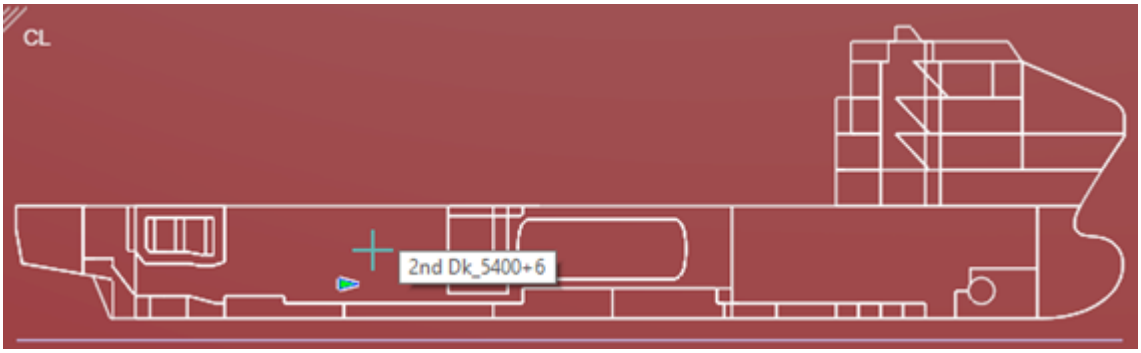
You can resize the navigation map by dragging from the triangle in the top-left corner.



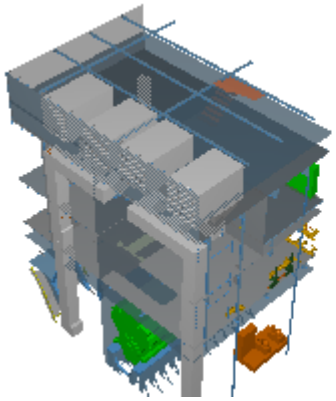
If you have enabled the map's reference planes, the program shows the reference planes on the navigation map as gray lines. It also shows the reference plane names. When you hover over the planes with the mouse, the plane that the cursor is on is highlighted.

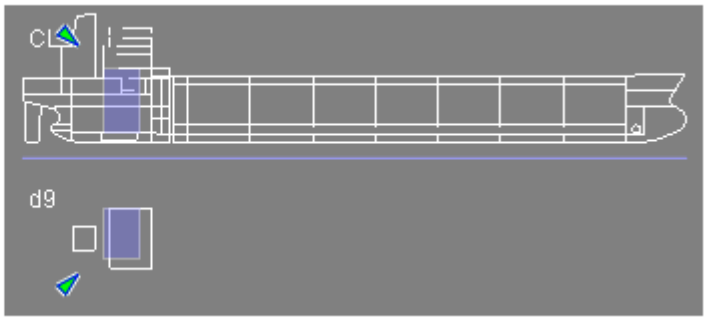


If you have not enabled the map's reference planes, the reference plane's name is showed in a tooltip.



The map also shows the clipping box, if you have defined one:





Smart Points and Markups that are at the same floor or deck level as the user and inside the map area are shown in the map.

You can resize the map pane by dragging its upper-left corner.

Related topics

Maps

9.4.13.1. 3D view modes

When a user opens a specific view or tool, the 3D view enters a special mode that can be recognized from the additional toolbar at the top of the view. While operating in such modes, the 3D view might not provide the same functions as normally, and the special mode is active until the user specifically closes it.

9.4.13.1.1. Examine mode

Examine mode lets you have a better look at selected objects or an object group and orbit around the selection, while other objects are hidden. You can highlight and X-ray the examined items and also dim, hide or make the other objects transparent. When examining an individual object, you can see its connection points if connection points are selected to be shown—see Show connection points.

To examine items, right-click an item in the model tree or the 3D view and select the appropriate command such as **Examine**. In the 3D view, you can select to examine multiple items by holding down Ctrl and selecting them one by one, and then right-clicking the selection to select the examine command from the context menu.

When you want to resume the normal mode, click the exit button in the examine mode toolbar.

9.4.13.1.1.1. Examine mode toolbar



The examine mode toolbar provides a set of tools that allow you to examine the model using different option.

9.4.14. Orbiting

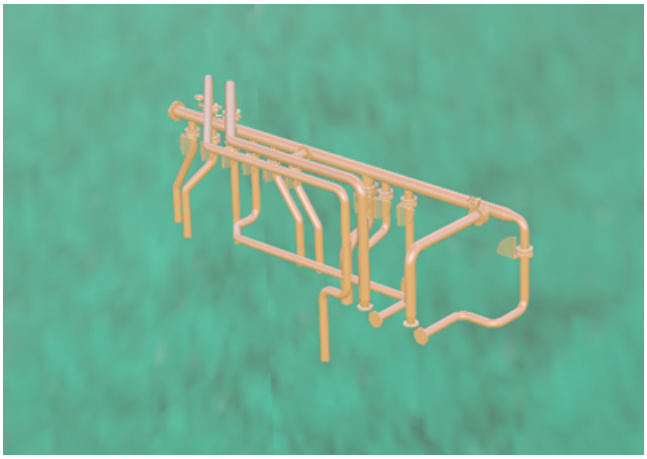


You can enable or disable orbiting.

9.4.15. Hide other objects / Show all visible objects



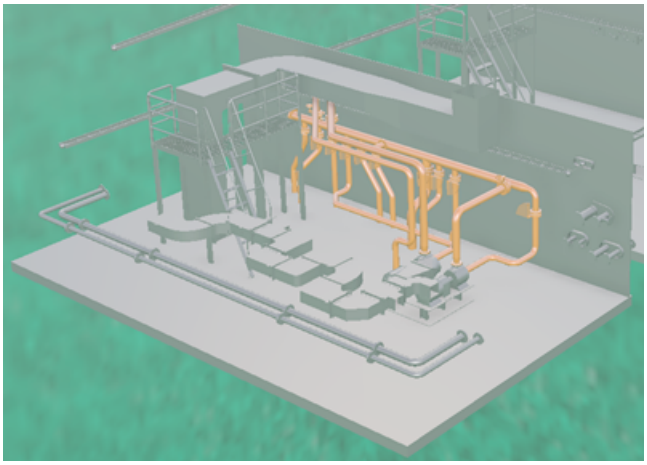
You can hide other objects except the selected objects.



9.4.16. Dim other objects / Show original colors



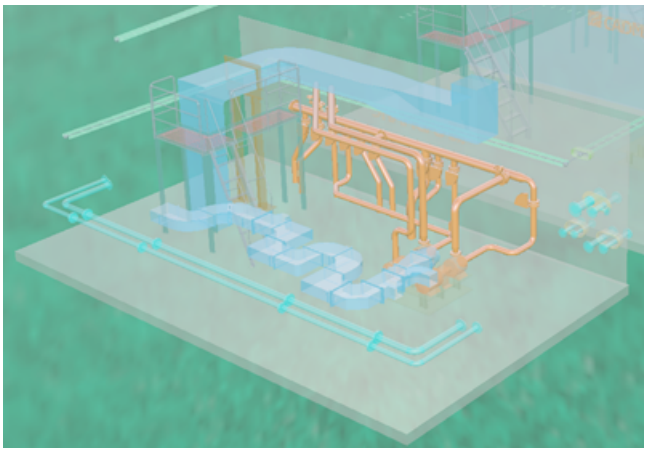
You can dim other objects except the selected objects.



9.4.17. Make other objects transparent / Show all visible objects



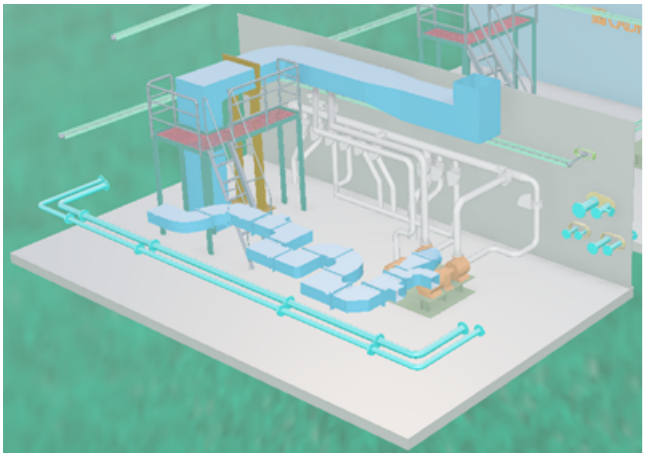
You can make other objects except the selected objects transparent.



9.4.18. Force examined objects highlighted / Don't force highlighting



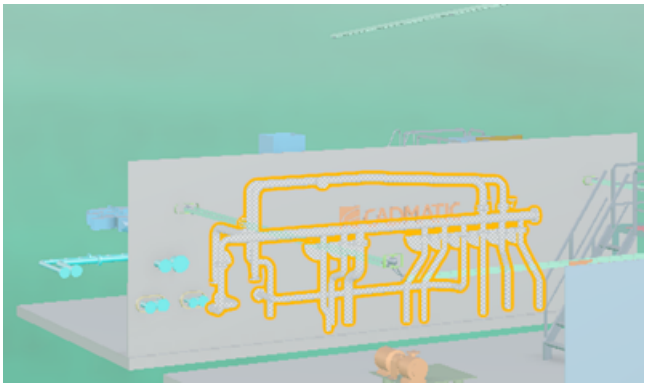
You can highlight the examined objects.



9.4.19. Force examined objects to X-Ray mode / Don't force X-Ray mode



You can make the examined objects completely visible even if they are located behind other objects.



9.4.20. Fit clipbox to examined objects



You can make the clipbox fit the examined objects.

9.4.21. View details for an object or a group



You can view the details of the examined object or group.

9.4.21.0.0.1. Defining examine mode settings in URLs

When you use the search in eShare, the links in the search results contain parameters that open the specific object or object group in the 3D view in examine mode. You can enhance these links so that they automatically turn orbiting on or off and show or hide the other objects, instead of having to select these settings manually from the examine mode toolbar. This can be especially useful if you export search results to a Microsoft Excel file and want specific links in the file to open with specific settings.

To do this, append the URLs with `&examineFlags=<value>`, where <value> specifies a number from 0 to 64, to indicate the following settings:

- 0 = Disable orbiting, show all objects
- 1 = Enable orbiting, show all objects
- 2 = Disable orbiting, hide other objects
- 3 = Enable orbiting, hide other objects
- 4 = Dim all objects that are not being examined
- 8 = Turn off highlighting for the examined objects
- 16 = Turn off the X-ray mode for the examined objects
- 32 = Open the examined objects in clip box
- 64 = Clear the selection highlight of the examined objects and show the objects according to the applied visual style

For example, if the position ID of some object in the 3D model is "P001", you can use the following kind of URL to start examining that object so that orbiting is enabled and also all other objects are visible:

https://<server>:<port>/#/p/<project id>/model?positionId=P001&examineFlags=1

9.4.22. Examining multiple objects with URL parameters

You can examine multiple objects with the following URL parameters:

- multiExamine

  Use the object's attribute abbreviation and value as the values. Separate the attribute and the value with a colon (:) and the objects with a vertical line (|).

  Example URL: *https://<domain>:<port>/#/p/<project id>/model?multiExamine=.n5:AE-SW-P001|.n5:722-PS1|.n5:722-PS2|[sys]:722-SWC|.ne:R110202*

- geometryID and modelTimeStamp

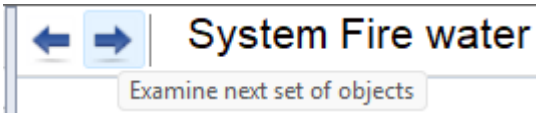
  Use the geometry IDs as the values. Separate the values with a comma (,). Also provide the model timestamp

  Example URL: *https://<domain>:<port>/#/p/<project id>/model?geometryId=3453001,3453065,3453129&modelTimestamp=2020-01-07T08:40:31.710*

The maximum length of the URL is 2048 characters. Note that the browser encodes certain characters, such as vertical line (|), and these characters take the space of three characters instead of one character.

9.4.22.0.0.1. Examine mode history

Whenever you enter the examine mode, the application stores this as an event in the "examination timeline", and you can revisit previously examined object sets by moving back and forward with the arrow buttons of the examine mode toolbar.



The history stores normal examine modes, 3D space examine modes, and difference examine modes, all in the same timeline.

For each entry, the history remembers the examined object set and the last camera position, including whether or not orbiting was enabled. It does not remember other settings of the examine mode toolbar, such as highlighting and object visibility.

Any new entries are stored in the current position of the timeline, not at the end—if you go back in the history and then in the middle of the sequence start examining some new object, the history from that point forward is not cleared, and the new entry is stored in the current "slot" of the history.

9.4.22.0.0.2. Examining 3D spaces

When examining a containment, the space object is shown as transparent and the objects that it contains are hidden. In the examine mode toolbar, you can change the visualization in the same way as with other object types, but in addition there is a button that allows you to show or hide the space objects that are being examined.



Cadmatic

Related topics

Navigation in orbit mode

9.4.22.0.1. Markup mode in eShare App

Opening an existing markup or starting to create a new one activates the Markup mode. Accepting or canceling the changes to the Markup item exits this mode. When in Markup mode:

- Instead of showing a tab the sidebar displays a pane for entering the following information.
  - **Type** — Select the markup type, if there are several markup types.
  - **Title** — Enter a descriptive title (required).
  - **Assignee** (not visible, if it has not been enabled by the project administrator) — Allows assigning the markup to a specific project user. As you start typing the name in the field, the matching user names are listed and you can select the correct assignee from the list.

    In the project's front page, "My latest markups" shows the most recent markups assigned to the current user, and selecting the "All Assigned to Me" search shows all Markups assigned to the current user. In **Search > Points and Markups** it is possible to search markups also based on a previous assignee.
  - **Linked to Model Item** — Select the attribute, such as Equipment ID, to which to link the markup.
  - **Markup Status** — Select the status. (The status list is defined when publishing the 3D model from a design project.)
  - **Markup Importance** — Select "Low", "Normal", or "High".
  - **Markup Comment** — Enter any comments that you want others to see.
  - **Upload Photos** — Add photos to the markup. You can add multiple photos at the same time. The supported formats are BMP, GIF, EXIF, JPG, JPEG and PNG.
- The 3D view displays the markup editor toolbar.

9.4.22.0.1.1. Markup editor toolbar



The Markup editor toolbar provides a set of drawing tools that allow you to highlight specific aspects of the model, using the color selected from the color field. You can add detailed model information by taking measurements, and adding coordinate, or attribute labels to objects.

9.4.23. Rectangle, ellipse, cloud



You can draw a rectangle, ellipse, or cloud.

9.4.24. Freehand line, straight line, arrow



You can draw a freehand line, straight line, or arrow.

When drawing a straight line or arrow, you can hold down Shift to make the line snap in 15° increments.

9.4.25. Text



You can add text.

9.4.26. Measure lengths



You can add measurements. See Measure on how to use the measuring tool.

9.4.27. Coordinate label



You can add coordinate labels.

Activating this tool displays a coordinate label in the 3D view, showing the coordinates of the current cursor location. Right-click the location to use, drag the coordinate label to a place where it does not cover anything important, and right-click to accept the location of the label.

9.4.28. Attribute label



You can add attribute labels.

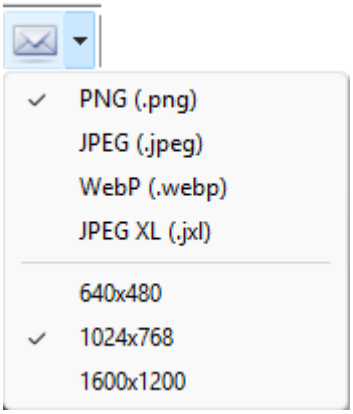
Activating this tool displays an attribute label in the 3D view, showing the attributes of the object in the current cursor location. Right-click the location to use, drag the attribute label to a place where it does not cover anything important, and right-click to accept the location of the label.

9.4.29. Remove selected shape



You can delete any shape you have added with the Markup editor toolbar by selecting the item and then clicking the removal tool.

9.4.30. Email drawing as an image



You can e-mail the 3D view with its markings as an image file to another user.

You can select the graphics file format and image size to use. The selections are saved in Windows Registry.

9.4.31. Color



You can select the color to use for each shape that you add with the Markup editor toolbar, either before activating the drawing tool or by selecting an existing shape and then the required color.

9.4.32. Current, mixed, original, photo



You can select how to display the 3D view:

- **Current** — Show the 3D model using current object visibility settings.
- **Mixed** — Show the current view and the original view at the same time.
- **Original** — Show the 3D model as it was in the original Markup.
- **Photo** — Browse photos attached to the markup. Use the on-screen arrow buttons to move between the images.

9.4.32.0.1. Bubble view mode

When a point cloud contains scanner position information, in eShare App you can view the point cloud from the location where the 3D scanner was positioned. This is called bubble view mode, and while operating in this mode you cannot move the camera around like you normally can. To close the bubble view mode, click the **X** button in the bubble view mode toolbar.

For more details, see Point clouds.

9.4.32.1. Context menu

On the **Model** tab and in the 3D view, you can perform a number of actions from the right-click menu. Some of the commands can be used on a single entity or multiple entities, while some are only available when a single entity is selected.

9.4.32.1.1. Examine

Enables the object examination mode. See Orbiting.

9.4.32.1.2. Select geometric objects

Removes items that do not represent physical objects (groups, 3D Spaces, cable routing objects etc.) from the current selection.

9.4.32.1.3. Hide

Hides the selected objects.

To make hidden objects visible again, see Selecting objects and changing their visibility.

9.4.32.1.4. Hide unselected

Hides all objects that are not selected. Does not change the visibility of selected objects.

To make hidden objects visible again, see Controlling the set of displayed objects.

9.4.32.1.5. Show selected and hide unselected

Makes the selected objects visible and hides all other objects.

To make hidden objects visible again, see Selecting objects and changing their visibility.

9.4.32.1.6. Transparency

Sets the selected objects to be transparent. You can also set this property via script interface by using the method for that purpose.

If you use other Cadmatic applications, the model viewer also supports transparent materials that are defined in the COS configuration object.

9.4.32.1.7. Make others transparent

Makes all other visible objects transparent except the selected objects.

9.4.32.1.8. Show through other objects

Shows the outlines of the selected objects through other objects such as walls. (Only available from the model tree.)

9.4.32.1.9. Goto near point

You can set the camera location near the selected object.

9.4.32.1.10. Locate in tree

Finds the selected object from the currently active hierarchy and shows its location in the model tree.

9.4.32.1.11. Fit clip box

Fits the clip box to the selected objects. See also Enabling clip box from the model tree.

9.4.32.1.12. Show with surroundings

Crops the model so that it only shows the selected objects and objects that are close to the selected objects.

9.4.32.1.13. Check for collisions

Allows running a collision check for the selected objects. See Running a collision check with default settings for details.

9.4.32.1.14. Show as table

Allows viewing the selected branch of the model tree as a table, displaying attributes that are used to form the tree as columns.

The command is disabled if the selected hierarchy is based on associations instead of tags. See Viewing model tree as a table.

9.4.32.1.15. Add Smart Point

Allows adding a new Smart Point to the current cursor location, as described in Smart Points.

Note: If the option is disabled, project administrator has not defined any Smart Point Types for this project.

9.4.32.1.16. Add markup

Allows adding a new markup to the current cursor location. See Markups.

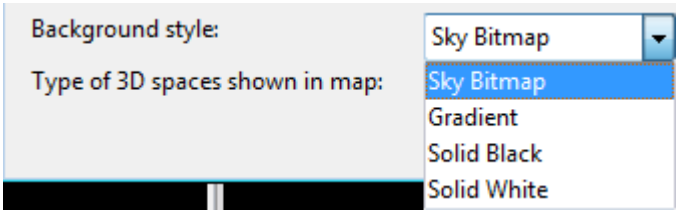
9.4.32.1.17. Show as search result

Allows loading the selected objects as a search result in the search view. The selected objects can also be exported to Excel in the search results.

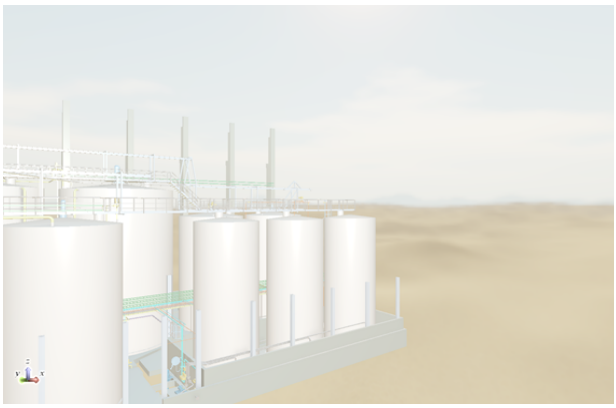
9.4.32.2. Background visualization

An *.ebmx model has a default background that is defined when publishing the model. For example, when selecting **Model > Publish > eBrowser Model** in Plant Modeller, the designer can choose the

default background to be one of the following: Sky Bitmap (default), Gradient, Solid Black, or Solid White.



When selecting **Sky Bitmap**, Cadmatic Outfitting publishes the model with a background that shows sky and sea, and Cadmatic Plant publishes it with a background that shows sky and ground.



In the model viewer, you can change the background in the settings. The default setting is “EBM defined”, meaning that the default background is the one defined in the model file. You can manually set the background to be one of the following: Blue Gradient, Solid Black, Solid White, Default, EBM defined, Desert, Grass Field, or Ocean.

Related topics

Visualization

9.4.32.3. Selecting objects and changing their visibility

This section provides information on selecting objects and changing their visibility. Note that just selecting an object does not move the focus in the 3D view to the object.

By selecting you can target operations to certain object or group of objects. These operations can be, for example, functions in the context menu, hiding/showing objects in the model tree, or assigning visual styles in eShare.

When an object or a group is selected it gets selection color in 3D view and it is highlighted in the model tree. Selections are indicated also when the tree is not fully expanded.

Selecting a cable object highlights all the objects belonging to that cable in the model tree. All the cable objects are also highlighted in the 3D view to enable visualizing the cable route.

In the model tree, dark blue color is applied to objects you have selected by clicking them, the nodes and objects that inherit the selection from the clicked object will be in a slightly lighter blue, and the parent nodes that are partially selected will be in light blue color.

When a single object is selected, right-clicking the object displays commands relevant to the object, and when multiple objects are selected, right-clicking the selection displays commands that are relevant to the group.

9.4.32.3.1. Selecting objects

On the **Model** tab and in the 3D view, click on an object. On the **Model** tab you can also select an object group. To select multiple objects or groups, hold down Ctrl while clicking on the objects or groups. To select all visible objects in the 3D view (or within a clip box, if enabled), press Ctrl +A.

In the model tree, you can select a range of objects or groups by holding down Shift while selecting the first and the last object or group of the selected range.

If you double-click an object in the model tree, the object is opened in examine mode. To examine multiple objects, select the objects and then select **Examine** from the context menu.

When multiple objects are selected and you click an individual object without holding down Ctrl, or Shift in the model tree, only that single object gets selected.

To expand the selection to an object's parent objects, press Shift and click the object. The selection expands first to the next-level parent object (for example pipe to pipeline), then to the system, and then to the entire model.

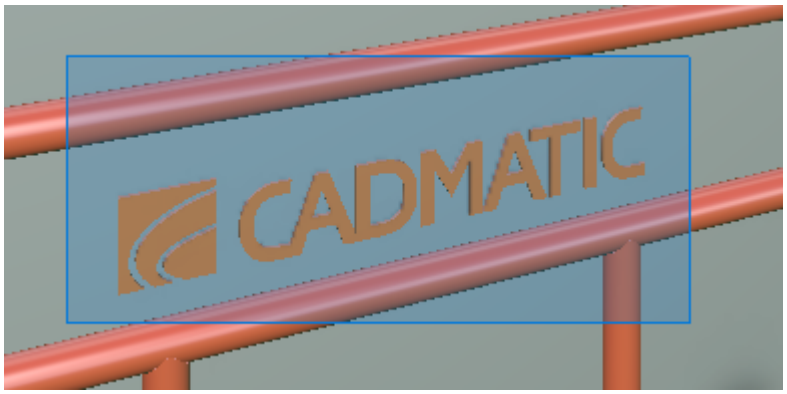
If you continue to click the object after the model level has been selected, only the initially selected object remains selected.

9.4.32.3.2. Selecting objects in the 3D view by drawing a box

In the 3D view, you can select a set of objects by holding down Alt and left mouse button while drawing a rectangle around the required objects. This selects only objects that are visible in the current viewing direction, and not for example objects that are behind a wall.

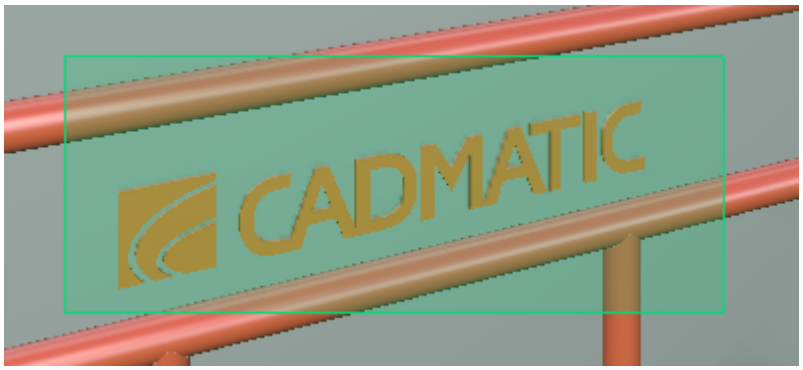
- Drawing from *left to right* creates a blue rectangle that selects the objects which are fully inside the rectangle.

  In this example, only the Cadmatic logo will be selected:

- Drawing from *right to left* displays a green rectangle that selects the objects which either intersect the rectangle or are fully inside it.

  In this example, the Cadmatic logo, the pipes that touch the rectangle, and the wall in the background will be selected:

Additionally, if you are holding down Ctrl when you release the left mouse button, the objects get added to a previously made selection. Therefore, you can draw multiple selection boxes by holding down both Ctrl and Alt while drawing.

9.4.32.3.3. Selecting all visible objects

In the 3D view, you can select all visible or partially visible objects by pressing Ctrl + A. The selected objects are highlighted in the **Model** tab.

9.4.32.3.4. Unselecting objects

Hold down Ctrl and click on the object or group to remove the selection only from that object or group.

To remove all selections, click on an empty area in the model or in the 3D view, or press Esc.

Related topics

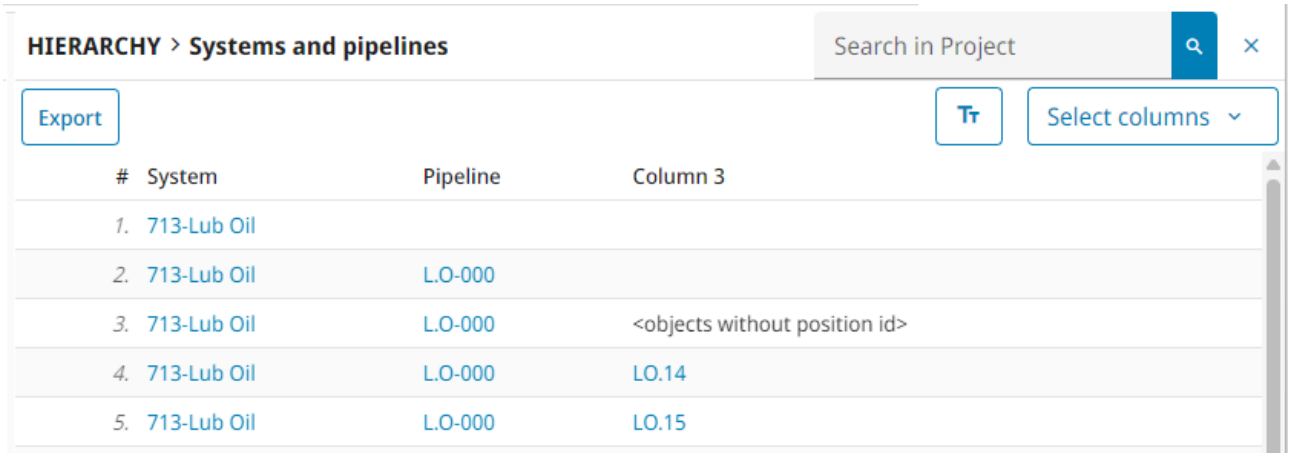
Context menu

Model tab

Undo or redo last visibility change

9.4.32.4. Viewing model tree as a table

A selected branch of the model tree can be viewed as a table by first selecting the model tree branch, and then **Show as table** from the context menu.



In the table view you can do the following:

- Export the table as an Excel file by selecting **Export**.
- Resize the text in the table by selecting
- Select displayed columns using **Select columns** to select and filter from the drop-down menu which columns are included in the table.

9.4.32.5. Collision checking

Cadmatic eShare App can perform collision checks to investigate whether parts collide with other parts.

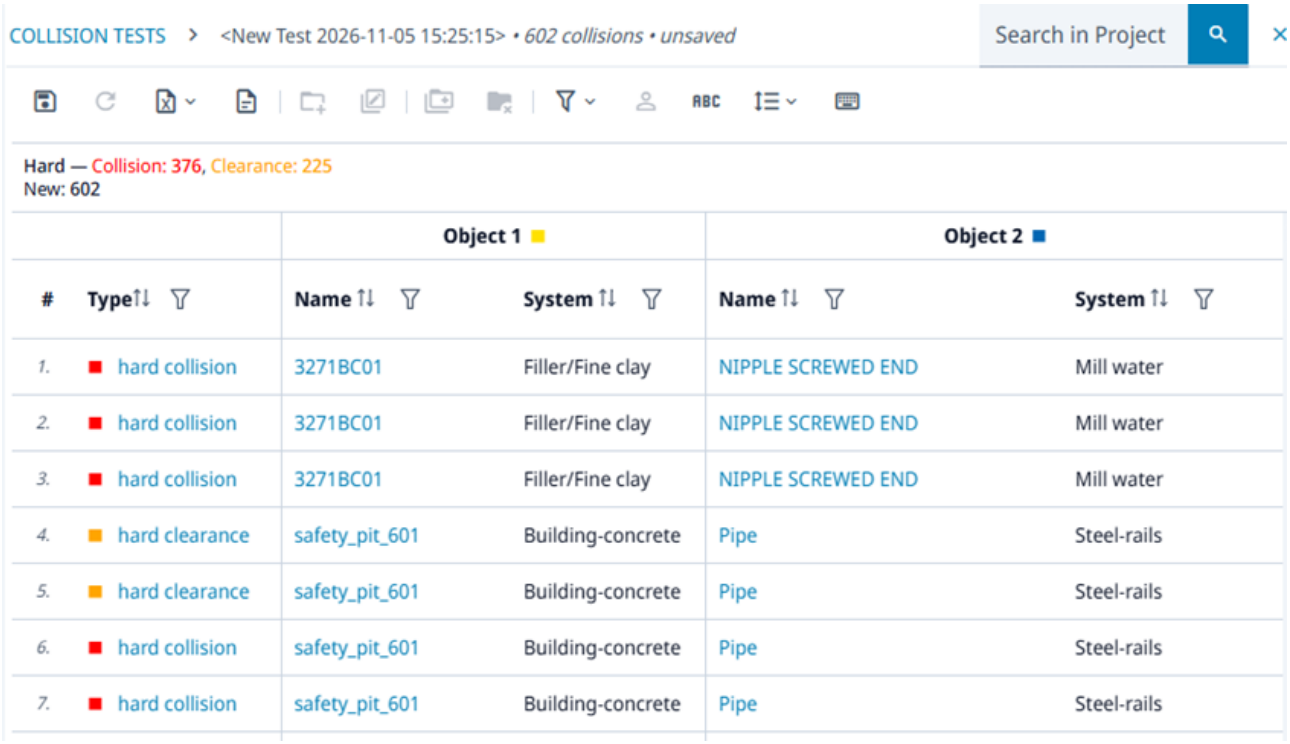
Cadmatic eShare can be used to examine the results of collision checks.

9.4.32.5.1. Performing collision checks

Collision checks test whether objects collide with other objects, contact other objects, or violate clearance limits. Run a quick check on a single model tree node with default settings on the **Model** tab, from the context menu by selecting **Check for collisions**. To set up a test and select the objects more freely and customize the settings, use the **Check for Collisions** tool in the main toolbar, or **New collision test** in Collision tests pane.

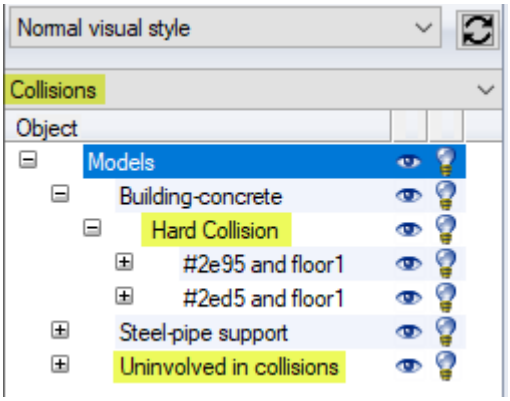
Note: Especially with imported models where the geometry format cannot be controlled, some hard collisions might not be found. Ignoring contacts is not recommended due to possibly missing hard collisions in the geometry, which has been modeled as surface objects in imported models.

When the test is completed, the **Collision tests** pane opens and shows the collisions in a table, where you can browse them to see where violations occur. If there are no collisions, the pane shows *No collisions*. See Selecting multiple collisions.



		Object 1		Object 2	
#	Type	Name	System	Name	System
1.	hard collision	3271BC01	Filler/Fine clay	NIPPLE SCREWED END	Mill water
2.	hard collision	3271BC01	Filler/Fine clay	NIPPLE SCREWED END	Mill water
3.	hard collision	3271BC01	Filler/Fine clay	NIPPLE SCREWED END	Mill water
4.	hard clearance	safety_pit_601	Building-concrete	Pipe	Steel-rails
5.	hard clearance	safety_pit_601	Building-concrete	Pipe	Steel-rails
6.	hard collision	safety_pit_601	Building-concrete	Pipe	Steel-rails
7.	hard collision	safety_pit_601	Building-concrete	Pipe	Steel-rails

To view the results in the object tree, select Show sidebar button in the main toolbar.

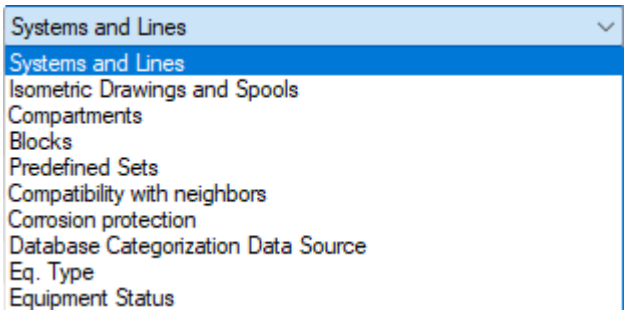


9.4.32.5.1.1. Running a collision check with default settings

You can run a collision check with default settings to test whether one set of objects collides with any other objects.

Do the following:

1. On the **Model** tab, select the object hierarchy that you want to use to select the objects for the collision check.



2. In the hierarchical object tree, right-click the node that contains the objects to be checked, select **Check for collisions** and the check method:
   - **Only collisions (faster)** – Performs a quick check for collisions and contacts between objects, and reports both types as collisions. The check ignores cases where objects are less than 1 mm apart but there is no physical hit. This is faster than the complete check but not all contacts might be noticed.
   - **With contacts and clearance violations** – Performs a complete check for collisions, contacts, and clearance violations between objects. This is more accurate than the fast method but can take significantly more time, especially when there is a large number of objects to be checked.

Note: Especially with imported models, where the geometry format cannot be controlled, some hard collisions might not be found. Ignoring contacts is not recommended due to possibly missing hard collisions in the geometry, which is modeled as surface objects in imported models.

See Viewing and saving the results.

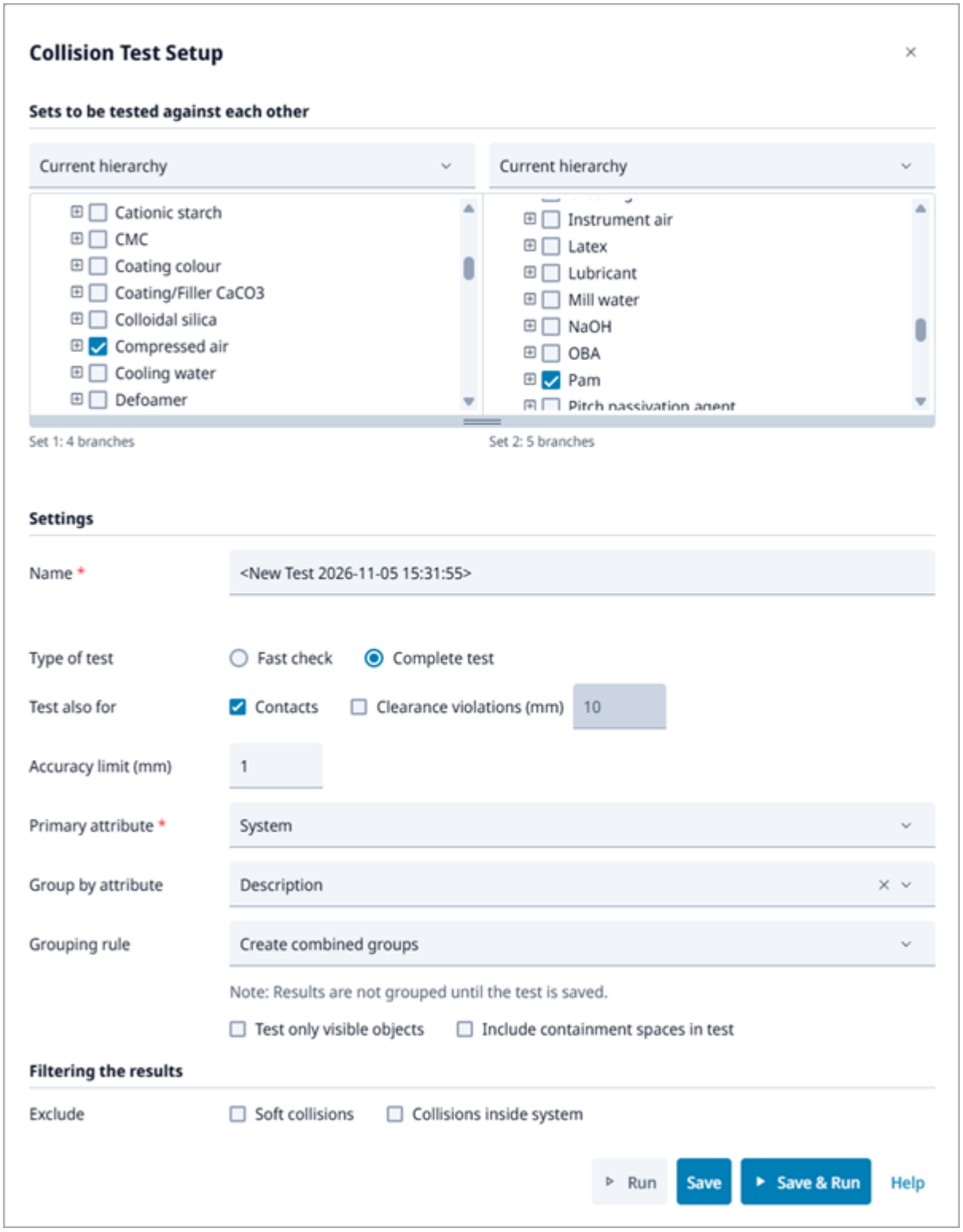
9.4.32.5.1.2. Setting up a collision test

In the Collision Test Setup dialog, you can select any combination of objects to be checked against other objects, and specify the settings for the check.

Do the following:

1. Open the Collision Test Setup dialog in one of the following ways:
   - On the **Model** tab, select the object hierarchy that you want to use to select which objects for the collision check. For example, if the model contains blocks and you set the hierarchy menu to Blocks, you can check for collisions between block boundaries. Select objects or groups in the model tree, then click Check for Collisions button  in the main toolbar.
   - In the Collision tests pane, click New collision test .

   Collision Test Setup dialog opens.



2. Define the two collision sets that are checked against each other. For each set, select the source:

- Current hierarchy – Select the objects from the object tree. For example, if the object tree is arranged by blocks, you can select one block for the first set and its neighboring blocks for the second set, to check whether that block collides with the others.
- Saved searches – Select one or more saved searches. The objects that the searches find are used together as the collision set. See Using saved searches as collision tests.

You can use a different source for each set.

3. In Settings section, in the Name field, enter a name for the test. By default, the name contains the date and time when the test was created, for example *New Test 2026-09-16 14:05:33*.
4. In the Type of test, select test type:
   - **Fast check** – Performs a simpler collision check that is faster to run. All hits between objects are listed as collisions. **Accuracy limit** is not used.
   - **Complete test** – Performs a more thorough check for collisions between objects. Hits are listed by type. If **Contacts** is selected, contacts are included. If **Clearance violations** is selected, clearance violations are also included. A collision is reported when objects overlap by more than the **Accuracy limit** value. A contact is reported when objects overlap by less than **Accuracy limit** value, or are less than the **Accuracy limit** apart. A clearance violation is reported when objects are more than the **Accuracy limit** value but less than **Clearance violations** value apart.

   Note: Especially with imported models, where the geometry format cannot be controlled, some hard collisions might not be found. Ignoring contacts is not recommended due to possibly missing hard collisions in the geometry, which is modeled as surface objects in imported models.
5. Specify the tolerance values:
   - **Clearance violations (mm)** – The tolerance to use in clearance checks (1–10000 mm). A clearance violation is reported if objects are closer to each other than this value.
   - **Accuracy limit (mm)** – The tolerance to use in collision checks (1-100 mm). A collision is reported if objects overlap by at least this amount.
6. Specify the following settings:
   - **Primary attribute** – An attribute whose value, if present, is saved for each colliding object in each collision. This is useful for storing extra information, for example the object's system, in models that do not have reliable object IDs.
   - **Group by attribute** – Select an attribute to group the collisions automatically by its value after each run of the test. See Group collisions automatically when a test runs.

- **Grouping rule** – Select how collisions are grouped when the two colliding objects have different values for the attribute. See Group collisions by an attribute.
- **Test only visible objects** – If selected, hidden objects are not checked for collisions.
- **Include containment spaces in test** – If selected, the following 3D space objects are checked in addition to passages and service spaces: blocks, super blocks, sub blocks, compartments, fire zones, flooded volumes, and outfit areas.

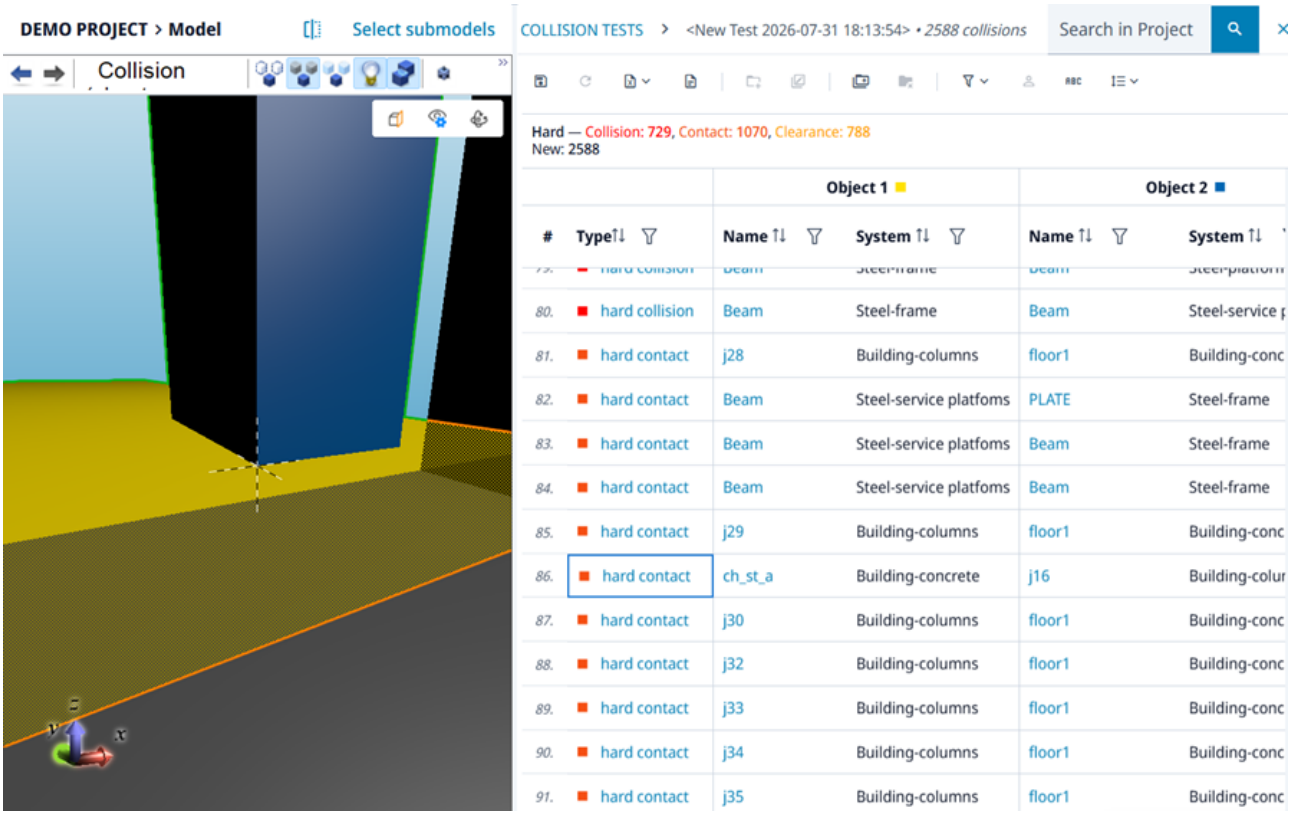
7. In Filtering the results, specify the following:
   - **Soft collisions** – If selected, collisions between objects and insulation or 3D spaces are not reported.
   - **Collisions inside system** – If selected, collisions between objects that belong to the same system are not reported.
8. Select one of the following:
   - **Run** – Runs the test without saving it. The test is shown as unsaved in the collision test list. See Saving collision tests.
   - **Save** – Saves the test without running it. The test is added to the collision test list without results, and you can run it later.
   - **Save & Run** – Saves the test and runs it.

   Help – Opens Collision checking.
9. While the test runs, you can click **Cancel**. If you cancel, no violations will be reported. See Viewing and saving the results.

9.4.32.5.1.3. Viewing and saving the results

When the test is finished, the **Collision tests** pane opens and shows the collisions. The test is not saved automatically, and it is shown as unsaved in the collision test list. To let all project users to view the results later in eShare App or in eShare, save the test. See Saving collision tests. To examine a collisions, select the type of collision or the object in the table. The collision opens in **Examine** mode. The colliding objects are colored with yellow and blue and the colors are visible in the object column headers. See Selecting multiple collisions.

Note: In some cases the collision test results cannot be saved and rerun in the **Collision tests** pane, if the selections in model tree are such that cannot be rerun using the Collision Test Setup dialog.



To view the results in the object tree, select Show sidebar button in the main toolbar. To examine a collision from the model tree, select the violation, and then **Examine** from the context menu.

9.4.32.5.1.4. Using saved searches as collision tests

When you select **Saved searches** as the source of a collision set, the saved searches are listed under **Private**, **Shared by me**, and **Shared to me**. Only searches that find objects can be used. Smart point and markup searches are not listed.

You can select several searches for one set. Their objects are used together.

The search is run again each time the collision test runs, so the test always uses the objects that the search finds in the current model. If an object no longer matches the search, it is not included in the test.

The search terms are saved with the collision test when you select the search. If you edit the saved search later, the collision test does not change.

If a saved search finds no objects with geometry, the collision test is not run.

The test details show the saved searches that the test uses. Select a search name to open the search.

9.4.32.5.1.5. Saving collision tests

To let all project users view a collision test and its results later, save the test.

If you ran a test without saving it, it is shown as unsaved in the collision test list. To save it, do one of the following:

- In the collision results, select in the toolbar.
- In the collision test list, in the **Actions** column, select and **Save test**.

If the test has a grouping attribute, the collisions are grouped when you save the test.

9.4.32.5.1.6. Modifying collision tests

When you modify a saved test, the new settings replace the old ones, and the test is run again with the new settings. That is why the dialog shows only **Save & Run** when you modify a test.

To try different settings without changing the original test, in the collision test list, in the **Actions** column, select and **Use as template for new test**. This opens a new test with the same settings.

9.4.32.5.2. Viewing saved collision test results

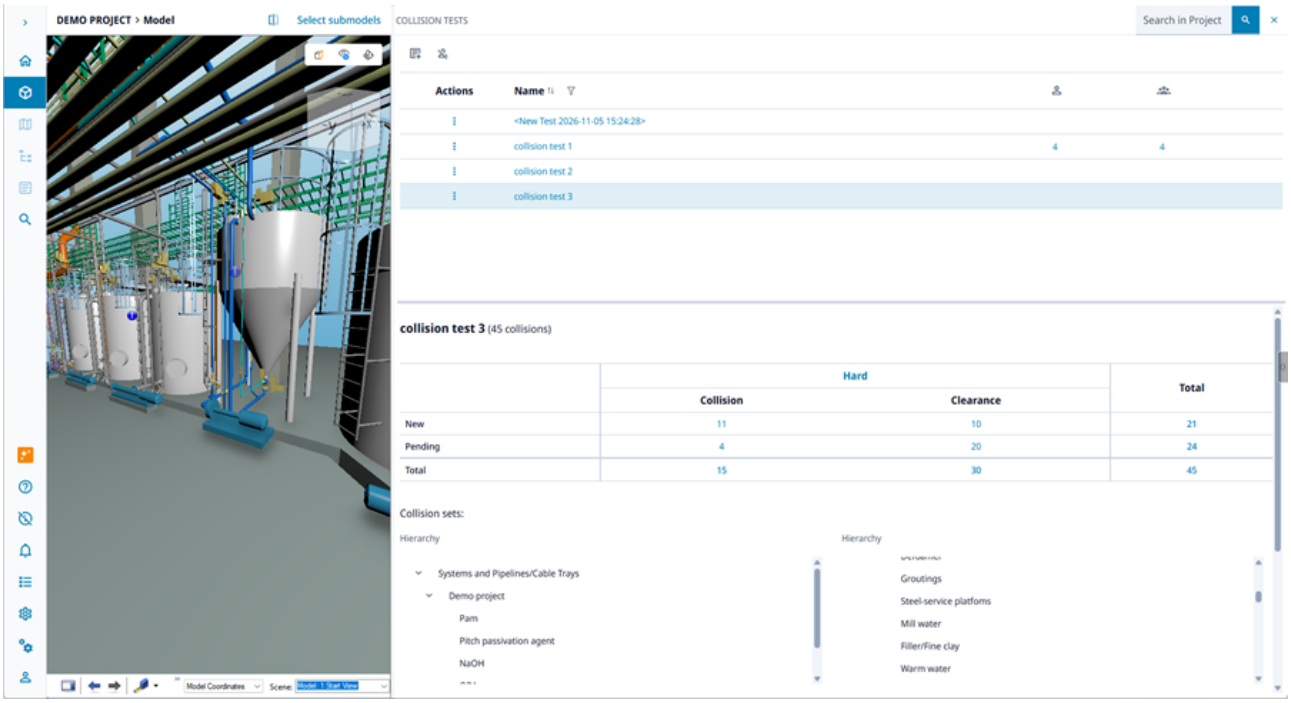
Prerequisites

- Collision test has been performed in eShare App. See Performing collision checks.
- Collision test results have been saved in eShare App. See Saving collision tests.

> **Note:** In some cases the collision test results cannot be saved and rerun in the **Collision tests** pane, if the collision check was initiated from the model tree using such selections that cannot be rerun using the Collision Test Setup dialog.

Do the following:

- In Model view, select **Split screen** and **Model - Collisions**.



You can view information on any saved collision test by selecting the row. The summary table has links in each cell with data, which will open the collision results in a filtered view corresponding to the selected data. For example in the above image clicking on **11** with status **New** and type **Collision** shows the collision results filtered by status New and type Hard collision.

Selecting the name of the test will open the results in the collisions test pane.

The list can be filtered based on the names of the tests.

You can also select to show only tests with open collisions with status **New**, **Pending**, **Must be Fixed**, or **In Progress**. Collisions assigned to you are shown in column. Open collisions assigned to a group you belong in are shown in column. You can click on the number of assigned collisions in the column to view only the assigned collisions. To show all collision tests, select in the toolbar.

The following functions are available for each collision test in the Actions menu by selecting and then the desired function:

- **Use as template for new test** – Creates a new collision test by using the configuration of the collision test selected as a template. The configuration can be changed before running the test. Check for Collisions dialog opens.

Note: Collision checks can be run only in eShare App.

- **Modify test (clear results)** – Re-runs the existing collision test and allows changing the existing configuration. Note that the current results are also cleared, including any collision groups or other configurations. A confirmation dialog opens. After confirmation Check for Collisions dialog opens.

  Note: Collision checks can be run only in eShare App.

- **Rename**– Renames the collision test.
- **Delete**– Deletes the collision test.
- **Clear results**– Clears the collision test results.

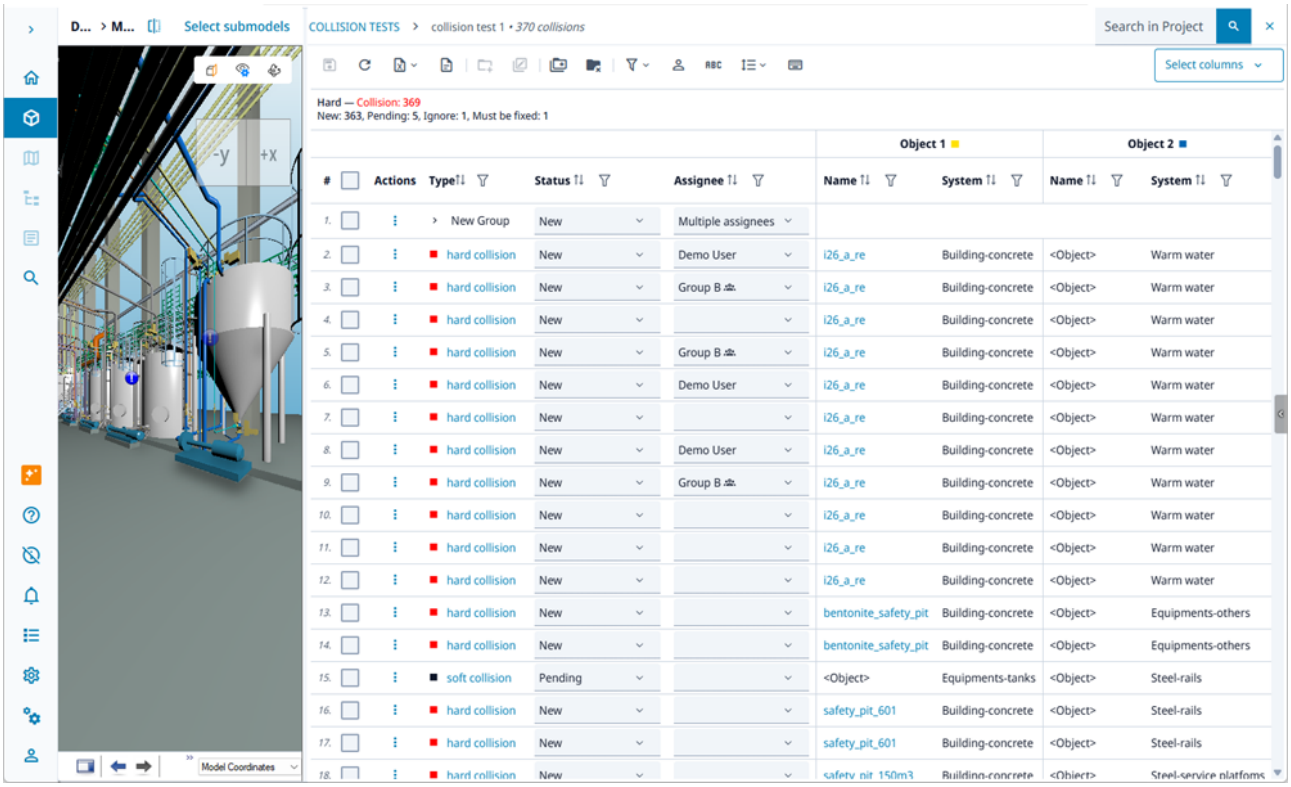
To run a new collision check, select  and Collision Test Setup dialog opens. See Setting up a collision test.

Note: Collision checks can be run only in eShare App.

9.4.32.5.2.1. Viewing collision test results in collisions tests pane

Do the following:

1. In model view, select **Split screen** and **Model - Collisions** from the drop-down menu.
2. In collision tests list, select the name of the collision test you want to examine.
   The collision test results open in **Collision tests** pane.



Open the collision tests list by selecting **Collision tests** at the top.

9.4.32.5.2.2. Viewing the collision or object in Examine mode

- Click on the collision type in the collision test pane to view the collision in Examine mode. When examining the collision, you can move around the camera and its position is automatically saved when the motion stops. When the collision is re-examined, the saved camera position is loaded. Note that the camera will always face the point of collision when the collision is opened in Examine mode.
- Click on the object in collision tests pane to view it in Examine mode. The colliding objects are colored with yellow and blue and the colors are visible in the object column headers.

9.4.32.5.2.3. Modifying the collision test result view

- — hide/show Assignee column.
- — hide/show flipped collisions.
- ABC — hide/show saved attributes.
- — select the density of the table as **Comfortable** or **Compact**.

- Select displayed columns using **Select columns** to select and filter from the drop-down menu which columns are included in the table.

  The visible attribute column selection is configured and saved individually for each collision test, and the same column configuration is visible to other users in the project viewing the test results.
- Sort and filter the table columns using ↑↓ and ▽.

  If at least one of the collisions in a collision group matches the filter, the group row will be shown. By default the collisions are sorted in ascending order and the collision group rows are shown at the top of the list, or at the bottom when in descending order.

9.4.32.5.2.4. Editing collision test results

Select ✎ to edit selected collision statuses and assignees.

You can edit one or multiple collisions, select the rows either by using the checkboxes, or use Ctrl or Shift key while selecting an empty space in a row. Clicking the Edit button opens a dialog where you can select to make changes to either status, assignee, or both. You can also select to create a collision group from the selected collisions, if you have two or more selected collisions. Click **Confirm** to make the changes and close the dialog. Save your changes.

9.4.32.5.2.5. Modifying collision test status

View and change the status of the collision in the **Status** column. Newly found collisions have status **New**, but it will automatically change to **Pending**, if the collision test is rerun. You can change the status manually to any other status (**Pending**, **In progress**, **Must be fixed**, and **Ignore**) except **Fixed**– the collision will get status **Fixed** when it is not detected anymore upon the subsequent collision test run. Save your changes.

If you have multiple rows selected, the status of all the selected collisions will be changed.

9.4.32.5.2.6. Grouping collisions

You can group collisions to handle related collisions together. A new collision group is always added to the top of the collision list.

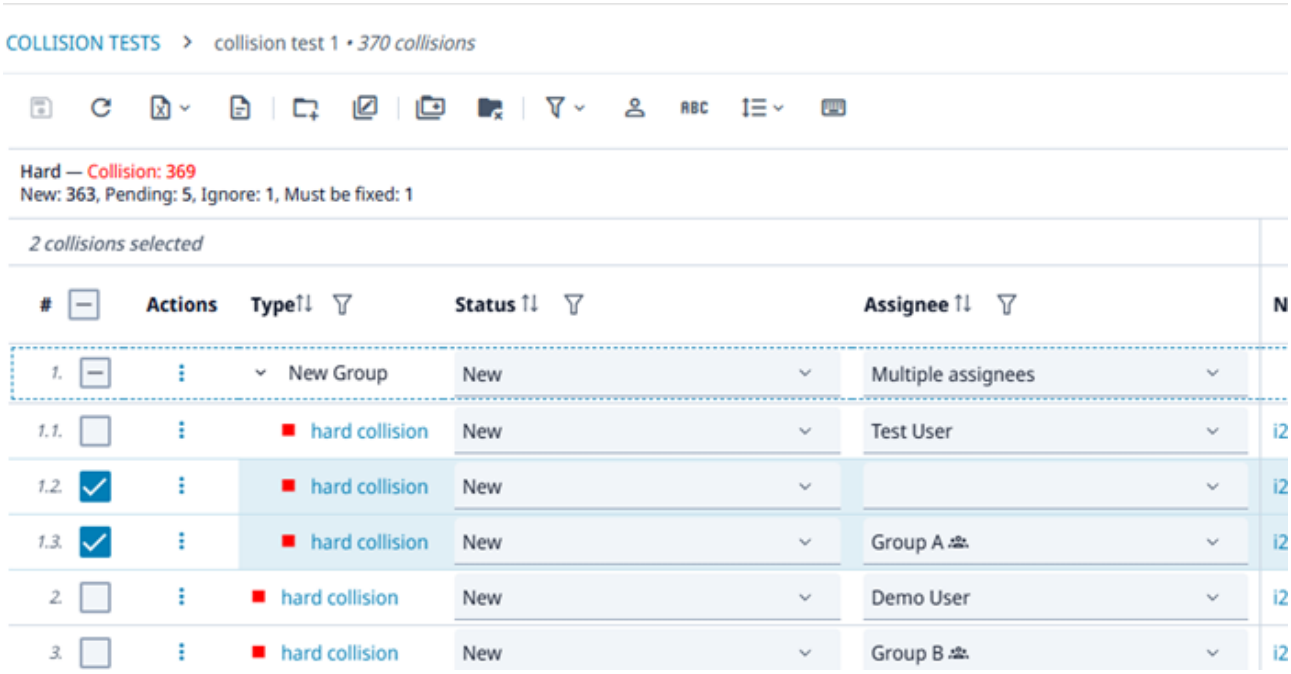
9.4.33. Selecting multiple collisions

Several of the grouping methods start with selecting collisions. To select multiple collisions, do one of the following:

- Select the checkboxes of the collisions.
- Hold down Ctrl or Shift and click on an empty area in the collision rows.

If only some of the collisions in a group are selected, the group's checkbox shows a dash (–). The checkbox in the header row works the same way: it shows a dash when only some of the collisions and groups in the list are selected.

Selecting a checkbox that shows a dash selects all the collisions in the group. The checkbox in the header row works the same way: selecting it when it shows a dash, selects all the collisions in the table.



9.4.34. Group selected collisions

Do the following:

1. Select the collisions.
2. Select to create a collision group.

You can also group collisions in the **Edit collision statuses and assignees** dialog:

Do the following:

1. Select the collisions.
2. Select  to open the dialog.
3. Select **Create group from selected collisions**.
4. Select **Confirm**.

9.4.35. Group collisions while assigning them

Do the following:

1. Select two or more collisions.
2. In the **Assignee** drop-down menu, select **Create collision group**.
3. Select the assignee.

The selected collisions are grouped and the same assignee is set for all of them.

9.4.36. Group collisions that share an object

You can group all the collisions that involve the same object, for example all collisions with the same pipe as Object 1.

Do the following:

1. Select a collision row.
2. In the Actions column, select .
3. Under **Group collisions from**, select **Object 1** or **Object 2**.

The collisions that have the same Object 1 ID, or the same Object 2 ID, as the selected collisions are grouped.

You can also use this with multiple selected rows. Object 1 and Object 2 are available only if all the selected collisions have the same object ID.

Grouping uses the object ID, not the object name. Objects that have the same name but different IDs are not grouped together.

9.4.37. Group collisions by an attribute

You can group ungrouped collisions by the value of an attribute.

Do the following:

1. Select . A dialog opens.
2. In the first field, select the attribute to group the collisions by.
3. In the second field, select how to group the collisions:
    - **Create combined groups** — Groups the collisions by the combination of the Object 1 value and the Object 2 value. The group name shows both values, for example *value 1 | value 2*. If both objects have the same value, the group name shows the value only once.
    - **Prioritize object 1 attribute** — Groups the collisions by the Object 1 value. If Object 1 has no value, the Object 2 value is used.
    - **Prioritize object 2 attribute** — Groups the collisions by the Object 2 value. If Object 2 has no value, the Object 1 value is used.
    - **Group by first alphabetical value** — Groups the collisions by whichever of the two values comes first alphabetically.

Collisions where neither object has a value for the selected attribute stay ungrouped.

9.4.38. Group collisions automatically when a test runs

You can set a collision test to group collisions by an attribute automatically after each run. In the Collision Test Setup dialog, select the attribute in **Group by attribute** and the rule in **Grouping rule**. The grouping rules are the same as in Group collisions by an attribute. See Performing collision checks.

After each run of a saved test, a group is created for each attribute value, or combination of values, found in the collisions. Collisions where neither object has a value for the attribute stay ungrouped.

When you run the test again, new collisions are added to the matching existing groups, and new groups are created for new values. Collisions that are already in a group stay in their groups, including groups you created yourself.

If you run a test without saving it, the collisions are grouped when you save the test. See Saving collision tests.

9.4.39. Managing collision groups

- To show or hide the collisions in a group, expand or collapse the group row.
- To rename a group, click on the group name and edit it. You can also select ⋮ in the **Actions** column and select **Rename**.

- To delete a group, select ⋮ in the **Actions** column and select **Delete**. The collisions in the group will become ungrouped.

9.4.39.0.0.1. Editing the status and assignee values of a collision group

The collision group row shows the shared status and assignee values of the collision group, or when the collisions in the group have different values, **Multiple statuses** and **Multiple assignees** are shown.

When you change the status or the assignee of the collision group, it will be changed for all the collisions in the group.

9.4.39.0.0.2. Adding collisions to an existing collision group

Do the following:

1. Select the collision(s) in the list, either with the checkboxes or using Ctrl or Shift key while selecting an empty space in a row.
2. Select ⋮ in **Actions** column. **Add collisions to group** dialog opens.
3. Select an existing group in the drop-down menu, or filter the list to show only collisions related to objects in the selected collision(s).
4. Select **Move to selected group**. You can also create a new collision group by selecting **Create new group**.

If the selected collisions include collisions already in another collision group, you will be prompted to either **Keep in existing group** or **Move to new group**.

Note: If you have selected rows containing both grouped and ungrouped collisions, the available options in **Actions** menu depend on whether the menu is opened on the row for a grouped or an upgrouped collision. The menu for a grouped collision does not have **Add to collision group** available.

9.4.39.0.0.3. Removing collisions from a collision group

Do the following:

1. Select the collision(s) in the list, either with the checkboxes or using Ctrl or Shift key while selecting an empty space in a row.
2. Select ⋮ in **Actions** column.
3. Select **Remove from collision group**. **Remove collisions from group dialog** opens.

4. Select one of the following:
    - select **Make ungrouped**makes the collision(s) ungrouped
    - select target group in the drop-down menu and **Move to selected group** move them to another collision group.

If you have multiple collisions selected, this change will affect only the grouped collisions.

Note: If you have selected rows containing both grouped and ungrouped collisions, the available options in **Actions** menu depend on whether the menu is opened on the row for a grouped or an upgrouped collision. The menu for an ungrouped collision does not have **Remove from collision group** available.

9.4.39.0.0.4. Removing all collision groups from the collision test

Do the following:

1. Select  to ungroup all collisions in the collision test. A confirmation dialog opens.
2. Select **Yes** to remove all collision groups.

9.4.39.0.0.5. Assigning collisions to users or groups

Note: Collisions can be assigned only to users who belong to at least one of the project's groups, which has collision assignment allowed.
Groups are added to the project by a project administrator, see Adding and removing project users and groups.
Collision assignment is enabled for groups by a system administrator, see Group management view.

Assign a collision to a project user or a project group in the **Assignee** column. Newly found collisions are **Unassigned**. You can search for and select the assignee from the drop-down menu, or select **Assign to me** to assign it to yourself. Save your changes.

If you have multiple rows selected, the assignee of all the selected collisions will be changed.

9.4.39.0.0.6. Saving changes to statuses or assignees

Select  to save changes.

If you are attempting to leave the view while there are unsaved changes, you will be prompted to save the changes.

9.4.39.0.0.7. Creating a markup for a collision object

In **Actions** column for the collision, select ⋮ and then select either object in the menu to create a markup.

9.4.39.0.0.8. Rerunning the collision test

Select ↻ to rerun the collision test.

Collision Test Setup dialog opens.

Note: Collision checks can be run only in eShare App.

9.4.39.0.0.9. Exporting collision test results as an Excel file

Select  to export the results as an Excel file. Select **Export All** or **Export Filtered**.

If **Export All** is selected, the Excel file includes all the collisions, excluding flipped collisions, *unless* they have been selected visible in the collision test result view, and will then be included in the Excel file.

If option **Export Filtered** is selected for the report, the report reflects the column and group filters configured for the test results, and is a preferred way of keeping the group-child structure of the collisions instead of filtering and sorting in the Excel file.

9.4.39.0.0.10. Exporting collision test results as an HTML file

The HTML report contains key data for each collision, including a snapshot of each collision (unless there are objects included which do not belong to the currently loaded submodels), which can be viewed in full size by clicking on the thumbnail image. The image opens in a frame where you can browse all of the images using the arrow buttons or keys. If there are collision groups configured for the test, they are preserved in the report, and can be expanded and collapsed. The date in **Detected On** column shows the date when the collision was first detected in *any* test, and the date can be older than the actual test generation date for the current test.

Do the following:

1. Select .

   HTML report export settings dialog opens.
2. In the dialog, specify the following:

- In Columns, select which data fields are included in the HTML report: **Type**, **Status**, **Assignee**, object fields, attributes, **Position columns (x,y,z)**, and **Detected on data**. **Select all columns** is selected by default.
- In Row filters
  - select which statuses are included: **New**, **Pending**, **In progress**, **Must be fixed**, **Ignore**, and **Fixed**.
  - **Include only currently filtered** — If selected, the report reflects the column and group filters configured for the test results in the collision test results table.
  - **Include flipped collisions** — If **Flipped collisions visible** is enabled in the collision tests toolbar, you can select to include flipped collisions in the report.

    If the table results have been filtered using column filters, some of the status checkboxes in the dialog may be disabled if those statuses do not exist in the filtered results. For example, if the test contains collisions with status **New**, but the activated column filters show only collisions with status **Pending**, you cannot select to include **New**in the export dialog, if you have **Include only currently filtered** selected.
- Snapshots
  - **Include snapshots** — If selected, the report includes snapshots of the collisions.

    If selected, specify the following:
    - **Image type** —Select the file format for the image.
      - **JPEG** — Fastest to generate and produces a small file. JPEG uses lossy compression, so fine details may be lost.
      - **WebP** — Produces the smallest file with good image quality. Generating a WebP image usually takes the longest, especially with **Image quality** set to high.
      - **PNG** — Produces the largest file with the best image quality. PNG uses lossless compression, so no details are lost. Generation time is moderate.

      Use PNG when image quality matters the most. Use WebP when you need small files, and JPEG when you need the images generated quickly.
    - **Image quality** — If the selected image type is JPEG or WebP, select the image quality. The value can be between 0-1.

- **Image size** — Select the image size. The dimensions can be between 32x32 and 1024x1024.

Note: The snapshot is not the exact image as in the model view due to different image size, coloring, and transparency settings.

- Output
  - **Generate report in batches** — If selected, the report is split into batches and set the batch size for large exports.

    If selected, specify the following:
    - **Batch size** — Set the batch size for large exports. The value can be set to 100-1000.

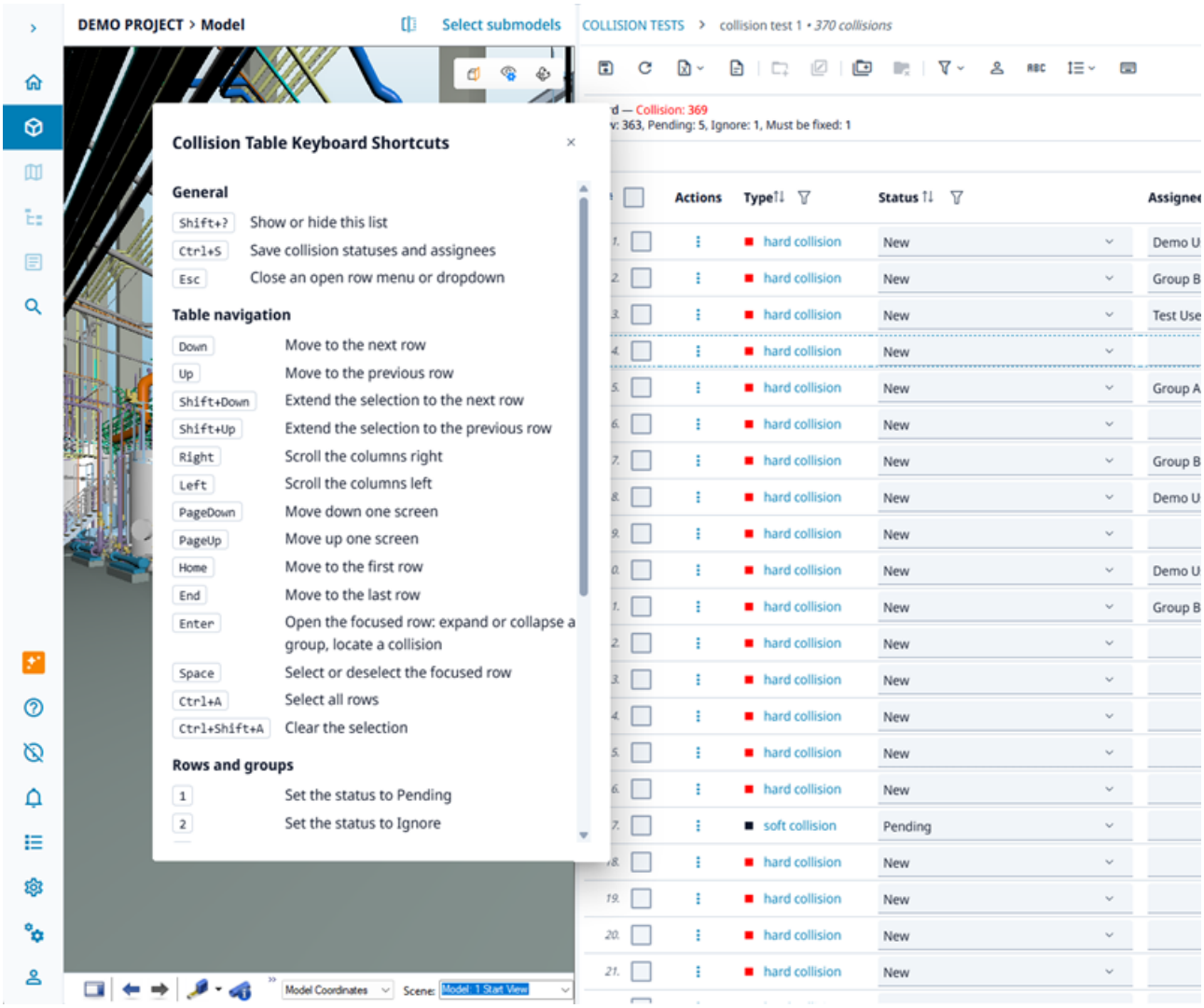
      The actual batch size may occasionally be smaller if the report includes collision groups, because the exporter attempts to keep collision groups in the same batch.

3. Select **Export**.

   The configuration in the HTML report export settings dialog is saved for the current session and will be the same when you reopen the dialog. After refreshing the page the configuration is reset.

9.4.39.0.0.11. Collision table keyboard shortcuts

Collision table supports hot keys. You can open a dialog with the hot keys with Shift + ? or  in the toolbar.



9.4.40. Using hot keys in the collision table

Most hot keys work only when the collision table has focus. To give the table focus, click a row or another part of the table, or move the focus to the table with the Tab key. The summary and the toolbar above the table are not part of the table, so clicking them does not give the table focus.

When the table has focus, you can run all the commands in the list with the keyboard only.

9.4.41. Hot keys that work anywhere in the collision results

Some hot keys work when the focus is anywhere in the collision results, not only in the table. For example, they work right after you click a toolbar button or an empty area of the toolbar. These hot keys are marked in the tables below.

9.4.42. When hot keys have no effect

Hot keys have no effect while you type text, for example in a column filter box, when renaming a group, or in a text field in a dialog.

9.4.43. Hot keys shared with the browser and the 3D view

Some hot keys are the same as browser hot keys, for example Ctrl + S, Ctrl + G, Ctrl + B, Ctrl + E, and Ctrl + Shift + A. When the collision table has focus, these hot keys run the collision table command. The browser command runs only when the collision table does not have focus. Ctrl + S is an exception: it runs the collision table command whenever the focus is anywhere in the collision results.

Some hot keys are also used in the 3D view. Focus is on either the 3D view or the collision table, never both, so a hot key affects only one of them. The 3D view hot keys work after you click the 3D view.

When you press Enter to locate a collision, the focus stays on the table. To rotate or zoom the model, click the 3D view first.

9.4.44. Using dialogs with the keyboard

You can use the dialogs that these commands open with the keyboard only:

- To move between fields and buttons, press Tab or Shift + Tab.
- To select a button or option, press Space or Enter.
- To cancel, press Esc.

When the dialog closes, the focus returns to the collision table, so you can continue with the arrow keys right away. The focus also returns to the table after operations such as grouping and ungrouping.

9.4.45. Closing the keyboard shortcuts dialog

The collision table keyboard shortcuts dialog stays open when you go back from the results of a collision test to the list of collision tests. It closes automatically when you close the list of collision tests, for example when you go to the 3D view.

9.4.46. General keys

Key	Action
Shift + ?	Open the collision table keyboard shortcuts dialog. Works anywhere in the collision results.
Ctrl + S	Save collision statuses and assignees. Works anywhere in the collision results.
Esc	Close an open row menu or drop-down

9.4.47. Table navigation keys

Key	Action
⇩	Move to the next row
⇧	Move to the previous row
Shift + ⇩	Extend the selection to the next row
Shift + ⇧	Extend the selection to the previous row
⇨	Scroll the columns right
⇦	Scroll the columns left
Page Down	Move down one screen
Page Up	Move up one screen
Home	Move to the first row
End	Move to the last row
Enter	Open the focused row: expand or collapse a group, locate a collision
Space	Select or deselect the focused row

Key	Action
Ctrl + A	Select all rows
Ctrl + Shift + A	Clear the selection

9.4.48. Rows and groups keys

Key	Action
1 / 2 / 3 / 4	Set the status to 1: Pending 2: Ignore 3: Must be fixed 4: In progress
F2	Rename the focused group
Ctrl + Delete	Delete the focused group
Ctrl + G	Create a collision group from the selected collisions
Ctrl + Shift + G	Ungroup all collisions
Ctrl + B	Group ungrouped collisions by attribute
Ctrl + E	Edit the selected collisions' statuses and assignees

9.4.49. View keys

Key	Action
Ctrl + Shift + 1 / 2 / 3	Show or hide 1: grouped collisions 2: ungrouped collisions 3: flipped collisions

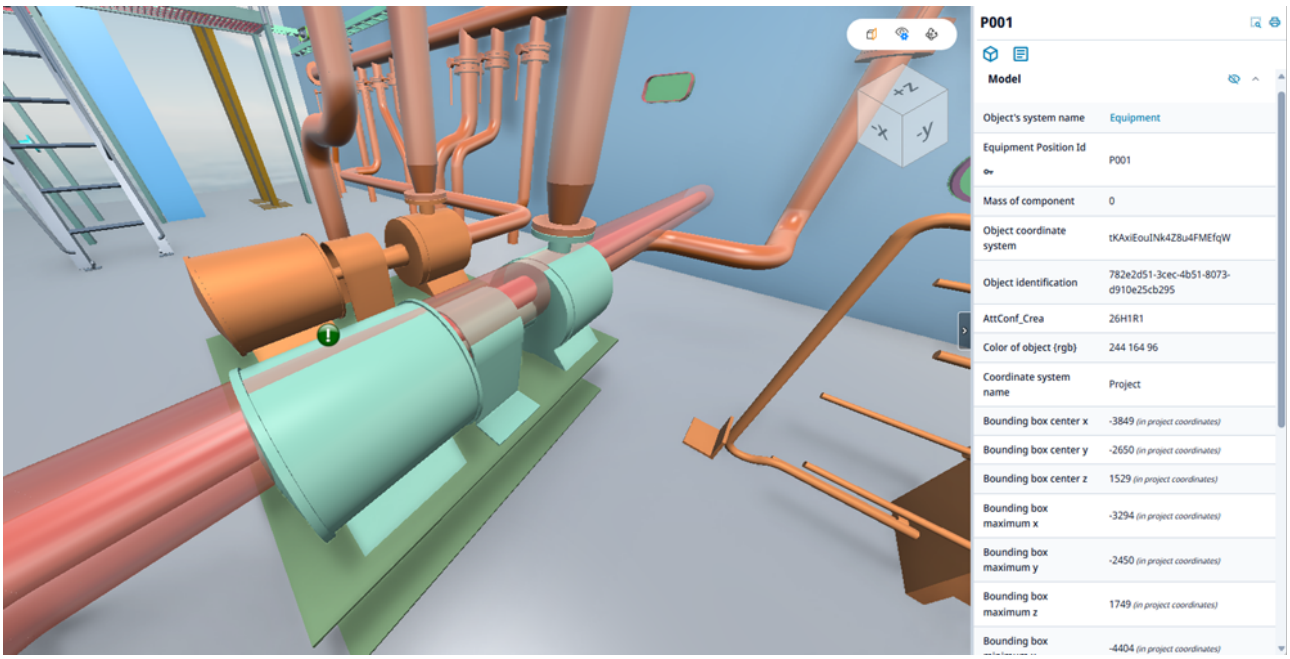
Key	Action
	Works anywhere in the collision results.

Related topics

Split screen

9.4.49.1. Properties pane

The properties pane on the right side of the Model view, Search, and the Documents Viewer shows information about the selected item, such as its name and attributes. Depending on the data sources that the administrator has enabled for the project, the pane can also show additional information, such as links to related documents and drawings, or to manufacturers' online catalogs.



9.4.49.1.1. What the pane shows

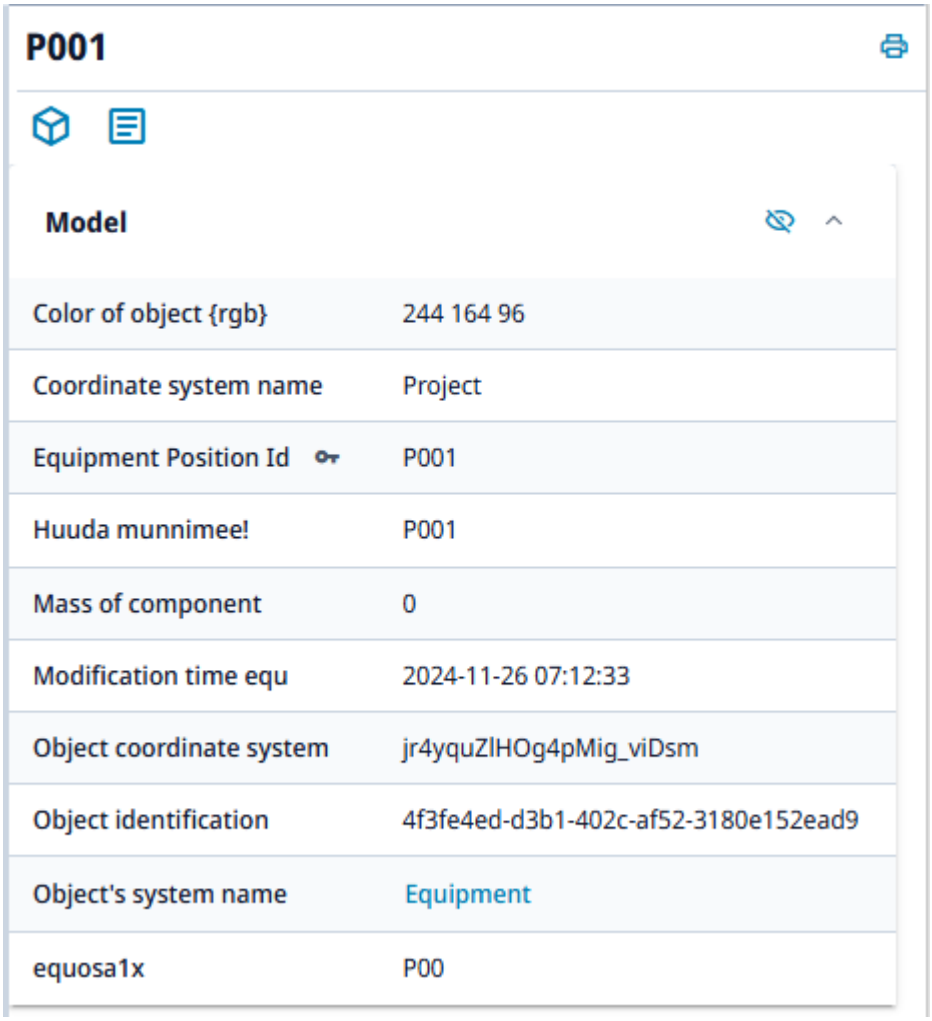
The content of the pane depends on what you select.

9.4.49.1.1.1. Model object

When you select a single model object, the pane shows the object's name, attributes, and any additional information available for the object. If the coordinate system is defined in the EBM/EBMX file, the pane also shows the coordinate system.

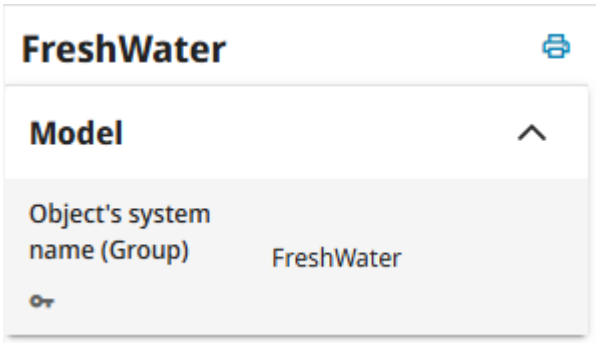
To show attributes that are hidden by default, select **Show hidden attributes** at the top of the pane. The hidden attributes are visible. To hide them again, select **Remove hidden attributes from view**.

If you select a cable segment or a cable node, the pane shows the cable's details in a collapsed category. If the object has related nodes, their details are also shown in a collapsed category.



9.4.49.1.1.2. Object group

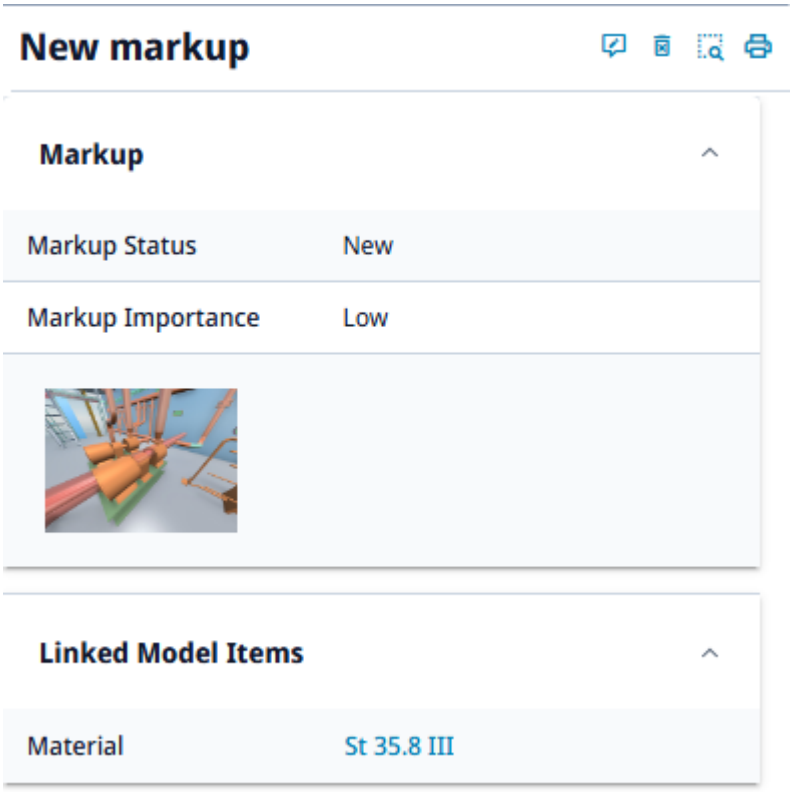
When you select an object group, such as a system, the pane shows the group's name and attributes. If the project uses status tracking, you can change the status of the group.



9.4.49.1.1.3. Markup

When you select a markup in the model, the pane shows its name, type, status, importance, latest comment, and thumbnail. It also shows any additional properties defined in the markup type, such as the assignee. The model items linked to the markup are shown in a collapsed category.

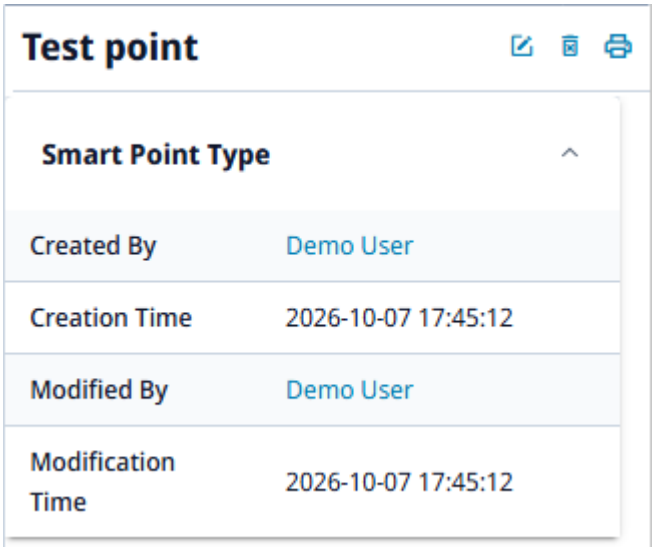
- – Edit the markup.
- – Delete the markup.



9.4.49.1.1.4. Smart Point

When you select a Smart Point in the model, the pane shows its name, type, and attributes.

- – Edit the attribute values.
- – Delete the Smart Point.



9.4.49.1.2. Working with the properties pane

- To see an attribute's tag, hover over the attribute.

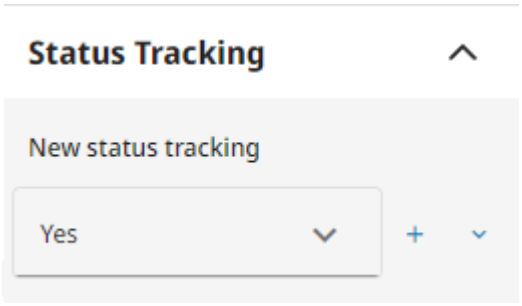


- To print the information in the pane together with a snapshot of the current 3D view, select . Collapsed sections are also included in the printout. If the printout contains a QR code, you can scan it with Cadmatic eGo to open the same item in eGo, with the same camera position and viewing direction.
- To open a linked web page, select the link. Depending on the hyperlink adapter settings, the page opens in a new tab or always in the same tab.
- To go to the linked documents, select . To open a document, select its name. The document opens and zooms to the location of the item.
- In the Model view, select to scroll back to the model object information at the top of the pane. In Search and Documents Viewer, the same icon opens the item in the Model view.

9.4.49.1.3. Changing status tracking values

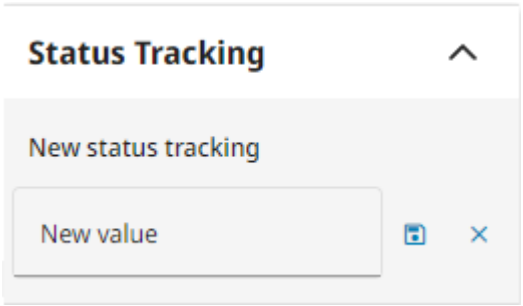
If the pane shows status tracking values, you can change them:

- To change a status, select the value field and select the new status. Only the allowed status changes are listed.
- To see a history of previous status changes, select the blue arrow next to the value field.

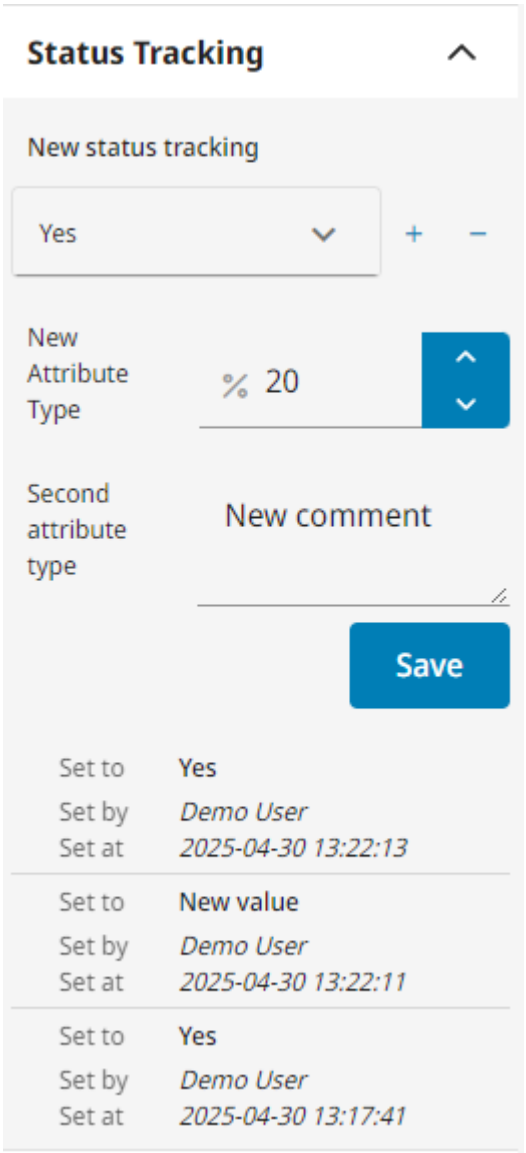


You can also select multiple objects and change them to the same status, even if their current statuses are different.

To add a status tracking value, select + and type the value, or select one from the drop-down menu. Then select **Save**. The + button is shown only if adding values is enabled.



When you expand the status tracking section, you can change or add attribute types. Select **Save** to save the changes.

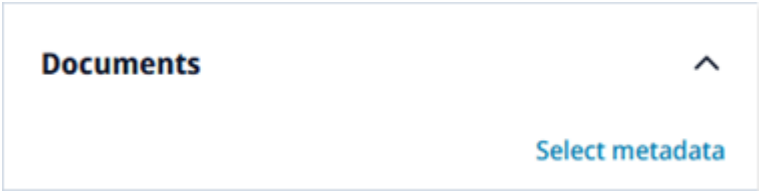


Note: If you are examining an object and the visual style menu is set to color objects according to status, the 3D view shows the new color only after you close the examination mode.

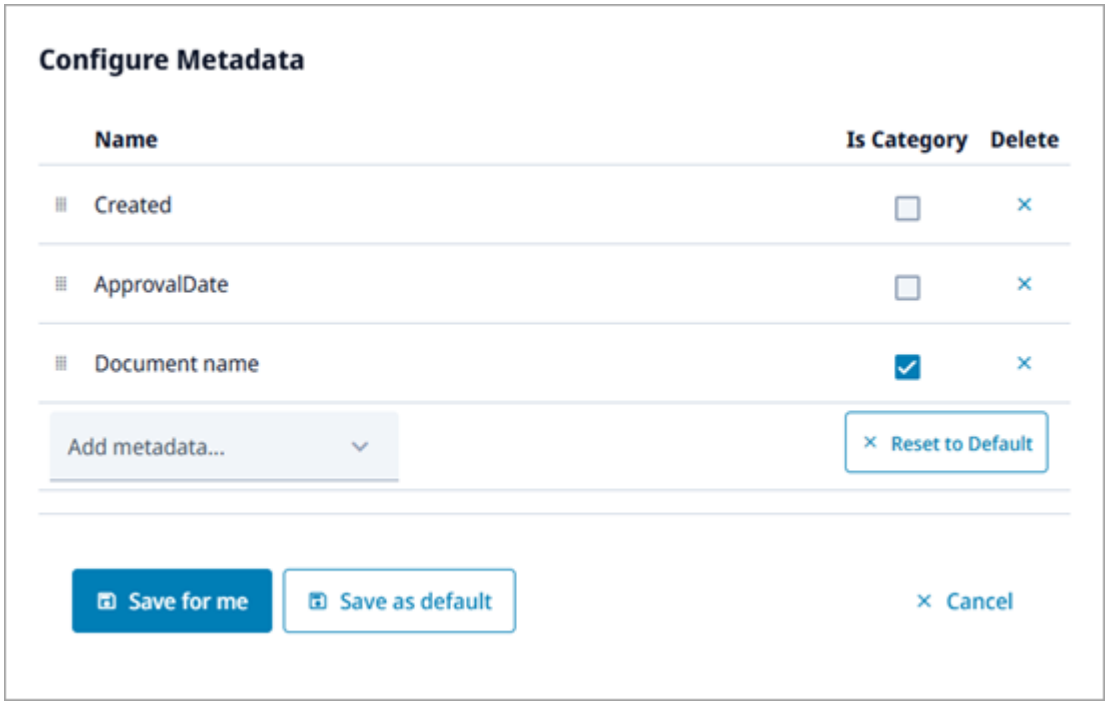
9.4.49.1.4. Configuring document metadata

If the linked documents include, you can choose which document metadata is shown in the pane.

1. In the documents section, select **Select metadata**.



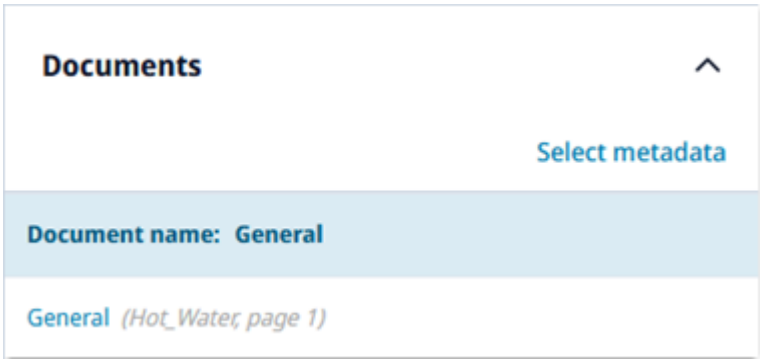
The Configure metadata dialog opens.



2. Select metadata from the Add metadata drop-down menu. To change the order, drag the rows. To remove metadata, select ✕.
3. Select one of the following:
   - **Save for me** – Saves the configuration for you only. It replaces the default configuration for you.
   - **Save as default** – Saves the configuration as the default for all users. Available only for system and project administrators.

   To go back to the default configuration, select **Reset to default**.

Metadata that has **Is Category**enabled is shown in the properties pane.



9.4.49.1.5. Showing center of gravity markers

If the pane shows weight and center attributes, you can show the center of gravity as a marker in the 3D view. Select . The marker has a label with the attribute description, and each attribute tyoe has its own marker color.

When you add new items to the selection or remove items from it, the existing markers stay in the 3D view. Their labels get and index, such as [1], to show that they are no longer current. The markers are cleared when you clear the selection or select a new object without holding down Ctrl key.

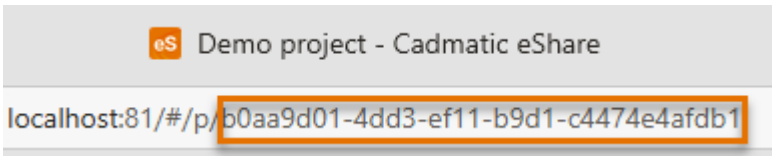
- To clear the markers of an attribute type, select .
- To show or hide the attributes of a type, select or . You cannot use a hidden attribute type until you show it again.

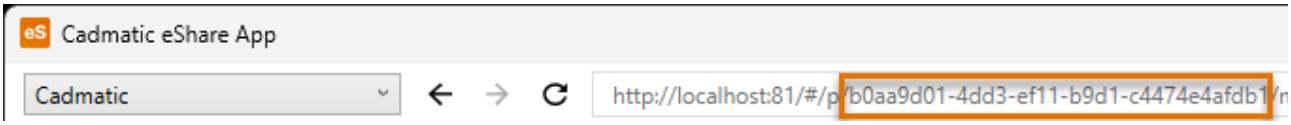
Hiding the properties pane with a URL parameter

You can show or hide the properties pane by adding the parameter *attributePaneVisibility=show* or *attributePaneVisibility=hide* to the eShare URL. For example, this URL shows the sidebar but hides the properties pane:

https://<domain>:<port>/#/p/<project id>/model?treeVisibility=show&attributePaneVisibility=hide

<project id> is the unique project ID of the project, which is visible in the URL field of the browser or eShare App.





For more information on URL parameters, see URL parameters.

Related topics

Documents Viewer

Markups

Smart Points

Status tracking and object grouping

URL parameters

9.4.49.2. Smart Points

Smart Points are specialized markers that are linked to an object or object group and display information about that entity. The information that a Smart Point contains can be user-defined or obtained from an external system or database—as defined in the Smart Point Type configuration in eShare. Smart Points can be seen as icons in the 3D model, and the user can select a Smart Point to see the information that it contains. If the Smart Point uses attributes, the user can also add information by editing the attribute values. Smart Points can be created and modified in both eShare and eGo, and the changes can be synchronized from one program to the other. Smart Points can be downloaded also to Cadmatic Plant Modeller. Accordingly, Smart Points can be used to quickly add status information or other comments during a meeting or an on-site visit.

Smart Points are available if project administrator has enabled them for your project. In the 3D model, hovering the mouse over the Smart Point icon you can also see the Smart Point's name. Normally, points that are further away display a smaller icon to indicate distance. But, selecting to examine an object or object group always displays its icons in full size, to make it easier to see all the Smart Points of a large object, such as a long pipeline.

You can select a Smart Point that is fairly close to you by clicking it. The Smart Point is highlighted and its details are displayed in the properties pane on the right. You can see its standard attributes such as name, type and external ID, as well as any user-definable attributes or attributes obtained from an external data source. Also a change log is available if project administrator has enabled this function in the Smart Point Type settings. When viewing a Smart Point that uses a PI Adapter, the data is constantly updated from the PI database, and there is a chart that you can click to expand the chart view.

In addition to finding Smart Points by browsing the model, you can use the search function of eShare to locate Smart Points. See Search.

Depending on the Smart Point Type configuration, you might or might not have permission to see or modify Smart Points of a specific type.

9.4.49.2.1. Adding a Smart Point

In the 3D model viewer you can add Smart Points to objects and object groups.

Prerequisites

- Project administrator has created one or more Smart Point Types for this project.
- Depending on Smart Point Type configuration, you might need permissions to be able to create Smart Points. If you do not have sufficient permissions to create Smart Points, the **Add Smart Point** option is not available.

Do the following:

1. In the 3D model viewer, locate the object to which you want to add a Smart Point.
2. Right-click the location in the object where the Smart Point is to be placed, and select **Add Smart Point** from the right-click menu. The **New Smart Point** pane is displayed on the right.
3. In the **New Smart Point** pane, enter the following information.
    - **Type** – Select the Smart Point Type. This determines the color and the icon of the Smart Point in the 3D view, and whether the Smart Point Type has attributes.
    - **Name** – Enter a display name for the Smart Point.
    - **External ID** – If the Smart Point Type requires an external ID, enter the required value. For example, if the Smart Point Type uses a hypertext adapter to perform a web search, enter the search string in this field.
    - **Link to Model Item** – Select the attribute, such as Equipment ID, to which to link the Smart Point. Only attributes of type "Key" and "Group" are listed.
    - **[attribute name]** – If the Smart Point Type has any attributes, you can select or enter a value for each attribute.
4. Click **Save**.

Results

The Smart Point is added to the object and the Smart Point icon displays near the object.

9.4.49.2.2. Editing a Smart Point

In the **Model** view you can edit the properties of existing Smart Points, but not their location or object link. Edit the properties for example to set the value of a Smart Point attribute. Attributes that a Smart Point gets from an external data source, however, cannot be edited.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to edit Smart Points. If you do not have sufficient access rights, the Smart Point is in view-only mode and the **Edit Smart Point** button is not available.

Do the following:

1. In the 3D model viewer, select the Smart Point to edit.
2. In the properties pane, click the **Edit Smart Point** button .
3. Edit attribute type, name (or external identifier), and values as appropriate, and then click **Save**.

9.4.49.2.3. Deleting a Smart Point

In the 3D model viewer you can delete a Smart Point to remove it from the target object.

Prerequisites

- Depending on Smart Point Type configuration, you might need permissions to be able to delete Smart Points. If you do not have sufficient permissions, the **Delete Smart Point** button is not available.

Do the following:

1. In the Model view, select the Smart Point to delete.
2. In the Smart Point properties pane, click the delete button . You are prompted to confirm the action.

9.4.49.2.4. Displaying objects with Smart Points as a visual style

In the view cube toolbar, **Visualization > Visual styles**lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to highlight objects that contain Smart Points of that type.

Do the following:

- In the **Model** tab, in view cube toolbar select **Visualization > Visual styles** and select the required Smart Point Type from the menu.

  Objects and object groups that contain Smart Points of the specified type are highlighted in the 3D view. The color legend is displayed at the bottom of the model view. You can hide or show the legend using the arrow on the right side of the legend. If an object has several Smart Points that relate to different attributes, for example one Smart Point for Valve Position and another for Pipeline, the object is highlighted with the "Multiple Categories" color.

Related Actions

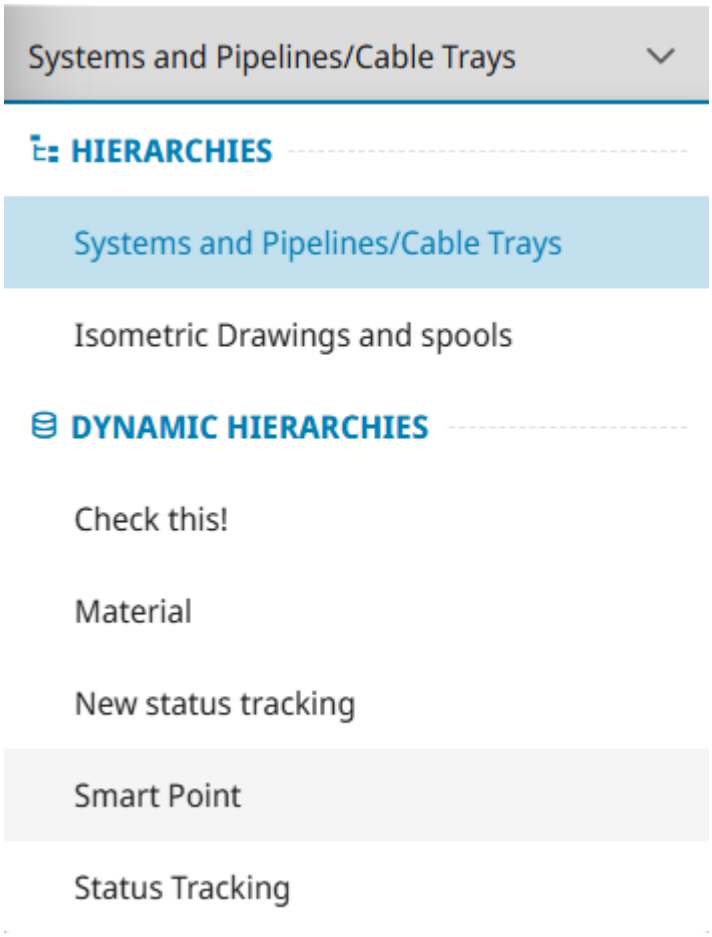
- After selecting a visual style, if you add, edit, or delete Smart Points, select in the view cube toolbar **Visualization > Refresh visual styles and hierarchies** to update the object colors in the 3D view.

9.4.49.2.5. Displaying objects with Smart Points as a hierarchy

The **Hierarchy** drop-down menu of the 3D model viewer lists the Smart Point Types defined in the project. You can select a Smart Point Type from this menu to list the objects and object groups that have Smart Points of that type.

Do the following:

- On the **Model** tab, open the **Hierarchy** drop-down menu, and select the required Smart Point Type from the list.



The **Model** tab displays a hierarchical list of entities that contain Smart Points of the specified type, and you can right-click an object to examine it or to hide all other objects, for example. Select in the view cube toolbar **Visualization > Refresh visual styles and hierarchies** to update the hierarchies.

9.4.49.3. Markups

The Markups functionality of Cadmatic eShare allows the participants of a design project to add comments and status information to a model, and then share the information with each other. Markups synchronized from Cadmatic eGo can also contain photos.

All projects have one default Markup Type that you can use to create Markups. In addition, project administrator can create additional custom Markup Types, and define which users have permission to view, create, update, upload, and delete Markups, as described in Markup types. Markups can be assigned to a specific user, if project administrator has enabled this function in your project.

Markups can be viewed in any coordinate system and the reference coordinates shown match the currently active coordinate system.

9.4.49.3.1. Adding new markups

In the 3D model viewer, users can add Markups manually by navigating to the location where the Markup should be placed, and then selecting **Add Markup** from the right-click menu. You can add Markups also in the bubble view of a point cloud.

This opens the Markup editor where you can add comments and simple graphics to the Markup, or email the Markup as a picture, for example. See Markup Mode or Rectangle, ellipse, cloud for details.

If you do not have permissions to create Markups, the **Add Markup** option is not available.

9.4.49.3.2. Uploading a markup file

In the front page of a project, click **Upload Markups** to upload Markups from an .ebx, .bcfzip, or .bcf file.

If you do not have permissions to create or update Markups, the **Upload Markups** option is not available.

9.4.49.3.3. Accessing markups from the project's home view

The latest Markups are listed as thumbnail images in the home tab of the project. Clicking the thumbnail image opens the Markup in the model viewer. Clicking the thumbnail image of a Document Markup opens it in Documents Viewer. Use the search links on the page to see more items. If you have sufficient permissions, you can update the Markups. If you do not have permissions to update Markups, the Markups are displayed in view mode.

You can configure in the recent markups widget, if the mode is to show markups for the current user or for all users.

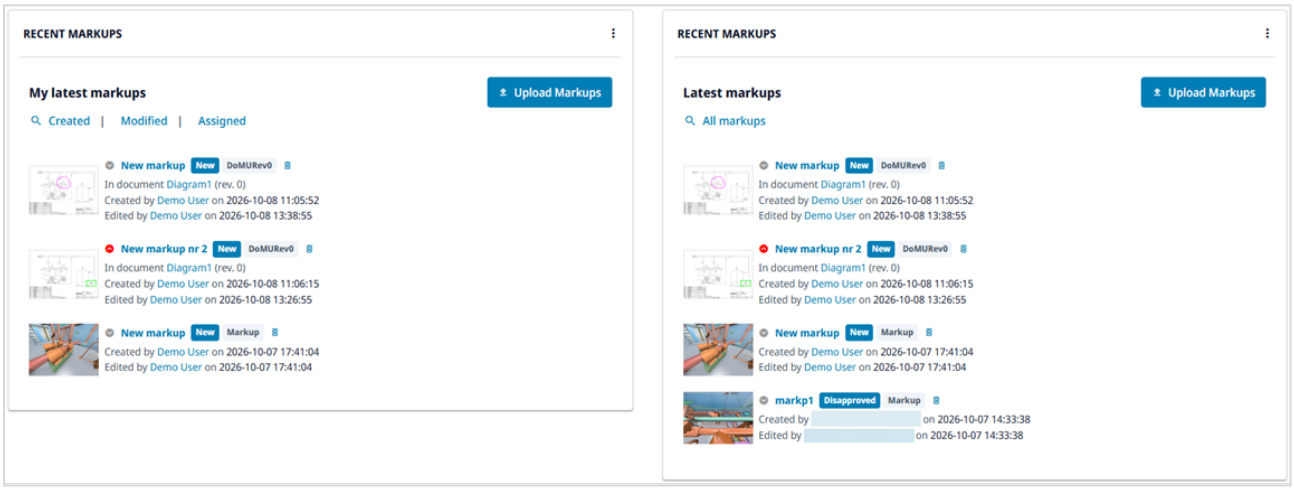


My latest markups – Lists the Model and Document Markups that the current user has recently added or modified or that have recently been assigned to the current user.

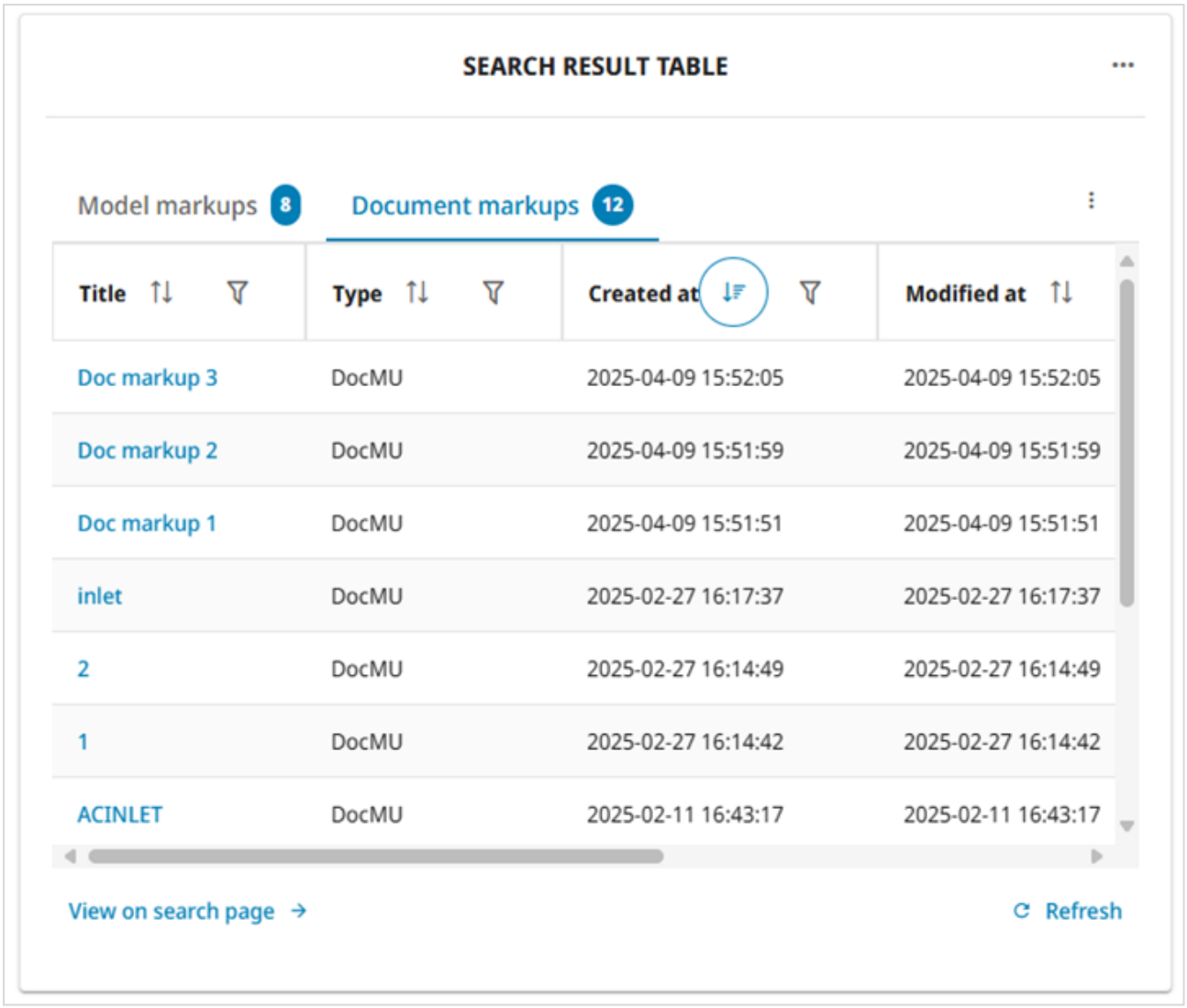
- **All Created by Me** – Opens the **Search** view and lists all Model Markups that the current user has created.
- **All Modified by Me** – Opens the **Search** view and lists all Model Markups that the current user has modified.
- **All Assigned to Me** – Opens the **Search** view and lists all Model Markups that are assigned to the current user.

Latest markups – Lists the Markups that any user has recently added or modified.

- **All Markups** – Opens the **Search** view and lists all Model Markups in the project.



Search Result Table widget – If a search result table widget with a markup search has been configured to a tab in Home view, Model markups are visible there.



9.4.49.3.4. Finding markups with search

In the **Search** view, you can use the "Smart points and Markups" search to find specific Markups. After performing a search, you can save the search for future use, and you can export Model Markups from search results to a Microsoft Excel file, a Microsoft Word file, or an .ebx, or .bcfzip file.

When Markups are configured to support assignees, you can use the search to find Markups based on their current or previous assignee.

See Search methods for details.

9.4.49.3.5. Exporting markups

You can export a Markups file (.ebx, or .bcfzip) from the **Search** view and then open it, for example, with Cadmatic eBrowser. See Exporting a model markup file (.ebx) or Exporting a model markup file (.bcfzip).

9.4.49.3.6. Deleting markups

Markups can be deleted in the following ways:

- In the front page of a project, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In the properties pane when viewing the Markup in 3D Model, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.
- In search results when viewing the results in list view, the delete button next to the Markup's title deletes the Markup, even if it was created by another user. The delete button is not available if you do not have the required permissions.

9.4.49.4. Point clouds

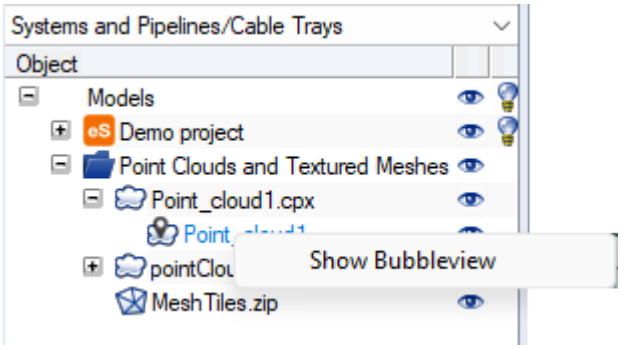
When revamping an existing building or ship so that some existing structures are removed and new ones are added, it is useful to be able to see how the old and the new structures will fit together. Point clouds allow you to do exactly that. If the existing structures have been scanned with a 3D scanner and the data is available as point cloud files, you can open the point clouds and the 3D models of the newly designed structures at the same time to see how they match. You can also use the Show Point Cloud Difference tool in Visualization Control menu. See Point clouds.

Note: Point clouds are always defined in project coordinates.

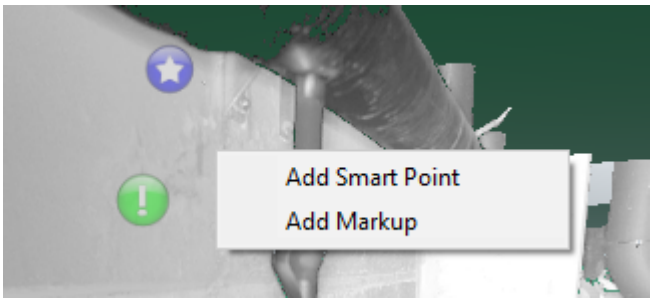
When eShare administrator has added point clouds to the eShare server as described in Cadmatic eShare *Administration Guide*, in eShare App you can see the point clouds in the model tree. eShare automatically loads the point clouds when you move in the model. You do not have to select the next point cloud from the list when you want to enter it.

It is possible to show a hierarchy for the point clouds. The hierarchy is defined by eShare administrator.

You can toggle the visibility of the point clouds by clicking the eye icon.



The point cloud files must contain scanner position information to be listed here. You can take snapshots and measurements, but measurements might not be exact. Right-click a bubble view to add a Smart Point or markup to it.



9.4.49.4.1. Bubble view

Entering the bubble view mode moves the camera to the scanner position. You can rotate the view around this position, and you can zoom in or out with the mouse wheel. In panoramic view, you can move the camera by clicking the arrow marker, or focus the camera by clicking the rectangle.

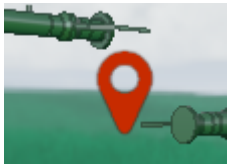




There are various ways to open a bubble view:

- You can open the bubble view of a specific point cloud by right-clicking the point cloud in the object tree and selecting **Show Bubbleview**.

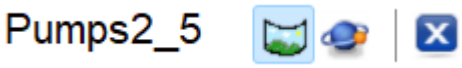
- You can click the bubble view button in the main toolbar to open the nearest bubble view. If the button is not enabled, either the currently loaded point clouds do not have scanner position information, or a bubble view is already open.
- You can click a scanner position marker in the 3D view. You can do this also when a bubble view is already open, to move the viewpoint to another scanner position.



In bubble view mode, an additional toolbar is displayed at the top of the 3D view. The toolbar displays the name of the point cloud, a button for switching between point view and panoramic view, a button for orbiting around the scanner position, and a button for closing the bubble view.

Note: In bubble view mode, the view cube toolbar commands **Visualization > Point clouds > Scale points by distance**, **Show more clouds when idle**, and **Cloud differences** are disabled, as well changing the projection in **Navigation > Projection**.

Closing the bubble view sets the viewing angle and projection to where it was before entering the bubble view.



9.4.49.4.2. E57 file format feature support

Cadmatic supports reading the E57 feature categories XYZ, RAE, RGB, INT and MUL.

Support for E57 features

Feature Name	Abbreviation	Read	Write
Cartesian points	XYZ	Yes	—
Cylindrical imagery	CYL	—	—
Geodetic information	GEO	—	—
Multiple images	MIM	—	—

Feature Name	Abbreviation	Read	Write
Multiple returns	RET	—	—
Multiple scans	MUL	Yes	—
Pinhole imagery	PIN	—	—
Point color	RGB	Yes	—
Point groups	GRP	—	—
Point intensity	INT	Yes	—
Spherical imagery	SPH	—	—
Spherical points	RAE	Yes	—
Structured point sets	STR	—	—
Time stamps	TIM	—	—
Visual reference imagery	REF	—	—

Support for E57 extensions

Extension Name	Read	Write
ASPRS LAS format information	—	—
Point normals	—	—

For more information on E57 features, see http://www.libe57.org/features.html.

Related topics

Enter nearest bubble view

9.4.49.5. Textured meshes

When eShare administrator has added textured meshes to the eShare server as described in Cadmatic eShare *Administration Guide*, in eShare App you can see the textured meshes in the model tree. eShare App automatically downloads and views synchronized textured meshes, and

loads them when you move in the model in eShare App. You do not have to select the next textured mesh from the list when you want to enter it.

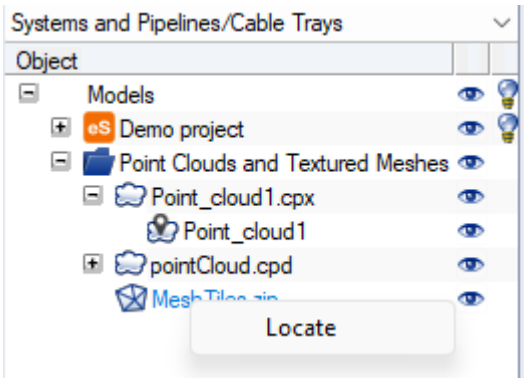
The memory limit used by textured meshes in eShare App can be configured in eShare App settings. See Memory settings.

You can toggle the visibility of the textured meshes by clicking the eye icon.

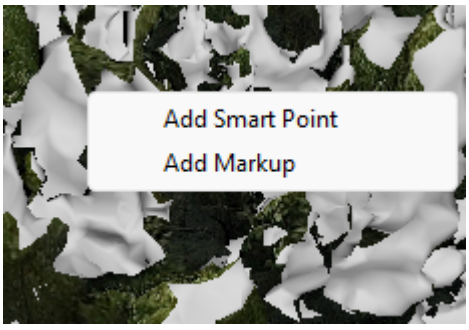
9.4.49.5.1. Textured meshes in the model tree

Textured meshes are located in a separate Point Clouds and Textured Meshes branch of the object tree, and its subnodes are alphabetically sorted. Double-clicking the textured mesh will locate it in the 3D model. You can also right-click the textured mesh in the model tree and select **Locate**.

It is possible to show a hierarchy for textured meshes. The hierarchy is defined by eShare administrator.



Right-click a textured mesh to add a Smart Point or markup to it.



9.4.49.6. Viewing 4D sequences

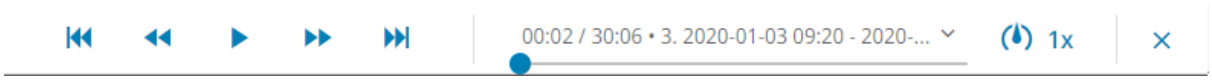
eShare enables using 4D sequences to visualize status trackings or data from a database adapter.

Prerequisites

- There are 4D sequences configured to the project by a project administrator. See Creating a new status tracker.
- Database adapter and 4D sequence data source have been configured to the project by a project administrator. See Database adapter.

Do the following:

1. In **Model** tab, select in view cube toolbar **Visualization > 4D animations** and select 4D sequence from the menu. 4D sequences have the prefix *4D*.
2. The sequence is shown in playback mode.
3. Use the controls at the top of the 3D view to play, move forward/backward within the step or move to previous/next step. You can drag the progress bar, or select a specific sequence step from the drop-down menu. You can also select the playback speed from **0.25x**, **0.5x**, **1x**, **2x**, or **4x**.



4. Close the playback mode with the exit button.

9.4.49.7. Presentation mode (only in eShare App)

Presentation mode is a visualization mode for visualizing the 3D model with emphasis on lighting options and enhanced quality. The visualization is based on rendering technology called ray tracing.

Presentation mode is only available in eShare App.

Presentation mode is launched from **Settings > Show in Presentation Mode**. See Show in presentation mode.

Prerequisites

- Windows 10 or later
- Hardware accelerated ray tracing support in the graphics processor
- A GPU with a high amount of VRAM is recommended. 6 GB is sufficient for small and medium-sized models, but 12 GB or even more is required for larger models.
- Graphics drivers supporting Vulkan 1.3 or later:

- Nvidia
  - All Nvidia RTX series GPUs
  - Driver 511.65 or later
- AMD
  - AMD Radeon RX 6000 series or higher GPUs
  - Driver 22.2.1 or later
- Intel
  - All Intel Arc series GPUs (Arc GPU has not been tested and support is not guaranteed, use at your discretion)
  - Any driver since 2023 should support Vulkan 1.3

9.4.49.7.1. Rendering features in presentation mode

Presentation mode deploys a rendering technique called ray tracing to render a scene with realistic and physically based lighting.

9.4.49.7.1.1. Lighting model and lighting sources

Presentation mode attempts to solve global illumination for a particular scene by taking into account lighting from direct and indirect light sources. Direct light sources include the sun, spotlight, and the sky. Indirect light is the light that bounces around in the scene. Indirect lighting is simulated with path tracing, where any single path has a maximum ray depth of 3 (i.e. 2 bounces).

Sun

Sun is modeled as an area light source in the shape of a circular disk. This disk has an angular diameter of 0.53° on the sky, which is on average the same size as the actual sun as seen from the earth. This disk shaped area light will produce physically accurate soft shadows.

Sky

The sky is rendered using a realistic atmosphere model that approximates the earth's atmosphere. The atmosphere is modeled by Rayleigh and Mie scattering, which takes into account the different scattering profiles for different wavelengths in the atmosphere. In effect, the color and light output from the sky is accurately affected by the position of the sun.

Spotlight

This is a single light source that can be moved within the scene. The light source is a point light with customizable conical radiation pattern.

9.4.49.7.1.2. Materials

Presentation mode can model light interaction with two different material types: diffuse and specular. The first material models fully matte Lambertian diffuse surfaces. The second material type is used for shiny surfaces with varying roughness and reflectance properties. The specular materials are modeled with GGX microfacet model.

Related topics

View/Movement

9.4.49.8. URL parameters

You can build an eShare URL with URL parameters, for example, when you want to link to eShare from an external system. Separate the parameter and the value with an equals sign (=), and separate the parameters with an ampersand character (&). The order of the parameters does not affect the result.

For example: https://<server>:<port>/#/p/<project id>/model?<urlParameter>=<urlParameterValue>&<urlParameter2>=<urlParameter2Value>&...

The maximum length of the URL is 2048 characters. Note that some characters, for example, vertical line and space character, are encoded by the browser and take the space of three characters instead of one.

Parameter	Description	Value range
positionId&tag	Examine an object by using its position ID. Examine an object	Position ID of the object. Example: https://<server>:<port>/#/p/<project id>/model?positionId=722-PS1 Tag of the object. Example: https://<server>:<port>/#/p/<project id>/model?positionId=722-PS1&tag=.n5

	based on the object's tag. An object's tag is the abbreviation of the object's attribute. A tag is needed to differentiate objects, if two or more objects share the same position ID. To examine an object based on the object's	

	tag, you also need to provide the object's position Id parameter. Used only with key attributes.	
groupParentTag&groupChildTag&groupId	Examine a group object by specifying the parent and child object's attribute abbreviation, and the group's ID. groupPa	Example: https://<server>:<port>/#/p/<project id>/model?groupParentTag=[sys]&groupChildTag=sys&groupId=Air

	rentTag is the abbreviation of the group's attribute in brackets []. groupChildTag is the abbreviation of the group's attribute. groupId is the value of the group's attribute.	
attributeValue&tag	Used with tag to locate any object or	If the following string finds only one instance, it opens the object in examine mode: Example: https://<server>:<port>/#/p/<project id>/model?tag=len&attributeValue=1950 If the following string finds multiple instances, the search page opens:

	group of objects by attribute abbreviation and value.	Example: https://<server>:<port>/#/p/<project id>/model?tag=len&attributeValue=619 --> Multiple hits opens search page If the following string finds a group, it opens in examine mode: Example: https://<server>:<port>/#/p/<project id>/model?tag=[pli]&attributeValue=177-035
attributePaneVisibility	Defines the visibility of the properties pane.	Show – shows the properties pane Hide – hides the properties pane. Example: https://<server>:<port>/#/p/<project id>/model?attributePaneVisibility=Show
examineBranchPath	Opens the defined branch in the model tree. Can be combined with visibleBranchPath.	Define the complete path to the branch in the model tree, starting from "Models". Separate the branches with three semicolons (;;;). Use the hierarchyName parameter to define the source hierarchy of the given path. Examples: https://<server>:<port>/#/p/<project id>/model?examineBranchPath=Models;;;Branch1;;;Branch2&hierarchyName=Isometric%20Drawings%20and%20Spools https://<server>:<port>/#/p/<project id>/model?visibleBranchPath=Models;;;Branch1;;;&examineBranchPath=Models;;;Branch2;;;&hierarchyName=Isometric%20Drawings%20and%20Spools
examineFlags	Enables modifying the	0 = Disable orbiting, show all objects 1 = Enable orbiting, show all objects 2 = Disable orbiting, hide other objects

	examine parameters when examining an object with a URL parameter. Combine the examineFlags parameter with the multiExamine parameter to include multiple objects in the URL. You can also combine the flags. For example, flags	4 = Dim all objects that are not being examined 8 = Turn off highlighting for the examined objects 16 = Turn off the X-ray mode for the examined objects 32 = Open the examined objects in clip box 64 = Clear the selection highlight of the examined objects and show the objects according to the applied visual style For example, if the position ID of an object in the 3D model is "P001", you can use the following kind of URL to start examining that object so that orbiting is enabled and also all other objects are visible: Example: https://<server>:<port>/#/p/<project id>/model?positionId=P001&examineFlags=1

	1 + 2 = 3, which enables orbiting and hides other objects.	
hierarchyName	Changes the active hierarchy.	Name of the hierarchy. Example: https://<server>:<port>/#/p/<project id>/model?hierarchyName=Isometric%20drawings%20and%20spools sets the hierarchy to "Isometric drawings and spools".
guidId	Allows examining an object or a group based on its GUID id. This is useful when the original 3D model imported to eShare contain	GUID id of the object or group. Example: https://<server>:<port>/#/p/<project id>/model?guidId=A491C908-AFF2-4369-BE2E-D7BB1F3A974A

	ed GUID id data.	
pointCloud	Enter a point cloud view by using its GUID id.	GUID id of the point cloud. Example: https://<server>:<port>/#/p/<project id>/model?pointCloud=3d60ec73-117e-ef11-a2eb-00144d151290
pointId	Examine a Smart Point by using its ID.	Smart Point ID. Example: https://<server>:<port>/#/p/<project id>/model?pointId=654321
pointReference& poiKind	Locate a point in the model and show its properties by using the point's External Id	pointReference should be given the desired point's exact External Id, and poiKind can be used to specify the type of the point. pointReference can be used without poiKind, but poiKind cannot be used on its own. Example: https://<server>:<port>/#/p/<project id>/model?pointReference=ID1234&poiKind=SmartPointType1
markupId	Examine a Markup by using its ID.	Markup ID Example: https://<server>:<port>/#/p/<project id>/model?markupId=123456
multiExamine	Enables	Objects' attribute abbreviation and value. In case of group objects,

	examining multiple objects. Can be used only with key attributes.	use the parent attribute abbreviation. Separate the objects with a vertical bar (|) and the attribute abbreviations and values with a colon (:). Example: http://<server>:<port>/#/p/<project id>/model?multiExamine=.n5:AE-SW-P001|.n5:722-PS1|.n5:722-PS2|[sys]:722-SWC|.ne:R110202
searchFor&searchScope	searchFor takes a string which is matched directly to the entities of the given scope. searchScope takes a string which lists the types of entities that searchFor goes	With searchScope the types are separated with a comma, and are case-insensitive. If searchScope is not given in the URL, but searchFor is, the default scope used is "objects, groups, points". Available types are: objects – search through the objects in the model; searchFor tries to match to the object's key attribute's value groups – search through the groups in the model; searchFor tries to match to the group's key attribute's value points – search through the points of interest (smart points, markups) in the model; searchFor tries to match the point's name value. If unsuccessful, it tries to match the point's external ID value. smartPoints – search through the smart points in the model; searchFor tries to match the smart point's name value. If unsuccessful, it tries to match the smart point's external ID value. smartPointsByName – search through the smart points in the model; searchFor tries to match the smart point's name value only smartPointsById – search through the smart points in the model; searchFor tries to match the smart point's external ID value only markups – search through the markups in the model; searchFor tries to match the markup's name value

	through.	The scope is iterated in the given order when finding a match. If a match or multiple matches is found in one type, the search is stopped, which means that possible other matches found in other types will not be found. If there is a single match, eShare Model view will examine it. The parameter examineFlags can be used to alter the way an object is examined, but it will not do anything if the match is a Smart Point. If there are multiple matches,eShare will take the user to search, where all found matches will be shown. The parameters searchFor and searchScope can be combined with following old parameters: tag – narrows down the search with objects and groups poiKind – narrows down the search with points of interests Examples: <domain:port>/model?searchFor=exampleName&examineFlags=17 <domain:port>/model?searchFor=exampleName&searchScope=objects,smartPoints <domain:port>/model?searchFor=exampleName&searchScope=points&poiKind=PoiKindName <domain:port>/model?searchFor=exampleName&tag=sys
submodels	Specifies which submodels are loaded using either submodel name	submodelName – specifies the name of the submodel ruleName – specifies the name of the submodel rule **Note:** When a link needs submodels that are not open, eShare shows the submodel selection view first and applies the rest of the link (hierarchy, visible scope and the examine) after the submodels are loaded. If the user cancels the selection, the link is not applied and it should be opened again.

	or a combination of submodel name and a rule.	Examples: https://<server>:<port>/#/p/<project id>/model?submodels=<submodelName> https://<server>:<port>/#/p/<project id>/model?submodels=<ruleName1>;;;<submodelName1>&submodels=<ruleName2>;;;<submodelName2>
treeVisibility	Specifies the visibility of the model tree sidebar.	Show – shows the sidebar. Hide – hides sidebar. Example: https://<server>:<port>/#/p/<project id>/model?treeVisibility=Show
visibleBranchPath	Specifies which objects are set visible, others being hidden. Same as examineBranchPath but controls the visibility only.	Any objects that are ordered to be examined by some other URL parameter should be visible also. In other words, the visible objects in 3D is the union of visible objects and examined objects. Examples: https://<server>:<port>/#/p/<project id>/model?visibleBranchPath=Models;;;Branch1;;;Branch2&hierarchyName=Isometric%20Drawings%20and%20Spools https://<server>:<port>/#/p/<project id>/model?visibleBranchPath=Models;;;Branch1;;;&examineBranchPath=Models;;;Branch2;;;&hierarchyName=Isometric%20Drawings%20and%20Spools
visualStyleName	Specifies the visual	Name of the visual style, can be the predefined or project-specific visual style. Example:

	style that is applied to the 3D model.	https://<server>:<port>/#/p/<project id>/model?visualStyleName=Normal visual style
x&y&z&r&s	Moves the camera to the specified location (x, y, z coordinates), with the optional rotation and slope (r and s coordinates).	Coordinates of the location. Example: https://<server>:<port>/#/p/<project id>/model?x=23131&y=-5079&z=10208